



ENVIRONMENTAL  
LAW • INSTITUTE®

ENVIRONMENTAL LAW INSTITUTE  
RESEARCH REPORT

# **Decentralization of Environmental Protection in Mexico:**

An Overview of State and Local  
Institutions

1996

**DECENTRALIZATION OF ENVIRONMENTAL  
PROTECTION IN MEXICO:  
AN OVERVIEW OF STATE AND LOCAL LAWS  
AND INSTITUTIONS**

**Environmental Law Institute  
Copyright © 1996**

## *Acknowledgements*

The preparation of this report has been funded in part by the United States Environmental Protection Agency under Assistance Agreement ID #X821470-01 to the Environmental Law Institute. The report may not necessarily reflect the views of the Agency and no official endorsement should be inferred.

The Environmental Law Institute would like to thank Gustavo Alanis Ortega, Marina Esther Pérez Martínez and Diana Ponce Nava for their crucial assistance in researching and preparing this report, as well as Alejandra Mayordomo Hobbs for her significant contributions to the project. ELI also acknowledges with sincere appreciation the numerous people in Mexico and the United States who provided important information and assistance. At the Environmental Law Institute, principal staff for the project were Tobie Bernstein and Donald Hobbs. Other ELI staff participating in the preparation of the report include Susan Bass, Meghan Clancy-Hepburn, Adam Kaye, Suellen Keiner, Carolina Mauri, Alejandra Navarrete, Elissa Parker, Jay Pendergrass, Lawrence Pratt and Vanessa Reeves. Former ELI staff members Theodore Endreny and Cynthia Ickowicz also assisted in earlier stages of the project.

Copyright © 1996, Environmental Law Institute ®. A limited license is hereby granted to visitors to the ELI Web site to download, electronically or mechanically store, or retrieve and print one copy of this work in its electronic format for personal, academic research, or similar non-commercial use only, provided that notice of copyright ownership appears prominently on the copy. Electronic retransmission of the work without the express consent of the Environmental Law Institute is strictly prohibited.

All other rights reserved.

*Decentralization of Environmental Protection in Mexico: An Overview of State and Local Laws and Institutions*

Copyright, © Environmental Law Institute, ® 1996. All rights reserved.  
ELI Project #931500

(Environmental Law Institute, ® The Environmental Forum, ® ELR, ® and the Environmental Law Reporter ® are registered trademarks of the Environmental Law Institute.)

# *Table of Contents*

*Acknowledgements*

*Executive Summary* ..... i

## *Chapter I*



### **Introduction**

Scope and Methodology ..... 1

## *Chapter II*



### **Mexican Federal Environmental Law**

I. BACKGROUND: THE EVOLUTION OF MEXICAN ENVIRONMENTAL LAW ..... 5

II. FEDERAL-STATE JURISDICTION UNDER MEXICAN LAW ..... 6

A. General Principles ..... 6

B. Distribution of Environmental Jurisdiction Under the Mexican Constitution ..... 6

C. "Concurrent" Jurisdiction Over Environmental Protection ..... 8

D. Distribution of Environmental Jurisdiction Under Federal Legislation ..... 9

1. General environmental protection activities ..... 10

2. Policymaking and standard setting ..... 11

3. Land use and development planning ..... 12

4. Environmental impact evaluation ..... 13

5. Air pollution ..... 14

6. Water pollution ..... 14

7. Waste ..... 15

8. Hazardous activities ..... 15

9. Environmental emergencies ..... 15

10. Natural resource protection ..... 15

11. Enforcement ..... 16

III.	FEDERAL ENVIRONMENTAL AGENCIES .....	16
IV.	OVERVIEW OF FEDERAL ENVIRONMENTAL LEGISLATION .....	18
A.	Principal Federal Laws Relating to Environmental Protection .....	18
B.	Principal Provisions of Federal Environmental Law .....	20
1.	Land use and development planning .....	20
2.	Environmental impact review .....	21
3.	Air pollution .....	23
4.	Water pollution .....	24
5.	Waste .....	26
6.	Pesticides and toxic chemicals .....	26
7.	Enforcement .....	27
8.	Public participation .....	29
V.	CONCLUSION .....	30

*Chapter III*



**Legal Framework for Environmental  
Protection in the State of Baja California**

I.	GENERAL DESCRIPTION OF THE STATE OF BAJA CALIFORNIA .....	39
A.	Background .....	39
B.	Ecological Characteristics .....	39
C.	Major Economic Activities .....	40
D.	Principal Environmental Problems .....	40
II.	OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN BAJA CALIFORNIA	
A.	State and Municipal Law .....	41
1.	State constitutional provisions .....	41
2.	State legislation .....	41
3.	Municipal legislation .....	42
B.	State and Municipal Agencies Responsible for Environmental Protection .....	43
1.	General Office of Ecology .....	43
2.	State Ecology Council .....	44
3.	Other state agencies .....	45
4.	Municipal agencies .....	45

C.	Relationship Between the State and Federal Environmental Protection Regimes . . . . .	46
1.	Distribution of jurisdiction . . . . .	46
2.	Development of state regulatory policies and standards . . . . .	46
3.	Inter-governmental coordination and assistance . . . . .	47
D.	Relationship Between the State and Municipal Environmental Protection Regimes . . . . .	47
1.	Distribution of jurisdiction . . . . .	47
2.	Development of municipal regulatory standards and policies . . . . .	48
3.	Inter-governmental coordination and assistance . . . . .	48
III.	ENVIRONMENTAL POLICY TOOLS . . . . .	49
A.	Land Use and Development Planning . . . . .	49
1.	Ecological land use plans . . . . .	51
2.	Ecological plans . . . . .	53
3.	Ecological regulation of human settlements . . . . .	53
4.	Ecological criteria for economic development . . . . .	54
B.	Environmental Impact Assessment . . . . .	54
IV.	ENVIRONMENTAL PROTECTION . . . . .	58
A.	Prevention and Control of Air Pollution . . . . .	58
1.	Distribution of jurisdiction . . . . .	59
2.	Regulatory mechanisms . . . . .	60
B.	Prevention and Control of Water Pollution . . . . .	64
1.	Distribution of jurisdiction . . . . .	66
2.	Regulatory mechanisms . . . . .	66
C.	Solid Waste . . . . .	70
1.	Distribution of jurisdiction . . . . .	70
2.	Regulatory mechanisms . . . . .	71
D.	Hazardous Waste . . . . .	73
E.	Chemical Substances . . . . .	74
F.	Emergency Response . . . . .	75
1.	Distribution of jurisdiction . . . . .	75
2.	Regulatory mechanisms . . . . .	75
G.	Other Forms of Pollution -- Noise, Vibrations, Noxious Odors, and Thermal Energy . . . . .	75

V.	NATURAL RESOURCE PROTECTION .....	76
A.	Protected Natural Areas .....	76
	1. Distribution of jurisdiction .....	77
	2. Regulatory mechanisms .....	77
B.	Conservation and Use of Water, Land and Energy .....	78
	1. Water resources .....	78
	2. Soil resources .....	79
	3. Energy resources .....	80
VI.	ENFORCEMENT .....	80
A.	Distribution of Jurisdiction .....	80
B.	Enforcement Mechanisms .....	81
	1. Inspections .....	81
	2. Emergency measures .....	82
	3. Administrative sanctions .....	82
	4. Criminal sanctions .....	83
	5. Administrative appeals .....	84
	6. Public complaints .....	85
VII.	PUBLIC PARTICIPATION .....	86
VIII.	DISCUSSION .....	88

*Chapter IV*



**Legal Framework for Environmental  
Protection in the State of Mexico**

I.	GENERAL DESCRIPTION OF THE STATE OF MEXICO .....	111
A.	Background .....	111
B.	Ecological Characteristics .....	111
C.	Major Economic Activities .....	112
D.	Principal Environmental Problems .....	112
II.	OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN THE STATE OF MEXICO .....	112
A.	State and Municipal Law .....	112
	1. State constitutional provisions .....	112

2.	State legislation .....	113
3.	Municipal legislation .....	114
B.	State and Municipal Agencies Responsible for Environmental Protection .....	115
1.	State Secretariat of Ecology .....	115
2.	Municipal agencies .....	115
C.	Relationship Between State and Federal Environmental Protection Regimes .....	116
1.	Distribution of jurisdiction .....	116
2.	Development of state regulatory policies and standards .....	116
3.	Inter-governmental coordination and assistance .....	117
D.	Relationship Between the State and Municipal Environmental Protection Regimes .....	117
1.	Distribution of jurisdiction .....	117
2.	Development of municipal regulatory standards and policies .....	118
3.	Inter-governmental coordination and assistance .....	118
III.	ENVIRONMENTAL POLICY TOOLS .....	119
A.	Land Use and Development Planning .....	119
B.	Environmental Impact Assessment .....	120
IV.	ENVIRONMENTAL PROTECTION .....	123
A.	Prevention and Control of Air Pollution .....	124
1.	Distribution of jurisdiction .....	124
2.	Regulatory mechanisms .....	125
B.	Prevention and Control of Water Pollution .....	127
1.	Distribution of jurisdiction .....	128
2.	Regulatory mechanisms .....	129
C.	Solid Waste .....	131
1.	Distribution of jurisdiction .....	131
2.	Regulatory mechanisms .....	132
D.	Pesticides and Fertilizers .....	133
E.	Emergency Response .....	134
F.	Other Forms of Pollution - Noxious Odors, Noise, Thermal Energy and Vibrations .....	134
V.	NATURAL RESOURCE PROTECTION .....	135
A.	Protected Natural Areas .....	135
1.	Distribution of jurisdiction .....	135
2.	Regulatory mechanisms .....	135
B.	Protection of Wild and Aquatic Flora and Fauna .....	136



VI.	ENFORCEMENT	136
A.	Distribution of Jurisdiction	136
B.	Enforcement Mechanisms	136
1.	Inspections	136
2.	Emergency measures	137
3.	Administrative sanctions	137
4.	Administrative appeals	139
5.	Criminal proceedings	139
6.	Public complaints	140
VII.	PUBLIC PARTICIPATION	140
VIII.	DISCUSSION	141

*Chapter V*



**Legal Framework for Environmental Protection  
In the State of Nuevo León**

I.	GENERAL DESCRIPTION OF THE STATE OF NUEVO LEÓN	155
A.	Background	155
B.	Ecological Characteristics	155
C.	Major Economic Activities	156
D.	Principal Environmental Problems	156
II.	OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN NUEVO LEÓN	156
A.	State and Municipal Law	156
1.	State constitutional provisions	156
2.	State legislation	157
3.	Municipal legislation	158
B.	State and Municipal Agencies Responsible for Environmental Protection	158
1.	Secretariat of Urban Development and Public Works	158
2.	State Ecology Commission	160
3.	Municipal agencies	160
C.	Relationship Between the State and Federal Environmental Protection Regimes	161
1.	Distribution of jurisdiction	161

2.	Development of state regulatory standards and policies .....	162
3.	Inter-governmental coordination .....	162
D.	Relationship Between the State and Municipal Environmental Protection Regimes .	163
1.	Distribution of jurisdiction .....	163
2.	Development of municipal regulatory standards and policies .....	163
3.	Inter-governmental coordination .....	163
III.	ENVIRONMENTAL POLICY TOOLS .....	164
A.	Land Use and Development Planning .....	164
1.	Ecological land use planning .....	164
2.	Ecological regulation of human settlements .....	165
3.	Economic development planning .....	166
B.	Environmental Impact Assessment .....	167
IV.	ENVIRONMENTAL PROTECTION .....	170
A.	Prevention and Control of Air Pollution .....	171
1.	Distribution of jurisdiction .....	171
2.	Regulatory mechanisms .....	171
B.	Prevention and Control of Water Pollution .....	174
1.	Distribution of jurisdiction .....	174
2.	Regulatory mechanisms .....	175
C.	Solid Waste .....	179
1.	Distribution of jurisdiction .....	179
2.	Regulatory mechanisms .....	179
D.	Hazardous Activities and Ecological Emergencies .....	181
1.	Distribution of jurisdiction .....	181
2.	Regulatory mechanisms .....	181
E.	Other Forms of Pollutions -- Noise, Vibrations, Noxious Odors, Thermal Energy and Visual Pollution .....	182
1.	Distribution of jurisdiction .....	182
2.	Regulatory mechanisms .....	182
V.	NATURAL RESOURCE PROTECTION .....	183
A.	Protected Natural Areas .....	183
1.	Distribution of jurisdiction .....	183
2.	Regulatory mechanisms .....	184
B.	Rational Use of Natural Resources .....	185
1.	Rational use of water and aquatic resources .....	185
2.	Rational use of soil resources .....	185

VI.	ENFORCEMENT	185
A.	Distribution of Jurisdiction	186
B.	Enforcement Mechanisms	186
1.	Inspections	186
2.	Emergency measures	187
3.	Administrative sanctions	188
4.	Administrative appeals	189
5.	Criminal Matters	190
6.	Public complaints	191
VII.	PUBLIC PARTICIPATION	191
VIII.	DISCUSSION	192

*Chapter VI*



**Legal Framework For Environmental Protection In the State of Oaxaca**

I.	GENERAL DESCRIPTION OF THE STATE OF OAXACA	209
A.	Background	209
B.	Ecological Characteristics	210
C.	Major Economic Activities	210
D.	Principal Environmental Problems	211
II.	OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN THE STATE OF OAXACA	211
A.	State and Municipal Law	211
1.	State constitutional provisions	211
2.	State legislation	212
3.	Municipal legislation	213
B.	State and Municipal Agencies Responsible for Environmental Protection	214
1.	Secretariat of Urban Development, Communications and Public Works	214
2.	Secretariat of Agricultural and Forestry Development	215
3.	Administration for Drinking Water and Sewer Works and Services	216
4.	State Water Institute	216
5.	State Planning Committee for the Development of Oaxaca	217
6.	Other state agencies	217
7.	Municipal agencies	217

C.	Relationship Between the State and Federal Environmental Protection Regimes .....	218
1.	Distribution of jurisdiction .....	218
2.	Development of state regulatory standards and policies .....	218
3.	Inter-governmental coordination and assistance .....	219
D.	Relationship Between the State and Municipal Environmental Protection Regimes .....	219
1.	Distribution of jurisdiction .....	219
2.	Development of municipal regulatory standards and policies .....	219
3.	Inter-governmental coordination and assistance .....	219
III.	ENVIRONMENTAL POLICY TOOLS .....	220
A.	Land Use and Development Planning .....	220
1.	Ecological land use planning .....	221
2.	Urban development and the ecological planning of human settlements .....	222
B.	Environmental Impact Assessment .....	223
IV.	ENVIRONMENTAL PROTECTION .....	225
A.	Prevention and Control of Air Pollution .....	225
1.	Distribution of jurisdiction .....	225
2.	Regulatory mechanisms .....	226
B.	Prevention and Control of Water Pollution .....	227
1.	Distribution of jurisdiction .....	228
2.	Regulatory mechanisms .....	228
C.	Solid Waste .....	230
D.	Hazardous Activities .....	230
V.	NATURAL RESOURCE PROTECTION .....	231
A.	Protected Natural Areas .....	231
1.	Distribution of jurisdiction .....	231
2.	Regulatory mechanisms .....	232
B.	Wild Vegetation .....	233
C.	Wild Fauna .....	234
VI.	ENFORCEMENT .....	235
A.	Distribution of Jurisdiction .....	235
B.	Enforcement Mechanisms .....	235
1.	Inspections .....	235
2.	Administrative sanctions .....	235

3.	Administrative appeals .....	236
4.	Criminal sanctions .....	236
5.	Public complaints .....	236
VII.	PUBLIC PARTICIPATION .....	237
VIII.	DISCUSSION .....	238

*Chapter VII*



**Legal Framework for Environmental Protection  
In the State of Veracruz**

I.	GENERAL DESCRIPTION OF THE STATE OF VERACRUZ .....	251
A.	Background .....	251
B.	Ecological Characteristics .....	251
C.	Major Economic Activities .....	252
D.	Principal Environmental Problems .....	252
II.	OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN VERACRUZ ..	252
A.	State and Municipal Law .....	252
1.	State constitutional provisions .....	252
2.	State legislation .....	253
3.	Municipal legislation .....	253
B.	State and Municipal Agencies Responsible for Environmental Protection .....	254
1.	Secretariat of Urban Development .....	254
2.	State Water and Sanitation Commission for Veracruz .....	254
3.	Municipal authorities .....	254
C.	Relationship Between the State and Federal Environmental Protection Regimes .....	255
1.	Distribution of jurisdiction .....	255
2.	Development of state regulatory policies and standards .....	255
3.	Inter-governmental coordination .....	255
D.	Relationship Between the State and Municipal Environmental Protection Regimes .....	256
1.	Distribution of jurisdiction .....	256
2.	Development of municipal regulatory standards and policies .....	256

3.	Inter-governmental coordination .....	256
III.	ENVIRONMENTAL POLICY TOOLS .....	257
A.	Land Use and Development Planning .....	257
1.	Ecological land use planning .....	257
2.	Ecological regulation of human settlements .....	258
3.	Economic development planning .....	259
B.	Environmental Impact Assessment .....	260
IV.	ENVIRONMENTAL PROTECTION .....	262
A.	Prevention and Control of Air Pollution .....	262
1.	Distribution of jurisdiction .....	262
2.	Regulatory mechanisms .....	262
B.	Prevention and Control of Water Pollution .....	263
1.	Distribution of jurisdiction .....	264
2.	Regulatory mechanisms .....	265
C.	Solid Waste .....	266
1.	Distribution of jurisdiction .....	266
2.	Regulatory mechanisms .....	266
D.	Hazardous Activities .....	267
1.	Distribution of jurisdiction .....	267
2.	Regulatory mechanisms .....	267
E.	Mining of Construction Materials .....	268
F.	Other Forms of Pollution -- Noise, Vibrations, Noxious Odors and Thermal Energy .....	268
V.	NATURAL RESOURCE PROTECTION .....	269
A.	Protected Natural Areas .....	269
1.	Distribution of jurisdiction .....	269
2.	Regulatory mechanisms .....	269
VI.	ENFORCEMENT .....	271
A.	Distribution of Jurisdiction .....	271
B.	Enforcement Mechanisms .....	271
1.	Inspections .....	271
2.	Administrative sanctions .....	272
3.	Criminal sanctions .....	273
4.	Administrative appeals .....	273
5.	Public complaints .....	274

VII.	PUBLIC PARTICIPATION .....	274
VIII.	DISCUSSION .....	276

*Chapter VIII*



**Analysis**

I.	FEDERAL ENVIRONMENTAL LAW: THE CONTEXT FOR DEVELOPMENT OF STATE AND MUNICIPAL PROGRAMS .....	289
II.	THE STATE LEGAL FRAMEWORKS FOR ENVIRONMENTAL PROTECTION .....	293
III.	STATE INSTITUTIONAL FRAMEWORKS FOR ENVIRONMENTAL PROTECTION .....	300
IV.	JURISDICTIONAL AUTHORITIES AND INTERGOVERNMENTAL COORDINATION .....	301
V.	OPPORTUNITIES FOR PUBLIC PARTICIPATION UNDER STATE LAW .....	305
VI.	CONCLUSIONS .....	309

## *Executive Summary*

Over the past few years, states and municipalities in Mexico have begun to play a more significant part in environmental protection. The decentralization of authority is due in large measure to recent federal constitutional and legislative changes. This report discusses the role of the Mexican states in environmental protection and seeks to provide an understanding of the new legal and institutional frameworks for state environmental protection. The report presents an in-depth review of the laws of five Mexican states -- Baja California, Mexico, Nuevo León, Oaxaca, and Veracruz -- and identifies some of the opportunities and obstacles to be confronted in the development of effective state environmental programs in Mexico. The report also reviews the environmental laws of selected municipalities within the five states. This research offers important background information for future efforts to evaluate and strengthen the process of decentralization.

During the past several years, Mexico has established an elaborate legal framework for environmental protection. The centerpiece of this framework is the federal General Law of Ecological Balance and Environmental Protection (Federal Ecology Law). While certain other federal laws address more specific topics -- e.g., the Law of National Waters and the Forestry Law -- the Federal Ecology Law provides a comprehensive basis for environmental regulation and natural resource protection. Regulations implementing the federal legislation cover environmental impact review, air pollution, water pollution and hazardous waste issues. Numerous standards establish specific technical requirements. The federal government recently reorganized its administrative structure to consolidate most environmental protection functions in one agency, the Secretariat for Environment, Natural Resources and Fisheries (SEMARNAP), which is responsible for implementing the Federal Ecology Law.

An important component of the Federal Ecology Law is its delegation of environmental powers to local governments. Prior to passage of this federal statute, state environmental law in Mexico consisted of a series of limited provisions in a variety of state laws, including health, urban development and planning laws, as well as laws covering water and sewer services or protection of certain natural resources. All 31 state legislatures in Mexico now have enacted their own comprehensive laws which provide the basis for regulation of environmental matters falling under state jurisdiction. These State Ecology Laws, in turn, clarify the distribution of local environmental authority between state and municipal governments.

The passage of the Federal Ecology Law and the consequent enactment of comprehensive environmental laws at the state level are important steps in the transition to an environmental protection system in which state and municipal governments have a considerable role. Mexican states are still in the early stages of implementing their laws, and they have limited resources to carry



out their new responsibilities. Both local and federal officials face the challenge of facilitating the development of effective state regulatory programs, identifying opportunities for inter-governmental coordination and cooperation, and addressing areas of potential conflict.

This report is organized into eight chapters. Following a short introduction, Chapter Two looks at the federal legal context which is essential to understanding the nature of state environmental protection legislation and programs. Chapters Three through Seven explore the legal framework for environmental protection in each of the five states surveyed. Finally, Chapter Eight presents an overview of the five states surveyed and identifies some of the key challenges to the development of effective state environmental programs -- namely, the strengthening of inter-governmental coordination, the development of regulatory guidance to implement state legislation and the identification of program resources.

## **FEDERAL-STATE ENVIRONMENTAL JURISDICTION**

In order to understand the current and potential scope of state environmental activities, it is necessary to understand the distribution of environmental jurisdiction between federal and state governments. Federal and state authority in this and other areas are derived from both the federal Constitution and federal legislation.

### *Background*

The Mexican Constitution is the legal foundation for federal and state environmental protection jurisdiction. Two features of the Constitution are critical to determining the distribution of jurisdiction. First, the Constitution gives the federal government explicit jurisdiction over a variety of specific matters; taken together, these diverse provisions establish broad federal authority over natural resources and over the health effects of pollution. In contrast, local jurisdiction extends primarily to the provision of public services (e.g., drinking water and sewer) and to local land use planning. Thus, while the Constitution does not contain a single delegation of federal jurisdiction over environmental protection generally, express grants of jurisdiction over a broad range of matters historically have established a dominant role for the federal government.

Second, the Constitution was amended in 1987 to introduce the notion of *conurrencia* in environmental protection -- that is, the requirement that the federal government adopt legislation establishing state and municipal authority over environmental matters. This constitutional requirement is the primary basis for the decentralization of environmental authority in recent years and for the expansion of state and municipal participation in environmental protection. *Conurrencia*

is implemented through the Federal Ecology Law, which delegates authority to the states over various subject matters -- matters that otherwise would be under federal control. Pursuant to the law, state and municipal governments are delegated certain responsibilities in several key areas of environmental protection, including air pollution, water pollution, waste management, and environmental impact review.

### *Subject Matter Authority*

The delegation of environmental responsibility established in the Federal Ecology Law aims to create separate spheres of authority for the federal and local (state/municipal) governments. Pursuant to this "division" of jurisdiction, a particular issue should fall under either federal or local jurisdiction, but not both. For example, the federal government alone is charged with addressing hazardous wastes while the states and municipalities are responsible for addressing non-hazardous solid waste problems. Local governments are responsible for regulating waste water discharges to the local sewer systems, while the federal government is responsible for most other discharges. Other areas, such as air pollution control and environmental impact review, are divided between federal and local governments based on such factors as the location or nature of the source or the extent of the pollution.

Under this system, a single facility could be engaged in activities that involve both federal and local regulatory authority. For example, a facility might require federal environmental impact authorization as well as a state waste water permit. Moreover, a particular activity or event could implicate both federal and local enforcement action. For example, if a facility spills hazardous wastes into a local sewer system, the federal government will have jurisdiction over the improper management of hazardous wastes, while the state or municipality will have jurisdiction over the improper discharge to the sewer system. Thus, under the current environmental protection framework, inter-governmental coordination will be important to ensure efficient and effective regulatory programs.

Despite the creation of separate spheres of jurisdiction, the division of environmental responsibilities is not always precisely delineated. The Federal Ecology Law and its regulations leave ample room for interpretation in determining jurisdiction over a particular matter. For example, the regulation on air pollution provides a list of federal air emissions sources which includes sources that "by their nature and complexity require federal intervention." Indeed, the Federal Ecology Law defines federal matters generally to include "those that by their nature and complexity require the participation of the federal government." The potentially broad reach of federal authority is also reflected in the law's establishment of federal jurisdiction over matters that affect the ecological equilibrium of two or more states or of another country. Federal officials responsible for

implementing the federal law thus have considerable discretion in determining whether to take action in specific matters that might otherwise fall under local jurisdiction.

In some cases, the State Ecology Laws themselves create the potential for jurisdictional conflict by including subject matters that appear to be under federal jurisdiction pursuant to the Federal Ecology Law -- e.g., ground water protection, pesticide control and management of biological wastes. One of the states surveyed adopted a regulation governing biological wastes and was preempted by the federal government, which had issued its own regulation. In general, though, the states surveyed have not acted formally to implement these provisions and conflicts have not materialized in these areas.

### *Standard Setting Authority*

Standard setting is another area of potential jurisdictional conflict. The Federal Ecology Law does not explicitly give the states authority to issue their own standards for matters that fall under state jurisdiction. Rather, the law explicitly directs states and municipalities *to apply* federal standards in exercising their responsibilities under the law. Federal officials have indicated that the Federal Ecology Law prohibits state and municipal governments from adopting their own standards where a corresponding federal standard has been issued, even if the local standard would be more stringent. Such an interpretation leaves open the question whether local governments may adopt standards in matters delegated under the Federal Ecology Law provided that no corresponding federal standard exists.

This issue may require more focused attention and definitive interpretation in the future if states seek to develop their own standards. Some of the states surveyed have laws that provide generally for the adoption of technical standards at the state level. Thus far, however, none of these states has in fact issued any standards. This may be due to a lack of resources as well as a lack of interest in adopting and enforcing standards that go beyond federal standards.

### *Federal Oversight of State Programs*

State governments are not required to obtain federal administrative approval to implement programs in areas of state jurisdiction. The delegation of environmental authority in Mexico is thus different in nature from the delegation of authority that exists in, for example, the United States. The Federal Ecology Law itself authorizes -- indeed, mandates -- state activity in matters that are delegated to the states under the law. The Federal Ecology Law provides substantial guidance on the types of administrative mechanisms that states are to implement. For example, the law requires

states to undertake air quality monitoring, require facilities to install air and water pollution control equipment, and establish inventories of sources of pollution.

The Federal Ecology Law does not explicitly provide for federal oversight or federal action in the event that states fail to exercise adequately their authority in matters of state jurisdiction. Rather, the federal government is authorized to apply the Federal Ecology Law in the local realm only until the states and municipalities have enacted laws and ordinances to regulate matters under their jurisdiction. The Federal and State Ecology Laws do, however, provide for the development of coordination agreements between federal and local governments in order to undertake actions in matters covered by the laws. The Federal Ecology Law also authorizes the federal government to provide technical assistance upon the request of state and municipal governments. Coordination agreements have been used to facilitate federal intervention and assistance where a state lacks the infrastructure or resources necessary to implement measures on its own -- e.g., the establishment of vehicle emissions testing centers or the remediation of a specific site.

## **STATE LEGAL FRAMEWORKS**

### *Background*

The states surveyed have enacted State Ecology Laws that closely parallel the Federal Ecology Law, although the state laws generally address only those matters that fall under state jurisdiction. Various older state laws containing scattered environmental provisions remain in effect to the extent that they do not conflict with the State Ecology Laws. However, the State Ecology Laws are the primary basis for local regulation of polluting activities and, to a lesser extent, protection of natural resources.

The State Ecology Laws contain far-reaching objectives and principles. Following the model of the Federal Ecology Law, most State Ecology Laws seek to achieve not only environmental protection, but also "ecological balance," a concept that recognizes the interdependence of elements in the environment. Some State Ecology Laws also seek to infuse environmental principles into a wide range of state governmental actions, thereby promoting sustainable economic development and natural resource use.

The subject matters covered by the five State Ecology Laws surveyed reflect the distribution of jurisdiction contained in the Federal Ecology Law. In general, the State Ecology Laws give state governments responsibility in the following key areas:

- local ecological land use planning (*ordenamiento ecológico*), to ensure that environmental information and principles are considered when state and local governments determine land

- and natural resource use;
- environmental impact authorization, for matters that do not fall under federal environmental impact jurisdiction;
- air pollution prevention and control, for fixed sources not under federal jurisdiction, and for most mobile sources;
- water pollution prevention and control, primarily with respect to discharges to local sewer systems;
- non-hazardous solid waste management; and
- creation and management of protected natural areas, other than those that fall under federal jurisdiction.

The State Ecology Laws surveyed differ widely in their level of detail. Although all of the laws surveyed are fairly general in nature, some provide greater guidance to state agencies in implementing regulatory mechanisms. The states with more detailed laws are generally the states that have adopted regulations containing more specific guidance. These regulations, which cover air, water and soil pollution, as well as environmental impact review, strengthen the basis for state regulatory activities.

With the enactment of comprehensive environmental laws, states have restructured their administrative agencies. The states surveyed have set up new agencies whose only function is environmental protection, or have established environmental protection offices within their existing urban development agencies. Although state governments may receive funding from the federal government, funds for state environmental agencies have come mainly from state budgets. Income generated by environmental agencies is deposited in the general state treasury. Officials from the states surveyed indicate that lack of adequate financial and other resources constrains implementation of new environmental provisions.

#### *Municipal Environmental Authorities*

The Federal Ecology Law contains a list of matters falling under federal jurisdiction and another list of matters that fall under state and municipal jurisdiction. The State Ecology Laws vary in the way they distribute jurisdiction between states and municipalities. Some state laws provide explicitly for municipal jurisdiction in a number of areas, including environmental impact review, non-hazardous solid waste, mobile source emissions, and waste water discharges to sewer systems. Other states delegate fewer responsibilities to the municipal governments. One of the states surveyed provides for the assumption of jurisdiction in the areas of air, water and solid waste upon a showing by the municipality of capacity to implement a regulatory program. In practice, most states surveyed

have not delegated significant control over environmental matters to municipal governments. Indeed, some states maintain control over the provision of local drinking water and sewer services. For the most part, only the larger cities have begun to implement any formal environmental programs in areas under municipal jurisdiction.

Environmental law at the municipal level in Mexico consists mainly of general municipal ordinances such as Ordinances on Police and Governance, which outline municipal responsibilities in areas such as drinking water, sewer and sanitation services. Many municipalities also have enacted separate ordinances covering these specific subjects. Some of the larger, urban municipalities have recently adopted environmental ordinances modeled on the State and Federal Ecology Laws. These provide a more comprehensive basis for municipal environmental protection programs in the areas of municipal jurisdiction outlined in federal and state laws. Some municipalities have agencies or personnel charged specifically with carrying out municipal environmental responsibilities. The State Ecology Laws in most of the states surveyed require the municipal government to establish an executive entity dedicated to environmental protection. Such agencies are funded primarily through the municipal budget.

### *Regulatory Mechanisms*

For matters that fall under state jurisdiction, state governments have authority to carry out regulatory programs to ensure compliance with applicable environmental standards. The Federal Ecology Law calls on states to use a variety of regulatory tools, and the State Ecology Laws surveyed follow closely the federal law in establishing their own framework for state environmental regulation.

Formal authorization of polluting activities is a central feature of state regulatory authority. States are required to undertake environmental impact review and authorization for activities and projects that fall under state jurisdiction. Such activities are defined generally as those that do not fall under federal environmental impact jurisdiction, and include state and municipal public works, roads, housing projects and tourist developments. Municipal agencies generally are responsible for issuing land use and construction permits for new facilities. Some States Ecology Laws explicitly require that municipalities consider certain environmental factors and ensure that project proponents have obtained any necessary environmental impact authorization, before granting a land use or construction license.

For new and existing facilities, the State Ecology Laws surveyed also require authorization of specific polluting activities. For example, all of the states surveyed require authorization of waste water discharges to sewer systems. Some of the states surveyed require authorization of air emissions from fixed sources under state jurisdiction. Some states explicitly provide for

authorization of non-hazardous solid waste disposal facilities. In conjunction with these authorizations, states generally maintain registries or inventories of sources of pollution. Two of the states surveyed have been particularly active in registering and/or permitting the air and water releases of numerous industrial facilities.

Facility and governmental monitoring of pollution is another important feature of state regulatory authority. Most states surveyed have established some type of requirement for facilities to monitor their air and/or water releases and report the results to the state. Although these provisions vary with respect to the frequency and methods of monitoring, they provide agencies with authority to establish facility-specific monitoring conditions in connection with permitting or enforcement actions. Monitoring is a central component of state and municipal efforts to control mobile source emissions. All State Ecology Laws surveyed require vehicles to be inspected to ensure that emissions are within applicable standards. All of the State Ecology Laws surveyed also require the state and/or municipal governments to undertake general air and water quality monitoring within their territorial jurisdiction. The states and municipalities are in various stages of implementing these requirements, with most monitoring occurring in the heavily industrialized cities.

### *Enforcement*

State authorities are responsible for enforcing their State Ecology Laws through the issuance of appropriate administrative sanctions. The Federal Ecology Law establishes the framework for state administrative enforcement activities, and the states have at their disposal potentially powerful mechanisms for promoting compliance with the law. For example, the State Ecology Laws surveyed provide for administrative fines and facility closure, and provide broad authority to conduct inspections in order to verify compliance and identify violations. The laws are supplemented by other state laws and by municipal ordinances. Some states also have criminal codes establishing environmental crimes, and require state environmental officials to refer cases for prosecution when appropriate.

In each of the states surveyed, numerous facilities are potentially required to comply with the new requirements of the State Ecology Laws. At the same time, environmental agencies in the states surveyed have had access to limited enforcement resources. One state has made extensive use of written agreements with facilities to bring about voluntary compliance. These agreements are general in nature and do not set strict timetables, and the state has not used them as a basis for contract enforcement actions. Officials report that the agreement process and attendant public attention have brought about compliance without formal enforcement action in most cases.

### *Non-regulatory Mechanisms*

In addition to establishing traditional regulatory mechanisms, some State Ecology Laws call for the use of tools such as economic incentives to achieve compliance with environmental mandates. These laws authorize specific measures -- e.g., tax reductions or the facilitation of credit and investment -- or encourage the use of incentives generally. For the most part, the states surveyed have not established formal mechanisms for implementing economic incentives. Nevertheless, some State Ecology Laws provide a basis for state agencies to incorporate incentives into their developing regulatory programs, and to promote additional legislative action where necessary to implement tax and other measures.

### *Public Participation*

Environmental activists and public interest groups are becoming more prominent throughout Mexico. The State Ecology Laws provide some significant bases for greater public involvement at the local level.

The State Ecology Laws explicitly promote public involvement in environmental protection and call on government officials to take action in this regard. Beyond general statements of principle, the State Ecology Laws surveyed contain a few specific public participation mechanisms. Most of the laws surveyed require the creation of a commission to coordinate and promote public participation in environmental protection. The laws also authorize the public to submit public complaints and require the state to respond to those complaints. Investigating public complaints has been an important component of state enforcement programs.

One of the State Ecology Laws surveyed provides for public access to various types of environmental information collected by the government. All of the laws require public access to environmental impact review files. This creates a potentially important vehicle for the public to learn about the nature of a proposed facility and to monitor its future activities. However, as is the case at the federal level, these state law provisions generally do not specify mechanisms for public input into the decision making process -- indeed, access appears to be guaranteed only after the documents have satisfied governmental requirements.

The importance of public input at the initial stages of a proposed project is reflected in several recent cases in states throughout Mexico, where strong community opposition to a project has been mounted at the local level (during the land use and construction licensing process) following federal environmental impact authorization. The challenge facing federal and state governments as well as the public, is to use the general provisions of the Federal and State Ecology Laws as a basis for facilitating and expanding public participation and access to information in connection with environmental impact review and other regulatory processes.



## **AVENUES FOR STRENGTHENING STATE ENVIRONMENTAL PROGRAMS**

The enactment of comprehensive state legislation is only a first step toward decentralization of environmental authority. States are still in the early stages of developing measures to implement their new authorities, and the federal government continues to play a dominant role in environmental protection. Future efforts to promote decentralization and to strengthen state environmental protection programs will need to focus on certain key issues.

First, federal, state and municipal officials will be called on to establish mechanisms for resolving or clarifying jurisdictional questions and for coordinating inter-governmental regulatory efforts in appropriate matters. The Federal Ecology Law describes federal subject matter jurisdiction in broad terms, and provides a basis for ample federal discretion in determining whether a particular activity falls within the ambit of federal authority. In addition, some State Ecology Laws appear to be at odds with the Federal Ecology Law in establishing jurisdiction over certain matters. Attention to areas of potential jurisdictional conflict will not only promote compliance with the laws, but also facilitate the development of local environmental programs. Even in areas where environmental jurisdiction is relatively clear, mechanisms to promote inter-governmental coordination and communication are needed in order to ensure effective and efficient regulatory action.

Second, states and municipal governments will need to consider developing formal regulatory guidance to implement their new environmental legislation. Some states have already taken steps in this direction by adopting regulations, and some municipalities have enacted environmental ordinances. By providing greater clarity, predictability and finality in environmental regulation, local governments can both promote compliance and provide a stronger basis for carrying out regulatory programs.

Finally, state and municipal environmental agencies will need to obtain adequate resources to support their expanded roles in environmental protection. Some Mexican states with extensive environmental problems have received federal funding. Other states have received international assistance -- e.g., through the World Bank -- to increase state and local capacity in environmental protection. However, most states surveyed have relied on state government funding, while municipalities have been dependent on the municipal budget. Innovative mechanisms for securing needed financial, technical and human resources will be critical to state regulatory programs, as will regulatory approaches that maximize agency resources.

# *Chapter I*



## **Introduction**

In 1988, Mexico enacted its principal environmental law, the General Law of Ecological Balance and Environmental Protection. In contrast to earlier laws, this federal legislation is comprehensive in scope, addressing pollution prevention and control, natural resource protection, land use planning and other issues related to environmental protection. The passage of the federal law also introduced a fundamental shift in Mexico's approach to environmental protection -- a movement toward *decentralization* of environmental authority to the state and municipal governments.

Mexican states can play an important role in environmental protection. States have a natural advantage over the federal government in certain aspects of environmental regulation. Being located closer to sources of pollution and being more familiar with local geographical and other conditions allows states to better tailor solutions to region-specific environmental problems. Mexican states can also serve as "experimental laboratories," creating new approaches to deal with common environmental challenges.

Today, all 31 Mexican states have taken the initial steps toward decentralization by promulgating their own comprehensive environmental laws, supplementing the federal law. This research project seeks to support the process of decentralization by providing an understanding of the new legal and institutional frameworks in which state environmental programs have begun to operate, and by identifying some of the opportunities and obstacles to be confronted in the development of effective programs. The research presented in this report offers important background information for future efforts to evaluate and strengthen the process of decentralization.

### *Scope and Methodology*

The report reviews the major environmental laws, regulations and policies, as well as the administrative structures for environmental regulation, in five Mexican states. In addition to describing jurisdictional authorities to undertake environmental protection activities, the report describes the range of regulatory tools available to the states surveyed and the opportunities for promoting public participation in the state regulatory process. The study also describes municipal authorities, highlighting the environmental regulations and programs of a selected municipality in each of the five states surveyed.

To carry out the project, the Environmental Law Institute assembled a team of attorneys and other environmental law experts. Because an objective of the project was to build partnerships between environmental professionals in the United States and Mexico, the project team included the following Mexican environmental professionals in addition to several senior Environmental Law Institute attorneys:

***Gustavo Alanis Ortega***, and environmental lawyer and President of *Centro Mexicano de Derecho Ambiental* (Mexican Environmental Law Center) in Mexico City;

***Diana Ponce Nava***, an environmental lawyer formerly with the environmental consulting firm of Székely and Ponce located in Mexico City, and now an official with the new federal environmental agency SEMARNAP;

***Marina Esther Pérez Martínez***, formerly a staff assistant at the environmental consulting firm of Székely and Ponce;

***Donald Hobbs***, an environmental lawyer currently working at the Environmental Law Institute; and

***Cynthia Ickowicz***, an environmental lawyer formerly with the Environmental Law Institute as a Visiting Scholar.

Several additional Mexican environmental law experts from governmental and non-governmental organizations contributed to the preparation and review of this report.

The project team first selected a representative group of states for study, considering the following factors: geographic location and features; environmental problems; and economic and political characteristics. The five states chosen for the study are Baja California, Mexico, Nuevo León, Oaxaca and Veracruz. Although these case studies cannot capture the features of all 31 Mexican states, they provide a general picture of the key legal and institutional issues facing states throughout the country.

The project team next developed a common framework for reviewing the environmental legal and regulatory structures of the five states. This framework addresses a range of issues from the distribution of jurisdiction among federal, state and local governments, to the range of regulatory and enforcement mechanisms available to state officials and the opportunities for public participation. Although the framework focuses on laws and institutions relating to pollution control and prevention, natural resource protection issues are included to the extent that state environmental laws provide authorities in that area.

For each of the five states, the project team collected and reviewed state environmental laws, regulations and policies. This research focused primarily on the comprehensive environmental laws recently enacted by the states, but also included other legal materials related to the issues covered

under the common framework. In addition, federal environmental law was reviewed in order to provide the legal context for state and municipal environmental protection.

In the summer and fall of 1994, the project team conducted a series of interviews with key federal, state and local environmental officials from the various environmental regulatory entities in each of the five states. The interviews were based on outlines developed by the project team, addressing interpretation and implementation of state and municipal environmental laws.

The preliminary draft of the final report issued in the summer of 1995 integrated the information obtained from the review of state and local laws with information made available through the interviews. Key officials from each of the five states surveyed were provided an opportunity to review the portion of the report relevant to their state. The draft was also reviewed by several federal officials in Mexico. Comments from these officials were taken into consideration in the preparation of the final version of the report. Thus, while most of the information contained in the report is based on research and interviews conducted in 1994, the review period provided an opportunity to include information on more recent changes in laws or regulatory programs of the states surveyed.

The report is structured as follows:

- **Chapter Two** describes the federal legal framework for environmental protection. This chapter introduces Mexico's environmental regulatory system by explaining the distribution of jurisdiction to regulate environmental matters among federal, state and local government entities in Mexico. The chapter then provides an overview of the major federal environmental laws and agencies. Although this chapter seeks to provide a general picture of federal environmental law, it does not attempt to describe the considerable activity by federal agencies to develop environmental programs implementing the laws.

- **Chapters Three through Seven** of the report describe the environmental regulatory systems in the five states. After a brief introduction to the geographic, environmental, economic and political characteristics of the state, each chapter provides an overview of the state's major environmental laws and regulations, as well as a description of the administrative structure for implementing those legal instruments. Each chapter then discusses in greater detail:

- environmental policy tools;
- regulatory mechanisms for environmental protection and natural resource protection;
- enforcement mechanisms; and
- opportunities for public participation.

Each of the chapters concludes with a discussion of the key features of that state's regulatory system.

- **Chapter Eight**, the final chapter of the report, highlights the most important features of the state environmental legal frameworks, noting the different approaches taken in the five states surveyed. This chapter identifies and discusses opportunities in the state laws for carrying out effective state environmental protection programs. The chapter presents key issues that will be important to future efforts by state, municipal and federal governments in Mexico, as well as by other governments and international organizations, to understand, evaluate and strengthen the process of decentralization.

## *Chapter II*



# **Mexican Federal Environmental Law**

Federal environmental law in Mexico is the basis for the development of state laws and institutions. Federal law both defines the scope of state jurisdiction and establishes the general framework for state environmental legislation and programs. To understand the state role in environmental protection, it is therefore necessary to understand the federal legal scheme. This chapter discusses the way in which federal law allocates environmental jurisdiction between federal and state governments. It also describes the principal federal environmental agencies and gives an overview of the key substantive provisions of federal environmental law.

## **I. BACKGROUND: THE EVOLUTION OF MEXICAN ENVIRONMENTAL LAW**

In Mexico, as in many other countries, environmental protection has taken on increasing significance in recent years. The legal framework for environmental protection in Mexico, however, has evolved over a long period of time. Mexican legislation from the revolutionary period through the 1970's sought to regulate the exploitation of natural resources, in order to provide a basis and framework for productive activities. Since its promulgation in 1917, the Mexican Constitution has addressed the conservation of natural resources. This theme has been addressed by specific legislation, such as the Law for the Conservation of Soil and Water, published in 1946, as well as legislation enacted between 1936 and 1940 governing the establishment of national parks.

In 1971, at a time of growing international concern over environmental problems, the Federal Law for the Prevention and Control of Pollution was promulgated. This law addressed pollution and sanitation issues, and had its basis in nuisance principles. It led to the issuance of the first environmental regulations, covering air, water, noise and waste issues. In 1982, the Federal Law for the Protection of the Environment was enacted, with the objective of protecting, conserving, restoring and improving the environment and natural resources.

In January, 1988, the General Law of Ecological Balance and Environmental Protection (hereinafter "Federal Ecology Law") came into force and is currently the principal federal environmental law. Termed an "omnibus" law because of its broad scope, the Federal Ecology Law seeks to achieve an integrated approach to environmental problems. Several resource-specific laws enacted since 1988 complement the Federal Ecology Law.

Pursuant to the Federal Ecology Law, the federal government has issued several regulations (*reglamentos*). Promulgated by the President, regulations address a particular subject matter in greater detail than the Federal Ecology Law. They generally correspond to the individual chapters of the law and are subject matter or media-specific. The law and regulations are in turn implemented by numerous technical standards, known as Official Mexican Norms. After describing the jurisdictional authorities granted under federal law, this chapter provides an overview of the key substantive provisions of the federal legal framework for environmental protection.<sup>1</sup>

## **II. FEDERAL-STATE JURISDICTION UNDER MEXICAN LAW**

### **A. General Principles**

The Mexican Republic is composed of states that are "sovereign over all matters concerning their interior regimes," but that are united in a federation established under the principles of the Mexican Constitution. Thus, the states may exercise their sovereignty in a manner that is consistent with the Federal Pact<sup>2</sup> embodied in the federal Constitution. In general, states have jurisdiction over matters concerning the internal affairs of the state, while federal jurisdiction covers matters that are national in scope or of interest to the nation as a whole.<sup>3</sup> Article 124 of the Mexican Constitution states the central rule governing the specific distribution of jurisdiction between the federal government and the states:

Those powers not expressly conceded to the federal authorities by this Constitution are reserved to the States.

Thus, the Mexican Constitution is the source of the distribution of powers among federal, state and municipal governments. Federal jurisdiction extends to matters that are granted expressly to the federal government or that are prohibited to the state and municipal governments. States have jurisdiction in all areas not expressly granted to the federal government or explicitly taken away from the states by the federal Constitution. The federal Constitution also expressly gives states and municipalities authority over certain matters that relate to environmental protection, including the provision of basic public services and the determination of land uses.<sup>4</sup>

### **B. Distribution of Environmental Jurisdiction Under the Mexican Constitution**

Identifying the areas that have been designated as federal matters by the Constitution -- and are therefore exclusively within the federal realm<sup>5</sup> -- is critical to determining the scope of state jurisdiction.

The Constitution does not make a single broad delegation of authority for environmental protection to the federal government. Rather, there are several constitutional articles that give the federal government power to legislate over different aspects of environmental protection. Thus, determining the areas of exclusive federal environmental jurisdiction requires a degree of interpretation and discernment.

The following paragraphs describe briefly the constitutional provisions that expressly grant jurisdiction to the federal government in areas that relate to environmental protection.

**Article 27.** The foundation for federal protection of natural resources -- as well as for the determination of property ownership -- is article 27, which establishes that "dominion over the lands and the waters within national territorial limits corresponds originally to the Nation, which has had and continues to have the right to transfer dominion to individuals, thereby constituting private property." As part of its general authority over natural resources, the federal government is given power to impose conditions on private property as dictated by the public interest, and to regulate for public benefit the use of natural resources susceptible of appropriation. Article 27 states explicitly that the exercise of these powers is to achieve, among other things, the conservation and equitable distribution of the nation's resources and the preservation and restoration of ecological balance.

**Article 73.** Article 73 of the Constitution contains various provisions which establish the basis for federal jurisdiction over matters relating to environmental protection, including:

- the health impacts of pollution;
- the use and commercial exploitation of national waters;
- general communication and transportation routes;
- mining;
- electric and nuclear energy;
- hydrocarbons;
- protection of aquatic and terrestrial species;
- labor; and
- economic and social development planning.<sup>6</sup>

Article 73 also gives the federal government jurisdiction over all matters relating to the Federal District,<sup>7</sup> which would include environmental protection.

**Article 25.** Article 25 establishes federal jurisdiction over national economic development. It directs the government to assist and encourage public and private businesses, and to determine the conditions under which they may operate. In so doing, the federal government is given explicit authority to subject businesses to conditions dictated by the public interest, and to require that their use of productive resources be consistent with conservation and environmental protection.<sup>8</sup>



In addition to the express grants of jurisdiction in these broad areas, the Constitution provides that the federal Congress has the power to enact laws that are necessary to effectuating the express powers granted in the Constitution -- i.e., laws without which the federal government could not exercise its express powers. The granting of these "implicit" powers to the federal government further complicates the task of identifying areas of federal environmental jurisdiction.<sup>9</sup>

Thus, the Constitution's express grants of power to the federal government, in combination with the federal authority to issue laws necessary for implementing those express powers, provides for federal jurisdiction over a broad range of matters relating to the conservation and use of natural resources and to environmental protection. Indeed, the Constitution gives the federal government jurisdiction over most environmental protection functions and leaves the states (implicitly) with relatively little environmental jurisdiction.<sup>10</sup>

The Constitution explicitly grants municipal governments authority over certain matters that relate to environmental protection. Municipalities are charged with providing public services including drinking water, sewer, sanitation, transit, and park maintenance. Those services may be provided with the assistance of the state where necessary and where provided under local law. Municipal governments are also given jurisdiction over matters relating to land use planning and natural resources, including:

- development and administration of urban development and zoning plans;
- monitoring and control of land uses;
- issuance of construction permits; and
- participation in the creation and administration of ecological reserve zones.<sup>11</sup>

State governments are to establish the normative bases for the issuance of municipal ordinances, regulations and other administrative dispositions, in the above matters.<sup>12</sup>

### **C. "Concurrent" Jurisdiction Over Environmental Protection**

Although the Constitution grants express jurisdiction over a broad range of environmental protection matters to the federal government, the Constitution also provides for the delegation of federal environmental powers to the states and municipalities. In 1987, the Constitution was amended to authorize the federal Congress:

To enact laws establishing concurrence [*concurrancia*] among federal, state and municipal governments, within the ambit of their respective jurisdictions, in matters relating to environmental protection and preservation of ecological balance.<sup>13</sup>

This provision is not explained further in the text of the Constitution, but has been interpreted generally as directing the federal legislature to delegate to the states certain powers in environmental matters that would otherwise be reserved exclusively to the federal government. As a result of this delegation, federal, state and municipal governments may each have authority "within the ambit of their respective jurisdictions" to address a particular subject area -- that is, the federal government addresses those matters that are of national scope, while the states and municipalities address matters that are limited to the local realm.

While the principle of *concurrentia* is established in the Constitution, it is the federal Congress that is to determine the guidelines for state and municipal activities. Federal legislation, which can be amended or otherwise modified, designates the areas of federal environmental jurisdiction in which certain environmental responsibilities will be delegated to the states and municipalities. Thus, the notion of *concurrentia* represents a form of joint participation of federal, state and municipal governments in environmental protection. According to a prominent legal scholar, the purpose of the constitutional amendment establishing *concurrentia* was to

permit the participation of the states and the municipalities in environmental matters which, according to the constitutional provisions in force until then, were effectively concentrated in the federal government.... In this way, the Constitution established the bases for a healthy as well as necessary decentralization.<sup>14</sup>

#### **D. Distribution of Environmental Jurisdiction Under Federal Legislation**

The Federal Ecology Law implements the constitutional notion of *concurrentia*. The law establishes that federal environmental protection powers will be exercised in a "concurrent" manner by the federal, state and local governments. Thus, while the federal government has authority to legislate over environmental matters provided in the Constitution, the Congress, through the Federal Ecology Law, has delegated to states and municipalities responsibility for some of these matters. The Federal Ecology Law therefore is central to determining the role of local (state/municipal) governments in environmental protection. The delegation of responsibility contained in the Federal Ecology Law is the basis on which the states have developed their own environmental protection legislation in recent years. State laws, in turn, clarify the distribution of responsibilities between states and municipalities, within their general spheres of jurisdiction.

This delegation of powers to the states and municipalities follows the general principle that, within the ambit of the environmental jurisdiction granted to the federal government under the Constitution, the federal government will be responsible for matters of national scope and interest to the nation; in all matters that are not of national scope or interest, states and municipalities have

jurisdiction.<sup>15</sup> Nevertheless, until the states and municipalities adopt legislation regulating the matters delegated under the law, the federal government is responsible for applying the Federal Ecology Law in the local sphere.<sup>16</sup>

Based on this general principle for delegating authority, the Federal Ecology Law establishes a list of matters that are reserved to the federal government, and a list of the areas in which states and municipalities have jurisdiction.<sup>17</sup> Within these general subject areas, the Federal Ecology Law further specifies various actions that are to be taken by local governments in exercising their jurisdiction. As noted above, the Federal District has a somewhat unique jurisdictional status, and the Federal Ecology Law lists the specific powers that are delegated to that government.

The remainder of this section describes the basic division of jurisdiction over general subject matters, as listed in articles five and six of the Federal Ecology Law. The specific responsibilities of the federal government in these areas, as well as some of the responsibilities of the states, are discussed in Section IVB, below.

#### 1. *General environmental protection activities*

**Federal.** The federal government is responsible generally for environmental protection and ecological preservation activities "on property and in zones of federal jurisdiction." The Mexican Constitution and federal laws (e.g., the Law of National Waters and the Law of National Properties) provide guidance on what constitutes federal properties and federal zones, for purposes of determining federal jurisdiction. This legal framework gives the federal government broad jurisdiction over properties and zones. Federal properties include a broad range of natural resources -- e.g., most surface waters and ground water; petroleum and hydrocarbon resources; and most mineral and other natural substances found in the earth and the continental platform. Federal zones include national lands as designated in the federal Agrarian Law, as well as: the contiguous zone and the continental platform; islands, keys and reefs; beaches and coastal lands; roads, railways and bridges that constitute general routes of communication; ports; and federal dams, dikes and other hydraulic infrastructure.<sup>18</sup>

Federal jurisdiction also extends to actions which by their nature and complexity require the participation of the federal government and to matters affecting the ecological balance of two or more states. In addition, the federal authorities are responsible for addressing matters originating in other countries which affect ecological balance within national territory, as well as matters originating within national territory and affecting other nations. Thus, the federal government has jurisdiction over industrial facilities such as the maquiladoras<sup>19</sup> to the extent that they generate hazardous wastes or produce cross-border environmental impacts.

***State and Municipal*** States and municipalities may undertake environmental protection activities "on properties and in zones of state and municipal jurisdiction," except in matters reserved to the federal government. State and municipal zones are, by implication, those that are not within exclusive federal jurisdiction. States and municipalities may also regulate the environmental effects of municipal services such as sewage treatment, cleaning and transit.

## 2. *Polymaking and standard setting*

***Federal.*** In addition to formulating general ecological *policies* and *criteria*<sup>20</sup> the federal government is responsible for issuing *norms* (standards) on matters covered by the Federal Ecology Law. The law sets out a series of principles that must guide the development of ecological policies, as well as the instruments for implementing those policies.<sup>21</sup>

According to the Federal Ecology Law, "Ecological Technical Norms" establish the parameters necessary for enhancing public wellbeing and bringing about ecological balance and environmental protection. These mandatory standards are defined as:

the group of scientific or technological rules issued by the Secretariat that establish the requirements, specifications, conditions, procedures, parameters and permissible limits that must be observed in the development of activities or property that could cause ecological imbalance or environmental harm....<sup>22</sup>

Although the Federal Ecology Law provides for the issuance of standards, the law does not contain any details regarding the procedures for doing so. The same is true of other issue-specific federal laws, such as those dealing with health and labor issues. In 1992, a federal law was passed changing the procedure for issuing most federal norms that establish safety, health or environmental requirements. Under the Federal Law on Measurement and Standardization (*Ley Federal sobre Metrología y Normalización*), federal agencies may only issue such norms (or other similar mandatory dispositions such as technical specifications, criteria, rules, guidelines, etc.) as "Official Mexican Norms," in accordance with the procedures set out in the law. The procedures include cost-benefit analysis, interagency consultation and public notice and comment.<sup>23</sup> Existing environmental standards (Ecological Technical Norms) were required to be re-promulgated as Official Mexican Norms by October, 1993, and all now have been reissued, according to officials.

Under the Federal Ecology Law, the federal government may establish specific maximum levels of emissions for individual fixed sources whose emissions are not covered by existing Official Mexican Norms. The Federal Ecology Law and the Law of National Waters also authorize the government to establish Special Discharge Conditions. The regulation issued pursuant to the Law

of National Waters defines such Conditions as the maximum level of certain physical, chemical and biological parameters in waste water discharges, which are established by the National Water Commission for an individual water user, a group of users or a specific receiving body of water, in order to preserve and control water quality.<sup>24</sup> The federal government has issued such Special Discharge Conditions primarily for "sub-industries" that require more specialized standards than those incorporated in the Official Mexican Norm for the industry as a whole.

***State and Municipal*** States and municipalities have jurisdiction to formulate the ecological *policies* and *criteria* to be applied in matters delegated to states and municipalities, provided the policies and criteria are "congruent" with any issued by the federal government.

The Federal Ecology Law does not explicitly give the states authority to issue their own *standards* for matters that fall under state jurisdiction. Rather, the law explicitly directs states and municipalities *to apply* federal standards in exercising their responsibilities under the law. Federal officials have indicated that the Federal Ecology Law prohibits state and municipal governments from adopting their own standards where a corresponding federal standard has been issued, even if the local standard would be more stringent. This interpretation leaves open the question whether local governments may adopt standards in matters delegated under the Federal Ecology Law provided that no corresponding federal standard exists. This issue may require more focused attention and definitive interpretation in the future if states seek to develop their own standards.<sup>25</sup>

The Federal Ecology Law and the Law of National Waters do provide for local governments to establish Special Discharge Conditions.

### 3. *Land use and development planning*

***Federal.*** According to the Federal Ecology Law, the federal government is responsible for general ecological land use planning of the country's territory. This process is termed "ecological ordering" (*ordenamiento ecológico*) and is defined as:

a planning process directed toward evaluating and designating land use and management of natural resources....in order to preserve and restore ecological balance and protect the environment.<sup>26</sup>

On the federal level, this process is the "first level of land use planning and natural resource management." It establishes the "ecological regionalization" of the country based on similar environmental, physical, biological and socioeconomic characteristics, and formulates criteria on which to base decisions about the use of natural resources and the siting of productive activities and

human settlements. These criteria are rules that project proponents must observe to ensure appropriate use of natural resources.<sup>27</sup>

***State and Municipal*** States and municipalities are responsible for local ecological land use planning, particularly in human settlements, through urban development programs and other mechanisms. This constitutes the next level of land use planning and natural resource management, which parallels the federal planning process on a smaller scale. The federal government provides assistance to the states and municipalities in developing local plans.<sup>28</sup>

According to federal officials, the federal, state and local governments participate jointly in ecological land use planning for certain areas, including: regions of the country that involve two or more states; regions where there are activities with greater potential for environmental impact; protected natural areas; ecogeographic regions with vulnerable natural resources; areas with "critical human settlements"; and border regions or interstate areas with critical environmental or natural resource problems.<sup>29</sup>

#### 4. *Environmental impact evaluation*

***Federal.*** In accordance with the Federal Ecology Law and its regulations,<sup>30</sup> the federal government is responsible for evaluating the environmental impact of proposed public and private projects in the following areas: federal public works; hydraulic works, general communication routes and fuel pipelines; chemical, petrochemical, metal, paper, sugar, beverages, cement, automotive and electric power industries; exploration, extraction, treatment and refining of mineral and non-mineral substances reserved to the federal government; federal tourism developments; hazardous and radioactive waste treatment, confinement and disposal facilities; and commercial exploitation of forests, tropical jungles and vulnerable species.

The federal government also has jurisdiction over the evaluation of environmental impacts of works or activities that involve the use of natural resources, and of activities that are highly hazardous or that involve the management of toxic substances.

The federal government has environmental impact jurisdiction over proposed activities that could affect the ecological balance of two or more states, of foreign countries, or of international zones. In addition, the federal government has environmental impact jurisdiction over matters whose nature and complexity requires the participation of the federal government, upon petition by the corresponding state or municipal authorities.

***State and municipal.*** The Federal Ecology Law establishes only in general terms the responsibilities of state and municipal governments in the area of environmental impact review. States and municipalities have environmental impact jurisdiction in matters that are not reserved to the federal government under the Federal Ecology Law or other federal laws.

## 5. *Air pollution*

**Federal.** The federal government is responsible for the protection of the atmosphere in zones and properties under federal jurisdiction. As discussed earlier, the Constitution and laws provide guidance over what constitutes a federal zone. The federal government is also responsible for controlling air emissions from sources under federal jurisdiction.

The law itself does not provide an exhaustive list of emission sources that are classified as federal. However, the law's regulation on air pollution establishes that federal jurisdiction extends to the following emissions sources: activities and works carried out by federal agencies and entities; industries producing asbestos, chemicals, petrochemicals, metal, paper, sugar, beverages, cement, automobiles and electricity; industries located in the Federal District; works or activities located in one state whose emissions affect another state (where requested by the affected state); works and activities that could affect another country; production of automotive vehicles; and public transport. The regulation also includes those sources that "by their nature and complexity require federal intervention."<sup>31</sup>

**State and Municipal** States and municipalities are responsible for air pollution generated in zones or by sources of state or municipal jurisdiction -- i.e., those that are not under federal jurisdiction.

## 6. *Water pollution*

**Federal.** The federal government has jurisdiction over the prevention and control of pollution of waters under federal jurisdiction. The concept of "national waters" provided in article 27 of the Mexican Constitution -- and defined with greater detail in the Law of National Waters -- encompasses virtually all surface waters as well as ground water.<sup>32</sup>

**State and Municipal** States and municipalities are responsible for preventing and controlling pollution of: waters under state jurisdiction; federal waters that have been assigned or concessioned to the state or municipality for the provision of public services; and waters that are discharged into public sewer systems.<sup>33</sup> In practice, the federal government regulates all discharges except those entering local sewer systems. The Law of National Waters provides that municipalities have responsibility for controlling discharges to sewer systems in population centers, with the assistance of the states as necessary and as provided for under local law.<sup>34</sup>

7. *Waste*

**Federal.** The federal government is responsible for regulating activities involving hazardous waste. Federal authority in the area of non-hazardous solid waste is generally limited to setting standards relating to siting of waste disposal sites.

**State and Municipal** States and municipal governments are responsible for regulating activities relating to non-hazardous solid waste.

8. *Hazardous activities*

**Federal.** The federal government is responsible for regulating activities that are highly hazardous due to the magnitude or seriousness of their potential effects on ecological balance and the environment.

**State and Municipal** States and municipalities are responsible for activities that are not considered highly hazardous and that affect the environment within the state or municipality.

9. *Environmental emergencies*

**Federal.** The federal government is responsible for addressing environmental emergencies, where the magnitude and seriousness of the potential effects on ecosystems, the environment or the public warrants federal attention. This formulation would appear to encompass emergencies affecting public properties and zones.

**State and Municipal** Municipalities and states are responsible for emergencies which do not fall exclusively under federal jurisdiction, and whose effects on the environment do not exceed the territory of the municipality or state.

10. *Natural resource protection*

**Federal.** The federal government is responsible for creating and administering protected natural areas of national interest, for protecting wild flora and fauna generally, and for protecting aquatic flora and fauna found in national waters. Federal authorities are responsible for ensuring the rational use of forest resources, of federal waters and of soil used in productive activities. Federal jurisdiction also extends to activities related to the exploration and exploitation of underground resources reserved to the federal government, as provided under article 27 of the Constitution.



***State and Municipal*** The Federal Ecology Law gives states and municipalities responsibility for creating and administering two types of natural areas: urban parks and ecological conservation zones.<sup>35</sup> They also have jurisdiction for regulating the environmental impacts of exploitation of certain minerals or substances not reserved to the federal government -- e.g., those used as construction materials. States are not given explicit authority over protection of flora and fauna.

### *11. Enforcement*

***Federal.*** The federal government is given broad authority to enforce the provisions of federal environmental laws through the issuance of administrative fines, and other sanctions such as facility closure. The federal agencies also have broad inspection authorities to aid in monitoring facilities.

***State and Municipal*** For matters under local jurisdiction, state and municipal governments are explicitly directed to apply the enforcement provisions of the Federal Ecology Law in any laws and ordinances issued at the local level. States and municipalities may enter into coordination agreements with the federal government to monitor compliance with the Federal Ecology Law in matters under federal jurisdiction.<sup>36</sup>

## **III. FEDERAL ENVIRONMENTAL AGENCIES**

Mexico has a civil law system that relies more on administrative authority than on the judiciary for development and interpretation of the law. The federal administrative framework for environmental protection recently underwent significant restructuring. Until recently, the principal environmental agency was the Secretariat of Social Development (*Secretaría de Desarrollo Social* or SEDESOL). It shared responsibility over environmental matters with other agencies, notably:

- the Secretariat of Agriculture and Water Resources (*Secretaría de Agricultura y Recursos Hidráulicos* or SARH);
- the Secretariat of Fisheries (*Secretaría de Pesca*);
- the Secretariat of Marine Affairs (*Secretaría de Marina*);
- the Secretariat of Health (*Secretaría de Salud*); and
- the Secretariat of Energy, Mines and Parastatal Industry (*Secretaría de Energía, Minas e Industria Paraestatal* or SEMIP).<sup>37</sup>

In December, 1994, a new federal executive agency was created -- the Secretariat of Environment, Natural Resources and Fisheries (*Secretaría de Medio Ambiente, Recursos Naturales y Pesca*

or SEMARNAP). SEMARNAP is now the principal federal environmental agency, having absorbed functions previously held by SEDESOL, SARH and the Secretariat of Fisheries with respect to formulating and implementing environmental policy. This report will refer to SEMARNAP when discussing the issues and activities covered by the new agency, although in years past these were carried out by SEDESOL or other agencies.

Although the internal regulation of SEMARNAP has not yet been published, the Organic Law of the Federal Public Administration has been amended to include the functions of SEMARNAP. These functions include:

- promoting the protection, restoration, and conservation of ecosystems and natural resources in order to provide for their sustainable use and development;
- formulating and implementing national policies relating to natural resources under the agency's jurisdiction;
- establishing Official Mexican Norms relating to preservation and restoration of environmental quality, with the participation of other relevant agencies;
- monitoring compliance with environmental laws and regulations, in coordination with other competent agencies;
- proposing the establishment of protected natural areas, and promoting public participation in their administration;
- promoting ecological land use planning throughout the national territory;
- undertaking environmental impact review for matters under the agency's jurisdiction; and
- promoting public participation.<sup>38</sup>

SEMARNAP is headed by a Secretary and has Undersecretariats in the areas of Natural Resources, Fisheries, and Planning. Within SEMARNAP are three operationally autonomous entities that carry out most of the agency's environmental responsibilities. These agencies are: the National Institute of Ecology, the Office of the Attorney General for Environmental Protection, and the National Water Commission.<sup>39</sup> The first two of these were previously within SEDESOL; the latter was part of the Secretariat of Agriculture and Water Resources (SARH), now known as the Secretariat of Agriculture, Livestock and Rural Development.

**National Institute of Ecology** (*Instituto Nacional de Ecología* or INE). This agency is charged generally with formulating and implementing ecological policy in the country. For example, INE establishes environmental criteria and standards, carries out environmental impact review and issues permits, concessions, authorizations, licenses and registrations.<sup>40</sup>

**Office of the Attorney General for Environmental Protection** (*Procuraduría Federal de Protección al Ambiente* or PROFEPA). PROFEPA is responsible for the enforcement of federal environmental

law. As part of its enforcement responsibilities, the agency conducts inspections, issues sanctions, and implements emergency measures.<sup>41</sup>

**National Water Commission.** (*Comisión Nacional del Agua* or CNA). This agency is the central water resources agency at the federal level. According to the Law of National Waters, CNA has broad authority over water quality and water use, and is charged with implementing many of the water pollution control provisions of the Federal Ecology Law. Its responsibilities include: issuing and implementing water standards; authorizing waste water discharges; issuing concessions or permits for water use; supporting the development of drinking water, sewage and water treatment systems; carrying out federal water works; and promoting water conservation and efficiency.<sup>42</sup>

#### IV. OVERVIEW OF FEDERAL ENVIRONMENTAL LEGISLATION

##### A. Principal Federal Laws Relating to Environmental Protection

The **General Law of Ecological Balance and Environmental Protection** (*Ley General del Equilibrio Ecológico y la Protección al Ambiente*), the principal Mexican environmental law, is broad in scope, addressing ecological planning, environmental risk and impact assessment, flora and fauna protection, conservation and rational use of natural resources, and prevention and control of air, water and soil pollution.

The Federal Ecology Law has been undergoing reevaluation both within and outside the federal government, and the legislature is expected to enact substantial revisions by the end of 1996.

Regulations issued pursuant to the law cover air pollution, hazardous waste, and environmental impact assessment. Numerous technical standards have been issued to implement the regulations in these areas.

The **Law of National Waters** (*Ley de Aguas Nacionales*), published on December 1, 1992, addresses water quality and water quantity issues in order to ensure sustainable use of water resources. It is applicable to all national water resources, including ground water.<sup>43</sup>

The law charges the federal government -- through the National Water Commission -- with carrying out a broad range of water pollution control actions, including setting and enforcing water quality standards and authorizing discharges. The law establishes guidelines on granting concessions for the use and exploitation of water resources by public and private entities.<sup>44</sup> The law also establishes the conditions and guidelines according to which the executive branch is to prohibit water exploitation or declare water reserves in order to preserve and control water quality and quantity.<sup>45</sup>

In January, 1994, the Regulation of the Law of National Waters was published, providing further detail on the matters covered under the law.

The **General Health Law** (*Ley General de Salud*), published on February 7, 1984, establishes federal and state responsibility for general health services, including access to health services.<sup>46</sup>

The law contains a section on "Environmental Effects on Health," which sets forth the responsibilities of the federal Secretariat of Health in this area. The Secretariat is responsible for investigating the effects of environmental pollution on public health, and for coordinating with SEMARNAP to implement environmental protection programs involving public health issues.<sup>47</sup>

The **Law of Acquisitions and Public Works** (*Ley de Adquisiciones y Obras Públicas*), published on August 5, 1994, regulates expenditures and all general aspects government acquisitions, service contracts and public works.<sup>48</sup>

The law establishes detailed guidelines for projects carried out by the federal government. For example, the law requires federal agencies to consider the effects that government projects will have on the environment and take steps necessary to preserve or restore the environment.<sup>49</sup>

The **General Law on Human Settlements** (*Ley General de Asentamientos Humanos*), published on July 21, 1993, establishes the basic framework for planning and regulating human settlements. It addresses the creation and development of population centers, and establishes the principles for designating territorial reserves and land uses.<sup>50</sup>

The General Law on Human Settlements establishes as a matter of public interest the preservation of ecological balance and environmental protection in population centers. One objective of the law is to achieve a sustainable and balanced distribution of economic activities and population throughout the country.<sup>51</sup> The law also seeks to promote prevention and control of environmental emergencies and hazards in population centers, as well as the conservation and improvement of the environment in human settlements.<sup>52</sup>

In addition to the laws described above, the Federal Law of Administrative Procedure, which took effect in August, 1995, applies to most administrative acts, proceedings and decisions. There are also a number of federal laws pertaining to natural resource issues that are outside the scope of this report. These include:

- the Forestry Law (*Ley Forestal*);
- the Mining Law (*Ley Minera*);
- the Agrarian Law (*Ley Agraria*);
- the Fisheries Law (*Ley de Pesca*);
- the Hunting Law (*Ley de Caza*); and
- the Federal Law of the Sea (*Ley Federal del Mar*).

## **B. Principal Provisions of Federal Environmental Law**

This section provides a brief overview of federal law governing the principal subject areas covered by this report, focusing on the Federal Ecology Law and the regulations and standards issued pursuant to that legislation. In addition to establishing a framework for regulation of matters under federal jurisdiction, the Federal Ecology Law directs states to take certain actions to address matters that are within state jurisdiction.

### *1. Land use and development planning*

The Federal Ecology Law contains a number of provisions requiring that environmental factors be considered in land use and planning decisions. As noted earlier, the law establishes the concept of ecological land use planning (*ordenamiento ecológico*). Several statutory criteria must be considered when undertaking these land use planning activities in areas of federal jurisdiction. These include, for example, the nature and characteristics of each ecosystem, the most appropriate use of each area according to its resources and population, and any ecological imbalances caused by existing human settlements, economic activities, or natural phenomena. Federal land use plans must be taken into account by agencies when regulating human settlements, natural resource use, and siting of secondary productive activities.<sup>53</sup>

The Federal Ecology Law also calls on officials to consider climate and meteorological conditions when determining land uses, in order to ensure the proper dispersion of pollutants.<sup>54</sup> The federal government is also specifically charged with promoting the designation of specific areas for siting hazardous facilities, and the Federal Ecology Law lists several factors to be taken into account when making these designations.<sup>55</sup> The Mexican government has promoted the relocation of polluting industries, especially around the metropolitan area of Mexico City.

The Federal Ecology Law also addresses land use and development planning issues through the regulation of human settlements, which focuses on urban development and housing issues. In order to maintain and improve the balance between human settlements and natural elements and the quality of life, the law sets forth several criteria to be considered in the ecological regulation of human settlements.<sup>56</sup>

The General Law on Human Settlements also requires consideration of environmental factors in the regulation of human settlements. For example, that law provides that new population centers may only be established on lands that are appropriate for such use, and that the creation of population centers must respect any existing natural protected areas, rural human settlements and indigenous communities.<sup>57</sup>

The General Law on Human Settlements also provides for a National Program for Urban Development to address the impact of human settlements on environmental conditions, and to ensure the sustainable development of natural resources and productive activities in each region of the country.<sup>58</sup> According to the law, all urban development plans and programs are to take into consideration the general criteria for ecological regulation of human settlements set forth in the Federal Ecology Law and in existing ecological standards.<sup>59</sup>

## 2. *Environmental impact review*

The environmental impact review process has been in effect since 1983 and is governed currently by the Federal Ecology Law and a regulation on the subject.

**Applicability.** Public or private activities that fall under federal jurisdiction and that may cause environmental damage or exceed applicable standards and conditions, are subject to prior environmental impact review by the federal government.<sup>60</sup> The following activities fall under federal jurisdiction, and the responsible parties must submit all required environmental impact documents:

- federal public works, with limited exceptions;
- water works;<sup>61</sup>
- transportation works involving bridges, ports, maritime ways, railroads, federal highways, and airports;
- oil and gas pipelines and coal chutes;
- activities of the chemical, petrochemical, steel, paper, sugar, beverage, cement, automotive and energy generation/transmission industries;
- exploration, extraction, treatment and refining of mineral and non-mineral substances of federal jurisdiction;
- installations for the treatment, storage or disposal of toxic or radioactive wastes;
- federal tourism development;
- commercial activities involving forests, endangered species or tropical jungles;
- activities that because of their complexity require the intervention of the federal government, when so requested by the local authorities; and
- activities that may affect the ecological balance of two or more states, other countries or areas of international jurisdiction.<sup>62</sup>

In addition, the Law of Public Works provides that in planning public works, all impacts on the environment must be considered. If the project could cause a deterioration in environmental conditions, the project must include any necessary measures for preserving or restoring

environmental conditions and ecological processes. Moreover, all budgets for public works must include the costs of preserving, restoring and improving environmental conditions.<sup>63</sup>

**Content** In general, a project proponent must submit an environmental impact statement (EIS). Federal law establishes three categories of EIS: general, specific and intermediate.<sup>64</sup> General EISs must include minimum information on the proponent of the project; the nature of the project; the general aspects regarding the natural and socio-economic environment of the area; the relationship to laws and regulations on land use in the corresponding area; the environmental impacts that could be caused; and mitigation and preventive measures for identified environmental impacts.<sup>65</sup>

Intermediate<sup>66</sup> or specific<sup>67</sup> EISs may be required by the authority when the characteristics of the project, its considerable environmental impacts, or the characteristics of the site, mandate the submission of different or more detailed information.<sup>68</sup> In addition to an EIS, the authority may require a Risk Study of the project. Risk Studies must identify the preventive and corrective technical measures to mitigate adverse effects on the environment from normal operations or accidents.<sup>69</sup>

According to the Federal Ecology Law, if a project causes no adverse environmental impacts and complies with all relevant legal requirements, the project proponent may satisfy environmental impact requirements by submitting a brief Preventive Report. In 1995, SEMARNAP published rules that allow parties seeking to undertake certain activities to file Preventive Reports instead of an EIS. The rules apply mainly to small and medium-sized companies in a broad range of industries -- chemical, petrochemical, steel paper, sugar, beverage, cement, automotive, and energy generation/transmission. The rule describes in considerable detail which activities within these industries are covered. According to the rule, SEMARNAP is to make a determination on the Preventive Report within 30 days. If this deadline is not met, the project is deemed to be authorized.<sup>70</sup>

SEMARNAP may establish a registry of private professionals qualified to prepare EISs, and determine the requirements for registration.<sup>71</sup>

**Authorization.** SEMARNAP is responsible for reviewing and granting authorization for a proposed project. EISs are reviewed by INE, which has considerable discretion in evaluating the technical information presented, and in determining if the proposed project should be approved. SEMARNAP may authorize the project under the terms or conditions indicated in the EIS; authorize the project with modifications; or deny the authorization.<sup>72</sup> The activity must comply with any conditions established pursuant to this authorization, including limits placed on discharges or emissions.

### 3. *Air pollution*

The Federal Ecology Law provides the basis for federal air pollution control efforts. To implement these provisions, federal authorities have adopted two regulations and several ecological technical norms. The first of these regulations covers the prevention and control of air pollution in general, while the second addresses air pollution generated by mobile sources in Mexico City.

**Standards.** According to the Federal Ecology Law, air quality must be "satisfactory" in all human settlements and regions of the country, and all emissions (whether from artificial, natural, fixed or mobile sources) must be reduced or controlled to ensure that air quality is satisfactory for public well being and for ecological balance.<sup>73</sup> The law also generally prohibits the emission of pollutants that cause or could cause ecological imbalance or environmental harm.<sup>74</sup>

SEMARNAP (through INE, and in coordination with other federal agencies) is responsible for issuing standards relating to air quality protection. These standards may address matters ranging from the maximum permissible limits of pollutants in the air to the establishment and operation of monitoring systems.<sup>75</sup> In recent years, Official Mexican Norms have been issued covering emissions from fixed and mobile sources. These standards include:

- maximum permissible levels for certain air pollutants released by cement plants, sulfuric acid plants and coal-fired power plants;
- ambient air quality criteria (maximum permissible levels) for nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), carbon monoxide (CO), total suspended particulates (TSP), ozone (O<sub>3</sub>), and lead (Pb); and
- emissions limits for vehicles powered by gasoline, diesel or other fuels.

**Authorization.** Fixed emission sources under federal jurisdiction must obtain an operating license, which establishes specific conditions, such as monitoring, emissions inventories, emergency response actions, and pollution control equipment. The license is issued by SEMARNAP and is of indefinite duration, although officials may change emission limits contained in the license annually, based on operating information submitted by the facility. Emissions containing hazardous materials or residues may not be released without specific authorization from SEMARNAP.<sup>76</sup>

In accordance with the Federal Ecology Law, the operating license may establish specific maximum levels of emissions for fixed sources if the source, because of its unique construction or its processes, does not fall under an existing federal standard (Official Mexican Norm).<sup>77</sup>

**Installation of Equipment** Those responsible for fixed emission sources under federal jurisdiction must install pollution control equipment to ensure that emissions do not exceed existing federal standards.<sup>78</sup> SEMARNAP may enter into agreements with facilities to install pollution control



equipment, or may require such equipment if necessary. SEMARNAP is also responsible for promoting new technology for air pollution control equipment and systems.<sup>79</sup>

**Monitoring.** Those responsible for fixed emission sources under federal jurisdiction must install monitoring ports and platforms and measure their emissions. SEMARNAP has discretion in determining the frequency of monitoring, although the law provides that monitoring is to be more extensive when the sources are located in urban areas, near natural protected areas, or when serious harm to ecosystems may result.<sup>80</sup>

**Inventories.** Fixed sources under federal jurisdiction must maintain an inventory of all polluting emissions. SEMARNAP has discretion in determining the frequency with which these inventories must be submitted.<sup>81</sup>

**State and Municipal Jurisdiction** The federal law charges states and municipalities with taking the following actions to control and prevent air pollution, for activities and sources that fall under state jurisdiction:

- applying general air quality criteria when determining which zones are appropriate for industrial development;
- establishing pollution control equipment requirements;
- establishing measures for preventing environmental emergencies caused by air pollution;
- establishing and operating vehicle inspection centers;
- operating an air quality monitoring system;
- maintaining an inventory of fixed sources; and
- enforcing state and local laws issued pursuant to the Federal Ecology Law.

In carrying out their responsibilities, states and municipalities are authorized to develop ecological criteria that are consistent with those developed by the federal government.<sup>82</sup>

#### 4. *Water pollution*

The Federal Ecology Law addresses waste water discharges from a wide range of sources, including industry, agricultural and mining operations, municipalities and federal facilities. The Law of National Waters and the General Health Law also cover water pollution issues. The federal government has issued a regulation implementing the water pollution provisions of the Law of National Waters.

**Standards.** In general, waste water discharges may not pollute the receiving body, interfere with water purification processes, impede the functioning of sewer systems or alter the hydraulic capacity of the watershed.<sup>83</sup> SEMARNAP (through INE and CNA) is responsible for issuing technical

standards relating to the discharge, storage, use and treatment of waste waters.<sup>84</sup> The development of these standards, carried out by standardization committees (*comités de normalización*), must consider any sanitation criteria issued by the Secretariat of Health.<sup>85</sup>

Numerous ecological technical norms addressing water pollution issues have been issued, many of which have been re-promulgated as Official Mexican Norms. These standards establish maximum permissible pollutant limits for waste water discharges for a number of industries, including petroleum refining, iron and steel production, copper processing and wood preserving. The standards also cover water quality monitoring and waste water treatment systems.

The federal government has issued standards for discharges to sewer systems, however no treatment requirements have been established for discharges from municipal treatment systems.

**Discharge Authorization.** The Federal Ecology Law prohibits waste water discharges without prior authorization by federal authorities, or by local authorities in the case of discharges to waters under local jurisdiction.<sup>86</sup> Authorization to discharge is to be conditioned on prior treatment of the discharges. SEMARNAP, through CNA, authorizes all waste water discharges under federal jurisdiction.<sup>87</sup>

The Federal Ecology Law provides for the establishment of Special Discharge Conditions for waste waters generated in federal zones and properties, as well as discharges to the sewer systems that in turn discharge to federal waters. The Federal Ecology Law and the federal regulation for the Law of National Waters establish that all waste water discharges must comply with any Special Discharge Conditions issued by the federal or local governments.<sup>88</sup>

**Waste Water Treatment.** No waste waters containing pollutants may be discharged into any body of water or into ground water without prior treatment.<sup>89</sup>

**Registration.** Facilities must register their waste water discharges in the Public Registry of Water Rights, a registry which contains discharge information as well as information on water rights. This national registry is to incorporate information from state and local registries as well.<sup>90</sup>

**Monitoring.** The Federal Ecology Law charges SEMARNAP, in coordination with the Secretariat of Health, with developing a comprehensive and permanent system for monitoring water quality.<sup>91</sup>

**State and Municipal Jurisdiction.** According to the Federal Ecology Law, states and municipalities have jurisdiction over water pollution affecting federal waters that have been assigned or concessioned to the state for the provision of public services, and over discharges to sewer and drainage systems. With respect to such discharges, state and municipal governments are responsible for requiring the installation of treatment systems so that discharges comply with existing federal standards and for developing and maintaining a registry of discharges.<sup>92</sup>

## 5. *Waste*

The Federal Ecology Law states broadly that all discharges, infiltrations or deposits of waste into the soil are subject to the Federal Ecology Law and its regulations and standards.<sup>93</sup>

As noted above, the law provides that hazardous waste falls under federal jurisdiction, and the federal government has issued a regulation governing the importation, transportation and disposal of hazardous wastes. Federal authorities have identified the criteria for determining whether wastes are hazardous,<sup>94</sup> and have published a list of materials and wastes that are to be considered hazardous. Federal law prohibits the importation of hazardous wastes for storage or disposal.

The federal government's role in the management of solid waste extends primarily to establishing technical standards relating to waste disposal sites.

**Standards.** In general, waste disposal must meet conditions necessary for preventing soil pollution, adverse changes to the biological processes of the soils, and alterations to the soil that interfere with its proper use.<sup>95</sup>

The federal government has issued Official Mexican Norms relating to hazardous waste management, covering matters such as the classification guidelines and listings of hazardous wastes, extraction tests for determining toxicity, and requirements for storage of hazardous wastes.

The federal government is in the process of issuing standards governing the management of industrial non-hazardous wastes and the siting, design, construction and operation of nonhazardous sanitary landfills.<sup>96</sup>

**Authorization.** Any party seeking to engage in activities that involve the generation or management of hazardous waste must obtain prior authorization from SEMARNAP (INE) for construction and operation of the facility.<sup>97</sup>

**Recordkeeping/Reporting.** Federal law establishes a system of manifests and reports for the delivery, transport and receipt of hazardous waste.

**State and Municipal Jurisdiction.** States are responsible for regulating non-hazardous solid waste management activities. According to the Federal Ecology Law, states and municipalities have jurisdiction to authorize, in accordance with federal standards, systems for collecting, storing, transporting, reusing, treating and disposing of municipal non-hazardous solid waste.<sup>98</sup>

## 6. *Pesticides and toxic chemicals*

The Federal Ecology Law does not regulate pesticides and toxic substances in detail, but does make a number of references to these subjects, particularly in the section of the law addressing soil pollution. The legal framework for pesticides and toxic substances is found in a variety of statutes,

including the General Health Law and the Livestock Sanitation Law, as well as various technical norms and other agency guidelines.

In 1987, an interagency commission was created, known as the Interagency Commission for Control of the Processing and Use of Pesticides, Fertilizers and Toxic Substances (*Comisión Intersecretarial para el Control del Proceso y Uso de Plaguicidas, Fertilizantes y Sustancias Tóxicas* or *CICOPLAFEST*). This commission is charged with establishing legal provisions linking federal policies relating to public health, animal health, the environment and commerce, and with issuing authorizations relating to chemical products.<sup>99</sup> Among the functions of CICOPLAFEST are the application and enforcement of standards relating to pesticides and toxic substances.

**Standards.** The Federal Ecology Law establishes that pesticides, fertilizers and toxic substances are subject to the Official Mexican Norms that are issued by the appropriate secretariats.<sup>100</sup> Various Official Mexican Norms have been published on matters such as sampling of pesticides and labeling of domestic use pesticides. The government has also published standards for industrial chemicals, which address occupational health issues.

In addition, two lists of pesticides have been published by the Secretariat of Health and INE. These lists contain prohibited pesticides and pesticides that are subject to environmental and health regulation.<sup>101</sup>

**Authorization and Registration.** Applications for authorization relating to pesticides for agricultural and forestry uses must be submitted to the Secretariat for Agriculture, Livestock and Rural Development. Applications for other pesticides and toxic substances must be submitted to the Secretariat of Health. In December, 1987, a list was published containing 110 toxic substances and products requiring such authorization.<sup>102</sup>

Pesticides and toxic substances must be registered with CICOPLAFEST. Registration information, which includes details about the characteristics and impacts of the pesticide, is maintained in an Official Catalogue of Pesticides.<sup>103</sup>

**State and Municipal Jurisdiction.** State and municipal governments have had little involvement in the control of pesticides and toxic substances. The Federal Ecology Law does not contain any provisions describing the role of local authorities in this area. Nevertheless, the majority of states now have created State Committees of CICOPLAFEST, although the jurisdiction of these bodies is not yet clear.

## 7. *Enforcement*

The Federal Ecology Law sets forth a variety of mechanisms to be used by federal, state and municipal authorities in enforcing its provisions. State and municipal authorities may enforce the Federal Ecology Law through coordination agreements with the federal government.<sup>104</sup>

**Inspections.** Authorities may carry out inspections to verify compliance with the provisions of the Federal Ecology Law. Once an inspection has been concluded, the authority may require that the inspected facility adopt immediately any urgent corrective measures. After the alleged violator has had an opportunity to be heard and has submitted all evidence, the authority will issue a decision which may contain corrective measures and sanctions.<sup>105</sup>

**Administrative Sanctions.** The principal administrative sanctions authorized by the Federal Ecology Law are fines, closures and administrative arrest. In determining the administrative sanction to be imposed in a particular case, the authority is to consider: the severity of the violation, particularly with respect to public health and environmental impacts; the economic circumstances of the violator; and whether or not a repeat offense is involved.<sup>106</sup>

**Emergency Measures.** In cases involving an imminent risk of ecological imbalance or serious repercussions for public health, SEMARNAP may order the immediate confinement of polluting materials or substances and the temporary, partial or permanent closure of polluting facilities.<sup>107</sup>

**Administrative Appeals.** According to the Federal Ecology Law, an administrative decision may be appealed by filing an appeal for lack of conformity (*recurso de inconformidad*), which is to be filed before the same authority that issued the decision in question. Once the evidence is weighed, the authority will issue a new decision affirming, modifying, or reversing the original one.<sup>108</sup>

**Judicial Appeals.** An important legal remedy under Mexican law is the *juicio de amparo* (proceeding for relief). An *amparo* proceeding is brought before a federal court when all other legal remedies have been exhausted, by persons or legal entities who believe that their rights under the Mexican Constitution have been violated by a federal or state judicial or administrative proceeding. The court reviewing the case may either affirm or reverse the administrative decision; while the appeal is pending, the original decision may be suspended upon request of the affected party.

To appeal an economic sanction, the affected party must bring a *juicio de nulidad* (proceeding for annulment), before the federal Fiscal Tribunal (*Tribunal Fiscal*)<sup>109</sup> prior to initiating the *amparo* suit.

**Criminal Proceedings.** SEMARNAP must inform the federal Public Ministry, which prosecutes criminal matters, of any matter considered to be a crime. The criminal process is formally initiated by SEMARNAP through the filing of a criminal complaint. The Federal Ecology Law establishes fines for several activities considered to be criminal matters when they harm or could harm public health, flora, fauna or ecosystems. These activities include: undertaking, authorizing or ordering hazardous activities without the proper authorization; carrying out activities involving hazardous waste or materials without proper authorization; generating emissions or discharging waste waters in violation of applicable provisions; and generating other types of pollution in violation of applicable provisions.<sup>110</sup>

**Public Complaints.** Any person may submit a complaint to the appropriate federal or local authority regarding any situation or act that produces ecological imbalance or environmental harm

in violation of applicable laws.<sup>111</sup> The Federal Ecology Law describes the manner in which the federal government is to respond to the complaint.

#### 8. *Public participation*

***The Mexican Constitution.*** The Political Constitution of Mexico contains, in the section relating to individual guarantees, two provisions that relate generally to public participation.

The first of these, article 6, incorporates freedom of expression and the right to information. This article guarantees to every person the right to expression free from governmental restraint. As a corollary to this right, the article explicitly establishes the public's right to receive information.

The second constitutional provision related to public participation is that of the right to petition. This right consists of the opportunity for the public to submit inquiries to the federal government with the assurance that the government will respond in some manner. The right to petition may be one mechanism for obtaining information from environmental authorities.

***Federal Legislation.*** The Federal Ecology Law, in addition to containing a separate section on public participation, makes reference to this theme in various articles throughout the law.

Public participation is envisioned as a mechanism for contributing to the development and implementation of environmental policy and to other related activities of the federal government. Toward this end, the law authorizes SEMARNAP to implement certain mechanisms, including the establishment of coordination agreements with state and local governments and with diverse organizations to promote environmental protection and natural resource conservation.<sup>112</sup> For example, the law authorizes agreements with a wide range of public and private institutions in order to encourage scientific investigation and programs to develop environmental technology.<sup>113</sup>

The Federal Ecology Law also establishes opportunities for the public to obtain environmental information, most notably in its the provisions relating to environmental impact assessment. Any person is authorized to consult the agency files containing environmental impact documents, although access may be restricted where commercial property rights are affected.<sup>114</sup> Notice of environmental impact statements that have been submitted to the SEMARNAP must be published in the *Ecological Gazette*; in addition, any person may visit the agency offices to review the files.

The *Ecological Gazette* is another mechanism for providing information to the public. In accordance with the Federal Ecology Law, SEMARNAP must publish the gazette, which contains technical standards, agreements, resolutions, and other dispositions issued by SEMARNAP.<sup>115</sup> The *Ecological Gazette* is to be issued three times each year, or more frequently depending on the nature of the information to be published.

The Law of National Waters authorizes the National Water Commission to encourage users of water services to participate in the actions of local authorities. The law also establishes that any

person may consult the Public Registry of Water Rights to obtain information about water concessions, assignments, permits and contracts.<sup>116</sup>

The federal government has announced that it will develop and make available to the public, a nation-wide inventory of industries that produce the greatest amount of pollution, including the types of pollutants released and the ways in which those releases are being managed by the facility. The project is to begin with a pilot initiative in the state of Querétaro in 1996.

**International Agreements.** Another potential legal basis for expanding public participation in Mexico is the North American Agreement on Environmental Cooperation (NAFTA Supplemental Agreement), signed by Mexico, the U.S. and Canada in 1993. Parties to the agreement are required to enforce effectively their environmental laws, through actions that include the public release of noncompliance information. Parties are also called on to provide the public with a reasonable opportunity to comment on proposed environmental laws, regulations and other dispositions. In addition, the agreement establishes a Commission on Environmental Cooperation, comprised of representatives of all three governments, which is authorized to consider submissions from any non-governmental organization or person asserting that a Party is failing to effectively enforce its environmental law. It remains to be seen whether this mechanism for promoting environmental protection will result in greater public involvement in environmental decisionmaking.

The Commission on Environmental Cooperation also plans to develop a tri-national pollutant release report for substances of transboundary concern. The report would be based on existing data on pollutant releases.

## V. CONCLUSION

The Mexican federal Constitution and federal laws establish the framework for state environmental authority. The following issues are central to understanding the scope of the state and municipal roles within this federal framework.

- ***Over which matters do states and municipalities have jurisdiction pursuant to the Constitution?*** States and municipalities have jurisdiction over all matters not expressly granted to the federal government in the Constitution, or expressly denied to local governments. Determining the areas subject to federal jurisdiction is complicated by the fact that numerous constitutional provisions provide express jurisdiction to the federal government in a variety of matters relating to environmental protection. Moreover, the federal government is given broad power to enact legislation in other areas when necessary to implement express constitutional powers. In general, the Constitution grants broad authority to the federal government relating to environmental protection.

The federal Constitution does expressly grant authority to municipal governments to provide certain public services that relate to environmental protection -- e.g., water, sewer and sanitation services -- as well as authority to formulate and administer land use and urban development plans. The states may assist in the provision of these services and may establish the normative bases for municipal regulation in these areas.

- ***Which matters under federal jurisdiction have been delegated to the states and municipalities through federal legislation?*** The Federal Ecology Law implements the constitutional directive to establish *concurrentia* in environmental protection, thereby broadening state and municipal participation in environmental protection activities. The law's distribution of power between the federal and state governments is based on whether a particular matter is of national scope or instead relates to the internal affairs of the states.

The Federal Ecology Law contains lists of matters that fall under federal and state jurisdiction, envisioning separate spheres of responsibility. States are not required to obtain federal administrative approval to implement programs in areas designated as falling under state jurisdiction. However, the distribution of jurisdiction contained in the Federal Ecology Law leaves room for interpretation. While state jurisdiction is frequently defined as extending to matters that are *not* under federal jurisdiction, the limits of federal jurisdiction in certain areas are not always clear. For example, federal authority extends to matters that affect the ecological balance of two or more states, and to matters that "by their nature and complexity require the participation of" the federal government. Thus, a considerable degree of discretion may be involved in the determination of whether a particular matter is to be addressed by the federal, state or municipal government.

A related question concerns the role of the federal government where states do not have programs in place to implement their environmental protection authority -- e.g., where there is no state program for ensuring compliance with standards governing fixed air emissions or waste water pretreatment. The Federal Ecology Law provides only that the federal government is to apply that law in the local realm until such time as the state and municipal governments enact their own legislation to implement the law. All states now have enacted laws implementing the Federal Ecology Law. However, the federal government is authorized to enter into coordination agreements with local governments and to provide assistance if requested. The question arises in what circumstances federal or local officials will seek federal involvement in matters that are not being addressed by the local governments.

- ***In matters delegated to the states through the Federal Ecology Law, what is the scope of the state role?*** While questions over the precise scope of a state's authority may ultimately require constitutional interpretation, the Federal Ecology Law sets out the general framework governing state and municipal participation in environmental protection.

With respect to states' *normative functions*, the Federal Ecology Law authorizes states to develop their own ecological policies and criteria, as long as they are consistent with the policies and criteria issued by the federal government. However, the Federal Ecology Law does not contain any



provisions explicitly granting the states authority to issue their own technical standards. The law states that in matters delegated to the state and municipal governments, those local governments must apply Ecological Technical Norms (now Official Mexican Norms) issued by the federal government. Federal officials have indicated that the Federal Ecology Law prohibits state and municipal governments from adopting their own standards where a corresponding federal standard has been issued, even if the local standard would be more stringent. Even such a restrictive interpretation would leave open the question whether local governments may adopt standards in matters delegated under the Federal Ecology Law provided that no corresponding federal standard exists. Local governments are authorized by the Federal Ecology Law and federal regulation to establish Special Discharge Conditions for individual facilities that discharge to the sewer systems.

With respect to the *application* of environmental standards and policies, the Federal Ecology Law envisions state authority to develop and implement a wide array of administrative tools. The law calls on states to utilize a number of specific instruments or regulatory mechanisms to ensure compliance in subject matters delegated to the states.

## ENDNOTES

1. The United States Environmental Protection Agency has published a report describing in greater detail federal law governing pollution control and prevention. Evaluation of Mexico's Environmental Laws, Regulations, and Standards (Preliminary Version of Final Report) (November, 1993).
2. In contrast to the United States, the Mexican Republic did not have its origin in an actual pact among preexisting states; rather, the federal system in Mexico emerged from a "unitary colonial" tradition. *See*, Brañes, Raúl, Manual de Derecho Ambiental, 86 n. 105 (Universo Veintiuno, Mexico 1994).
3. Federal Constitution, arts. 40, 41.
4. *See* Federal Constitution, art. 115.
5. The Mexican legal scholar Felipe Tena Ramirez has suggested that it might be appropriate to apply an exception to this rule of exclusive federal jurisdiction in cases where the federal government has not actually exercised one of its express powers, provided the states have not been expressly precluded from acting in the matter. Tena Ramirez, Felipe, Derecho Constitucional Mexicano, 122 (Porrúa, Mexico 1983).
6. Federal Constitution, art. 73, §§X, XVI, XVII, XIX-G.
7. The Federal District (Mexico City) is the physical area that is home to the Mexican federal government. The Federal District is under the authority of the federal government, which exercises this authority through the following entities: the Assembly of Representatives of the Federal District (legislative powers); the Department of the Federal District (executive powers); and the Superior Tribunal of Justice (judicial powers).
8. Brañes, Raúl, Derecho Ambiental Mexicano, 79-80 (Universo Veintiuno, Mexico 1987).

9. For example, a noted treatise on Mexican environmental law describes federal jurisdiction as extending to all forms of industrial pollution, by virtue of the fact that the federal Commercial Code -- issued pursuant to the express federal power to regulate commerce -- declares factories and manufacturing facilities to be acts of commerce. Gonzalez Márquez, José Juan (ed.), Derecho Ambiental, 38 (UAM, Mexico 1994).

10. See, e.g., Brañes, Raúl, Manual de Derecho Ambiental, 84 (Universo Veintiuno, Mexico 1994).

The Federal Constitution also explicitly prohibits the states from exercising jurisdiction in certain areas, including transit of people and merchandise through state territory, exportation and importation, and ports. See Gonzalez Márquez, José Juan (ed.), Derecho Ambiental, 39 (UAM, Mexico 1994).

11. Federal Constitution, art. 115, §III, V.

12. Federal Constitution, art. 115, §II.

13. See Federal Constitution, art. 73, §XXIX-G.

14. Brañes, Raúl, Manual de Derecho Ambiental, 85 (Universo Veintiuno, Mexico 1994).

15. Federal Ecology Law, art. 4.

16. Federal Ecology Law, Second Transitory Article.

17. The Federal Ecology Law empowers the federal government to enter into coordination agreements (*convenios de coordinación*), with state and municipal governments for undertaking actions in matters covered by the law. The federal government may delegate certain responsibilities through these agreements. Federal Ecology Law, art. 7.

18. For a more detailed discussion, see Gonzalez Márquez, José Juan (ed.), Derecho Ambiental, 47-51.

19. Maquiladoras are factories in Mexico that assemble goods from U.S.-made components, then ship the completed goods into the U.S. Most of these plants are located near the Mexico-U.S. border.

20. The specific role of ecological criteria is not clear. They are defined as "guidelines aimed at preserving and restoring ecological equilibrium and protecting the environment." Federal Ecology Law, art. 3, §VII. According to SEDESOL, these criteria are intended to be the principal instruments for coordinating and harmonizing various sectoral policies, and to help in the issuance of Official Mexican Norms. SEDESOL, Regulation and Management of Chemical Products in Mexico in the International Context, 167-168 (Monograph Series #1, 1992).

21. Federal Ecology Law, art. 15.

22. Federal Ecology Law, art. 36.

23. The cost-benefit analysis must include: consideration of costs and benefits that cannot be quantified; identification of populations likely to benefit from, or bear the costs of, the regulation; and a justification of why the standard will achieve the desired objective with the greatest net benefit. All standards must be published in the official government journal and are subject to a 90-day public review and comment period. Federal Law of Measurement and Standardization, arts. 45, 47.

24. The National Water Commission is charged with ensuring compliance with any Special Discharge Conditions that must be satisfied by waste water discharges under federal jurisdiction. Law of National Waters, arts. 2, 86; Federal Ecology Law, art. 119, §I(f).

25. A noted treatise on Mexican environmental law suggests that state and municipal environmental powers are necessarily limited, due to the fact that a federal statute such as the Federal Ecology Law cannot redistribute the fundamental normative authorities established by the federal Constitution. From this assertion flows a central thesis of

this text regarding the distribution of jurisdiction; namely, that the decentralization of environmental authority envisioned in the Constitution is of an administrative character only, whereby authority may be delegated to the states and municipalities only to establish administrative procedures to *apply* federal law, standards and policies within the local sphere. *See* Gonzalez Márquez, José Juan (ed.), Derecho Ambiental, 36-7, 64 (UAM, Mexico 1994). Thus, questions about the precise scope of state authority in areas delegated under the Federal Ecology Law may require not only statutory but constitutional inquiry.

26. Federal Ecology Law, art. 3, §XX.

27. National Institute of Ecology, SEDESOL, Report on the Situation Regarding Ecological Balance and Environmental Protection 1993-1994, 40; Secretariat of Environment, Natural Resources and Fisheries, Sustainable Development Commission, 7 (April 1995).

28. Secretariat of Environment, Natural Resources and Fisheries, Sustainable Development Commission, 8 (April 1995).

29. *Id.*

30. Federal Ecology Law, art. 29; Regulation in the Matter of Environmental Impact, art. 5.

31. Federal Ecology Law, art. 5, §XIV; Regulation in the Matter of Air Pollution, art. II, §II.

32. Article 27 covers: the territorial sea, in accordance with international law; interior marine waters; lagoons and estuaries connected to the sea; interior natural lakes; rivers and their streams; constant or intermittent streams; lagoons, lakes and estuaries, when their reservoirs or banks cross (or serve as) the border between two or more states or between Mexico and another country; springs; waters extracted from mines; and ground water.

33. These water pollution responsibilities are "without prejudice to the powers of the federal government with respect to treatment, discharge, infiltration and reuse of waste water, in conformity with this and other applicable laws." Federal Ecology Law, art. 6, §X.

34. Law of National Waters, art. 88.

35. "Urban parks" are defined as areas of public use located in population centers, established to preserve a balance between industrial development and natural elements, to protect the environment, and to preserve artistic, historic and natural sites of value. "Ecological conservation zones" are located in areas surrounding human settlements, in which there exist one or more well-preserved ecosystems. These areas are established to preserve natural elements necessary for maintaining ecological balance and general well being. Federal Ecology Law, arts. 55, 56.

36. Federal Ecology Law, arts. 160, 161.

37. SEMIP is now the Secretariat of Energy.

38. Organic Law of the Federal Public Administration, art. 32*bis*.

39. In addition, SEMARNAP oversees two research institutes, the National Institute of Fisheries and the Mexican Technological Water Institute.

40. Internal Regulation of the Secretariat of Social Development, art. 36. Although no longer a part of this Secretariat, INE essentially still has these responsibilities.

41. Internal Regulation of the Secretariat of Social Development, art. 38.

42. Law of National Waters, arts. 9, 86.

43. Law of National Waters, arts. 1-3. Title Nine of the law lists national property that falls under the jurisdiction of the National Water Commission: beaches and federal zones; lakes, lagoons and other water deposits that belong to the nation; islands in lakes, lagoons, dams or other water deposits; and projects for water infrastructure financed by the federal government.
44. Law of National Waters, arts. 16-37, 44-84.
45. Law of National Waters, arts. 38-43.
46. General Health Law, art. 1.
47. General Health Law, arts. 116, 117, 119.
48. Law of Acquisitions and Public Works, art. 1.
49. Law of Acquisitions and Public Works, art. 20.
50. General Law on Human Settlements, art. 1 §§II, III.
51. See General Law on Human Settlements, art. 2, §XIV.
52. General Law on Human Settlements, arts. 3, §§II, III, V, XII, XIII; 5, §VIII.
53. Federal Ecology Law, arts. 19 and 20.
54. Federal Ecology Law, art. 115.
55. Federal Ecology Law, art. 145. These factors include: topographical and climate conditions; proximity to population centers; impacts that an extraordinary event could have on population centers or resources; and the existing infrastructure for addressing ecological emergencies.
56. Federal Ecology Law, arts. 23, 24.
57. Federal Ecology Law, art. 30.
58. General Law on Human Settlements, art. 13, §§V, VII.
59. General Law on Human Settlements, art. 19.
60. Federal Ecology Law, art. 28.
61. These exceptions include: irrigation reservoirs and avenue control with less than 500 cubic meters capacity; hydro-agricultural units of more than 100 hectares; wells; vessels; water extraction from natural bodies of water in which less than 10 percent of the annual volume is intended to be extracted; those that plan to fill less than 100 hectares in area; and rehabilitation activities.
62. Federal Ecology Law, art. 29; Regulation in the Matter of Environmental Impact Assessment, art. 5.
63. Law of Acquisitions and Public Works, art. 20.
64. Regulation in the Matter of Environmental Impact Assessment, art. 9.
65. Regulation in the Matter of Environmental Impact Assessment, art. 10.

66. In addition to an even more detailed description of the project and of the general aspects regarding the natural and socioeconomic environment of the area, an intermediate EIS must also contain the description of the possible modified environmental scenario and the necessary adaptations made to the mitigation and preventive measures proposed in the General EIS. Regulation in the Matter of Environmental Impact Assessment, art. 11.
67. A Specific EIS is to contain a detailed and supported description of the proposed project or activity; description of the environmental scenario before the project; analysis and determination of the actual and projected quality of the environmental elements in the area where the project or activity is to be carried out; identification and evaluation of the environmental impacts the project would cause; determination of the possible environmental scenario that would result from the project; and the description of preventive and mitigation measures.
68. Regulation in the Matter of Environmental Impact Assessment, art. 9.
69. Federal Ecology Law, art. 32.
70. Diario Oficial, 1 (October 23, 1995).
71. Federal Ecology Law, art. 32.
72. *Id.*, art. 34.
73. *Id.*, art. 110.
74. *Id.*, art. 113.
75. *Id.*, art. 11; Regulation in the Matter of Environmental Impact Assessment, art 7.
76. Federal Ecology Law, arts. 18, 19, 20, 113.
77. Regulation in the Matter of Prevention and Control of Air Pollution, art. 20.
78. Regulation in the Matter of Prevention and Control of Air Pollution, art. 17.
79. Federal Ecology Law, art. 111, §II; Regulation in the Matter of Prevention and Control of Air Pollution, art. 7.
80. Regulation in the Matter of Prevention and Control of Air Pollution, arts. 17, §§III, IV, V; 20.
81. *Id.*, arts. 17; 20, §I.
82. Federal Ecology Law, art. 112; Regulation in the Matter of Prevention and Control of Air Pollution, art. 4.
83. Federal Ecology Law, art. 122.
84. Federal Ecology Law, art. 119 §§I(a),(c); II(a),(c).
85. Federal Ecology Law, art. 119, §IV. The Secretariat of Health is the main authority responsible for determining the levels of pollutants that are safe for humans. Once these levels have been determined, a water quality standard will be issued in coordination with the corresponding authority, in this case the CNA.
86. Federal Ecology Law, arts. 121, 129.
87. *Id.*, arts. 119, §I(i); 130.
88. Federal Ecology Law, art. 119, §I(f); Regulation of the Law of National Waters, arts. 136, 139.

89. Federal Ecology Law, art. 121.
90. *Id.*, art. 119, §V(d); Law of National Waters, art. 30.
91. Federal Ecology Law, art. 133.
92. *Id.*, art. 119, §V.
93. *Id.*, art. 139.
94. The Federal Ecology Law defines hazardous waste as waste, in any of its physical stages, that because of its corrosive, toxic, poisonous, reactive, explosive, flammable, or infectious or irritating biological characteristics, is a threat to ecological equilibrium or the environment. Art. 3.
95. Federal Ecology Law, art. 136.
96. SEMARNAP, Commission on Sustainable Development, 62 (April 1995).
97. Federal Ecology Law, art. 151.
98. *Id.*, art. 137.
99. SEMARNAP, Commission on Sustainable Development, 47 (April, 1995).
100. Federal Ecology Law, art. 143.
101. SEDESOL, Regulation and Management of Chemical Products in Mexico in the International Context (Monograph Series #1) (November, 1992).
102. SEDESOL, Regulation and Management of Chemical Products in Mexico in the International Context, 30, 190 (Monograph Series #1) (November, 1992).
103. *Id.*, arts. 30, 31.
104. *Id.*, art. 161.
105. *Id.*, arts. 162-169.
106. *Id.*, arts. 171, 173.
107. *Id.*, art. 170.
108. *Id.*, arts. 176, 177, 181.
109. The Federal Fiscal Tribunal is a special court charged with deciding controversies of a fiscal nature between individuals and federal government entities.
110. *Id.*, arts. 183-187.
111. *Id.*, art. 189.
112. Federal Ecology Law, art. 158.
113. Federal Ecology Law, art. 41.

114. Federal Ecology Law, art. 33; Regulation in the Matter of Environmental Impact, art. 39.
115. Federal Ecology Law, art. 43.
116. Law of National Waters, arts. 14, 30, 31.

## *Chapter III*



# **Legal Framework for Environmental Protection in the State of Baja California**

## **I. GENERAL DESCRIPTION OF THE STATE OF BAJA CALIFORNIA**

### **A. Background**

The state of Baja California is located in northwestern Mexico. To the north it borders the United States (California), to the west the Pacific Ocean, to the east the Gulf of California (Gulf of Cortés) and to the south the State of Baja California Sur. To the northeast, Baja California joins the state of Sonora for fewer than 60 miles, which serve as a land bridge between the state and the rest of Mexico.

According to Mexico's 1990 national census, Baja California had over 1.6 million people, making it the 19th most populous state in the country. With an area of 26,997 square miles, Baja California is the 12th largest state.

The state Judiciary consists of a Superior Tribunal of Justice (state supreme court), Civil Courts, Criminal Courts, and other employees and personnel established by law. Legislative responsibilities are carried out by the state Congress, which is comprised of representatives elected every three years.

Executive power is exercised by a Governor elected every six years. There is also a General Secretariat of Government who has limited responsibilities established in the state Constitution and state law. State executive agencies charged with implementing state laws include the Secretariat of Finance, the Secretariat of Planning and Budget, the State Attorney General, and the General Office of Ecology.

The state contains four municipalities: Ensenada, Tijuana, Mexicali and Tecate. Since 1950, rapid growth and urban migration has resulted in a concentration of nearly 70 percent of the state's population in the cities of Tijuana, Mexicali and Ensenada.

### **B. Ecological Characteristics**

Baja California receives under ten inches of rainfall annually and has a limited supply of water which comes mainly from the Colorado River. The state enjoys a mediterranean climate of warm dry summers and rainy winters.



A variety of ecological patterns exist in the state. The Sierra Juárez and the Sierra San Pedro Mártir, two granite mountain ranges in the northern region of the state, nurture ecosystems not found in any other part of the state. Subtropical deserts surround these mountains, which are in turn bordered by narrow coastal plains along both the Pacific and Gulf coasts. Another important area in the state is the Mexicali Valley which is characterized by little precipitation and major temperature fluctuations. The southern part of the state is very dry.

The higher mountains are home to pine and oak forests, while the lowland areas consist of fields and patches of dry shrub, bramble and flowers. Erosion affects most of the state. Animal life consists of a rich variety of marine and land species such as fish, mollusks, waterfowl, shorebirds, crabs, rabbits, snakes, deer, coyotes, lizards, vultures and insects. The state hosts four biosphere reserves and two national parks.

### **C. Major Economic Activities**

A variety of national and foreign industries are located on the border. The most notable of these are the maquiladoras, assembly plants that produce mainly electronic, textile and wood products for export. According to state officials, Baja California has had as many as 40 percent of all maquiladoras in the country in recent years.

The strongest industry in the state is fishing and shrimping. Other important activities include cottonseed and food processing, fish packing, and the manufacture of beer, wine and soap.

Agriculture has recently expanded, and the major crops are cotton, wheat, grapes, olives, asparagus, tomatoes and cauliflower. Baja California's forests are actively managed.

### **D. Principal Environmental Problems**

In Mexico, large scale urban migration coupled with programs designed to increase economic growth have turned the once rural Baja California into a highly industrial area. According to city officials, Tijuana has the greatest rate of urban population growth outside Mexico City. This rapid change has greatly increased the demand for drinking water and sewer services. State officials report progress in recent years in meeting this need. In Tijuana, for example, state officials note that as of 1995, 98 percent of the city's population received drinking water services, while 71 percent were connected to the city's sewer system.<sup>1</sup>

Pollution from untreated industrial and municipal waste water discharges as well as from the management of hazardous wastes are important problems in Baja California. Air quality degradation from industrial and automobile emissions is also a major concern in the urban areas. In non-urban

areas, a serious problem is the use of fertilizers, pesticides and agrochemicals. Population pressures have also led to the use of obsolete agricultural practices and the increased exploitation of natural resources. Wild fires, floods and agricultural runoff are also significant issues in the state.

## **II. OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN BAJA CALIFORNIA**

### **A. State and Municipal Law**

#### *1. State constitutional provisions*

The Political Constitution of the State of Baja California provides generally that the legislature has the power to legislate over all branches of the state administration that are within state jurisdiction.<sup>2</sup> The Constitution contains no normative provisions regarding environmental protection, and no explicit references to legislative power over environmental matters.

#### *2. State legislation*

Pursuant to the Constitution, on February 29, 1992, the state promulgated the Law of Ecological Balance and Environmental Protection of the State of Baja California [hereinafter "State Ecology Law"]. This law is the centerpiece of the legal framework for environmental protection in the state. The law, which follows the basic structure and scope of the federal General Law of Ecological Balance and Environmental Protection, addresses the preservation and restoration of ecological balance and the protection of the environment within the state.<sup>3</sup> "Ecological balance," a central concept in this law as well as in federal environmental law, is defined in the State Ecology Law as "the relationship of interdependence among the elements that comprise the environment, which makes possible the existence, transformation and development of human beings and other living creatures."<sup>4</sup>

The scope of the law is broad. Its objective is to provide the basis for the establishment of:

- the principles and criteria<sup>5</sup> of environmental policy as well as the instruments for applying that policy;
- the distribution of environmental jurisdiction between the state and the municipalities;

- coordination of relevant public agencies; and
- promotion of public participation.

The law also aims to bring about a sustainable economic development that ensures continued or improved quality of life. As part of this broad goal, the law seeks to prevent and control air, water and land pollution; protect natural areas within state jurisdiction; and ensure the rational use of natural resources, in a manner compatible with ecosystem balance.<sup>6</sup>

To date, the state has promulgated six regulations implementing the general provisions of the State Ecology Law. The regulations contain detailed provisions which seek to ensure that the law is applied in an appropriate and specific manner.<sup>7</sup> The regulations cover the following subject matters: water, air and soil pollution; environmental impact assessment; the State Environmental Council; the state Ecological Gazette; authorization/registration of private environmental experts and consultants; and accreditation of environmental laboratories.

As the principal environmental law in Baja California, the State Ecology Law is the focus of this chapter. Other state laws relate to environmental protection in a more indirect way, and will be mentioned insofar as they cover issues addressed in the State Ecology Law. For example, the State Law of Urban Development establishes responsibilities of the state and municipal governments in the area of urban development, and sets out guidelines for carrying out those responsibilities. That law, which lists the Office of Ecology as one of the state agencies involved in urban development, contains certain specific goals relating to environmental protection, including: the sustainable use of resources consistent with ecological balance; the prevention and control of environmental emergencies; and the conservation and improvement of the environment.<sup>8</sup>

In addition to these state laws and regulations, the executive branch issued in 1995 two state plans that are important components of the state environmental policy framework. The Ecological Ordering Plan of the State of Baja California provides the guidelines for ecological land use planning, while the Tourism Program for the Tijuana-Ensenada Corridor provides guidelines and principles for development in the area between the cities of Tijuana and Ensenada, with an emphasis on issues relating to ecology and tourism.

### 3. *Municipal legislation*

The State Organic Law of the Municipal Public Administration (*Ley Orgánica de la Administración Pública Municipal del Estado de Baja California*) is a state law that sets out the basic framework for municipal governance in Baja California. The law provides for municipal jurisdiction over the provision of public services (e.g., potable water and sewer, trash collection, transit and transportation, and parks) as well as jurisdiction with respect to zoning and urban development.

The law also states that the municipal governments are to monitor compliance with the Federal Ecology Law; to establish measures to implement norms regarding pollutant levels; and to coordinate with the state and federal governments in implementing rules and programs on ecological balance and environmental protection.<sup>9</sup>

None of the state's four municipalities has its own comprehensive environmental legislation. The municipality of Tijuana has considered draft environmental ordinances, but thus far none has been enacted. Various existing ordinances enacted by the municipality of Tijuana contain provisions relating generally to environmental protection. The Municipal Sanitation Ordinance governs solid waste disposal within the municipality. It sets out the municipal government's responsibility for collecting solid waste, as well as the responsibilities of individuals and businesses for keeping public areas clean and for properly disposing of solid waste. The Transit Ordinance for the Municipality of Tijuana prohibits the operation of vehicles that emit excessive smoke or that produce excessive noise, and provides for sanctions.<sup>10</sup>

The Municipal Ordinance on Police and Governance establishes some of the general "police powers" of the municipality, as well as the functioning of the municipal police force. The Ordinance on Police and Governance for Tijuana contains a separate title on the protection of ecological balance and environmental protection which describes the responsibilities of the municipal government with respect to environmental protection. This section notes that the municipality is to exercise its environmental authority according to the principle of *conurrencia*,<sup>11</sup> provided in the Federal Ecology Law.<sup>12</sup>

## **B. State and Municipal Agencies Responsible for Environmental Protection**

### *1. General Office of Ecology*

The agency responsible for administering the State Ecology Law is the General Office of Ecology of the State of Baja California [hereinafter, "Office of Ecology"]. This agency has authority for all matters relating to environmental protection and preservation of ecological balance that are within state jurisdiction, and is charged with coordinating the actions of state agencies with respect to environmental protection.<sup>13</sup> These powers are discussed in greater detail throughout the chapter.

The Office of Ecology was created in February, 1992, following the enactment of the State Ecology Law. It is on the same level with other agencies in the state administrative hierarchy and is answerable directly to the Governor. The head of the Office is chosen by the Governor. The agency is based in Tijuana, with smaller delegations in the cities of Ensenada and Mexicali, and had a total staff of approximately 50 in 1995. Within the agency are two sub-offices: the Sub-office of Regulation, Control and Environmental Protection, which is responsible for administrative appeals

and inspections; and the Sub-office of Standards, Analysis and Environmental Management, which issues authorizations and develops the state ecological plans. The Office of Ecology's administrative structure also includes a unit devoted to information, education and public participation.

The Office of Ecology receives its funding from the state, and each year submits a proposed annual budget to the state Secretariat of Planning and Budget. The Office of Ecology does have authority to charge fees and collect fines for violations of state law. However, any fees or other payments collected by the Office of Ecology go to the state, and are considered only indirectly when determining the agency's budget for the following year.

## 2. *State Ecology Council*

The State Ecology Law also establishes a State Ecology Council [the Council], which is intended to provide an institutional link between government and the public through its supervision of the programs of the Office of Ecology, and to coordinate the actions of state and municipal authorities.<sup>14</sup>

The Council is comprised of the Governor, the head of the Office of Ecology, the President of the Commission of Ecology of the State Congress, one citizen representative from each municipality, and citizen representatives from the areas of health, education and environment.<sup>15</sup> The selection of the citizen representatives is to be carried out by the municipalities through a process involving broad public participation. The regulation requires the creation of the Council to be widely publicized and regular meetings of the Council to be publicized and open to the public.<sup>16</sup>

Under the State Ecology Law, the Council has the following responsibilities:

- reviewing the ecological policy of the state to ensure that it is consistent with the public interest;
- ensuring that the Office of Ecology, in making decisions, considers the specific ecological needs of the different regions;
- issuing medium and long term criteria for ecological policy;
- establishing guidelines and plans in conformity with the ecological policy developed by the Office of Ecology;
- establishing strategies for broadening the reach of the ecological policy of the state, and for integrating ecological matters into the work of each agency represented on the Council; and
- reviewing and approving the plans and programs drafted by the Office of Ecology or the municipalities.<sup>17</sup>

### 3. *Other state agencies*

In addition to the Office of Ecology, there are other state agencies that have responsibilities indirectly related to environmental protection. For example, the State Secretariat of Human Settlements and Public Works (*Secretaría de Asentamientos Humanos y Obras Públicas del Estado* or SAHOPE), is responsible for coordinating programs and undertaking research relating to human settlements, urban matters, housing and public works, and is charged with implementing standards governing the regulation of urban areas.<sup>18</sup> The State Ecology Law envisions the regulation of human settlements as an important means of implementing the law's broad ecological goals and policies, and directs SAHOPE to propose the development of legal instruments for urban development that are consistent with those goals and policies.<sup>19</sup> According to officials, SAHOPE is responsible for establishing guidelines and criteria for urban development and land use in urban areas that have not yet adopted an urban development plan.

Another state agency, the Secretariat for Planning and Budget (*Secretaría de Planeación y Presupuesto*, or SPP) is involved in environmental matters through its Committee of State Development Planning (*Comité de Planeación del Desarrollo del Estado* or COPLADE). The State Ecology Law requires that there be a Special Subcommittee on Ecology within COPLADE, comprised of representatives of government, industry and the public, which is to formulate and implement local ecological policy within the terms of the State Planning Law. The Subcommittee played an important role in reviewing the State Ecological Ordering Plan prior to the plan's approval in 1995 by the State Ecology Commission.<sup>20</sup>

The State Commission of Public Services of Tijuana is the state entity responsible for drinking water supply and sewer systems in Tijuana. Its activities do not involve operation of the sewage treatment plant itself, although it is responsible for monitoring discharges into the sewer system and for notifying the state Office of Ecology of any problems that are detected.

### 4. *Municipal agencies*

The State Ecology Law requires the establishment of an administrative agency for ecology in each municipality, which is to have responsibility for applying the aspects of the law that fall within municipal jurisdiction.<sup>21</sup> The law does not provide details about how these agencies are to be created or structured. Only the municipality of Ensenada has created an office dedicated to environmental matters, which functions mainly to receive public complaints and to refer matters to the appropriate state or federal agency.<sup>22</sup>

In the municipality of Tijuana, matters relating to environmental protection are covered by various agencies. For example, the Municipal Office of Urban Development Planning and Ecology

addresses environmental concerns through its land use planning and permitting activities.<sup>23</sup> The municipality also has an equivalent of the state's COPLADE, (called COPLADEM) which plays a consultative role in the development of municipal environmental proposals and activities. The Tijuana Municipal Office of Public Works and Services has responsibility for solid waste disposal, through its Department of Sanitation. The Municipal Transit Department has duties relating to mobile source (vehicle) emissions.

## **C. Relationship Between the State and Federal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

As discussed in Chapter Two, the distribution of federal and state jurisdiction is governed by the federal Constitution, and is further clarified by the Federal Ecology Law. Federal officials in Baja California indicate that federal priorities include performing environmental impact review of new industries under federal jurisdiction, registering facilities that produce hazardous wastes and issuing permits for the importation and exportation of hazardous wastes (particularly with respect to maquiladoras).<sup>24</sup>

The environmental laws for the state of Baja California give the state broad environmental authority and provide the basis for the state to take an active role in all matters falling under state jurisdiction. Thus, to the extent that federal law contains ambiguities with respect to the limits of state jurisdiction, those limits may be tested in a state such as Baja California.

Thus far, however, there have not been many direct jurisdictional conflicts. This may be due in part to the success of informal coordination efforts among the different levels of government. One conflict that has arisen over state-federal jurisdiction is in the area of biological wastes.<sup>25</sup> The state's regulation on air, water and soil pollution addresses the subject in some detail. However, the federal government issued a standard on biological wastes which determined that biological wastes are hazardous wastes and thereby regulated by the federal government. The federal government subsequently determined that the state was preempted in this area.<sup>26</sup>

The distribution of jurisdiction in Baja California in the principal areas of environmental protection -- air pollution, water pollution and solid waste -- will be explored in more detail later in the chapter.

### *2. Development of state regulatory policies and standards*

One of the ways in which the State Ecology Law empowers the state to take an active role in environmental protection is through the adoption of environmental *policies, criteria*<sup>27</sup> and *standards*.

The state Executive is charged with establishing state ecological policy, and is given general authority to issue the legal provisions and other dispositions necessary to promote compliance with the State Ecology Law.<sup>28</sup> The State Ecology Law provides that where state law does not cover a matter falling under state jurisdiction, the federal law, regulations and standards apply.<sup>29</sup>

The state may establish "technical provisions not foreseen" in the regulations.<sup>30</sup> Specifically, the state is authorized to adopt "Ecological Technical Norms" or "State Parameters," terms whose definitions in the State Ecology Law are similar to the definition of ecological technical norms found in the Federal Ecology Law.<sup>31</sup> No such State Parameters have been issued as of 1995.

The Regulation on Air, Water and Soil Pollution also provides for the issuance of Special Conditions of Discharge or Emission. These are source/facility-specific standards establishing maximum permissible levels of pollutants in waste water discharges or emissions, based on characteristics of the source as well as of the receiving body. They may be set in the absence of, or when called for by an Official Mexican Norm or a State Parameter.<sup>32</sup> Thus far, Special Conditions have been established in a few cases where existing federal Official Mexican Norms did not cover a certain parameter for the particular industry in question.<sup>33</sup>

### *3. Inter-governmental coordination and assistance*

The State Ecology Law emphasizes coordination between the federal and state governments. The law authorizes the state to establish coordination agreements with the federal government.<sup>34</sup> Although no such formal coordination agreements currently exist, both state and federal environmental officials indicate that there is coordination and communication between the two levels of government on a more informal basis. In particular, when officials determine that cases are not within their jurisdiction, they refer the cases to their state or federal counterparts.

## **D. Relationship Between the State and Municipal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

The State Ecology Law reaffirms the principle that state and municipal environmental jurisdiction is determined by federal law and seeks to clarify the distribution of jurisdiction between the two levels of government on specific matters.<sup>35</sup> The law provides that the state government is to facilitate the process of *decentralization* of authorities and resources to the municipal governments in the area of environmental protection.<sup>36</sup>



Until the municipal governments enact legislation to implement the State Ecology Law on matters within their jurisdiction, the Office of Ecology is to apply the law on the local level, in coordination with the municipal authorities.<sup>37</sup> In general, the State Ecology Law provides that municipalities are to undertake actions necessary to protect the environment and preserve ecological balance within their territorial limits, except in matters reserved to the federal or state governments. Municipal authorities are responsible for formulating and implementing ecological policy within the ambit of their jurisdiction, consistent with the State Ecology Law and with the State Ecological Ordering Plan (discussed below).

The State Organic Law of the Municipal Public Administration also addresses the environmental protection responsibilities of the municipalities. The law authorizes municipal governments to develop environmental protection policies and criteria in zones and properties within municipal jurisdiction, provided they are consistent with those developed by the federal government.<sup>38</sup> This formulation of municipal jurisdiction is reiterated in the Tijuana Ordinance on Police and Governance. The Ordinance also lists areas of municipal responsibility, which essentially parallel the areas of activity that are reserved to the municipalities under both the Federal and State Ecology Laws. These are discussed in more detail in the sections that follow.

## *2. Development of municipal regulatory standards and policies*

Under the State Ecology Law, it is the responsibility of the municipal governments to issue the municipal ordinances and decrees of police and governance necessary for ensuring compliance with the State Ecology Law in the areas of municipal jurisdiction.<sup>39</sup>

The State Ecology Law further directs the state to ensure that in making decisions it considers the specific ecological needs of each region of the state. The law defines "ecological region" as a "unit of state territory with common ecological characteristics."<sup>40</sup>

## *3. Inter-governmental coordination and assistance*

The State Ecology Law authorizes the development of coordination agreements between the state and the municipal governments, and among municipalities.<sup>41</sup> It is through these agreements that the state is to establish conditions which facilitate decentralization of authorities and financial resources to the municipal governments.<sup>42</sup> Municipal authorities may participate with state authorities in applying the Regulation on Air, Water and Soil Pollution in matters of state jurisdiction, in accordance with any applicable coordination agreements.<sup>43</sup> To date, there are no coordination agreements between the state and municipal governments.

The federal government has had an agreement with the state whereby all fines imposed by PROFEPA are paid directly to the municipality in which the fine was imposed.<sup>44</sup>

### **III. ENVIRONMENTAL POLICY TOOLS**

One of the explicit objectives of the State Ecology Law is to provide the basis for the formulation of environmental policy in the state, and the law sets forth a number of principles to guide the creation and implementation of that policy:

- Ecosystems within the state are a common good of the society and are to be used in a manner that assures optimal and sustained productivity compatible with ecosystem balance and integrity.
- Prevention is the most effective means of avoiding ecological imbalance.
- The public has a right to enjoy a healthy environment.
- The Office of Ecology and the municipal governments will promote public participation in implementing and complying with the State Ecology Law.
- The control and prevention of pollution, the appropriate use of natural resources and the improvement of human settlements are fundamental and obligatory elements of the state's efforts to improve the quality of life of its citizens.
- Coordination among state, federal and municipal agencies and the public is necessary to accomplish the objectives of the law.<sup>45</sup>

These principles parallel those in the Federal Ecology Law, which state and municipal governments are required to apply.<sup>46</sup>

The State Ecology Law describes several tools for applying the environmental principles articulated in the law: (1) Ecological Ordering; (2) Ecological Planning; (3) Ecological Planning and Regulation of Human Settlements; (4) Ecological Criteria for Economic Development; (5) Information and Education; (6) Research; (7) Monitoring; and (8) Environmental Impact Assessment. The most important of these policy tools, those relating to land use and development planning and to environmental impact assessment, are discussed in more detail below.

#### **A. Land Use and Development Planning**

State and local officials indicate that a significant problem in the municipalities, particularly Tijuana, has been rapid growth resulting in inappropriate land use practices and consequent

environmental deterioration. Land use and development planning are therefore important mechanisms for achieving environmental protection under the State Ecology Law.

The State Ecology Law provides generally that land uses should be compatible with the natural purposes of the land, must not alter ecosystem balance, must maintain the physical integrity and productive capacity of the land, and should avoid erosion and other adverse ecological effects. These principles are to be considered when state and municipal agencies create human settlements, undertake urban development and housing activities and assist in agricultural activities.<sup>47</sup> Ecological land use planning, one of the principal instruments of environmental policy in the state, refers to a broad range of efforts to ensure appropriate land and natural resource use, based on comprehensive information on ecological and environmental protection. This concept, referred to in the State Ecology Law as "ecological ordering" (*ordenamiento ecológico*) is defined as a "planning process directed at evaluating and determining land use and natural resource management within the state territory, in order to preserve and restore ecological balance and to protect the environment."<sup>48</sup> The State Urban Development Law requires that local ecological land use planning incorporate the policies and criteria of the State Ecology Law and the State Ecological Ordering Plan.<sup>49</sup>

Under the State Urban Development Law, the state is responsible for issuing a State Urban Development Plan. This plan, which is to be consistent with the federal Urban Development Program, contains general background information and principles to guide land use planning throughout the state. The state is also charged with formulating regional and municipal urban development programs that provide general background information and propose viable alternatives for urban development and land use planning.<sup>50</sup>

The state is to provide assistance to the municipalities in developing Municipal Development Plans and other specific urban development programs, consistent with the state plan. Municipalities are responsible for designating specific land uses consistent with these state and municipal plans.<sup>51</sup> The municipality of Tijuana's urban development program for population centers (revised in October, 1994), contains several explicit environmental goals. It calls for more rigorous consideration of biological and ecological values in determining land uses, and establishes a bioregional (and hence, binational) focus on urban development and environmental protection. In addition to designating land uses, this document outlines the steps to be taken by the municipality to achieve those goals, including:

- protection of the landscape and beaches;
- protection of natural resources;
- establishment of a separate environmental agency;
- development of coordination agreements with the federal and state governments, as well as with the city of San Diego, to carry out various environmental protection activities;

- promotion of decentralization of resources and authorities to the municipality; and
- identification of international and other resources.<sup>52</sup>

The land use planning process is important for implementing certain requirements of the State Ecology Law. For example, the law directs municipalities to require proof of environmental impact authorization by the state prior to granting land use permits. The law also provides that hazardous activities require a land use permit.<sup>53</sup>

While land use activities generally fall within municipal jurisdiction, the State Ecology Law gives the state certain powers relating to land use decisions. For example, the law authorizes the state to expropriate land with the best characteristics for preventing pollution, so that the land can be used for solid waste disposal and so that the state can establish measures for restricting land use within those zones.<sup>54</sup> The law also charges the Office of Ecology, in coordination with the respective municipalities, with developing programs of "de-concentration" of hazardous activities and their reinstallation in appropriate areas, based on the Urban Development and Ecological Ordering Plans, or on the judgment of the Office of Ecology and the municipalities.<sup>55</sup>

In general, then, the State Ecology Law seeks to provide the basis for the creation of a state-wide framework within which state and local planning decisions can be carried out. This is accomplished in part through the development of various state-wide plans and policies, described below, which address environmental problems, priorities, and goals.

### 1. *Ecological land use plans*

The State Ecology Law provides that the Office of Ecology must submit to the State Ecology Council a State Ecological Ordering Plan, containing a broad range of information on the environment of Baja California. The plan is to be submitted within a year of the law's promulgation, and updated every four years. The State Ecology Council (headed by the Governor) is charged with reviewing and approving the plan. Under the State Urban Development Law, SAHOPE is also responsible for providing the Office of Ecology with the information necessary to develop the plan.<sup>56</sup>

The state published its State Ecological Ordering Plan on September 8, 1995. Prior to publication, the plan underwent a fairly lengthy review process. The draft plan completed by the Office of Ecology was submitted to the Special Subcommittee for Ecology (of COPLADE) in July, 1994. This Subcommittee, comprised of 30 governmental and nongovernmental representatives, developed written comments on the draft. The State Ecology Commission then issued its comments and returned the draft to the Office of Ecology to integrate the comments into the final version, which was approved by the Commission on August 8, 1995.<sup>57</sup>

The goals of the Ecological Ordering Plan include: defining the levels of intensity of land use, based on the environmental policies established; establishing the general technical and normative guidelines for ecological regulation of natural resource management; and establishing the bases for developing specific plans and programs of ecological policy in the state.<sup>58</sup> The plan includes four key components.

- Descriptive Phase: this component covers basic information on physical, biological, socioeconomic and cultural features and resources in the state.
- Diagnostic Phase: this component identifies the primary environmental problems of each region of the state, as well as the problems relating to natural resources (erosion and desertification, landscape deterioration, loss of species and over exploitation of resources).
- Proposal Phase: this component provides a general framework for ecological land use planning for the state by first dividing the state into ten ecological regions (and their subregions) and assigning each region and subregion a general category for guiding land use and economic development planning. The plan then lists the general environmental guidelines that are to be applied for each category. The plan also provides general guidelines that are to be applied regardless of the category assigned to the land in question.
- Implementation Phase: this component describes the administrative agencies responsible for implementing the plan, as well as the judicial bases for its implementation.

The State Ecological Ordering Plan must be considered by state or municipal governments when undertaking a variety of activities, including carrying out public works involving the use of state and municipal natural resources, granting permits for the use of state waters or the mining of substances under state jurisdiction, formulating state and municipal urban development plans, and issuing land use authorizations for both private and public lands.<sup>59</sup> The Ecological Ordering Plan is therefore particularly relevant for municipal governments, since they are responsible for issuing rules relating to zoning and municipal urban development plans, and for controlling land use. The municipalities are also authorized to subdivide land for housing or commercial and industrial development, and to grant licenses and permits for construction.<sup>60</sup>

In August, 1995, the Special Subcommittee for Ecology created a new body responsible for coordinating the implementation of the plans and programs established under the State Ecological Ordering Plan. This entity, the Commission for Follow-Up of the Development and Implementation of the State Ecological Ordering Plan, is comprised of representatives of federal, state and municipal governments, as well as three non-governmental organizations.

## 2. *Ecological plans*

According to the State Ecology Law, the Ecological Ordering Plan establishes the bases and general principles for a number of more specific ecological plans. These include: the Regulatory Emissions Plan; the Hydraulic Plan; the Clean Water Plan; the Plan for Integrated Use of Natural Resources in Housing; the Plan for Integrated Management of Solid Wastes and Primary Materials; and the Plan for Prevention and Control of Environmental Contingencies and Ecological Emergencies. The plans are intended to be the "basic documents of environmental policy" of the state; state and municipal agencies must consider the objectives, policies and priorities laid out in the plans when planning and conducting related activities.<sup>61</sup>

These plans are developed by the Office of Ecology, as well as SAHOPE (housing) and the municipalities (solid waste). All plans must be approved by the State Ecology Council before they are officially published by the Governor. The Office of Ecology is also required under the State Ecology Law to formulate an annual State Program of Ecology, consistent with the basic documents of environmental policy noted above.

## 3. *Ecological regulation of human settlements*

The ecological regulation of human settlements focuses on the policies, plans and programs of urban development and housing. According to the State Ecology Law, this process consists of the collection of state and municipal "norms, dispositions and measures relating to urban development and housing . . . with the objective of maintaining, improving or restoring the balance between the human settlements and nature . . . ."<sup>62</sup>

The regulation of human settlements is to be based on an understanding that: (1) urban growth does not in itself signify development; (2) ecological policy in human settlements requires a close connection with urban planning; and (3) urban planning must foresee the growth trends of human settlements in order to maintain an appropriate relationship between the national resource base and the population, and to address important ecological and environmental factors.<sup>63</sup>

The State Ecology Law goes further, requiring that within 12 months after the publication of the State Ecological Ordering Plan (September 8, 1995), SAHOPE propose the adaptation of existing legal tools relating to urban development, so that they are consistent with the provisions in the State Ecology Law and the ecological land use planning developed for the state. More specifically, the law states that urban development norms must address the balance between green spaces and development by ensuring creation of adequate green space in new buildings, integration of green spaces in areas of particular cultural and historic value, and conservation of existing green

areas. In addition, urban development norms must be consistent with environmental provisions governing new subdivisions, roads and urban transport systems.<sup>64</sup>

The law requires SAHOPE to prepare a Plan for Integrated Use of Natural Resources in Housing, outlining all existing laws and rules relating to housing construction and utilities and suggesting modifications to these norms. Construction projects that are part of state housing programs must include: techniques for conserving natural resources and protecting the environment; a design that facilitates natural ventilation; systems for conserving drinking water and for reuse of "gray" waters in bathrooms and gardens; and outdoor facilities adequate for activities such as gardening, composting and recycling.<sup>65</sup>

Under the State Organic Law of the Municipal Public Administration, municipal governments are to coordinate with the state and federal governments in the development of housing and urban development programs.<sup>66</sup>

#### 4. *Ecological criteria for economic development*

The State Ecology Law directs state agencies to observe the environmental principles established in the law when planning and promoting economic development and when carrying out state development projects and public works.<sup>67</sup> In Baja California, the Secretariat for Economic Development is charged with promoting and assisting in economic development, including the creation of industrial, commercial and mining businesses.

The law sets out certain general principles designed to promote economic development while encouraging the private sector and public organizations to incorporate environmental principles in economic development. These include incorporating the costs of restoring ecosystems and the environment into the costs of production of goods and services; rejecting economic growth that does not respect or promote ecological balance and the quality of life; and promoting the concept of productive ecological zones or reserves.<sup>68</sup>

## **B. Environmental Impact Assessment**

The State Ecology Law and its Regulation on Environmental Impact establish environmental impact review requirements at the state level in Baja California. Proponents of the types of projects covered under the law must obtain environmental impact authorization from the state.

While it is state officials who conduct environmental impact review, an important means of ensuring that projects undergo this review is the requirement that municipal governments demand proof of state approval of the environmental impact statement (EIS) before granting land use and

construction permits, operating licenses or subdivision licenses, in connection with any of the activities covered by the State or Federal Ecology Law.<sup>69</sup> The lack of EIS authorization will nullify the municipal proceeding, and municipal officials who authorize a project despite the absence of EIS authorization may be held responsible under the terms of the Duties of Public Officials Law.<sup>70</sup> According to the Office of Ecology and the Tijuana Municipal Office of Urban Development and Ecology, applicants for municipal land use permits and licenses are routinely referred to the state to obtain the necessary environmental impact review.<sup>71</sup>

***Applicability.*** Environmental impact review by the state is mandatory in cases involving:

- public or private works or activities involving the provision of a public service or the use of natural resources not under federal jurisdiction;
- industries of all types, with the exception of those listed in Federal Ecology Law;
- state and municipal communication routes, including rural roads;
- industrial parks and zones, including state or municipal agribusiness plants and marketplaces;
- facilities for the treatment, recovery, recycling and final disposition of non-hazardous solid wastes;
- waste water treatment facilities;
- certain hazardous activities, as defined in the law;
- housing projects, subdivisions, and new population centers;
- state or municipal tourist developments;
- activities requiring the use of radioactive materials; and
- any other works or activities determined by regulation.<sup>72</sup>

In addition to the activities listed above, no incineration activities may be undertaken within the state unless an appropriate EIS has been submitted to the Office of Ecology.<sup>73</sup> Moreover, when any industrial, commercial, service sector or agribusiness works or projects are to be undertaken in zones designated as "precarious" under the State Ecological Ordering Plan, an environmental impact statement must be submitted.<sup>74</sup>

Any person who believes that a project or activity has exceeded the limits or conditions of applicable environmental standards may request that the Office of Ecology require the responsible party to submit an EIS. After receiving such a request, the Office must notify the responsible party, who has five days to respond to the allegations. The Office must then determine whether to require the EIS, and may order the suspension of the activity pending this determination if there is a risk of ecological imbalance or serious environmental impacts.<sup>75</sup>

***Contents of the EIS.*** The Federal Ecology Law's regulation on environmental impact describes three basic types of EIS which may be required of the project proponent: general, intermediate and specific.<sup>76</sup> These same categories are used in the State Ecology Law, which gives the Office of



Ecology responsibility for determining which type applies.<sup>77</sup> The state Regulation on Environmental Impact sets out the minimum information that must be included in each type of EIS, although the forms and instructions issued by the federal government are to be used in developing and presenting the EIS where the Office of Ecology has not issued any. The general EIS must include, at a minimum:

- detailed information on the development, construction and operation of the project;
- a general description of the natural and socioeconomic features of the area in which the project is to be developed;
- an explanation of how the project will satisfy all applicable land use regulations;
- identification and evaluation of the environmental impacts that will result in each stage of the project;
- the measures for preventing and mitigating adverse environmental impacts; and
- a description of monitoring and follow-up measures for the prevention and mitigation measures proposed.

The intermediate and specific EISs require additional information on the environmental impacts of the project, on the possible modifications to the anticipated impacts and on the prevention and mitigation measures proposed. The state may request additional information from the applicant in connection with any type of EIS.<sup>78</sup>

Where an activity or work is considered hazardous, the applicant must present a Risk Study in addition to the EIS. The State Ecology Law defines "hazardous activities" as those that the federal government has not classified as highly hazardous and that the State Executive, through the Office of Ecology, classifies as hazardous based on the seriousness of the environmental or ecosystem effects that they can generate.<sup>79</sup> The regulation requires the Office of Ecology to publish a list of such activities once they are identified. A Risk Study is defined generally as a document which describes the risks posed by an activity to ecosystems or public health, the preventive and corrective technical measures necessary to reduce or avoid those risks, and the adverse environmental impacts that would occur in case of an accident during normal operations.<sup>80</sup>

The proponent of a work or activity may present a "Preventive Report" (*Informe Preventivo*) to the Office of Ecology if the proponent feels that the activity will not cause ecological imbalance or exceed the limits established in regulations or Ecological Technical Norms. At a minimum, this document must include a description of the project, the primary materials, products, emissions, waste water discharges, energy and fuel utilized, type and volume of waste, and waste management procedures. The Office of Ecology will then determine whether an EIS is required.<sup>81</sup>

In the case of activities or works begun prior to the effective date of the State Law and the publication of the regulation, where the activities produce ecological imbalance or exceed the limits

contained in relevant norms, the Office of Ecology may require the responsible party to present a Preventive Report. If more information is needed, the Office may then request the submission of an EIS.<sup>82</sup>

The state has used the Preventive Report extensively as a screening tool. From January, 1993 through August, 1995, the state had reviewed over 2800 Preventive Reports, while evaluating 36 EISs.<sup>83</sup>

***EIS Determinations.*** The Office of Ecology is responsible for making the EIS determination, although the Office may delegate this responsibility to authorized private professionals, known as Service Providers in Matters of Environmental Impact.<sup>84</sup> If the Office does not make a timely determination, the EIS will be considered authorized and the proponent required to comply with the preventive and mitigation measures included in the EIS as well as with all current laws, regulations and norms.<sup>85</sup> The time periods for evaluating the EIS and issuing a determination depend on whether the EIS is general, intermediate or specific.

The Office of Ecology may not authorize projects or activities that are contrary to the provisions of the State Ecology Law or of plans and programs relating to urban development and similar matters. In evaluating the EIS, the Office of Ecology is to consider: the state's ecological land use planning; the establishment of any protected natural areas; the ecological criteria governing environmental protection and resource conservation; the criteria, plans and programs of urban development; the ecological regulation of human settlements; and all current Ecological Technical Norms.<sup>86</sup> The Office may request a technical opinion from another federal or state agency.<sup>87</sup>

The Office of Ecology may grant authorization of the proposed project, may deny approval of the project, or may grant approval based on the condition that the project be modified in order to prevent or mitigate the adverse environmental impacts that might be produced as a result of normal operations or accidents.<sup>88</sup> The decision states the length of time for which authorization is granted. Conditional approvals must include the requirements to be carried out by the project proponent.<sup>89</sup>

Any project that is approved must comply with all the terms specified in the authorization, and is subject to verification of compliance by the Office of Ecology at any time.<sup>90</sup> Indeed, whether or not authorization for a project is conditional, the Office of Ecology is required to supervise the project's compliance with any mitigation measures contained in the EIS or otherwise required, with costs of this supervision to be borne by the project proponent.<sup>91</sup> Failure to comply with the applicable requirements may result in the revocation of the EIS authorization.<sup>92</sup>

If events such as accidents or acts of God occur after approval has been granted for a project, the EIS is to be evaluated again by the Office of Ecology, and the project proponent is to provide any additional information that may be necessary.<sup>93</sup>

The state must publish a list of approved EISs.<sup>94</sup> Once an EIS has been approved, any person can review the file. According to the State Ecology Law, parties interested in seeing an EIS file must state in writing their "legal interest" in and need for having access to the information. The Office of

Ecology is to determine the times and the location for providing access to the files.<sup>95</sup> Office of Ecology officials indicate that the opportunity to view the EIS files occurs after the Office has completed its evaluation of the EIS. At that point, any person can view the file at the agency. The law and regulation provide for the protection of industrial secrets, industrial processes, patents and other similar information that the Office of Ecology determines should be maintained as confidential.<sup>96</sup>

#### **IV. ENVIRONMENTAL PROTECTION**

The legal framework for environmental protection established by the State Ecology Law and its regulations focuses on pollution prevention and control in the areas of air pollution, water pollution and non-hazardous solid waste. To a lesser extent, the law addresses hazardous wastes, chemical substances, ecological emergencies and pollution from other sources such as noise and noxious odors. The following sections describe the legal provisions governing each of these areas.

The law and its regulations establish a significant role for External Environmental Auditors and Environmental Service Providers, private environmental professionals who are certified by the state to provide various services to facilities regulated under the law.<sup>97</sup> The services include preparing environmental impact documents and air or water permit applications, as well as preparing the information which facilities are required to submit to the state's Air and Water Registries. The law also authorizes these private professionals to assist in facility inspections and to review environmental impact documents, however these roles have not been clearly defined thus far.

The legislature created a pool of private professionals in part to avoid the increased bureaucracy and costs associated with the provision of these services directly by the state.<sup>98</sup> The state has issued a regulation on the subject, which notes that the involvement of these professionals also represents a form of citizen participation in environmental activities and an opportunity for "societal self-monitoring."<sup>99</sup> The regulation establishes the functions of these professionals as well as the circumstances under which they may be certified, decertified and sanctioned. By 1995, the Office of Ecology had authorized over 100 External Environmental Auditors as well as 5 Service Providers in Environmental Impact Matters.

##### **A. Prevention and Control of Air Pollution**

The State Ecology Law and its Regulation on Air, Water and Soil Pollution establish a fairly detailed framework for state regulation of air pollution. The principal feature of this framework is the registration of fixed sources in a State Registry of Air Emission Sources. The information from

this Registry is to be used by the state to establish and enforce operating conditions for those facilities.

Another potentially important feature of the State Ecology Law is the requirement that the Office of Ecology present to the State Ecology Council a Regulatory Emissions Plan to implement the air quality objectives described in the State Ecological Ordering Plan. The Emissions Plan is to be presented within a year of publication of the State Ecological Ordering Plan (September 8, 1995). The Emissions Plan must contain information on the different air basins in the state, including:

- estimates of future emissions of specified gases in the absence of control measures;
- the maximum levels of each gas which the Emissions Plan proposes to achieve, and the precise dates for doing so;
- proposed measures for achieving these levels;
- the government institutions responsible for implementing actions under the Emissions Plan and monitoring compliance by emission sources; and
- the research, studies, information gathering, and measures of follow-up and control deemed necessary for carrying out the proposals.<sup>100</sup>

#### *1. Distribution of jurisdiction*

The State Ecology Law establishes state and municipal responsibility for preventing, regulating, and controlling emissions of pollutants to the air, when the source of emissions is within state or municipal jurisdiction.<sup>101</sup> The Tijuana Decree on Police and Governance also assigns municipal responsibility for preventing and controlling air pollution generated in zones, or by sources, of municipal jurisdiction.<sup>102</sup>

Thus, local jurisdiction in the area of air pollution is determined primarily by identifying the types of emission sources under state or municipal jurisdiction. The following sources are listed in the State Ecology Law as falling under state jurisdiction:

- fixed emission sources<sup>103</sup> in the state, whether industrial, commercial or service sector;
- industrial, commercial or service sector works or activities that are carried out by state or municipal agencies; and
- those identified in other applicable legal provisions.<sup>104</sup>

The law thus envisions broad state authority to regulate fixed emission sources. This is important given that federal law and regulations leave considerable room for interpretation as to the extent of federal (and therefore state) jurisdiction over fixed sources.

In general, municipalities are responsible for regulating all sources that are not of state or federal jurisdiction, including specifically:

- automotive vehicles within the municipality, including those that are used or owned by state and municipal agencies, and those within the public transport system;
- open burning of any material or substance within an urban, rural or unpopulated area within the municipality; and
- municipal and inter-municipal public transport.<sup>105</sup>

Municipal governments may establish and operate systems for verifying compliance with the Ecological Technical Norms relating to vehicle emissions.<sup>106</sup> In connection with these responsibilities, municipalities are required to demonstrate administrative capacity to: (1) install or grant concessions for emissions verification centers; (2) establish and control a mechanism for verifying the emissions of vehicles of commercial auto dealers; and (3) develop a regulation relating to auto dealers describing the process for obtaining proof of vehicle emissions.<sup>107</sup>

## 2. *Regulatory mechanisms*

**Standards.** The State Ecology Law prohibits the emission of gases, smoke, dust, vapors and odors that contain contaminants in excess of the maximum permissible emission levels set by any Ecological Technical Norms or other applicable legal provisions. The law requires compliance with "Ecological Technical Norms," whether published by the federal government or by the Office of Ecology. The law specifically authorizes the state to determine maximum permissible levels of emissions of oxygenated compounds of sulfur, nitrogen and carbon, as well as particulate and other compounds derived from combustion and consumption of energy. The state may also set ambient air quality standards for these substances for each of the air basins in the state.<sup>108</sup>

Pursuant to the State Ecology Law, the state may establish Special Emission Conditions that apply to a particular contaminant or to a particular type of emission source, based on information provided by a facility in connection with its registration in the State Air Registry (see below).<sup>109</sup> In determining these Conditions, the agency is to consider the composition and concentration of the contaminants emitted; the air quality found in the surrounding area; the location of the source; and the potential harm to public health and ecosystems.<sup>110</sup> Once established, the Conditions can be changed if, among other things, (1) the zone in which the source is located becomes a "critical zone;" (2) there exist optimum control technologies for air contaminants; (3) there exist changes in the production processes; or (4) the emissions endanger public health.<sup>111</sup>

On the municipal level, the Tijuana Ordinance on Police and Governance provides generally that the emission of pollutants that might alter the atmosphere or harm public health is a sanctionable infraction.<sup>112</sup> According to the State Ecology Law, municipalities are authorized to establish air standards through agreement with the Office of Ecology.<sup>113</sup>

The state and municipalities are also empowered to establish, in coordination with health authorities, the threshold of exposure for different air pollutants that present risks to human health.<sup>114</sup>

Thus far, the state has not adopted any air pollution standards, but rather applies the federal standards.

**Registration.** Those responsible for public and private fixed emission sources within the state must formally register in the State Registry of Air Emission Sources and renew their registration annually. Industries that are highly hazardous are regulated by the federal government and are not subject to state registration requirements.<sup>115</sup> The registration process is the central vehicle for state regulation of air emissions from fixed sources.

Small, medium and large industries are currently required to register; microindustries (as defined under Mexican federal law) will be required to register at a later period, according to state officials.<sup>116</sup> For existing industries, initial registration was to take place between March 1, 1994 and August 31, 1994; this deadline was extended until January 31, 1995. New sources have three months from the start of operations to register.<sup>117</sup> Those who fail to register may be sanctioned by fines, closure of the facility or administrative arrest.<sup>118</sup>

To register, sources must fill out forms developed by the Office of Ecology which require information on: the construction and operation of the source; the use of primary materials and fuels; production processes; methods of monitoring and analysis of emissions; and pollution control measures.<sup>119</sup> A facility must attach to the registration form its calculation of emissions from the facility.<sup>120</sup> Facilities required to register must also maintain a detailed report of the chemical substances and industrial processes utilized, as well as of industrial processes and of operation and maintenance of emission control equipment.<sup>121</sup> The Office of Ecology must make this information available to the public.<sup>122</sup>

If the conditions at a facility are the same as in the preceding year, renewal of the registration consists only of submitting a statement to that effect, along with the calculation of emissions or monitoring results for the new registration period. If, however, there have been changes in the primary materials used, or in the nature or scale of the production processes and operations, the facility must submit a new registration form with its emissions calculations and/or monitoring data.<sup>123</sup> Prior to undertaking any modification of registered activities that could alter the characteristics of the emissions, the facility must request authorization from the Office of Ecology through the submission of a Preventive Report.<sup>124</sup>

All registration reports are to be prepared by External Environmental Auditors. These private professionals are hired by the facility as employees or contractors, and are responsible for completing the registration and renewal forms and for the information submitted with respect to monitoring methods and results.<sup>125</sup>

State officials estimate that there are approximately 1,050 industries that are subject to the state air and water registration requirements. As of September, 1995, 808 of these facilities had submitted registration information; of this number, 573 involved air emissions.<sup>126</sup>

**Operating Licenses/Authorizations.** Fixed emission sources under state jurisdiction must obtain an operating license, valid for a period of one year, from the Office of Ecology. This requirement is independent of the requirements for preparation of an EIS and of any other authorization requirements.<sup>127</sup> The Office of Ecology may grant temporary operating permits for those stationary emission sources that will remain in operation up to 60 days in the same place.<sup>128</sup>

Those responsible for fixed sources that have registered in the State Air Registry, and that comply with applicable legal requirements, Official Mexican Norms, Ecological Technical Norms, State Parameters or Special Emission Conditions, will be granted the corresponding license to operate.<sup>129</sup> According to state officials, once the Office of Ecology receives the facility's registration information, the agency determines whether any additional conditions or requirements -- e.g., pollution control equipment or other operating changes -- need to be placed on the facility in order to ensure compliance with existing standards. Once the Office of Ecology is satisfied that the facility is operating in compliance with applicable standards, the license is issued. The license itself is a brief document affirming the facility's authorization to operate based on the current conditions at the facility.<sup>130</sup>

Of the 573 facilities that submitted air registration information as of September, 1995, approximately 86 percent (491) had received operating licenses as of that time.<sup>131</sup>

The Office of Ecology may, at any time, cancel a facility's authorization to operate if the facility does not comply with applicable legal standards; if there is a change in the industrial activity that alters the circumstances under which authorization was granted; or if the Office of Ecology determines that other extraordinary conditions so warrant.<sup>132</sup>

Automobiles having emissions exceeding the maximum permissible levels contained in Ecological Technical Norms are prohibited from operating.<sup>133</sup> Used car dealers must obtain proof of verification of emissions prior to the sale of vehicles. Transit authorities are to request of car owners proof of verification of emissions prior to providing license plates and other vehicle documentation.<sup>134</sup>

**Siting.** The Office of Ecology (or the municipalities, in coordination with the state) is responsible for applying environmental standards for protecting the atmosphere when designating land uses and determining the zones appropriate for the siting of air pollution sources. Such

determinations are to take into account topographical, climatological and meteorological conditions for assuring adequate dispersion of pollutants.<sup>135</sup>

**Installation of Pollution Control Equipment.** The State Ecology Law authorizes the state and municipalities, within their respective spheres of jurisdiction, to require those who undertake activities that generate air pollution to install emission control equipment or systems. In appropriate cases, the Office of Ecology may reach agreements for phasing in compliance with the desired emissions goals.<sup>136</sup> The regulation on air pollution is somewhat more prescriptive, providing that air emissions from fixed and stationary sources must be channeled through ducts or chimneys which contain equipment for controlling and capturing pollutants.<sup>137</sup> According to state officials, air pollution control equipment is required of all fixed sources subject to state regulation.<sup>138</sup>

Facilities must present a descriptive and programmatic plan (Engineering Executive Project) for the installation and functioning of this equipment, and obtain prior approval of the plan from the Office of Ecology, which may include terms or a schedule of compliance.<sup>139</sup> When the sources are under federal jurisdiction, the state and municipal authorities may reach agreements with the Federal government for installation of the appropriate equipment.<sup>140</sup>

Those responsible for industrial, commercial or service sector activities must have in place an emergency program for the possible malfunction or failure of pollution control equipment.<sup>141</sup> Those who are responsible for public or private fixed emission sources within the state must notify the Office of Ecology (and any other competent authority) immediately in case of deterioration or failure of pollution control equipment.<sup>142</sup> Those who own or possess automotive vehicles are responsible for maintaining the automobile so as to ensure compliance with permissible emission levels.<sup>143</sup>

**Monitoring.** The state and municipal governments may establish and operate systems for monitoring and control of air quality.<sup>144</sup> They are also empowered to authorize, install and maintain centers for verification of motor vehicle emissions, and to maintain a current report of the monitoring results obtained.<sup>145</sup>

According to the State Ecology Law, those responsible for public and private fixed emission sources must, after registering in the State Air Registry, maintain a sampling port at the chimney or point of emission, undertake sampling, and present a monthly report to the Office of Ecology.<sup>146</sup> The procedures for monitoring and analysis are to be carried out in conformity with Official Mexican Norms, Ecological Technical Norms, or with other methods approved by the Office of Ecology.<sup>147</sup> However, the Office of Ecology indicates that facilities are generally required to monitor and report emissions annually. The agency will require more frequent monitoring only if the facility has been determined to be out of compliance.<sup>148</sup>

Those who own or possess automobiles must verify their emissions annually at authorized centers.<sup>149</sup> Those who own or possess public transport or commercial vehicles must submit the



vehicles to emission verification every six months, or more frequently if determined by municipal ordinance.<sup>150</sup>

**Indoor air pollution.** The Office of Ecology is to promote coordination agreements with the appropriate public health authority to control the concentration of pollution indoors and in closed public places, where these emissions adversely affect or could affect ecosystems or public health. This includes concentrations of:

- radon gas from soil, well water and construction materials;
- organic compounds from construction materials, furniture and other consumer products;
- compounds generated in combustion processes, such as particulates, nitrogen oxides, carbon monoxide and carbon dioxide;
- tobacco smoke; and
- asbestos.<sup>151</sup>

The regulation covering air pollution contains some more specific provisions with respect to tobacco smoke. For example, it requires that no-smoking areas be designated in public buildings and industrial, commercial and service facilities that permit smoking, and that such areas have mechanisms for extracting and controlling the concentration of tobacco smoke. The regulation also explicitly prohibits smoking in no-smoking areas and provides that those who violate these provisions may be fined.<sup>152</sup> The Office of Ecology began to require compliance with these provisions in 1994, starting with its own building.

**Volatile Organic Compounds.** Facilities emitting volatile organic compounds (VOCs) are subject to specific regulation. New sources emitting VOCs must apply optimum control technology, as determined by the Office of Ecology. Existing facilities must comply with any requirements established by the Office of Ecology for VOCs relating to operation and maintenance of processes and equipment, closed engineering systems, or the substitution of compounds.<sup>153</sup>

**Ozone Protection.** The Office of Ecology is required to formulate a plan to reduce the use, production, transport and commercialization within the state of substances that have been identified as harmful to the ozone layer. The plan must include strategies to accomplish specific reduction and elimination goals for listed substances by certain dates.<sup>154</sup> Those who use the listed substances must observe percentage use limits indicated in the law.<sup>155</sup>

## **B. Prevention and Control of Water Pollution**

The State Ecology Law sets forth a number of principles governing the prevention and control of water pollution. These principles recognize:

- the need for joint responsibility on the part of the state and of the public to prevent and control water pollution;
- the fact that solid wastes constitute one of the principal sources of water pollution;
- the need for treatment of waste water discharges resulting from productive activities, so that the waters can be used in other activities and so that ecosystem balance can be maintained; and
- the importance of regulating the disposal of loads generated in treatment systems.<sup>156</sup>

These general principles must be considered in a variety of contexts, including the design and operation of drinking water, sewage and waste water treatment systems; the classification and disposal of solid wastes; the location of landfills; and the formulation of state and municipal plans for urban, industrial and agricultural development.<sup>157</sup>

One vehicle created under state law to implement water pollution control principles is a Clean Water Plan which applies the water quality objectives described in the State Ecological Ordering Plan. The Clean Water Plan must contain the following elements:

- the confirmation of baseline water quality for each of the existing or potential water bodies inventoried in the State Ecological Ordering Plan;
- a report on the principal sources of water pollution and the type of pollution generated;
- a report on surface and ground water that includes water quality of waters above and below population centers and agricultural developments, a regimen for control and management of compounds and substances within state jurisdiction and a report on the principal pollutants that are present;
- the requirements that must be observed by producers of chemicals and other pollutants found in the state; and
- the ways in which facilities that handle automotive products (mechanic shops, gas stations, etc.) as well as those that dispose of solid waste (incinerators, open dumps, landfills, etc.) contribute to the deterioration of water quality.<sup>158</sup>

The Office of Ecology must present the Clean Water Plan to the State Ecology Council within 12 months after publication of the State Ecological Ordering Plan (September 8, 1995).

The law establishes a regulatory framework built around the maintenance of a State Water Registry, to which waste water dischargers must submit considerable information concerning their discharges. State law also establishes requirements for discharge authorization, pretreatment of discharges, and monitoring of discharges, as described below. These requirements represent important tools for addressing the problem of water pollution due to industrial discharges.

## 1. *Distribution of jurisdiction*

The State Ecology Law gives the state responsibility for controlling:

- waters of state jurisdiction;
- federal waters assigned or under concession to the state for the provision of public services; and
- waste waters discharged to the drainage and sewer systems in the state.<sup>159</sup>

The law also provides that the state has jurisdiction for controlling discharges outside the drainage and sewer systems. While this would appear to give the state considerable water pollution control authority, state and federal officials in Baja California indicate that the state is actually responsible only for waste water discharges to the sewer system. Direct discharges to surface waters or to groundwater fall within the jurisdiction of the federal government.<sup>160</sup>

According to the State Ecology Law, state control of discharges to the drainage and sewer systems is to be shared with municipal governments.<sup>161</sup> In particular, municipalities are given responsibility for verifying discharges for compliance with Ecological Technical Norms, and for granting requests for permission to discharge waste waters into the drainage and sewer systems that they administer, in accordance with applicable Ecological Technological Norms.<sup>162</sup> In practice, however, it is the state that operates the drinking water and sewer services, and therefore regulates waste water discharges. It is not clear when control of water and sewer services might be transferred to the municipalities.

The State Ecology Law also gives the state responsibility for establishing specifications and "ecological technical norms" for waste water treatment plants.<sup>163</sup> This presents a potential conflict with the federal law, which reserves to the federal government the promulgation of Ecological Technical Norms (now Official Mexican Norms).

## 2. *Regulatory mechanisms*

**Standards.** In general, waste waters discharged from municipal, public, domestic, industrial or agricultural uses into sewer systems or into any water body of state jurisdiction, must meet the necessary conditions for preventing: contamination of the receiving body; interference in the purification processes of the waters; and alterations to the functioning of hydraulic systems, drainage and sewer systems, and agricultural irrigation systems. The discharge, deposit or infiltration of all products that could pollute the water, ground or subsoil, must comply with applicable regulations and Ecological Technical Norms. The discharges must meet maximum permissible levels established

for each constituent regulated by Ecological Technical Norms, whether these standards are published by the federal government or by the Office of Ecology.<sup>164</sup>

According to the Office of Ecology, the state has not yet issued any State Parameters governing water quality. The only standards in effect are Official Mexican Norms issued by the federal government.<sup>165</sup>

According to the State Ecology Law, the Office of Ecology will issue Special Discharge Conditions when an Official Mexican Norm, Ecological Technical Norm or State Parameter does not exist, or when a substitute for those is deemed necessary. In developing these Conditions, the Office of Ecology is to use the information presented by dischargers in the State Water Registry (see below).<sup>166</sup> These Conditions may be changed by the Office of Ecology when demographic and ecological factors require, when public health is threatened, or when the quality or quantity of the discharge could be altered.<sup>167</sup>

Dilution of the discharge is not a permitted method of complying with the requirements of applicable standards.<sup>168</sup> The discharge of waste water, chemical substances or wastes into storm sewers is prohibited, as is the discharge of hazardous wastes into sewer systems.<sup>169</sup>

**Registration.** According to the State Ecology Law, facilities that manage substances that might cause water pollution must register in the State Registry of Potentially Polluting Waste Water Discharges and renew this registration annually. As is the case with the State Air Registry described above, the State Water Registry is a central component of the state's regulatory framework for water pollution control.<sup>170</sup>

According to the Office of Ecology, small, medium and large industries that discharge to the sewer system (whether the discharges originate in production processes or sanitary services within the facility) must register. Microindustries (as defined under Mexican federal law) will be required to register at a later time.<sup>171</sup> For existing industries, initial registration was to take place between March 1, 1994 and August 31, 1994; the deadline was extended to January 31, 1995. New sources have three months from the start of operations to register.<sup>172</sup> Those who fail to register may be sanctioned by fine, facility closure or administrative arrest.<sup>173</sup>

The registration form requires a description of production processes, primary materials and waste treatment. The registrant must also provide a characterization of the discharge and attach a laboratory analysis for certain parameters specified on the registration form.<sup>174</sup> In connection with this registration, the party must maintain a detailed record of chemical substances and industrial processes used, and of the operation and maintenance of pollution control equipment. The Office of Ecology may review these records periodically, without prior notice, and must make their contents available to the public.<sup>175</sup>

If the conditions relating to the waste water discharges from a facility's industrial processes remain the same as in the preceding year, renewal of the registration consists only of submitting a statement to that effect, along with the laboratory analysis of the discharges. If, however, there have

been changes in the primary materials used, or in the nature or scale of the production processes and operations, the facility must submit a new registration form with its discharge calculations or monitoring data.<sup>176</sup> Prior to undertaking any modification of registered activities that could alter the characteristics of the discharge, the facility must request authorization from the Office of Ecology through the submission of a Preventive Report.<sup>177</sup>

Registration is carried out by External Environmental Auditors authorized by the state government. As noted earlier, of the estimated 1,050 facilities subject to the state air and water registration requirements, 808 had submitted registration information by September, 1995. Of these, 751 involved registration of waste water discharges.<sup>178</sup>

**Discharge Permits/Authorizations.** The State Ecology Law prohibits the discharge of waste waters containing pollutants into any water body, soil or subsoil, or into the drainage or sewer system, without prior treatment and without authorization from the Office of Ecology or the corresponding municipality.<sup>179</sup> As noted above, state officials indicate that the state is only responsible for authorizing waste water discharges to the sewer system, while discharges to surface water or to groundwater fall within the jurisdiction of the federal government.<sup>180</sup>

Those dischargers who have complied with registration requirements, as well as with the legal requirements of applicable Official Mexican Norms, Ecological Technical Norms, State Parameters or Special Discharge Conditions, will be granted authorization.<sup>181</sup> As is the case with air emissions permitting, the state uses registration information to determine whether a facility is in compliance with applicable legal standards and requirements. Prior to issuing the discharge authorization, the state will establish any requirements necessary for bringing the facility into compliance. For example, the Office of Ecology has set Special Discharge Conditions in a few cases where existing federal standards did not cover a particular parameter for the industry in question. The discharge permit itself is a brief document affirming the facility's authorization to discharge based on current conditions and according to any conditions previously established by the agency.<sup>182</sup>

The Office of Ecology can cancel a discharge authorization or limit waste water discharges. Such action may be warranted if, e.g., there has been a violation of any requirement established in the discharge authorization or there has been a change of industrial activity which modifies the original circumstances under which the authorization was granted.<sup>183</sup> When a waste water discharge could endanger drinking water sources, the agency learning of this fact is required to contact immediately the nearest health authority and to request that the permitting agency revoke the discharge authorization and impose appropriate sanctions.<sup>184</sup>

Of the 751 facilities that had registered their waste water discharges as of September, 1995, 90 percent (677) had received discharge permits as of that date.<sup>185</sup>

**Waste Water Treatment.** A basic principle of state law regarding water pollution control is the need for treatment of waste waters prior to discharge, in order to maintain ecosystem balance and to restore the quality of waste waters for their reuse in other productive activities.<sup>186</sup> State or local

grants of authorization, concessions or permits to use water are to be conditioned on pretreatment of any discharges.<sup>187</sup>

The State Ecology Law requires dischargers -- including industrial, commercial and service sector facilities -- to utilize the treatment needed to comply with applicable regulations and Ecological Technical Norms, as well as any State Parameters established for each receiving body.<sup>188</sup> Currently, all waste water pretreatment standards applied in the state have been established by federal Official Mexican Norms.

Where discharges do not meet Ecological Technical Norms, they may not enter the drainage and sewer systems unless they are pretreated, *or* unless the municipality accepts responsibility for such pretreatment at a cost to be paid by users of the system.<sup>189</sup>

Municipalities may establish and operate municipal treatment systems for waste water discharged into the drainage and sewer systems, in accordance with the criteria issued by state and federal authorities. Discharges from municipal sewer systems into water bodies must comply with the discharge criteria established by the federal government.<sup>190</sup> Urban waste water pretreatment equipment that is designed, operated or administered by the state or municipalities must comply with current federal norms or State Parameters.<sup>191</sup>

Those facilities that are required to maintain waste water treatment systems must present to the Office of Ecology certain information concerning the treatment utilized, including:

- a description of the processes generating the discharges and the primary materials involved;
- physical, chemical and biological analysis of the waste waters;
- a description of the treatment system and the equipment used;
- the technical, maintenance and operations manuals for the system;
- the feasibility of reuse of the waste waters; and
- the program to be used for characterizing, treating, storing and disposing of the loads generated by the treatment systems.<sup>192</sup>

According to agency officials, the Office of Ecology requires some form of pollution control equipment for all facilities subject to the state's registration and permitting requirements.<sup>193</sup>

**Monitoring:** Those responsible for industrial, commercial and service sector waste waters must have a drainage collection system used exclusively for waste water, with a permanent and easily accessible sampling and measurement station at the point of final discharge.<sup>194</sup> Facilities must use a sampling point prior to the discharge entering the sewer system.<sup>195</sup> All sampling and analysis of waste waters must be carried out in accordance with federal norms or other methods approved by the Office of Ecology.<sup>196</sup>

According to the State Ecology Law, all facilities that discharge waste water must sample their discharges and report the results on a monthly basis to the Office of Ecology. The reports are to be

prepared by authorized External Environmental Auditors.<sup>197</sup> The Office of Ecology is to make this information available to the public.<sup>198</sup> State officials indicate that they require only that facilities monitor and report discharges annually, unless a facility has been found to be out of compliance, in which case more frequent monitoring will be required.<sup>199</sup>

Drinking water and sewer systems must provide the state with the results of their analyses of monitoring points located near drinking water sources and sewer systems.<sup>200</sup>

The Office of Ecology, with the participation of the municipal governments, is directed to operate a State System of Water Quality Monitoring. This system is to cover waters of state jurisdiction, federal waters assigned to the state and waste waters that are discharged into municipal drainage and sewer systems.<sup>201</sup> The state is also charged with establishing and maintaining a State System of Information on Water Quality, with the participation of the municipal governments and water and sewage system operators. The system is to incorporate the monitoring data obtained by the state. This information system is designed to provide the state with data that will facilitate the formulation of strategies to prevent and control water and soil pollution.<sup>202</sup>

### **C. Solid Waste**

According to the State Ecological Ordering Plan, the city of Tijuana generates approximately 1,500 tons of non-hazardous solid wastes each day. The State Ecology Law recognizes that solid waste constitutes a major source of water and soil pollution, and the law promotes the principle of waste reduction through limiting exploitation of virgin materials and recovering and reusing solid waste materials.<sup>203</sup>

To further these goals, the State Ecology Law requires that municipalities each submit to the State Ecology Council a municipal Plan for the Integrated Management of Solid Wastes and Prime Materials. The plan, which must aim to eliminate the accumulation of waste and reduce society's dependence on virgin materials, must contain a broad range of information specified in the State Ecology Law. For example, the plan must verify the inventory of solid waste generators created in the State Ecological Ordering Plan, and describe the extent and nature of solid waste generation in the municipality. The plan is to be presented within 12 months after publication of the State Ecological Ordering Plan (September 8, 1995).<sup>204</sup>

#### *1. Distribution of jurisdiction*

While regulation of hazardous waste is a federal matter, solid waste management is an area of state jurisdiction in which municipalities have traditionally played an important role.

In Baja California, the state is charged with regulating the storage, recovery, treatment and final disposal of non-hazardous solid waste. The Office of Ecology is responsible for authorizing the siting, installation and operation of solid waste facilities. The state is also responsible for establishing requirements for sanitary landfills, waste treatment facilities and recycling plants.<sup>205</sup>

Under state law, the municipalities are charged with management and final disposal of non-hazardous solid wastes, in conformity with applicable standards. Municipal governments may formulate and apply provisions regulating the collection, treatment and final disposal of solid waste; exercise control over facilities and over the storage/containment or dumping of solid wastes; and exercise control and issue authorizations for the management and operation of systems of collection, storage, transport, reuse, recycling, treatment and final disposal of solid waste.<sup>206</sup>

In Tijuana, the Ordinance on Police and Governance gives the municipality responsibility for regulating the management and disposal of solid waste in conformity with any applicable laws on the subject as well as the municipality's Sanitation Ordinance.<sup>207</sup> The Tijuana Sanitation Ordinance regulates the municipal sanitation service, which includes the collection of solid waste as well as the design and operation of systems for storing, transporting, reusing, treating and disposing of such wastes. For the temporary storage of solid waste, industrial, commercial or service sector generators must use containers with lids, in a clearly marked area separated from production zones and walkways, in order to avoid odors and infestation. Those responsible for the development of urban and suburban subdivisions must install containers with lids for the temporary storage of solid waste. The municipality is authorized to enforce the ordinance, which lists specific fines for violations of its provisions.<sup>208</sup>

In practice, municipal authority over solid waste disposal sites is limited to management and oversight of the facilities. That is, the municipalities are responsible for constructing and operating the sites, or for delegating that function to a private company. On the other hand, the siting of facilities, the issuance of authorizations and the establishment of requirements relating to solid waste management and disposal has been undertaken by the state.<sup>209</sup>

## 2. *Regulatory mechanisms*

**Standards.** The State Ecology Law provides that sites used for disposal of solid waste must be adequate to prevent: the emission of chemical compounds that degrade the air, water or soil; harmful alterations to biological processes; modification of soil or subsoil characteristics; and pollution of rivers, lakes, groundwater and waters in general.<sup>210</sup> The regulation on soil pollution further provides that, prior to submitting an environmental impact statement, the site selected for the installation and operation of sanitary landfills must meet certain conditions relating to topography, useful life, amount and quality of land cover, and access routes for transport.<sup>211</sup> Those



operating sanitary landfills must establish measures to prevent fires, soil erosion, flooding, and infestation.<sup>212</sup> Hazardous wastes may not be disposed of in sanitary landfills.<sup>213</sup>

Tijuana's Sanitation Ordinance establishes specific requirements for the disposal of trash by individuals and businesses, as well as for the transportation of solid waste by businesses. The Ordinance provides that the municipality is to apply any Ecological Technical Norms for the collection, treatment and disposal of solid waste.<sup>214</sup> In addition, the placement of polluting or toxic wastes onto land in violation of applicable norms is a sanctionable infraction.<sup>215</sup>

In 1995, two major existing waste disposal sites (in Tijuana and Ensenada) were converted into sanitary landfills and authorized by the state. According to state officials, these landfills now meet the requirements contained in the state law and regulations, as well as the requirements contained in two proposed federal norms on the subject -- e.g., requirements including useful life, emergency planning, closure and financial guarantees. These are the first authorized sanitary landfills in the state.<sup>216</sup>

**Authorization.** Illegal waste dumping -- on the part of businesses and individuals -- has been a major environmental problem in the state of Baja California and in the municipality of Tijuana. The disposal of solid waste in unauthorized sites is prohibited. Solid waste may be disposed of only in official sites operated (directly or through concession) by the municipalities.<sup>217</sup> The Tijuana Sanitation Ordinance establishes specific requirements for the storage of municipal solid waste that is to be collected by the municipality, and requires that industrial waste be deposited only in authorized sites.<sup>218</sup>

The state authorizes the siting of waste disposal facilities through the environmental impact review process.<sup>219</sup> Although the Tijuana Sanitation Ordinance gives the municipal Office of Public Works and Services responsibility for authorizing (according to federal norms) the construction and operation of sanitary landfills or incinerators for non-hazardous solid waste, state officials have assumed this function pursuant to the State Ecology Law.<sup>220</sup> The State Ecology Law also authorizes the state to decree the expropriation of land for use as a disposal site and to establish measures for restricting land use within those zones.<sup>221</sup>

According to the State Ecology Law, those who generate, store, collect, transport, use, reuse, recycle or dispose of domestic or industrial solid waste (or solid waste that degrades slowly), must obtain prior authorization from the municipalities, and must comply with the State Ecology Law, state regulations and standards, as well as the procedures decreed by the municipalities.<sup>222</sup>

According to state officials, the illegal disposal of used tires is a significant problem in Baja California. Those who engage in the sale of used tires must obtain prior authorization for that activity from the Office of Ecology. Although the federal government is responsible for issuing permits for the importation of used tires, the state is also supposed to issue permits for the related commercial activity. Requirements for obtaining this authorization relate to the storage and disposal of the tires in authorized centers established by the state, record-keeping and reporting by the

business, and the condition of the used tires. The permit is to be granted by the Office of Ecology based on capacity for disposal of the tires.<sup>223</sup> According to the Office of Ecology, for each used tire that is imported by the business, one unserviceable tire is to be recovered and disposed of in an authorized location.

Those engaged in the transformation, use or commercialization of metal wastes from the automotive industry must obtain authorization, which is based on the volume of materials used and the capacity for their disposal in centers established by the state.<sup>224</sup>

**Monitoring.** Those operating a sanitary landfill must conduct a program of periodic monitoring of the water and air quality at representative points, in accordance with the approved project design, and on other occasions as required.<sup>225</sup>

**Financial Assurance.** Those operating a sanitary landfill must obtain and maintain a bond to guarantee compliance with the program of closure for the landfill, or with any other necessary conditions. The criteria to be used by the Office of Ecology in establishing the amount of the guarantee include the amount of land used by the facility, the volume of wastes accepted, and the financial capacity of the operator.<sup>226</sup>

**Recycling Requirements.** The State Ecology Law places considerable emphasis on recycling, as indicated in its statement of principles relating to solid waste management.

The municipal governments are directed to establish programs designed to incorporate recycling and reuse technologies and reduce the generation of solid waste. In their Integrated Waste Management Plans, the municipalities must outline measures for processing domestic and commercial solid waste with the goal of reducing the amount of wastes deposited in municipal disposal facilities, creating a program of solid waste recycling, and using organic solid waste for composting and energy generation.<sup>227</sup> In Tijuana, the Sanitation Ordinance contains a provision directing the municipal government to promote waste reduction, reuse and recycling.<sup>228</sup>

The state government is charged generally with coordinating efforts with citizens and private entities to reduce the amount of virgin paper used in magazines, newspapers and other similar publications.<sup>229</sup> Those who sell or make paper products within the state must reduce the quantity of virgin paper used by 50% within 5 years, and by 90% within ten years.<sup>230</sup> Similarly, those who sell or manufacture plastic articles or materials (made of polyethylene, polyvinyl chloride, polystyrene, polypropylene or other thermoplastics), must reduce the quantity of virgin prime materials used by 50% within 5 years, and 90% within 10 years.<sup>231</sup>

#### **D. Hazardous Waste<sup>232</sup>**

Although federal law provides that hazardous waste regulation is a matter of federal jurisdiction, the State Ecology Law does contain certain provisions on this subject. According to the law, the

Office of Ecology is responsible for establishing "ecological routes and schedules" for those in the business of transporting, storing or disposing of hazardous wastes or materials. These routes and schedules are to be set out in a regulation, and are to be based on those hours when there is little or no pedestrian or vehicular traffic on specified roads.<sup>233</sup> According to state officials, the state has designated urban routes and schedules for hazardous waste transportation for four waste management companies.<sup>234</sup>

The State Ecology Law also requires the reporting of information to the Office of Ecology. Those who transport, store or dispose of hazardous waste or materials must register with the Office of Ecology, providing information on their routes and schedules, the types of materials transported, the final destination and emergency prevention and control measures. Those who generate hazardous wastes in their production processes must provide the Office of Ecology with information on the amount of raw materials used, the amount of resulting hazardous waste and the manner of disposal.<sup>235</sup>

In addition, those who transport, store or dispose of hazardous wastes or materials must obtain from the Office of Ecology a Certificate of "Extinction" of Hazardous Wastes, which will be granted once it is demonstrated that the wastes have been definitively isolated or confined. This Certificate is necessary for obtaining state authorization for carrying out the commercial activities relating to hazardous waste.<sup>236</sup> No certificates for disposing and storing hazardous waste have been issued.

## **E. Chemical Substances**

Although hazardous substances and hydrocarbons fall under federal jurisdiction, the State Ecology Law gives the state certain responsibilities in this area.

***Pesticides, Fertilizers and Toxic Substances.*** The state is authorized to establish policies for the management and regulation of chemical substances "of state jurisdiction" in order to promote the prevention and control of water and soil pollution.<sup>237</sup> To date, the state has neither published a list of the chemicals that fall under this category, nor developed policies for regulating them.

The state is also responsible for monitoring the application of pesticides, fertilizers or toxic substances, in coordination with the federal and municipal authorities, to ensure that their use does not cause soil pollution or harm human beings, flora, fauna, cultivated plots and surrounding areas.<sup>238</sup>

***Hydrocarbon Derivatives.*** Those who are engaged in the sale, distribution or processing of oils, fuels, alcohols or any other hydrocarbon derivative, must report annually to the Office of Ecology the mechanisms used for disposing of their wastes. This is to be done through a Report on the

Disposition of Products Potentially Polluting to Water and Soil. These parties must also utilize any other control measures required by the Office of Ecology.<sup>239</sup>

## **F. Emergency Response<sup>240</sup>**

### *1. Distribution of jurisdiction*

The Office of Ecology is responsible for adopting measures to prevent and control ecological emergencies when the magnitude of the environmental damage affects two or more municipalities, but does not exceed the territorial jurisdiction of the state and does not require the exclusive action of the federal or municipal governments.<sup>241</sup> In such circumstances, the state is explicitly authorized to implement emergency measures for protecting the environment.<sup>242</sup> When the action is exclusively within the federal ambit, the state is to provide any help that is necessary.<sup>243</sup> When the activity does not exceed the territorial jurisdiction of a municipality, the municipal government has jurisdiction to take action to prevent and control such situations.<sup>244</sup>

### *2. Regulatory mechanisms*

Within six months after publication of the State Ecological Ordering Plan, the Office of Ecology is required to present to the State Ecology Council a Plan for Prevention and Control of Environmental Contingencies and Ecological Emergencies. The Emergencies Plan is to contain a study to determine the causes of possible emergencies and contingencies, as well as the programs that are required to be implemented based on the study. Within six months of publishing the Emergencies Plan, the municipalities must develop those programs specified in the Emergencies Plan that are within their area of jurisdiction; these programs are to be submitted to the State Ecology Council for approval and reviewed by the municipalities annually.<sup>245</sup>

Those who undertake hazardous activities must develop, submit to the Office of Ecology for approval, and carry out accident prevention programs for those activities that could cause serious ecological imbalance or harm to the public health.<sup>246</sup>

According to federal officials, "response groups" comprised of representatives of federal, state and municipal governments have been formed to respond to ecological emergencies.<sup>247</sup>

## **G. Other Forms of Pollution -- Noise, Vibrations, Noxious Odors, and Thermal Energy**

The Office of Ecology is authorized to take action to prevent, regulate and control pollution in the form of noise, vibrations, noxious odors and thermal energy, when these come from sources

under state jurisdiction.<sup>248</sup> Municipalities also have authority to regulate these forms of pollution when they come from sources that are under municipal jurisdiction or from the open burning of any type of non-hazardous waste.<sup>249</sup>

These types of emissions may not exceed the maximum limits contained in Ecological Technical Norms, and the state and municipal agencies are to adopt measures to ensure compliance with these limits.<sup>250</sup> Appropriate corrective actions must be taken to prevent adverse effects of these emissions during construction activities.<sup>251</sup>

Municipalities are called on to restrict such emissions in residential areas and areas bordering child care centers, schools and health facilities, and to regulate routes, schedules and speed limits for public transit.<sup>252</sup>

Any activity (other than domestic activity) undertaken in the centers of population, that produces emissions of noise, vibrations, odors or thermal energy that exceed or could exceed Ecological Technical Norms is subject to prior authorization from the municipal government.<sup>253</sup>

## **V. NATURAL RESOURCE PROTECTION**

The State Ecology Law devotes a separate title, comprised of over 50 articles, to regulating the conservation and use of natural resources. The law contains mechanisms for creating and administering nature reserves of state and municipal jurisdiction. It also establishes principles and mechanisms for conserving water, air, land and energy resources.

### **A. Protected Natural Areas**

The State Ecology Law establishes a framework for creating and administering protected areas at the state level. The areas designated by state and local governments together constitute the State System of Protected Natural Areas.

The purposes of designating such areas are to preserve the natural environment of different biogeographic and ecological regions of the state, particularly those that are most fragile, and to preserve the genetic diversity of wild species that inhabit centers of population and surrounding areas. The creation of reserves also aims to ensure rational use of ecosystems and their elements, provide for tourism and recreation that is consistent with ecological principles, and provide for scientific research, monitoring and education. The inhabitants of areas designated as protected are authorized to participate in the development and administration of those areas through coordination agreements with the government.<sup>254</sup>

## 1. *Distribution of jurisdiction*

Although the State Ecology Law makes reference to the designation of protected natural areas by municipalities, the law does not elaborate on municipal jurisdiction in this area. As discussed below, municipal governments may propose the designation of certain areas as protected natural areas and participate in the management of such areas, although the state must approve of this designation.

## 2. *Regulatory mechanisms*

***Creation of Protected Natural Areas.*** The Federal Ecology Law provides for two types of state-created protected natural areas: ecological conservation zones and urban parks. The State Ecology Law provides for the creation of several types of protected natural areas:

- *State Parks* are comprised of forested areas with one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational or historic value, or for the existence of important flora and fauna. These are areas of public use, where activities that further the protection of natural resources are permitted.
- *Natural Monuments* consist of natural objects or places that merit absolute protection due to their unique characteristics, aesthetic interest or historical or scientific value. In these areas, the only activities permitted are those related to environmental protection, research or education.
- *Natural Resource Protection Areas* are those areas designated for the preservation and restoration of forests and the conservation of land and water.
- *Flora and Fauna Protection Areas* are areas containing habitats which require the existence, transformation or development of species of flora and fauna. Activities relating to preservation, repopulation, propagation, refuge and research must be promoted in these areas. Natural resource use is permitted by existing inhabitants of these areas, or by others when technical studies determine the feasibility of their use.
- *Urban Parks* are areas in population centers designed to establish a balance between the built and natural environments.
- *Ecological Conservation Zones* are those established in areas surrounding human settlements, which contain one or more ecosystems that have been well conserved. The purpose of such areas is to preserve these natural elements.
- *Biosphere Reserves.* These areas are not separately defined under the Ecology law.<sup>255</sup>

These areas may be established through decree of the state Congress, based strictly on technical studies which provide the scientific basis for their establishment, as well as the guidelines for a management plan. Any member of the public may propose the designation of a protected natural area. All designations must be published in the official state newspaper.<sup>256</sup>

The official designation of a protected natural area must contain the following information: the geographic boundaries of the area; the conditions to which the use of natural resources will be subject; the types of activities that may be carried out in the area, including the conditions on those activities; the basis for the state's expropriation of land within the area; and the guidelines for developing the management program for the area. Actions that contravene the official designation are prohibited, as are activities that could alter ecosystems or damage the environment of the area.<sup>257</sup>

Once created, the state Congress may only modify the size and permissible land uses of a protected natural area if the Congress' Ecology Commission so recommends, technical studies show the area's ecological integrity will not be affected, and the State Ecology Council approves the change.<sup>258</sup>

**Management Programs.** Management programs must be developed by the state or municipal agency that designated the area, under the terms established in the official designation. In addition to a description of the physical, biological and social features of the area, management programs must contain the bases for sustained and self-sufficient economic development of the area, as well as the area's capacity for population and use of existing natural resources. The program must also describe those actions that will be carried out in the short and long term in the areas of research, natural resource use, education, operations, and monitoring.<sup>259</sup>

**Permits and Licenses.** The granting of any permit or license for the use of natural resources in protected natural areas must be consistent with the State Ecology Law's provisions, as well as with the terms of the official designation of the area. Those interested in using natural resources located in protected natural areas must demonstrate the technical capacity to do so without causing deterioration of ecological balance. Where natural resource use is already being undertaken in an area designated as a protected natural area, the Office of Ecology or the municipality may request that the appropriate agency cancel or modify any permits or licenses that have been granted.<sup>260</sup>

## **B. Conservation and Use of Water, Land and Energy**

### *1. Water resources*

The Office of Ecology has responsibility for the conservation of state waters, in coordination with state and municipal water and sewer agencies. The law sets out a series of principles governing

the conservation and rational use of waters of state jurisdiction and drinking water utilized in the population centers.

For example, the law states that: water must be better utilized and distributed with greater equity; soil erosion and evaporation should be mitigated where possible; soils, forested areas and aquifer recharge zones should be protected; agricultural and industrial water use should be efficient; waste waters should be treated and reused; and the public should avoid wasting water. These principles are to be considered by the state when:

- granting permits or authorizations for the use of natural resources not reserved to the federal government, when their use could affect the hydraulic cycle;
- granting authorizations for the appropriation of state waters;
- operating and administering drinking water and sewer systems serving population centers and industry; and
- developing state urban development and housing plans, and designing and siting residential developments.<sup>261</sup>

The above principles are also to be used in creating a State Hydraulic Plan. The Hydraulic Plan must be presented by the Office of Ecology to the State Ecology Council within 12 months of the publication of the State Ecological Ordering Plan. The Hydraulic Plan must contain information concerning the status of groundwater and surface water resources, and the way in which those resources are being used in the agricultural and industrial, municipal and domestic areas. The Hydraulic Plan must also review the system of tariffs for industrial use of water.<sup>262</sup>

The law also provides for economic incentives to promote more rational use of water among the public. For example, the law allows for the creation of preferential tariffs for those who conserve water.<sup>263</sup> The law also directs the municipal water and sewer authorities to reduce the sewer system connection fees by 50 percent, and the cost for water consumption by 30 percent, for those domestic users who install and operate systems for separating and using "grey waters."<sup>264</sup>

Finally, the law requires that those who use water for commercial activities demonstrate a high level of efficiency in that use, in conformity with any regulations established regarding water conservation. The law allows the reuse of waste waters from the sewer systems, provided they meet applicable treatment requirements.<sup>265</sup>

## 2. *Soil resources*

The State Ecology Law sets out a number of principles to guide the rational use and conservation of soil resources. These include statements that land uses must be compatible with the



natural purposes of the land, must not alter ecosystem balance, must maintain the physical integrity and productive capacity of the land, and should avoid erosion and other adverse ecological effects. These principles are to be considered when state and municipal agencies assist in agricultural activities, when human settlements are created, and when urban development and housing activities are undertaken.<sup>266</sup>

These principles must also be considered in regulating activities involving exploration and exploitation and use of materials and substances not exclusively within federal jurisdiction. Permits are required from the Office of Ecology for the use of certain natural deposits used as construction materials. Those who carry out these activities must control the release of dust, odors or gases, control wastes from being released outside the project area, and if necessary, reforest the mined area to its original state or better.<sup>267</sup>

### 3. *Energy resources*

The State Ecology Law also sets forth a number of principles relating to the rational use of energy resources in the state. According to the law, ecological balance requires that the extraction or use of materials for energy production not carry with it a negative environmental impact. The law also provides that energy sources used to sustain economic development in the state should be lasting and renewable, so that access to the resource is not compromised for future generations. Along these lines, the law states that the use of fossil fuels should be minimized, and that the state should pursue a strategy of using renewable energy resources. The use of nuclear energy to generate electric power is considered a "less desirable" option in the state, to be utilized only after all alternatives are exhausted.<sup>268</sup>

These principles must be considered by the appropriate authorities when creating economic development policies and plans, establishing fees for construction or development permits, and developing mass transit policies. In addition, the state is directed to encourage the public to use alternative energy sources which present fewer adverse impacts on the environment, including solar, hydroelectric, wind and geothermal energy, as well as the combustion of organic materials. The Office of Ecology is to present a biennial report to the public and to the State Ecology Council describing advances in the application of alternative energy sources in the state.<sup>269</sup>

## **VI. ENFORCEMENT**

### **A. Distribution of Jurisdiction**

The state is responsible for ensuring compliance with the State Ecology Law and its regulations and norms, for applying sanctions for infractions, and for resolving appeals of administrative decisions.<sup>270</sup>

The municipal governments are responsible for issuing ordinances and regulations to ensure compliance with the State Ecology Law and for establishing sanctions for noncompliance.<sup>271</sup>

## **B. Enforcement Mechanisms**

### *1. Inspections*

**Background.** In general, the state and municipalities are responsible for conducting inspections and monitoring compliance with the State Ecology Law.<sup>272</sup> The Office of Ecology is charged with ordering inspections to ensure that waste water discharges, air emissions and the management or final disposal of non-hazardous solid waste comply with state and federal standards.<sup>273</sup>

As of August, 1995, the Office of Ecology had performed a total of over 2,900 inspections, both in response to public complaints and as a routine means of verifying compliance with the law. According to the Office of Ecology, approximately half of all inspections are currently carried out in response to complaints, while half are undertaken pursuant to inspection priorities developed by the agency.<sup>274</sup>

The Office of Ecology carries out inspections using Internal Environmental Auditors. The Office of Ecology employs twelve such inspectors -- six in Tijuana and three each in Mexicali and Ensenada. External Auditors are private professionals who are approved and accredited as experts in pollution prevention and control by the Office of Ecology.<sup>275</sup> Only Internal Environmental Auditors can establish and implement corrective measures, and carry out orders such as closure orders.<sup>276</sup>

**Procedures.** The owner, legal representative or person in charge of a facility must provide the inspector access to the place and subject of the inspection, generally facilitate carrying out the inspection, and designate two witnesses to remain during the inspection. The inspector may require the facility representative to exhibit records of industrial processes and of operation and maintenance of pollution control equipment. The expense associated with any sampling done during the inspection is to be borne by the facility. The State Ecology Law authorizes the use of the police force to ensure that an inspection is completed.<sup>277</sup>

The Office of Ecology is not required to provide notice of an inspection to a facility, and officials indicate that they do not provide advance warning. During the inspection, the inspector does a general tour of the facility and looks at all aspects of the facility to ensure that there is full compliance.<sup>278</sup>

For all inspections, an official report (*acta circunstanciada*) must be prepared by the inspector, including the facts discovered during the inspection.<sup>279</sup> The facility representative has an opportunity to present any relevant information within three days following the inspection.<sup>280</sup> Within 72 hours of the visit, the inspector must provide the Office of Ecology with the original report accompanied by

the corresponding Technical Report. The Technical Report is the document through which the Office of Ecology compiles the technical information needed to issue a final administrative decision in the matter.<sup>281</sup>

***Administrative Determination.*** The Office of Ecology has 30 days following the presentation of the Technical Report to issue a final administrative decision. This must include: a summary of the facts; a summary of the issues and the evidence; any corrective action that must be taken; the time period and conditions set out for compliance with the order; and any sanctions that apply. Within 5 days after the period established for complying with the order, the violator must submit to the Office of Ecology written proof of compliance.<sup>282</sup>

An inspection may be carried out to verify whether the violator is implementing the corrective measures according to schedule. Following this inspection, the Office of Ecology is to impose sanctions if the facility is not in compliance with the order.<sup>283</sup>

## 2. *Emergency measures*

The Office of Ecology or the municipal governments may take those measures deemed necessary to address an imminent risk of ecological imbalance or pollution affecting public health, and may use police force in doing so. Among the types of measures that are explicitly authorized are the confiscation of polluting materials or substances and the partial or full closure of a pollution source, either temporarily or permanently. For matters that are outside their jurisdiction, but where pollution is imminent, the Office of Ecology or municipal governments will seek assistance from the appropriate authorities.<sup>284</sup>

## 3. *Administrative sanctions*

The Office of Ecology is responsible for issuing administrative sanctions for violations of the law or of any orders issued under the law.<sup>285</sup> The State Ecology Law mentions certain specific violations that are subject to sanctions. For example, the Office of Ecology is to examine environmental impact statements and to require correction of any deficiencies; if the deficiencies still exist after the period provided for their correction, the Office of Ecology may issue a variety of sanctions.<sup>286</sup> In addition, state or municipal officials who grant licenses or permits for land use and construction or operation of facilities, and who fail to ensure that the project has received the necessary environmental impact authorization, will be subject to sanctions under the Law of Responsibilities of Public Officials of the State of Baja California.<sup>287</sup> The Tijuana Decree on Police

and Governance also contains a list of actions that harm the environment and constitute sanctionable infractions.<sup>288</sup>

According to agency officials, sanctions are often issued following the first inspection; if the facility promptly complies with the corrective action order, the agency may reconsider the sanction.<sup>289</sup> In determining the sanction to apply in a specific case, the Office of Ecology is to consider the following factors: 1) the gravity of the infraction, particularly with respect to the impact on public health and environmental balance; 2) the financial circumstances of the violator; and 3) whether a repeat violation exists.<sup>290</sup> The Office of Ecology has discretion to apply any of the following sanctions:

**Fines.** Depending on the violation, fines will be imposed for the equivalent of 20 - 20,000 times the current minimum daily salary in the region.

If a facility has not taken corrective action by the end of the period granted by the Office of Ecology, a fine is to be imposed for each day of noncompliance, with the total fine not to exceed the maximum noted above. For repeat violations, the amount of the fine can be up to two times the initial amount imposed, not to exceed double the maximum allowed.<sup>291</sup>

Fines are to be collected by the state Secretariat of Finances.<sup>292</sup>

**Permit Revocation.** According to the State Ecology Law, when a violation causes serious harm, the Office of Ecology is to seek the suspension, revocation or cancellation of the facility's permit or license, from the authority that granted the permit. The Office of Ecology can also seek (before the appropriate authorities) the restriction or denial of permits and authorizations for industrial, commercial, service sector or other activities that affect the environment or cause environmental imbalance.<sup>293</sup>

**Closure.** Closure of facilities may be temporary or permanent, partial or total.<sup>294</sup> The official carrying out a closure order must prepare an official report (*acta circunstanciada*) of the closure proceeding.<sup>295</sup> The police force is to assist the Office of Ecology in executing a closure, upon request of the agency.<sup>296</sup> The Office of Ecology also may request that municipal or federal authorities limit or suspend the construction or operation of an industrial, commercial or service sector facility that may cause ecological imbalance or harm public health.<sup>297</sup>

According to officials, the decision to order closure is based on the environmental threat posed by the particular case. From January, 1993 through August, 1995, a total of 98 facility closures had been ordered, 14 of which were permanent.<sup>298</sup>

**Administrative Arrest.** Those who impede the Office of Ecology in carrying out inspections or closures may be arrested and held for up to 36 hours.<sup>299</sup>

#### 4. *Criminal sanctions*<sup>300</sup>

Although the State Ecology Law does not specifically authorize criminal sanctions for violations of the law, the Criminal Code of the state of Baja California does establish certain environmental crimes. According to the Criminal Code:

- it is a crime to carry out, authorize or order activities that are considered hazardous or that result in serious harm to public health or ecosystems, if done in violation of applicable standards or without required authorizations. If convicted, violators may receive three months to six years in prison and a fine of between 100 and 10,000 times the daily minimum wage.<sup>301</sup>
- it is a crime to undertake, authorize or order the emission of gases, smoke or dust into the air in violation of applicable law, regulations, standards or State Parameters, where those emissions cause or could cause serious harm to public health, flora, fauna or ecosystems. If convicted, violators may receive one month to five years in prison and a fine of between 100 and 10,000 times the daily minimum wage.<sup>302</sup>
- it is a crime to carry out, authorize or order the deposit, infiltration or discharge of waste waters or polluting wastes onto land or into state waters without authorization, where those wastes cause or could cause serious harm to public health, flora, fauna or ecosystems. If convicted, violators may receive three months to five years in prison and a fine of between 100 and 10,000 times the daily minimum wage.<sup>303</sup>

In order to pursue a criminal matter, the Office of Ecology must file a criminal complaint with the Public Ministry, which is in charge of prosecutions for the state.<sup>304</sup> The Office has initiated three such criminal complaints -- two dealing with waste water discharges, and one with solid wastes. All were filed after closure had been ordered. Once it has filed a complaint, the Office assists the Public Ministry in investigating the case. The Ministry then presents the case to a judge, who determines the nature of the damages or injuries, and the manner in which the case will proceed.<sup>305</sup>

## 5. *Administrative appeals*

**Types of Appeals.** According to the State Ecology Law, any administrative decisions implementing the law can be appealed by the interested parties. There are two types of appeals noted in the law. An appeal for lack of conformity (*recurso de inconformidad*) may be brought in cases involving closure and matters that involve economic sanctions. This type of appeal is generally filed with an agency other than the one that issued the original decision. An appeal for reversal (*recurso de revocación*) may be brought with respect to decisions that do not involve economic sanctions and that are not within the ambit of the *recurso de inconformidad*. This type of appeal is generally filed directly with the authority who issued the original decision.<sup>306</sup>

Not mentioned in the State Ecology Law is another avenue for appeal outside of the Office of Ecology. Parties affected by a decision by the agency may appeal to an administrative court known as the tribunal of administrative controversies (*tribunal de lo contencioso administrativo*). In general, these

courts are autonomous tribunals in charge of resolving controversies between administrative authorities and individuals.<sup>307</sup> It is not necessary to first bring an appeal before the Office of Ecology in order to utilize this avenue for appeal.<sup>308</sup>

**Procedures.** The State Ecology Law lists the information that must be included in the written request for an appeal. This includes basic information about the party bringing the appeal and about the matter being contested, the documents that the party offers as proof of the claim, and any request for suspension of the decision pending the appeal.<sup>309</sup>

The affected party has five days from the time of notification of a decision to submit the *recurso de revocación* in writing to the authority that has issued the decision. The *recurso de inconformidad* is to be submitted in writing to the Office of Ecology within 15 days after the party is notified of the decision.<sup>310</sup>

Upon receiving a timely appeal, the authority may suspend the decision pending the appeal if: 1) the interested party so requests; 2) the general interests of the state will not be prejudiced; 3) no repeat violation is involved; 4) irreparable harm may be caused in implementing the decision; and 5) the state's economic interests are guaranteed.<sup>311</sup>

According to state officials, a hearing may be held in conjunction with the two types of appeals described above if so required by the nature of the evidence; to date all such appeals have been resolved without hearings. Appeals of administrative decisions to the *tribunal de lo contencioso* do involve hearings.<sup>312</sup>

Within 15 days after a timely appeal has been admitted, evidence is formally presented and weighed.<sup>313</sup> The head of the Office of Ecology must issue a decision on the appeal within 30 days after the appeal has been admitted and the evidence submitted. Personal notice of the decision must be sent to the interested parties.<sup>314</sup>

## 6. *Public complaints*

**Background.** Any person may file a complaint (*denuncia popular*) with respect to any fact, act or omission within state or municipal jurisdiction, which: 1) produces ecological imbalance or harm to the environment; and 2) violates the State Ecology Law or other laws that address environmental protection.<sup>315</sup> This mechanism parallels the public complaint procedure established by the Federal Ecology Law.

Public complaints are an integral part of the enforcement efforts of the Office of Ecology. Nearly half of the facilities that have been inspected were brought to the agency's attention through public complaints.<sup>316</sup>

**Procedures.** The complaint may be filed with the Governor, the Office of Ecology, the State Ecology Council, the municipal government, or the municipal environmental agency. If the

complaint relates to a federal matter, the authority receiving the complaint will refer it to SEMARNAP.<sup>317</sup> Likewise, federal authorities may refer matters of state jurisdiction to the appropriate state authorities.

The complaint is initiated with a written statement that sets out clearly the facts necessary to locate the source of the alleged violation, the name and address of the complainant, and any evidence or documents that support the complaint. In the case of an emergency matter, an oral complaint is sufficient. Once the complaint is received, the Office of Ecology will identify the complainant and the justification or legal basis for the complaint, and notify the parties alleged to be in violation.<sup>318</sup> However, state officials indicate that they act on many complaints that are filed anonymously.<sup>319</sup>

The Office of Ecology is required to take those steps necessary for evaluating the facts stated in the complaint, and officials note that inspections are generally performed following receipt of a complaint.<sup>320</sup> According to the State Ecology Law, the agency has 15 days following presentation of the complaint to evaluate the facts and has an additional 30 days to issue a decision. Where the allegations are confirmed, the decision must include the corrective measures to be undertaken by the facility.<sup>321</sup>

The Regulation on Air, Water and Soil Pollution provides a more detailed procedure for resolving complaints, which differs from the general guidelines in the law. The regulation requires an Initial Administrative Resolution within three days after submission of the complaint, followed by an inspection. The alleged violator has three days after the inspection to present any information or evidence in response to the complaint. The results of the inspection are to be compiled in a Technical Report within three days of the inspection. The Office of Ecology must issue the final administrative resolution within 30 days after the presentation of the Technical Report. The Resolution must contain a summary of the facts, the issues and the evidence, and the corrective action that must be implemented. Internal Auditors may carry out inspections to verify compliance with the Resolution.<sup>322</sup>

## VII. PUBLIC PARTICIPATION

**Background.** The State Ecology Law aims to coordinate public participation in the matters covered by the law. The Regulation on Air, Water and Soil Pollution states that public participation is considered to be one of the primary means of safeguarding air, water and soil quality.<sup>323</sup>

The Governor and the municipal governments are charged with promoting public responsibility for and participation in: the formulation of ecological policy; the application of policy instruments and programs; and the development of activities to further preservation and restoration of ecological balance and environmental protection.<sup>324</sup>

**Coordination Agreements.** According to the State Ecology Law, both the Governor and the municipal governments may enter into coordination agreements (*convenios de concertación*) with the public and private sectors.<sup>325</sup> These are agreements to undertake actions that will promote implementation of and compliance with the law. At present, there are no formal agreements of this kind relating to environmental matters at the state or local level in Baja California.

**Access to Information.** The Office of Ecology is required to inform the public of the agency's plans, programs, and other activities.<sup>326</sup> The State Ecology Law also directs the Office of Ecology to provide the public with access to information contained in the registries and reports of the Office of Ecology.<sup>327</sup> The law specifically requires access to Air Emissions and Water Discharge Registries, facilities' waste water discharge monitoring reports submitted to the agency, and environmental impact documents.<sup>328</sup> The law and the regulations, however, do not detail the manner in which access is to be provided. State officials indicate generally that the information is available to the public at the Office of Ecology.<sup>329</sup>

An important means of information dissemination envisioned in the law is the Ecological Gazette, the purpose of which is to inform the public about all relevant legal actions and provisions relating to environmental protection within the state. The Ecological Gazette is required to publish any new state ecological norms and a list of any Environmental Impact Statements that have been approved by the state. It is also to publish regulations, plans, agreements, orders, resolutions, or notices, as well as articles on environmental topics. The state has issued a regulation on this subject requiring that the Ecological Gazette be published every three months and distributed in sufficient quantities to meet the public demand.<sup>330</sup>

The state has yet to begin publishing the Ecological Gazette. Until publication is initiated, all matters that must be included in the Ecological Gazette are to be published in the state official newspaper.

**Public Meetings.** The State Ecology Law directs the Governor, through the Office of Ecology and the municipal governments, to promote public meetings (*foros de consulta*) on ecological matters.<sup>331</sup> These forums are generally to be held when the state is considering adopting legislation, regulations, or taking other similar actions. The State Ecology Law also specifically requires public meetings to review the progress of the State Ecology Program.<sup>332</sup> Several public meetings have been held by COPLADE's Special Subcommittee on Ecology to review the State Ecological Ordering Plan.

**State Ecology Council.** As noted earlier in the chapter, the State Ecology Council, which assists in formulating and reviewing state environmental policy, is made up in part by citizen representatives. The selection of the citizen representatives is to be carried out by the municipalities through a process involving broad public participation. In addition, regular meetings of the Council are to be widely publicized and open to the public.<sup>333</sup>



## VIII. DISCUSSION

In Baja California, the recently enacted State Ecology Law is the foundation for state action on a wide range of environmental protection issues. Although other state laws address environmental protection indirectly -- e.g., the Urban Development Law -- it is the State Ecology Law that provides the principal legislative basis for addressing the state's important pollution problems. The state has adopted several regulations to implement the State Ecology Law. These provide important guidance for regulatory programs in areas including air and water pollution, solid waste and environmental impact assessment. The State Ecology Law also provides for regulatory guidance through the development of numerous state plans -- e.g., an air emissions plan, a clean water plan and an environmental emergencies plan. Although these plans have yet to be developed, they represent a potentially useful vehicle for developing strategies to deal with major environmental problems in the state. Indeed, as state and municipal governments continue to strengthen their institutional capacity, the state legal framework for environmental protection provides considerable opportunities for expanding the state and local role in environmental protection.

### *Scope of the Environmental Legal Framework*

The broad scope of the State Ecology Law is reflected in its use of the concept of "ecological balance," a term introduced by federal law. Under the State Ecology Law, pollution control, protection of important ecological areas and regulation of natural resources are to be carried out in a manner compatible with ecological balance. Moreover, governmental decisions must take into account the specific needs of different ecological regions of the state. These provisions not only illustrate the law's focus on ecosystem balance, but also suggest its attempt to infuse principles of environmental and ecological protection into a broad range of state actions.

The State Ecology Law takes an active approach to influencing all government decisionmaking that impacts the environment. This is perhaps most apparent in the area of land use and development planning. The law's focus on planning issues is particularly important given the serious problems created by past land use planning practices, especially in the urban areas. The law establishes ecological principles that must be applied in planning decisions as well as in design and construction standards. The law also mandates the development of the State Ecological Ordering Plan, a land use planning document which must be considered in any decision involving: urban development and land use authorization; authorization for the use of natural resources; expansion of agricultural or grazing areas; and construction and operating licensing for industrial, commercial or service sector facilities.

The state government recently adopted the State Ecological Ordering Plan, which provides information on Baja California's environmental and natural resource problems, and assigns to each of the state's regions and subregions general environmental guidelines for land use planning. Although the impact of this plan will depend in part on whether it accurately reflects the environmental characteristics and problems of the state, its development represents a step toward achieving the law's objective of infusing environmental considerations into a broad range of state decisionmaking.

The law also establishes "sustainable economic development" as a goal, and sets forth principles to guide the promotion of state economic development. These include the incorporation of environmental costs into the production of goods and services, and the rejection of economic growth that does not respect or promote ecological balance and quality of life.

The State Ecology Law's linkage of environmental considerations and planning decisions provides a key opportunity to broaden environmental protection efforts in Baja California. It will undoubtedly take time for different agencies to incorporate the State Ecology Law's general guidelines and principles into their routine policies and decisions. Some steps in this direction have been taken, for example in the creation of a commission comprised of several state agencies (as well as municipal agencies and non-governmental representatives) to implement the State Ecological Ordering Plan. In addition, SAHOPE recently extended an invitation to the Office of Ecology to participate with SAHOPE in proposing modifications to the State Law of Human Settlements.

### *Administrative Structure*

Following the enactment of the State Ecology Law, the state established a new, independent agency, the General Office of Ecology. This agency thus began with a "clean slate" in terms of its relationship with the public; agency officials indicate that they have sought to take advantage of this fact and build an agency that functions as transparently as possible. While a new agency may require greater time and resources to develop basic administrative structures, the creation of the Office of Ecology provides an important opportunity for developing innovative approaches to implementing the law and achieving environmental protection.

Given the State Ecology Law's directive to infuse environmental principles into other agencies' programs, one important challenge facing the Office of Ecology is to coordinate the efforts of a variety of state and municipal authorities. Indeed, the law explicitly charges the Office of Ecology with coordinating the actions of state and municipal agencies relating to environmental matters. This coordination will be important in implementing not only the general principles embodied in the State Ecology Law, but also its specific requirements. For example, the law mandates that municipalities grant land use and subdivision licenses only after any required state environmental

impact authorization has been issued; failure to ensure compliance with this requirement nullifies the municipal action and subjects the responsible official to sanctions. In addition, the law gives the Office of Ecology responsibility for ensuring that state agencies such as SAHOPE and the Secretariat for Planning and Budget incorporate the principles of the State Ecology Law and of the Ecological Ordering Plan -- principles including sustainable economic development and ecological balance.

### *Distribution of Jurisdiction*

Within the jurisdictional framework provided under federal law, the State Ecology Law envisions an active role for the state executive branch, and grants fairly broad authority to the Office of Ecology. That agency has taken an expansive view in determining which industries are subject to state jurisdiction. Indeed, officials indicate that the agency's programs for ensuring compliance with applicable standards cover most industries in the state. Thus, to the extent that federal law contains jurisdictional criteria that leave room for interpretation and discretion, the limits of state jurisdiction may be tested in a state such as Baja California. Particular cases will likely require clarification of jurisdiction and coordination among state and federal officials.

Thus far, only one substantive issue -- regulation of biological wastes -- has produced a direct conflict resulting in preemption of state authority. The State Ecology Law addresses certain other areas regulated by the federal government, including hazardous wastes and radioactive materials, although the state's authority is fairly limited in these areas. For example, the state has designated urban routes and schedules for transporting hazardous wastes for four hazardous waste management companies.

The broader question of state issuance of standards may prove important in the future, given that the State Ecology Law explicitly provides authority in this regard. As discussed in Chapter Two, the Federal Ecology Law gives the federal government jurisdiction over the issuance of Ecological Technical Norms (now Official Mexican Norms) and requires states to apply those standards. Baja California's Ecology Law provides for the issuance of "ecological technical norms" or "State Parameters" by the state. The law also authorizes the state to issue maximum permissible emissions levels as well as ambient air quality standards for a number of substances listed in the law.

Although the state has issued Particular Discharge Conditions in a few specific cases, the state has not issued any general standards. Rather, the state applies federal standards in matters of state jurisdiction. Nevertheless, the question of state authority to issue its own standard in a matter delegated to the states under the Federal Ecology Law may arise in the future if, e.g., the state seeks to adopt a standard that is more stringent than an existing federal standard, or where there is no federal norm governing the matter.

State and federal governments in Baja California rely on informal contact to address jurisdictional issues on a case-by-case basis. Thus, the agencies may consult one another to clarify which agency is responsible for taking enforcement action against a particular industrial facility. Coordination on a more formal level has been established in the area of emergency response. The three levels of government have formed "response groups" comprised of federal, state and municipal representatives. Federal and state authorities have also agreed to an unusual arrangement by which penalties collected in federal enforcement cases are to be turned over to the municipality in which the violation occurred, in order to strengthen municipal environmental protection efforts.

The State Ecology law envisions a municipal role in a variety of matters, particularly mobile source emissions, waste water discharges and solid waste management. Thus far, none of the state's four municipalities has enacted an environmental ordinance, and only one has created an environmental office. In practice, the state has assumed the lead role in most areas. It is the state that monitors motor vehicle emissions. The state also operates public water services and authorizes waste water discharges into the sewer systems.

Nevertheless, the State Ecology Law contains an explicit directive to the state government to promote the process of decentralization to the municipal governments in the area of environmental protection. One of the most important issues relating to the promoting of decentralization will be the availability of resources and technical assistance so that municipal governments can develop comprehensive environmental ordinances as well as effective programs to implement those ordinances. This represents a key challenge to the state in the coming years.

### *Regulatory Mechanisms*

The State Ecology Law and its Regulation on Air, Water and Soil Pollution establish a broad basis for control and prevention of environmental pollution. For sources and pollutant releases that fall under its jurisdiction, the state's most significant responsibilities are in the areas of registration, permitting, monitoring and enforcement. In the first few years following the law's passage, the Office of Ecology has begun to develop and implement programs in these areas.

The State Ecology Law is notable for its inclusion of a very broad range of air pollution issues. For example, the law and regulation address indoor air quality issues, including environmental tobacco smoke, radon and combustion contaminants. The state has begun to require compliance with the law's mandate on the establishment of separate non-smoking areas within buildings. The law also sets limits for the use of ozone depleting substances and establishes pollution control requirements for releases of volatile organic compounds.

Another interesting feature of the State Ecology Law and its regulations is the prominent role envisioned for private environmental professionals who are certified by the state to provide various

services to facilities regulated under the law. While not under the direct control of the state, these professionals are accountable to the state for the quality of their work. While the law provides for different types of certified private professionals with distinct responsibilities, the most important of these has been the External Environmental Auditors. As of 1995, over one hundred External Environmental Auditors had been authorized by the state, and these professionals have been active in preparing facility registration documentation.

**Registration.** A key feature of the State Ecology Law is its establishment of Air Emission and Water Discharge Registries for the estimated 1,050 facilities whose air emissions or waste water discharges fall under state jurisdiction. Polluting facilities that fall under state jurisdiction are required to submit annually extensive information to the state, including data on production processes, a characterization and calculation of releases, and a description of monitoring methods and pollution control measures. The Office of Ecology has created and distributed a booklet explaining the registration process.

Facility registration has been one of the principal efforts of the Office of Ecology thus far. Over 800 facilities had registered as of September, 1995. The agency reviewed the information submitted to ensure compliance with applicable standards, and to establish facility-specific requirements necessary to bring the facility into compliance. As noted below, the state is required to make the information it collects through the registries available to the public, thereby creating a potentially significant tool for public involvement in environmental issues.

**Permitting/Authorizations.** The State Ecology Law requires facilities under state jurisdiction to obtain air emissions and water discharge permits from the state. Air and water permitting is closely linked to the registration process; indeed, a facility's registration fee covers permitting as well. Registration information submitted by the facility is used to determine whether the facility is in compliance, and the permit is not issued until the state verifies compliance. Any requirements placed on the facility, such as pollution control equipment or special discharge parameters, are set prior to issuance of the permit, e.g., through written communications between the facility and the agency. The permit document itself -- valid for one year -- is merely an affirmation that the facility is authorized to emit or discharge under current conditions. As of September, 1995, most of the facilities that had registered had been issued the corresponding air or water permits.

The State Ecology Law and its regulations also require environmental impact authorization for a broad range of proposed activities that may affect the environment and that do not fall under federal jurisdiction. Interestingly, environmental impact review is not a purely procedural requirement. The law provides that the state may not authorize projects or activities that are "contrary to the provisions of" the State Ecology Law or of plans and programs relating to urban development and similar matters. Thus, the state has potentially broad discretion in determining whether to authorize a project in light of its environmental impacts. The state may condition authorization on compliance with conditions to ensure the prevention or mitigation of adverse impacts. The law specifically

requires monitoring by the state to ensure compliance with any such conditions. The issuance of a timely decision by the state is critical in Baja California, since failure to comply with the prescribed deadlines results in automatic authorization of the EIS.

**Monitoring.** The State Ecology Law and its regulations establish monitoring as an important means of ensuring facility compliance with applicable standards. The law provides for monitoring and reporting of air emissions and water discharges on a monthly basis. During the initial stages of registering and permitting facilities, the Office of Ecology generally requires only that facilities submit monitoring information along with their annual registration documentation. Agency officials note that where a facility has had compliance problems, the agency uses its authority under the law to require more frequent monitoring of that facility.

Drinking water and sewer systems must also provide the state with the results of their analyses of monitoring points located near drinking water sources and sewer systems.

Interestingly, the regulation provides that sampling and measurement methods must be in accordance with federal standards *or* with other methods approved by the Office of Ecology. Federal standards are used at this time, and it remains to be seen whether the Office of Ecology will exercise its authority under state law to approve other methods for monitoring emissions and discharges.

**Enforcement.** The State Ecology Law gives the state and municipal governments independent authority over several important mechanisms for ensuring compliance with the law. One enforcement tool with a potentially powerful deterrent effect is facility closure, which the Office of Ecology had ordered 98 times as of September, 1995. The decision to close a facility is based on factors such as the impact of the activities on public health, and whether or not a complaint has been filed in the case.

The criminal complaint is also an important enforcement tool provided under state law. While the State Ecology Law does not mention criminal enforcement, the state's Penal Code does contain environmental crimes and corresponding sanctions. In the past, the state has filed criminal complaints in cases involving waste water discharges and solid waste disposal, generally following the issuance of a closure order. Recent amendments strengthening these criminal code provisions may enhance the use of criminal enforcement as a deterrent to environmental violations.

The Office of Ecology's enforcement efforts are buttressed by the agency's use of its inspection authorities. Although the staff of the Office of Ecology has increased over the first few years, the number of environmental problems and facilities subject to inspection by the state is large. The state has not yet exercised its statutory authority to use licensed private environmental professionals to assist in conducting inspections. Although this unusual feature of the law provides an opportunity for increasing the number of facilities inspected each year, the use of "outside" inspectors presents significant challenges for the state in ensuring oversight and accountability of inspectors and enforceability of their findings.

Given the state's limited resources, it is particularly important that inspection resources be used strategically. About half of the agency's inspections are performed in response to public complaints. The remainder are undertaken pursuant to agency priorities. The registration process may prove an important tool in focusing inspection resources on specific areas or facilities of concern.

The Office of Ecology's use of multimedia inspections is also a potentially important means of maximizing inspection resources. Agency officials indicate that inspectors perform a general review of a facility in order to identify all significant existing problems.

Coordination between the state and the federal or municipal governments in enforcement matters is accomplished through referrals among the agencies. For example, if a state inspection of a facility reveals a problem of federal jurisdiction, state officials will notify PROFEPA. Joint or coordinated action may be taken in matters such as discharges containing hazardous substances into the sewage system (federal/state) or illegal dumping of non-hazardous solid waste (state/municipal).

### *Public Participation*

The State Ecology Law provides considerable opportunities for public participation in environmental protection activities at the state and local levels. The law and its regulations proclaim public participation to be an important component of environmental protection, and charge the state and municipal governments with encouraging public involvement. In addition to these general statements, the law contains specific mandates which, if fully implemented, could significantly enhance the ability of the public to play a more active role.

For example, the State Ecology Law includes important provisions on public access to information. The law requires the Office of Ecology to allow the public access to information contained in the registries and reports under the agency's control, as well as any water and air monitoring reports obtained by the Office of Ecology. This allows for public access to fairly detailed information on the production processes and pollutant releases of facilities under state jurisdiction.

It may become necessary for the state to establish guidelines to implement these requirements, since the law and regulations do not generally provide guidance on *how* information is to be made available. Indeed, in some cases the law is unclear as to the circumstances under which an individual is entitled to information -- e.g., the law's requirement that individuals show a "legal interest and need" for environmental impact review documents. How the Office of Ecology addresses these and other issues will affect the extent to which the public can utilize the law's information access tools.

In one case, the state has issued a regulation containing guidance on a unique information access provision of the law -- the requirement to publish a state *Ecological Gazette* informing the public of a broad range of activities undertaken by the Office of Ecology. According to the regulation, the state must ensure distribution of the *Gazette* in sufficient quantities to meet public demand. Although the

state has yet to implement the regulation, publication of the *Gazette* provides a key opportunity for the state to increase the likelihood of public involvement in environmental protection activities.

One of the central vehicles of public participation envisioned in the State Ecology Law is the State Ecology Council. Comprised largely of citizen representatives selected by the four municipal governments, the Council is responsible for approving state plans and programs. The Council also is charged with advising the state and reviewing state actions on many environmental matters covered by the State Ecology Law; although such advice is not binding, the Council provides an important opportunity for formal public input into environmental decisionmaking. To help ensure meaningful input, the selection of citizen representatives should involve broad public participation, as required under the State Ecology Law. The law also provides a basis for increasing public participation beyond the Council's citizen members, by requiring regular meetings of the Council to be widely publicized and open to the public.

The State Ecology Law provides that the Office of Ecology must encourage the use of meetings with the public on ecological matters. One specific area in which the state is directed to hold such meetings is in the development of the annual State Ecology Program. Although neither the State Ecology Law nor its regulations describe in detail the requirements for holding public meetings, the law's general provisions give the Office of Ecology an opportunity to realize its goal of ensuring that the agency functions as transparently as possible.

## ENDNOTES

1. State Commission of Public Services of Tijuana, Basic Facts and Indicators of Activities, 1995 (July, 1995). Office of Ecology officials note that only about half the population received these services in 1989.
2. Political Constitution of Baja California, Art. 27, §I.
3. State Ecology Law, art. 1. Throughout this chapter, citations to the State Ecology Law will include only the article being referenced. Citations to other laws will include the name of the law followed by the article being referenced.
4. Art. 2, §XIX.
5. The State Ecology Law defines "ecological criteria" broadly as "guidelines for preserving and restoring ecological balance and environmental protection." Art. 2, §XI.
6. Art. 3.
7. *See, e.g.*, Regulation of the Law of Ecological Equilibrium and Environmental Protection of the State of Baja California in the Matter of Prevention and Control of Water, Air and Soil Pollution, Preamble [hereinafter Regulation on Air, Water and Soil Pollution].
8. State Law of Urban Development, arts. 7; 3, §§I, VIII, IX.



9. State Organic Law of the Municipal Public Administration, art. 43.
10. Transit Ordinance for the Municipality of Tijuana, arts. 45, 164.
11. See Chapter Two for a discussion of the constitutional concept of *concurrentia*.
12. Tijuana Municipal Ordinance on Police and Governance, arts. 64, 65, 66, 78.
13. Arts. 7, 18, 23; *see also*, Organic Law of the State Public Administration, art. 17, §28.
14. Art. 10.
15. Art. 11; Regulation Concerning the State Ecology Council, art. 4.
16. Regulation Concerning the State Ecology Council, arts. 6, 11, 31, 34.
17. Art. 16.
18. Organic Law of the State Public Administration, art. 2.
19. Art. 49.
20. Interview with Office of Ecology officials (June, 1994).
21. Art. 9.
22. Interview with Office of Ecology officials (September, 1995).
23. Since 1992, all four municipalities have created planning and urban development agencies responsible for land use and urban development activities.
24. Interview with SEDESOL officials (June, 1994).
25. The regulation defines "biological wastes" as human or microbiological organic wastes, in any physical state, obtained as a result of or used during scientific investigation or the diagnosis or treatment of disease. Regulation on Air, Water and Soil Pollution, art. 4, §XVI.
26. Interviews with State Ecology Office officials (September, 1995).
27. "Ecological criteria" are defined in the State Ecology Law generally as "guidelines aimed at preserving and restoring ecological equilibrium and protecting the environment." Art. 2, §XI.
28. Art. 15, §§III, IV.
29. Art. 5.
30. Regulation on Air, Water and Soil Pollution, art. 6.
31. Art. 2, §26; Regulation on Air, Water and Soil Pollution, art. 4, §13. *See also* Federal Ecology Law, art. 36. The State Ecology Law was enacted prior to the enactment of the Federal Law of Measurement and Standardization, which replaced ecological technical norms with Official Mexican Norms.
32. The Regulation on Air, Water and Soil Pollution, Art. 4, §2.

33. Interview with Office of Ecology officials (September, 1995).
34. Art. 21. The law also provides for such coordination agreements with other states.
35. Arts. 13, 14; 19, §§I,II.
36. Art. 24.
37. Transitory art. 5.
38. Organic Law of the Municipal Public Administration, art. 43, §§XII, XXII.
39. Art. 19, §XXIV.
40. Arts. 16, §2; 34, §8.
41. Art. 22.
42. Art. 24.
43. Regulation on Air, Water and Soil Pollution, art. 3.
44. Interview with PROFEPA officials (June, 1994).
45. Art. 33.
46. Federal Ecology Law, art. 16.
47. Arts. 117, 118.
48. Art. 2, §XXVII.
49. State Urban Development Law, art. 112.
50. State Urban Development Law, arts. 30, 31, 37, 38-40, 49.
51. State Urban Development Law, arts. 11, 12, 31, 39. As of 1995, all four municipalities have in place municipal urban development programs.
52. See Tijuana Program of Urban Development in Population Centers, §§2.3.2.7; 4.8-4.10.
53. Arts. 19, §IV; 203. The draft environmental ordinance for the municipality of Tijuana reiterates this requirement.
54. Art. 197.
55. Art. 207. The State Ecology Law defines "hazardous activities" as those that the federal government has not classified as highly hazardous and that the State Executive, through the Office of Ecology, classifies as hazardous based on the seriousness of the environmental or ecosystem effects that they can generate. Art. 2.
56. State Law of Urban Development, art. 12, §XI.
57. Interview with Office of Ecology officials (September, 1995).

58. General Office of Ecology, Ecological Ordering Plan of the State of Baja California.
59. Art. 43.
60. State Organic Law of the Municipal Public Administration, art. 43, §§XXXIX, XXVII.
61. Arts. 36, 37.
62. Art. 46.
63. Art. 47.
64. Art. 49.
65. Arts. 50, 51.
66. 43, State Organic Law of the Municipal Public Administration, art. §XII.
67. Art. 44.
68. Arts. 44, 45.
69. Arts. 52, 66; Regulation on Environmental Impact, art. 35. See also, State Urban Development Law, art. 115.
70. Regulation on Environmental Impact, art. 36.
71. Interviews with Office of Ecology and Municipal Office of Urban Planning and Ecology officials (June, 1994). Municipal officials indicated that very small businesses were not referred to the State for review, mainly due to resource constraints.
72. Art. 62. The Regulation on Environmental Impact includes the same list of activities, and adds any commercial or service sector activities that: cause air emissions; discharge potentially polluting waste waters; use water for commercial purposes; generate biological wastes; involve fuels, alcohols, or other hydrocarbon and liquid gas derivatives; or require the use of radioactive or explosive materials. Regulation on Environmental Impact, art. 6, §VIII.
73. Art. 147.
74. Art. 54.
75. Regulation on Environmental Impact, arts. 56-57.
76. Federal Regulation in the Matter of Environmental Impact, art. 9. The state Regulation on Environmental Impact provides for the certification by the Office of Ecology of Service Providers in Matters of Environmental Impact. These certified professionals may assist the project proponent in preparation of the EIS, and may be sanctioned if their failure to include technical information in the EIS results in unforeseen environmental impacts. State regulation on environmental impact, arts. 42-53.
77. Art. 55.
78. Art. 58; Regulation on Environmental Impact, arts. 13, 15, 16, 17, 19. The state may issue its own forms and instructions, though it has not done so yet.
79. Art. 2.

80. Regulation on Environmental Impact, arts. 14; 4, §II; 6, §IX.
81. Regulation on Environmental Impact, arts. 9, 10.
82. Regulation on Environmental Impact, third Transitory article.
83. Interview with Office of Ecology officials (September, 1995).
84. Regulation on Environmental Impact, arts. 37, 38.
85. Regulation on Environmental Impact, arts. 20-23. This provision does not apply when the delay is due to the failure of the proponent to provide additional information requested by the Office; an 30-day period for evaluating the EIS may be added due to the unusual complexity of the case, or an intervening accident or act of God.
86. Art. 61; Regulation on Environmental Impact, art. 24.
87. Regulation on Environmental Impact, art. 27. The regulation includes special evaluation criteria for projects involving protected natural areas. See Regulation on Environmental Impact, arts. 25, 26, 39-41.
88. Art. 64; Regulation on Environmental Impact, art. 28.
89. Arts. 60, 64. Regulation on Environmental Impact, art. 28.
90. Regulation on Environmental Impact, art. 28.
91. Art. 64.
92. Art. 28.
93. Art. 65.
94. According to State Ecology Law, the list is to be published in the official state newspaper, the Periódico Oficial. Art. 63. The Regulation on the Ecological Gazette (art. 14) mandates publication in the Ecological Gazette, although the first issue has yet to be published.
95. Regulation on Environmental Impact, art. 54.
96. Art. 63; Regulation on Environmental Impact, art. 54.
97. *See generally*, arts. 25-28.
98. Baja California State Legislature, Report of the Legislative Proceeding on the Creation of the Law of Ecological Equilibrium and Environmental Protection for the State of Baja California 6 (1992).
99. Regulation on External and Internal Environmental Auditors and Environmental Service Providers, preamble.
100. Art. 149.
101. Art. 18, §13; 19, §10.
102. Tijuana Municipal Ordinance on Police and Governance, art. 64, §IV.

103. A "fixed source" is defined as a non-mobile unit that produces emissions or that because of its consumption of energy causes others to generate them. Art. 128; Regulation on Air, Water and Soil Pollution, art. 4.
104. Art. 129. This list impliedly excludes those sources that are within federal jurisdiction.
105. Art. 129.
106. Art. 19, §11.
107. Art. 138.
108. Arts. 130, §§VI, VII; 131; 132, §II.
109. Regulation on Air, Water and Soil Pollution, arts. 104, 121.
110. Regulation on Air, Water and Soil Pollution, art. 123.
111. Regulation on Air, Water and Soil Pollution, art. 124.
112. Tijuana Municipal Ordinance on Police and Governance, art. 78, §XIX.
113. Art. 130, §§VI, VII.
114. Art. 130, §VIII.
115. These include chemical, petrochemical, iron and steel, paper, sugar, cement, automotive and electric power industries. Office of Ecology, Eco-Registries Manual, 5.
- PROFEPA officials in the state note that in addition to highly hazardous industries, federal sources include state-owned companies; parastatal industries; industries that generate high risk emissions; and industries located on federal land.
116. Highly hazardous industries or those listed under the Federal Ecology Law (including petrochemical, automotive and electricity generation facilities) are regulated by the federal government. See Eco-Registries Manual, 5.
117. Regulation on Air, Water and Soil Pollution, art. 96; Transitory article 2.
118. Art. 132, §VII. The fee for registering is about N\$575.
119. Art. 132, §I; Regulation on Air, Water and Soil Pollution, art. 94.
120. Eco-Registries Manual, 6.
121. Regulation on Air, Water and Soil Pollution, art. 94.
122. Art. 133.
123. Eco-Registries Manual, 8.
124. Eco-Registries Manual, 9.
125. Eco-Registries Manual, 11.

126. Office of Ecology, Number of Industries Submitting Registry Information in the State as of September 8, 1995; Interview with Office of Ecology officials (September, 1995).
127. Art. 134.
128. Art. 135.
129. Regulation on Air, Water and Soil Pollution, art. 101.
130. Interview with Office of Ecology officials (September, 1995).
131. Office of Ecology, Number of Industries Submitting Registry Information in the State as of September, 1995.
132. Regulation on Air, Water and Soil Pollution, art. 102.
133. Art. 136; see also Regulation on Air, Water and Soil Pollution, art. 107.
- Municipalities are directed to establish measures for taking out of circulation those vehicles that exceed the maximum permissible emission levels established in regulations and Ecological Technical Norms, and for applying transit measures and routes for avoiding violations of the maximum permissible emissions limits. Art. 19, §§12, 13.
134. Arts. 137, 139.
135. Art. 130, §II.
136. Art. 130, §IV.
137. Regulation on Air, Water and Soil Pollution, art. 127.
138. Interview with Office of Ecology officials (September, 1995).
139. Regulation on Air, Water and Soil Pollution, arts. 126; 125; 4, §XIV.
140. Art. 130, §IV.
141. Regulation on Air, Water and Soil Pollution, art. 135.
142. Art. 132, §IV.
143. Art. 140.
144. Art. 130, §IX.
145. Art. 130, §X, XII.
146. Art. 132, §III. The Regulation on Air, Water and Soil Pollution states that those responsible for fixed and stationary sources are required to monitor their emissions under the terms established by the Office of Ecology. Art. 120.
147. Regulation on Air, Water and Soil Pollution, art. 128.
148. Conversation with Office of Ecology officials (September, 1995).

149. Art. 141.
150. Art. 142.
151. Regulation on Air, Water and Soil Pollution, art. 113.
152. Regulation on Air, Water and Soil Pollution, arts. 114-118.
153. Regulation on Air, Water and Soil Pollution, arts. 105, 106.
154. Art. 150.
155. Art. 151.
156. Art. 163, §I.
157. Art. 167.
158. Art. 169.
159. Arts. 18, § XV; 162.
160. Interviews with Office of Ecology and PROFEPA officials (June, 1994).
161. Arts. 162, 19.
162. Art. 19, §§XIV, XV,XVI. In Tijuana, the Municipal Ordinance on Police and Governance contains similar provisions authorizing the municipal government to prevent and control pollution of federal waters that have been assigned or are under concession to the municipality for the provision of public services and of waters being discharged into municipal sewer systems. Tijuana Municipal Ordinance on Police and Governance, art. 64, §VI.
163. Art. 162.
164. Arts. 164, 176, 170, §II.
165. Interview with Office of Ecology officials (June, 1994).
166. Regulation on Air, Water and Soil Pollution, arts. 84, 85.
167. Regulation on Air, Water and Soil Pollution, art. 86.
168. Regulation on Air, Water and Soil Pollution, art. 24.
169. Regulation on Air, Water and Soil Pollution, arts. 26, 91.
170. Art. 170.
171. Highly hazardous industries or those listed under the federal General Law (including petrochemical, automotive and electricity generation facilities) are regulated by the federal government. See Office of Ecology, Eco-Registries Manual, 5.
172. Regulation on Air, Water and Soil Pollution, second Transitory article, art. 20.

173. Art. 170, §VI. The fee for registering is about N\$575.
174. Office of Ecology, Eco-Registries Manual (Form for Industrial Activities for the State Registry of Potentially Polluting Waste Water Discharges). *See also* Art. 170, §I; Regulation on Air, Water and Soil Pollution, art. 10. The analysis of the discharge must be carried out by a state-licensed laboratory. Regulation on Air, Water and Soil Pollution, arts. 11, 19.
175. Arts. 170, §I; 172.
176. Eco-Registries Manual, 8.
177. Eco-Registries Manual, 9.
178. Office of Ecology, "Number of Industries Submitting Registry Information in the State as of September 8, 1995."
179. Art. 175. The State Ecology Law also provides that reused waters may not be discharged without a permit, and that a permit will only be granted if the facility has the hydraulic infrastructure needed to use the waters for certain types of irrigation and maintenance of vegetation mentioned in the law. Arts. 108, 110.
180. Interview with Office of Ecology officials (June, 1994).
181. Regulation on Air, Water and Soil Pollution, art. 12.
182. Interview with Office of Ecology officials (September, 1995).
183. Regulation on Air, Water and Soil Pollution, art. 13.
184. Art. 179.
185. Office of Ecology, "Number of Industries Submitting Registry Information in the State as of September, 1995."
186. Arts. 163, §§II, III.
187. Art. 177.
188. Art. 175.
189. Art. 162.
190. Art. 162, §II.
191. Art. 178.
192. Regulation on Air, Water and Soil Pollution, arts. 87, 88.
193. Interview with Office of Ecology officials (September, 1995).
194. Regulation on Air, Water and Soil Pollution, art. 83.
195. Regulation on Air, Water and Soil Pollution, art. 25.



196. Regulation on Air, Water and Soil Pollution, art. 90.
197. Art. 171.
198. Arts. 170, §III; 172.
199. Interview with Office of Ecology officials (September, 1995).
200. Regulation on Air, Water and Soil Pollution, art. 80.
201. Art. 182.
202. Regulation on Air, Water and Soil Pollution, arts. 79, 82.
203. Arts. 163, §IV; 186.
204. Arts. 190, 191.
205. Arts. 18, §XVIII; 184.
206. Arts. 19, §§XVII, XVIII; 185.
207. Tijuana Municipal Ordinance on Police and Governance, art. 66, §V.
208. Tijuana Sanitation Ordinance, arts. 6, §IV; 9; 47; 51-55.
209. Interview with Office of Ecology officials (September, 1995).
210. Art. 189.
211. Regulation on Air, Water and Soil Pollution, art. 68.
212. Art. 69, §I.
213. Regulation on Air, Water and Soil Pollution, art. 70.
214. Tijuana Sanitation Ordinance, arts. 5, §I; 31-34; 36; 39.
215. Tijuana Ordinance on Police and Governance, art. 78, §XXI.
216. Interview with Office of Ecology officials (September, 1995).
217. Arts. 187, 188.
218. Tijuana Sanitation Ordinance, arts. 27-30; 36. The State Office of Municipal Public Works and Services implements this ordinance and has authority to issue sanctions for illegal dumping. *Id.*, arts. 47; 53, §VIII.
219. Art. 62, §IV.
220. Tijuana Sanitation Ordinance, art. 13; Interview with Office of Ecology officials (September, 1995),
221. Art. 197. Topographical problems, including the proximity of aquifers to the surface, have posed obstacles to the siting of new facilities.

222. Art. 187, 188.
223. Art. 195; Regulation on Air, Water and Soil Pollution, arts. 73-78. See also, Tijuana Sanitation Ordinance, art. 31.
224. Art. 196.
225. Regulation on Air, Water and Soil Pollution, art. 69, §VII.
226. Regulation on Air, Water and Soil Pollution, art. 69, §IV.
227. Art. 191, §IV.
228. Tijuana Sanitation Ordinance, art. 6, §III.
229. Art. 192.
230. Art. 193.
231. Art. 194.
232. The State Ecology Law defines hazardous waste as "all those wastes, in whatever physical state, that by their corrosive, toxic, reactive, explosive, flammable, infectious or biological characteristics, represent a hazard to health, to ecological balance or to the environment. Art. 2, §XXXIV. The Federal Ecology Law does not mention health hazards in its definition.
233. Art. 209.
234. Interview with Office of Ecology officials (September, 1995).
235. Arts. 210, 211.
236. Arts. 212, 213.
237. Art. 162, §I(a).
238. Art. 166.
239. Art. 173.
240. The Ecology Law uses the same definitions for "ecological emergencies" and "environmental contingencies" as exist in the Federal Ecology Law; the definitions of these two terms are essentially the same, and refer to situations in which one or more ecosystems are endangered due to human or natural causes. Art. 2, §§X, XVIII.
241. Arts. 18, §V; 214.
242. Art. 205.
243. Art. 214.
244. Art. 19, §V. See also, Tijuana Municipal Ordinance on Police and Governance, art. 64, §II.

245. Arts. 215, 216, 218. According to state officials, the Plan for Ecological Contingencies is expected to be one of the next plans drafted. Interview with Office of Ecology officials (June, 1994).
246. Art. 204.
247. Interview with SEDESOL officials (June, 1994).
248. Art. 18, §XIII. "Thermal energy" is defined as capacity of a body to transmit heat, which can result in modification of environmental conditions or harm to living creatures. "Noise" is defined as sound that is undesirable, inarticulate and confused, which alters or modifies the physical environment affecting flora, fauna or human health. Art. 153.
249. Art. 19, §X.
250. Art. 154.
251. Art. 155.
252. Arts. 156-158.
253. Art. 160.
254. Arts. 72, 73.
255. Arts. 74 - 80.
256. Arts. 81, 83, 84, 87.
257. Arts. 86, 93.
258. Art. 88.
259. Arts. 91, 92.
260. Arts. 89, 90.
261. Arts. 101, 102.
262. Arts. 103, 104.
263. Art. 112.
264. Arts. 113, 114. The authorities are to maintain a registry and carry out selective inspections to verify that such separation systems are functioning properly, and may sanction those that provide false information about such systems or that fail to report when the systems cease operating. Arts. 115, 116.
265. Arts. 180, 181; Regulation on Air, Water and Soil Pollution, art. 16.
266. Arts. 117, 118.
267. Arts. 119, 120.
268. Arts. 122, 127.

269. Arts. 123 - 125.
270. Art. 18, §§XXIII, XXIV, XXVI.
271. Art. 19, §XXIV.
272. Art. 219.
273. Regulation on Air, Water and Soil Pollution, art. 133.
274. Interview with Office of Ecology officials (September, 1995).
275. Arts. 2, §§V, VI; 220.
276. Arts. 221, 220.
277. Arts. 222, 226, 224. Regulation on Air, Water and Soil Pollution, arts. 138, 134, 142.
278. Interview with Office of Ecology officials (June, 1994 and September, 1995).
279. Arts. 223, 225. The facility representative must sign the *acta* and receive a copy of it.
280. Regulation on Air, Water and Soil Pollution, art. 140.
281. Regulation on Air, Water and Soil Pollution, arts. 143, 144.
282. Art. 228; Regulation on Air, Water and Soil Pollution, art. 145.
283. Art. 228; Regulation on Air, Water and Soil Pollution, art. 146.
284. Art. 229.
285. Art. 230; Regulation on Air, Water and Soil Pollution, arts. 164, 165.
286. Art. 237.
287. Art. 238. The Regulation also specifically provides for the sanctions to be imposed for noncompliance with the requirements for disposal of tires.
288. Tijuana Municipal Ordinance on Police and Governance, art. 78.
289. Interview with Office of Ecology officials (September, 1995).
290. Art. 232.
291. Art. 230.
292. Art. 230.
293. Arts. 231, 235.
294. Art. 230.

295. Art. 233.
296. Art. 234.
297. Regulation on Air, Water and Soil Pollution, art. 7.
298. Interview with Office of Ecology officials (September, 1995).
299. Art. 230.
300. According to state officials, there are no civil judicial proceedings for environmental violations. Interview with Office of Ecology officials (June, 1994).
301. Criminal Code and Criminal Procedures, art. 340.
302. Criminal Code and Criminal Procedures, art. 341.
303. *Id.*, art. 342.
304. *Id.*, art. 339.
305. Currently, there are no specialized personnel in the Public Ministry to handle environmental criminal matters. The state Congress recently considered, but did not enact, a proposal to reform the internal law of the Attorney General's Office to create a special office for investigating environmental crimes. The proposal also would have expanded and clarified the Criminal Codes provisions on environmental crimes, establishing categories of crimes relating to alteration of natural topographical features, water and groundwater pollution and air pollution. Legislative Initiative to Reform Certain Legal Provisions Relating to Ecology and the Environment (February 2, 1994).
306. Arts. 239-241.
307. Federal Constitution, art. 73, §XXIX-H. While the Federal Constitution provides a basis for the establishment of these courts, state constitutions also provide for their creation at the state level.
308. Interview with Office of Ecology officials (June, 1994).
309. Art. 242.
310. Arts. 243, 244.
311. Art. 246.
312. Interview with Office of Ecology officials (June, 1994).
313. Art. 245.
314. Regulation on Air, Water and Soil Pollution, arts. 168, 169.
315. Art. 248.
316. Interview with Office of Ecology officials (September, 1995).
317. Art. 248.

- 318. Arts. 249, 250; Regulation on Air, Water and Soil Pollution, arts. 147, 148.
- 319. Interview with Office of Ecology officials (June, 1994).
- 320. Interview with Office of Ecology officials (September, 1995).
- 321. Arts. 251, 252; Regulation on Air, Water and Soil Pollution, art. 157.
- 322. Regulation on Air, Water and Soil Pollution, arts. 154, 155, 157, 159, 160, 161-163.

In addition to the different time frameworks provided in the State Ecology Law, the only reference made in the law to the preparation of Technical Reports is that the interested parties (or third parties) can request that the Office of Ecology prepare such a Report where a violation of the State Ecology Law has resulted in harm or damages; the Report can then be used as competent evidence if a legal proceeding is brought. Arts. 253, 254.

- 323. Art. 3, §IX; Regulation on Air, Water and Soil Pollution, Preamble, para. 5.
- 324. Art. 25.
- 325. Arts. 15, §VIII; 19, §XXIII.
- 326. Art. 68.
- 327. Art. 29.
- 328. Arts. 63, 133, 172.
- 329. Interview with Office of Ecology officials (June, 1994).
- 330. Regulation concerning the Ecological Gazette, arts. 5, 6, 7, 9, 10.
- 331. Art. 31.
- 332. Art. 38.
- 333. Regulation Concerning the State Ecology Council, arts. 6, 11, 31, 34.



## *Chapter IV*



# Legal Framework for Environmental Protection in the State of Mexico

## **I. GENERAL DESCRIPTION OF THE STATE OF MEXICO**

### **A. Background**

The state of Mexico is situated 10,000 feet above sea level in Mexico's central plateau. It shares a border with seven other states and Mexico City. According to Mexico's 1990 national census, the state of Mexico had a population of close to 10 million, making it the most populous in the country. With an area of under 9,000 square miles, it is also one of the smallest in size.

Legislative responsibilities are carried out by the state Congress during two periods of ordinary sessions each year, although Congress may meet for extraordinary sessions. The state Judiciary consists of a Superior Tribunal of Justice (state supreme court), Civil Courts, Criminal Courts, Family Courts and other employees or personnel established by law for the administration of justice.

Executive power is exercised by a Governor elected every 6 years. Implementation of state laws is carried out by a variety of agencies and authorities whose responsibilities are established in the State Organic Law of the Public Administration. These include the Secretariat of Finance and Planning, the Secretariat of Urban Development and Public Works, the Secretariat of Ecology, the Secretariat of Economic Development, and the Attorney General.

There are 122 municipalities in the state of Mexico, including the capital city, Toluca.

### **B. Ecological Characteristics**

Most of the eastern part of the state is known as the valley of Mexico, a circular plain surrounded by the central mountains. The state is characterized by a mixed vegetation of temperate and cold weather forests, including varieties of fir, pine, cedar and oak. The state enjoys a mild, fresh climate and plentiful rainfall, especially during summer.



There are five national parks within the state, four others that are shared with bordering states and one that is shared with Mexico City.<sup>1</sup> In addition, the Monarch butterfly biosphere reserve is shared with the state of Michoacán.

### **C. Major Economic Activities**

The state economy is dependant mainly on the industrial (e.g., maquiladoras, food processing and automobile plants), commercial and service sectors, which represent nearly all of the gross internal product of the state. The state of Mexico is the most important industrial state in the country. Only about five percent of the gross internal product is derived from agricultural, cattle raising and extractive activities.

### **D. Principal Environmental Problems**

The state has a variety of environmental problems, the most important of which are air pollution (from industrial and vehicle emissions) and water pollution (from both domestic and industrial discharges). The problems most commonly reported to state and federal authorities by the municipalities relate to water and air pollution.

Most of the basin lakes that had lined the great plain have been drained in recent years to meet urban needs. Other environmental problems in the state include erosion and deforestation, particularly in the mountain areas of *Sierra Nevada*, *La Marquesa*, *Sierra de la Bufa* and *El Nevado de Toluca*.

## **II. OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN THE STATE OF MEXICO**

### **A. State and Municipal Law**

#### *1. State constitutional provisions*

The Constitution of the State of Mexico was recently amended to include provisions that explicitly refer to environmental protection. The Constitution establishes that state authorities must undertake programs to conserve, protect and improve natural resources of the state, as well as

prevent and combat environmental pollution. Legislation and standards adopted to further these goals must promote a culture of natural resource and environmental protection. The Constitution authorizes the state Congress generally to enact legislation on environmental and other matters of public administration that fall under state jurisdiction.<sup>2</sup>

## 2. *State legislation*

The principal environmental law for the state of Mexico is the Law of Environmental Protection of the State of Mexico (hereinafter the "State Ecology Law"), which took effect on January 1, 1992. The law seeks to achieve ecological restoration, environmental protection, and conservation and rational utilization of natural resources within the territorial boundaries of the state.<sup>3</sup>

The law incorporates the general policy guidelines and principles included in the federal General Law of Ecological Balance and Environmental Protection [hereinafter the "Federal Ecology Law"]. The main objectives of the State Ecology Law are:

- to distribute state and municipal environmental jurisdiction and guide coordination between the two levels of government;
- to establish principles and criteria for environmental policy and the tools for implementing that policy;
- to establish standards for the preservation and restoration of environmental quality;
- to protect and preserve natural areas and regulate the use of natural resources not under federal jurisdiction;
- to introduce and carry out environmental land use planning in the state; and
- to prevent adverse environmental impacts of economic development projects.<sup>4</sup>

Four regulations have been adopted to implement the law, covering the areas of prevention and control of air pollution; prevention and control of water pollution; environmental impact and environmental risk assessment; and prevention and control of soil pollution.

While the State Ecology Law is the key component of the state's environmental legal framework and is the focus of this chapter, there exist other state laws relevant to environmental protection. These were enacted before the State Ecology Law and are still in effect to the extent that they do not conflict with the provisions of that law. They include the following:

- Law of Human Settlements of the State of Mexico (*Ley de Asentamientos Humanos*);
- Planning Law of the State of Mexico (*Ley de Planeación del Estado de México*);
- State Law for the Conservation of Renewable Natural Resources (*Ley para la Conservación de*

*los Recursos Naturales Renovables*);

- Law of Drinking Water and Sewer Services in the State of Mexico (*Ley Sobre la Prestación de los Servicios de Agua Potable y Alcantarillado en el Estado de México*);
- Law Creating the Decentralized Public Agency "Enterprise for the Prevention and Control of Water Pollution in the Zone of Toluca, Lerma and the Industrial Corridor" (*Ley que Crea el Organismo Público Descentralizado, "Empresa para la Prevención y Control de la Contaminación del Agua en la Zona de Toluca, Lerma y el Corredor Industrial"*);
- Animal Protection Law for the State of Mexico (*Ley Protectora de Animales del Estado de México*);
- Law of Decentralized Municipal Drinking Water, Sewer and Sanitation Agencies (*Ley de Organismos Públicos Descentralizados de Carácter Municipal para la Prestación de los Servicios de Agua Potable, Alcantarillado y Saneamiento*);
- Law of State and Municipal Parks (*Ley de Parques Estatales y Municipales*); and
- Organic Law of the Public Administration of the State of Mexico (*Ley Orgánica para la Administración Pública del Estado de México*).

In addition, several decrees or executive agreements pertaining to more specific environmental matters were enacted prior to 1992. These involve the creation of various decentralized entities, agreements between state agencies, and the establishment of specific criteria for implementing existing laws.<sup>5</sup>

### 3. *Municipal legislation*

Most municipalities in the state have at least one ordinance or regulation relating to the areas explicitly delegated to municipalities under the federal Constitution -- drinking water, sanitation and sewer services.

In the municipality of Toluca, the Ordinance on Police and Governance, issued in 1995, outlines generally the scope of the municipality's environmental, urban development, and planning authorities. Also in 1995, the municipality of Toluca adopted its General Ordinance on Environmental Improvement. This ordinance replaced the municipality's 1992 environmental ordinance, as well as the Municipal Sanitation Ordinance of 1993 and the Municipal Animal Protection Ordinance of 1993. The General Ordinance on Environmental Improvement covers a broad range of subjects, including prevention and control of pollution, municipal sanitation services, animal protection and the use of vegetation.

## B. State and Municipal Agencies Responsible for Environmental Protection

### 1. State Secretariat of Ecology

Following enactment of the State Ecology Law, the state Executive designated a new agency, the Secretariat of Ecology (hereinafter "the Secretariat") as responsible for formulating, implementing and evaluating the state's environmental policies.<sup>6</sup> The Secretariat answers directly to the Governor. The state has adopted an Internal Regulation of the Secretariat of Ecology which describes in detail the functions of the four offices that comprise the Secretariat:

- Office of Environmental Planning (*Dirección General de Planeación Ambiental*): responsibilities include ecological land use planning projects, environmental impact analysis and the integration and maintenance of general environmental data concerning the state.
- Office of Environmental Protection (*Dirección General de Protección al Ambiente*): in charge of monitoring and enforcement of matters covered under the State Ecology Law and its regulations, including issuing licenses and registrations and undertaking inspections.
- Office of Normative Activities and Technical Assistance (*Dirección General de Normatividad y Apoyo Técnico*): responsible for developing environmental standards, criteria and guidelines, as well as providing technical assistance to municipal governments and individuals (particularly micro-industry and small businesses).
- Office of Coordination and Citizen Participation (*Dirección General de Concertación y Participación Ciudadana*): in charge of promoting public participation and responsibility in the development and implementation of ecological policy.

In addition, two existing entities (*organismos desconcentrados* or decentralized entities) have been placed under the authority of the Secretariat:<sup>7</sup>

- The Coordinating Commission for the Restoration of the Lerma River Basin (*Comisión de Coordinación para la Recuperación Ecológica de la Cuenca del Río Lerma*): created as a permanent body to restore the Lerma River; and
- The State Parks and Fauna Commission (*Comisión Estatal de Parques Naturales y de la Fauna* or CEPANAF): responsible for coordinating, planning, and implementing programs and activities related to the flora and fauna within natural parks, recreational parks and zoos.

### 2. Municipal agencies

According to the state's Organic Law of the Municipal Public Administration, all municipalities are to have an environmental agency (*dirección de ecología*) and a Councilman for Ecology (*Regidor de*

*Ecología*). Municipal Councilmen are administrative officials appointed by the Municipal President, responsible for enacting municipal legislation. A Councilman for Ecology may be responsible for proposing environmental ordinances, as well as responding to public complaints.

As of 1995, approximately 25 of the 122 municipalities in the state had established an environmental agency. These municipalities are generally larger and are home to a greater number of facilities and activities with potential environmental impacts. In smaller municipalities, which usually do not have the budget necessary to maintain such an agency, the Councilman for Ecology plays a more important role in addressing environmental matters.

In 1992, the municipality of Toluca created a Coordinating Office of Ecology (*Coordinación de Ecología*), which replaced the Department of Ecology. The Coordinating Office of Ecology is within the General Office of Urban Development, Public Works and Public Services (*Dirección General de Desarrollo Urban, Obras Públicas y Servicios Públicos*), which answers directly to the Municipal President. The Coordinating Office has primary responsibility for environmental protection. Other municipal agencies are responsible for public services -- e.g., the Department of Public Services of the City of Toluca (*Departamento de Servicios Públicos del Municipio de Toluca*) provides sanitation and solid waste services.

## **C. Relationship Between State and Federal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

In general, state officials indicate that the lack of clarity in the Federal and State Ecology Laws regarding the distribution of jurisdiction among the three levels of government has resulted in delays in taking action as governmental entities decide jurisdiction on a case-by-case basis.<sup>8</sup> Nevertheless, officials in the state note that there are good channels of communication among agencies at the different levels of government, and that the results of coordination efforts have been positive thus far.

The state is responsible generally for developing and implementing state environmental policy relating to the rational use of resources, ecological land use planning and the restoration of environmental quality.<sup>9</sup> The State Ecology Law's distribution of jurisdiction in particular sectoral areas is considered in greater detail throughout this chapter.

### *2. Development of state regulatory policies and standards*

The State Ecology Law authorizes the state to establish and implement the principles and criteria of environmental policy.<sup>10</sup>

The law's regulations provide that federal Ecological Technical Norms in effect when the state regulations were adopted will have the effect of mandatory state environmental technical standards.<sup>11</sup> However, the law empowers the state to issue "criteria" and "technical norms" to protect the environment in matters of state jurisdiction (e.g., to prevent pollution of state waters) or to ensure compliance with federal standards in matters of federal jurisdiction.<sup>12</sup> Indeed, the Interior Regulation of the Secretariat of Ecology states that one of the functions of the Secretariat is the development of "technical norms."<sup>13</sup> These terms are not defined in the law. The law's regulations on air, water and soil pollution refer to state "ecological technical norms" and "environmental technical norms;" their definitions parallel the Federal Ecology Law's definition of Ecological Technical Norms.<sup>14</sup>

Since the Federal Ecology Law gives the federal government jurisdiction to issue technical standards, but is silent as to state authority in this area,<sup>15</sup> it is unclear how the State Ecology Law's standard-setting authorities will be interpreted in the future. In practice, the state has yet to issue any technical standards, but rather applies federal standards in matters within state jurisdiction.

### *3. Inter-governmental coordination and assistance*

As is the case generally throughout Mexico, the state Executive may enter into coordination agreements with the federal and municipal governments, social organizations and individuals in order to carry out environmental actions in accordance with the State Ecology Law. That law also authorizes agreements in specific areas, such as the establishment and management of protected natural areas.<sup>16</sup>

There are no formal, written coordination agreements between the federal and state governments in the state of Mexico. Agreements have been undertaken informally, and their implementation depends on the maintenance of good working relationships among the federal and state authorities. According to state officials, these informal agreements have been entered into with other agencies within the state, with federal agencies and with other states, and address very specific issues. For example, agreements have been reached regarding the control of automobile use, the recovery of Guadalupe Lake, and the restoration of the Lerma River Basin (an agreement involving four other states, other federal agencies and decentralized entities such as the national oil company, PEMEX). The agreements outline the goals to be achieved and the responsibilities of each party.<sup>17</sup>

## **D. Relationship Between the State and Municipal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

In general, municipalities are responsible for matters not reserved to the federal or state governments. As noted in Chapter Two, the federal Constitution gives municipalities jurisdiction over certain matters, including drinking water, sewer and sanitation services.<sup>18</sup>

The State Ecology Law addresses the scope of the municipal role in environmental matters. Municipalities are responsible generally for protecting the environment within their territory, and coordinating their actions with federal and state government when dealing with cases of federal or state jurisdiction within the territory of the municipality.<sup>19</sup> The municipality of Toluca has enacted two ordinances -- the General Ordinance of Environmental Improvement and the Ordinance on Police and Governance -- which outline the municipality's environmental jurisdiction, consistent with federal and state law.

The distribution of jurisdiction in particular sectoral areas is considered in greater detail throughout this chapter.

### *2. Development of municipal regulatory standards and policies*

The State Ecology Law gives municipalities authority to formulate environmental policies and criteria within their jurisdiction. Those criteria must be in accordance with all existing federal and state standards and guidelines.<sup>20</sup>

### *3. Inter-governmental coordination and assistance*

The State Ecology Law establishes the guidelines for coordination and cooperation among public and private sectors in protecting and improving the quality of the environment. Municipalities may enter into coordination agreements with other municipalities when the subject matter -- i.e., the pollution source or the plans and programs proposed -- involves two or more municipalities. They may also enter into agreements with the state government to undertake actions for protecting and improving the environment.

State authorities indicate that they have good relationships with the municipalities, and that there is active coordination. The state has entered into written agreements with 24 municipalities. These general agreements outline basic principles of coordination between the two levels of government, and are the basis for development of more detailed agreements on particular issues. For example, the state and the municipality of Toluca have a specific agreement which clarifies that the state is responsible for enforcing applicable standards for automotive repair shops. Prior to entering into this agreement, there had been confusion over which level of government should exercise its authority in this area.<sup>21</sup>

### III. ENVIRONMENTAL POLICY TOOLS

The central vehicle for developing environmental policy for the state of Mexico and its 122 municipalities is the State Program of Environmental Protection (hereinafter "State Program"), formulated in 1992. The State Program is based on provisions of the State Ecology Law, the State Planning Law and the State Development Plan for 1994-1999.<sup>22</sup>

The general objective of the State Program is to define and establish strategies and actions for promoting a balance between conservation and rational use of natural resources and for protecting, restoring and preserving the environment. It aims to develop permanent and sustainable solutions for the most pressing problems, in coordination with the Consultative Council on Environmental Protection (see Section VII, below). The State Program establishes goals relating to different environmental matters, though it does not establish enforceable requirements.

Municipalities are charged with implementing Municipal Programs on Environmental Protection, consistent with the State Program.<sup>23</sup>

The State Ecology Law also identifies certain tools for implementing state environmental policies: (1) education, training and dissemination of information; (2) research and development; (3) development of environmental criteria and technical norms; and (4) assessment of environmental impact and risk.<sup>24</sup> Environmental impact assessment is the most significant of these, and is described in detail below. Also discussed are the law's various provisions relating to land use planning as tools of environmental policy.

#### A. Land Use and Development Planning

One of the central objectives of the State Ecology Law is to provide the basis for carrying out ecological land use planning ("ecological ordering" or *ordenamiento ecológico*) at the state level.<sup>25</sup> The state is charged with implementing state environmental policy through ecological land use planning of the state territory. Municipalities are responsible for planning and carrying out municipal ecological land use planning activities.<sup>26</sup>

The state's regulations on air, water and soil pollution contain provisions to guide land use and development planning. The soil pollution regulation includes a number of principles that must be considered when creating urban development and housing programs. For example, the regulation provides that the use of the soil must be compatible with its natural vocation, must not alter ecosystem balance, and must be undertaken in a way that maintains the physical integrity and productive capacity of the soil.<sup>27</sup> The regulations on air and water pollution provide that the Secretariat of Ecology is responsible for developing air and water pollution control criteria that must be observed in ecological land use plans and activities. The municipalities are responsible for



developing municipal criteria to be observed in ecological land use and urban development activities.<sup>28</sup> The state may propose the incorporation of air pollution prevention criteria into development programs, and may propose modifications to municipal urban development plans and programs.<sup>29</sup>

With respect to individual land use decisions, the state government is responsible for incorporating environmental impact and risk studies into state land use licenses.<sup>30</sup> Municipal authorities may only grant construction permits for activities that could produce significant environmental impacts and risks if the corresponding EIS or risk study has been undertaken and incorporated into the permit.<sup>31</sup> In general, the Secretariat is directed to encourage appropriate federal or local authorities to limit, condition or suspend approval of any activity that affects or could affect the environment or cause ecological imbalance.<sup>32</sup>

## **B. Environmental Impact Assessment**

The State Ecology Law requires environmental impact review for certain projects. The law's regulation defines environmental impact assessment as an evaluation of the impacts of a project or activity on the environment.<sup>33</sup>

***Applicability.*** The State Ecology Law requires the preparation of an environmental impact statement (EIS) prior to undertaking any public or private work or activity that may significantly alter the environment; cause environmental degradation or ecological imbalance; or result in a violation of the limits and conditions established by the State Ecology Law and its regulations, or by state or federal technical standards and criteria. Those who undertake any such works or activities must obtain prior authorization and must comply with the procedures and requirements of applicable laws.<sup>34</sup> The EIS must be prepared by professional service providers who are registered with the state.<sup>35</sup>

A broad range of activities is subject to these state requirements. The state's regulation on environmental impact lists the activities that must undergo state environmental impact review:

- industries under state jurisdiction;
- industrial parks, sports clubs, stadiums, commercial malls, slaughterhouses and distribution and supply centers;
- state or municipal public works in rural areas;
- roads and highways;
- state or municipal tourist developments;
- industrial or medical waste storage or transfer stations;
- residential developments or new urban settlements;

- exploitation or use of minerals under state jurisdiction;
- activities undertaken within natural protected areas under state jurisdiction; and
- others designated by the Secretariat.<sup>36</sup>

Although both the Federal and State Ecology Laws provide lists of activities subject to federal and state environmental impact review requirements, state officials note that the distribution of jurisdiction is not always clear and jurisdictional determinations must sometimes be made on a case-by-case basis. In resolving such questions, state officials generally consider an activity to fall under state jurisdiction if the environmental impacts of the activity do not extend beyond the state.

The state's regulation governing solid waste gives state authorities responsibility for environmental impact review with respect to the transfer, treatment and final disposal of domestic, urban and industrial solid waste, as well as waste from hospitals and slaughterhouses.<sup>37</sup> Municipal authorities are to ensure compliance with this EIS requirement through inspections.<sup>38</sup>

The water pollution regulation provides that any public or private works or activities that will generate waste waters which may cause ecological imbalance or exceed permissible pollutant levels, must first undergo environmental impact review.<sup>39</sup>

The regulation on environmental impact has specific rules regarding EISs for certain activities in natural protected areas. These rules are aimed at controlling activities that involve the exploration, exploitation or use of natural resources, or the recovery, transplant and cultivation of wild flora or fauna within natural protected areas under state jurisdiction. In order to undertake any of these activities, the interested parties must obtain authorization from the authorities, following the submission of an EIS.<sup>40</sup>

Besides the above-specified areas, the regulation on environmental impact provides that any person who believes that an activity or work currently being undertaken exceeds the limits and conditions established in the law may file a complaint with the Secretariat of Ecology. The Secretariat may then require an EIS or risk study relating to the activity.<sup>41</sup>

In addition, the Secretariat may encourage other agencies to obtain EISs before they grant permits, authorizations and concessions for activities that may cause the deterioration of ecosystems or the environment.<sup>42</sup>

**Contents of the EIS.** The initial step in the environmental impact review process is for the project proponent to submit an application together with a "Preventive Report" (*Informe Preventivo*). The Preventive Report must contain the following minimum information: general information about the interested party; a description of the work or proposed activity; and a description of substances and products that are used in the execution of the work and generated as a result of the proposed activity (including air emissions, water discharges, and other wastes).<sup>43</sup>

The state has 15 working days to decide whether the proponent of the work or activity must submit an EIS. According to the regulation, the minimum information to be contained in an EIS includes:

- general data on the applicant;
- a description of the works or activities, from site selection through abandonment or termination;
- the natural and socioeconomic features of the area in which the activity is to take place;
- how the project will achieve compliance with applicable land use regulations;
- identification of environmental impacts at all stages of the work or activity; and
- prevention and mitigation measures.<sup>44</sup>

In their evaluation of the EIS, authorities will determine whether the activities are "risky" and thus also require the submission of an environmental risk assessment or risk study.<sup>45</sup> State authorities are required to develop and publish lists of works and activities that are considered risky and for which a risk study will be required.<sup>46</sup> Apart from general data about the applicant, an environmental risk study must include a description of materials used, an assessment of risks and potential accidents, a plan for emergency and safety audits and a program for preventing and controlling environmental emergencies.<sup>47</sup>

***EIS Determinations.*** The state government is responsible for environmental impact review and carries out this responsibility through the Office of Planning within the Secretariat of Ecology. Municipalities may be granted powers in the area of environmental impact and risk assessment, pursuant to specific coordination agreements entered into with the state authorities. There have been no such agreements signed, due largely to the lack of municipal resources for carrying out environmental impact review.<sup>48</sup> Municipalities may take actions to support state authorities in ensuring compliance with the state's environmental impact review requirements.<sup>49</sup>

When reviewing the environmental impact of a project, the state is to consider the information submitted by the applicant as well as any applicable legal requirements (including environmental plans of the area, natural protected area designations, environmental criteria for the rational use of natural resources, and land use restrictions). If necessary, the authorities may request a technical assessment by other appropriate state agencies.<sup>50</sup>

The state authorities must issue a decision within 60 days following the submission of all information and the completion of all other requirements by the applicant. This period may be extended by 30 days if the government requests additional information.<sup>51</sup> The authorities may grant or deny the authorization, or may grant a conditional authorization that establishes requirements that apply during execution of the work or activity, including any measures that must be taken to address potential degradation of the environment or endangerment of the population. In all cases, the authorities must monitor compliance with the terms of the authorization.<sup>52</sup> Denial of authorization is justified where there is "reasonable technical doubt" regarding the environmental impacts of the work, based on the studies undertaken.<sup>53</sup>

If an authorized project later undergoes changes, the state is to determine whether a new EIS is required and to confirm, modify, condition, suspend or revoke the authorization.<sup>54</sup> The state may also suspend an authorization provisionally or indefinitely when a project is located in an area that is later designated a "critical area" due to environmental emergencies or health risks.<sup>55</sup>

The regulation on environmental impact charges the state authorities with issuing administrative rules for public access to EIS files.<sup>56</sup> The regulation establishes that once an EIS has been presented and all information requirements fulfilled, the public must be notified of the existence of the EIS and the file (including any environmental risk study) made available for public consultation. The costs of publishing notice are to be borne by the applicant.<sup>57</sup>

Applicants for EIS authorization may request that information relating to proprietary rights or commercial interests be maintained as confidential. The Secretariat can require that applicants prove ownership of such interests.<sup>58</sup>

**Registry of Service Providers.** The regulation establishes a set of rules governing those persons and companies that prepare environmental impact statements and environmental risk studies on a commercial basis. Those rules provide for state registration and control of these professionals, and are designed to ensure that the service suppliers have adequate technical capacity to undertake the studies.<sup>59</sup>

#### IV. ENVIRONMENTAL PROTECTION

The State Ecology Law is the principal state legislation in the areas of air, water and soil pollution. Although the law does not address those issues in a detailed way, the regulations provide considerable detail on state and municipal authority and responsibility.

In the municipality of Toluca, the Ordinance on Police and Governance and the new Ordinance on Environmental Improvement provide the framework for municipal regulation of environmental matters. The ordinances are for the most part general in nature, although they do contain some potentially powerful tools for preventing and controlling pollution. In particular, the Ordinance on Police and Governance requires annual authorization or licensing by the municipality for the exercise of any commercial, industrial or service sector activities, and empowers the municipal government to intervene in the authorization of any commercial activities that could cause air, water or soil pollution or that could affect public health.<sup>60</sup> Municipal officials indicate that any business that could generate pollution and that is seeking a state operating license, is referred to the municipality to obtain informal approval of the Coordinating Office of Ecology.<sup>61</sup>

## A. Prevention and Control of Air Pollution

Air pollution is a critical problem in the metropolitan areas of the state of Mexico, and particularly in the industrial areas of Valle de Cuautitlán-Texcoco, Toluca-Lerma, and Ocoyoacac-Tianguistenco. According to state officials, 80 percent of the state's air emissions come from mobile sources.

### 1. *Distribution of jurisdiction*

While the State Ecology Law provisions on air pollution generally refer only to the "competent authority," the regulation provides that the Secretariat of Ecology is responsible for exercising the state's air pollution control powers. Other state agencies and the municipal governments may function as auxiliary authorities as established in coordination agreements or other administrative dispositions.<sup>62</sup>

The Secretariat is charged with establishing and enforcing measures to prevent and control air pollution from emission sources under state jurisdiction.<sup>63</sup> The law states generally that municipal governments are to prevent and control air pollution from sources that are not under federal or state jurisdiction. The Secretariat is responsible for assuming municipal powers where the municipality requests state intervention.<sup>64</sup>

Although the air pollution regulation provides for certain municipal air pollution control activities, including monitoring, inspection and enforcement, the regulation's more detailed provisions assign responsibility to the state government for virtually all air pollution control functions. Nevertheless, municipalities may assume state air pollution control responsibilities pursuant to coordination agreements with the state. In order to do so, municipalities must demonstrate their technical and financial capacity in the following areas:

- preventing and controlling air pollution from all types of fixed and mobile sources;<sup>65</sup>
- supervising the operation of vehicle emission inspection centers;
- operating air quality monitoring stations;
- determining and implementing emergency measures in accordance with the Federal and State Ecology Laws;
- monitoring activities that generate air pollution, ordering inspections and imposing sanctions for violations of the Federal and State Ecology Laws; and
- other operational functions contemplated by the air pollution regulation.<sup>66</sup>

## 2. *Regulatory mechanisms*

**Standards.** Stationary source emissions may not exceed maximum permissible levels applicable to the type of pollutant or the type of source.<sup>67</sup> The air pollution regulation authorizes the state to develop "technical norms," and requires the state in doing so to take into account: the location of the emission source and the possible effects of the emissions; relevant scientific and technical research; and an assessment of the costs involved in the implementation of the standards.<sup>68</sup> State authorities have yet to issue any air pollution standards, but rather apply existing federal technical standards.

When a source is not covered by an existing technical standard (due to its unique construction or operational features), the state may also establish maximum emission levels for an individual source in connection with the issuance of an operating license.<sup>69</sup>

**Operating Licenses/Authorizations.** Operating licenses are the central regulatory mechanism for stationary emission sources. Any stationary source of state jurisdiction must obtain an operating license issued by the state authorities.<sup>70</sup> Stationary sources already in operation at the time the air pollution regulation took effect (August 20, 1992), were given 90 days to comply with its requirements.<sup>71</sup> The licenses are intended to ensure that pollutant emissions do not exceed the maximum permissible levels set by applicable standards.

The regulation establishes in detail the steps required for obtaining an operating license. The application form must contain: general information about the applicant; location of the source; description of the processes involved; description of the machinery and equipment used; the means for transporting and storing raw materials and fuels; residues and by-products generated; air pollution control equipment to be used; and emergency programs to be used when warranted by meteorological conditions in the region.<sup>72</sup>

The authorities are required to issue or deny a license within 30 days of the submission of the application. When a license is granted, it must indicate the specific requirements for reporting information to the authorities; the frequency of any required sampling and monitoring; measures to be taken in case of environmental emergency; and equipment or other items determined by the state to be necessary for preventing and controlling air pollution.<sup>73</sup>

Licenses are valid for one year. They may be renewed automatically if the applicant submits written verification that:

- the facility is current in its reporting requirements;
- the facility is not in violation of any of the dispositions of the Federal or State Ecology Laws, the air pollution regulation or the operating license;
- there has been no modification of the production processes or of the volume or nature of emissions as established in the license;

- monitoring reports demonstrate that the maximum permissible emission levels have not been exceeded; and
- production processes and pollution control equipment are being adequately maintained.<sup>74</sup>

The authorities may change the operating conditions in licenses based on new technologies which can reduce pollutant emissions.<sup>75</sup>

Any party seeking to operate an open air burning site must submit an application at least 10 working days before the combustion will take place. The application must contain a full description of the location and its surroundings, and the amount and characteristics of the materials to be burned. Open air burning is allowed only in exceptional circumstances where the interested party can prove that it has the technical capacity to control the combustion and that the burning will not increase air pollution levels in critical urban areas.<sup>76</sup>

The Secretariat of Ecology (through its Office of Environmental Protection) has begun issuing operating licenses for facilities under state jurisdiction. According to state officials, where there are ambiguities in the law concerning the distribution of jurisdiction over fixed emissions sources, the state considers operating licenses issued by the federal government to be valid and will not require an additional (state) operating license.<sup>77</sup> In the metropolitan area of Mexico City, authorities have established a Commission for the Prevention and Control of pollution in the Metropolitan Area of the Valley of Mexico to coordinate actions relating to air pollution.

**Siting.** The Secretariat is responsible for seeking, before the "competent authorities," the relocation of stationary sources when meteorological and topographical conditions prevent the adequate dispersion of air pollutants, when the air quality so requires, or when the characteristics of the pollutants present a risk of ecological imbalance.<sup>78</sup>

**Installation of Pollution Control Equipment.** In general, pollutant emissions must be channelled through discharge ducts or chimneys of sufficient height to permit the adequate dispersion of pollutants.<sup>79</sup> A facility must install pollution control equipment so that its emissions do not exceed maximum permissible levels established in applicable technical norms. The state is responsible for implementing this requirement.<sup>80</sup>

**Monitoring and Reporting.** In general, stationary air pollution sources are required to develop an inventory of their emissions according to a format to be developed by the Secretariat, and to maintain a log of the operation and maintenance of their equipment.<sup>81</sup>

Facilities that generate air pollutant emissions are required to install monitoring platforms and ports, and to measure their emissions and report them to the Secretariat. They must carry out perimeter monitoring of their emissions when the Secretariat determines that such monitoring is necessary due to the types of materials used by the facility or the influence on the surrounding area.<sup>82</sup> The frequency of monitoring and reporting of emissions is to be specified in the facility's operating license.<sup>83</sup>

The state is to maintain a State System of Air Quality Information based on the inventories and monitoring reports provided by facilities. This data is to be provided to the federal authorities.<sup>84</sup>

There are two air quality monitoring networks within state territory. One is located in the Valley of Toluca and is operated by the Secretariat of Ecology. The other is in the Valley of Mexico and is operated by the Department of the Federal District. The networks for the Valley of Mexico have shown that concentrations of ozone and suspended particles exceed air quality standards 72 percent and 60 percent of the year, respectively. The most polluted region with respect to suspended particles has been the northeast (Valle de Texcoco), and the least polluted areas are those located in the southwest. Authorities also predict that levels of lead in the air will soon exceed international standards.<sup>85</sup>

With respect to monitoring of mobile sources, both private motor vehicle owners and public transportation operators are required to ensure that their vehicles do not produce emissions that exceed current maximum permissible levels. Vehicle inspection centers may be operated by any individual, provided they are operated in accordance with procedures established by the state and are authorized by the state authorities.<sup>86</sup> The state may suspend or revoke this authorization when the provisions of the State Ecology Law or its regulations are violated.<sup>87</sup>

***Designation of Critical Areas.*** Authorities may declare as critical areas<sup>88</sup> regions within the state that exceed maximum permissible levels of air pollutants. Such a declaration must be published in the state's official newspaper.<sup>89</sup> The Secretariat may change the conditions contained in an operating license when the area in which a facility is located is declared a critical area.<sup>90</sup> In addition, EIS authorization may be suspended if the area is later designated as a critical area.

***Economic Incentives.*** The State Ecology Law declares as a priority the promotion of financial and technical incentives designed to reduce air pollutant emissions. State authorities may propose the establishment of incentives to encourage, for example, the use of special pollution control equipment, the development of new technology, the modification of production processes or the relocation of polluting facilities. These provisions do not set specific targets or measures, but rather give broad discretion to the authorities to establish incentives.<sup>91</sup>

## **B. Prevention and Control of Water Pollution**

Water pollution is a serious problem in the state of Mexico. Three of the most polluted rivers in the country -- the Lerma, Balsas, and Pánuco -- originate in the state. Problems include the high concentration of pollutants in the Jose Antonio Alzate Dam, which receives discharges from the municipality of Toluca and the industries located along the Lerma River, as well as the discharge of agricultural wastes associated with pig raising, a common rural activity in the state.



While the State Ecology Law contains only a few general provisions relating to water pollution control, the regulation governing water pollution provides considerable detail regarding legal requirements and regulatory authority.

1. *Distribution of jurisdiction*

The State Ecology Law and the water pollution regulation outline state and municipal jurisdiction. The distribution of jurisdiction between the state and the municipalities is set out more clearly in the water pollution regulation. The state is responsible for taking actions relating to: federal waters assigned to the state; water bodies of state jurisdiction; and drainage and sewer systems operated by the state. The state is also authorized to coordinate water pollution control actions in cases affecting two or more municipalities.<sup>92</sup>

Municipal governments are responsible for water pollution affecting federal or state waters assigned to the municipality, as well as drainage and sewer systems operated by the municipality. Municipal authorities are also charged with ensuring compliance with Special Discharge Conditions imposed on facilities.<sup>93</sup> In practice, it is the state that has primary responsibility for regulating discharges, although some municipalities also play a role in this area. For example, the Municipality of Toluca carries out inspections and refers appropriate cases to the state for enforcement.

Municipalities may assume state water pollution control functions if they demonstrate technical and financial capacity in the following areas:

- preventing and controlling pollution of waters discharged into state-administered drainage and sewer systems;
- determining the limits and conditions to be placed on industry in order to ensure acceptable water quality in critical areas<sup>94</sup> and to prevent environmental emergencies; and
- other operational functions contemplated by the water pollution regulation.<sup>95</sup>

The Secretariat is the state agency with primary responsibility for implementing the water pollution control provisions of the State Ecology Law. The State Water and Sanitary Services Commission also has responsibility for providing drinking water and sewer services, and waste water treatment. The Commission is a decentralized state agency answerable to the state Executive through the Secretariat of Urban Development and Public Works.<sup>96</sup>

## 2. *Regulatory mechanisms*

**Standards.** All discharges to water bodies or sewer systems must comply with applicable environmental criteria and technical norms.<sup>97</sup>

The State Ecology Law and its regulations authorize the state to issue and implement its own "technical norms" relating to water pollution control, although the state has not done so to date. In developing these standards, authorities are required to take into account: the location of the discharge source and the possible effects of the discharge; relevant scientific and technical research; and an assessment of the costs involved in the implementation of the standards.<sup>98</sup>

The state may also issue Special Discharge Conditions in connection with the authorization of waste water discharges (see below). These Conditions establish maximum levels for certain physical, chemical and biological parameters, based on a final point of discharge, and are designed to ensure compliance with water quality standards for the receiving waters.<sup>99</sup> Special Discharge Conditions may be established when: 1) industrial waste water is discharged into the sewer system; 2) a certain industrial, commercial or service activity is not covered by existing technical standards; 3) a discharge originates in two or more sources which are administered by two different entities; or 4) waste waters are discharged into a designated critical area (see below). The water pollution regulation also establishes a list of criteria to be considered by the Secretariat when setting Special Discharge Conditions as part of a discharge permit. These include: the origin and final point of discharge; physical, chemical and biological characteristics of the waste waters; sanitary criteria established by the Secretariat of Health; and ecological criteria for water quality.

Facilities may be given between 6 and 36 months to comply with Special Discharge Conditions. The Conditions may be reviewed after five years, or earlier if environmental or demographic circumstances require. Facilities must report to the authorities any changes in their processes that may alter the characteristics or volume of the waste waters as described in any existing Special Discharge Conditions.<sup>100</sup>

As of 1995, over 500 Special Discharge Conditions had been required by the state in connection with registration and authorization of waste water discharges. According to state officials, those Special Discharge Conditions were based on Conditions established by the federal government (through the National Water Commission).<sup>101</sup>

**Discharge Authorization.** The water pollution regulation contains a general prohibition on the discharge of pollutants, including hazardous substances or wastes, into federal and state waters and into drainage and sewer systems.<sup>102</sup> Industrial, commercial or service facilities that discharge waste waters into water bodies or sewer systems under state jurisdiction must obtain authorization from state authorities. This requirement also applies to discharges from industrial waste water treatment plants serving two or more facilities. When the discharge is to a sewer system under municipal jurisdiction, municipal authorities are given responsibility for granting the authorization.<sup>103</sup>

Application for discharge authorization must include the applicant's name, address and other general information; information about the process that will generate the waste waters; characteristics of the waste waters and the discharges; name and location of the receiving waters; location of the water discharges; details on pretreatment of the discharge; and a commitment to comply with all existing norms. The authorities may require any other information they deem necessary.<sup>104</sup>

The authorities have 30 days to make a decision on the application. Authorization must include the required frequency for submitting discharge inventories, the frequency of monitoring, the measures to be taken in case of an environmental emergency, and the requirement for submitting water quality reports to the authorities.<sup>105</sup>

Both state and municipal governments are required to maintain a Registry of Waste Water Discharges.

**Waste Water Treatment.** In general, those who discharge to state water bodies or sewer systems must use waste water treatment systems if the discharges would otherwise exceed the limits established in environmental criteria and technical norms.<sup>106</sup> Waste waters discharged from sewage treatment plants must meet any applicable Special Discharge Conditions or standards for water reuse.<sup>107</sup> According to state officials, there are 17 treatment plants within state jurisdiction. Municipal officials indicate that the municipality may begin charging for discharges to the sewer system that are being treated by the municipality.<sup>108</sup>

**Monitoring and Information.** The State Ecology Law provides generally that industrial facilities as well as municipal treatment systems must sample and analyze their discharges periodically and report the results to the appropriate authority.<sup>109</sup> The regulation provides detailed guidelines for taking water quality samples and requires that dischargers prepare a report every three months on the quality of waters being discharged. The reports must be kept on file for five years and are to be submitted to the appropriate authority upon request.<sup>110</sup>

State authorities mentioned that most monitoring activities are carried out in areas such as the Lerma, Balsas and Pánuco Rivers due to the extensive industrial and agricultural discharges affecting those waters. Municipal authorities indicate that they request businesses to submit analyses of their discharges and they conduct inspections of facilities that discharge to the municipal sewer system.

State authorities are directed to create and maintain a State Registry of Waste Water Discharges containing the information in discharge registrations and in the quarterly discharge reports. This information is to be used for developing state pollution control and prevention programs. The information is also to be incorporated into the National Information System on Water Quality.<sup>111</sup>

State authorities are required to establish and maintain a State Information System on Water Quality based of the information in the State Registry of Waste Water Discharges, information obtained through the state's implementation of the law and regulation, and information provided by municipal and federal authorities pursuant to coordination agreements.<sup>112</sup>

**Critical Areas.** When the pollutant levels of a particular body of water under state jurisdiction exceed maximum permissible levels, state authorities may declare the region a critical area. The declaration, which includes specific actions to address the problem, must be published in the official state newspaper.<sup>113</sup>

**Economic Incentives.** The regulation on water pollution declares as a priority the establishment of financial and technical incentives for activities that would reduce the volume of discharges and the concentration of pollutants in discharges. The Secretariat is charged with proposing the establishment of these incentives.<sup>114</sup>

## C. Solid Waste

According to state officials, the disposal of organic and non-organic wastes originating in large urban and industrial areas is a critical problem in the state. They identify overpopulation and ineffective land use planning as two of the root causes of this problem.

Non-hazardous solid waste is regulated by the State Ecology Law through the law's provisions on prevention and control of soil pollution. The law lists the categories of solid wastes that are subject to regulation: domestic and commercial wastes, non-hazardous medical wastes, industrial wastes, agricultural wastes and agrochemicals.<sup>115</sup> A regulation implementing this aspect of the law was published in 1993 and covers domestic, urban and industrial solid waste, and waste from hospitals and slaughterhouses.

The soil pollution regulation aims to prevent threats to public health and to protect against erosion and contamination of the soil.<sup>116</sup> The regulation calls for protection, conservation and rational use of soil through reducing solid wastes; encouraging reuse and recycling processes; ensuring compatibility of activities with the natural use of the soil; using technologies to prevent soil erosion; and undertaking restoration activities.<sup>117</sup>

In general, municipalities regulate non-hazardous solid waste through their Ordinances on Police and Governance.<sup>118</sup> The Municipality of Toluca's new General Ordinance on Environmental Improvement establishes the general framework governing the municipality's solid waste and sanitation activities.<sup>119</sup>

### 1. *Distribution of jurisdiction*

The state, through the Secretariat of Ecology, is charged with enforcing the State Ecology Law and its soil pollution regulation, without prejudice to any existing responsibilities of the Health and Agriculture agencies or other state and municipal authorities.<sup>120</sup>

The state is responsible for establishing the technical standards, criteria and guidelines governing the management of industrial and municipal non-hazardous solid waste, including systems for collecting, treating and disposing of those wastes. The state is also responsible for authorizing treatment and disposal facilities. Municipal governments are responsible for implementing and overseeing municipal solid waste management systems, including municipal cleaning and sanitation services, pursuant to state standards and with assistance from the state.<sup>121</sup>

The Secretariat of Ecology is charged with promoting coordination agreements between the state and municipal governments regarding the development of systems for collecting, treating, reusing and disposing of non-hazardous municipal and industrial solid waste. State authorities may assume municipal responsibilities when so requested by the municipality, given the complexity or nature of the problem. Municipalities that have the necessary technical and financial capacity may enter into agreements through which they assume state or federal operational responsibilities.<sup>122</sup>

The soil pollution regulation prohibits the mixing of hazardous or potentially hazardous waste with non-hazardous municipal or industrial solid waste, and places responsibility with waste generators to determine if their wastes are hazardous and to comply with applicable federal regulations.<sup>123</sup> Although hazardous waste control is a matter of federal jurisdiction, state officials note that it is often difficult to determine federal and state responsibilities in this area, especially with respect to the illegal disposal of hazardous wastes.

## 2. *Regulatory mechanisms*

**Standards.** The State Ecology Law and its soil pollution regulation establish broad principles governing soil pollution. For example, the regulation provides that municipal solid waste accumulations or deposits must not cause soil pollution or health risks. The transportation of industrial wastes must avoid the dispersion or spilling of wastes and may not result in environmental damage.<sup>124</sup>

The State Ecology Law also calls on the state to issue standards governing solid waste management and disposal systems, as well as separation of solid wastes for reuse or recycling. The law requires municipal authorities to issue regulations to prevent dumping and burning of wastes in public places, roads, vacant lots or bodies of water.<sup>125</sup> The regulation on soil pollution lists factors that must be considered by the Secretariat of Ecology when issuing technical norms, including the scientific or technical basis for the norms; the location and nature of the impacts of the pollution source; and the evaluation of the costs involved in applying the new standard.<sup>126</sup>

The state has not issued any standards regarding solid waste management and disposal. State and municipal authorities apply the federal criteria and technical norms. State authorities worked

with federal authorities recently in the development of Official Mexican Norms governing final disposal sites and their operation.

Municipal authorities must comply with any state-issued criteria regarding sanitary landfills. The soil pollution regulation includes several provisions governing the siting and development of sanitary landfills. The regulation lists several siting requirements for landfills, including provisions on access, useful life, proximity to population centers, and topographical, geological and hydrogeological features. The regulation mandates that all landfills have emergency plans, and that they have the necessary facilities for meeting worker safety and hygiene requirements. In addition, the regulation requires air and water quality monitoring during the construction and operation of landfills.<sup>127</sup>

Installations that may generate large amounts of municipal solid waste -- e.g., housing developments, transportation terminals, markets and hospitals -- must make available and accessible adequate solid waste containers; maintain conditions that ensure environment protection and protect public health; arrange for prompt disposal of solid wastes; and employ qualified personnel to handle solid waste issues.<sup>128</sup>

**Authorization.** The Secretariat of Ecology is responsible for issuing the authorizations required for waste treatment and disposal facilities. This authorization generally is carried out through the environmental impact review process.<sup>129</sup>

Municipal officials in Toluca indicate that they require a local permit to transport wastes to sanitary landfills.

**Inventories.** State and municipal authorities must develop and maintain a State Registry of Solid Waste Generators -- an inventory of solid waste generators and those who handle, treat or dispose of urban and industrial solid wastes.<sup>130</sup> The state authorities are also called on to establish a State Information System on Soil Quality.<sup>131</sup>

State authorities have begun developing a list of industries that generate non-hazardous solid waste. The state is currently working on a registry of solid waste transporters. The municipality of Toluca maintains a registry of transporters of solid wastes.

**Economic Incentives.** The regulation on soil pollution directs state authorities to use financial incentives to promote the development, installation and maintenance of equipment for reducing the generation of solid waste.<sup>132</sup>

**Recycling and Reuse.** Municipal authorities may require generators to classify and separate solid wastes. The regulation requires that recycling methods be used. Recycling methods are to be used only if 20 percent of the material is recoverable.<sup>133</sup>

#### **D. Pesticides and Fertilizers**

Although pesticides are generally regulated by the federal government, the state soil pollution regulation contains a few articles dealing with the use of pesticides and fertilizers. The regulation authorizes the state to promote before the appropriate authority the rational use of pesticides and

fertilizers in order to ensure conservation and beneficial use of the soil. The regulation also states that the storage, transportation, use and disposal of these substances (and their wastes) must avoid causing ecological imbalance.<sup>134</sup>

The State Ecology Law authorizes the Secretariat of Ecology to issue technical norms relating to pesticides and fertilizers, including requirements for disposal, packaging and general measures for preventing ecosystem damage. The Secretariat also is authorized to prohibit within the state the use of those pesticides that could hinder the conservation and beneficial use of the soil.<sup>135</sup>

## **E. Emergency Response**

The State Ecology Law and its regulations provide that state authorities must issue and implement contingency plans and other measures necessary to address environmental contingencies or emergencies.<sup>136</sup> State authorities may enter into coordination agreements with the federal or municipal authorities in order to establish proper measures to be adopted during environmental emergencies.<sup>137</sup> Municipal authorities also are required to prevent and control environmental emergencies whose effects do not exceed the territorial jurisdiction of the municipality or require action by the federal government.<sup>138</sup>

In the event of an environmental emergency, the regulation on environmental impact authorizes state authorities to declare the temporary or permanent cancellation of environmental impact authorization.<sup>139</sup> In addition, the State Ecology Law and its air and water pollution regulations authorize the state executive or the corresponding municipal government to take such actions as confiscation of polluting substances and closure of polluting sources. These measures may only be lifted once the emergency has ceased.<sup>140</sup>

The regulations on air and water pollution and environmental impact contain provisions governing the circumstances and procedures for declaring an environmental emergency. According to the regulations, state environmental authorities are instructed to propose to the state Executive the environmental conditions under which an emergency may be declared, as well as the programs to address such emergencies. An environmental emergency may be declared without prior public notice, and may include emergency measures as outlined above.<sup>141</sup>

## **F. Other Forms of Pollution - Noxious Odors, Noise, Thermal Energy and Vibrations**

The State Ecology Law contains only one article stating that emission of noise, vibrations, thermal energy and odors that exceed permissible levels are subject to applicable regulations.<sup>142</sup> These are areas of municipal jurisdiction unless the polluting source is within state or federal jurisdiction.<sup>143</sup> There currently are no regulations on this subject matter.

## V. NATURAL RESOURCE PROTECTION

### A. Protected Natural Areas

According to officials, the state of Mexico has significant soil erosion problems which affect the viability of flora and fauna and the production of raw materials, and leads to the flooding of rivers, lakes and dams. Suspended solids and sediments carried into water bodies decrease the availability of fresh water for domestic consumption and agricultural activities. Deforestation, another major problem in the state, has been brought about by urban, industrial and agricultural growth. Activities such as illegal commerce in forest resources, illegal hunting and monoculture as well as inadequate governmental monitoring and land ownership problems present obstacles to efforts to halt the decrease in forests and other natural areas.

The State Ecology Law provides for the establishment and management of protected natural areas. There is also a law and regulation specifically addressing protection of state and municipal parks.

Within the state there are 10 national parks, 27 state parks, 8 municipal parks, 4 state ecological reserves and one biosphere reserve. According to officials, control over six national parks is soon to be transferred to the state.

#### 1. *Distribution of jurisdiction*

The state has power to designate natural protected areas that are within state jurisdiction. These include state parks, municipal parks, environmental conservation zones and any others determined by law. Designation of an area must be done in coordination with urban development plans and the State Development Plan. Municipal authorities may participate in the establishment and monitoring of natural protected areas located within their jurisdiction.<sup>144</sup>

#### 2. *Regulatory mechanisms*

***Establishment of Protected Natural Areas.*** The establishment or expansion of natural protected areas under state jurisdiction is accomplished through a declaration issued by state authorities and published in the official state newspaper. The declarations must contain the justification for the designation, the geographical boundaries of the area, the environmental standards that govern use of land and natural resources within the area, and the guidelines for managing the area.<sup>145</sup>



Protected natural areas must be registered in the state's Public Property Registry. Any contracts or other legal documents relating to property located in protected natural areas must contain a reference to the official declaration of the area and to its registration in the Public Property Registry.<sup>146</sup>

In establishing protected natural areas, the state must respect the rights of those who already own or possess real property in the areas, and must take appropriate steps to expropriate or otherwise acquire property as necessary.<sup>147</sup>

**Permits.** Any activity involving utilization of natural resources located within a natural protected area is subject to the management plan for the area, and must be authorized by the appropriate state and municipal authorities.<sup>148</sup>

## **B. Protection of Wild and Aquatic Flora and Fauna**

The State Ecology Law also addresses the protection of wild and aquatic flora and fauna. For example, the law provides that state authorities may issue technical standards for the protection and rational use of wild flora and fauna. State authorities are directed to promote the establishment of zoos, botanical gardens, greenhouses, breeding centers and fisheries.<sup>149</sup>

# **VI. ENFORCEMENT**

## **A. Distribution of Jurisdiction**

The State Ecology Law and its regulations are binding within the territorial jurisdiction of the state of Mexico, and state and municipal authorities are responsible for ensuring compliance with their provisions. Officials are also responsible for establishing criteria and norms to ensure compliance with the technical standards issued by the federal authorities in areas of federal jurisdiction.<sup>150</sup> The municipality of Toluca has incorporated enforcement measures into its new General Ordinance of Environmental Improvement.<sup>151</sup>

## **B. Enforcement Mechanisms**

### *1. Inspections*

State and municipal authorities are empowered to undertake inspections to ensure the implementation of the State Ecology Law and its regulations and technical standards as well as implementation of other applicable laws. The Offices of Environmental Planning and

Environmental Protection within the Secretariat of Ecology conduct monitoring and inspections in their areas of responsibility.

State regulations establish detailed procedures for undertaking inspections, from the accreditation of inspectors, to the designation of witnesses at the inspection and the development of an official report of the facts.<sup>152</sup> Facility representatives must allow access for inspections, and must provide any information necessary to carry out the inspection within the terms of the inspection order. If necessary, the authorities may utilize the police force to carry out inspections.<sup>153</sup>

After the inspection, the agency issues a decision and notifies the representative of the facility if any corrective measures must be taken immediately. Within five working days, the party may present a defense and offer evidence. In its final administrative decision, the agency is to specify the corrective measures that must be undertaken, the time in which they are to be carried out, and the fines or sanctions to be applied. In the event of noncompliance with the administrative decision, the agency may proceed with appropriate sanctions.<sup>154</sup>

The law provides generally that information obtained during inspections is confidential and is to be held in reserve by the agency, as appropriate.<sup>155</sup>

Most inspections are initiated in response to a complaint filed with the agency. For example, the Secretariat's Office of Environmental Protection has received over 800 complaints leading to inspections. The agency also carries out inspections of facilities at the agency's discretion, through specific campaigns targeting activities or locations. In general, state authorities do not give prior notice of an inspection.

## 2. *Emergency measures*

The State Ecology Law authorizes certain measures to be carried out in the event of environmental emergencies. For example, both the state Executive and the municipal authorities may order the seizure of polluting materials and substances, and/or the temporary closure of the polluting source.<sup>156</sup>

The law's provisions on emergency measures also contain an interesting tool for ensuring compliance with the law. In carrying out the law, the state Executive is empowered to set bonds for activities that could significantly contaminate the environment, and to deposit any funds collected into an Environmental Protection Fund. This authority to establish bonds is not linked to any other administrative proceeding, such as environmental impact review.<sup>157</sup>

## 3. *Administrative sanctions*

The State Ecology Law establishes a variety of administrative sanctions that may be imposed in the event of noncompliance with an administrative order. These include: warnings, admonitions,

vehicle seizure, fines, suspension, closures, administrative arrest, cancellation of permits and licenses and environmental restoration.<sup>158</sup> In addition, an agency may issue a written warning or admonition requiring compliance with the law before issuing an administrative sanction.<sup>159</sup>

In determining the applicable sanction, the agency must take into account the following criteria: the degree of liability in light of the environmental impacts and risks that resulted; the economic circumstances and previous record of the offender; the amount of the economic benefit to the offender or damages to the community; and whether the matter involves a repeat violation.<sup>160</sup> The appropriate agency is to conduct a technical assessment to determine the extent of any ecological harm resulting from a violation.

**Fines.** The State Ecology Law sets out four categories of fines that may be imposed by the authority, depending on the seriousness of the violation.

The lowest level of fines (between 20 and 100 times the daily minimum wage) is available for the following types of violations: depositing or burning solid waste in inappropriate places; violating measures for water conservation; failing to undertake inspections for vehicle emissions.

The next level of fines (between 100 and 1,000 times the daily minimum wage) is available for several violations, including: the denial of access to inspectors, exceeding permissible limits for emissions from fixed sources or impeding the monitoring of those emissions; noncompliance with measures for water treatment and reuse; and discharging to water bodies and sewer systems in violation of criteria and technical norms, without installing treatment systems.

The next level of fines (between 1000 and 10,000 times the daily minimum wage) is available for violations such as: using or exploiting resources in natural protected areas in violation of the corresponding management program; carrying out activities or projects that could have significant environmental impacts without the proper environmental impact authorization; and discharging industrial waste water in violation of allowable limits.

The highest level of fines (between 10,000 and 20,000 times the daily minimum wage) may be issued in two cases: undertaking projects or activities that represent a risk to the environment and that endanger public health, and carrying out activities or projects that destroy protected natural areas.<sup>161</sup>

State authorities may not impose a fine greater than 20,000 times the daily minimum wage. Fines will be doubled in the case of a repeat offense, up to the maximum fine allowed under the law.<sup>162</sup>

**Suspension and Closure.** Following an inspection, the agency may order partial or total suspension and/or closure of a facility in response to the following violations: carrying out activities that could cause significant impacts on the environment; carrying out a project without the proper environmental impact authorization or in violation of the conditions imposed in the authorization; failing to install pollution control equipment; exceeding established limits for pollutant emissions; discharging waste water in excess of existing limits and failing to install waste water treatment facilities.<sup>163</sup> According to state officials, numerous closures were ordered in 1995; in all cases, facilities ultimately achieved compliance and were reopened.<sup>164</sup>

***Cancellation of Permits or Licenses.*** The State Ecology Law provides that permits and concessions may be cancelled when there is a violation of conditions under which the specific activity was authorized.<sup>165</sup>

***Administrative Arrest.*** Administrative arrest may be ordered when a party repeatedly disregards an administrative decision or order, or when a party obstructs an agency's actions.<sup>166</sup>

#### 4. *Administrative appeals*

To appeal an agency's decision, the interested party has the option of presenting an appeal for lack of conformity (*recurso de inconformidad*) or an appeal before an administrative court, the tribunal of administrative controversies *tribunal de lo contencioso administrativo*.<sup>167</sup>

The State Ecology Law provides the procedures to be followed in pursuing an appeal for lack of conformity, which is submitted to the same agency that rendered the original decision. The appeal must be filed by the interested party within 15 days after the state provided notification of the decision. The appeal must include certain personal data, the decision being appealed, the name of the agency that rendered the decision, and a request to suspend the decision pending appeal.<sup>168</sup>

After the filing of a timely appeal, the agency will suspend the decision being appealed if: the appellant has requested the suspension; the public interest will not be adversely affected; the appellant is not a repeat offender; irreversible or serious harm to the appellant will result if the suspension is not ordered; and a bond is provided by the appellant.<sup>169</sup>

After evaluating the appeal and the evidence submitted, the agency issues a decision confirming, revoking or modifying the original decision and notifies the appellant of the decision.<sup>170</sup>

#### 5. *Criminal proceedings*

The State Ecology Law provides that if facts suggesting a crime are discovered during an inspection, the agency is to notify the appropriate authority so that criminal proceedings may be pursued.<sup>171</sup>

The State Criminal Code has been amended to add certain environmental crimes. For example, the Code provides prison terms and fines for those who intentionally and in violation of the law emit air pollutants, discharge waste water, generate noise or vibrations or otherwise release wastes and pollutants, where those actions fall under state jurisdiction and result in harm to public health, flora, fauna, or ecosystems. In addition, fines and prison terms are authorized for those who, without authorization, assist, cooperate, or participate in the transportation, storage, distribution,

processing, commercialization or destruction of products derived from the state's forests, woods or fauna.<sup>172</sup>

The Criminal Code also directs judges to require reparations to the community for environmental damages.<sup>173</sup> Such reparations are to be included in a special environmental fund mentioned in the State Ecology Law, although this fund has not yet been created.<sup>174</sup>

#### 6. *Public complaints*

Any person may file a public complaint (*denuncia popular*) regarding any conduct or omission by a private party or a governmental agency in violation of the State Ecology Law. The complaint must be in writing and contain the complainant's name and address and the alleged act or omission.

The complaint is filed with the appropriate state or municipal agency or with the Consultative Council (see Section VII, below). The agency has 15 days to issue a response. The authorities must inform the interested party of the result of the investigation of the matter, and of any measures imposed. Within five days of receiving a complaint that falls under federal jurisdiction, the state must forward the complaint to the federal authorities.<sup>175</sup>

In order to facilitate public complaints, the state has established a toll free number and a "green mail box." The state receives approximately ten complaints by telephone each day; most of these relate to municipal problems such as domestic solid waste disposal and drinking water, with a smaller number related to industrial activities.

### VII. PUBLIC PARTICIPATION

**Background.** One of the objectives of the State Ecology Law is to establish mechanisms for participation by the private and public sectors in environmental programs and activities.<sup>176</sup>

State authorities are directed to encourage public participation in environmental protection programs and to support the creation of collective bodies for public participation within municipalities.<sup>177</sup> Municipal authorities also are charged with promoting public participation within their environmental protection programs.<sup>178</sup>

State and municipal authorities are directed to promote public awareness of environmental issues by incorporating environmental curricula into the educational system, coordinating with training institutions for the implementation of appropriate educational programs, and coordinating with the mass media in developing environmental information programs. The State Ecology Law provides generally for the creation of an "Institute of Environmental Studies," although no such institution has yet been created.<sup>179</sup>

**Coordination Agreements.** The state is authorized to enter into coordination agreements (*convenios de concertación*) with public organizations and individuals in order to promote their participation in environmental protection activities. For example, the State Ecology Law directs the state to enter into coordination agreements designed to achieve the objectives of the management program for a protected natural area.<sup>180</sup> Coordination agreements have been developed for specific research activities, training courses and information dissemination campaigns.<sup>181</sup>

**Access to Information.** Outside the area of environmental impact review, neither the State Ecology Law nor its regulations establish clearly the public's right of access to environmental protection information. The regulation on environmental impact requires that the public be notified of the existence of an EIS and that the file be made available for public consultation, with the cost of publishing notice borne by the applicant. The regulation calls on the state to issue rules for public access to EIS files.<sup>182</sup>

**Consultative Councils.** The State Ecology Law provides for the creation of the Consultative Council on Environmental Protection of the State of Mexico, which is to serve as a forum for consultation and advice on environmental matters and to facilitate coordination between the government and the public. The Council, which began functioning in 1994, answers to the Governor and is chaired by a citizen representative. Members include government employees, representatives of education and research centers, representatives of public organizations, Municipal Presidents and other specialists in environmental protection.<sup>183</sup> One example of the Council's advisory function is its input into the development of the State Program of Environmental Protection.

## VIII. DISCUSSION

In a short period of time, the state of Mexico has enacted its framework environmental legislation, as well as issued key regulations implementing the law's general provisions. Together, the law and regulations provide a basis for wide ranging state and municipal environmental protection activities.

### *Scope of the Environmental Legal Framework*

The state of Mexico's Ecology Law, consistent with the Federal Ecology Law, is broad in scope. It covers issues ranging from pollution control to natural resource protection and land use planning, and addresses jurisdiction and coordination among the different levels of government. Unlike the

federal law, the State Ecology Law does not explicitly incorporate the concept of "ecological balance," nor does it establish overarching environmental principles of sustainable development.

The law contains relatively brief, but potentially significant, provisions regarding land use and development planning. For example, the law requires that environmental impact and risk studies be incorporated into state land use licenses and municipal construction permits. In addition, the state's regulations on air, water and soil pollution contain pollution control principles that must be incorporated into urban development, housing and ecological land use planning activities.

The State Ecology Law's provisions relating to pollution control and prevention, as well as natural resource protection, are also relatively brief. The law provides a general framework for environmental protection, and has served as the starting point for the state to develop its regulatory programs. Since enacting the law, the state has taken the important step of issuing four regulations governing air, water and soil pollution, as well as environmental impact and environmental risk assessment. These provide additional guidance for establishing the environmental responsibilities and requirements that are to be applied and enforced by the state's environmental agency. The regulation on soil pollution, for example, addresses a broad range of matters, including the management of municipal, industrial and medical wastes, the use of pesticides, and the exploitation of minerals and other substances under state jurisdiction.

Although other state laws affect environmental issues -- for example, laws relating to the provision of drinking water and sewer services and to urban development and planning -- the recently enacted State Ecology Law and its regulations are the central components of the state's environmental legal framework. On the municipal level, the municipality of Toluca is notable for its recently enacted Ordinance on Environmental Improvement and its Ordinance on Police and Governance, which address a broad range of municipal responsibilities relating to environmental protection.

### *Administrative Structure*

A new state agency was created to implement the State Ecology Law and develop environmental protection programs. The Secretariat of Ecology, created in December, 1992, is comprised of four offices and has authority over two semi-independent agencies. The Secretariat's overall responsibilities range from pollution control to natural resource protection and environmental restoration. The fact that responsibilities are detailed in an Internal Regulation may facilitate the more efficient functioning of this new agency.

Given the agency's wide-ranging activities, its effectiveness will be dependent in large measure on available resources and on the nature of the programs it creates to ensure compliance with requirements established in the law. An important function of the Secretariat will be interagency

coordination -- e.g., ensuring that the state agency in charge of issuing land use licenses incorporates any relevant environmental impact studies or encouraging other agencies to obtain EISs before they grant permits, authorizations and concessions for projects that may cause adverse environmental impacts.

### *Distribution of Jurisdiction*

The State Ecology Law's delegation of jurisdiction to the state generally follows the distribution of jurisdiction established under federal law. One exception is the area of pesticide regulation, which is generally a matter of federal jurisdiction, but which is included in the state soil pollution regulation. Although the regulation devotes only two articles to this subject, it grants the state considerable authority to control pesticide use and disposal.

Another aspect of the State Ecology Law that raises jurisdictional questions is its delegation of standard setting authority to the state. The law empowers the state to issue "technical norms" to protect the environment in matters of state jurisdiction or to ensure compliance with federal standards in matters of federal jurisdiction. The regulations specifically authorize the state to develop technical norms relating to air and water pollution, as well as to pesticide use. The regulations' definition of the term "ecological (or environmental) technical norm" parallels the federal definition of "ecological technical norm." As discussed in Chapter Two, the Federal Ecology Law gives the federal government authority to issue Ecological Technical Norms (now Official Mexican Norms), but does not explicitly give the states this authority.

Thus, future standard setting activities by the state could raise jurisdictional questions. To date, there have been no actual conflicts in this area, since the state has not developed any of its own standards.

State officials acknowledge that the distribution of jurisdiction under state and federal law is not always clear, and that the agencies rely heavily on informal coordination on a case-by-case basis to resolve questions. For example, there have been questions over whether federal or state governments have authority to issue operating licenses in a particular case; where the federal government takes action in such cases, the state generally has accepted the federal license and has not sought to issue a license at the state level. Authorities have established a commission in the metropolitan area of Mexico City to coordinate actions relating to fixed sources of air pollution. In addition, doubts sometimes arise about whether an industrial facility falls under federal or state jurisdiction for purposes of environmental impact review. In such cases, federal and state agencies seek to determine whether the environmental impacts of the facility extend beyond the state territory. Coordination is also important for determining jurisdiction in cases involving the illegal disposal of wastes.



With respect to state-municipal jurisdiction, the State Ecology Law and its regulation give the state most pollution prevention and control responsibilities. For example, the state is responsible for establishing normative dispositions authorized by the law and for issuing authorizations required under the law. The State Ecology Law does give municipalities authority to control discharges to sewer systems, however the Secretariat currently plays the principal role in this area as well.

Despite its emphasis on state regulatory authority, the State Ecology Law provides explicitly for decentralization by establishing a framework for municipal assumption of certain state functions, provided the municipalities demonstrate their technical and financial capacity to do so. In order for this decentralization to occur, it is likely that the state will need to develop further the criteria necessary for making this showing. Moreover, municipalities will likely need assistance from the state and federal governments in attaining the technical and financial capacity to implement the law effectively.

### *Regulatory Mechanisms*

The regulations issued pursuant to the State Ecology Law provide considerable detail governing the regulatory mechanisms available to state and local agencies. Although the law and regulations rely on traditional regulatory measures, they also introduce the possibility of using economic incentives to achieve compliance.

In addition, the law contains two potentially important regulatory mechanisms. First, the state is authorized to require bonds of those who undertake works or activities that can result in significant contamination of the environment. Any funds collected are to be deposited in an Environmental Protection Fund. Although neither the law nor the regulations elaborate further on this authority, the provision presents an interesting opportunity for achieving compliance with the law and environmental restoration. Second, the state is authorized to declare "critical areas" in regions that exceed air and water standards. The designation of a critical area gives the state power to restrict or cancel authorizations for polluting activities.

***Permitting/Authorization.*** The State Ecology Law requires projects falling under state jurisdiction to obtain environmental impact authorization and to abide by the conditions established in that authorization. The law provides an explicit basis for denying authorization: denial is justified where there is "reasonable technical doubt" regarding the environmental impacts of the work, based on the studies undertaken.

The State Ecology Law also requires that facilities obtain authorization for air emissions and water discharges, a requirement that is described in detail in the law's regulations.

Operating licenses are the central regulatory mechanism for stationary emission sources. Any stationary source under state jurisdiction must obtain from the state an operating license valid for

one year. Officials have considerable discretion in setting conditions to be included in operating licenses, such as monitoring and reporting frequency.

Waste water discharge authorization is particularly important in light of the discretion afforded the state to establish Special Discharge Conditions to ensure compliance with applicable technical standards. As of 1995, the state had required over 500 Special Discharge Conditions, based on Conditions established by the federal government.

Municipal officials in Toluca indicate that they issue an informal opinion on any activity located in the municipality that requires a state operating permit.

**Monitoring.** Fixed air emissions sources under state jurisdiction are required to monitor their emissions and report these to the state, in accordance with the terms specified in the facility's operating permit.

Facilities must sample their waste water discharges according to guidelines established by regulation. Facilities must also prepare a water quality report every three months, and present it to the state upon request. The frequency of monitoring and reporting may also be specified in connection with discharge authorization.

The state operates a general air quality monitoring network in the Valley of Toluca; the Federal District operates another in its metropolitan zone, which includes municipalities in the state of Mexico. The state undertakes most of its water quality monitoring activities around the state's most polluted rivers.

**Enforcement.** The State Ecology Law provides state and municipal officials with important tools for enforcing the law, including warnings, admonitions, vehicle seizure, fines, suspensions, closures, administrative arrests, cancellation of permits and licenses, and environmental restoration orders.

The law provides considerable detail on the procedures to be followed when carrying out facility inspections. The Secretariat of Ecology performs inspections in response to public complaints, and also on its own initiative; during a five-day period each month, the agency conducts monitoring of facilities without prior notice.

The law's establishment of categories of administrative fines is somewhat unusual. Four levels of fines are available, depending on the seriousness of the violation. The law includes examples of violations that fall under each category, although the state retains some discretion in making this determination for activities not specifically listed in the law.

The state has made fairly extensive use of its authority to order closure of a facility. The law provides a broad list of the types of activities for which closure may be ordered, including violations of air emission or water discharge limits.

The state Criminal Code provides for environmental crimes and authorizes courts to order reparations to communities for environmental damage caused by those convicted of such crimes.

**Incentives.** The promotion of financial and technical incentives to achieve environmental protection is a notable feature of the State Ecology Law. For example, the law declares as a priority

the promotion of financial and technical incentives designed to reduce air pollution emissions through, for example, the development of new technology or the modification of production processes. In addition, the regulation on soil pollution directs state authorities to use financial incentives to promote solid waste reduction. Although legislation would be required to establish certain financial incentives, the State Ecology Law provides a strong basis for state action in this area.

### *Public Participation*

The public participation provisions of the State Ecology Law and its regulations are general in nature. However, the state has set up a separate department within the Secretariat of Ecology dedicated to public participation. The responsibilities of this department are set out in the Secretariat's internal regulation. Among other things, the department must consider public opinions, suggestions and complaints, and must develop bodies of public participation to assist the state in achieving its environmental objectives.

In recent years, environmental groups in the state have become more prominent and the public is becoming more active in environmental issues, particularly through the public complaint process. The state government has taken steps to encourage public complaints, by establishing a toll free number and a "green mail box." The state receives approximately ten complaints by telephone each day; most of these relate to municipal problems such as domestic solid waste disposal and drinking water, with a smaller number related to industrial activities. In addition to the general complaint process, the regulation on environmental impact provides that any person who believes that an activity exceeds the limits and conditions established in the law, may file a complaint with the Secretariat of Ecology. The Secretariat may then require an EIS or risk study relating to the activity.

Neither the State Ecology Law nor its regulations address public access to information, except in the area of environmental impact review. The regulation on environmental impact provides that the public must be notified of the existence and availability of the EIS documents and further requires that project applicants bear the costs of this notification. However, notification is only required once all information requirements have already been fulfilled. The regulation's requirement that the state develop administrative rules of access to EIS files gives the state an opportunity to take steps to more fully encourage public participation in the environmental impact review process.

One of the key mechanisms for public participation envisioned in the State Ecology Law is the creation of the State Consultative Council on Environmental Protection. This Council, comprised of governmental and nongovernmental representatives, was created to provide advice and public

input to the state Executive -- for example, in the recent development of the State Program of Environmental Protection.

## ENDNOTES

1. The five parks located within the state are: *Nevado de Toluca*, *Desierto del Carmen*, *Molino de Flores*, *Los Remedios* and *Sacromonte*. The four parks shared with bordering states are: *Bosencheve* (Michoacán); *Zoquiapan y Anexas* (Puebla); *Ixta-Popo* (Puebla and Morelos); and *Lagunas de Zempoala* (Morelos). The park shared with the Federal District is *La Marquesa*.
2. Political Constitution of the State of Mexico, arts. 18; 70, §I.
3. Declaration of Purposes of the Law, presented by the state Governor before the 51st Legislature, Toluca de Lerdo, Mexico (February 26, 1991).
4. Arts. 1, 2. Throughout this chapter, citations to the State Ecology Law will include only the article number referenced. Citations to all other laws will include the name of the law, followed by the relevant article.
5. See, e.g., the following executive agreements: Executive Agreement Establishing Criteria for Restricting Motor Vehicle Use One Day Per Week in the Metropolitan Area of the Federal District (*Acuerdo del Ejecutivo del Estado por el que se Establece la Continuidad de los Criterios Para Limitar la Circulación de Vehículos Automotores en los 17 Municipios Conurbados al Distrito Federal, un Día a la Semana*); Executive Agreement Creating the Coordinating Commission for the Ecological Restoration of the Lerma River Basin (*Acuerdo del Ejecutivo del Estado por el que se Crea la Comisión Coordinadora para la Recuperación Ecológica de la Cuenca del Río Lerma*); and Executive Agreement Establishing the Criteria for Emissions Verification of Public Service Vehicles in Toluca and the 17 Municipalities Surrounding the Federal District (*Acuerdo del Ejecutivo del Estado, por el que se Establecen los Criterios Para la Verificación de Emisiones Contaminantes de Vehículos Automotores Destinados al Servicio Público Local de Carga, Pasajeros y Otras Modalidades, en los 17 Municipios Conurbados al Distrito Federal y en el Municipio de Toluca*).
6. The decree creating the Secretariat of Ecology was published in the state's Official Gazette on December 24, 1992.
7. Executive Agreement Which Ascribes Sectorially to the Secretariat of Ecology, the Decentralized Entities Known As: the Coordinating Commission for the Ecological Recovery of the Lerma River Basin; the State Parks and Fauna Commission; and the Forest Protection Agency of the State of Mexico (published March 30, 1994). Another entity, the Forest Protection Agency of the State of Mexico (*Protectora de Bosques del Estado de México* or PROBOSQUE), had been part of the agency until 1995, when it was placed under the control of the Secretariat of Agricultural Development.
8. Interview with Secretariat of Ecology officials (October, 1994).
9. Art. 4, §§I, II.
10. Art. 1, §III.
11. Regulation for the Prevention and Control of Air Pollution [hereinafter "Regulation on Air Pollution"], transitory article 4; Regulation for the Prevention and Control of Water Pollution [hereinafter "Regulation on Water Pollution"], transitory article 4.
12. Art. 4, §§VIII, XVI.

13. Internal Regulation of the Secretariat of Ecology for the State of Mexico, art. 13, §I.
14. Regulation on Air Pollution, art. 2; Regulation on Water Pollution, art. 2; and Regulation for the Prevention and Control of Soil Pollution [hereinafter "Regulation on Soil Pollution"], art. 9.

These provisions define Ecological Technical Norm or Environmental Technical Norm as: the group of scientific or technological standards issued by the State Secretariat of Ecology, which: establish the requirements, specifications, conditions, procedures, parameters and permissible limits that are to be observed in the development of activities or use of goods that cause or may cause ecological imbalance or environmental harm and help unify environmental principles, criteria, policies and strategies.

15. See Chapter Two.
16. Arts. 1, §V; 35, 36.
17. Interview with Secretariat of Social Development (now SEMARNAP) officials (September, 1994).
18. Arts. 1, §I; 5 §I, XIX.
19. Art. 5, §§I, II.
20. Art. 5, §II.
21. Interview with Secretariat of Ecology officials (September, 1995).
22. Art. 4, §§I, XXI; State Planning Law, arts. 5; 12, §II; 18, 21. *See also* Decree No. 46 (published on December 24, 1992).
23. Art. 5, §III.
24. Arts. 11 - 17.
25. Art. 1, §VI.
26. Arts. 4, §II; 5, §IV.
27. Regulation on Soil Pollution, art. 15.
28. Regulation on Air Pollution, arts. 5, §III; 6, §II. Regulation on Water Pollution, arts. 6, §III; 7, §II.
29. Regulation on Air Pollution, art. 5, §§XIX.
30. Art. 4, §XXIII.
31. Art. 5, §VI. See also General Ordinance on Environmental Improvement for the Municipality of Toluca, art. 19; Ordinance on Police and Governance for the Municipality of Toluca, art. 106, §XVI.
32. Regulation on Air Pollution, art. 9.
33. Regulation on Environmental Impact and Risk, art. 3.
34. Art. 11; Regulation on Environmental Impact and Risk, art. 5.

35. Regulation on Environmental Impact and Risk, art. 40.
36. Regulation on Environmental Impact and Risk, art. 6.
37. Regulation on Soil Pollution, arts. 4, §VIII; 35; 38.
38. Regulation on Soil Pollution, art. 6, §VIII.
39. Regulation on Water Pollution, art. 15.
40. Regulation on Environmental Impact and Risk, arts. 24-26.
41. Regulation on Environmental Impact and Risk, arts. 30, 31.
42. *Id.*, art. 4, §II.
43. *Id.*, art. 14.
44. *Id.*, art. 15.
45. Art. 14; Regulation on Environmental Impact and Risk, arts. 10, 11.  
The state's law and regulations distinguish environmental impact from environmental risk. "Environmental impacts" are defined as the modifications to the environment caused by a work or activity. "Environmental risk" is the potential harm that such activities may cause to people, property or the environment. Regulation on Environmental Impact and Risk, art. 3.
46. Regulation on Environmental Impact and Risk, art. 20.
47. Art. 14; Regulation on Environmental Impact and Risk, art. 16.
48. Informal communication with Secretariat of Ecology officials (August, 1995).
49. Regulation on Environmental Impact and Risk, arts. 4, §VII; 5; 7.
50. Regulation on Environmental Impact and Risk, arts. 4 §§I,II; 18, 19.
51. Regulation on Environmental Impact and Risk, arts. 12, 13.
52. Arts. 12, 13; Regulation on Environmental Impact and Risk, arts. 4, §VII; 17. A conditional authorization is granted when the authority determines that changes are necessary before the project is carried out.
53. Art. 12.
54. Regulation on Environmental Impact and Risk, arts. 22, 23.
55. Regulation on Environmental Impact and Risk, art. 41.
56. Art. 9; Regulation on Environmental Impact and Risk, art. 4, §III; 27; 29.
57. Regulation on Environmental Impact and Risk, art. 27.
58. Regulation on Environmental Impact and Risk, arts. 28, 29.

59. Regulation on Environmental Impact and Risk, arts. 33-40.
60. Ordinance on Police and Governance for the Municipality of Toluca, arts. 75, 76.
61. Interview with Coordinating Office of Ecology officials (July, 1995).
62. Regulation on Air Pollution, art. 4.
63. Arts. 4, §X; 37.
64. Art. 5, §V; Regulation for the Prevention and Control of Air Pollution, art. 5, §VI.
65. A "fixed source" is defined as any facility established in one place for the purpose of carrying out industrial, commercial, or service operations or processes, or activities that generate or may generate air polluting emissions. A "mobile source" is defined as tractor-trailers, buses, trucks, automobiles, motorcycles, non-fixed equipment and machinery with combustion engines that generate air polluting emissions when used. Regulation on Air Pollution art. 2.
66. Regulation on Air Pollution, art. 7.
67. Regulation on Air Pollution, art. 12.
68. *Id.*, art. 11.
69. *Id.*, art. 16.
70. *Id.*, art. 14.
71. *Id.*, transitory art. 5.
72. *Id.*, art. 15.
73. *Id.*, art. 16.
74. *Id.*, art. 17.
75. *Id.*, art. 19.
76. *Id.*, art. 24. "Critical zone" is defined as a zone in which air pollutant concentrations exceed maximum allowable levels. *Id.*, art. 2.
77. Written communication with Secretariat of Ecology officials (August, 1995).
78. *Id.*, art. 25.
79. *Id.*, arts. 20, 21.
80. Arts. 39, §III; 40, §I; Regulation on Air Pollution, art. 13, §III.
81. Regulation on Air Pollution, arts. 13, §§IV, VIII; Art. 40, §IV.
82. Regulation on Air Pollution, art. 13, §§VI, VII.
83. *Id.*, art. 16.

84. *Id.*, arts. 48-50.
85. Interviews and written communications with Secretariat of Ecology officials (September, 1994 and August, 1995).
86. Regulation on Air Pollution, arts. 35-38.
87. Regulation on Air Pollution, arts. 39, 40.
88. Regulation on Air Pollution, art. 2.
89. *Id.*, arts. 41, 42.
90. *Id.*, art. 19.
91. *Id.*, art. 8.
92. Regulation on Water Pollution, art. 6, §§IV, VI; *see also* art. 20.
93. Arts. 5, §VII; 51, §I; 52, §I; 53, 54.
94. Critical areas are defined as those in which the concentration of pollutants in the water exceeds applicable criteria and technical norms. Regulation on Water Pollution, art. 2.
95. Regulation on Water Pollution, art. 8.
96. Regulation on Water Pollution, art. 5.
97. Arts. 46, 48.
98. Regulation on Water Pollution, art. 12.
99. Regulation on Water Pollution, art. 2.
100. *Id.*, arts. 26-30.
101. Interview with Secretariat of Ecology (September, 1995).
102. Regulation on Water Pollution, art. 13.
103. Regulation on Water Pollution, arts. 16; 31.
104. *Id.*, arts. 17, 18.
105. *Id.*, arts. 19, §I; 33-35.
106. Arts. 46, §I; 52, §I; Dilution is not an acceptable form of treatment. Regulation on Water Pollution, art. 32.
107. Art. 54.
108. Written communication with Secretariat of Ecology officials (August, 1995); interview with municipal Coordinating Office of Ecology officials (July, 1995).



109. Arts. 51, §III; 54.
110. Regulation on Water Pollution, arts. 33-35.
111. Regulation on Water Pollution, arts. 17, 48-50.
112. *Id.*, arts. 44-47.
113. *Id.*, arts. 39-40.
114. Regulation on water pollution, art. 9.
115. Art. 55.
116. Regulation on Soil Pollution, art. 26.
117. Regulation on Soil Pollution, art. 15.
118. Art. 58.
119. General Ordinance on Environmental Improvement for the Municipality of Toluca, arts. 25-60.
120. *Id.*, arts. 4, 5.
121. Arts. 4, §XIX; 5, §X; 57; Regulation on Soil Pollution, arts. 27, 31, 34, 36, 38.
122. Regulation on Soil Pollution, arts. 5, §VII; 7; 8.
123. *Id.*, arts. 28, 29, 46.
124. Regulation on Soil Pollution, arts. 2, 57.
125. Arts. 56, 57, 58.
126. Regulation on Soil Pollution, art. 13.
127. Regulation on Soil Pollution, arts. 40-51.
128. *Id.*, arts. 30, 31.
129. *Id.*, arts. 5, §XIV; 38.
130. *Id.*, arts. 5, §§XII, XX; 6, §VI.
131. *Id.*, art. 5, §XII.
132. *Id.*, arts. 5, §XXIII; 11.
133. *Id.*, arts. 32, 37.
134. *Id.*, arts. 24, 25.
135. *Id.*, arts. 24, 25.

136. Arts. 4, §XIV; 67; Regulation on Environmental Impact and Risk, art. 4, § VII; Regulation on Air Pollution, arts. 5, §§XIV, XX, XXII, XXIV, XXV; 43-47; Regulation on Water Pollution, arts. 6, §§XVI, XX-XXIII; 62.
137. Regulation on Air Pollution, arts. 5, §§XXIV, XXV; 7, §IV; Regulation on Water Pollution, arts. 6, §§XX, XXII; 8, §IV.
138. Art. 5, §XII; Regulation on Air Pollution, art. 6, §IV; Regulation on Water Pollution, art. 7, §IX, XI.
139. Regulation on Environmental Impact and Risk, art. 41.
140. Art. 67; Regulation on Air Pollution, art. 61; Regulation on Water Pollution, art. 62.
141. Regulation on Environmental Impact and Risk, art. 41; Regulation on Air Pollution, arts. 43-45; Regulation on Water Pollution, arts. 39-42.
142. Art. 60.
143. Art. 5, §VIII.
144. Arts. 4, §XXII; 5, §XIII. See also Regulation on State and Municipal Parks, art. 2.
145. Arts. 28-31.
146. Art. 34.
147. Art. 32.
148. Art. 33.
149. Art. 25.
150. Arts. 4, §§VIII, XXXI; 5, §XXIII.
151. General Ordinance on Environmental Improvement for the Municipality of Toluca, arts. 20-21, 94-112.
152. Regulation on Environmental Impact and Risk, arts. 42, 43; Regulation on Air Pollution, arts. 51-55; Regulation on Water Pollution, arts. 52-61.
153. Arts. 62, 63.
154. Arts. 65, 66.
155. Art. 62.
156. Arts. 13, 67; Regulation on Air Pollution, art. 61; Regulation on Water Pollution, art. 62.
157. Art. 67.
158. Art. 69.
159. Art. 71.
160. Art. 70.

161. Arts. 72-75.
162. Art. 77.
163. Art. 78.
164. Interview with Secretariat of Ecology officials (September, 1995).
165. Art. 81.
166. Art. 80.
167. Art. 88.
168. Art. 84.
169. Art. 86.
170. Art. 87.
171. Art. 66.
172. Criminal Code of the State of Mexico, arts. 233A, 233B.
173. Criminal Code of the State of Mexico, art. 233D.
174. Decree published in the state's Official Gazette on October, 1991.
175. Art. 9; Regulation on Air Pollution, art. 70; Regulation on Water Pollution, art. 70.
176. Art. 1, §II.
177. Art. 4, §§V, XXIV, XXIX.
178. Art. 5, §XVI.
179. Art. 16.
180. Art. 36.
181. Written communication with Secretariat of Ecology officials (August, 1995).
182. Regulation on Environmental Impact and Risk, arts. 4, §III; 27.
183. Arts. 6, 7.

## *Chapter V*



# **Legal Framework for Environmental Protection In the State of Nuevo León**

## **I. GENERAL DESCRIPTION OF THE STATE OF NUEVO LEÓN**

### **A. Background**

The state of Nuevo León covers 25,067 square miles in northern Mexico. Nuevo León is bordered by the state of Coahuila to the west, Tamaulipas to the east, and San Luis Potosí to the south; it also shares a short border with the state of Zacatecas to the southwest and with the United States (Texas) to the north. According to the 1990 national census, the state had a population of approximately four million people, making it the eighth most populous in the country.

Legislative responsibilities in the state are carried out by a Congress formed by 26 elected representatives. There are two regular sessions of the legislature each year. Judicial power is deposited in a Superior Tribunal of Justice (state supreme court), Civil Courts, Criminal Courts, Family Courts, Courts of Joint Jurisdiction, and other employees and auxiliary personnel established by law.

Executive power is exercised by a Governor elected every six years. The state administrative structure includes the General Secretariat of Government, the Attorney General, the General Comptroller, and ten Secretariats, including the Secretariats of Finance and Treasury, Economic Development, Social Development, and Urban Development and Public Works.

There are 51 municipalities in the state of Nuevo León. Most of these have fewer than 50,000 inhabitants; 3 have populations between 50,000 and 100,000, and an additional 3 have populations over 100,000. Most of the state's budget for addressing environmental matters is directed at problems in the capital city of Monterrey and other adjacent municipalities.

### **B. Ecological Characteristics**

Nuevo León is characterized by a variety of ecological patterns. The eastern part of the state consists of a large plain that can be divided into three separate regions: desert-like plains, small hills

with little vegetation, and an area of very fertile soil. The Eastern Sierra Madre, which traverses the state from southeast to northeast, contains several large valleys and narrow canyons.

A variety of rainfall and temperature patterns exist within Nuevo León, but for the most part the state is a dry region with both desert areas and subtropical steppe (treeless plain with winter rains). The state has 12 important rivers and three major reservoirs.

There are two national parks in the state, one of which (*Parque Nacional Cumbres de Monterrey*) is the largest in Mexico. A natural monument (*Cerro de la Silla*) has also been designated in the state.

### **C. Major Economic Activities**

Nuevo León's economy is dependent primarily upon industry. Indeed, Nuevo León is the second most important industrial state in the country, after the state of Mexico. Other major economic activities include oil and natural gas exploitation; wood production; gold, silver, copper, lead and zinc mining; and ironworks, steelworks and smelting plants. Agricultural activities are also very important, with the state producing cotton, citrus, sugarcane, corn, wheat, grain sorghum, green alfalfa and vegetables. In addition, Nuevo León is a large livestock producer.

### **D. Principal Environmental Problems**

Most of the environmental problems in Nuevo León are concentrated in the city of Monterrey and the border area with the United States. These problems include improper disposal of hazardous and non-hazardous waste; air pollution from construction activities, industries and automobile emissions; and water pollution from both domestic and industrial discharges.

According to state officials, progress has been made in recent years in delivering basic services; approximately 90 percent of the population have access to drinking water services and 82 percent have access to sewer systems.

## **II. OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN NUEVO LEÓN**

### **A. State and Municipal Law**

#### *1. State constitutional provisions*

The principal reference to environmental protection in the Political Constitution for the State of Nuevo León is found in the section addressing urban development and human settlements. The

Constitution establishes that the state Congress may enact land use legislation relating to human settlements and urban development, and that such legislation is to take into account soil, air and water conservation and to consider the best uses of land, water and forest resources. The Constitution also provides that the Congress may impose conditions on the use of private property when dictated by the public interest.<sup>1</sup>

In general, Nuevo León's Constitution authorizes the state Congress to enact laws relating to the state's internal administration and governance and authorizes the executive branch to develop administrative regulatory measures to implement and ensure compliance with the laws.<sup>2</sup>

The state Constitution establishes municipal responsibility for providing public services -- e.g., drinking water, sewer, sanitation -- with assistance from the state government where necessary. Municipalities also are empowered by the Constitution to participate in the creation and administration of ecological reserves.<sup>3</sup>

## 2. *State legislation*

The state of Nuevo León enacted the Law of Ecological Balance and Environmental Protection (hereinafter "State Ecology Law") on June 16, 1989. The law parallels the framework of the federal General Law of Ecological Balance and Environmental Protection. The main objective of the State Ecology Law is to establish the basis for environmental regulation and for the distribution of environmental jurisdiction between the state and the municipalities.

Specifically, the law establishes the framework for the state to:

- define the principles that are to be considered in developing ecological policy;
- develop ecological land use planning within the state and municipalities;
- preserve, restore and improve the environment within state territory;
- protect natural areas and marine flora and fauna that are not under federal jurisdiction;
- prevent and control air, water and soil pollution, in matters not exclusively within federal jurisdiction;
- coordinate the actions of state agencies on environmental matters; and
- promote public participation in environmental matters.<sup>4</sup>

In 1990, the state adopted a regulation implementing the State Ecology Law.

The state Congress has enacted other legislation that addresses environmental protection in a more indirect way. For example, the Organic Law of the State Public Administration (*Ley Orgánica de la Administración Pública Estatal*) establishes the framework for the various agencies and authorities that make up the state public administrative structure. Most notably, the law assigns the Secretariat of Urban Development a variety of responsibilities regarding urban development and environmental protection.

The state's Urban Development Law (*Ley de Desarrollo Urbano*) provides guidelines on land use, zoning and conservation issues as they relate to the establishment of human settlements. The law sets standards for determining appropriate uses of lands, waters and forests of state jurisdiction. Another goal of this law is to harmonize urban development activities with ecological balance and environmental protection in human settlements.<sup>5</sup>

The State Health Law (*Ley Estatal de Salud*) also contains provisions relating to environmental protection, mainly in the areas of solid waste disposal and water and sewer systems.<sup>6</sup> The Health Law authorizes the state Secretariat of Health to research the public health risks posed by pollution, supervise the quality of drinking water, control sources of radiation, and support basic restoration of environmental conditions.<sup>7</sup>

### 3. *Municipal legislation*

The Organic Law of the Municipal Public Administration (*Ley Orgánica de la Administración Pública Municipal de Nuevo León*) is a state law that authorizes municipalities to develop their own legislation. Local laws may address public health and environmental protection, and are to provide for services related to streets and roads, recreation, culture and all other basic aspects of community life.<sup>8</sup>

Four municipalities have adopted an environmental ordinance similar in scope to the State Ecology Law -- the municipalities of Benito Juárez, Allende, Galeana and General Escobedo. In the Monterrey and several other municipalities, similar ordinances have been drafted and are pending approval by the Municipal Council. State officials predict that most municipalities in the state will eventually have their own comprehensive environmental ordinances.

## **B. State and Municipal Agencies Responsible for Environmental Protection**

### 1. *Secretariat of Urban Development and Public Works*

The Secretariat of Urban Development and Public Works (hereinafter "the Secretariat") is the principal state environmental protection agency and is responsible for implementing the State Ecology Law.

As mentioned earlier, the Organic Law of the State Public Administration establishes the Secretariat's general duties, some of which relate to environmental protection. The Secretariat is primarily responsible for designing and implementing urban development plans and programs, for issuing and enforcing the standards necessary to implement those programs and plans, and for providing assistance to the municipalities in creating their urban development plans.<sup>9</sup>

The Secretariat is also responsible for:

- establishing and administering strategic territorial reserves for protecting the environment;
- entering into coordination agreements with other government agencies regarding housing and urban development plans;
- developing and implementing a state water plan;
- promoting preservation and rational use of flora, fauna and renewable natural resources; and
- generally supporting programs for environmental protection within the scope of its jurisdiction.<sup>10</sup>

The most detailed elaboration of the Secretariat's environmental protection responsibilities is found in the State Ecology Law, which establishes generally that the Secretariat is responsible for implementing that law, establishing environmental policy and ecological criteria, taking actions necessary to protect the environment, and coordinating the activities of the different state agencies in the area of environmental protection.<sup>11</sup>

According to the Regulation of the Law of Ecological Balance and Environmental Protection for the State of Nuevo León (hereinafter "the environmental regulation"), an "Office of Ecology" within the Secretariat may carry out the Secretariat's responsibilities with respect to environmental protection plans and programs, environmental impact review, inspections and enforcement.<sup>12</sup> In practice, a Subsecretariat of Ecology (hereinafter "the Subsecretariat") has been created within the Secretariat to fulfill the agency's environmental responsibilities. The Subsecretariat (which in 1992 replaced the existing Office of Ecology) is in charge of the operational aspects of the State Ecology Law.

***Subsecretariat of Ecology.*** Although the State Ecology Law only refers to the "Secretariat," in practice, the Subsecretariat is the most active authority on environmental protection matters. It is directly responsible to the Secretariat and its functions extend to all issues included in the State Ecology Law. The Secretariat receives funding from the state treasury in accordance with the state budget; the Secretariat, in turn, determines and allocates the budget of the Subsecretariat.

As of 1995, the Subsecretariat employed approximately 70 people, mostly biologists, engineers, lawyers and computer specialists. In order to carry out its responsibilities, the Subsecretariat has several departments, the most notable of which are:

- Office of Planning and Support (*Dirección de Planeación y Fomento*): in charge of air quality monitoring in Monterrey, ecological land use planning, issuance and implementation of regulations and standards, and technical support to local industries;
- Environmental Control (*Control Ambiental*): in charge of environmental restoration activities and vehicle emissions inspection; and
- State Parks (*Parques Estatales*): in charge of all matters relating to state parks.<sup>13</sup>



In addition to the Subsecretariat, there are several entities within the Secretariat that assist in fulfilling specific environmental responsibilities. These entities, known as *organismos desconcentrados* or *organismos descentralizados*, do not occupy the same place as the Subsecretariat in the state administrative hierarchy.<sup>14</sup> They have a narrower scope of authority, and carry out the Secretariat's duties only in specified matters. The following two entities were created by administrative decision published in the state's Official Gazette:

- ***Water and Drainage of Monterrey (Agua y Drenaje de Monterrey)***. Water and Drainage of Monterrey is a decentralized entity in charge of water distribution as well as authorization of waste water discharges into the sewer system. It is responsible for keeping an official register of discharges and for notifying municipal, state or federal authorities of any violations of applicable standards. Although in the past its responsibilities were limited to the metropolitan area of Monterrey, Water and Drainage of Monterrey recently assumed these functions for other areas of the state as well. The entity is empowered to enter into agreements with industries regarding conditions for registration and monitoring of discharges.
- ***Metropolitan System of Waste Processing (SIMEPRODE)***. This decentralized entity is responsible for processing and storing non-hazardous waste in the state. This is a high priority according to state officials, due to the great amount of waste generated and the lack of adequate disposal sites.

## 2. *State Ecology Commission*

The State Ecology Law provides for the creation of a State Ecology Commission, presided over by the Governor or his designee and comprised of members of state and local government, civil organizations and educational institutions. Its principal purpose is to develop a plan for coordinating state and municipal implementation of environmental policy. In addition, the Commission is in charge of promoting public participation in the development of state environmental policy, planning and criteria. The Commission is also responsible for helping to formulate, apply and monitor those policies and criteria.<sup>15</sup>

In practice, the Commission's main function is coordination among industry, the public and environmental protection authorities.<sup>16</sup>

## 3. *Municipal agencies*

Most municipalities in the state have an office in charge of carrying out the municipality's environmental protection responsibilities. According to state officials, the majority of these offices

were created recently and are just beginning to develop their capacity for addressing environmental problems at the municipal level.

The Monterrey Office of Ecology, created three years ago, is the largest municipal environmental protection agency in the state. This office works closely with the Subsecretariat and generally keeps the Subsecretariat informed of its activities, but remains independent in its decision making.

As of 1995, the Monterrey Office of Ecology employed 27 people, most of whom are chemical engineers, biologists and agronomists who specialize in environmental matters. Funding for the Office is distributed through the municipal government, and fees or fines collected by the Office go to the general treasury of the municipality. The municipality's budget derives from municipal revenues and state funds, pursuant to agreements between the state and municipal governments.

The Monterrey Office of Ecology has three main departments:

- ***The Sub-Office of Ecological Land Use Planning*** (*Sub-Dirección de Ordenamiento Ecológico*): in charge of research and dissemination of information relating to land use planning issues.
- ***The Sub-Office of Environmental Control***: (*Sub-Dirección de Control Ambiental*) responsible for addressing, investigating and following up on public complaints regarding pollution, including the issuance of corrective measures.
- ***The Sub-Office of Advertising***: (*Sub-Dirección de Anuncios*) responsible for preventing visual or aesthetic pollution, including protection of the landscape and scenic features of the municipality.<sup>17</sup>

## **C. Relationship Between the State and Federal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

The State Ecology Law describes the responsibilities of the state government relating to environmental protection. In general, the state is responsible for preserving and restoring ecological balance and for protecting the environment in matters that are within state jurisdiction. The state is directed to establish ecological policies and criteria to be applied within the state, and to address all matters that affect the ecological balance of two or more municipalities within the state.<sup>18</sup>

The provisions of the State Ecology Law are to apply "without prejudice" to the Federal Ecology Law and other laws that deal with matters addressed in the State Ecology Law. In addition, where an issue has not been addressed or adequately regulated in the State Ecology Law, the appropriate provisions of the Federal Ecology Law apply.<sup>19</sup> In cases of ecological imbalance or environmental harm involving federal zones, federal sources or matters of national interest generally,

the State Ecology Law directs local officials to communicate with federal officials to ensure that state and municipal interests are considered in the determination of federal administrative actions.<sup>20</sup>

Federal, state and municipal authorities meet on a weekly basis in order to clarify jurisdictional issues and to determine which entity should address a specific matter. Officials indicate that there have been no significant direct conflicts over jurisdiction. One area in which there has been some overlap in the past is air permitting; as discussed later in this chapter, the federal government was active in permitting sources under state jurisdiction while the state developed its capacity in this area.

## 2. *Development of state regulatory standards and policies*

Both the State Ecology Law and its regulation provide for the issuance of state standards. The law directs state and municipal governments to apply existing "Ecological Technical Norms" in their respective areas of jurisdiction. "Ecological Technical Norms" are defined as:

the group of scientific or technological rules issued by the Federal *or State* government which establish the requirements, specifications, conditions, procedures and permissible limits that must be observed in the development of activities and uses of property that cause or could cause ecological imbalance or environmental harm....<sup>21</sup>

The regulation implementing the State Ecology Law states that federal Ecological Technical Norms (now Official Mexican Norms)<sup>22</sup> are applicable to matters that are within state jurisdiction, where the state does not mandate the application of another standard.<sup>23</sup> State officials indicate that the state generally applies federal norms and criteria, even though the state has authority to create stricter criteria.

## 3. *Inter-governmental coordination*

The state government may enter into coordination agreements with the federal government to ensure compliance with the provisions of the Federal and State Ecology Laws.<sup>24</sup> There are currently no formal interagency agreements. As mentioned above, officials meet on a weekly basis to coordinate their efforts.<sup>25</sup>

Nuevo León is one of a small number of states that has received additional federal funding for environmental protection, due to the seriousness of its environmental problems.

#### **D. Relationship Between the State and Municipal Environmental Protection Regimes**

##### *1. Distribution of jurisdiction*

The state Constitution establishes certain municipal responsibilities relating to environmental protection. These include, for example, the provision of drinking water, the creation and maintenance of parks, and the operation of sewer and sanitation systems.<sup>26</sup>

With respect to those areas of environmental protection that are not under federal control, the State Ecology Law distributes jurisdiction between the state and the municipalities. This distribution is discussed in more detail in subsequent sections dealing with specific environmental issues. In general, where two or more municipalities have geographic jurisdiction over a specific environmental protection activity, they are to develop plans for regulating these activities in conjunction with the state government.<sup>27</sup>

According to state officials, the municipality's jurisdiction as described in the State Ecology Law is not always clear. A proposed Ecological Ordinance for Monterrey seeks to expand the activities of the municipal Office of Ecology by clarifying jurisdiction between state and municipal authorities.

##### *2. Development of municipal regulatory standards and policies*

According to the State Ecology Law, municipalities may enact ordinances relating to all matters of municipal jurisdiction that are covered by the law, in accordance with the state Constitution and other applicable laws.<sup>28</sup> Municipalities may also formulate municipal ecological policies and criteria in accordance with those adopted by the federal and state governments.<sup>29</sup> The law charges municipalities with applying "Ecological Technical Norms" in matters of municipal jurisdiction.<sup>30</sup>

##### *3. Inter-governmental coordination*

The state may enter into coordination agreements with municipal governments to: 1) ensure compliance with the provisions of the Federal and State Ecology Laws; 2) promote the intervention of municipal governments in carrying out environmental protection activities within municipal territory; and 3) regulate and plan ecological activities in urban areas. The state's environmental

regulation specifically directs the Secretariat to promote the adoption of coordination agreements among municipalities in the metropolitan area of Monterrey, in order to facilitate implementation of the State Ecology Law, its regulation, and all applicable standards.<sup>31</sup> Municipal officials in Monterrey note that the state and municipal governments have been working on an agreement to help clarify jurisdictional issues.<sup>32</sup>

Federal, state and municipal authorities rely on their regular weekly meetings to clarify problems regarding jurisdiction or interpretation of the law, rather than on formal coordination agreements.

### **III. ENVIRONMENTAL POLICY TOOLS**

In addition to the regulatory mechanisms established for specific issues such as water and air pollution, solid waste management and protected natural areas, the State Ecology Law sets out certain basic policy instruments that are to be used to further the general and specific environmental protection criteria established in the law. These policy instruments include: (1) ecological land use planning; (2) ecological regulation of human settlements; (3) environmental education and research; (4) environmental information and monitoring; and (5) environmental impact assessment. In addition, the state is charged with developing a State Ecology Program consistent with the provisions of the State Ecology Law, the Urban Development Law, the Health Law, and any other applicable laws.<sup>33</sup>

#### **A. Land Use and Development Planning**

In Nuevo León, the state (through the Secretariat) has jurisdiction to grant land use permits. In Monterrey, the municipal government has power to authorize construction permits for buildings with less than 1,500 square meters (approximately 16,000 square feet) in floor space.

##### *1. Ecological land use planning*

According to the State Ecology Law, ecological land use planning, or "ecological ordering" (*ordenamiento ecológico*) is a planning process aimed at evaluating and programming land use and natural resources management within the state territory, in order to preserve and restore ecological balance and protect the environment. Ecological land use planning on the state level in Nuevo

León is to be based on national ecological land use planning, particularly with respect to the siting of productive activities and the regulation of human settlements.<sup>34</sup>

The following criteria are to be considered in developing the state's ecological land use planning: the nature and characteristics of each ecosystem; the natural resources of each zone or region; the distribution of population and predominant economic activities of the area; the balance that must exist between human settlements and environmental conditions; and the environmental impact of new human settlements or activities.<sup>35</sup>

The ecological land use plan developed by the state must in turn be taken into account in a number of decisionmaking contexts: when creating urban development plans and programs; establishing new population centers; creating territorial reserves or determining land uses; providing government support to productive activities; developing public works; and authorizing the siting, construction and operation of industrial, commercial and service plants and facilities.<sup>36</sup>

The State Ecology Law also specifically links consideration of air pollution control objectives with local land use planning decisions. State and municipal governments must apply the law's general criteria for protecting the atmosphere when establishing land uses, including the determination of areas in which polluting industries may be established.<sup>37</sup> In zones that have been determined appropriate for industrial use, and that are located near residential areas, the appropriate authorities are to promote the installation of industries that use less-polluting technologies and fuels.<sup>38</sup> The regulation implementing the State Ecology Law goes a step further, directing the Secretary of Urban Development to promote the relocation of fixed sources from areas where topographical and meteorological conditions impede the adequate dispersion of pollutants and pose an imminent risk to ecological balance.<sup>39</sup>

## 2. *Ecological regulation of human settlements*

In the state of Nuevo León, the regulation of human settlements through urban planning is an important instrument for implementing environmental policy.

Urban planning is governed primarily by the Urban Development Law. Among other things, the law seeks to harmonize urban development with environmental protection and ecological balance and to encourage rational use of natural resources.<sup>40</sup> The law creates a "State System for Urban Coordination" designed to decentralize the implementation of urban development policies from the state to the municipal level and to establish the framework for governmental coordination and public participation. The state Executive must enter into urban coordination agreements to determine the manner in which municipalities shall apply the law.<sup>41</sup>

The state Constitution and the State Ecology Law also address urban development and the ecological regulation of human settlements. According to the Constitution, environmental considerations are to be incorporated into the state Urban Development Program.<sup>42</sup>

The State Ecology Law provides that urban development and the regulation of housing and human settlements must seek to maintain, restore and improve the balance between human settlements and natural elements.<sup>43</sup> The State Ecology Law notes specifically that urban development plans and programs must: observe applicable environmental legal requirements; follow the ecological land use planning developed at the state level; maintain a balance between green areas and housing; regulate subdivisions in accordance with ecological criteria; and adequately regulate roads and public transportation.<sup>44</sup> All housing programs carried out or financed by the state government must seek to include sufficient green areas, and to incorporate ecological criteria both in the design and in the technology used.<sup>45</sup>

The State Ecology Law also requires generally that urban development plans and programs that designate land uses take into account topographical, climatological and meteorological conditions to ensure control of polluting emissions.<sup>46</sup> In addition, urban development plans must specify the zones in which industries, businesses or services classified as hazardous (based on the seriousness of the effects that they could have on ecosystems or the environment) are allowed.<sup>47</sup> In determining these zones, the following criteria are to be considered:

- meteorological, topographical and climatological conditions that facilitate control of emissions;
- proximity to population centers;
- the possible impacts that extraordinary events or accidents related to the hazardous activities could have on population centers and natural resources;
- compatibility with other activities in the area;
- existing and necessary infrastructure for addressing ecological emergencies; and
- infrastructure needed for providing basic services.<sup>48</sup>

### 3. *Economic development planning*

Under the heading "ecological planning," the State Ecology Law briefly addresses general economic development planning issues. The law provides that the planning and promotion of economic development within the state must take into consideration environmental policies and the ecological land use planning established under the law, as well as the evaluation of the environmental impact of proposed activities.<sup>49</sup>

## B. Environmental Impact Assessment

The State Ecology Law defines environmental impact statement (EIS) as a document containing information on the significant and potential environmental impacts of a specific activity, as well as the ways in which those impacts may be prevented.<sup>50</sup> Under the law, certain activities must undergo state environmental impact review before they are undertaken.

**Applicability.** Public or private activities that might cause environmental damage by exceeding the limits and conditions established in applicable legal provisions are subject to prior authorization by the state or the appropriate municipalities. This requirement applies to activities that are not under the jurisdiction of the federal government.<sup>51</sup> The State Ecology Law lists the following specific activities as subject to state environmental impact review:

- state public works;
- rural roads;
- industrial parks or zones;
- industries or activities not considered to be highly hazardous by the federal government;
- exploration, extraction and processing of certain minerals or substances that constitute natural deposits;
- development of state, municipal or private tourist resorts;
- installation of treatment, storage and disposal systems for waste waters and non-hazardous solid wastes; and
- subdivisions, housing complexes and new population centers.<sup>52</sup>

An EIS is not required for the construction, maintenance or demolition of buildings in urban areas or for certain modifications to urban buildings where a license or permit has been granted by the competent authority.<sup>53</sup>

**Contents of the EIS.** The Secretariat is the state agency responsible for conducting environmental impact review. The EIS can be prepared either directly by the Secretariat or by the interested party through specialized service providers, as long as the providers are registered with the Secretariat.<sup>54</sup> The environmental regulation establishes the registration procedures and the circumstances under which registration may be cancelled.<sup>55</sup>

The state's environmental regulation provides for three types of EISs -- general, intermediate and specific -- which parallel those established in the Federal Ecology Law. Intermediate and specific EIS's are submitted at the request of the Secretariat when the characteristics of the project or the site conditions necessitate more detailed information than is provided in a general EIS.<sup>56</sup>



A general EIS must include the following information:

- name, nationality and address of the interested party;
- description of the intended project, including the site;
- projected investment;
- type and quantity of natural resources to be used;
- programs for waste management and for the suspension of operations;
- general information on the natural and socioeconomic characteristics of the area;
- verification of compliance with applicable land use standards and regulations;
- description of the environmental impact of the project; and
- measures for preventing and mitigating environmental impacts.<sup>57</sup>

An intermediate EIS must include a description not only of the possible modifications to the environment caused by the project, but also of any necessary adjustments to the prevention and mitigation measures proposed in the general EIS.<sup>58</sup> Among other things, a specific EIS must include: a detailed description and justification of the proposed activity or project, from site selection through termination of the project; an analysis of the present and projected quality of various environmental indicators at the project site as well as an evaluation of the environmental impacts that will result from each stage of the project; and a description of the prevention and mitigation measures for reducing adverse environmental impacts at each stage of the project.<sup>59</sup>

For activities involving the use of natural resources, the project proponent must include a description not only of the resources used for the specific activity, but also of the effects that the activities may have on ecosystems and the surrounding natural elements.<sup>60</sup>

The Secretariat may request additional information, including the technical information used in determining the environmental impacts of the project, when greater detail is needed to evaluate the EIS.

In addition to the EIS, the state may require a Risk Study for new or modified projects.<sup>61</sup> Neither the State Ecology Law nor its regulation elaborates on the requirements of a Risk Study. According to officials, the authorities have discretion to determine the cases in which a Risk Study is required. For example, a Risk Study could be required for a project that involves the handling of non-hazardous materials or waste, when the combination of such materials could cause an environmental emergency.

The environmental regulation provides that the EIS may be waived if the environmental impacts of the project will not cause ecological imbalance or surpass legal limits and conditions. The project proponent may submit a report to make this showing, which must include at a minimum: general information about the project proponent; a detailed description of the project; and a detailed description of the substances or products to be used in the execution of the project; a

detailed description of the substances and products that will result from the activity (including air emissions, waste water discharges, types of waste and procedures for final disposal).

If this information is deemed insufficient for the issuance of authorization, the Secretariat may request additional information or an EIS.<sup>62</sup> In reviewing the report to determine whether an EIS must be submitted, officials are to consider the nature of the activity, as well as the features and ecological fragility of the area involved.<sup>63</sup>

***EIS Determinations.*** Once the EIS is complete, it is evaluated by the Secretariat.<sup>64</sup> The Secretariat may request a technical report from other interested state or federal agencies when necessary due to the characteristics of the project.<sup>65</sup> According to state officials, it is the Subsecretariat that actually carries out EIS review. This is handled through coordination between the Secretariat, the Subsecretariat and other authorities that may intervene in the EIS review process (e.g., the Subsecretariat of Health and the Office of Ecology of the corresponding municipality).<sup>66</sup>

Although the State Ecology Law makes several general references to municipal evaluation of EISs, it does not provide any guidelines or procedures for such evaluation. In practice, the role of municipal governments is limited to commenting on EISs for projects within the municipality's jurisdiction. In Monterrey this role is important, since projects generally are not carried out as proposed without the Monterrey Office of Ecology's approval. As of 1994, the municipality had commented unfavorably on approximately 15% of the EISs it reviewed, and those projects were not authorized by the state as originally proposed.<sup>67</sup> According to municipal authorities, the draft environmental ordinance for Monterrey would establish guidelines to be followed by the municipality when commenting on proposed projects.<sup>68</sup>

The state may request technical assistance from the Federal government for the evaluation of EISs or risk analyses.<sup>69</sup>

When a general EIS is presented, the Secretariat evaluates it together with any additional information requested and issues a decision within 30 days after the application is submitted, or 40 days if a technical report has been requested from another agency. Instead of issuing a decision, the agency can request an intermediate or specific EIS.<sup>70</sup> Within 60 days of receiving an intermediate EIS, the state must either make a decision or require a specific EIS. The agency must make a decision within 90 days of receiving a Specific EIS. These deadlines may be extended by 30 days if a technical report has been requested.<sup>71</sup>

In evaluating an EIS, certain statutory factors must be taken into account, including:

- ecological land use plans;
- protected natural area designations;<sup>72</sup>
- ecological criteria for protection of wild and aquatic flora and fauna, for rational use of natural elements and for protection of the environment;
- ecological regulation of human settlements; and
- existing environmental regulations and standards.<sup>73</sup>

State authorities indicate that they pay special attention to how the project proponent intends to mitigate risk.

The state may authorize the activity or project under the terms and conditions indicated in the EIS, authorize the planned activity or project with modifications; or deny the authorization.<sup>74</sup> A conditional authorization contains the requirements that must be met in order to carry out the activity.<sup>75</sup>

Once the EIS has satisfied all legal requirements, the file is available for public review. The project proponent may ask the authority to keep the file confidential if industrial property rights or legal interests of a commercial nature may be affected.<sup>76</sup> State officials indicate that there has not been significant public participation in the environmental impact review process.<sup>77</sup>

#### **IV. ENVIRONMENTAL PROTECTION**

The State Ecology Law establishes the broad framework for pollution control and prevention for matters under state and municipal jurisdiction. The regulation issued pursuant to the law contains more detailed provisions, in some cases providing the state with considerably more authority to take action against polluting facilities. For example, the regulation authorizes the Secretariat to promote, before the appropriate local or federal authorities, the restriction or suspension of any activity -- whether of an industrial, commercial, service, urban development or other nature -- if that activity "affects or could affect the environment or cause ecological imbalance."<sup>78</sup>

In addition to the regulatory mechanisms described below, the state makes extensive use of written agreements (*convenios de concertación*) with regulated facilities. Officials view these agreements as a way to maximize limited resources for ensuring that the state's many industrial and commercial facilities comply with new environmental standards and requirements. The agreements usually do not contain facility-specific operating conditions or standards. The documents affirm that the facility will bring its operations into compliance with applicable legal requirements within a certain period of time, as well as take certain steps to improve environmental conditions. For its part, the state may agree to work with the facility to assist in carrying out the measures necessary for improving the facility's environmental performance.

For example, an agreement entered into with a materials extraction company contains a clause stating that the company will prepare a plan for improving pollution control in its installations, and that it will acquire and use new pollution control technology aimed at reducing pollutant emissions. Another agreement, entered into with an association of service stations, affirms that the facilities will "respect the environment," comply with the modernization program established by PEMEX (the parastatal oil company) and comply with federal, state and local safety guidelines; the state agrees to

expedite the development of measures that the facilities must take to bring themselves into compliance with land use regulations.

## **A. Prevention and Control of Air Pollution**

### *1. Distribution of jurisdiction*

According to the State Ecology Law, the state is responsible for preventing and controlling air pollution from fixed sources, other than those under federal or municipal jurisdiction.<sup>79</sup> The law gives municipalities responsibility for controlling air pollution from activities considered to be of "low ecological risk."<sup>80</sup> State, municipal and federal authorities have indicated that the determination of high or low environmental risk is fairly subjective. The proposed Monterrey municipal environmental ordinance aims to clarify this and other jurisdictional issues.<sup>81</sup>

Municipalities have jurisdiction for preventing and controlling air pollution from mobile sources other than state or federal public transportation systems. In practice, however, vehicle inspection is undertaken by the state. According to officials, any fines collected are divided between the state and the municipalities.

### *2. Regulatory mechanisms*

**Standards.** The State Ecology Law broadly prohibit air pollutant emissions that cause or could cause ecological imbalance or environmental harm. The state's environmental regulation also sets forth two general criteria governing air quality protection, which parallel the principles set out in the Federal Ecology Law:

- (1) Air quality must be satisfactory in all human settlements and regions of the state; and
- (2) Air emissions, whether from artificial or natural, fixed or mobile sources, must be reduced or controlled to ensure air quality that is satisfactory for human well being and ecological balance.<sup>82</sup>

Emissions from fixed and mobile sources must comply with the provisions of the State Ecology Law and any regulatory provisions issued under the law, as well as with any federal Ecological Technical Norms (now Official Mexican Norms).<sup>83</sup> The law also prohibits the operation within municipalities of vehicles whose emissions exceed the maximum permissible levels established in applicable regulations and technical standards.<sup>84</sup>

As noted earlier, the environmental regulation establishes that federal technical standards are applicable to matters under state jurisdiction where the state has not issued its own standards.<sup>85</sup> The air quality standards that are currently applied within the state are those set by the federal government.

**Permits/Licenses.** While the State Ecology Law does not make reference to air emissions permits or licenses, the regulation does require that fixed sources of local jurisdiction which emit liquid or solid particles, odors or gases, obtain an operating license from the Secretariat.<sup>86</sup> Those sources must submit to the Secretariat an application containing information required by the regulation concerning: the processes that generate the emissions; the primary materials and fuels used and how they are stored and transported; the products and wastes generated, and how these are stored, transported and distributed; and the quantity and nature of expected pollutant emissions. The application must also provide information on pollution control equipment and emergency response plans to be used by the facility.<sup>87</sup>

The Secretariat has 30 working days following the submission of all required information to either approve or deny the license. The license is to specify the following:

- the frequency with which the facility must submit to the Secretariat an inventory of its emissions;
- the frequency with which the facility must carry out measurement and monitoring of its emissions;
- the actions that the facility must take in the event of an emergency; and
- the equipment that must be used and the other requirements that must be met (as determined by the Secretariat) for preventing and controlling air pollution.

When there are no existing Ecological Technical Norms applicable to a particular source (due to the unique characteristics of the source), the Secretariat is authorized to establish specific maximum levels of emissions and incorporate those into the operating license.<sup>88</sup>

Once a license has been granted, the facility must submit annually an operations certificate containing information as required by the regulation. Based on this information, the Secretariat may modify specific maximum emission levels that were previously established for the facility if: the zone in which a facility is located becomes a "critical zone," there exist more efficient technologies for controlling air pollution, or there have been changes in the production processes used by the facility.<sup>89</sup>

The state began issuing operating licenses in 1995. Prior to then, state officials indicate that they utilized the land use permit process to review the types of air emissions that would be generated by an activity. Federal officials note that the federal government issued air permits to fixed sources of state jurisdiction until the state set up its air permitting program.<sup>90</sup>

**Installation of Equipment.** State and municipal governments are called upon to enter into agreements with those undertaking polluting activities for the installation of emissions control equipment and, where appropriate, to require such equipment. If the polluting activities fall under federal jurisdiction, the state and municipal governments are expected to encourage the federal government to seek the installation of pollution control equipment.<sup>91</sup>

The State Ecology Law also specifically requires emissions control equipment for fixed emission sources of state jurisdiction, to ensure that emissions do not exceed the maximum permissible levels established in applicable Ecological Technical Norms. The environmental regulation requires that emissions generated by fixed sources must be channelled through discharge ducts or chimneys that are adequate to disperse pollutant emissions in accordance with Ecological Technical Norms.<sup>92</sup>

In general, state authorities have not imposed specific technological requirements on facilities as a means of ensuring compliance with federal emissions standards. According to officials, many of the agreements between industries and the state provide that the facility will use the technology necessary to reduce pollution and comply with applicable standards. Officials indicate that most industries do so without the state having to compel the use of specific technology.<sup>93</sup>

**Monitoring.** Those responsible for fixed sources are required to install monitoring platforms and ports, measure emissions, and report the results in the manner determined by the Secretariat. The surrounding area must be monitored as well if the source (1) is located in an urban or suburban area; (2) borders a protected natural area; or (3) could cause serious ecosystem deterioration. All monitoring carried out by facilities, as well as state and local verification of emission levels, must be undertaken in accordance with applicable Ecological Technical Norms.<sup>94</sup>

State and municipal governments are responsible for establishing and operating systems for verifying emissions from automobiles.<sup>95</sup> The Secretariat, in coordination with the Secretariat of Public Works and Transportation, is to establish the procedures for monitoring emissions of public transport vehicles. Such monitoring is to take place at authorized inspection centers, which issue a certificate of compliance to those vehicles not exceeding the applicable Ecological Technical Norms. The Secretariat of Public Works and Transportation may only renew the concession for a public transit vehicle if the vehicle possesses a current certificate of compliance with emissions standards.<sup>96</sup>

Municipalities explicitly are given jurisdiction to establish and operate emissions inspection systems for vehicles operating within municipal population centers, and may impose limitations on the operation of vehicles that exceed the maximum permissible limits contained in applicable regulations and Ecological Technical Norms.<sup>97</sup> Despite this grant of jurisdiction to the municipal governments, it is the state that operates the vehicle emissions program through the Department of Vehicle Verification within the Subsecretariat. Vehicles are required to pass an emissions test every six months. The state also has undertaken an initiative aimed at ensuring that by 1995, most vehicles in operation will be under 10 years old.<sup>98</sup>

Municipal and state governments are required to establish air quality monitoring systems, and to maintain the results in a permanent registry of pollutant concentrations.<sup>99</sup> Further, all monitoring data collected by the state and the municipalities are to be integrated into a State Air Quality Information System maintained by the Secretariat, and integrated into the Federal Air Quality Information System.<sup>100</sup>

The state of Nuevo León has created the Integrated System of Environmental Monitoring (*Sistema Integral de Monitoreo Ambiental* or SIMA) which consists of five automatic monitoring stations that continually analyze air quality in the Monterrey metropolitan area. The main pollutants measured are carbon monoxide, sulfur dioxide, nitrogen oxides and ozone. All monitoring stations are connected to an information processing center where the information is analyzed.<sup>101</sup> The municipality assists in operating these centers.

***Inventory.*** State and municipal governments are responsible for creating and maintaining an inventory of fixed sources and their emissions, which is to assist the Secretariat in formulating air pollution control strategies.<sup>102</sup> Those responsible for these sources must provide authorities with all information required to develop and maintain the inventory.<sup>103</sup>

According to officials, the federal government keeps an inventory of sources of federal jurisdiction and the state keeps an inventory and record of all sources of state jurisdiction. The state also maintains information on air emissions through the agreements entered into between the state and industries, some of which contain general information on the types of emissions the industry will produce.

## **B. Prevention and Control of Water Pollution**

Water pollution is one of the most serious problems in Nuevo León, according to federal, state and municipal officials. Many industrial discharges are not treated, and these discharges enter a sewage collection system that does not separate industrial and municipal waste waters.

### *1. Distribution of jurisdiction*

The state is responsible for preventing and controlling pollution of drinking water systems, stormwater and sanitary sewer systems, and federal waters assigned to the state government for the provision of public services. The state also has jurisdiction to regulate the rational use of water resources.<sup>104</sup>

The State Ecology Law lists several types of discharges and activities that are subject to regulation by the state, within the ambit of the state's jurisdiction over water pollution control:

- industrial discharges;
- municipal discharges;
- discharges from agricultural or cattle raising activities;
- discharges from non-renewable resource extractive activities;
- discharges from the use of pesticides, fertilizers and toxic substances;
- infiltration of pollutants into the groundwater; and
- the disposal of solid waste into water bodies and currents.<sup>105</sup>

The Secretariat has primary responsibility for carrying out the state's water pollution control activities, and may do so in coordination with the Secretariat of Health, the Secretariat of Agriculture and Livestock, and the Secretariat of Commerce and Economic Development, as well as with the Office of Water and Drainage of Monterrey.<sup>106</sup>

The State Ecology Law makes no reference to municipal jurisdiction over water pollution control. However, in practice municipalities may carry out inspections of discharges to sewer and drainage systems. The municipalities mainly enforce discharge standards and conditions for discharges generated by small businesses (those not exceeding 1,500 square meters in size). Most of the actions of the Monterrey Office of Ecology involve businesses such as dry cleaners and auto repair shops.<sup>107</sup>

## 2. *Regulatory mechanisms*

**Standards.** The State Ecology Law provides generally that municipal, industrial or agricultural discharges onto land or into sewer systems or bodies of water must meet conditions necessary for preventing 1) pollution of the receiving bodies; 2) interference with water purification processes; and 3) alterations or obstructions to the proper use and functioning of the sewer systems or to the hydraulic capacity of the receiving water bodies.<sup>108</sup>

The specific water quality standards that are currently applied in the state are those issued by the federal government. The Subsecretariat is charged with ensuring compliance with those guidelines and standards.<sup>109</sup>

The State Ecology Law authorizes the state to set Special Discharge Conditions for waste waters discharges that do not meet Ecological Technical Norms.<sup>110</sup> The environmental regulation states that facilities must comply with Special Discharge Conditions within six months, or within a year if the construction of water treatment facilities is required.<sup>111</sup>

The state government is also authorized to set the criteria, guidelines, requirements and other conditions that must be fulfilled regarding the storage and use of waste waters, in order to prevent pollution that might affect ecosystem balance. When public health is threatened, the government is



to coordinate these actions with the Secretariat of Health.<sup>112</sup> In practice, the Secretariat of Health refers the file of any such case to the Subsecretariat for appropriate action.<sup>113</sup>

Although the state's Health Law contains guidelines to be followed regarding drinking water services, the federal Secretariat of Health is the only agency that has issued standards for drinking water. The state Secretariat of Health is in charge of verifying compliance with standards set by the federal government. If a violation is suspected, the file is sent to the Subsecretariat for further action.<sup>114</sup>

The Congress of the state of Nuevo León has enacted a Regulation for Water and Drainage Services which deals mainly with water consumption measures. However, the regulation does prohibit pollution of water pipes by the users of these services and forbids users from discharging into the storm water system any solid materials that may obstruct water flow, or any substances that because of their chemical nature may directly or indirectly affect or alter the nature of the effluent.<sup>115</sup>

**Registration and Authorization of Discharges.** The State Ecology Law makes only brief mention of state authorization of discharges. According to the law, waste waters containing pollutants that present a risk to human health may not be discharged into any body of water, into the soil or into sewer systems without prior treatment and without a permit or authorization from the Secretariat.<sup>116</sup>

The regulation implementing the State Ecology Law provides additional detail on this subject. The regulation establishes two interrelated requirements -- registration of discharges and authorization of discharges.

The environmental regulation requires that all discharges under state jurisdiction be registered with the state. According to the regulation, infiltration to aquifers and dumping of solid waste into water bodies is also subject to registration. *Existing* discharges were to be registered within six months of May, 1990, the date the environmental regulation took effect. Registration of *new* discharges (initiated after the regulation took effect) must be carried out once a discharge authorization has been granted.<sup>117</sup>

Registrants are to use forms provided by the Secretariat, which must include the following information:

- point of discharge and a map of the area where the discharge is taking place;
- physical and bacteriological characteristics of the discharge;
- daily volume of the discharge;
- general description on the treatment applied to the waste waters; and
- information on any current discharge authorization and the conditions that have been made part of that authorization.<sup>118</sup>

The registration process functions essentially as an authorization process, since the state uses the registration information to determine the conditions that must be met prior to authorizing the

discharge. In making this determination, the state is to consider any technical opinions issued by the state Secretariat of Health and the state Water and Drainage Services Administration or the state Drinking Water and Sewer System (SEAPA).<sup>119</sup> The conditions must be satisfied within six months, or within one year if the construction of facilities is involved.<sup>120</sup> In the event of noncompliance with these requirements, the Secretariat may prohibit the discharge and order any applicable emergency measures provided by the law.<sup>121</sup>

The environmental regulation also describes an authorization process for discharges subject to state jurisdiction. However, those provisions seem to apply only to new discharges, which are required to obtain discharge authorization prior to registration.<sup>122</sup> For these cases, the authorization process appears very similar to the registration process. According to the regulation, applications for discharge authorization include the same information that is required to register a discharge.<sup>123</sup> Once the application is received, the Secretariat is to request technical opinions from the state Secretariat of Health and from the state Water and Drainage Services, as appropriate. An opinion by the state Secretariat of Agricultural Development will also be requested when the authorization is sought for discharges that could affect agricultural lands. Additional technical studies may also be carried out or requested in order to determine whether discharge authorization will be granted.<sup>124</sup>

After all information relating to an application has been collected and the technical opinions have been considered, the Secretariat will grant or deny authorization and establish the appropriate discharge conditions and treatment requirements.<sup>125</sup> If the nature of the activities producing the discharge changes, the discharge conditions established in the authorization are to be reviewed by the state and modified as necessary.<sup>126</sup>

In practice, Water and Drainage of Monterrey is the governmental office in charge of granting discharge authorization. This office keeps a registry of discharges and enters into agreements with industries in order to ensure that discharges comply with current standards. These agreements between Water and Drainage of Monterrey and industrial facilities establish the terms under which the agencies monitor and measure the discharges to ensure their compliance with applicable standards and with Special Discharge Conditions established by the Subsecretariat. The entity generally reports any violations to the federal authorities (PROFEPA) or to the Subsecretariat for enforcement.<sup>127</sup> According to state officials, many discharges remain unregistered.

Discharge authorization may be suspended or cancelled when the Secretariat determines that the waste waters being discharged are affecting or might affect drinking water sources.<sup>128</sup> In such cases the responsible party will be asked to cease discharging immediately, and will be notified as to why the discharge is considered a threat to the water source. The Secretariat will then evaluate any evidence presented and issue a resolution.<sup>129</sup> In practice, the Subsecretariat is responsible for carrying out the suspension or cancellation of authorization.

Municipal authorities have responsibility for authorizing discharges for facilities that are less than 1,500 square meters.

**Waste Water Treatment.** As noted above, waste waters containing pollutants that present a risk to human health may not be discharged into any body of water, into the soil or into sewer systems in population centers without previous treatment and a permit or authorization from the Secretariat.<sup>130</sup> Under the State Ecology Law, the granting of authorizations, concessions and permits for the exploitation or use of water for economic activities that might generate water pollution are to be conditioned on treatment of the waste water generated.<sup>131</sup> Facilities are responsible for carrying out the treatment required.<sup>132</sup>

Urban waste water treatment equipment that is operated, designed or managed within the state must comply with applicable Ecological Technical Norms.<sup>133</sup> Waste water treatment plants are also subject to any applicable sanitary requirements issued by the Secretariat of Health.<sup>134</sup> Although waste water treatment standards are set by the federal government, the Subsecretariat is in charge of establishing operating conditions for treatment facilities and ensuring that existing standards are met.

According to state officials, the state is currently building three new waste water treatment plants. Through a voluntary program with the government known as the Ecological Pact (*Pacto Ecológico*), representatives of the private sector have stated that all large industries shall be responsible for building their own treatment facilities.<sup>135</sup>

**Monitoring.** The state government is responsible for monitoring compliance with technical standards for discharges of waste waters into rivers, basins, and all other water deposits.<sup>136</sup> The State Ecology Law directs the Secretariat, in coordination with the Secretariat of Health, other state authorities and municipalities, to conduct ongoing water quality monitoring.<sup>137</sup> The Secretariat, in coordination with Monterrey Water and Drainage Services and SEAPA, is also in charge of inspection and surveillance of the drinking water systems in order to prevent pollution, and of implementation of any necessary measures when public health is threatened.<sup>138</sup> In practice, Monterrey Water and Drainage Services monitors waste water discharges and reports any violations to PROFEPA or to the Subsecretariat for enforcement.<sup>139</sup>

**Reuse of waste waters.** According to the State Ecology Law, the state government is to promote the reuse of treated waste waters for agricultural and industrial activities.<sup>140</sup> Waste waters coming from urban sewer systems may be used in industry and agriculture if they are subject to appropriate treatment in compliance with the technical norms issued by the Secretariat in coordination with the federal Secretariat of Agriculture and Water Resources, the Secretariat of Health and all other competent authorities.<sup>141</sup>

## C. Solid Waste

According to state officials, solid waste management is a priority in the state due to the large amount of waste generated by households and industries. New waste disposal facilities are being planned to replace old facilities.

The Metropolitan System of Waste Processing (*Sistema Metropolitano de Procesamiento de Desechos* or SIMEPRODE) is responsible for processing all non-hazardous solid waste in the metropolitan area of Monterrey. SIMEPRODE falls within the administrative structure of the Secretariat.<sup>142</sup> In addition, there are ten private companies that have capacity for processing some of their own waste.<sup>143</sup>

### 1. *Distribution of jurisdiction*

The state has jurisdiction over prevention and control of soil pollution from substances that are not considered highly hazardous under the Federal Ecology Law.<sup>144</sup> Municipalities also play an important role in the control and disposal of solid waste. According to the State Ecology Law, municipal governments are responsible for managing and disposing of non-hazardous solid waste in urban areas.<sup>145</sup> Municipalities specifically are given authority to enact provisions governing collection, treatment and final disposal of solid waste, in accordance with the provisions of the State Ecology Law, its regulation and any applicable Ecological Technical Norms. They are authorized to exercise control over facilities for the storage and disposal of solid waste and to develop ordinances aimed at controlling pollution from solid waste collection systems.<sup>146</sup>

The State Ecology Law and its regulation provide for the establishment of agreements between municipalities, and between the municipalities and the state, for the implementation and improvement of systems for collection, storage, transport and disposal of solid waste, especially in urban areas.<sup>147</sup> The law calls on the state to carry out, in coordination with the municipalities, the development and improvement of solid waste collection, treatment and disposal systems.<sup>148</sup>

### 2. *Regulatory mechanisms*

The State Ecology Law provides that the state and the municipalities may manage solid waste through urban development regulation and through the operation of municipal cleaning systems.<sup>149</sup> The law and regulation also establish the following provisions regarding solid waste management.

**Standards.** The State Ecology Law provides generally that all solid waste accumulations, deposits or infiltrations into the soil must meet conditions necessary to prevent or avoid: 1) soil pollution; 2)

adverse alteration of the biological processes of the soil; 3) alteration of the soil that affects its use or exploitation; and 4) risk or harm to human health. All solid waste generated must be treated so that it conforms to these criteria.<sup>150</sup>

The State Health Law also establishes certain guidelines governing solid waste management. That law establishes that all solid waste must be handled as efficiently as possible while being transported, and prohibits open burning outside areas specifically authorized for such purposes. In addition, medical waste must be handled separately and either incinerated or eliminated by other methods approved by the Secretariat of Health.<sup>151</sup>

In practice, the state Subsecretariat of Health applies federal standards and guidelines for waste disposal and refers violations to the Subsecretariat.<sup>152</sup>

**Permits/Authorizations.** According to the State Ecology Law, concessions for the collection, confinement, transportation, storage, reuse, treatment and final disposal of solid waste are subject to authorization by the state or municipalities. Authorizations must comply with the Ecological Technical Norms established for these activities.<sup>153</sup>

The regulation provides specifically for prior authorization by the Secretariat of all final disposal of non-hazardous solid waste.<sup>154</sup> According to state officials, the Secretariat issues this authorization, although the municipality in which the facility is located must also give its approval.

A party interested in obtaining authorization for solid waste disposal is to submit an application that includes: the types of waste generated; their composition, volume and origin; the frequency with which they are generated; the process to be implemented for their disposal; and a description of the site to be used.<sup>155</sup> According to the State Ecology Law, the Secretariat is responsible for issuing a technical report to determine if the process for disposal or confinement of the waste could pollute the soil or alter its biological processes, or present a threat to human health. Based on the technical report, the Secretariat will either deny or authorize the disposal and will establish the conditions that must be followed to prevent pollution.<sup>156</sup>

**Siting.** According to the state's Health Law, the Secretariat of Health may develop criteria for selecting disposal sites. The law provides that solid waste disposal sites must be at least 2 kilometers (1.24 miles) from any human settlement and not visible from any highway. It also prohibits garbage dumps, dunghills, or any other source of physical, chemical or biological pollution from being located near a drinking water storage facility.<sup>157</sup>

**Inventory.** According to the State Ecology Law, the municipalities are to develop an inventory of solid waste generating sources and of solid waste confinement areas. The information is to be integrated into the State and National Systems of Environmental Information.<sup>158</sup>

**Recycling.** The State Ecology Law promotes waste reduction and recycling. For example, state and municipal authorities are required to promote reduction in waste generation, and to adopt measures for incorporating reuse and recycling techniques and procedures.<sup>159</sup> The law also calls on the state, in coordination with the municipalities, to identify solid waste reuse and disposal

alternatives and to promote, through applicable legal instruments, the use of product packaging which might help reduce solid waste generation.<sup>160</sup>

## **D. Hazardous Activities and Ecological Emergencies**

The State Ecology Law defines an ecological emergency as a situation caused by human activities or natural phenomena which endangers one or more ecosystems by severely affecting its natural elements.<sup>161</sup> The law does not include a definition of a hazardous activity.

### *1. Distribution of jurisdiction*

The State Ecology Law provides that state and municipal governments are to regulate activities that are not considered *highly* hazardous, when those activities affect ecosystem balance or the environment within the state or municipality.<sup>162</sup> Municipalities have jurisdiction over the control of these activities when they do not involve hazardous wastes, and when they are generated by or related to public services that are regulated or managed by the municipalities.<sup>163</sup> In practice, hazardous activities in the state are managed by federal authorities.

The state and municipal governments are authorized to address environmental emergencies if the impacts do not extend beyond the territorial jurisdiction of the state or municipality. It is the state's responsibility to prevent and control emergencies when the magnitude or severity of their impacts extends to the territorial jurisdiction of more than one municipality.<sup>164</sup> Municipalities are responsible for preventing and controlling ecological emergencies when their magnitude does not extend beyond the municipality's territory, and when the activity involved does not require the exclusive involvement of the state or federal governments.<sup>165</sup>

### *2. Regulatory mechanisms*

**Standards.** Hazardous activities must comply with the provisions of the State Ecology Law and its regulation, as well as any applicable Ecological Technical Norms, safety standards and operational standards.<sup>166</sup> Facilities undertaking hazardous activities must use equipment that satisfies applicable requirements.<sup>167</sup>

**Permits.** The State Ecology Law provides that hazardous activities require the authorization of the Secretariat or the municipalities.<sup>168</sup>

**Emergency Planning.** Those who undertake activities that may cause environmental imbalance are required to develop and maintain accident prevention programs, and to present these to the Secretariat.<sup>169</sup> The Secretariat is to propose to the Governor the adoption of measures for controlling and preventing ecological emergencies, and to coordinate the implementation of those measures in situations requiring the intervention of two or more state authorities.<sup>170</sup>

**Siting.** As noted earlier, the State Ecology Law requires that state plans and programs for urban development designate the zones in which industries, businesses or services classified as hazardous may be located, and includes the factors to be considered in making such designations.<sup>171</sup>

## **E. Other Forms of Pollutions -- Noise, Vibrations, Noxious Odors, Thermal Energy and Visual Pollution**

### *1. Distribution of jurisdiction*

Pollution in the form of noise, vibrations, noxious odors or thermal energy is forbidden in excess of the maximum limits set by applicable Ecological Technical Norms. The Secretariat and the municipalities are to adopt measures necessary to enforce the maximum permissible levels of pollution established in these areas, and to apply any necessary corrective measures.<sup>172</sup>

The municipal governments, in accordance with local ordinances governing construction, municipal Ordinances on Police and Governance and all other applicable legislation, are responsible for regulating activities, works and advertising in order to prevent visual pollution and preserve the appearance of population centers.<sup>173</sup>

In Monterrey, the Office of Ecology has a department in charge of preventing visual or aesthetic pollution. This office grants permits for advertising within the city.

### *2. Regulatory mechanisms*

In Nuevo León, the standards applicable to emissions that cause noise, noxious odors, thermal energy or visual pollution are the maximum permissible levels established in federal Ecological Technical Norms.

In the construction of works or facilities, or in the case of activities that generate noise, vibrations, thermal energy, or odors, preventive actions and corrective measures must be adopted in order to avoid the impacts of these forms of pollution.<sup>174</sup>

The Secretariat is to determine the areas within the state that hold scenic beauty or landmark value and to regulate and authorize the types of works or activities that may be permitted in those areas, in order to prevent their deterioration.<sup>175</sup>

## V. NATURAL RESOURCE PROTECTION

### A. Protected Natural Areas

The State Ecology Law establishes a framework for creating and administering protected natural areas at the state level. The State Ecology Law considers the creation of parks and ecological conservation areas to be a matter of public interest.<sup>176</sup>

According to the State Ecology Law, protected natural areas of public interest are those areas within the state that are not subject to federal jurisdiction, that have not been significantly altered by human activity, and that are subject to special protection by the state.<sup>177</sup> These areas are established to:

- preserve the natural environments of the different biogeographical and ecological regions and of the most fragile ecosystems;
- ensure the balance and continuity of evolutionary and ecological processes;
- ensure the rational use of ecosystems and their elements; and
- generate knowledge and technologies that allow rational and sustainable use and preservation of the state's natural resources.<sup>178</sup>

According to the State Ecology Law, the group of natural protected areas designated by the state constitute the State System of Natural Protected Areas. The Secretariat is to keep a registry of the areas comprising this system, including all information contained in the declarations establishing the areas and in the public property registries.<sup>179</sup> The purpose of this system is to create a more unified set of requirements for establishing, conserving, developing and managing these areas.<sup>180</sup>

#### 1. *Distribution of jurisdiction*

The state has jurisdiction over protected natural areas other than those subject to federal jurisdiction.<sup>181</sup> State and municipal governments may participate in the establishment, conservation, management, development and surveillance of natural protected areas under federal jurisdiction in accordance with applicable federal law and existing coordination agreements.<sup>182</sup>

The Secretariat is in charge of establishing criteria for the preservation and conservation of natural protected areas under state jurisdiction.<sup>183</sup> The Secretariat must also coordinate with the municipalities for conducting studies and taking actions necessary to establish a basis for designating and administering these areas.<sup>184</sup>



In order to improve the conservation, management, development and surveillance of natural protected areas, the authorities may promote coordination agreements with the public and private sectors.<sup>185</sup>

## 2. *Regulatory mechanisms*

***Creation of protected natural areas.*** According to the State Ecology Law there are only two types of protected natural areas that fall under state jurisdiction: 1) urban parks and 2) areas of ecological conservation.

Urban parks are those areas within population centers that are created for public use, in order to achieve and preserve the balance between the built and the natural environments in a way that protects the environment and historical, artistic and aesthetic values.<sup>186</sup> Areas of ecological conservation on the other hand, are those that are established in areas surrounding human settlements and that have one or more ecosystems that have been well preserved. The purpose of these areas is to preserve natural elements that are essential for ecological balance and general wellbeing.<sup>187</sup>

Natural protected areas are established through a declaration issued by the Governor or the municipality.<sup>188</sup> Municipal governments are authorized to issue declarations creating urban parks; municipalities may participate in the creation of areas of ecological conservation, but only the state government may issue a declaration formally creating such an area.<sup>189</sup> The declaration must include a precise delimitation of the area, indicating the size, location and applicable zoning requirements, as well as the justification for any governmental expropriation of the land. Any individuals that have a proprietary or possessory interest in the land are to be notified, and the declarations are to be published in the state's official newspaper and inscribed in the appropriate public property registries.<sup>190</sup>

***Management Plans.*** The state or municipal government must develop a management plan for each natural protected area. Guidelines for these plans are to be contained in the declaration establishing the area.<sup>191</sup>

***Permits and Authorizations.*** The issuance of permits, concessions, licenses or authorizations for the exploitation, exploration or commercial use of resources in natural protected areas under state jurisdiction must be carried out in accordance with the State Ecology Law and all corresponding legal provisions.<sup>192</sup> Any party interested in the commercial exploration or exploitation of natural resources within protected areas must first undergo environmental impact review.<sup>193</sup>

Licenses or authorizations may be cancelled or revoked by the state government based on technical and socioeconomic studies showing that the activity involved creates ecological imbalance.<sup>194</sup>

## **B. Rational Use of Natural Resources**

### *1. Rational use of water and aquatic resources*

The state Executive, in coordination with municipal governments, is to issue provisions for establishing and managing areas for protecting waters under state jurisdiction. The state Executive is also to determine conditions for using federal waters assigned to the state for providing public services.<sup>195</sup>

The State Ecology Law establishes the following guidelines to be considered in the rational use of state waters:

- it is the responsibility of the state and the society to protect aquatic ecosystems and their elements;
- natural resources found in aquatic ecosystems are to be used in a manner that does not alter their ecological balance;
- the state must promote waste water treatment and reuse;
- state authorities may establish areas for protecting waters under state jurisdiction; and
- state authorities are to adopt the necessary measures for preventing and controlling water pollution.<sup>196</sup>

### *2. Rational use of soil resources*

In areas of serious ecological imbalance, the state government is to develop special restoration programs. When the ecological imbalance is causing desertification or irreversible loss of resources, the state governor may issue regulations governing land use and the use of natural resources.<sup>197</sup>

## **VI. ENFORCEMENT**

Enforcement at the state level in Nuevo León is characterized by two approaches: the use of the media and other forms of public attention to help bring about compliance, and the development of consensus among government, industry and the public on measures needed to achieve compliance. As noted earlier, state officials in Nuevo León feel that the use of coordination agreements with industries helps achieve compliance without formal enforcement actions by heightening industry, public and governmental awareness of a facility's environmental responsibilities.<sup>198</sup>

State officials note that surveillance and enforcement at the state level is driven by the public complaint process, described below. In addition, the state is increasingly emphasizing the use of

facility audits, and has incorporated this mechanism into some of the agreements developed with industry.<sup>199</sup>

## **A. Distribution of Jurisdiction**

The state, through the Secretariat, is charged with implementing administrative sanctions and emergency measures for violations of the State Ecology Law and its regulations, as well as of any applicable Ecological Technical Norms, for matters within state jurisdiction.<sup>200</sup> Complaints in matters relating to environmental protection received by other state agencies -- e.g., the Secretariat of Health -- are generally forwarded to the Secretariat for resolution.

Municipalities also utilize their authority to implement applicable administrative sanctions and emergency measures for matters within their jurisdiction. In Monterrey, municipal officials informally coordinate their enforcement efforts with those of the state.<sup>201</sup>

The state may enter into coordination agreements with the federal government or the municipalities to ensure compliance with and implementation of the provisions of the Federal Ecology Law, of the State Ecology Law and its regulations, and of Ecological Technical Norms.<sup>202</sup> When dealing with matters under federal jurisdiction, the state government, with the participation of the municipalities, may enter into coordination agreements with the federal government to act as auxiliaries in ensuring compliance with the Federal Ecology Law.<sup>203</sup>

## **B. Enforcement Mechanisms**

### *1. Inspections*

The state and municipal governments, within their respective areas of jurisdiction, are authorized to carry out inspections and other acts of surveillance to verify compliance with the provisions of the law and its regulations, as well as the Ecological Technical Norms.<sup>204</sup> According to state officials, both the Subsecretariat and the Monterrey Office of Ecology conduct inspections for matters within their jurisdiction.

**Procedures.** Although inspections are often triggered by a complaint, authorities may also inspect a facility independent of the filing of a complaint. Inspection visits are initiated through a written administrative order that must include the place or area to be inspected, the reason for the inspection, the scope of the inspection and the individuals authorized to perform the inspection.<sup>205</sup>

According to the State Ecology Law, the authorized inspector must require that the person in charge of the facility name two witnesses to observe the inspection.<sup>206</sup> The facility representative must allow the inspectors to visit all parts of the facility included in the inspection order, and must provide all information necessary for verifying compliance with the law. This information will be

kept confidential by the authority if so requested by the interested party, in the absence of a judicial order.<sup>207</sup> In addition to any other sanctions that may be applied, the authorities may request the assistance of the police force if any person obstructs the performance of an inspection.<sup>208</sup> Following every inspection, the inspector prepares a report of what was observed and provides a copy of the document to the representative of the facility.<sup>209</sup>

***Administrative Decisions.*** Once the agency has received a copy of the inspection report, it will require the interested party to adopt immediately any corrective measures that are urgently needed. The interested party then has ten working days to submit a written response to the allegations in the report and to submit evidence. Once this period for submitting evidence has elapsed and the evidence has been weighed, the agency has 15 working days to issue an administrative decision in the matter.<sup>210</sup>

The administrative decision includes any corrective measures that must be taken and the period in which they must be completed, as well as any sanctions that are to be applied. Within five working days following the period given for implementing the corrective actions, the violator must submit detailed written proof to the agency that he has complied with the order. If, after a second (or subsequent) inspection it is determined that a violator has not complied with a previous administrative order, that noncompliance may be sanctioned under the law as a repeat offense.<sup>211</sup>

In cases where a violation might be considered a criminal offense, the authority will notify the Public Ministry, the agency charged with prosecuting criminal matters.<sup>212</sup>

## 2. *Emergency measures*

The State Ecology Law establishes a number of measures which may be ordered by the Secretariat or by the municipality in cases involving an imminent risk of ecological imbalance or pollution within the state, with possible serious effects on ecosystems or public health.<sup>213</sup> These measures are:

- the suspension of works or services;
- the banning of certain activities;
- the confinement or destruction of polluting objects, materials or substances;
- the temporary, partial or total closure of sources of pollution; and
- the promotion (before the appropriate agency) of emergency measures available under other laws and regulations.

When an emergency measure is ordered, the authority is required to specify the ecological harm, pollution or public health risk that led to the action.<sup>214</sup> Where the affected party refuses to cooperate with the implementation of the order, police force may be used, as well as any applicable

legal sanctions.<sup>215</sup> Where repeat violations are involved, emergency measures may be ordered without prejudice to the issuance of other administrative sanctions, as described below.<sup>216</sup>

### 3. *Administrative sanctions*

The State Ecology Law authorizes the state and municipal governments to issue administrative sanctions in response to violations of the law, its regulation or other provisions derived from the law.

Once a violation has been discovered, the Secretariat (in practice, the Subsecretariat) is to notify the violator, who is given five days to provide any information or evidence relating to the allegations.<sup>217</sup> Once the five-day period has elapsed, the Secretariat may decide on the appropriate sanction to be imposed, noting the facts constituting the violation, the legal provisions violated, the legal provisions allowing the sanction, and any special circumstances affecting the determination of the sanction.<sup>218</sup>

In imposing sanctions on violators, the authority is to consider the nature of the violation and its effect on public health and ecological balance; the economic circumstances of the violator; and whether the violation is a repeat offense.<sup>219</sup>

**Fines.** Fines may be issued for an amount equivalent to between 20 and 20,000 times the daily minimum wage for the area where the violation is committed. In setting fines, the competent authority will take into consideration the size of the facility and the seriousness of the violation. If a violation has not been corrected within the time provided for doing so, the authority may impose fines for each day of noncompliance. In cases of repeat violations, the amount of the fine may be doubled.<sup>220</sup>

In practice, if the Subsecretariat or the Monterrey Office of Ecology finds a violation following an inspection, the violator is given a certain period to comply before a fine will be imposed. According to state officials, in over 90 percent of cases involving violations, industries comply with an order in a timely fashion. The Subsecretariat imposed fines in three cases over a period of three years ending in 1994. State officials note that they lack sufficient resources to give greater emphasis to issuing and enforcing fines, and that they prefer to work with facilities to develop measures to achieve compliance.<sup>221</sup>

**Closure.** Closures may be permanent or temporary, partial or total. When a violation is a repeat offense, the authority may seek permanent closure of the facility.<sup>222</sup> When closure is sought, the authority must provide a detailed record, in accordance with the provisions established for issuing an inspection report.<sup>223</sup>

In practice, authorities have resorted infrequently to closing a facility. Several facilities have been closed temporarily until compliance was achieved.

**Permit Revocation.** When the nature of the violation warrants, the administrative authority may seek the revocation, cancellation or suspension of any permit, license or authorization given for commercial, industrial or service sector activities, or for the exploitation of natural resources.<sup>224</sup>

**Administrative arrest.** Those who violate the law are subject to administrative arrest for up to 36 hours.<sup>225</sup>

#### 4. *Administrative appeals*

According to the State Ecology Law, an affected party may appeal the state's issuance of an administrative sanction or emergency measure through an appeal procedure known as the appeal for lack of conformity (*recurso de inconformidad*). The Legal Department of the Secretariat is authorized to process the appeal up until the final decision, which is issued by the Secretary.<sup>226</sup>

A party has 15 days after being notified of the administrative decision to file an appeal, which must be made in writing before the authority that issued the challenged decision.<sup>227</sup> That agency must then turn the case over to the Legal Department of the Secretariat. The appeal must include basic information regarding the appellant and the decision being challenged, the basis of the appeal, and the documents offered as evidence; it must also include any request for suspension of the administrative decision pending the appeal.<sup>228</sup>

After the authority has admitted the appeal as properly filed, it has 15 days to evaluate the evidence submitted and to suspend the implementation of the challenged decision, if appropriate.<sup>229</sup> Suspension of the decision may be granted when: the interested party so requests; there is no injury to the general interest; the case does not involve a repeat violation; execution of the decision may cause irreversible injury to the appellant; and the government's financial interest is guaranteed through posting of a bond.<sup>230</sup>

Only occasionally are there hearings on appeal, which is established in the law as predominantly a written process. Following analysis of the evidence, the authority has 15 days to issue a decision, which is to be signed by the Secretary of Urban Development.<sup>231</sup>

The State Ecology Law provides that the State Fiscal Code must be applied in a supplementary manner in the resolution of appeals.<sup>232</sup> When the challenged decision involves a fine or other economic sanction which was suspended pending the appeal, a certified copy of the final decision must be sent to the state Secretariat of Finances and Treasury for appropriate action.<sup>233</sup>

In addition to administrative appeals, several lawsuits have been brought in court by industry challenging the constitutionality of the state's administrative actions. According to officials, these suits, (known as *amparo* suits), have all been won by the state.

## 5. *Criminal Matters*

For the Secretariat to proceed criminally in a matter, it must first formulate a complaint (*denuncia*), except in cases where a crime is discovered in the act.<sup>234</sup> If the facts of a case suggest the possible commission of a crime, the Secretariat or the Subsecretariat is to notify the State Attorney General by sending a copy of the administrative file which forms the basis for the complaint.<sup>235</sup>

The State Ecology Law establishes criminal sanctions for certain specific activities, as described below.

- Undertaking, authorizing or ordering hazardous activities (not of federal jurisdiction) without the necessary authorization or permit, or in violation of a permit, where those activities cause harm to the environment, flora/fauna or ecosystems. The applicable sentence is three months to six years in prison and a fine equivalent to between 100 and 10,000 times of the daily minimum wage. When these activities are carried out within a population center, the prison sentence may be increased by three years, and the fine may be as much as 20,000 times the daily minimum wage.<sup>236</sup>
- Discharging into the air (or ordering/authorizing the discharge of) gases, smoke and dust, vapors and odors in violation of the law or Ecological Technical Norms, where the emissions harm or could harm the environment, flora/fauna or ecosystems. The applicable sentence is one month to five years in prison and a fine equivalent to between 100 and 10,000 times the daily minimum wage.<sup>237</sup>
- Discharging into bodies of water or onto the soil (or authorizing/ordering discharge) of waste water or pollutants without authorization and in violation of the law and legal standards, where those discharges cause or could cause serious damage to ecosystems. The applicable sentence is three to five years in prison and a fine equivalent to between 100 and 10,000 times the daily minimum wage. When the bodies of water involved are to be used to supply population centers, the prison sentence may be increased by three years.<sup>238</sup>
- Generating emissions of noise, vibrations, or thermal energy, in violation of applicable legal provisions and exceeding the limits set by technical norms, where such actions cause harm to flora/fauna or ecosystems. The applicable sentence is one month to five years in prison and a fine equivalent to between 100 and 10,000 times the daily minimum wage.<sup>239</sup>

To date, there have been no criminal cases filed in environmental matters at the state level in Nuevo León. According to federal officials, two criminal complaints were initiated recently by the PROFEPA office in Nuevo León, concerning illegal hazardous waste dumps.<sup>240</sup>

## 6. *Public complaints*

The State Ecology Law establishes the public complaint (*denuncia popular*) as the legal mechanism through which any person may inform the authority of any act or omission that causes or may cause harm to the environment or to ecological balance. The law calls on the Secretariat to encourage the public to file such complaints.<sup>241</sup> Both the Subsecretariat and the Monterrey Office of Ecology have established hotlines for receiving complaints, particularly for emergencies such as fires, explosions, illegal deforestation, and illegal waste dumping.<sup>242</sup>

A public complaint can be filed with the Secretariat or with the local municipal authority. The Secretariat is to receive copies of all complaints filed, and to determine whether they are of state or municipal jurisdiction. When a complaint is filed with the municipal authority, that authority will notify the Secretariat, after first taking any emergency measures needed to address an immediate threat to the public.<sup>243</sup>

According to the State Ecology Law, the complaint is sufficient if it contains facts necessary to allow the authorities to locate the pollution source or to identify the subject matter of the complaint.<sup>244</sup> Once the authority receives the complaint, it is to locate the polluting source, verify and evaluate the alleged facts, and notify the alleged violator.<sup>245</sup> The authority has 15 days after the complaint is received to notify the complainant about the procedures taken to follow up the complaint, and 30 days to notify the complainant of the results of the investigation.<sup>246</sup>

The Secretariat is directed by the State Ecology Law to keep a registry of all public complaints that are filed.<sup>247</sup>

The Municipal Office of Ecology informs the Subsecretariats of Ecology and Health of the actions it takes in response to a complaint. Once a complaint is filed, the Office issues an inspection order. During the inspection, corrective measures may be ordered. An inspection report is then prepared, including photos, charts, and all information considered relevant by the inspector. The municipality formally notifies the violator of any irregularities that have been cited and requests the appropriate corrective measures; if violations are considered to be severe, temporary closure may be ordered. The violator then has an opportunity to respond to the facts presented in the inspection report. Follow-up inspections may be carried out to determine if the violation has been corrected and permanent closure may then be ordered if the facility still fails to comply.<sup>248</sup>

## **VII. PUBLIC PARTICIPATION**

The State Ecology Law gives state and municipal governments the authority to consult with the public and private sectors when taking actions to implement the objectives and goals of the law.<sup>249</sup> Indeed, the state and municipalities are directed to promote public responsibility for and



participation in the implementation of environmental policies and actions, including education, monitoring and enforcement.<sup>250</sup>

According to state officials, until recently there was little public participation. State officials indicate that the Subsecretariat of Ecology seeks to involve the public through mechanisms not explicitly provided in the law. For example, the Subsecretariat has included public interest groups and individuals in the development of agreements with industry, and has convened meetings with groups to discuss environmental issues of concern.<sup>251</sup>

In addition to the public complaint process described above, the State Ecology Law contains the following public participation provisions.

**State Ecology Commission.** The principal vehicle for fostering public participation is the State Ecology Commission, established by the State Ecology Law. The Commission is to coordinate public participation in the development of ecological policy, planning and criteria. Headed by the Governor of the state or his designee, the Commission is comprised of state and municipal agencies and a variety of public organizations and academic institutions. The head of the Commission may invite participation by other groups who have a direct interest in matters being considered by the Commission.<sup>252</sup>

One of the more notable activities of the Commission is the development of the "Ecological Pact" (*Pacto Ecológico*), a voluntary program through which hundreds of businesses in the state have agreed to improve their environmental performance. The program promotes meetings between government and industry, as well as conferences and courses on environmental issues.

**Access to information/education.** The State Ecology Law directs the state government, in coordination with the municipalities, to promote dissemination of information on the environment.<sup>253</sup> The law calls on the state to enhance public consciousness of environmental protection issues by undertaking activities jointly with the public. State authorities are also charged with promoting the integration of ecological issues into all levels of education.<sup>254</sup>

The law does not contain many explicit references to public access to regulatory information collected by the government. However, the law does provide for access to information relating to the environmental impact review process. As mentioned earlier, any person may have access to an EIS file unless it has been determined that by revealing the contents certain commercial interests (e.g., intellectual property) would be affected. According to state officials, participation of environmental groups and experts is encouraged in the EIS evaluation process, and they may formally express their opinion regarding the proposed project.

## VIII. DISCUSSION

The state of Nuevo León enacted its comprehensive environmental law in 1989, and has since adopted a regulation to implement that law. Environmental protection principles and guidelines are also found in other state laws, including the Urban Development Law, the Health Law and the

Organic Law of the State Public Administration. However, the State Ecology Law provides the legislative foundation for environmental protection in a broad range of matters under state jurisdiction.

### *Scope of the Environmental Legal Framework*

Like most state environmental laws, the State Ecology Law parallels the Federal Ecology Law in structure and incorporates the federal concept of "ecological balance." The law seeks to ensure the preservation and restoration of ecological balance through environmental protection and resource conservation activities, as well as through land use and urban development planning. The law's incorporation of these matters has its basis in the state Constitution, which requires the integration of environmental considerations with urban development activities, and in the Federal Ecology Law, which provides for national ecological land use planning.

The State Ecology Law thus reinforces the general mandate of the State Urban Development Law to harmonize urban development with environmental protection. The State Ecology Law seeks to institutionalize the connection between environmental, urban development and land use issues by explicitly requiring the consideration of environmental factors in a variety of decisionmaking contexts. For example, the law requires consideration of air pollution control principles when determining land uses, and encourages the siting of less-polluting facilities or the relocation of polluting facilities where environmental conditions warrant. The State Ecology Law also specifically requires that state housing programs incorporate ecological criteria in the design and technology.

An important tool for linking environmental and planning decisions envisioned in the State Ecology Law is the state ecological land use plan. The purpose of the plan is to guide local decisions, such as the designation of land uses and the authorization of operations of new industrial and commercial facilities. Although the state has not yet developed a formal ecological land use plan, the future integration of environmental protection and planning is facilitated by the fact that the same state agency -- the Secretariat of Urban Development and Public Works -- is responsible for both urban development and environmental protection. The Secretariat is ultimately responsible not only for applying the environmental principles and requirements of the State Ecology Law, but also for issuing land use permits.

### *Administrative Structure*

Since passage of the State Ecology Law, the Secretariat for Urban Development and Public Works has evolved from an agency focused primarily on urban development, to one with

considerable environmental protection responsibilities. The Secretariat is charged with implementing the State Ecology Law and establishing environmental policy generally.

To carry out these new environmental protection responsibilities, the Secretariat created an Office of Ecology, which in 1992 was replaced by a Subsecretariat for Ecology. As of 1995, the Subsecretariat had a staff of approximately 70 people. The Secretariat has authority over two other semiautonomous agencies which provide drinking water, sewer and waste processing services throughout the state. The Secretariat is also charged with coordinating the environmental activities of other state agencies. The Secretariat receives its funds from the state treasury in accordance with the state budget; the Secretariat, in turn, determines and allocates the budget of the Subsecretariat.

At the municipal level, the city of Monterrey has the largest environmental agency in the state. The Monterrey Office of Ecology, which as of 1995 employed 27 people, is funded through the municipal government, which in turn receives its funding from municipal and state taxes, as well as from fees for services.

#### *Distribution of Jurisdiction*

A notable feature of interagency coordination in Nuevo León is the weekly meeting of federal, state and local officials to discuss jurisdiction over particular environmental matters. Officials indicate that this informal vehicle for coordination among the three levels of government is effective in resolving specific cases that raise jurisdictional questions.

For the most part, the State Ecology Law utilizes the language of the Federal Ecology Law with respect to areas of state jurisdiction. One area of potential conflict is the State Ecology Law's designation of state jurisdiction over certain ground water issues. For example, the law gives the state jurisdiction over discharges affecting groundwater and requires that facilities register waste water discharges that infiltrate aquifers. To date, however, there have been no jurisdictional conflicts, since only PROFEPA is active in this area.

The State Ecology Law and its regulation also make direct and indirect references to the state's authority to establish its own standards. The term "Ecological Technical Norms" is used throughout the law, and is defined as environmental standards issued by the federal *or* state government. As discussed in Chapter Two, the Federal Ecology Law requires states to apply federal Ecological Technical Norms (now Official Mexican Norms). Although state officials affirm that they have authority under the State Ecology Law to issue standards in matters under their jurisdiction, the state has not done so. The Secretariat implements applicable federal standards in all matters of state jurisdiction.

Air permitting in Nuevo León illustrates an important facet of the relationship between federal and state programs -- the possibility of federal action in an area of state jurisdiction in the absence of

state activity. Although the federal and state laws and regulations are clear in authorizing the state to regulate air pollution from sources under state jurisdiction, until recently the federal government in Nuevo León was involved in issuing operating licenses to state emissions sources, as the state has not yet begun issuing operating licenses as required under the State Ecology Law.

According to state officials, the general distribution of jurisdiction between state and municipal governments is clear; uncertainties exist regarding the interpretation of whether a particular case falls under state or municipal jurisdiction. In this respect, state and municipal governments in Nuevo León observe a general rule that municipal responsibility will extend to facilities that are less than 1,500 square meters in size. Specific jurisdictional questions are addressed through weekly coordination meetings.

For the most part, the State Ecology Law gives the state government responsibility over most matters that are not under federal jurisdiction. In the area of air pollution, municipalities have jurisdiction over pollution from most motor vehicles. In the area of solid waste management, municipal jurisdiction seems to extend primarily to the operation of collection, storage and disposal facilities. The State Ecology Law does not refer to municipal jurisdiction over waste water discharges.

In some instances, the state still maintains control over matters delegated to the municipalities under the State Ecology Law. For example, it is the state that operates the vehicle emissions program, with any fines divided evenly between the state and municipal governments. Similarly, it is the state that currently provides drinking water and sewer services, although municipal governments are empowered by the state Constitution to undertake these functions.

The development of municipal environmental legislation is an important step in furthering decentralization of environmental authority. A number of municipalities have enacted environmental ordinances, and Monterrey is in the process of approving its ordinance. In addition, the transfer of financial and technical resources will likely be important factors, and might be an appropriate subject of coordination agreements between state and municipal governments.

### *Regulatory Mechanisms*

The State Ecology Law sets out the basic regulatory framework for addressing air, water and soil pollution. The regulation adopted in 1990 elaborates on some of the regulatory mechanisms mentioned only briefly in the State Ecology Law, such as water permitting and air monitoring, providing important detail for their effective implementation.

In some cases, the regulation provides the state with powerful tools to implement the State Ecology Law's general grant of authority to prevent and control air, water and soil pollution and to preserve and restore ecological balance. For example, the regulation authorizes the Secretariat to

promote before the appropriate local or federal authorities the restriction or suspension of any activity -- whether of an industrial, commercial, service, urban development or other nature -- if that activity "affects or could affect the environment or cause ecological imbalance." The regulation also directs the Secretary of Urban Development and Public Works to promote the relocation of fixed sources from areas where topographical and meteorological conditions impede the adequate dispersion of pollution and pose an imminent risk to ecological balance. In addition, the regulation requires facilities that emit air pollutants to obtain an operating license and waste water dischargers to register with the state, two regulatory mechanisms not specifically mentioned in the State Ecology Law.

Written agreements between the state and industrial, commercial or service sector facilities serve as one of the primary tools for achieving environmental compliance in Nuevo León. These agreements are significant because they establish a working relationship between the facilities and the state, and they publicly commit the facilities to achieving environmental compliance within a certain period of time. According to state officials, the success of the agreements is largely due to the opportunity they provide for improving the regulated community's understanding of environmental requirements, and for establishing greater public awareness of the facilities and their operations. Thus far the state has succeeded in developing agreements with a large number of facilities, suggesting both the importance of these efforts to the government and the interest of the regulated community in working with the state in this manner.

***Permitting/Registration.*** The environmental regulation establishes somewhat different procedural requirements for *new* discharges and for discharges that were initiated *prior to* the enactment of the regulation. Facilities and operators responsible for new discharges must first obtain a permit and then register with the state; in such cases, registration probably functions simply as a separate record of authorized discharges. On the other hand, facilities responsible for discharges initiated before the regulation took effect are required only to register the discharges. In those cases, however, registration appears to function essentially as an authorization or permitting process; indeed, registration applications include more or less the same information as discharge permit applications.

For both existing and new discharges, the permitting/registration process is the vehicle for the state to establish conditions necessary for attaining compliance with applicable standards. For example, the state is authorized to set Special Discharge Conditions for waste waters discharges that do not meet applicable Ecological Technical Norms, or to require monitoring and reporting of discharges.

The regulation provides for control of air emissions through the issuance of operating licenses, a program which the state initiated in 1995. (Prior to then, state officials indicate that they controlled air emissions through the issuance of land use permits. However, as noted above, federal officials issued air permits for sources under state jurisdiction until the state permitting program was in

place.) When there are no existing Ecological Technical Norms applicable to a particular source, the Secretariat is authorized to establish specific maximum levels of emissions and to incorporate those into the operating license.

**Monitoring.** The regulation requires that facilities monitor their air emissions and report the results to the state. Neither the law nor the regulation set out any guidelines for frequency or methods of monitoring. The regulation does, however, require that facilities monitor the surrounding area in certain cases. Individual monitoring requirements could presumably be set as part of the facility permitting process.

The state and municipal governments are charged with undertaking systematic air quality monitoring. The state has created a continuous air monitoring system in Monterrey, the Integrated System of Environmental Monitoring.

Neither the law nor the regulation explicitly requires facilities to monitor their waste water discharges, although the regulation leaves room for the establishment of this "condition" as part of the registration or permitting process. The state and municipal governments are charged only with developing "systematic and permanent water quality monitoring to detect the presence of pollutants." The state water and sewer services monitor discharges to ensure compliance with existing technical standards.

**Enforcement Mechanisms.** The State Ecology Law authorizes the state to inspect facilities and to issue orders directing the facility to take specified measures to bring the facility into compliance with the law and applicable standards. In the event of noncompliance, the state has at its disposal important enforcement tools -- fines, closures and criminal sanctions.

Despite its legal authority to issue administrative sanctions and to initiate criminal proceedings, the state has pursued relatively few such sanctions. State officials indicate that three administrative fines were imposed over a three-year period.

State officials maintain that industries generally comply with existing technical standards without the need for enforcement proceedings, and that in cases involving a state inspection and administrative order, the facility usually comes into compliance within the time framework set out by the state. Interestingly, federal officials in Nuevo León have noted a similar pattern with respect to federal enforcement matters.

To the extent that the state is able to bring about compliance without issuing sanctions, this may be attributed in part to the state's practice of bringing enforcement matters into the public light. As noted above, the state uses written agreements between the state and regulated facilities to make the public more aware of a facility's responsibilities. Particularly with respect to larger facilities, inspections and inspection orders often become high profile matters through media attention and through meetings of industry, government and the public convened to discuss particular cases.

A key to the success of this approach to ensuring compliance will be the state's ability to maintain a credible threat of enforcement using the measures provided for in the law. For example,

the availability of facility closure may provide an incentive for timely compliance with the law once the state has identified a problem. Indeed, the state has temporarily closed some facilities pending corrective action by the facility.

### *Public Participation*

Public participation in environmental matters occurs chiefly through the public complaint process, which allows any person to request that the state investigate matters involving environmental harm. This process drives the enforcement program of the Subsecretariat, which has established a hotline to receive complaints.

The State Ecology Law contains few formal public participation mechanisms other than the public complaint process. Governmental efforts to promote public participation are characterized by less formal activities such as meetings between officials and public groups to discuss issues of concern to the groups.

The State Ecology Law generally promotes public dissemination of information by the state. One way in which the state can fulfill this goal is by establishing measures that will ensure access to environmental impact documents, as provided in the law. In addition, the State Ecology Law authorizes the state to develop various compilations of information -- e.g., a public complaints registry and a State System of Environmental Information -- which could be made available for public review.

## **ENDNOTES**

1. Political Constitution of the State of Nuevo León, art. 23.
2. Political Constitution of the State of Nuevo León, arts. 63, §I; 85, §X.
3. Political Constitution of the State of Nuevo León, art. 131, §§II, III.
4. Art. 3. Throughout this chapter, citations to the State Ecology law will include only the article referenced. Citations to all other laws will include the name of the law, followed by the relevant article.
5. State Urban Development Law, art. 1, §§II, VI.
6. State Health Law, arts. 4, 77, 78.
7. State Health Law, art. 46.
8. Organic Law of Municipal Public Administration for the State of Nuevo León, art. 162, §III.

9. Organic Law of the State Public Administration, art. 22, §§I, VIII.
10. Organic Law of the State Public Administration, art. 22, §§III, IX, XIII, XVII, XXIV.
11. Arts. 1; 11, §§III, VII, VIII, IX, XII, XIII.
12. State Environmental Regulation, art. 4.
13. Interview with Subsecretariat of Ecology officials (August, 1994).
14. Under Mexican Law, the terms *desconcentrado* and *descentralizado* are used to refer to the theoretical, legal and practical distribution of powers and responsibilities between the state and the local or territorial entities.  
Through law or regulation, *organos desconcentrados* are given certain limited administrative responsibilities that allow them to act with greater rapidity, effectiveness and flexibility. While these entities have certain functional decisionmaking and technical autonomy, they rely directly (both legally and financially) on the centralized public administration.  
*Organismos descentralizados* have much greater authority and financing than the *organismos desconcentrados*. They are created by executive decree or legislation, have their own legal personality and may be legally structured in the manner that best suits their specific purpose. See Acosta Romero, Miguel, Teoría General del Derecho Administrativo (Editorial Porrúa, 1990). See also, Organic Law on Federal Public Administration, art. 4.
15. Arts. 37, 38, 41.
16. Interview with PROFEPA officials (August, 1994).
17. Information regarding environmental protection at the municipal level was obtained from an interview with Monterrey Office of Ecology officials (August, 1994).
18. Art. 6, §§I, II, III.
19. Arts. 2; 3, §VII.
20. Art. 8.
21. Art. 5, §XXXIV (emphasis added).
22. Because the State Ecology Law defines "Ecological Technical Norms" to include state as well as federal standards, this chapter uses the term "Ecological Technical Norms" when explaining the State Ecology Law's requirements. The term "Official Mexican Norms" (the current term for federal environmental standards) is used only when the State Ecology Law refers explicitly to federal standards.
23. Regulation, art. 5.
24. Art. 12.
25. The municipality of Monterrey, through its Office of Ecology, has initiated the process of developing a formal agreement with SEMARNAP, which would clarify the Office's authorities for assisting federal officials in implementing the Federal Ecology Law. Written communication with Monterrey Office of Ecology officials (August, 1995).
26. Political Constitution of the State of Nuevo León, art. 131.
27. Art. 7.



28. Art. 9.
29. Art. 7, §II.
30. Art. 10.
31. Regulation, art. 6.
32. Interview with Monterrey Office of Ecology (August, 1994).
33. Art. 14.
34. Arts. 5, § XXIII; 15.
35. Art. 16.
36. Art. 17.
37. Art. 43, §II.
38. Art. 45.
39. Regulation, art. 34.
40. Urban Development Law, arts. 1, §IV; 2, §I.
41. Urban Development Law, arts. 15, 15 *bis*, 15 *bis*(1). The state Constitution also addresses the role of the municipalities, noting that municipal governments are to be included in the activities envisioned in the State Urban Development Program and must, in turn, create and formulate the urban development plans to be carried out within their jurisdiction. Political Constitution of the State of Nuevo León, art. 23.
42. Political Constitution of the State of Nuevo León, art. 23.
43. Art. 18.
44. Art. 21.
45. Art. 22.
46. Arts. 43, §II; 46.
47. Art. 67.
48. Art. 67.
49. Art. 13.
50. Art. 5, §XXI.
51. Art. 23.
52. Art. 25.

53. Regulation, art. 7.
54. Art. 26.
55. Regulation, arts. 28-30.
56. Regulation, art. 11.
57. Regulation, art. 12.
58. Regulation, art. 13.
59. Regulation, art. 14.
60. Art. 24.
61. Art. 26.
62. Regulation, arts. 9, 10.
63. Interview with PROFEPA officials (March, 1995).
64. Regulation, art. 15.
65. Regulation, art. 20.
66. Interview with Subsecretariat of Ecology officials (August, 1994).
67. Interview with Monterrey Office of Ecology officials (August, 1994).
68. Interview with Monterrey Office of Ecology Officials (August, 1994).
69. Art. 28.
70. Regulation, art. 16.
71. Regulation, art. 17.
72. When evaluating an EIS for a project to be carried out in a protected natural area, the authority must also consider the provisions applicable to the state system of protected natural areas, the existing programs for managing the area, and applicable ecological technical norms. Regulation, art. 19.
73. Regulation, art. 18.
74. Regulation, art. 21.
75. Art. 27.
76. Art. 29.
77. Interview with Subsecretariat of Ecology officials (August, 1994).
78. Regulation, art. 35.

79. Art. 6, §V.
80. Art. 7, §IV.
81. Interviews with Subsecretariat of Ecology and Monterrey Office of Ecology officials (August, 1994).
82. Regulation, art. 33.
83. Art. 44.
84. Art. 50.  
With respect to vehicles that are to be used in public transport (including federal public transport vehicles that operate within Municipalities), the law places responsibility with the vehicle owners to take the necessary measures to control and reduce polluting emissions. Art. 51.
85. Regulation, art. 5.
86. Regulation, art. 38.
87. Regulation, art. 39.
88. Regulation, art. 40.
89. Regulation, arts. 41, 42.
90. Written communication with PROFEPA officials (August, 1995). Federal officials indicate that the state's failure to issue operating licenses in prior years was due to the lack of financial and technical resources.
91. Art. 43, §III; Regulation, art. 37, §§I, VIII.
92. Where this is not technically feasible, the facility must present a study supporting this fact to the Secretariat for resolution of the matter. Regulation, arts. 43, 44.
93. Interview with SEDESOL officials (August, 1994).
94. Art. 47; Regulation, arts. 45; 37, §§III-V.
95. Art. 43, §V.
96. Regulation, arts. 51, 53, 54.
97. Art. 7, §VI. Those interested in obtaining authorizations (concessions) to operate such centers are to submit an application to the Secretariat. The regulation specifies both the criteria for approving such applications and for operating the centers. Regulation, arts. 56-58.
98. Interview with Monterrey Office of Ecology officials (August, 1994).
99. Art. 43, §VI; Regulation, art. 61.
100. Regulation, art. 60.
101. Interviews with SEDESOL, Subsecretariat of Ecology, and Monterrey Office of Ecology officials (August, 1994); Integral Monitoring System for Air Pollution (SIMA) Annual Report (1993).

102. Art. 43, §IV; Regulation, art. 48.
103. Art. 48.
104. Art. 6, §§X-XII.
105. Art. 53.
106. Regulation, art. 63.
107. Interview with Monterrey Office of Ecology officials (August, 1994).
108. Art. 55.
109. Interview with Subsecretariat of Ecology officials (August, 1994).
110. Art. 52, §§V, VI. The law authorizes such conditions for waste waters discharged directly or indirectly (through sewer systems) into waters under state jurisdiction, and for discharges generated by property or areas under state jurisdiction.
111. Regulation arts. 71, 72.
112. Art. 52, §II.
113. Interview with Nuevo León's Subsecretariat of Health officials (August, 1994).
114. Interview with Subsecretariat of Health officials (August, 1994). *See* State Health Law, art. 77, §I.
115. Art. 55, §III; Regulation on Water and Drainage Services, art. 25, §F.
116. Art. 54.
117. Regulation, art. 67.
118. Regulation, art. 66.
119. A copy of the registration information is to be sent to these agencies, as appropriate. Regulation, arts. 69, 70.
120. Regulation, art. 71.
121. Regulation, art. 72.
122. Regulation, arts. 66-68, 73.
123. Regulation, arts. 73, 66.
124. Regulation, arts. 74-76.
125. Regulation, art. 77.
126. Regulation, art. 82.
127. Interview with Subsecretariat of Ecology officials (August, 1994).

128. Regulation, art. 78.
129. Regulation, art. 79.
130. Art. 54.
131. Art. 61.
132. Art. 56.
133. Art. 59.
134. State Health Law, art. 77, §VII.
135. Interview with Nuevo León's Secretariat of Urban Development and Public Works officials (August, 1994). See Section VII, below, for further discussion of the Ecological Pact.
136. Art. 52, §I.
137. Art. 62.
138. Regulation, art. 64.
139. Interviews with SEDESOL and PROFEPA officials (August, 1994).
140. Art. 52, §VII.
141. Art. 60.
142. Interview with Monterrey Office of Ecology officials (August, 1994).
143. Interview with Monterrey Office of Ecology officials (August, 1994).
144. Art. 6, §VIII.
145. Arts. 6, §IX; 7, §IX; 73.
146. Art. 73, §§I, II; Regulation, art. 93.
147. Art. 74; Regulation, art. 94.
148. Art. 65.
149. Art. 75, §§I, II.
150. Arts. 63, 76.
151. State Health Law, art. 78. As noted in Chapter Three, the federal government exercises jurisdiction over biological wastes and has issued a regulation on the subject.
152. Interview with Nuevo León's Subsecretariat of Health officials (August, 1994).
153. Arts. 64; 73, §III.

154. Regulation, art. 88.
155. Regulation, art. 89.
156. Regulation, arts. 90, 91, 93.
157. State Health Law, arts. 77-8.
158. Art. 80.
159. Art. 77.
160. Arts. 65, §II; 79.
161. Art. 5, §XV.
162. Art. 66.
163. Art. 71.
164. Art. 92.
165. Arts. 72, 93.
166. Art. 68.
167. Art. 69.
168. Art. 68.
169. Art. 70.
170. Art. 94.
171. Art. 67.
172. Art. 81.
173. Art. 83. Visual pollution is defined to include the inappropriate placement of printed materials in buildings as well as the placement of signs in a manner that obstructs visibility or alters urban architecture or the natural environment. Art. 5, §V.
174. Art. 82.
175. Art. 84.
176. Art. 4, §II.
177. Art. 5, §II.
178. Art. 96.
179. Art. 110.

180. Art. 109.
181. Interview with SEDESOL officials (August, 1994).
182. Art. 112.
183. Art. 11, §II.
184. Art. 11, §XI.
185. Art. 107.
186. Art. 99.
187. Art. 100.
188. Art. 101.
189. Art. 7, §X.
190. Arts. 102, 103.
191. Arts. 102, 106.
192. Art. 105.
193. Regulation, art. 25.
194. Art. 105.
195. Arts. 114, 115.
196. Art. 116.
197. Art. 119.
198. Interview with Subsecretariat of Ecology officials (August, 1994).
199. Interview with Subsecretariat of Ecology officials (August, 1994).
200. Art. 11, §XIII.
201. Art. 7, §XIII; interview with Monterrey Office of Ecology officials (August, 1994).
202. Art. 6, §XVIII.
203. Art. 120.
204. Art. 120.
205. Art. 121.
206. Art. 122.

207. Art. 124.
208. Art. 125.
209. Art. 123.
210. Arts. 126, 127.
211. Art. 128.
212. Art. 128.
213. Art. 129. When the risk of ecological imbalance or pollution originates from a source under federal jurisdiction, the state is to seek the intervention of the federal government. Art. 130.
214. Regulation, art. 102.
215. Regulation, art. 103.
216. Regulation, art. 108.
217. Regulation, art. 104.
218. Regulation, art. 105.
219. Art. 133.
220. Art. 131.
221. Interview with Subsecretariat of Ecology officials (August, 1994).
222. Art. 131.
223. Art. 134.
224. Art. 132.
225. Art. 131, §III.
226. Art. 135; Regulation, arts. 109, 110. Monterrey Office of Ecology officials indicate that in administrative appeals at the municipal level, the agency applies the appeal provisions contained in the Federal Ecology Law as well as the State Fiscal Code.
227. Arts. 135, 136.
228. Art. 137.
229. Art. 138.
230. Art. 139. According to the State Ecology Law, suspension of a decision will be considered to harm the public interest when it allows the continued operation of pollution sources that seriously harm ecological balance or represent a risk to public health or well being. Art. 140.



231. Regulation, arts. 114-116, 123.
232. Art. 141.
233. Regulation, art. 122.
234. Art. 142.
235. Regulation, art. 107.
236. Art. 143.
237. Art. 144.
238. Art. 145.
239. Art. 146.
240. Written communication with PROFEPA officials (August, 1995).
241. Arts. 148, 153.
242. Interview with Subsecretariat of Ecology officials (August, 1994); written communication with Monterrey Office of Ecology officials (August, 1995).
243. Arts. 148, 150.
244. Art. 149.
245. Art. 150.
246. Art. 151.
247. Art. 150.
248. Interview with Monterrey Office of Ecology officials (August, 1994).
249. Arts. 6, §XIX; 7, §XIV.
250. Art. 36.
251. Interview with Subsecretariat of Ecology officials (August, 1994).
252. Arts. 37, 40.
253. Art. 42.
254. Arts. 32, 42.

## *Chapter VI*



# **Legal Framework For Environmental Protection In the State of Oaxaca**

## **I. GENERAL DESCRIPTION OF THE STATE OF OAXACA**

### **A. Background**

The state of Oaxaca is located in southeastern Mexico. It has a coastline of 373 miles along the Pacific Ocean and is bordered by the states of Puebla and Veracruz to the north, Chiapas to the east, and Guerrero to the west.

Oaxaca is the fifth largest of the 31 Mexican states, covering 36,820 square miles or 4.8 percent of the country. According to Mexico's official 1990 national census, the state had a population of over three million. More than 16 indigenous groups, speaking many different languages and dialects, comprise one third of the state's population.<sup>1</sup>

The legislature consists of a House of Representatives (*Cámara de Diputados*) with 42 members who are elected every three years.

The executive branch is headed by a governor who is elected by majority vote every six years. State executive agencies include the Attorney General, the Comptroller General and nine Secretariats:

- The General Secretariat of Government;
- The Secretariat of Finance;
- The Secretariat of Administration;
- The Secretariat of Urban Development, Communications and Public Works;
- The Secretariat of Agricultural and Forestry Development;
- The Secretariat of Health;
- The Secretariat of Tourist Development;
- The Secretariat of Industrial and Commercial Development; and
- The Secretariat of Citizen Protection.

There are 570 municipalities in the state of Oaxaca, including the capital city, Oaxaca de Juárez.

## **B. Ecological Characteristics**

Oaxaca's history dates back to the Mixteco and Zapoteco empires, and the state is well known for its numerous archeological ruins. The state is rich in natural resources and biodiversity, as well as in plant species.

Oaxaca is covered by mountains that reach heights of over 10,000 feet. The three dominant ranges are the Sierra Madre del Sur, the Sierra Madre Oriental and the Sierra Atravesada. Oaxaca's lands are primarily tropical savanna and forested lands. The hydrological system of the state consists mainly of small rivers. Waters from the state's northern watershed flow into the Gulf of Mexico, creating the basins of the Papaloapan, Coatzacoalcos, Grijalva, and Usumacinta rivers, while waters from the southern watershed flow into the Pacific creating the rivers of Balsas, Ometepepec, Mixteco, Verde or Atoyac, and Tehuantepec. Oaxaca has the fourth largest dam in the country, Miguel Aleman dam.

## **C. Major Economic Activities**

Oaxaca's economy is still based primarily on agriculture, ranching and fishing. Oaxaca's fishing industry is in decline, due in part to environmental degradation, as well as debt, lack of adequate infrastructure and investment, and over fishing in the state's fresh water lakes.

Agriculture, forestry, and cattle raising together account for over half of all employment in the state. The state's principal crops are corn, coffee, beans, peanuts, wheat and sesame. Oaxaca's timber consists primarily of pine and holm oak from the mountainous areas of the state. Wood is also harvested principally from the tropical forest regions where cedar and mahogany are prevalent.

Tourism, mining, oil, manufacturing, and service industries also play an important role in Oaxaca's economy. Mining operations center on gold, silver, uranium, onyx, and other metals. Manufacturing industries within the state produce cigarettes, soap, and mezcal, a liquor distilled from the maguey. At the local level, Oaxaca also has a healthy textile and artisan market which is based primarily in the central valley, in Papaloapan and in urban centers. The arts and crafts produced in Oaxaca are diverse and include embroidered fabrics, confections and woven goods as well as ceramics and pottery.

Despite its rich natural environment and an abundance of natural resources, Oaxaca remains one of the poorest states in the nation. It has been noted that "the pattern and structure of socioeconomic inequity [in Oaxaca] has changed little since the end of the colonial era."<sup>2</sup> Nearly one third of the state's population is illiterate and the average level of education is among the lowest in the country.<sup>3</sup>

Although the state has made considerable efforts to improve water, sewer and electrical services, much remains to be done. Towns with 500 or fewer inhabitants tend to be in greatest need of services, but larger cities also lack basic services. For example, the city of Oaxaca's only sewage

treatment plant is outdated; water is scarce and its quality uncertain. Indigenous villages in particular lack adequate infrastructure and means of communication, which further impede their economic development. Oaxaca's State Development Plan acknowledged that the state's indigenous populations are most in need of electricity, water, irrigation, sanitation, education and health services.

#### **D. Principal Environmental Problems**

In addition to inadequate public services and infrastructure, the state of Oaxaca also suffers from severe environmental degradation. One of the principal environmental problems facing Oaxaca is the rate at which its natural and biological resources -- including flora and fauna -- are being exploited, even in natural areas designated for protection.

Although forest exploitation has produced jobs, unsustainable harvesting practices have also caused massive deforestation and severe erosion throughout the state. Recently, as a result of the lack of adequate grazing land, many ranchers have moved their operations to neighboring states.

Other factors in the decline of the environment in Oaxaca include: agricultural practices which rely heavily on pesticides and other chemicals; excessive hunting; encroachment of cattle and goat ranchers in nearly all parts of the state; uncontrolled and unsustainable (often illegal) logging; and rampant and haphazard growth of urban areas which lack proper water, sanitation and sewage treatment facilities. Air, water and soil pollution from industry are also problems which the state is beginning to address.

Lack of financial resources is one of the main obstacles facing Oaxaca in its efforts to reverse the trend of ecological destruction and environmental contamination.

## **II. OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN THE STATE OF OAXACA**

### **A. State and Municipal Law**

#### *1. State constitutional provisions*

The Political Constitution of the State of Oaxaca provides the state legislature, executive branch and judiciary with explicit authority to adopt laws protecting the state's environment and natural resources. According to the Constitution, the state legislature may:

- regulate the rational utilization of waters and forests that are not of federal jurisdiction;

- establish *conurrencia* between the state and municipal governments with respect to the perpetuation, utilization and restoration of the natural patrimony of the state;
- legislate in matters derived from article 27 of the Federal Constitution (preservation and restoration of ecological balance);
- adopt laws regarding all public and official services within the state;
- legislate in the area of social security and environmental protection with the aim of improving public health and the standard of living; and
- protect the state's artistic, historical and archeological sites in conformity with federal legislation regarding conservation and restoration.<sup>4</sup>

Oaxaca's Constitution also obliges the Governor to "establish the means necessary to preserve the environment and promote ecological balance."<sup>5</sup>

## 2. *State legislation*

In 1991, pursuant to the federal General Law of Ecological Balance and Environmental Protection and the state Constitution, Oaxaca enacted the Law of Ecological Balance of the State of Oaxaca (hereinafter the "State Ecology Law"). The State Ecology Law, much like the Federal Ecology Law, is a broad document which serves as the basis for the administration of the state's environmental policies.

The State Ecology Law provides the means for:

- establishing and regulating jurisdiction between the state and the municipalities in environmental matters;
- preserving and restoring ecological balance, as well as protecting the environment and natural resources within the state;
- preventing and controlling air, water and soil pollution within the state's jurisdiction; and
- establishing coordination among federal, state and municipal agencies, as well as promoting public participation.<sup>6</sup>

To date no regulations have been issued at the state level to implement the State Ecology Law. However, the state is considering regulations in the area of environmental impact and risk assessment, prevention and control of pollution generated by excessive noise and vibrations, and control of solid waste.

Also of importance to environmental regulation is Oaxaca's Organic Law of the State Public Administration (*Ley Orgánica del Poder Ejecutivo del Estado de Oaxaca*), (hereinafter "State Organic

Law"), adopted December 1, 1992, which governs the state's Secretariats, the Attorney General, and the Comptroller General. That law seeks to incorporate the concept of sustainable development into all of the state's administrative functions:

a fundamental objective that guides the present initiative is to ensure that there exists a permanent respect for the environment and for ecological balance. Toward this end, it is an inevitable obligation of state agencies that their policies, programs and actions contain criteria for preserving and restoring the environment. The protection of the environment is the only road to assuring [sustainable] development. . . .<sup>7</sup>

Unlike similar laws in other states, Oaxaca's Organic Law specifically requires each Secretariat to establish ecological policies and/or criteria which preserve and restore the state's environment.<sup>8</sup>

Other state laws address a variety of issues relating to environmental protection, including:

- Law of Drinking Water and Sewer Services of the State of Oaxaca (*Ley de Agua Potable y Acantarillado para el Estado de Oaxaca*);
- Reformed Transit Law (*Ley de Tránsito Reformada*);
- General Health Law of Oaxaca (*Ley General de Salud del Estado de Oaxaca*);
- Law of Urban Development for the State of Oaxaca (*Ley de Desarrollo Urbano para el Estado de Oaxaca*).

Oaxaca's Municipal Fiscal Code (*Código Fiscal Municipal del Estado de Oaxaca*) regulates the financial activities of the state's municipalities, and the State Treasury Law (*Ley de Hacienda Municipal del Estado de Oaxaca*) determines the taxes and fees that the state's municipalities can collect or charge for services such as parks, water, electricity, and garbage collection.

Although this chapter focuses on Oaxaca's central environmental law -- the State Ecology Law - - selected state codes, laws, and ordinances are considered throughout.

### 3. *Municipal legislation*

The Municipal Organic Law of the State of Oaxaca (*Ley Orgánica Municipal del Estado de Oaxaca*), promulgated in 1993, provides the framework for municipal governance, and includes certain responsibilities related to environmental protection. For example, municipalities are responsible for creating and administering ecological reserves and regional land use plans, and for regulating urban development, which includes the issuance of permits for private construction projects.<sup>9</sup>

Of the 570 municipalities in the state, only the state capital (municipality of Oaxaca) has adopted

its own environmental legislation. The municipality's Ordinance on Ecological Balance and Environmental Protection (*Reglamento del Equilibrio Ecológico y de la Protección Ambiental Para el Municipio de Oaxaca de Juárez*), enacted in December, 1992, essentially follows the framework of the State Ecology Law. The legislation covers a broad range of issues, from ecological land use planning and environmental impact review, to pollution prevention and control and protection of wild and aquatic flora and fauna.

In April, 1995, the municipality of Oaxaca issued a Regulation for the Prevention and Control of Pollution Generated by Automotive Vehicles. The municipality is in the process of drafting regulations governing visual pollution as well as the collection, use and disposal of solid waste. The Municipal President is proposing the construction of a garbage incinerator which will also function as an energy plant.<sup>10</sup>

## **B. State and Municipal Agencies Responsible for Environmental Protection**

The Secretariat of Urban Development, Communications and Public Works, despite its recent legal restructuring, remains the principal state agency responsible for environmental protection and ecological preservation. Four other state Secretariats also address ecological and environmental issues, either directly or indirectly. These Secretariats are: (1) the Secretariat of Agricultural and Forestry Development; (2) the Secretariat of Health; (3) the Secretariat of Tourism Development; and (4) the Secretariat of Industrial and Commercial Development.

### *1. Secretariat of Urban Development, Communications and Public Works (Secretaría de Desarrollo Urbano, Comunicaciones y Obras Públicas or SDUCOP)*

Prior to 1991, the Secretariat of Urban Development, Communications and Public Works (SDUCOP) was divided into three departments (*direcciones generales*): (1) Urban Development and Ecology, (2) Communications, and (3) Public Works. However, in 1991 Oaxaca's Ecology Law provided for the creation of a new Secretariat of Ecology to carry out the environmental functions of SDUCOP's Department of Urban Development and Ecology.

The State Ecology law calls for the reform of the State Organic Law to create the new Secretariat and for the allotment of human, technical and financial resources necessary for development of the agency. Nevertheless, when the state legislature reformed the State Organic Law in 1992, it failed to create the Secretariat of Ecology. Moreover, the legislature redefined the responsibilities of SDUCOP to exclude virtually all environmental and ecological matters.

Pursuant to the new State Organic Law, the only environmental functions currently held by SDUCOP are the planning, regulation and realization of activities pertaining to human settlements, urban development, communications, public works and housing.<sup>11</sup> In addition, Oaxaca's Governor issued an executive decree reorganizing the state's entire public administration, including the Department of Urban Development and Ecology within SDUCOP, changing its name to simply the Department of Urban Development.<sup>12</sup>

Despite the changes brought about by the new State Organic Law and the Governor's executive decree, members of Oaxaca's state and municipal governments continue to refer to the Department of Urban Development by its former name, the Department of Urban Development and Ecology.<sup>13</sup> Even though the State Organic Law legally strips SDUCOP of its authority over environmental matters, the State Ecology Law delegates to SDUCOP responsibility for implementing the law until such time as a Secretariat of Ecology is formally created.<sup>14</sup> Thus, despite the reform of the State Organic Law, SDUCOP still retains control over environmental issues. There are currently no plans within the state government to create a separate Secretariat of Ecology.<sup>15</sup>

SDUCOP's Department of Urban Development is divided into three programs. The Planning and Urban Design Program includes the office of Cartography and the office of Engineering and Projects. The Urban Development Program includes the office of Urban Planning and the office of Land Use and Licensing. The Ecology Program is made up of the office of Environmental Pollution Control and the office of Preservation and Conservation of Natural Resources.

As of 1995, the agency's Ecology Program was comprised of seven employees. Recently, the head of the Program submitted a proposal to SDUCOP recommending a restructuring of the Ecology Program. The proposal calls for the creation of three departments: (1) the Department of Ecological Planning, which includes the office of Ecological Zoning and the office of Communications and Training; (2) the Department of Environmental Protection, Improvement and Standards, comprised of the office of Environmental Impact Evaluation and the office of Environmental Contamination; and (3) the Department of Natural Resources made up of the office of Natural Protected Areas and the office of Conservation and Regeneration of Fauna and Flora.

2. *Secretariat of Agricultural and Forestry Development (Secretaría de Desarrollo Agropecuario y Forestal or SDAF)*

Along with SDUCOP, the Secretariat of Agricultural and Forestry Development (SDAF) is responsible for protecting and ensuring rational development of the state's forests, agricultural lands, fauna and flora.<sup>16</sup> According to the State Organic Law, SDAF is to:

- conduct studies of the state's forests to promote their use and reforestation;



- work with small land owners to improve the use of their forest resources;
- establish laboratories to investigate agriculture and ranching practices;
- collect data on sheep and cattle production as well as lumber harvests;
- hold meetings with government experts and farmers;
- improve the state's infrastructure for farming, ranching and forestry activities;
- ensure that the Secretariat's agricultural, ranching and timber programs contain ecological criteria designed to protect and restore the environment; and
- develop inspection guidelines to ensure full compliance with its policies.<sup>17</sup>

While the State Organic Law mentions fauna and flora, it does not delegate any specific responsibilities to SDAF regarding the use or protection of species.

### 3. *Administration for Drinking Water and Sewer Works and Services*

The Administration for Drinking Water and Sewer Works and Services (*Administradora de Obras y Servicios de Agua Potable y Alcantarillado de la Ciudad de Oaxaca* or ADOSAPACO), which has 477 employees, is responsible for drinking water and sewer services in the city of Oaxaca. ADOSAPACO is presently working in coordination with the municipality to improve and extend the city's water and sewer services and to construct sewage treatment plants. In September 1994, the city of Oaxaca announced a plan to upgrade the city's drainage and water system and to construct sewage treatment plants.<sup>18</sup> The city's pipes are in such poor shape that as much as 45 percent of the water is lost due to leaks. Oaxaca is the only city that receives state subsidies for its drinking water program.<sup>19</sup>

### 4. *State Water Institute*

In 1991, the legislature created the State Water Institute pursuant to the State Drinking Water and Sewer Services Law. The Institute, a separate and independent agency that is part of the state executive branch, is responsible for overseeing the planning and use of the state's drinking water and the creation of municipal sewer systems outside the city of Oaxaca. When a municipality lacks the capacity or has yet to establish a specific agency to administer water and sewer services, the State Institute of Water is required to step in and administer those services.<sup>20</sup>

## 5. *State Planning Committee for the Development of Oaxaca*

Like other Mexican states, Oaxaca has a State Committee for Development Planning (*Comité Estatal de Planeación para el Desarrollo de Oaxaca* or COPLADE), which reports directly to the Governor.<sup>21</sup> Oaxaca's COPLADE is made up of four departments: (1) Planning, (2) Programming and Budgeting, (3) Tracking and Evaluation, and (4) Information and Statistics.<sup>22</sup> Under Oaxaca's Planning Law, COPLADE is solely responsible for coordinating the national, state and municipal democratic planning systems within the state.<sup>23</sup>

COPLADE has produced a number of economic development planning documents which address environmental issues. In April, 1993, COPLADE's Office of Planning prepared a document entitled "A Simplified Methodology for the Planning of the Regional Development of the State of Oaxaca," which outlines different programs relating to land tenancy, social development and infrastructure, as well as the conservation and use of natural resources. Another document, "The Ecological Aspects Considered in the State's Programs for Sectoral Development," was prepared in October, 1994. This report provides a diagnosis of the environmental problems associated with agriculture, ranching, mining, forestry, fishing, tourism, communications and transportation and sets out specific objectives, goals, strategies, and courses of action for each sector.

## 6. *Other state agencies*

According to the State Organic Law, SDUCOP and SDAF are the principal Secretariats responsible for environmental and conservation matters. While the Secretariat of Health, the Secretariat of Tourist Development and the Secretariat of Industrial and Commercial Development are not directly concerned with environmental or ecological issues, like SDAF they are required to develop criteria within their programs to promote the overall conservation and restoration of the environment.<sup>24</sup>

## 7. *Municipal agencies*

One of the principal challenges to environmental protection efforts in Oaxaca is the number and the diversity of its municipalities. The state government confronts the problem of coordinating and communicating with 570 municipalities, many of which are located in remote rural areas and do not have telephones in their offices. The majority of the state's municipalities do not have the logistical or the financial capacity to exercise the authority delegated to them under Oaxaca's Ecology Law.

For example, the law requires each municipality to create an office or a position within its municipal government dedicated to environmental matters, known as *Regidurías de Ecología*. However, only 15 municipalities have such offices.<sup>25</sup> Not surprisingly, the city of Oaxaca has the most developed program. The municipality's environmental agency, the General Office of Urban Development and Ecology (*Dirección General de Desarrollo Urbano y Ecología* or DGDUE), is divided into two parts: the Office of Urban Development and the Office of Ecology, which was created in 1993.

As of 1995, DGDUE's Office of Ecology had 7 employees. The Office and the National Institute of Ecology (INE) are working together to establish an ecological buffer zone around the archeological zone of Monte Alban, which is located on the city's outskirts and is gradually being encroached upon by urban sprawl. When the state government proposed converting a seventeenth century monastery into a parking lot, the Office, along with SEDESOL, lobbied vigorously to convert the building and its grounds into a cultural center with a museum and botanical garden. Other projects of the Office include the development of course materials and field trips for elementary school students.

## **C. Relationship Between the State and Federal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

In Oaxaca, disputes over environmental jurisdiction between federal and state authorities have arisen primarily in the area of environmental impact review. For the most part, the provisions of the State Ecology Law are consistent with the distribution of jurisdiction under federal law. The Ecology Ordinance for the municipality of Oaxaca contains a very general provision giving the municipal government authority to authorize activities related to pesticides, fertilizers and toxic substances, subjects regulated by the federal government.<sup>26</sup>

### *2. Development of state regulatory standards and policies*

The State Ecology Law gives the state responsibility for determining the ecological criteria necessary to implement the state's environmental policies and for ensuring that those criteria are consistent with federal laws and standards.<sup>27</sup>

Both state and municipal governments are required generally to ensure compliance with federal standards (now Official Mexican Norms).<sup>28</sup> Several specific pollution control provisions of the State Ecology Law also explicitly require compliance with federal standards.<sup>29</sup>

### 3. *Inter-governmental coordination and assistance*

Both the Federal and State Ecology Laws make numerous references to coordination between federal and state governments. For example, both allow for federal-state agreements in environmental matters.<sup>30</sup> According to federal officials, numerous agreements have been entered into between the state and SEDESOL.<sup>31</sup> One such accord is the development of a pilot conservation and sustainable development project in the area of Istmo de Tehuantepec, historically occupied by native Chimalapas along the Chiapas border.<sup>32</sup> In addition, the municipality of Oaxaca has worked on an array of conservation and ecology projects with SEDESOL, the National Institute of Anthropology and History (*Instituto Nacional de Antropología e Historia* or INAH), the National Tourism Fund (*Fondo Nacional del Turismo* or FONATUR), the Secretary of Tourism (*Secretaría de Turismo* or SECTUR), and the Department of the Federal District.

## **D. Relationship Between the State and Municipal Environmental Protection Regimes**

### 1. *Distribution of jurisdiction*

The State Ecology Law delegates to the municipalities responsibility for protecting ecological balance within their territories and for implementing within their jurisdiction both the Federal and State Ecology Laws.<sup>33</sup> Municipal jurisdiction over particular environmental issues is discussed throughout this chapter.

### 2. *Development of municipal regulatory standards and policies*

The State Ecology Law, as well as the municipality of Oaxaca's environmental ordinance, requires municipalities to apply any technical standards or ecological criteria issued by the federal and state governments.<sup>34</sup> The State Ecology Law authorizes municipal governments to issue Ordinances on Police and Governance (*Bandos de Policía y Buen Gobierno*) internal administrative orders (*Circulares*) and any other administrative provision or regulations which facilitate the implementation of the State Ecology Law.<sup>35</sup> As noted earlier, only the municipality of Oaxaca has issued an Ecology Ordinance implementing the State Ecology Law.

### 3. *Inter-governmental coordination and assistance*

Municipalities may enter into agreements and accords with the state and federal government as well as with other municipalities in Oaxaca.<sup>36</sup> Under the State Ecology Law, municipalities assist in

preparing the state's ecological land use plan, and in authorizing land uses relating to construction projects. Municipalities are also empowered to assist in enforcing the State Ecology Law.<sup>37</sup>

The municipality of Oaxaca recently signed an agreement with the Department of the Federal District for assistance in monitoring the city's air.<sup>38</sup> Under the agreement, the Federal District loaned the city its mobile air monitoring systems and provided technicians to conduct a study which was completed in October, 1994. A second round of monitoring was completed in July, 1995. The results of the study are intended to assist the municipality in undertaking automobile verification.<sup>39</sup>

According to municipal officials, many of the municipality's activities are undertaken in coordination with federal and state agencies. These include restoration of the Atoyac River, reforestation of urban areas, campaigns to reduce noise and visual pollution, and monitoring of vehicle emissions and water discharges.<sup>40</sup>

### III. ENVIRONMENTAL POLICY TOOLS

The State Ecology Law requires public officials in the state to take into account the basic principles established under the Federal Ecology Law when formulating and implementing ecological policy.<sup>41</sup> Those principles can be summarized briefly as follows:

- Ecosystems are common patrimony of the society and their elements should be used in an optimum and sustainable manner;
- Government and individuals alike should assume responsibility for the protection, preservation and restoration of the environment;
- Prevention is the most effective way of avoiding ecological imbalance;
- Improving the environment is necessary for enhancing the quality of life; and
- The population has the right to enjoy a sound environment, and the government has a duty to pursue measures necessary to preserve that right.<sup>42</sup>

The State Ecology Law sets out several tools for implementing these principles, including: (1) economic development planning; (2) ecological land use planning (*ordenamiento ecológico*); (3) ecological regulation of human settlements; (4) research and education; (5) information and monitoring; and (6) environmental impact review. The law's provisions relating to land use and development planning and environmental impact review are discussed in greater detail below.

#### A. Land Use and Development Planning

The State Ecology Law and the state's Urban Development Law establish a framework for carrying out ecological land use planning. Both laws require the development of plans at the state and local levels to guide decisionmaking.

The linkage between environmental protection and economic planning is not clearly established in the State Ecology Law. The law simply provides that in planning economic development, the state government is to consider the ecological policies and the ecological land use planning established pursuant to the law.<sup>43</sup> The Ecology Ordinance for the municipality of Oaxaca contains a similar provision.<sup>44</sup>

### 1. *Ecological land use planning*

Ecological land use planning (*ordenamiento ecológico*) is defined as a "planning process designed to evaluate and program land uses and the management of natural resources in the state territory in order to preserve and restore ecological balance and protect the environment."<sup>45</sup> This process is to be carried out at different levels through the creation of state, regional, municipal and special land use planning programs.<sup>46</sup> The State Ecology Law does not provide much detail in this respect, stating only that the appropriate Secretariat (i.e., SDUCOP) is responsible for developing the programs (with the exception of the municipal programs, which are to be developed by each municipality).<sup>47</sup>

When adopting ecological land use plans, state and municipal authorities are directed to consider the following factors: the characteristics of the ecosystems in each region of the state; the population distribution and the major economic activities of the area; existing ecosystem imbalances caused by human settlements; and the environmental impact that could be caused by new works, settlements, or activities. The State Ecology Law also requires administrative officials to consider any relevant ecological land use plans when making decisions concerning human settlements, the use of natural resources and the siting of secondary production activities.<sup>48</sup>

In addition to requiring the development of state and local ecological land use plans, the law specifically requires state and municipal authorities to designate the zones in which siting of hazardous (industrial or commercial) activities is prohibited.<sup>49</sup> The law lists the factors to be considered in making this determination, including:

- the existence of topographical and climatological conditions that facilitate the rapid dispersion of pollutants;
- proximity to population centers;
- possible harmful impacts of industry, commerce or services on population centers and natural resources;
- compatibility with other activities in the zone;
- existence of infrastructures capable of attending to ecological emergencies; and
- infrastructure necessary to provide basic services.<sup>50</sup>

The Ecology Ordinance for the municipality of Oaxaca contains provisions on ecological land use planning which parallel those in the State Ecology Law. The ordinance establishes criteria for the development of municipal ecological land use plans. These plans must be considered when the municipality authorizes activities involving the use of natural resources or when it determines the siting of productive activities and human settlements.<sup>51</sup>

The Ecology Program within SDUCOP recently completed an urban land use plan for the city of Oaxaca (*Plan del Ordenamiento de la Zona Conurbada*).

## 2. *Urban development and the ecological planning of human settlements*

State and municipal governments are charged with undertaking ecological planning for human settlements. The State Ecology Law addresses this requirement briefly, noting state and municipal responsibility for issuing standards relating to urban development, housing and the human environment.<sup>52</sup> As mentioned earlier, these actions must take into account any ecological land use planning established at the state level.

The ecological planning of human settlements is governed principally by Oaxaca's Urban Development Law, which sets standards and general principles for the planning, preservation, and improvement of population centers throughout the state.<sup>53</sup>

The Urban Development Law provides for the creation of a State Urban Development Plan containing the overall strategy for the preservation, improvement, and growth of urban areas.<sup>54</sup> The plan classifies land uses in general terms with the goal of improving the quality of life and restoring and maintaining ecological balance in human settlements.<sup>55</sup> SDUCOP is responsible for developing and adopting the State Urban Development Plan and the ordinances, declarations and standards to implement the plan.<sup>56</sup> When designating land uses, SDUCOP is responsible for taking into consideration the topographical and climatic conditions of each area or region to ensure the adequate distribution of air contaminants.<sup>57</sup>

In accordance with the State Urban Development Plan, municipal governments are responsible for adopting their own municipal Urban Development Plans as well as Plans for Strategic Population Centers.<sup>58</sup> In the late 1970's, at least five municipalities created municipal Urban Development Ecoplans, which were essentially zoning maps recommending areas that were suitable for development. However, these Ecoplans are no longer used.<sup>59</sup>

The municipal governments also are charged with developing zoning ordinances for population centers<sup>60</sup> and decrees (*declaratorios*) which specify the permitted and prohibited land uses, applicable norms, the number of buildings in a given area, as well as the areas reserved for conservation.<sup>61</sup> Municipal governments may declare a conservation area based on natural characteristics, urban scenery, or the presence of an important aquifer.<sup>62</sup> The state, in conjunction with the municipalities,

is also responsible for developing programs to purchase land for the creation of reserves and the orderly development of urban areas.<sup>63</sup>

Land use and construction licenses are issued by the municipal governments in accordance with state and municipal Urban Development Plans and Programs. A construction license is required in order to "construct, amplify, modify, repair or demolish a building or installation."<sup>64</sup> A land use permit is required for buildings devoted to industrial, commercial or service uses that are located in strategic population centers or in municipal population centers that do not have an Urban Development Plan or Program, and that generate significant environmental impacts due to their dimensions, infrastructure or transportation needs.<sup>65</sup> Recipients of these permits must demonstrate compliance with the appropriate state and municipal Urban Development Plans and Programs.<sup>66</sup> The State Ecology Law provides that activities or works which require environmental impact authorization must obtain such authorization prior to being granted a land use or construction permit.<sup>67</sup>

## **B. Environmental Impact Assessment**

SDUCOP has been working to establish regulations governing environmental impact assessment to implement the State Ecology Law. The Ecology Ordinance for the municipality of Oaxaca also contains environmental impact review requirements.

***Applicability.*** According to the State Ecology Law, all activities that could "cause an ecological imbalance" and that are not under federal jurisdiction must receive prior authorization from either the municipal or state governments.<sup>68</sup> The state is responsible for issuing authorization and evaluating the environmental impact of the following types of works or activities:

- public works;
- rural roads;
- rubber, textile, glass and brick-making industries;
- maquiladoras and industrial corridors;
- tanneries;
- hydraulic works and water diversion projects;
- housing development;
- tourism development;
- transportation projects at the state level;
- facilities for treatment and disposal of non-hazardous solid waste;
- exploration, development and processing of mineral substances.<sup>69</sup>



Municipalities are responsible for environmental impact review of works or activities that are not reserved to the federal or state government.<sup>70</sup>

**Contents.** Those planning to undertake one of the above activities must first submit an Environmental Impact Prognosis (*Pronóstico de Impacto Ambiental*) to the state authority (SDUCOP). The EIP must contain at a minimum:

- general data specifying who will carry out the work or activity;
- the location, description and nature of the proposed work or activity;
- the general socioeconomic and natural characteristics of the area;
- an identification, description and evaluation of the project's environmental impacts; and
- measures to prevent and minimize these impacts at each stage of the project.<sup>71</sup>

In certain cases, proponents must prepare a Risk Study in addition to the EIP.<sup>72</sup> The Risk Study contains the technical measures necessary for minimizing any adverse environmental effects of the project, including those resulting from potential accidents.<sup>73</sup> The State Ecology Law does not specify the circumstances in which a Risk Study is required.

Private companies that wish to prepare environmental impact and risk documents, must first register with the SDUCOP and SEMARNAP and provide evidence of their experience and technical capacity.<sup>74</sup> SDUCOP is authorized to investigate and verify the capacity of each company and may remove a company from the listing if it determines that the company presented false or incorrect information in its studies or that the company no longer meets the necessary state standards.<sup>75</sup> SDUCOP recently began to develop this list.<sup>76</sup>

Those who plan to undertake any activities requiring environmental impact review by the state may submit a Preventive Report (*Informe Preventivo*) instead of an EIP if they believe that the activity will not cause ecological imbalance.<sup>77</sup> Based on this Preventive Report, the state determines whether an EIP is required. The Preventive Report includes at a minimum, general information on the person or organization undertaking the project, a description of the projected activity and the products or materials that are to be used in its construction, and the materials or substances that will be produced as a result (including air emissions, water discharges and other wastes) and the means for their disposal.<sup>78</sup> The state may require additional information if necessary.<sup>79</sup>

In the municipality of Oaxaca, project proponents are required to present an environmental impact statement to municipal officials for projects that fall under municipal jurisdiction and that are not subject to federal or state jurisdiction. Where the project involves the exploitation of natural resources, the environmental impact statement must include broad ecosystem impacts and must be accompanied by a Risk Study.<sup>80</sup>

**Environmental Impact Determinations.** SDUCOP is responsible for evaluating environmental impact documents.<sup>81</sup> In doing so, the agency is required to consult with the municipality in which

the proposed activity is taking place.<sup>82</sup> Once an EIP has satisfied the requirements formulated by the reviewing agency, the agency has 45 days in which to complete its review and either authorize, deny or conditionally authorize the proposed project. The agency is required to monitor the project to assure compliance with the requirements contained in the authorization.<sup>83</sup>

According to SDUCOP, the agency evaluated a total of 3,000 EIPs in 1992-93. In 1993, the number of federal environmental impact studies evaluated by SEDESOL in Oaxaca was 327.<sup>84</sup> Municipal authorities indicate that they have not required any EIPs, but rather have focused their efforts on existing facilities. They recently ordered an environmental audit of a large company located in the municipality of Oaxaca. The audit was conducted by a public research center using external auditors.<sup>85</sup>

According to the State Ecology Law, any person who is affected by an EIP may have access to the EIP once it has been submitted and satisfies the requirements established by the reviewing agency.<sup>86</sup>

#### **IV. ENVIRONMENTAL PROTECTION**

Environmental protection in Oaxaca is governed primarily by the State Ecology Law, which addresses the prevention and control of environmental pollution in five main areas: air pollution, water pollution, soil pollution, hazardous activities, and pollution from noise, noxious odors and thermal energy.

##### **A. Prevention and Control of Air Pollution**

The State Ecology Law does not provide detailed requirements governing air pollution control. The law establishes a very general framework to guide state and municipal actions as well as the actions of those responsible for emissions sources under state jurisdiction.

###### *1. Distribution of jurisdiction*

State and municipal governments are responsible for preventing and controlling air pollution in areas or on property under state or municipal jurisdiction. Beyond this general principle, the law does not specify the distribution of air pollution jurisdiction, except to note that the state is responsible for regulating emissions from public transport vehicles and automobiles, in accordance with federal standards.<sup>87</sup>

While state jurisdiction can be assumed to cover air pollution sources that are not under federal jurisdiction, it is not clear which sources fall under municipal jurisdiction. The municipality of Oaxaca has taken steps to define its role in regulating mobile source emissions. In April, 1995, the municipality adopted an ordinance titled Prevention and Control of Pollution Generated by Automotive Vehicles Operating in the Territory of the Municipality of the city of Oaxaca.<sup>88</sup>

## 2. *Regulatory mechanisms*

**Standards.** According to the State Ecology Law, all air emissions must comply with the Federal Ecology Law, as well as any regulations and standards issued under that law.<sup>89</sup>

The State Ecology Law refers indirectly to the state's authority to adopt its own air pollution control standards. For example, the law provides that "technical standards issued by the state and federal governments" must be observed in order to control, prevent and reduce air pollution. The law also charges SDUCOP with regulating emissions from local public transport, "in accordance with the ecological technical norms issued by the federal government and the state."<sup>90</sup> The state has not yet issued any technical standards of its own.

**Authorization and Registration.** The State Ecology Law does not require emission sources to obtain authorization or a permit from the state for the release of air pollutants.

The Ecology Ordinance of the municipality of Oaxaca contains a section titled "Obtaining Licenses" which requires fixed sources of pollution to present information to the municipal government describing their production materials and processes as well as their pollutant releases and pollution control equipment. Following submission of this information, the municipal government is charged with issuing a decision regarding the facility. Where the decision is favorable, the government is to specify the frequency for reporting emissions, the approved emergency response measures, and the equipment and other measures to be utilized for controlling pollution. The ordinance does not make clear the consequences of an unfavorable decision.<sup>91</sup>

**State Registries and Inventories.** According to the State Ecology Law, the state is responsible for "registering" those who undertake polluting activities. The law also directs state and municipal governments to establish and maintain an inventory of fixed sources of emissions. Those who undertake polluting activities are to provide all information required by authorities necessary to maintain the inventory.

**Pollution Control Equipment.** The state and municipalities are charged with requiring the installation of air pollution control equipment for emission sources within their respective jurisdictions. Similarly, those who are responsible for polluting activities are required to install air pollution control equipment or systems that satisfy applicable "ecological technical norms."<sup>92</sup> In zones that have been determined appropriate for industrial use and that are near residential areas,

the State Ecology Law directs state and municipal authorities to promote the use of less-polluting technology and fuels. This requirement is echoed in the Ecology Ordinance of the municipality of Oaxaca.<sup>93</sup>

**Monitoring and Verification.** With respect to individual emission sources, the State Ecology Law says only that certification of a source's emission levels is to be carried out in accordance with "ecological technical norms" issued for that purpose.<sup>94</sup> The Ecology Ordinance of the municipality of Oaxaca requires the municipal government to ensure that those responsible for fixed sources measure their emissions and submit the measurements every three months on registry forms provided by the municipality.<sup>95</sup>

State and municipal authorities are charged with establishing and operating air quality monitoring systems according to federal technical standards. This data is to be incorporated into the national data system.<sup>96</sup>

State and municipal authorities are responsible for establishing systems for monitoring automobile emissions.<sup>97</sup> The law also authorizes SDUCOP's inspectors, as well as the transit authorities working with SDUCOP, to issue sanctions for violations of automobile emissions standards.<sup>98</sup> The municipality of Oaxaca is in the process of implementing its vehicle emissions inspection program. According to officials, the municipality will grant concessions to private companies that have adequate equipment and technology for carrying out the inspections. Vehicles will be required to be inspected every six months. Limited inspections have begun for public transportation vehicles and taxi cabs.<sup>99</sup>

As noted earlier, the municipality of Oaxaca has been working with the federal government to monitor the city's air. The results of the study will be used to help create the municipality's vehicle verification system.

**Incentives.** The State Ecology Law calls upon the "competent authorities" to grant financial incentives to those who:

- acquire, install or operate emissions control equipment;
- manufacture, install or provide maintenance for such equipment;
- conduct research on technology designed to reduce or eliminate emissions; or
- locate or relocate their facilities to reduce the impact of their emissions.<sup>100</sup>

The law also requires those who undertake air polluting activities to develop scientific research aimed at reducing or eliminating the pollution they generate.<sup>101</sup>

## **B. Prevention and Control of Water Pollution**

The State Ecology Law's provisions on water pollution, like those on air pollution, contain few details concerning the state and municipal roles in preventing and controlling pollution of waters under local jurisdiction. To date, no regulations or standards have been adopted in this area.

## 1. *Distribution of jurisdiction*

SDUCOP has jurisdiction to prevent the contamination of waters that fall under state jurisdiction or of federal waters that have been assigned to the state by the National Water Commission for the provision of public services.<sup>102</sup> Within this framework, the state is responsible for regulating:

- industrial discharges;
- municipal or state discharges, provided their mixture with other discharges is controlled;
- discharges derived from agricultural activities;
- discharges generated during the use or processing of minerals or substances not reserved to the federal government;
- discharges generated by activities that are not considered to be highly hazardous;
- the dumping of solid wastes in standing or running bodies of water.<sup>103</sup>

Municipalities are given responsibility for preventing and controlling pollution of state and federal waters assigned to the municipality for the provision of public services, waters discharged to urban sewer and drainage systems, and streams and natural water currents under state jurisdiction.<sup>104</sup> The state is to assist the municipalities in carrying out these responsibilities.<sup>105</sup>

## 2. *Regulatory mechanisms*

**Standards.** The State Ecology Law requires generally that all waste water discharges meet conditions necessary to prevent pollution of the receiving waters, interference with the purification processes of the receiving waters, and alterations or impediments to the proper functioning of sewer and drainage systems.<sup>106</sup> The law provides specifically that discharges under local jurisdiction must satisfy any applicable federal water pollution standards.<sup>107</sup>

The law does not refer to state water quality standards, and neither SDUCOP nor the municipalities have adopted any standards regarding the control or prevention of water pollution. Both the State Ecology Law and the Ecology Ordinance for the municipality of Oaxaca provide for the establishment of Special Discharge Conditions for individual facilities.<sup>108</sup>

**Discharge Authorization.** With respect to discharge permits, the State Ecology Law provides only that waste waters may not be discharged into the sewer and drainage systems without prior treatment or authorization from the appropriate agency. This requirement does not apply to water used for domestic purposes.<sup>109</sup> According to the State Law of Drinking Water and Sewer Services, discharges from productive activities (non-domestic discharges) must obtain a permit from state and

municipal agencies that provide water and sewer services before discharging waste waters to the sewer systems; those agencies are authorized to establish appropriate measures for ensuring pretreatment of waste waters.<sup>110</sup>

The state, through ADOSAPACO, is responsible for both connecting facilities to the drinking water and sewer systems, and issuing authorizations for waste water discharges to the sewer system.

**Registration.** Each municipality is required to maintain a registry of all discharges into its drainage and sewer system.<sup>111</sup> The municipal registries are then to be integrated into the National Registry, under the control of the National Water Commission.<sup>112</sup>

**Waste Water Treatment.** Municipalities are responsible for requiring the installation of waste water treatment equipment for any discharges into the drainage and sewer systems which fail to meet applicable federal standards. All assignments, concessions or permits for the development or commercial use of waters must be conditioned on prior treatment of the waste waters produced. The State Ecology Law provides that parties responsible for waste water treatment may enter into agreements with the state or municipalities whereby the government undertakes the necessary treatment in exchange for payment by the responsible party. The Ecology Ordinance for the municipality of Oaxaca provides that the cost of treatment shall be included in the fees charged for use of the drinking water and sewer systems.<sup>113</sup>

State and municipal urban waste water treatment systems must comply with any applicable regulations and technical standards governing design, operation or administration of such systems. Treatment systems for waste waters of industrial origin must be constructed in accordance with a technical opinion obtained from the federal government.<sup>114</sup>

According to the National Water Commission in Oaxaca, 80 percent of the state's industrial plants have secondary treatment facilities.<sup>115</sup> Meanwhile, the main source of water pollution in the state remains untreated municipal sewage and urban and agricultural runoff. There are currently only three sewage treatment plants in the entire state, two of which are located in Huatulco, a modern tourism development. The state is in the process of upgrading its sewage treatment system.

**Monitoring.** Oaxaca's Ecology Law provides for water quality monitoring in accordance with the Federal Ecology Law. State and municipal governments (in conjunction with SEMARNAP and the federal Secretariat of Health) must establish a permanent monitoring system to determine the level of pollutants and excessive organic matter in the state's water system, and to use such data to develop appropriate corrective measures.<sup>116</sup> According to the National Water Commission in Oaxaca, the state is responsible for providing the Commission with information for the preparation of an annual Water Quality Bulletin.

Municipal officials in the city of Oaxaca indicate that they have developed a program for monitoring waste water discharges to the sewer system from automobile service shops. The municipality's Ecology Office conducts joint inspections with the state water services agency (ADOSAPACO), which is in charge of taking samples and analyzing the discharges. According to

municipal officials, if the Ecology Office determines that a facility is in violation of existing discharge standards, the Office enters into a "binding letter" in which the business agrees to correct all violations. If the company does not subsequently comply, the Office may impose a sanction.<sup>117</sup>

### **C. Solid Waste**

With limited resources, SDUCOP's Ecology Program has been working in rural areas to improve sanitary conditions and the collection and separation of solid waste for recycling. The municipal landfills currently in use in Oaxaca do not have liners. The municipality of Oaxaca, which produces the most solid waste in the state, has been considering the construction of a sanitary landfill and a solid waste incinerator.<sup>118</sup> SEMARNAP's regional office has been working with smaller municipalities to set up recycling and compost programs.<sup>119</sup>

The State Ecology Law contains only brief mention of solid waste management issues. At present, the state executive branch is considering a proposed solid waste regulation drafted by SDUCOP.

According to the State Ecology Law, the state and municipal governments share jurisdiction over the management and disposal of non-hazardous solid waste.<sup>120</sup> The law seems to envision a greater role for municipalities in this area, providing that municipalities are responsible for authorizing and supervising both the operation of solid waste management systems and the disposal of solid waste, in accordance with applicable federal standards.<sup>121</sup>

The accumulation, infiltration or disposal of non-hazardous waste in the soil must be carried out in a manner that prevents contamination of the subsoil, alteration of biological processes in the soil and creation of health risks.<sup>122</sup> Any disposal or deposit of non-hazardous solid waste must also comply with federal standards.<sup>123</sup> The state law does not elaborate on the state and municipal roles in implementing federal standards.

### **D. Hazardous Activities**

Oaxaca's Ecology Law defines hazardous activities as those classified as such by the state government and listed in the official state newspaper.<sup>124</sup>

Although *highly* hazardous activities are regulated by the federal government pursuant to the Federal Ecology Law, states and municipalities are responsible for those non-highly hazardous activities that affect ecological balance or the environment within their jurisdiction.<sup>125</sup> Specifically, municipal governments are responsible for the non-highly hazardous activities (including public services) that result in the disposal or deposit of wastes into municipal drainage, sewer or garbage

systems.<sup>126</sup> Under the State Ecology Law, local authorities are to take the necessary precautionary measures to preserve ecological balance and to protect the environment from hazardous activities that cause or could cause an environmental emergency within the state or municipality.<sup>127</sup>

Facilities that undertake activities classified as hazardous are required to install necessary safety equipment in accordance with the State Ecology Law, its regulations, and applicable federal standards. Those activities also are required to establish and maintain programs designed to prevent accidents that cause ecological imbalance in the state or municipality in which they are located.<sup>128</sup>

When designating land uses, the state is to determine the zones where hazardous industries, services or other activities are prohibited.<sup>129</sup>

## **V. NATURAL RESOURCE PROTECTION**

The State Ecology Law addresses the protection of natural resources in the following three areas: protected natural areas, wild vegetation, and wildlife.

### **A. Protected Natural Areas**

The State Ecology Law provides a long list of objectives related to the establishment of protected natural areas. The law seeks to:

- preserve representative ecosystems;
- save and protect the genetic diversity of wild species that are threatened or in danger of extinction;
- assure the rational use of the state's diverse ecosystems and their elements and the regeneration of its natural resources;
- preserve and restore the environment in and around urban areas;
- protect areas, monuments and artifacts of historical, archeological, artistic, and cultural importance; and
- encourage scientific investigation and study of ecosystems and the environment.<sup>130</sup>

#### *1. Distribution of jurisdiction*

Pursuant to the Federal Ecology Law, state and municipal governments may, through agreement with the federal government, assist in administering protected natural areas under federal



jurisdiction. In addition, state and municipal governments are responsible for two categories of protected natural areas listed in the federal law: urban parks and areas subject to ecological conservation.<sup>131</sup>

The State Ecology Law provides for several categories of protected natural areas that may be established by the state. SDUCOP, in conjunction with municipalities, is responsible for the organization, administration, conservation, and oversight of protected natural areas under state jurisdiction.<sup>132</sup>

## 2. *Regulatory mechanisms*

The State Ecology Law provides for the creation of the following types of protected natural areas:

- *Municipal Parks* are spaces for public use created in population centers, designed to obtain and preserve environmental balance within urban and industrial areas.<sup>133</sup>
- *State Parks* are tracts of land with one or more ecosystems that are exceptional for the presence of important state flora and fauna, for scenic beauty, or for scientific, educational, historical or recreational value.<sup>134</sup>
- *Ecological Restoration Zones* are tracts of land with one or more ecosystems that are either endangered or that are exceptional because of their scenic beauty or their scientific, educational, historical or recreational value and importance.<sup>135</sup>
- *Restricted Zones* are areas established to protect rivers, springs, deposits and sources of water supplies, as well as to protect the natural condition of the soils and the use of natural resources.<sup>136</sup>
- *Ecological Conservation Zones* are areas surrounding human settlements which contain one or more well-preserved ecosystems, set aside to preserve those natural elements that are indispensable to ecological balance and general well being.<sup>137</sup>
- *Historic Trees* are those that merit special protection because of their biological, aesthetic, scientific or historical value.<sup>138</sup>

SDUCOP is responsible for proposing to the state Executive the creation of protected natural areas, and for proposing to municipal governments the creation of municipal parks.<sup>139</sup> The state executive, with the participation of the corresponding municipality, establishes these areas through the issuance of an executive declaration (*declaratorio*), which is published in the official state newspaper and registered in the Public Record of Property and the General Archives of Notary Publics, and given to SEMARNAP.<sup>140</sup>

The executive declaration which creates a natural protected area must include the means for its conservation, administration, development and enforcement.<sup>141</sup> It must also specify those activities which may or may not take place in the protected area (including the limits which apply to permissible activities) and the permissible uses of the natural resources in the area.<sup>142</sup>

The inhabitants of a protected natural area may participate in the establishment, administration and development of the area pursuant to agreements created among the municipality, the state and the federal government.<sup>143</sup>

In order to use, explore or exploit the resources of a protected natural area, one must first receive authorization from the appropriate state agency, in accordance with the State Ecology Law and the corresponding declaration.<sup>144</sup> Based on technical or socioeconomic studies, SDUCOP may request that an authorizing agency cancel or revoke a permit or authorization for the use of a protected area when the activity concerned fails to comply with the objectives of the protected area.<sup>145</sup> Activities or uses provided for in a declaration of a natural protected area may only be modified by the agency that established the declaration (SDUCOP), and all modifications must be based on studies of the area.<sup>146</sup>

Before a declaration of a protected natural area is published in the official state newspaper, the state must notify in person the owners or occupiers of land affected by the declaration.<sup>147</sup> Should the declaration of a protected area involve the taking or expropriation of property, compensation must be provided for in accordance with article 27 of the federal Constitution.<sup>148</sup>

## **B. Wild Vegetation**

As noted earlier, the loss of natural resources is one of the major problems facing the state.

Under Oaxaca's Ecology Law, the state is permitted to establish bans or closed seasons on the use or exploitation of wild vegetation, both terrestrial and aquatic.<sup>149</sup> Each ban or closed season must specify the species of flora that can be used or harvested, as well as the time period and the area involved.<sup>150</sup> According to the State Ecology Law, the state and municipalities are authorized to issue permits for the collection of species of vegetation in accordance with agreements reached with the federal government.<sup>151</sup>

Oaxaca's Ecology Law recommends that, in accordance with the Federal Ecology Law, a number of other mechanisms be considered in providing for the use, protection, and conservation of wild vegetation and the surrounding ecosystems. These mechanisms include:

- the delimitation of forest areas and their permitted uses;
- the regulation and control of the use of forest resources and the repopulation and reforestation of degraded areas;

- the conservation of rare or important trees;
- the prevention and control of forest fires;
- the protection and study of floral habitats, and in particular, the protection, conservation and study of rare species that are endangered or threatened with extinction;
- the control of illegal traffic in species; and
- the establishment and control of nurseries and botanical gardens.<sup>152</sup>

In addition, the State Ecology Law mandates that forest areas and all types of vegetative covering be protected when they occur in the middle of population centers, on slopes that encourage erosion, or on land near springs, rivers, lakes or bodies of surface and groundwater, land subject to erosion or floods.<sup>153</sup>

### **C. Wild Fauna**

The State Ecology Law contains similar provisions on wild fauna, with the aim of protecting species that are temporarily or permanently found in the state, as well as their habitats. According to the law, the state may establish bans or closed seasons on the use of wild fauna, which may be partial or total, temporary or permanent.<sup>154</sup> The establishment of bans or closed seasons for fauna must be based on technical studies.<sup>155</sup> Apart from the use of bans, the state, in accordance with the Federal Ecology Law, the Federal Hunting Law and the federal Fishing Law, is also free to conduct studies on wild animals and their uses; to establish zoos, nurseries, and breeding grounds; to protect and monitor the habitats of wild animals; and to prevent trafficking in rare and endangered species.<sup>156</sup>

In addition, the State Ecology Law establishes a list of activities relating to fauna which are strictly prohibited. They include:

- capturing, killing or interrupting the reproduction of any species where prohibited by federal, state or municipal authorities;
- transporting or selling rare, threatened or endangered species;
- offering to sell wild animals or their products;
- altering the habitats of rare, threatened, endangered, or endemic wild animals, or altering the habitats of wild animals located in refuges or natural protected areas;
- using chemical insecticides that are prohibited by the State Ecology Law or other dispositions; and
- hunting, fishing or capturing animals in violation of federal, state or municipal law.<sup>157</sup>

## **VI. ENFORCEMENT**

### **A. Distribution of Jurisdiction**

The State Ecology Law addresses briefly the enforcement tools that apply to matters of state and municipal jurisdiction covered by the law. The state and municipal governments may use these enforcement tools to ensure compliance with the Federal Ecology Law pursuant to any coordination agreements entered into with the federal government.<sup>158</sup>

In addition to enforcement mechanisms, the State Ecology Law contains a separate section on the use of incentives to promote environmental protection efforts. The law directs the state and municipalities to provide economic incentives and commendations to those who carry out actions that protect, conserve and regenerate ecosystems within the state.<sup>159</sup> Among the incentives and stimuli mentioned are the postponement or reduction of taxes; the facilitation of credit and investment; and the issuance of preferential permits and concessions.<sup>160</sup> The State Ecology Law also mandates the awarding of distinctions and prizes to persons or institutions that have accomplished significant achievements in the field of research, the adoption of technological innovations, and the implementation of programs or activities related to the environment.<sup>161</sup>

### **B. Enforcement Mechanisms**

#### *1. Inspections*

When carrying out an inspection, inspectors must provide personal identification and a written order from the agency authorizing the inspection.<sup>162</sup> Those who are subject to inspection must provide access to the facility and cooperate in facilitating the inspection.<sup>163</sup> When the circumstances so warrant, the agency may request the assistance of the police in carrying out inspection or monitoring activities.<sup>164</sup>

#### *2. Administrative sanctions*

The State Ecology Law provides that any violation of the law or any dispositions issued pursuant to the law constitutes an administrative infraction and will be sanctioned by the state or the municipalities. Those sanctions are to be applied without prejudice to any other sanctions that might be issued by the federal government.<sup>165</sup> In considering the type of sanction to apply, the agency must take into consideration the gravity of the infraction and its impact upon public health and the

environment; the economic circumstances of the violator; and any previous violations by the same violator.<sup>166</sup> The law provides for the following types of sanctions:

**Fines.** Depending on the violation, a fine may be imposed in an amount equivalent to 100 percent of the value of the damage caused, or an amount equivalent to between 20 and 20,000 times the daily minimum wage in the state.<sup>167</sup> If a violation continues beyond the period of time given for corrective measures, the state may fine the party up to three times the amount of the initial fine.<sup>168</sup> In the case of repeat violations, a party may be fined up to four times the original fine, provided the amount does not exceed twice the maximum fine permitted.<sup>169</sup>

**Closure.** In addition to fines, authorities may shut down a violating facility when the party involved is a repeat offender or when the seriousness of the offense warrants closure.<sup>170</sup> The government authority may order the partial or total closure of a facility, which may be either temporary or permanent depending on the circumstances.<sup>171</sup>

**Seizure of materials.** The government may seize the products or instruments used in the commission of an infraction.<sup>172</sup>

**Permit revocation.** When the gravity of a violation so warrants, the enforcing agency may request repeal or revocation of any governmental authorization received by the facility to undertake the activity giving rise to the violation.<sup>173</sup>

**Administrative Arrest.** Those who violate the provisions of the State Ecology Law are subject to administrative arrest for up to 72 hours.<sup>174</sup>

### 3. *Administrative appeals*

The State Ecology Law provides that actions taken and decisions issued by state agencies in accordance with the law and its regulations may be appealed by an interested party according to the terms of the Federal Administrative Procedures Law (*Ley de lo Contencioso Administrativo*).<sup>175</sup> Municipal acts or decisions may be appealed in accordance with the State Organic Municipal Law.<sup>176</sup>

### 4. *Criminal sanctions*

Neither the State Ecology Law nor the State Penal Code provides for environmental crimes.

### 5. *Public complaints*

Any person may lodge a public complaint (*denuncia popular*) with the state (SDUCOP) or municipal authority regarding any act or omission that causes ecological imbalance or harms the environment in violation of the Federal or State Ecology Laws and their related provisions.<sup>177</sup> At a

minimum, a complaint must contain enough facts to permit the authority to locate the company or activity that is allegedly causing the ecological harm.<sup>178</sup>

Once the complaint is received, the state or municipal authority must investigate the matter and undertake all steps necessary to verify the facts alleged in the complaint.<sup>179</sup> After conducting its investigation, the government authority must notify the parties of the results of the investigation and the decision issued.<sup>180</sup> When an alleged violation results in damages or a loss of wages, the affected party may request the agency to issue a technical report on the matter, which may later be admitted as evidence in a court proceeding.<sup>181</sup>

## VII. PUBLIC PARTICIPATION

The provisions of the State Ecology Law regarding public participation closely parallel the provisions contained in the Federal Ecology Law. The state law directs the state Executive and the municipalities to promote public participation when creating and implementing ecological policies, when developing programs to preserve ecological balance and protect the environment, and when undertaking investigation and enforcement activities.<sup>182</sup> The state is to use the State Democratic Planning System to convene representatives from different sectors of the public, for the purpose of undertaking actions on matters covered by the law.<sup>183</sup>

**Coordination Agreements.** The law authorizes and encourages the state to enter into cooperative agreements with individuals and groups, including business groups, interested in environmental protection. In particular, the law provides for agreements with:

- worker organizations -- for environmental protection in the workplace and in housing;
- peasant organizations and rural communities -- in connection with the establishment, administration and management of protected natural areas, specifically to provide assistance in activities relating to the rational use of natural resources;
- civil organizations and private institutions -- to undertake joint ecological actions; and
- academic, educational and research institutions -- to undertake ecological research.<sup>184</sup>

**Ecological Councils.** The state and municipalities are directed to help organize Ecological Councils on Citizen Participation, independent citizen groups at the regional and municipal level created to assist in the development and implementation of federal, state and municipal environmental programs.<sup>185</sup>

The municipality of Oaxaca has created an Ecological Council, known as the Council on Ecological Collaboration, which has a broad mandate for increasing public environmental awareness and participation.<sup>186</sup>

**Access to Information.** The State Ecology Law does not include many provisions on public access to environmental information obtained by the state through regulatory activities. As noted

earlier, the law provides for public consultation of environmental impact documentation by affected parties *after* the documents have satisfied the state's requirements. The law contains only minimal references to air and water pollution registries and inventories, and does not explicitly provide for public access to any such information that is collected by the state.

The law does require that the state collect certain general information on the environment and publicize that information. For example, the state is required to publish annually, in newspapers with the widest circulation, a report on the condition of the state's environment. This report is to describe the causes and effects of environmental deterioration in the state and the actions taken by the government to prevent and mitigate those effects.<sup>187</sup> The law also requires the state to monitor ecosystems within the state and to establish a permanent environmental information system, in coordination with the federal government.<sup>188</sup> To date the state has not published a report or created an environmental information system.<sup>189</sup>

The law promotes the strengthening of the public's "ecological conscience" through the development of community environmental protection actions.<sup>190</sup> The law also authorizes the state to collaborate with the federal government in incorporating and implementing ecological and environmental course material in the state educational system, and to promote public awareness of the environment through the mass media.<sup>191</sup>

***The Oaxacan Commission for Ecological Defense (CODE).*** The Oaxacan Commission for Ecological Defense (*Comisión Oaxaqueña de Defensa Ecológica*), commonly known as CODE, plays a unique role in the development and implementation of the state's ecological policies. CODE is a nongovernmental organization, however it is structured to involve the participation of representatives of federal, state and municipal governments, nongovernmental organizations and the private sector.

CODE develops and finances both public and private environmental programs within the state.<sup>192</sup> It seeks to promote public participation and to assist government bodies in coordinating their environmental activities and responsibilities. It issues policy recommendations regarding technical, economic and social issues relating to the use and restoration of natural systems.<sup>193</sup>

CODE's Technical Committee, which oversees the implementation of projects and accounts for money spent, is made up of 15 representatives from federal government, the state government, academia, the private sector, and civil associations. CODE's Assembly makes all of the decisions regarding CODE's projects and the use of its trust fund. The Assembly is made up of approximately 60 member organizations or individuals that either took part in ODE's creation or later requested membership from CODE's Technical Committee and Assembly.

## VIII. DISCUSSION

The state of Oaxaca is noted for its wealth of natural resources and for the challenges it faces in protecting those resources. The state also is home to significant air, water and soil pollution

problems. The recently enacted State Ecology Law provides the framework for preventing and controlling pollution and, to a lesser extent, for addressing natural resource depletion in Oaxaca. Effective implementation of the law likely will require the development of more detailed regulatory mechanisms to supplement the law's fairly general provisions and directives. Nevertheless, the state legal framework evinces a legislative intent that the state Executive pursue the measures necessary to achieve environmental protection. Future efforts to address pollution problems will require not only the dedication of resources, but also the establishment of a solid state administrative structure for undertaking those efforts.

### *Scope of the Environmental Legal Framework*

Unlike many other state constitutions, Oaxaca's Constitution provides explicitly for state action in the area of environmental protection. In addition to authorizing the legislature to address protection of the state's natural patrimony, the Constitution calls on the state government to establish the means necessary to preserve the environment and promote ecological balance.

The State Ecology Law also incorporates the concept of "ecological balance." The law's far reaching principles -- establishing, for example, the goals of pollution prevention and sustainability -- provide a broad legislative basis for the development of comprehensive environmental protection programs. Under the law, people of the state of Oaxaca have the right to a sound environment, and the government has a duty to take steps to preserve that right.

As is the case in the Federal Ecology Law and other state laws, Oaxaca's Ecology Law specifically provides for land use planning. Land use and urban development planning responsibilities are carried out by the same department within the Secretariat of Urban Development, Communications and Public Works; this administrative organization may facilitate the implementation of these provisions.

Another state law, the Organic Law of the State Public Administration, seeks to infuse environmental principles into a wide range of state governmental action. The law requires each Secretariat to establish ecological policies and/or criteria that preserve and restore the state's environment. Although it is unclear whether this language has had an impact on the practices of agencies such as the Secretariat of Planning, the law provides a potentially important legislative instrument for broadening the concept and application of environmental protection in the state.

### *Administrative Structure*

Although the State Ecology Law calls for the creation of a new Secretariat, there are currently no plans within the state government to create a separate Secretariat of Ecology. Instead, the



existing Secretariat of Urban Development, Communications and Public Works implements the law.

SDUCOP's environmental protection role, however, is far from clear. When the state legislature reformed the State Organic Law in 1992, it removed SDUCOP's environmental responsibilities without creating a new agency to handle environmental protection. The Governor further deemphasized SDUCOP's environmental function by issuing an executive decree changing the name of the agency's Department of Urban Development and Ecology to simply the Department of Urban Development.

Although SDUCOP continues to maintain a loosely structured Ecology Program, its questionable legal status and lack of resources -- the Program has fewer than ten employees statewide -- pose considerable obstacles to effective implementation of the State Ecology Law. The director of the Ecology Program recently proposed the creation of three new offices within the Program. However, it is likely that legislative changes are needed first to clarify the administrative structure for implementing the State Ecology Law -- whether through SDUCOP or through the creation of a new agency.

#### *Distribution of Jurisdiction*

The distribution of jurisdiction under the State Ecology Law is notable for the significant role assigned to municipalities. For example, municipalities in Oaxaca have jurisdiction over waste water discharges to sewer systems, the principal area of water pollution control falling outside federal jurisdiction. The law also seems to envision a greater role for municipalities in the area of solid waste. Although both state and municipal governments have general jurisdiction over the management and disposal of non-hazardous solid waste, municipalities are responsible for authorizing and supervising both the operation of solid waste management systems and the disposal of solid waste, in accordance with applicable federal standards.

Despite these provisions delegating functions to the municipalities, decentralization of environmental responsibilities within the state is made difficult by the lack of infrastructure and resources among most of the 570 municipalities. Indeed, many municipalities are located in remote areas and lack telephone services, thus hindering even basic coordination with the state or federal governments. Only about 15 local governments have established an office or an official dedicated to environmental matters, as envisioned in the State Ecology Law.

In certain areas, the State Ecology Law is less clear about state and municipal jurisdiction. For example, in the matter of air pollution from non-mobile sources, the law provides only that the state and municipalities are responsible for preventing and controlling air pollution in areas or on property under state or municipal jurisdiction. The law does not clarify which areas or property fall under state or municipal authority.

The provisions of the State Ecology Law present certain potential jurisdictional conflicts with federal law. Perhaps most significant is the area of species protection, an important environmental issue in the state. The State Ecology Law contains fairly lengthy provisions governing wild flora and fauna. As noted in Chapter Two, the federal Constitution gives the federal government jurisdiction over species protection. The Federal Ecology Law reiterates federal jurisdiction in this area and does not explicitly include species protection as a matter delegated to the states. Therefore, state regulatory actions to protect terrestrial and aquatic flora and fauna may raise jurisdictional questions.

Although the State Ecology Law refers indirectly to state authority to adopt standards in the area of air pollution control, the state has not adopted any of its own standards in this or any other area.

### *Regulatory Mechanisms*

The State Ecology Law, while comprehensive in its objectives and principles, does not provide detailed regulatory mechanisms for achieving those objectives and ensuring compliance with federal standards relating to environmental pollution. The sections of the law covering air, water and solid waste are brief and general in nature. The state has not yet adopted any regulations to implement these general provisions, although state officials indicate that they are in the process of developing regulations governing solid waste, noise pollution and environmental impact and risk assessment.

Given the state's pressing natural resource issues, as well as its limited financial resources, it is not surprising that environmental officials have focused their attention more on soil erosion, natural resource loss and environmental restoration than on pollution control and prevention. The state has devoted some of its limited resources to addressing solid waste problems, working to improve solid waste collection in rural areas and drafting a solid waste regulation.

**Permitting.** There is no provision in the law for permitting of air emission sources. The law provides that waste waters may not be discharged into the sewer systems without prior treatment and authorization, but does not elaborate further on this requirement.

**Registries/Inventories.** According to the State Ecology Law, the state is responsible generally for registering sources of pollution. The law specifically directs municipal governments to keep a registry of all waste water discharges into the sewer systems.

The law also contains a general requirement that states and municipalities maintain inventories of fixed air emission sources.

**Monitoring.** The State Ecology Law does not establish monitoring and reporting requirements for individual facilities. The state and municipal governments are charged with developing programs for monitoring air quality and water quality. The municipality of Oaxaca de Juárez has been involved in an air quality monitoring program with the federal government.

**Enforcement.** The State Ecology Law provides the state and municipal governments with the basic enforcement tools contained in the Federal Ecology Law and other state laws -- principally the authority to issue administrative sanctions including fines and facility closure. One possible obstacle

to utilizing these authorities, in addition to limited government resources, is the lack of detailed administrative procedural requirements, particularly in the area of inspections.

Currently, neither the State Ecology Law nor the state Criminal Code contain provisions establishing environmental crimes.

**Incentives.** A notable feature of the State Ecology Law is its inclusion of economic incentives in addition to traditional enforcement authorities. The law goes beyond promoting the use of incentives generally, to encouraging specifically the postponement or reduction of taxes, the facilitation of credit and investment, and the issuance of preferential permits and concessions. Although implementation of such incentives will require coordination with other agencies and possibly additional legislative action, the State Ecology Law demonstrates a clear legislative intent to move in that direction.

### *Public Participation*

The public has had relatively little opportunity to actively participate in or comment on the creation and implementation of state environmental policies and programs in Oaxaca. Citizen participation occurs generally through local, non-governmental organizations.

Although not a state agency, the Oaxacan Commission for Ecological Defense plays a significant role in carrying out environmental protection projects in the state. With a budget larger than that of the state's Ecology Program, CODE develops and finances a variety of environmental projects. It also provides policy advice and assistance to the state, including input on legislative and regulatory reforms. The size and influence of the organization have produced some tensions between CODE and both the governmental and non-governmental sectors. Nevertheless, CODE continues to be active in addressing environmental problems in the state.

The State Ecology Law contains few references to the public's right of access to environmental information. At the same time, the state is mandated to collect only minimal information under the law. One exception is the area of environmental impact review, where the state is required to review environmental impact documents submitted by project proponents, and to make those documents available to members of the public. Here, however, public access is only required once the environmental impact documents have "satisfied the requirements" established by the reviewing agency. The state also is required to prepare an annual report documenting the causes and effects of environmental degradation in the state and the actions adopted by SDUCOP to control and prevent further environmental harm.

Implementation of this provision could be a means of spurring public participation in the state's environmental activities.

Although few specific public participation mechanisms are mentioned explicitly in the State Ecology Law, the law directs the state Executive and the municipalities to promote public participation in a variety of contexts: when creating and implementing ecological policies, when

developing programs to preserve ecological balance and protect the environment, and when undertaking investigation and enforcement activities. These general provisions provide important guidance to state and municipal agencies as they continue to develop their environmental programs.

## ENDNOTES

1. These include the amuzgos, chatinos, chinantecos, cuicatecos, chochos, chontales, haves, ixcatecos, mazatecos, mixtecos, mixes, nahuas, popolocas, triquis, zapotecos, y zoques.
2. Murphy, Arthur D. and Alex Stepick, Social Inequity in Oaxaca: A History of Resistance and Change, 5 (1991).
3. Avilés, Jaime, "Oaxaca: una Microhistoria de Desgarramientos," El Financiero, (1994).
4. Political Constitution of the State of Oaxaca, arts. 80, §§XXVII, XXXVI, XXXVII, L, LI; 59, §§XXXVI, XXXVII, L, I, LIX.
5. Political Constitution of the State of Oaxaca, art. 80, §XXX.
6. State Ecology Law, art. 2. Hereinafter, citations to the State Ecology Law will include only the article number referenced. Citations to all other laws will include the title of the law in addition to the relevant article number.
7. State Organic Law, Statement of Purposes, p. 10.
8. *See, e.g.*, State Organic Law, arts. 28, §XV (Health Secretariat); 25, §§V, XVII, XXII (Secretariats of Tourism, Forest and Agricultural Development, Industrial and Commercial Development, and Urban Development, Communications and Public Works)
9. Municipal Organic Law of the State of Oaxaca, art. 34, §XXI.
10. Interview with Department of Urban Development (Ecology Program) officials (September, 1994); Torrentera Gomez, Lilia, "Desaparecemos el tiradero municipal: Sada Solana," Noticias (September, 1994).
11. Art. 28, §I.
12. State Organic Law, establishing the internal structure of public agencies.
13. Interview with Ecology Program officials (May, 1994).
14. Fifth Transitory Article.
15. Interview with Department of Urban Development officials (September, 1994).
16. State Organic Law, art. 27. SDAF is divided into four departments: Agricultural Development, Forestry, Ranching, and Agro-Industry.
17. State Organic Law, art. 27, §§V, VII, VIII, IX, X, XI, XIII, XXII.
18. Torrentera Gomez, Lilia, "Habrá una solución definitiva al problema del agua potable," Noticias (September, 1994). The municipality's plans, however, are only in the developmental stage, and it will take 20 to 25 years before the project is fully completed.
19. Interview with Administration for Drinking Water and Sewer Works and Services officials (October, 1994).

20. State Drinking Water Law, art. 48, §V.
21. *See* State Organic Law, art. 1.
22. State Organic Law, Decree No. 7, art. 1.
23. State Planning Law, Decree No. 10, art. 14.
24. *See generally* State Organic Law.
25. Interview with municipal Ecology Office (DGDUE) officials, SDUCOP's Department of Urban Development officials, and SEDESOL officials (August, 1994).
26. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 72, §IV.
27. Art. 5, §II.
28. Art. 29.
29. *See, e.g.*, arts. 72-73; 85, §IV; 89; 99-100; 103; 108.
30. *See* Federal Ecology Law, art. 7, §I.
31. Interview with National Institute of Ecology officials (September, 1994).
32. *See* The Convention of San Isidro 'La Gringa' Chimalapas: Pilot Area of Conservation and Communal Ecological Use (*Convenio San Isidro 'La Gringa' Chimalapas: Area Piloto de Conservacion y Manejo Ecológico Comunal*) (1994).
33. Art. 6, §I.
34. Arts. 6, §II; 29; Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 26.
35. Art. 6.
36. Arts. 7, §II, III; 8; Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 6, §XVI.
37. Art. 6, §§IX, XI, XV.
38. Interview with municipal Ecology Office (DGDUE) officials (September, 1994).
39. Arts. 71, §IV; 77, §II.
40. Written communication with municipal Ecology Office (DGDUE) officials (August, 1995).
41. Art. 9.
42. Federal Ecology Law, art. 15.
43. Art. 11.
44. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 12.

45. Art. 12.
46. Art. 14.
47. Arts. 14, 16.
48. Arts. 13, 15.
49. Art. 107. Pursuant to article 106 of the State Ecology Law, the state government is to publish in the official state newspaper a list of activities the state considers to be hazardous.
50. Art. 107.
51. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, arts. 10,11.
52. Art. 28.
53. State Urban Development Law, art. 1.
54. *Id.*, art. 43.
55. *Id.*, art. 73.
56. *Id.*, arts. 73, 31; State Organic Law, art. 28, §§I-V.
57. State Urban Development Law, art. 75.
58. The Municipal Organic Law of the State of Oaxaca (*Ley Orgánica Municipal del Estado de Oaxaca*), art. 34, §XXI.
59. These five municipalities are Huajuapán de León, Oaxaca de Juárez, Salina Cruz, San Juan Bautista Tuxtepec, and Zaachil. Interview with Oaxaca Commission for the Defense of Ecology officials (October, 1994).
60. State Urban Development Law, art. 85.
61. State Urban Development Law, arts. 86-90, 95.
62. *Id.*, art. 95.
63. *Id.*, arts. 101-2.
64. State Urban Development Law, art. 130.
65. State Urban Development Law, art. 139. See also article 140, which requires the issuance of a municipal land use license for the "construction, reconstruction, adaptation, [or] modification of buildings" in accordance with the terms specified in the Urban Development Law and its regulation.
66. *Id.*, arts. 132, 141, 144.
67. Art. 31.
68. Art. 17.
69. Art. 17.

70. Art. 17; Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, arts. 17, 21.
71. Arts. 19, 20.
72. Art. 18. The State Ecology Law does not define the term "environmental impact prognosis." Rather, the law incorporates the definitions provided in the Federal Ecology Law. The federal law uses the term environmental impact statement (*manifestación del impacto ambiental*). Federal Ecology Law, art. 3, § XVIII. In addition to the "environmental impact prognosis," Oaxaca's Ecology Law makes reference to "environmental impact studies." *See* art. 25.
73. Art. 19.
74. Art. 25.
75. Arts. 26, 27.
76. Interview with Ecology Program (SDUCOP) officials (September, 1994).
77. Art. 18.
78. Art. 18.
79. Art. 18.
80. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, arts. 18-20.
81. Art. 17.
82. Art. 22.
83. Arts. 23,24.
84. Untitled SEDESOL document, reviewing all environmental impact studies presented in Oaxaca in 1993.
85. Interview with municipal Ecology Office (DGDUE) officials (September, 1995).
86. Art. 21.
87. Arts. 71,72.
88. Informal Communication with municipal Ecology Office (DGDUE) officials (August, 1995).
89. Art. 73.
90. Arts. 70,72.
91. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, arts. 53, 54.
92. Arts. 71, §III; 77, §I.
93. Art. 74; Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 51, §I.
94. Art. 76.

95. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 51, §II.
96. Art. 71, §VI.
97. Arts. 71, §V.
98. Arts. 78-80.
99. Interview with municipal Ecology Office (DGDUE) officials (September, 1995).
100. Art. 81.
101. Art. 77, §III.
102. Federal Ecology Law, art. 117, §§I-V. *See also* art. 84, §§I-III; State Organic Law, art. 28, §§I, XIV, XVI, XXII, XXIII.
103. Art. 83; State Organic Law, art. 28. These provisions, with the exception of article 83, §V, also are contained in article 120 of the Federal Ecology Law, which lists areas that are subject to both federal and local regulation.
104. Art. 85, §§I-III, VI.
105. Arts. 84, §IV.
106. Art. 89.
107. Art. 89.
108. Art. 89; Ordinance on Ecological Balance and Environmental Protection for the municipality of Oaxaca de Juárez, art. 60.
109. Art. 86.
110. State Law of Drinking Water and Sewer Services, arts. 10, 11, 12. State and municipal agencies may agree to exempt certain regions, municipalities or other locations from this permitting requirement.
111. Art. 85, §V.
112. Art. 85, §V.
113. Arts. 85, §IV; 87; 95. Ordinance on Ecological Balance and Environmental Protection for the municipality of Oaxaca de Juárez, arts. 56,58,59,68.
114. Arts. 92,93.
115. Interview with National Water Commission (Department of Water Quality and Reuse, Oaxaca Office) officials (November, 1994).
116. Art. 96. This information is also supposed to be incorporated into the National Information System.
117. Informal communication with municipal Office of Ecology (DGDUE) officials (August, 1995).
118. Informal communication with PROFEPA officials (August, 1995); Torrentera Gomez, Lilia, "Desaparecemos el tiradero municipal: Sada Solana," Noticias, (1994).



119. Interview with SEDESOL officials (August, 1994).
120. Arts. 5, §XV; 6, §XIII.
121. Art. 99; Ordinance on Ecological Balance and Environmental Protection for the municipality of Oaxaca de Juárez, art. 75.
122. Art. 98, §§I-III; *see also* Federal Ecology Law, art. 136.
123. Art. 100.
124. Art. 106.
125. Federal Ecology Law, arts. 146, 148. Under the Federal Ecology Law, SEDESOL (now SEMARNAP) and the Secretary of Governance are to create and publish a list of activities considered to be highly hazardous.
126. Federal Ecology Law, art. 149.
127. Art. 110.
128. Arts. 108, 109.
129. Art. 107; *see also* Federal Ecology Law, art. 145.
130. Art. 35.
131. Federal Ecology Law, art. 46, §§VIII-IX; 51. *See also* arts. 55-56.
132. Arts. 36, §§I-VI; 44, 46; State Organic Law, art. 28, §IV.
133. Arts. 36, 38.
134. Arts. 36, 39.
135. Arts. 36, 40.
136. Arts. 36, 41.
137. Arts. 36, 43.
138. Arts. 36, 42.
139. Art. 46.
140. Arts. 45, 49.
141. Art. 48.
142. Art. 48.
143. Art. 37.
144. Art. 52.
145. Art. 52.

146. Art. 50.
147. Art. 49.
148. Art. 56.
149. Arts. 61,66.
150. Arts. 61,66.
151. Art. 63; Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, arts. 42-44.
152. Art. 58; *see also* Federal Ecology Law, art. 79.
153. Art. 59.
154. Art. 66.
155. Art. 66.
156. Art. 65.
157. Art. 67, §§I-VI.
158. Art. 124,125.
159. Arts. 120, 121.
160. Arts. 120-22.
161. Arts. 120, 123.
162. Art. 126.
163. Art. 126.
164. Art. 127.
165. Art. 128.
166. Art. 130.
167. Art. 128, §I.
168. Art. 129.
169. Art. 129.
170. Arts. 128, §II; 129.
171. Art. 128, §II.
172. Art. 128, §III.
173. Art. 129.

174. Art. 128, §IV.
175. Art. 131.
176. Art. 131.
177. Art. 114.
178. Art. 115.
179. Art. 117.
180. Art. 118.
181. Art. 119.
182. Art. 111.
183. Art. 112, §I.
184. Art. 112, §II.
185. Art. 113.
186. Ordinance on Ecological Balance and Environmental Protection for the Municipality of Oaxaca de Juárez, art. 83.
187. Art. 33.
188. Art. 33.
189. Interview with Ecology Program (SDUCOP) officials (September, 1994).
190. Art. 112, §V.
191. Art. 32.
192. Banco Serfin S.A. serves as the fiduciary for CODE's trust. The trust was initially started by a donation from the state of Oaxaca, which continues to cover the administrative costs of the Commission. Funding for CODE projects comes entirely from external sources. The MacArthur Foundation, for example, has been one of CODE's principal backers. Interview with Oaxacan Commission for Ecological Defense officials (November, 1994).
193. Nevertheless, the establishment of CODE has not been entirely free of criticism. A number of organizations chose not to participate in CODE's formation, due to their skepticism over the organization's purposes and the manner in which it was formed. CODE's Executive Director notes that while some NGOs have yet to join CODE's Assembly, many NGOs that initially declined to become members of CODE have since begun participating in the Assembly.

## *Chapter VII*



# **Legal Framework for Environmental Protection In the State of Veracruz**

## **I. GENERAL DESCRIPTION OF THE STATE OF VERACRUZ**

### **A. Background**

Veracruz is located in central eastern Mexico. It has 430 miles of coastline on the Gulf of Mexico, and is bordered by the states of Tamaulipas to the north, Tabasco and Chiapas to the southeast, and Oaxaca, Puebla, Hidalgo and San Luis Potosí to the west.

According to Mexico's 1990 national census, the state of Veracruz had a population of over six million, making it the third most populous in the country. With a land area of 27,683 square miles, Veracruz is also the eleventh largest state in Mexico.

Legislative responsibilities are carried out by the state Congress, which holds two ordinary sessions during the year. The Judiciary consists of a Superior Tribunal of Justice (state supreme court) and inferior civil and criminal courts organized by areas of specialization.

Executive power is exercised by a Governor elected every six years. The state agencies charged with carrying out executive responsibilities include the Attorney General; the State Comptroller General; the General Secretariat of Government; the Secretariat of Urban Development; the Secretariat of Economic Development; the Secretariat of Agricultural, Forestry and Fisheries Development; and the Secretariat of Health.

The state of Veracruz is divided into 207 municipalities, including the capital, Jalapa. The most serious environmental problems are found in municipalities that are home to major industrial activity. Indeed, state environmental protection efforts are concentrated on the ten largest municipalities, which are among the 100 largest cities in Mexico. These ten industrial cities contain most of the state's population and produce most of its economic wealth. There is little environmental protection activity in the small municipalities located in the mountain areas.

### **B. Ecological Characteristics**

The state has low sandy strips, tidewater streams and lagoons along the coastline; rich valleys and dense tropical rainforest in the central plateau; and Mexico's highest volcanic peak in the west. More than 40 rivers cross the state, including important rivers such as the Rio Pánuco, the Tuxpan, the

Cazones and the Coatzacoalcos. Thirty percent of the country's freshwater resources drain into Veracruz' coast. In general, the state has moderate to hot weather with colder climates found in the higher elevations.

There are close to 400 recorded animal species in the state, 40 of which are endemic to Veracruz. Federally protected lands in the state include a large national marine park, two "special" or minor biosphere reserves and two national parks.

### **C. Major Economic Activities**

The principal sources of revenue in the state are agriculture (cotton, coffee and corn), the production and processing of oil, and manufacturing. Commercial activities include sugar refineries, distilleries, chemical plants, ironworks and textile mills. The fishing, mining and timber industries also play an important role.

### **D. Principal Environmental Problems**

Water pollution is one of the most serious problems in Veracruz, largely as a result of oil, petrochemical and natural gas production, as well as agricultural activities. Mercury, lead and oil have affected water basins in the state, damaging fish populations and impeding public use of the waters. According to municipal officials, this problem has been diminishing as a result of the installation of pollution control equipment and environmental restoration activities. Oil spills present another significant problem, as does air pollution generated by oil refineries.

## **II. OVERVIEW OF THE SCOPE AND STRUCTURE OF THE LEGAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION IN VERACRUZ**

### **A. State and Municipal Law**

#### *1. State constitutional provisions*

The Political Constitution of the State of Veracruz authorizes the state legislature to enact various types of laws including environmental laws and regulations. The state Constitution does not otherwise refer explicitly to environmental protection.

## 2. *State legislation*

On May 3rd, 1990, the state enacted the Veracruz State Law of Ecological Balance and Environmental Protection (hereinafter "State Ecology Law"), also known within the state legal system as "Law 76." This statute forms the basis of the environmental legal regime of the state of Veracruz. It follows the same framework and scope established by the federal General Law of Ecological Balance and Environmental Protection.

Similar to the federal Constitution and the Federal Ecology Law, the State Ecology Law takes a humanistic approach, declaring its purpose to be the protection of public welfare and the promotion of social interests.<sup>1</sup> The main objective of the law is to preserve, conserve and restore ecological balance and to protect the environment. This approach is evident in the law's provisions on different sectoral issues, discussed below.

The State Ecology Law contains 155 articles, which fall within six general titles: General Provisions, State Environmental Policy, Protected Natural Areas, Environmental Protection, Public Participation, and Enforcement. The state has not adopted any regulations or standards pursuant to the law.

Although the State Ecology Law is the central environmental protection legislation in Veracruz, other state laws, regulations and materials have an impact on environmental protection and can be considered part of the environmental legal regime of the state:

- the State Law of Water and Sanitation (*Ley de Agua y Saneamiento para el Estado*) (hereinafter "State Water Law");
- the Planning Law (*Ley de Planeación*);
- the State Law of Transit and Transport (*Ley de Tránsito y Transportes para el Estado de Veracruz*);
- the Law of Human Settlements (*Ley de Asentamientos Humanos*); and
- the State Public Works Law (*Ley de Obras Públicas para el Estado*).

While the State Ecology Law will be the focus of this chapter, the above laws will be mentioned as they relate to the subjects covered in this report. There exist still other state laws and regulations that have a more indirect connection to environmental protection, and are outside the scope of the report.<sup>2</sup>

## 3. *Municipal legislation*

The Organic Law of the Free Municipality (*Ley Orgánica del Municipio Libre*), a state law enacted in 1984, addresses the authority of municipal governments generally. This statute gives municipalities authority in areas such as human settlements, public sanitation, and drinking water and sewer

services. Municipalities are also charged with promoting public participation in municipal governance.<sup>3</sup>

The State Ecology Law provides specifically for municipal jurisdiction over certain environmental matters, as discussed more fully in the sections that follow. There have been no comprehensive environmental ordinances enacted at the municipal level. Municipal legislation relating to environmental protection generally consists of Municipal Ordinances on Police and Governance (*Bandos de Policia y Buen Gobierno*) and other administrative regulations on matters such as urban development, sewer and sanitation, and general enforcement of the laws.<sup>4</sup>

The legislature for the municipality of Veracruz is considering a draft Ordinance on Ecological Balance and Environmental Protection for the Municipality of Veracruz.<sup>5</sup>

## **B. State and Municipal Agencies Responsible for Environmental Protection**

### *1. Secretariat of Urban Development*

The State Ecology Law delegates nearly all environmental protection functions to the Secretariat of Urban Development. Within the Secretariat, the Office of Ecological Affairs is responsible for implementing most of those environmental functions. As of 1995, the Office of Ecological Affairs had a staff of over 50.

### *2. State Water and Sanitation Commission for Veracruz*

This is a state agency created under the State Water Law, with jurisdiction over water use and water pollution issues within state jurisdiction. The Commission is a decentralized entity under the direct authority of the state Executive, with independent legal personality and financial resources.<sup>6</sup>

### *3. Municipal authorities*

Out of the 207 municipalities in Veracruz, approximately 25 have created administrative agencies to address environmental matters. In the municipality of Veracruz there is an Office of Ecology and Environmental Protection, within the General Office of Urban Development and Ecology. The Office of Ecology and Environmental Protection, jointly with the Municipal Commission on Sanitation and Cleaning, undertakes most of the environmental activities falling within municipal jurisdiction. The Office of Urban Development and Ecology also is responsible for land use planning issues.

## C. Relationship Between the State and Federal Environmental Protection Regimes

SEMARNAP's office in the capital city of Jalapa has approximately 100 employees. The agency has smaller offices throughout the state, as well as one regional laboratory for sampling and analyzing pollutant emissions.<sup>7</sup>

### 1. *Distribution of jurisdiction*

State environmental jurisdiction is ultimately derived from federal law and from the functions delegated by federal authorities through coordination agreements. The State Ecology Law affirms the federal principle of *conurrencia* and provides a list of matters falling under state and municipal jurisdiction. Those individual areas are discussed in greater detail throughout this chapter.<sup>8</sup>

### 2. *Development of state regulatory policies and standards*

Both the State and Federal Ecology Laws encourage coordination among governmental authorities and with the public and private sectors in the development of regulatory standards and policies.

The state is responsible for formulating and implementing state ecological policies. Those policies are to be implemented in accordance with state ecological criteria, which must be consistent with federal ecological criteria.<sup>9</sup> Municipalities are responsible for formulating and implementing municipal ecological policies in accordance with state policies.<sup>10</sup>

With respect to standard setting, the State Ecology Law directs the state and municipalities to apply and enforce federal technical standards (Official Mexican Norms), within their respective spheres of jurisdiction.<sup>11</sup> The law does not explicitly give the state or municipal governments authority to establish standards in matters of state and municipal jurisdiction.

### 3. *Inter-governmental coordination*

The State Ecology Law parallels the federal Constitution and the Federal Ecology Law in promoting *conurrencia* and coordination among the federal, state and municipal governments.

The only formal mechanism provided by both the State and Federal Ecology Laws for such coordination are inter-governmental coordination agreements. The State Ecology Law establishes that the state Executive may enter into written coordination agreements: 1) with the federal government in order to carry out activities or fulfill responsibilities relating to property or issues of federal jurisdiction; 2) with other states or their municipalities in order to carry out joint actions; and



3) with municipalities within the state, in order to delegate responsibilities or to take joint actions.<sup>12</sup>

To date, no coordination agreements on environmental protection have been developed between state and federal officials in Veracruz. Nevertheless, state officials indicate that coordination with the federal government on environmental issues has improved in the past few years, with stronger consideration of social issues and with significant emphasis on health issues. Because the state has a small budget for environmental protection, it seeks to direct federal interest -- and resources -- to particular issues.<sup>13</sup>

## **D. Relationship Between the State and Municipal Environmental Protection Regimes**

### *1. Distribution of jurisdiction*

Environmental protection powers are to be exercised "concurrently" by the state and municipal governments, in accordance with the Federal Ecology Law and its regulations. In general, municipalities are responsible for those matters that are not of federal or state jurisdiction.<sup>14</sup> However, the State Ecology Law provides explicitly that inter-governmental agreements are to facilitate the decentralization of powers and financial resources in order to ensure greater compliance with the law.

The State Ecology Law lists the specific environmental responsibilities of municipal governments, which will be discussed throughout this chapter.<sup>15</sup>

### *2. Development of municipal regulatory standards and policies*

The State Ecology Law charges municipalities with developing ecological policies at the municipal level that are consistent with state policies.<sup>16</sup> The law does not otherwise refer to municipal authority to issue standards. The law requires municipal authorities to implement federal technical standards and ecological criteria within their territorial jurisdiction.<sup>17</sup>

### *3. Inter-governmental coordination*

The state is authorized to enter into coordination agreements with the municipalities for delegating state functions or to undertake joint actions. Municipalities may, with the participation of the state, enter into coordination agreements with the federal government and with other states or municipalities.<sup>18</sup>

### III. ENVIRONMENTAL POLICY TOOLS

The State Ecology Law contains a set of principles which declare ecosystems to be a common heritage of the society, and establish that rational use of natural resources is fundamental to improving the quality of life of present and future generations.<sup>19</sup> The law also provides that every person has the right to a healthy environment, and that state and municipal authorities must act to preserve that right.<sup>20</sup>

The State Ecology Law provides various tools for carrying out the principles and objectives of the law. These include: (1) ecological planning; (2) ecological regulation of human settlements; (3) ecological research and education; (4) environmental information and monitoring; (5) ecological land use planning (*ordenamiento ecológico*); and (6) environmental impact assessment. In practical terms, ecological land use planning and environmental impact assessment have become the two most important environmental policy tools used in the state.

#### A. Land Use and Development Planning

The State Ecology Law includes several provisions that aim to integrate environmental concerns into state planning activities. In some instances, the law establishes specific mandates for planning officials. For example, municipal officials responsible for granting land use and construction authorizations must apply pollution control criteria contained in the Federal and State Ecology Laws, and ensure that applicants have obtained any necessary environmental impact authorization for the proposed project.<sup>21</sup> The law also requires that when granting land use authorizations relating to air polluting industries, officials apply general criteria for protecting air quality and consider geographical and meteorological conditions to ensure the adequate dispersion of pollutants.<sup>22</sup>

For the most part, however, the State Ecology Law integrates environmental considerations into planning activities through general environmental principles established to guide the decisions of state planning officials.

##### 1. *Ecological land use planning*

The state Executive is charged with undertaking ecological land use planning on the state level, in coordination with the municipalities.<sup>23</sup> Municipal authorities are responsible for land use planning in municipal territory, particularly in human settlements.<sup>24</sup> State and municipal land use planning efforts must complement the ecological land use planning established at the federal level.<sup>25</sup>

According to the State Ecology Law, the land use planning process is to incorporate the following elements:

- identification of the nature and characteristics of each ecosystem of state jurisdiction;
- identification of existing ecosystem imbalances caused by human activities or natural phenomena;
- identification of suitable uses of each area of the state, given the natural resources available, the distribution of population and the existing predominant economic activities;
- consideration of the balance that should exist between human settlements and environmental conditions;
- consideration of the environmental impact of new human settlements, works or activities; and
- identification of the positive and negative uses of natural resources and their potential impacts on ecosystems.<sup>26</sup>

Thus, while economic factors are to be taken into account when undertaking land use planning, they are not necessarily the most important considerations according to the State Ecology Law.

Ecological land use planning is to be carried out through state programs, regional programs, special or priority programs, municipal programs, and land use declarations.<sup>27</sup> Once formulated, the ecological land use planning programs must be submitted for public consultation, and may be modified based on public comment. The programs then must be approved by the Governor (except the municipal programs, which must be approved by the municipal government) and published in the state Official Gazette. Once they are published, the programs and declarations become legally binding.<sup>28</sup>

Government officials must consider state and municipal ecological land use plans when authorizing the following projects: agricultural, forestry or industrial activities; extraction and use of minerals and other substances; and use of wild and aquatic species of flora and fauna.<sup>29</sup>

The state has not yet undertaken ecological land use planning to the extent envisioned in the law. According to state officials, there have been some efforts directed at selected areas, such as the metropolitan areas of Jalapa and Orizaba, and the area of Los Tuxtlas.

## 2. *Ecological regulation of human settlements*

The regulation of human settlements is comprised mainly of urban development and housing activities. The State Ecology Law defines ecological regulation of human settlements as "the series of urban development and housing norms, provisions and measures aimed at maintaining, improving and restoring the balance between human settlements and natural elements, with the objective of improving the quality of life."<sup>30</sup> State authorities implement urban development and housing plans chiefly through the granting of land use permits.

When regulating human settlements, agencies are to take into account the connection between ecological policies and urban planning. In establishing state and municipal policies, urban

development and housing plans, and land use designations, authorities must ensure that development occurs in areas suitable for maintaining an adequate balance between the resource base and the population, and for addressing environmental concerns.<sup>31</sup>

According to the State Ecology Law, urban planning actions must also incorporate certain specific statutory elements, including the general and local ecological ordering; an adequate balance between green areas, services and housing; the integration of green areas into cultural and historic sites; the conservation of existing green areas; the establishment of separate zones for high risk activities; and the conservation of fertile agricultural areas and existing green spaces.<sup>32</sup> Despite the law's linkage of green spaces and urban development, only about one percent of the municipality of Veracruz (nine hectares) is devoted to green areas. According to municipal authorities, rapid population growth makes it difficult to protect existing green areas or to create new ones.

The Urban Development Plan of the State of Veracruz was adopted in 1985, and updated in 1989 and 1990; as of 1995, a new plan was being developed.

With respect to housing development, the State Ecology Law establishes that all housing projects financed by the state government must encourage the incorporation of: sufficient green areas; drinking water conservation systems; sewer system connections; solid waste management; optimum use of solar energy; natural ventilation; and the use of environmentally sound construction materials.<sup>33</sup>

Another state law, the Law of Human Settlements, contains provisions that seek to integrate environmental factors into the planning of human settlements. That law provides for open consultation with all major parties involved in the creation and growth of population centers.<sup>34</sup>

### 3. *Economic development planning*

According to the State Ecology Law, state economic development planning must take into account ecological land use planning and general ecological policies.<sup>35</sup> The state Executive is required to formulate and implement an Ecology Program in accordance with the state Planning Law. The main objective of the Planning Law is to integrate development with the political, social, cultural and economic goals established by the federal and state Constitutions.

Coordination of state development planning with environmental activities is carried out by the Development Planning Committee of Veracruz (*Comité de Planeación del Desarrollo de Veracruz* or COPLADEVER), through its Ecology Subcommittee. COPLADEVER holds meetings every two months with representatives of the federal (SEMARNAP, PROFEPA, Secretariat of Health), state (Secretariat of Urban Development, Office of Ecological Affairs) and municipal governments, and with entities such as PEMEX and the Federal Electricity Commission. Those entities also participate in monthly meetings held by the Ecology Subcommittee. State and municipal officials view COPLADEVER as important vehicle for addressing specific environmental issues.<sup>36</sup>

## B. Environmental Impact Assessment

According to the State Ecology Law, most environmental impact review is to be carried out by the federal and state governments. Nevertheless, the law establishes an important role for municipalities in enforcing these requirements. As mentioned earlier, before issuing any land use and construction authorizations, municipal governments must ensure that the required environmental impact authorization has been obtained by the project proponent.<sup>37</sup>

**Applicability.** Environmental impact review is required prior to undertaking any public or private works or activities that may cause ecological imbalance or violate federal environmental standards. Such activities must comply with any requirements established pursuant to the environmental impact review authorization.<sup>38</sup>

According to the State Ecology Law, the state is responsible for conducting environmental impact review in the following cases:

- state public works;
- state and rural roads;
- industries that produce rubber, bricks, textiles, glass, pharmaceuticals and cosmetics;
- maquiladoras, food processing plants, and leather tanning facilities;
- exploration, extraction and processing of mineral substances not under federal jurisdiction;
- facilities for treatment, storage or disposal of non-hazardous solid waste; and
- housing construction.<sup>39</sup>

The State Ecology Law provides that the state does *not* have environmental impact jurisdiction in the above cases if they involve activities that have been listed as highly hazardous, if they are to be undertaken in federal protected natural areas, or if they produce hazardous waste. Rather, the federal government conducts the environmental impact review in those instances.<sup>40</sup>

Indeed, despite the broad scope of jurisdiction over industrial activities provided in Veracruz' Ecology Law, the federal government is much more active in environmental impact review than the state. Officials with the Office of Ecological Affairs indicate that industrial activities fall under federal jurisdiction, and therefore the state generally does not conduct environmental impact review for industrial activities. According to officials, most environmental impact review by the state has involved housing projects, extraction of raw materials, or state highway projects. During the first half of 1994, state environmental impact authorization was granted in approximately 100 cases.

Municipalities are authorized to conduct environmental impact review in cases not reserved to the state or federal government.<sup>41</sup>

**Content.** Project proponents must present an environmental impact statement (EIS) to the appropriate authority. The EIS is to contain the following minimum information, in addition to any information requested by the agency:

- general information about the party undertaking the project;
- a description of the nature and location of the project;
- general physical and socioeconomic aspects of the project area; and
- prevention and mitigation measures for identified environmental impacts.<sup>42</sup>

Special rules govern activities involving the use of natural resources, including the requirement that project proponents provide a description of potential impacts on ecosystems.<sup>43</sup>

In certain cases, the parties must submit a risk assessment along with the EIS. The risk assessment includes technical preventive and corrective measures for mitigating adverse ecological effects from routine execution of the work, and from potential accidents.<sup>44</sup> The State Ecology Law does not specify the circumstances in which a risk assessment is required. Presumably, the agency makes this decision on a case by case basis, depending on whether the project involves activities deemed to be hazardous.

A Preventive Report (*Informe Preventivo*) may be submitted instead of a full EIS where it is expected that a project will not cause ecological imbalance and will not violate federal environmental standards. The Preventive Report must contain certain minimum information specified in the State Ecology Law, including a description of the material used and waste generated, as well as any additional information requested by the state agency. After reviewing the Preventive Report, the agency may decide that a full EIS is necessary.<sup>45</sup>

***EIS Determinations.*** The Office of Ecological Matters issues EIS decisions. In granting the authorization, the agency must take into account federal and state ecological land use planning; declarations of protected natural areas; state and municipal urban development programs; land use and land reserve declarations; and federal environmental standards and regulations. State authorities must also obtain the opinion of the municipal authority in whose territory an activity will be carried out.<sup>46</sup>

The agency undertaking the environmental impact review has three options: it may deny authorization; it may grant the authorization unconditionally; or it may grant the authorization contingent upon compliance with certain mitigation measures or other requirements.<sup>47</sup> The agency is obliged to monitor compliance with the required conditions and mitigation measures during the execution and operation of the works or activities.<sup>48</sup> State officials indicate that the lack of resources to ensure compliance is an obstacle to granting conditional EIS approval.

Once an EIS is presented and all requirements of the reviewing agency relating to the EIS itself have been satisfied, any person may have access to the document. Those submitting an EIS may request that information be kept confidential if its disclosure could affect proprietary rights or other legitimate commercial interests.<sup>49</sup>

## IV. ENVIRONMENTAL PROTECTION

### A. Prevention and Control of Air Pollution

Consistent with the Federal Ecology Law, the State Ecology Law establishes the goal of achieving satisfactory air quality in every human settlement and region in the state. The law also states that pollutant emissions should be reduced and controlled to ensure air quality satisfactory for the welfare of the population and for ecological balance.<sup>50</sup>

According to state officials, air pollution is a serious problem in specific areas of the state at certain times of the day.

#### 1. *Distribution of jurisdiction*

State authorities are responsible for preventing and controlling air pollution in areas or from sources under state jurisdiction, and municipal authorities are responsible for air pollution from sources under municipal jurisdiction.<sup>51</sup> The State Ecology Law, however, does not list which sources are considered to be of state or municipal jurisdiction. Thus, while it might be inferred that the state has jurisdiction over sources of air pollution that do not fall under federal jurisdiction, it remains unclear which sources are the responsibility of the municipalities.

In practice, virtually all fixed sources located within the state are under federal control, due in large part to the lack of financial and personnel resources on the state level. Motor vehicle emissions generally fall under state jurisdiction and are regulated by the Office of Ecological Affairs through its Vehicle Verification Program. The Office of Transit and Transportation has responsibility for sanctioning vehicle owners who do not comply with the Program.

#### 2. *Regulatory mechanisms*

**Standards.** As a general rule, the emission of pollutants into the atmosphere from sources located within the state is prohibited if the emissions cause or could cause environmental harm or ecological imbalance. Specific standards governing the control and prevention of air pollution are set by the federal government. All air pollutant emissions must comply with these federal standards and with any other relevant dispositions contained in the Federal Ecology Law and its regulations.<sup>52</sup>

State authorities are charged with establishing regulations and procedures to control air emissions from local public transport vehicles, in accordance with federal technical standards.<sup>53</sup> Thus far, no regulations have been issued. The authorities may also establish transit measures and controls aimed at reducing the levels of air pollution from motor vehicles, and may order the suspension of vehicle use in areas of serious pollution.<sup>54</sup>

**Permits/Authorizations.** The State Ecology Law does not provide for permitting or otherwise directly authorizing air emissions. The land use permitting process, in which the government is notified of the nature of potential air emissions, functions as the only regulatory vehicle for controlling air emissions at the local level. When authorizing land uses, state and municipal authorities are required to determine the areas where air polluting industries may be established by applying general criteria for protecting air quality and by considering geographical and meteorological conditions to ensure the adequate dispersion of pollutants.<sup>55</sup> In industrial zones located near residential areas, state and municipal authorities are charged with promoting the use of less-polluting technologies and fuels.<sup>56</sup>

**Installation of Pollution Control Equipment.** Those who undertake activities that result in air pollution must install equipment and systems for controlling emissions in order to meet applicable technical standards.<sup>57</sup> State and municipal authorities are to enter into agreements with (and where necessary require) facilities to install pollution control equipment. When the polluting sources are under federal jurisdiction, state or municipal authorities are to seek the intervention of the federal authorities in ensuring the use of appropriate pollution control equipment.<sup>58</sup>

**Monitoring.** The state is required to establish and operate air quality monitoring systems and to enter into coordination agreements with the federal government for incorporating local data into the national monitoring information system.<sup>59</sup> There is currently no formal registry of state-wide air quality monitoring information. According to officials, the state has developed case studies based on random air sampling.

Control of motor vehicle emissions is undertaken through annual monitoring. Owners of motor vehicles operated within the state must have their emissions tested periodically.<sup>60</sup> The state is required to establish and operate the emissions testing systems.<sup>61</sup> As of 1995, there were 165 privately owned and operated testing centers.

**Inventory.** State and municipal authorities are required to establish and maintain an inventory of fixed sources of air pollution.<sup>62</sup> Those responsible for the emissions sources must provide all information required by the authorities for the purpose of establishing the inventory.<sup>63</sup> No such inventory of emissions has been developed to date.

**Economic Incentives.** State authorities may grant financial incentives to those who install or operate pollution control equipment; undertake research for new technologies to reduce air emissions; or locate or relocate their industrial facilities to prevent pollution in urban areas.<sup>64</sup>

## **B. Prevention and Control of Water Pollution**

According to federal, state and local officials, water pollution is among the most critical environmental problems in the state. Veracruz' fisheries in particular have felt the impact of the state's water pollution problems.



Officials informally estimate that of all the industrial waste water discharged into the sea, only five percent is treated. In addition, less than half of all municipal waste water is treated. Most industrial facilities in the state are located along the rivers, and historically they have had an uncontrolled and inexpensive method for disposing of their waste waters. Although PEMEX spends a considerable amount on environmental protection activities relative to other governmental entities, it is also one of the major sources of water pollution in the state. An ad-hoc body, the Committee for Follow-Up of Priority Affairs, has been formed to address pollution caused by PEMEX. Comprised of representatives of federal, state and municipal government, as well as PEMEX, the Committee has focused on the Laguna Chila and Coatzacoalcos River areas.<sup>65</sup>

The State Ecology Law recognizes that the prevention and control of water pollution is necessary in order to avoid reduction of the water supply. In order to achieve this, the law charges local authorities and the public with preventing water pollution.<sup>66</sup>

Another state law specifically addresses the management of public water services, waste water treatment, and water reuse. The State Water Law requires authorities at the state and municipal levels to provide drinking water systems, sewage treatment services, and systems for the reuse of waste waters within the state.<sup>67</sup> The State Water Commission has principal authority in these areas.

### *1. Distribution of jurisdiction*

State authorities are responsible for controlling and preventing pollution of waters under state jurisdiction other than those assigned or concessioned to the municipal or federal governments for the provision of public services. Toward this end, the law gives the state responsibility for discharges from: industrial, agricultural, municipal and state sources; the extraction of minerals and substances not under federal jurisdiction; the dumping of solid waste into water bodies; and activities not considered highly hazardous.<sup>68</sup> The federal government may intervene in these cases when hazardous substances are involved.

According to the State Ecology Law, municipal governments are responsible for preventing and controlling pollution of waters discharged into the sewer or drainage systems of population centers. The municipalities also have jurisdiction over state or federal waters concessioned or assigned for municipal public services.<sup>69</sup>

The state, regional and municipal water commissions established under the State Water Law are the bodies responsible for controlling and treating waste waters discharged into municipal sewer systems and for providing the necessary infrastructure for drinking water systems. As of 1995, there were 14 municipal waste water treatment plants and over 400 miles of sewer pipes, as well as 10 drinking water treatment plants and nearly 600 miles of pipes for the provision of drinking water.

Although the State Ecology Law envisions an important role for municipalities in regulating waste water discharges, officials of the municipality of Veracruz indicate that in practice the municipal role in this area has been minimal. The Regional Water and Sanitation Commission, a

state entity with one representative from the municipality of Veracruz, is responsible for providing drinking water and sewer services and for controlling waste waters.<sup>70</sup>

## 2. *Regulatory mechanisms*

**Standards.** According to the State Water Law, the State Water Commission is charged with establishing and monitoring water standards within the state. These standards are to follow the guidelines of the State Ecology Law, as well as those established by the National Water Commission, the health authorities and other relevant federal authorities.<sup>71</sup> In practice, the State Water Commission and the various regional commissions throughout the state apply federal water pollution standards.<sup>72</sup>

**Discharge Permits/Authorizations.** The State Ecology Law establishes that no waste waters containing pollutants (other than waste waters of domestic origin) may be discharged into the sewer or drainage systems without previous treatment or authorization by the competent authority.<sup>73</sup>

While the State Ecology Law does not elaborate on this discharge authorization requirement, the State Water Law provides additional details. Those wishing to receive drinking water services or to discharge waste waters (other than waters containing hazardous wastes, which are permitted by the federal government) must sign a contract with the corresponding regional water commission, authorizing those uses of the water system. In practice, the state does not use this authorization process to impose facility-specific Special Discharge Conditions.<sup>74</sup>

When waste waters discharged into the sewer or drainage systems adversely affect or could affect drinking water sources, the competent sanitary authority is to be notified immediately, the corresponding discharge permit or authorization is to be revoked, and the water supply service is to be suspended.<sup>75</sup>

**Waste Water Treatment.** The State Water Law establishes that all users of public drinking water and sewer services must contract for public waste water treatment services.<sup>76</sup> However, that law also gives the regional commission responsibility for determining which water users are required to build and operate waste water treatment plants as part of their industrial or commercial processes.<sup>77</sup>

The State Ecology Law provides that in designing, operating and administering their urban water pollution control equipment and systems, state and municipal authorities must comply with all applicable technical standards and regulations.<sup>78</sup>

**Monitoring.** According to the State Water Law, the State Water Commission is responsible for ensuring that regular, periodic water quality sampling and analysis is undertaken throughout the state. The state is charged with keeping statistics on the monitoring results.<sup>79</sup>

The state also is required to operate an ongoing system of information on water services and sanitation.<sup>80</sup>

## C. Solid Waste

The State Ecology Law regulates the management and disposal of non-hazardous solid waste, with the objective of preventing soil contamination and the resulting threats to biological processes and to human health.<sup>81</sup>

### 1. *Distribution of jurisdiction*

Municipal authorities exercise primary control in the area of non-hazardous solid waste. State responsibility extends mainly to issuing regulations governing the management of such wastes. Municipal authorities are charged with overseeing the management and final disposal of non-hazardous solid waste. This includes authorization of and control over storage and disposal facilities as well as promotion of techniques for waste reduction, recycling and reuse. Upon request, the state is to provide assistance to the municipalities in carrying out these functions.<sup>82</sup>

The State Ecology Law envisions the development of coordination agreements among federal, state and municipal authorities to implement and improve systems for collection, treatment and final disposal of municipal solid waste.<sup>83</sup> The federal authorities are at present providing financial and technical support to the some municipalities for the construction and maintenance of final disposal sites.

### 2. *Regulatory mechanisms*

**Standards.** The standards implemented by the municipalities in this area are those issued by the federal government. One difficulty faced by the municipalities in enforcing federal standards has been opposition by people who make a living from sorting through and reselling items found in garbage dumps.

**Licenses and Authorizations.** Municipal authorities may grant authorization to establish and operate systems for collection, transportation, storage, reuse, treatment and final disposal of municipal non-hazardous solid waste.<sup>84</sup> Those authorizations are to be granted in accordance with the federal standards.<sup>85</sup> As noted earlier, all criteria for preventing and controlling pollution must be satisfied before the issuance of municipal land use permits or licenses.<sup>86</sup> Additionally, all housing programs and activities carried out or financed by the state must promote measures necessary for temporary storage and collection of domestic waste.<sup>87</sup>

**Inventories.** Municipal authorities are charged with maintaining an inventory of storage and final disposal sites for non-hazardous solid waste, as well as of the sources generating those wastes.<sup>88</sup>

## D. Hazardous Activities

Hazardous activities are defined by the State Ecology Law as those activities that may pollute ecosystems or harm health, but that are not considered highly hazardous by the federal authorities.<sup>89</sup>

Several state agencies are charged with jointly identifying activities that are considered hazardous and publishing this list in the official state newspaper.<sup>90</sup> To date, however, no state list has been developed.

### 1. *Distribution of jurisdiction*

State authorities are empowered to regulate hazardous activities that may have environmental impacts in more than one municipality, that may result in the dumping of waste in waters of state jurisdiction, or that involve the provision of public services under state jurisdiction.<sup>91</sup>

Municipal authorities may regulate hazardous activities which result in the dumping of waste in the municipal sewer systems or which involve the provision of municipal public services.<sup>92</sup>

### 2. *Regulatory mechanisms*

**Siting.** In determining permissible land uses, state authorities must specify which areas are suitable for establishing industries, commerce or services classified as hazardous. These decisions must take into account geographical and meteorological conditions; proximity to urban centers; possible impacts in case of extraordinary events; available infrastructure to deal with ecological emergencies; compatibility with other activities in the area; and existing infrastructure for providing basic services.<sup>93</sup>

The State Ecology Law further declares as a matter of public interest the establishment of buffer zones around hazardous activities.<sup>94</sup>

**Use of Safety Equipment.** Those undertaking hazardous activities within the state must utilize adequate safety equipment at their facilities.<sup>95</sup>

**Emergency Planning and Accident Prevention.** State authorities are responsible for adopting measures necessary for preventing and controlling environmental emergencies when the magnitude of the resulting environmental harm does not extend beyond the state's territory, or when federal or municipal action is not necessary. Municipalities have jurisdiction when the harm occurs within their territory.<sup>96</sup>

State authorities, in coordination with the federal and municipal governments, are to undertake studies to determine the possible causes of environmental emergencies and propose adequate preventive measures. State and municipal authorities, in conjunction with parties undertaking hazardous activities, are to develop accident prevention programs in order to avoid ecological

imbalance and adverse effects on public health. These programs are to be submitted to the state or municipal Commission of Ecology for their consideration, and are to be periodically reviewed and updated.<sup>97</sup>

#### **E. Mining of Construction Materials**

The state is authorized to regulate (in accordance with federal standards) the exploration and exploitation of minerals or substances which are not reserved to the federal government, and which are used as construction materials.<sup>98</sup> The State Ecology Law provides that those who undertake such activities must control the emission of dust, smoke and gases that could affect ecological balance and must control the creation of waste outside of the area in which the activities occur.<sup>99</sup>

The state Secretariat of Urban Development is authorized to grant permission for exploration or use of those substances, provided that the municipality in which the activity is to occur provides a favorable opinion on the request. The municipal authorities are to participate in monitoring any authorized activities.<sup>100</sup> In issuing authorizations, the state must ensure that the activity:

- involves rational use of the resource;
- does not harm human well-being;
- protects soils, wildlife and vegetation;
- prevents serious topographical alterations; and
- does not cause water or air pollution.<sup>101</sup>

#### **F. Other Forms of Pollution -- Noise, Vibrations, Noxious Odors and Thermal Energy**

The State Ecology Law provides that pollution in the form of noise, vibrations, odors or thermal energy may not exceed the maximum levels contained in the regulations and technical standards issued by the federal government.<sup>102</sup> Construction and other activities must take preventive or corrective action to avoid the harmful effects of these forms of pollution.<sup>103</sup> The State Ecology Law also prohibits visual pollution, which is defined as an excess of objects, billboards or works which create discordant images and are a detriment to natural scenic beauty.<sup>104</sup>

Municipal authorities have jurisdiction to establish and apply the measures necessary to enforce the above prohibitions when the pollution is generated in areas or by sources under municipal jurisdiction.<sup>105</sup> For this purpose they may carry out necessary activities of inspection, surveillance and sanctioning in order to enforce all existing provisions.<sup>106</sup> Municipalities are also responsible for visual pollution that is generated by federal sources but that affects areas under state jurisdiction.<sup>107</sup> State authorities have very little responsibility in this area other than to assist and advise municipalities.<sup>108</sup>

## V. NATURAL RESOURCE PROTECTION

The State Ecology Law establishes that ecosystems are the common heritage of society. The law defines "conservation" as "the endurance of natural elements, achieved through environmental planning of socioeconomic growth and based on ecological land use planning, aimed at ensuring that present and future generations have an adequate environment for their development and for the development of natural resources to satisfy their needs."<sup>109</sup>

The State Ecology Law declares that it is in the public interest to establish urban parks, buffer zones, ecological conservation areas and other areas for preserving and restoring ecological balance.<sup>110</sup> According to the law, the creation, conservation and management of protected natural areas has multiple objectives: to preserve representative natural environments, safeguard genetic diversity, preserve and restore urban ecosystems, maintain ecological balance, promote scientific research and protect natural surroundings that have cultural value.<sup>111</sup>

The law addresses the use of natural resources (minerals and other substances) mainly in terms of the pollution that may result from their exploitation. The law also declares that both renewable and non-renewable natural resources are to be used in a manner that ensures their permanence, prevents their depletion, and fosters regeneration of natural ecosystems.<sup>112</sup>

According to state officials, there are no studies documenting or assessing the current status of natural resources in the state of Veracruz.

### A. Protected Natural Areas

#### 1. *Distribution of jurisdiction*

The state, through the Secretariat of Urban Development, has authority to create, regulate and manage ecological conservation areas under state jurisdiction, as defined in the State Ecology Law.<sup>113</sup> The state may also participate in the establishment, management and protection of areas under federal jurisdiction, and may request the intervention of federal authorities with respect to those areas. There are 30 protected areas in Veracruz, half of which are under federal jurisdiction and half are under state jurisdiction.

Municipalities have jurisdiction to regulate, create and administer urban parks. In addition, the state may delegate to municipalities the management of protected natural areas under state jurisdiction.<sup>114</sup>

#### 2. *Regulatory mechanisms*

***Establishment of protected natural areas.*** The State Ecology Law recognizes four different types of protected natural areas under state jurisdiction. These areas comprise the State System of Protected Natural Areas.

- *Urban Parks* are public areas located in population centers, established to achieve ecosystem balance, among other things.
- *Ecological Conservation Zones* are areas located near human settlements in which there are one or more ecosystems that are well-conserved, whose creation is designed to achieve ecological balance and enhance general welfare.
- *Areas with Scenic Value* are areas created to protect unique aesthetic values and characteristics of the landscape.
- *Greenhouses and Regeneration Gardens* are areas created to conserve or regenerate native species of a region.<sup>115</sup>

The state Executive, with the participation of the municipal governments, may issue declarations establishing protected natural areas. The municipal authorities may issue declarations establishing urban parks.<sup>116</sup> The declaration must contain detailed information on the proposed area, and must be published in the official state newspaper.<sup>117</sup>

Protected natural areas are to be registered in the state Public Registry of Property. All legal transactions involving ownership, possession or other rights relating to real property located within protected natural areas must contain a reference to the corresponding legal declaration of the area and its registration information.<sup>118</sup>

The State Ecology Law provides that only the authority which established an area may alter its status or change the land uses permitted in the area.<sup>119</sup>

**Management Plans.** The agency proposing the establishment of a protected natural area is to develop the corresponding management plan, with the participation of all concerned state and municipal authorities. The formulation of management plans for urban parks is the task of municipal authorities.<sup>120</sup>

State authorities are to develop guidelines for creating management plans that ensure adequate protection of areas under state jurisdiction, and promote public participation in management efforts.<sup>121</sup>

**Permits and Licenses.** Those requesting permits or licenses for natural resource exploration in protected areas must comply with the State Ecology Law and with the declaration establishing the protected area. They must demonstrate the technical and financial capacity for carrying out the activity.<sup>122</sup>

Based on technical and socioeconomic studies, the State Secretary of Urban Development may pursue the cancellation or revocation of permits and licenses granted by other agencies for the exploration or exploitation of natural resources, when those activities may cause environmental degradation.<sup>123</sup> For example, while permits and licenses for forest uses are granted by the state Secretariat of Agricultural Development, the supervision and review of these permits is coordinated

with both the state's environmental authorities and PROFEPA. According to state officials, however, review is limited by lack of human and financial resources.

## **VI. ENFORCEMENT**

### **A. Distribution of Jurisdiction**

State and municipal authorities are required to comply with and enforce the State Ecology Law and any related technical standards and ecological criteria, within their respective areas of jurisdiction. The law charges state and municipal authorities with pursuing administrative sanctions for breach of the law and its regulations, and with initiating criminal procedures before the competent authority for violations sanctioned by the State Criminal Code.<sup>124</sup>

The State Ecology Law also requires municipalities to issue Municipal Ordinances on Police and Governance in order to ensure compliance with the law.<sup>125</sup> For example, the Municipal Ordinance on Police and Governance for the municipality of Veracruz authorizes the imposition of administrative fines of up to 500 times the daily minimum wage, administrative arrest, temporary or permanent closure, and cancellation of a permit or license. State authorities are directed to give advice and support to municipal authorities in the implementation of municipal environmental enforcement measures.<sup>126</sup>

Most enforcement activity in Veracruz takes place at the federal level. This is largely due to the greater resources available to federal officials. The state is developing its infrastructure for utilizing the enforcement authorities provided under the State Ecology Law.

### **B. Enforcement Mechanisms**

#### *1. Inspections*

**Procedures.** The competent agency, through designated and authorized inspectors, may carry out inspections on the agency's own initiative or in response to a public complaint.<sup>127</sup> In addition, any authority that learns of conduct or a situation that constitutes an imminent threat to ecosystems but that falls outside its jurisdiction, may order an inspection, prepare the corresponding inspection report and send the report immediately to the competent authority.<sup>128</sup> The fairly detailed inspection procedures outlined in the State Ecology Law are described below. The State Water Law contains similar detailed provisions regarding inspections of services and installations related to the drinking water supply and sanitation services.<sup>129</sup>



The personnel authorized to carry out an inspection must present an official document of accreditation and a written order clearly stating the facts and applicable legal provisions that give rise to the inspection.<sup>130</sup> The inspectors present these documents to the responsible party at the premises to be inspected. That party must designate two witnesses to the inspection; if the party fails to do so, the inspector will name the witnesses.<sup>131</sup>

During every inspection visit, an official report of the facts (*acta circunstanciada*) is prepared. Those attending the inspection have the right to include a statement in the report and are required to sign the document.<sup>132</sup>

**Administrative decision.** After receiving the official report of the facts, the agency issues a written decision to the affected party. That order is to include any corrective measures that must be taken immediately, and the period for compliance.<sup>133</sup> The order also gives the interested party ten days from the time of notification to present its defense and submit evidence related to facts or omissions contained in the official report of the facts. The competent authority may obtain any evidence necessary for assessing environmental damage.<sup>134</sup>

The order also notifies the affected party that a hearing is to be held within 10 days after the period for submitting evidence, for the purpose of reviewing the evidence presented in the case. The hearing may be continued once for a period of ten days, under limited circumstances set out in the law.<sup>135</sup>

A final written administrative decision must be issued and sent to the affected party within ten days of the hearing. The decision is to include any corrective measures and any sanctions for violations of the law.<sup>136</sup>

## 2. *Administrative sanctions*

The sanctions that may be applied to those who violate environmental laws and regulations are primarily of an economic nature. In determining the appropriate sanction, the competent authorities must take into account: the seriousness of the violation, particularly the impact on public health and ecological balance; the economic circumstances of the violator; and whether a repeat violation is involved.<sup>137</sup>

**Fines.** Fines may be issued in an amount equal to between one and three times the damage caused. When the damage cannot be valued, the fine may be an amount equal to between 10 and 20,000 times the daily minimum wage in the state capital.<sup>138</sup> In the case of a repeat violation where the damage cannot be valued, the sanction established originally will be doubled.<sup>139</sup>

The State Water Law authorizes administrative economic sanctions of up to 10 times the damage caused, or from 5 to 50 times the daily minimum wage in the region, at the discretion of the regional commission providing the service.<sup>140</sup>

For violations involving motor vehicles, local transit regulations are applicable.<sup>141</sup> The Transit Law of the State of Veracruz establishes four different categories of discretionary economic sanctions for violations of its provisions: fines may be issued for an amount equal to one, two, four or twenty times the minimum daily wage in the state capital.<sup>142</sup>

**Closures.** In addition to economic sanctions, the authorities may close down a facility either temporarily or permanently.<sup>143</sup>

**Permit Revocation.** The Secretariat of Urban Development and the municipal governments may request the suspension, cancellation or revocation of any authorization granted to a commercial or industrial activity or to a party undertaking the exploitation or use of natural resources. This request is made to the agency that issued the authorization.<sup>144</sup>

### 3. *Criminal sanctions*

If during an investigation it appears that a case may involve a criminal violation, the authorities must file a complaint with the Public Ministry.<sup>145</sup>

Article 211 of the Criminal Code of the State of Veracruz provides for imprisonment of three months to four years and a fine of up to 5,000 times the minimum daily salary in the region for those who:

- through any means promote the contamination or degradation of soils and waters under local jurisdiction;
- produce harm to the atmosphere; or
- contribute to the spread of disease among plants or animals, thereby endangering public health or the ecological wealth of the state.

The criminal code considers the above actions to be crimes against public security.

### 4. *Administrative appeals*

Interested parties may appeal an administrative decision by presenting an administrative appeal for lack of conformity (*recurso de inconformidad*) to the authority that issued the decision within five days after the party was notified. The original order is suspended pending the appeal.<sup>146</sup>

For decisions issued by state authorities, a copy of the administrative appeal is sent to the Secretary of Urban Development; for municipal decisions, a copy is sent to the corresponding municipal legislative body, and in some instances, to the state Secretary of Urban Development.<sup>147</sup>

A final decision must be issued within 15 days. Written notice of the final decision is sent to the interested party personally or through certified mail.<sup>148</sup>

#### 5. *Public complaints*

Any person may present a public complaint [*denuncia popular*] before the appropriate state or municipal authorities, regarding any conduct or fact that may cause ecological imbalance or harm to the environment, in violation of the State Ecology Law or any other environmental protection law.<sup>149</sup>

All complaints are to include at least the name and address of the complainant, as well as the information necessary to locate the pollution source or the activity which is alleged to be in breach of the law.<sup>150</sup> If damages have resulted from the alleged violation, the complainant may request that state authorities produce a technical report, which can be used in any subsequent legal proceedings.<sup>151</sup>

In practice there have been very few formal public complaints. Instead, most people present informal complaints to the appropriate municipal, state or federal authorities. In 1994, the state responded to approximately 400 complaints, and referred additional complaints to federal authorities for appropriate action. The federal PROFEPA office in Veracruz received almost 800 complaints during the first half of 1994. According to federal officials, most complaints involved a neighbor's noise or automobile oil spills. Certain complaints are "seasonal," such as those relating to the harvesting and processing of coffee and sugar.

According to municipal officials, during the first half of 1994, the municipality of Veracruz registered 13 complaints regarding illegal discharges of waste waters into the sewer system, 30 regarding various industrial activities and numerous others relating to motor vehicles.

## VII. PUBLIC PARTICIPATION

One of the central objectives of the State Ecology Law is the participation of society in the preservation, conservation and restoration of ecological balance and the protection of the environment.<sup>152</sup> Both state and municipal authorities are required under the State Ecology Law to use negotiation and coordination with the public and private sectors as a means of implementing the law.<sup>153</sup>

In the opinion of several state officials, there is growing public interest in participating in environmental matters, and nongovernmental organizations would benefit from more training and information to enable them to participate effectively.<sup>154</sup>

**Coordination Agreements.** One of the key mechanisms for public participation under the State Ecology Law is the creation of coordination agreements with labor organizations, farmer organizations, rural communities, industrial organizations, social organizations, mass media, individuals, artists, scholars and scientists.<sup>155</sup> According to the law, the main purpose of these written agreements with individuals and public organizations is to re-orient the relationship between society and nature.<sup>156</sup> The agreements set out the conditions under which certain activities will be undertaken -- e.g., a schedule for implementing particular environmental measures or a mechanism for informing the public of an activity that will affect them. The agreements may be adopted in conjunction with the municipalities.

The State Ecology Law places particular emphasis on the establishment of coordination agreements relating to protected natural areas. The law provides for participation by inhabitants of protected areas in the designation, management and development of these areas.<sup>157</sup>

**State Ecology Commission.** The State Ecology Law provides for the creation of a permanent State Ecology Commission to ensure public participation in environmental matters.<sup>158</sup> The Commission is to be comprised primarily of state government officials and representatives of the public and private sectors. The law also calls on the Commission to establish guidelines for the creation of Municipal Ecology Commissions, charged with identifying actions to preserve and restore the environment and to involve the public and private sector in those actions. As noted earlier, the State Ecology Commission has yet to be created.

The State Ecology Law makes at least one explicit reference to the State Ecology Commission's review of government programs and actions. The law requires that accident prevention and emergency planning programs be submitted to the Commission for consideration.<sup>159</sup>

**Ecological Councils of Public Participation.** The State Ecology Law affirms the right of citizens to create environmental (nongovernmental) organizations in accordance with the State Civil Code. The law directs the State and Municipal Ecology Commissions to consider any proposals submitted by citizen groups when making decisions.<sup>160</sup>

**Public Access to Information.** The State Ecology Law does not contain many provisions that directly address public access to environmental information. The law states that EIS files may be reviewed once the EIS has "satisfied the requirements established by the competent authorities."<sup>161</sup>

In addition, the law requires that once the competent authorities have established ecological land use plans, those plans must be submitted for public review (and modification, if appropriate) prior to being submitted to the Governor for final approval.<sup>162</sup> Again, no formal procedures are specified in the law, nor have any been established.

With respect to public access to general environmental information, the State Ecology Commission is required to publish an annual Report on the Environment of the State of Veracruz. This report is to include the causes and effects of environmental degradation, as well as recommendations for correcting and preventing such degradation.<sup>163</sup> The report has not yet been

published. The State Ecology Law also charges the Secretariat of Urban Development generally with developing a "permanent system for information and monitoring" regarding ecosystems and ecological balance within the state.<sup>164</sup>

The State Ecology Law refers to increasing public awareness of environmental issues through use of the media and the public schools.<sup>165</sup> In practice, both federal and state authorities concentrate their efforts and resources on primary education; since 1988, environmental issues have been a compulsory part of the curriculum for children up to twelve years of age.

## VIII. DISCUSSION

The State Ecology Law, enacted in 1990, provides the principal legislative basis for state and local regulation of environmental problems. The State Water Law, which governs the provision of drinking water systems, sewage treatment services, and systems for the reuse of waste waters, also is an important component of the environmental legal framework. Municipal legislation consists mainly of ordinances governing areas such as urban development, human settlements and sanitation.

The State Ecology Law provides a legislative framework for ensuring compliance with federal environmental standards, but does not envision a particularly expansive role for state and local governments. In practice, state officials interpret state jurisdiction fairly narrowly. The emphasis on activity at the federal level in Veracruz may be due in part to the fact that most serious environmental problems in the state fall under federal jurisdiction -- e.g., pollution from oil, petrochemical and natural gas operations, and pollution of the ocean and coastline generally. The state has limited financial resources for environmental protection, and thus far has generally sought to focus federal interest -- and resources -- on particular issues of concern. It remains to be seen how the state will utilize the opportunities provided in the State Ecology Law to further develop its own regulatory programs.

### *Scope of the Environmental Legal Framework*

The State Ecology Law contains a set of principles to guide environmental policymaking. Perhaps most important among these, the law establishes the right to a healthy environment and the responsibility of state and municipal authorities to preserve that right. The law declares ecosystems to be a common heritage of the society, and states the goal of ensuring rational use of natural resources in order to prevent their depletion and improve the quality of life of present and future generations.

In addition to addressing natural resource protection and environmental pollution issues, the

State Ecology Law contains a number of provisions that link environmental principles with land use, urban development, housing and economic development. For example, the law requires state-financed housing projects to encourage the incorporation of drinking water conservation systems, sewer system connections, solid waste management, optimum use of solar energy, natural ventilation, green spaces, and environmentally sound construction materials. The law also requires fairly detailed state ecological land use planning.

### *Administrative Structure*

Nearly all responsibilities assigned to the state under the State Ecology Law are carried out by the Office of Ecological Affairs (within the Secretariat of Urban Development), the principal state environmental agency. Water pollution (and water use) issues are regulated by the state, regional and municipal water commissions, which are established under the State Water Law.

Only the largest municipalities in the state -- those with the most significant environmental problems, such as Córdoba, Orizaba, Ciudad Mendoza, Huiloapan, Acayucan, Jalapa, Martínez de la Torre, Coatepec, Boca del Río and Veracruz -- have created an Office of Ecology. In the municipality of Veracruz, this agency has been set up within the General Office of Urban Development and Ecology, which is responsible for land use planning issues. This administrative structure may facilitate the linkage between environmental and land use planning issues, especially in the area of air pollution control.

### *Distribution of Jurisdiction*

The State Ecology Law envisions inter-governmental coordination agreements as a tool for facilitating the decentralization of power and resources.

The State Ecology Law provides a list of matters subject to state jurisdiction; this list parallels the delegation of jurisdiction contained in the Federal Ecology Law. For the most part, the State Ecology Law does not authorize activities that would present potential jurisdictional conflicts.

The State Ecology Law does not, for example, authorize the state or local governments to develop their own environmental standards. Rather, the law directs the state and municipalities to apply and enforce, within their spheres of jurisdiction, federal technical standards (Official Mexican Norms). An earlier law, the State Water Law, does authorize the state to adopt technical water quality standards. Thus far the state has not done so.

In the area of air pollution, the law authorizes the state to control emissions sources, but does not elaborate on which sources are considered to be under state jurisdiction. In practice, it is the federal government that has exercised control over virtually all fixed sources located within the state, due in large part to the lack of financial and personnel resources on the state level. Most issues relating to motor vehicle pollution fall under state jurisdiction and are regulated primarily by the State Law of Transit and Transport.

The State Ecology Law provides for a municipal role in pollution prevention and control. While the municipalities generally do not participate in developing the federal or state regulatory standards and policies that they must apply, municipal governments do have primary control over the management and disposal of non-hazardous solid waste and over forms of pollution such as noise and odors. Municipal governments also are charged with controlling discharges into the sewer and drainage systems of population centers. However, in some cases -- such as the municipality of Veracruz -- municipal participation in controlling waste water discharges has been limited to one representative on the state-controlled regional water commission. In the area of air pollution, the State Ecology Law refers to municipal jurisdiction generally, but does not explicitly mention which sources are to be regulated by municipal governments.

Municipal governments in Veracruz have yet to adopt comprehensive environmental protection ordinances or regulations, although the legislature for the municipality of Veracruz is considering a draft Ordinance on Ecological Balance and Environmental Protection. Enactment of municipal environmental legislation may help strengthen municipal programs to implement some of the responsibilities delegated under the State Ecology Law.

### *Regulatory Mechanisms*

Although the State Ecology Law contains far-reaching goals and principles for environmental protection, the law contains few details -- and no implementing regulations -- regarding administrative mechanisms for addressing pollution problems. Moreover, budgetary constraints have been an obstacle to implementing some of the mechanisms that are provided for in the law, e.g., the establishment of an inventory of fixed air emissions sources. In addition to describing traditional regulatory measures, the State Ecology Law authorizes state officials to grant financial incentives to those who install or operate pollution control equipment; undertake research for new technologies to reduce air emissions; or locate or relocate their industrial facilities to prevent pollution in urban areas.

***Permitting/Authorizations.*** The State Ecology Law establishes environmental impact review requirements for specified activities under state jurisdiction. Although the state has authority to condition environmental impact authorization on fulfillment of conditions (including mitigation

measures), budgetary constraints hinder the ability of the state government to adequately monitor such conditions.

The State Ecology Law does not provide for permitting or otherwise directly authorizing air emissions, and regulation of fixed air emission sources in Veracruz generally has been undertaken by the federal government. The land use permitting process, in which the applicant provides proof of any necessary environmental impact authorization and information on potential air emissions, seems to function as the main vehicle for controlling air pollution at the local level. The State Ecology Law provides generally that when authorizing land uses, state and municipal authorities are required to determine the areas where air polluting industries may be established by applying general criteria for protecting air quality and by considering geographical and meteorological conditions to ensure the adequate dispersion of pollutants.

The State Ecology Law provides only that waste water dischargers must obtain a permit from the "competent authority." Under the State Water Law, this authority is the regional water commission. The State Water Law outlines in detail the procedures and requirements for the establishment of "contracts" between the commission and dischargers to the sewer system. The water commission has authority to require pretreatment of industrial discharges.

**Monitoring.** The State Ecology Law does not explicitly require facility monitoring of air emissions. The state is required to establish emissions testing systems for motor vehicles, and thus far has licensed 165 private emissions testing centers.

The State Water Commission is charged with ensuring that regular, periodic water quality sampling and analysis is undertaken throughout the state, and with maintaining statistics based on the monitoring results.

The State Ecology Law and State Water Law also require the state to conduct general water quality and ambient air quality monitoring in the state. This provides the state with an important opportunity to identify priority areas for state action. The state has not yet developed a formal registry incorporating state-wide air quality monitoring information, but has begun to monitor selected areas.

Although the state has yet to develop an inventory of fixed emissions sources, this requirement of the State Ecology Law provides a potential mechanism for monitoring compliance with emissions standards.

**Enforcement.** The State Ecology Law authorizes the use of administrative sanctions, including fines, permit revocation and facility closure. The law also requires the state to refer appropriate cases to the Public Ministry for criminal prosecution under the state Criminal Code's provisions on environmental crimes. Thus, although the federal government has played the dominant role in enforcement within the state, state and municipal officials have potentially powerful tools for ensuring compliance with the law. The strategic use of inspections and of enforcement resources generally will be critical to maximizing the deterrent value of administrative and criminal sanctions.



This may be especially true for municipal governments, which have received large numbers of public complaints in the past.

### *Public Participation*

According to state officials, training and information on environmental issues are needed to bring about more effective public participation in Veracruz. The State Ecology Law encourages the use of the media and the development of public school curricula to increase environmental awareness, and the state has begun to take action in these areas.

The State Ecology Law mandates public access to environmental impact authorization documents once the documents have satisfied all legal requirements. Access may be denied to protect the applicant's proprietary rights or other legitimate commercial interests. Thus, the way in which this requirement is implemented will significantly affect its value as a tool of public participation. State officials indicate that the public is allowed access to EIS files before or after a decision has been made, and that the state in some cases has invited public groups to participate in the decisionmaking process.

The State Ecology Law also requires the state and municipalities to collect certain environmental information which, if made available to the public, could promote greater public awareness of, and participation in, environmental matters. For example, the law requires that the State Ecology Commission publish an annual Report on the Environment. The law also requires the state to develop a "permanent system for information and monitoring" on ecosystems and ecological balance within the state. More specifically, state and municipal authorities are required to establish and maintain an inventory of fixed sources of air pollution, and municipal authorities are charged with maintaining an inventory of storage and final disposal sites for non-hazardous solid wastes, as well as of the sources generating those wastes.

The State Ecology Law envisions the State Ecology Commission as the principal vehicle for public participation in environmental decisionmaking at the state level. The Commission is to be comprised in part of citizen representatives. It is intended to function as an advisory body and is required to consider public comments in all matters it addresses. The establishment of the Commission could be an important opportunity for involving the public in state and municipal environmental protection activities.

The State Ecology Law also encourages public participation through the creation of coordination agreements between the government and representatives of different sectors of society. These agreements provide an opportunity to involve the public formally in environmental activities and projects. State and municipal authorities in Veracruz have begun to enter into coordination agreements with environmental groups and other professional groups.

## ENDNOTES

1. State Ecology Law, art. 1. Hereinafter, citations to the State Ecology Law will include only the article number referenced. Citations to all other laws will include the title of the law in addition to the relevant article number.
2. See, e.g., Law Creating the State Urban Development Commission (*Ley que Crea la Comisión de Desarrollo Urbano para el Estado*); Law for Regulating Rural Property in the Highlands of the State of Veracruz (*Ley para la Regulación de Predios Rústicos de las Zonas Serranas del Estado de Veracruz*); Law for the Protection and Conservation of Characteristic Features and Places of Natural Beauty Areas (*Ley sobre Protección y Conservación de Lugares Típicos y de Belleza Natural*); Interior Regulation of the Water and Sanitation Commission of Veracruz (*Reglamento Interior de la Comisión del Agua y Saneamiento de Veracruz*); Interior Regulation of the Secretariat for Agricultural, Cattle Raising and Fishing Development (*Reglamento Interior de la Secretaría de Desarrollo Urbano Agropecuario y Pesquero*); Decree Creating the Council for Promoting and Preserving Forest Resources and Fauna of the State of Veracruz (*Decreto que Crea el Consejo para el Fomento y Conservación de los Recursos Forestales y de la Fauna del Estado de Veracruz Llave*).
3. Organic Law of the Free Municipality, arts. 31, 53-56.
4. See Law Establishing Guidelines for Ordinances on Police, Governance and Regulations (published 1985), arts. 2-4, 6.
5. Written communication with municipal General Office of Urban Development and Ecology officials (August, 1995).
6. State Water Law, art. 11.
7. In 1994, SEMARNAP's Jalapa office had a budget N\$400,000. Interview with PROFEPA officials, (July, 1994).
8. Arts. 4,5.
9. Art. 5, §§I, II. The law does not provide its own definition of "ecological criteria."
10. Art. 6, §I.
11. Arts. 4; 5, §III; 6, §II.
12. Art. 7.
13. Interview with Office of Ecological Affairs officials (July, 1994).
14. Arts. 4; 6, §III.
15. Art. 6.
16. Art. 6, §I.
17. Art. 4.
18. Arts. 7, 8.
19. Art. 10, §§IV, XII.
20. Art. 10, §III, XI.

21. Arts. 41, 119.
22. Arts. 74, §II; 78.
23. Arts. 2, §I; 5, §XII.
24. Art. 6, §X.
25. Art. 17.
26. Art. 13.
27. Art. 16.
28. Arts. 18-20.
29. Art. 14.
30. Art. 22.
31. Arts. 23, 24.
32. Art. 25.
33. Art. 26.
34. *See* Law 188: Law of Human Settlements (enacted February, 1977; amended June, 1990). Of particular important in this respect are articles 2, 6, 14, 16-18, 25, 27, 51, 55, 66, 69, 83, and 93.
35. Arts. 11, 12.
36. Interviews with Office of Ecological Affairs and Municipality of Veracruz officials (July, 1994).
37. Art. 41.
38. Art. 27.
39. Art. 27.
40. Art. 28.
41. Art. 27.
42. Art. 30.
43. Art. 27.
44. Art. 29.
45. Art. 31.
46. Art. 33.

47. Art. 34.
48. Art. 35.
49. Art. 32.
50. Art. 72.
51. Arts. 5, §IX; 6, §VII; 74, §I.
52. Arts. 73, 76.
53. Art. 75.
54. Art. 82.
55. Arts. 74, §II; 78.
56. Art. 77.
57. Art. 80, §I.
58. Art. 74, §III.
59. Art. 74, §VI.
60. Art. 81.
61. Art. 74, §V.
62. Art. 74, §IV.
63. Art. 80, § II.
64. Art. 83.
65. The Follow-up Committee reviews activities, makes recommendations and ensures that funds are expended properly. Over the past two years, the Committee has provided N\$2,000,000 in funding, three-quarters of which has come from the PEMEX budget and one-quarter from the state government.
66. Art. 84.
67. *See* Law 72: State Law of Water and Sanitation (published May, 1990).
68. Arts. 86, 109, 110.
69. Art. 88, §§II, III.
70. Written communication with municipal General Office of Urban Development and Ecology officials (August, 1995).
71. State Water Law, art. 14.

72. See arts. 5, §III; 6, §II.
73. Art. 89.
74. State Water Law, arts. 33-65.
75. Art. 93.
76. State Water Law, art. 33.
77. State Water Law, arts. 8, 9, 10.
78. Art. 95.
79. State Water Law, art. 24, §VII.
80. State Water Law, art. 14, §X.
81. Art. 111.
82. Arts. 5, §VII; 6, §XIII; 112.
83. Art. 115.
84. Art. 112, §II(b).
85. Art. 113.
86. Art. 119.
87. Art. 26, §IV.
88. Art. 114.
89. Art. 3, §VIII.
90. Art. 106.
91. Arts. 5, §VII; 109.
92. Arts. 6, §V; 110.
93. Art. 107.
94. Art. 2, §III.
95. Art. 108, §I.
96. Art. 120.
97. Arts. 108, §II; 121, 122.
98. Art. 116.

99. Art. 118.
100. Arts. 116, §II; 117.
101. Art. 116, §III.
102. Art. 101.
103. Art. 102.
104. Art. 100.
105. Art. 6, §VIII.
106. Art. 103.
107. Art. 104.
108. Arts. 105; 5, §X; 6, §VIII.
109. Art. 3, §III.
110. Arts. 2, 48.
111. Art. 49.
112. Art. 10, §§VI, VII.
113. Art. 5, §VIII. The State Ecology Law defines "protected natural areas under local jurisdiction" as those which serve the purpose of safeguarding the genetic diversity of wild species, achieving the rational use of natural resources and improving the quality of the environment in population centers.
114. Art. 6, §VI.
115. Arts. 52-55.
116. Art. 56.
117. Arts. 57, 58.
118. Arts. 59, 66.
119. Art. 60.
120. Art. 64.
121. Arts. 68-71.
122. Art. 63.
123. Art. 63.
124. Arts. 5, §XVI; 6, §XVII.

- 125. Art. 6.
- 126. Art. 5.
- 127. Art. 137.
- 128. Art. 136.
- 129. State Water Law, arts. 71-92.
- 130. Art. 137.
- 131. Art. 138.
- 132. Art. 139.
- 133. Art. 140.
- 134. Arts. 140, 141.
- 135. Art. 142.
- 136. Arts. 143, 144.
- 137. Art. 154.
- 138. Art. 149.
- 139. Art. 150.
- 140. State Water Law, arts. 71-92.
- 141. Art. 152.
- 142. Transit Regulation, art. 1.
- 143. Art. 151.
- 144. Art. 153.
- 145. Art. 145.
- 146. Art. 146.
- 147. Art. 147.
- 148. Art. 148.
- 149. Art. 131.
- 150. Art. 132.
- 151. Arts. 131-133.

152. Art. 1.
153. Art. 5, §XV; 6, §XV; 123.
154. Interview with Office of Ecological Affairs officials, (July, 1994).
155. Art. 124.
156. Art. 10, §§VIII, IX.
157. Arts. 51, 71.
158. Arts. 125, 126, 127.
159. Art. 121.
160. Art. 128.
161. Art. 32.
162. Arts. 18, 19.
163. Art. 47.
164. Art. 46.
165. Arts. 42-45.





## *Chapter VIII*



### **Analysis**

The nature of environmental law and policy in Mexico has changed dramatically over the past several years, with the passage of new environmental laws and the creation or restructuring of government agencies. One of the most notable changes in the nation's approach to environmental protection is an expansion of the role of state and municipal governments. Decentralization of environmental authority is established explicitly in both the Federal Constitution and federal environmental statutes, which determine the distribution of jurisdiction between federal and local governments and call on states and municipalities to develop their own environmental laws and institutions.

In the course of only a few years, all 31 Mexican states have responded to this charge by enacting their own framework environmental laws, and some municipalities have begun to adopt comprehensive environmental ordinances. The development of these state laws -- and in some cases, regulations to implement the laws -- marks an important step in the reallocation of environmental protection responsibilities.

This report has described in detail the environmental legal and institutional frameworks of five states -- Baja California, Mexico, Nuevo León, Oaxaca and Veracruz -- in order to better understand the scope and structure of state and municipal jurisdiction. Implementation of state legislation is still in the early stages. Therefore, the report has sought to identify opportunities in the laws for establishing effective environmental protection programs.

This chapter summarizes the framework for state environmental jurisdiction in Mexico, and reviews the key features of the environmental laws and programs in the five states surveyed. The chapter also highlights some of the jurisdictional and other issues that will need to be addressed in future efforts to further the process of decentralization.

#### **I. FEDERAL ENVIRONMENTAL LAW: THE CONTEXT FOR DEVELOPMENT OF STATE AND MUNICIPAL PROGRAMS**

##### *Scope of Federal and State Jurisdiction*

Any review of recent state and local legislative and administrative efforts in the area of environmental protection requires an understanding of the federal context in which those efforts

take place. The Mexican Constitution is the basis for the distribution of jurisdiction among federal, state and municipal governments. As a general rule, the states have jurisdiction over a matter unless the Constitution explicitly grants jurisdiction to the federal government or explicitly prohibits the states from exercising jurisdiction. The Constitution also explicitly grants states and municipalities jurisdiction over certain matters that relate to environmental protection, including the provision of public services and the designation of land uses.

The Mexican Constitution envisions a dominant federal role in environmental protection. Indeed, the Constitution provides, directly or indirectly, for federal jurisdiction over virtually all matters that relate to environmental protection. However, the Constitution also introduces the concept of *conurrencia*, a form of joint participation in environmental protection by federal, state and local governments. To achieve this joint participation, the Constitution charges the federal government generally with enacting legislation delegating power to state and municipal governments in matters that otherwise fall under federal jurisdiction. Federal legislation thus becomes an important vehicle for promoting decentralization of environmental authority to the states.

The scope of the federal and state roles in environmental protection is set out in the Federal Law of Ecological Balance and Environmental Protection, enacted in 1988. While other federal environmental laws address specific issues -- e.g., the Law of National Waters and the Forestry Law -- the Federal Ecology Law is a comprehensive statute that describes federal and local jurisdiction over a broad range of issues and provides the principles and guidelines for developing federal policies, standards and regulatory programs.

The Federal Ecology Law provides a list of subject matters that fall under federal jurisdiction and a list of those that are subject to state and municipal jurisdiction. (States in turn distribute jurisdiction over those matters between the state and the municipal governments.) The law provides for federal authority in areas including: land use planning; environmental impact review; air, water and soil pollution; hazardous materials, activities and wastes; protected natural areas; wild and aquatic flora and fauna; and use of natural resources. Several regulations and numerous technical standards (Official Mexican Norms) have been issued to implement the general provisions of the law. Among other subjects, existing standards govern: maximum permissible emission levels for various pollutants; maximum permissible levels of pollutants in waste waters; water quality monitoring; hazardous waste management; and design and construction of sanitary landfills.

In certain subject areas, both the federal and local (state/municipal) governments have a role to play. The Federal Ecology Law delegates responsibilities to the states in the following major areas: environmental impact review; air and water pollution control; other forms of pollution, including noise and odors; non-hazardous solid waste management; and certain types of protected natural areas.

Despite this apparent "concurrent" jurisdiction, the Federal Ecology Law envisions separate spheres of jurisdiction for federal and local governments; in theory, a case will fall under either

federal or local jurisdiction, but not both. The federal sphere of activity extends to matters of national scope and interest, while state and municipal responsibility extends only to matters whose effects are limited to their internal affairs. Following from this basic principle, the Federal Ecology Law defines the scope of state and municipal authority in each of the subject matters delegated under the law.

This division of jurisdictional authorities is fairly clear in some subject matters. For example, the federal government has jurisdiction over pollution of virtually all surface waters and ground water, while state and municipal jurisdiction over water pollution extends primarily to waste water discharges into the sewer systems and to protection of federal waters allocated to state and municipal governments. Federal jurisdiction extends to hazardous wastes, while state and municipal governments have jurisdiction only over management and disposal of non-hazardous solid wastes.

The division of jurisdictional authorities established pursuant to the law is less clear in other areas. For example, the federal regulation on air pollution provides a list of federal air emissions sources that includes sources which "by their nature and complexity require federal intervention." Moreover, the determination of whether emissions are generated in a zone subject to federal jurisdiction involves interpreting not only the Federal Ecology Law, but also other federal laws and the federal Constitution.

The determination of jurisdiction over various subject matters is further complicated by certain general guidelines included in the Federal Ecology Law. For example, the federal government is given jurisdiction over matters that affect the ecological equilibrium of two or more states or of another country. In addition, the law defines matters of federal reach and interest generally to include "those that by their nature and complexity require the participation of the federal government."

Thus, whether the federal government has jurisdiction in a matter may turn on the nature and location of the facility or the activity, or on the geographic extent of the environmental impacts produced. The Federal Ecology Law leaves room for the exercise of broad federal discretion in making such determinations.

Another factor complicating the division of jurisdiction is that a single activity or event may involve more than one regulatory issue, and thus involve overlapping authorities. A fairly simple example is an industrial spill of hazardous substances into the local sewer system; such a case potentially involves federal authority over the improper management and disposal of hazardous substances as well as local authority over improper discharges to the sewer system. Similarly, issues of both federal and state jurisdiction might be raised in the case of a municipal solid waste landfill that causes pollution to groundwater resources. Such matters call for effective intergovernmental coordination.

### *Local Authority to Implement Other Administrative Measures*

The Federal Ecology Law charges states with implementing various regulatory tools in areas of state jurisdiction. Among other things, the Federal Ecology Law requires states to: operate automobile inspection systems; maintain registries of waste water discharges to the sewer systems; mandate the installation of pollution control equipment where appropriate; and issue administrative sanctions.

Although the Federal Ecology Law mandates generally that the states "observe the dispositions of this law," the Federal Ecology law does not specify the manner in which the states are to implement these administrative mechanisms. Nor does the law require that these measures be implemented within a stated time period. The states thus have some flexibility in developing administrative programs to achieve the broad goals of their new environmental laws.

Indeed, formal federal approval is not required in order for states to implement regulatory measures, and there are no formal federal guidelines for evaluating state programs. The Federal Ecology Law does not explicitly address the federal role in the event that a state (or municipality) fails to implement -- or to adequately implement -- certain measures that are required under the Federal or State Ecology Laws. The Federal Ecology Law does provide that the federal government is to lend technical assistance when requested by state and municipal governments. The law also authorizes the federal government to enter into coordination agreements with the state and municipal governments to "undertake action in the matters covered by this Law." This is one mechanism that has been used to provide for formal federal intervention in matters delegated to local governments -- e.g., in the implementation of a state vehicle emissions program or in the cleanup of a specific site.

### *Local Authority to Adopt Standards*

Although the Federal Ecology Law envisions a broad range of state regulatory mechanisms, that law does not provide state and municipal governments with explicit authority to adopt administrative standards in matters of local jurisdiction. The Federal Ecology Law provides that the federal government is responsible for creating Ecological Technical Norms (now Official Mexican Norms). The law does not include any reference to state authority to develop such general standards for matters within state jurisdiction. Rather, the law explicitly requires states to apply federal norms. Federal officials have suggested that the Federal Ecology Law prohibits state and municipal governments from adopting their own standards where a corresponding federal standard has been issued, even if the local standard would be more stringent. Formal interpretation of the

ederal Ecology Law in this area may become important as the states further develop their environmental programs.

The Federal Ecology Law and the federal regulation adopted pursuant to the Law of National Waters do authorize local governments to establish Special Discharge Conditions for individual facilities that discharge to the sewer systems. The regulation defines such Conditions generally as the maximum permissible levels of certain physical, chemical or biological parameters in waste water discharges, established for a water user or group of users, or for a specific receiving body of water.

## **II. THE STATE LEGAL FRAMEWORKS FOR ENVIRONMENTAL PROTECTION**

### *General Scope of State Environmental Laws*

Until recently, state environmental law in Mexico consisted of a series of limited provisions in a variety of state laws, including the health, urban development and planning laws, as well as laws covering water and sewer services or protection of certain natural resources.

With the enactment of the Federal Ecology Law in 1988, states for the first time were given authority to take significant steps to address environmental problems. The state legislatures began promulgating comprehensive State Ecology Laws to provide a coherent framework for addressing the full range of environmental issues now under state jurisdiction. Many of the older laws remain in effect, to the extent that they do not conflict with the State Ecology Laws. Although those laws contain provisions that are relevant to pollution prevention and control -- e.g., requirements relating to public health and water services -- the State Ecology Laws are the primary basis for local regulation of polluting activities.

The State Ecology Laws surveyed are strikingly similar. Although they address only matters that fall under state jurisdiction, the State Ecology Laws closely parallel the Federal Ecology Law in structure and general approach, and in some instances incorporate federal language more or less verbatim. The laws address air and water pollution; non-hazardous solid waste; protected natural areas; ecological emergencies; and other forms of pollution including noise and odors. The State Ecology Laws contain far-reaching objectives. Most seek to achieve not only environmental protection, but also "ecological balance," a concept that recognizes the interdependence of elements in the environment. States are charged with taking regulatory action to control activities that could result in ecological imbalance.

Some State Ecology Laws seek to infuse environmental principles into a wide range of state governmental actions, thereby promoting sustainable economic development and natural resource use. Baja California's Ecology Law requires that ecological criteria be considered by state and municipal agencies when planning and encouraging state economic development or when

undertaking public works and activities. In Oaxaca, the Organic Law of the State Public Administration, which was enacted after Oaxaca's Ecology Law, broadly directs all state agencies to incorporate environmental protection criteria into their policies, programs and actions.

All states surveyed have followed the federal model by enacting environmental laws that explicitly require ecological land use planning (*ordenamiento ecológico*) to ensure that environmental information and objectives are considered in determining land and natural resource use. The land use planning process is given particular emphasis in Baja California's Ecology Law. That law requires the development of a State Ecological Ordering Plan, a comprehensive evaluation of the state's environmental resources and problems. The Plan, which was recently adopted, is intended to serve as a guide for land use planning and urban development, as well as planning in the areas of pollution control and emergency response. Baja California's Ecology Law lists several specific agency decisions involving the use of natural resources that must take into account the criteria contained in the state's ecological ordering plan.

Environmental law at the municipal level in Mexico consists mainly of general municipal ordinances such as the Ordinances on Police and Governance, which outline municipal environmental responsibilities, principally in the areas of drinking water, sewer and sanitation services. Many municipalities also have enacted separate ordinances covering these specific subjects. Some of the larger, urban municipalities recently have adopted environmental ordinances modeled on the State and Federal Ecology Laws. These provide a more comprehensive basis for municipal environmental protection programs in the areas of municipal jurisdiction outlined in federal and state laws. For example, the Ecology Ordinance for the municipality of Toluca (state of Mexico) provides the municipal government with broad authority to prevent and control pollution from all sources that are not under federal or state jurisdiction, with particular focus on mobile emissions sources and municipal solid waste. The municipality of Oaxaca de Juárez (state of Oaxaca) has enacted an Ecology Ordinance that closely parallels the State Ecology Law.

#### *Administrative Mechanisms*

The State Ecology Laws surveyed charge state governments with implementing a broad range of administrative tools to address matters under state jurisdiction. For example, all of the laws contain permitting and monitoring requirements, and all authorize the state to conduct inspections and issue administrative sanctions. Some of the laws also explicitly authorize the state to implement economic incentives. State legislation thus provides a basis for establishing effective regulatory programs to ensure compliance with environmental standards and policies.

The State Ecology Laws differ in the level of detail they provide to guide regulatory action. For example, Oaxaca's Ecology Law contains brief mention of formal registration of waste water

discharges, while Baja California's Ecology Law provides considerable detail regarding the type of registration information that must be submitted by a facility in connection with its waste water discharges.

For the most part, however, the provisions of all of the State Ecology Laws surveyed are general in nature. Development by the states of regulations or other formal agency guidelines governing administrative requirements and procedures may facilitate the implementation of effective environmental protection programs. Without the consistency and predictability provided by more detailed regulatory guidance, administrative action in particular cases is subject to broader challenge. By defining regulatory requirements in greater detail, administrative regulations or formal policies can promote compliance as well as strengthen the basis for administrative action.

Some of the states surveyed have adopted regulations (*reglamentos*) implementing the provisions of the State Ecology Laws. These serve mainly to provide more specific guidance for implementing the administrative mechanisms necessary to enforce applicable standards. A notable example is the state of Mexico, which has adopted air, water and soil pollution regulations to implement the broad objectives and very general provisions of the State Ecology Law. The regulation on water pollution, for example, specifies the information that must be submitted in applications for discharge permits, the factors that must be considered by the state in setting Special Discharge Conditions, and the guidelines to be used by facilities in taking required water quality samples. Baja California has issued the most comprehensive set of regulations of the states surveyed, from pollution control and environmental impact review to the publication of a state Ecological Gazette and the accreditation of private environmental consultants.

Some State Ecology Laws authorize the adoption of technical standards at the state level. However, the states surveyed have not developed their own standards as yet. This may be due to a lack of resources as well as lack of interest in adopting and enforcing new standards in light of the fairly stringent federal standards that exist.

The following paragraphs review the key regulatory mechanisms provided in the State Ecology Laws and the ways in which some states have more clearly defined those administrative tools through regulations.

**Registration.** The requirement that polluting facilities register annually with state and/or municipal governments is an important tool for ensuring compliance in some states. This concept is most developed in Baja California's Ecology Law and its regulations, which establish the specific requirements for registration of facilities with air and water releases that fall under state jurisdiction. The state has published a manual explaining the requirements for submitting detailed information about the facility and its processes. This registration information provides a basis for the state to establish requirements -- such as monitoring, use of pollution control equipment or adherence to Special Discharge Conditions -- necessary for ensuring compliance with applicable standards.



Other states have registration provisions relating to waste water discharges only. Nuevo Leon's environmental regulation provides considerable detail in this regard. The state of Oaxaca requires those responsible for certain polluting activities to register with the state, although the law does not contain any details on how this requirement is to be implemented. State and municipal officials in the state of Mexico are required simply to maintain registries of waste water discharges. Similarly, Veracruz' Ecology Law gives municipal governments responsibility for maintaining a registry of discharges to the sewer systems, which is to be integrated with the federal registry of discharges; however, the law does not elaborate further on this measure.

Most of the State Ecology Laws surveyed require the state and municipal governments to maintain inventories of fixed emissions sources. Such provisions also give officials an opportunity to access and retain key data on current sources of pollution and pollutant releases. As discussed below, this is a potentially important tool for increasing public awareness and action.

**Authorization/Permitting.** With respect to the authorization of new activities, all states require environmental impact authorization in connection with both public and private projects and activities that fall under state jurisdiction. The criteria that trigger environmental impact requirements in the states surveyed are general in nature -- e.g., any activities that could "cause ecological imbalance" or "a significant alteration of the environment," or activities that could "cause health risks" or "exceed the limits and conditions established" in federal or state laws. The State Ecology Laws surveyed define the activities that are potentially subject to this requirement with varying degrees of specificity, but generally include state and municipal public works, roads, housing and tourist developments, etc. As in other matters, the State Ecology Laws must be interpreted in the context of the Federal Ecology Law, which defines state environmental impact jurisdiction as extending to matters *not* subject to federal jurisdiction. In theory, then, a project may require federal or state/municipal environmental impact authorization, but not both.

The State Ecology Laws surveyed differ somewhat with respect to the precise format and contents of environmental impact documents, although most of the states surveyed provide for submission of a Preventive Report where the project proponent believes the project will not have adverse environmental impacts requiring a formal EIS. The state laws also differ as to the criteria for approving the EIS. Baja California's Ecology Law is notable for prohibiting the state from authorizing projects that contravene the provisions of the State Ecology Law, or of other legal dispositions such as urban development plans or programs. The state of Mexico's Ecology Law provides that denial of authorization is justified where there is "reasonable technical doubt" regarding the environmental impacts of the project. The other laws surveyed are silent as to the criteria for granting or denying authorization, leaving wide discretion to administrative decisionmakers. States may grant authorization conditioned on preventing or mitigating certain environmental impacts, and the agencies generally are required to monitor compliance with such conditions.

Another level of authorization of new activities is the land use or construction license, which is usually issued by the municipal government. Some of the state laws surveyed require the municipalities to ensure that all required environmental impact authorizations are obtained prior to issuing a land use or construction license. Some laws further require consideration of various environmental factors -- e.g., meteorological or topographical conditions -- in the issuance of these licenses.

The State Ecology Laws surveyed differ in their requirements for obtaining other authorizations for polluting activities, such as permits, operating licenses, etc. The laws of Baja California, Mexico and Nuevo León require the issuance of operating licenses to control air emissions. Oaxaca and Veracruz do not provide for separate air emissions permitting; in those states, the land use and construction permitting processes seem to function as less direct means of controlling emissions.

All states surveyed have adopted legislative and regulatory requirements for permitting waste water discharges, although those provisions range from one sentence mandates (e.g., Oaxaca, Veracruz) to more detailed procedural guidelines on applying for and granting discharge permits (Baja California, Mexico, Nuevo León). In addition, all states require that, if waste water discharges will not meet applicable technical standards, the waste waters must be pretreated prior to discharge into the sewer system. The prohibition against unpermitted or unauthorized discharges provides an opportunity for states to ensure that facilities are using appropriate equipment for preventing and controlling pollution.

In practice, the process of authorizing discharges and emissions may be closely linked to the process of registration. In states that require registration, the authorization is issued only after the facility is determined to be in compliance based on its registration data. In the case of Baja California, for example, the permit is a short document which simply affirms the right to discharge based on current conditions. Environmental agencies generally have authority to inspect a facility prior to issuing the authorization, although such inspection is not required under the laws surveyed.

**Monitoring.** Most of the states surveyed have established some type of requirement for facilities to monitor their air and/or water releases and report the results to the state. Those provisions vary with respect to required frequency and methods of monitoring. Baja California's Ecology Law authorizes monthly air and water monitoring, while the environmental regulation requires the use of federal sampling measures or other methods approved by the state agency. The regulations of the state of Mexico require water discharge monitoring every three months and provide detailed guidelines for taking samples; air monitoring methods and frequency are not specified. Nuevo León's Ecology Law requires air monitoring at a frequency to be specified by the state agency.

Permitting is envisioned as the main vehicle for establishing facility-specific monitoring guidelines. In Nuevo León, air permitting has been initiated by the state only recently. In Baja California, although the State Ecology Law provides for monthly monitoring, the state requires only

nual monitoring in connection with facility re-registration and renewal of air and water permits; more frequent monitoring is reserved for facilities with demonstrated compliance problems.

Monitoring is a central component of state and municipal efforts to control mobile source emissions. All State Ecology Laws surveyed require vehicles to be inspected to ensure that emissions are within applicable standards. Some states delegate the operation of inspection programs to the municipalities, although state governments are still in charge of the inspection centers, for the most part. In some states, such as Veracruz, the state environmental agency operates the vehicle inspection program, while the state transit and transportation office issues sanctions for violations of emissions requirements.

All of the State Ecology Laws surveyed require the state and/or municipal governments to undertake general air and water quality monitoring within their territorial jurisdiction. This monitoring information is to be integrated with the federal system of air and water quality monitoring. The states and municipalities are in various stages of implementing these requirements, with most monitoring occurring in the heavily industrialized cities.

**Enforcement.** The Federal Ecology Law requires state and municipal governments to apply the enforcement provisions of the Federal Ecology Law when developing legislation to address environmental matters under local jurisdiction. Thus, the State Ecology Laws surveyed are very similar with respect to the enforcement authorities they provide state and municipal agencies. In some cases, the enforcement provisions in the State Ecology Law are supplemented by those in other relevant statutes -- e.g., Veracruz' Water Law and Criminal Code. Similarly, municipal Ordinances on Police and Governance and other local regulations may reinforce some of the general municipal enforcement authorities provided under the State Ecology Law.

The public complaint process plays an important role in most state enforcement programs. All states surveyed allow any individual to submit a public complaint regarding any activity that may cause environmental harm. The state is required to respond to the complaint, and the states surveyed generally respond by conducting an inspection of the facility in question.

The State Ecology Laws contain potentially powerful mechanisms for deterring noncompliance and fostering compliance with the law. For example, all of the laws provide for temporary or indefinite closure of part or all of a regulated facility. While the state of Mexico's Ecology Law provides a list of the violations that can lead to closure, most of the laws do not specify the criteria for ordering closure. In Nuevo León, temporary closure has been used in certain cases as a means of ensuring that a facility will take steps necessary for bringing its operations into compliance.

The State Ecology Laws surveyed also provide for the issuance of administrative sanctions for violations of the law. Officials have discretion in setting fines within the statutory minimum and maximum amounts (e.g., between 20-20,000 times the daily minimum wage). In Veracruz, the state is also authorized to impose administrative fines in an amount between one and three times the amount of the damage caused. Some laws contain mandatory considerations for setting the fine,

including: the seriousness of the violation; the financial circumstances of the violator; and whether a repeat violation is involved. The laws generally provide for multiple fines in the event of noncompliance with an order or repeat violation.

The State Ecology Laws provide broad authority to conduct inspections in order to verify compliance and identify violations. In the past, inspections appear to have been carried out almost exclusively in response to public complaints. With the development of new regulatory tools, states have an opportunity to develop a more proactive approach to inspecting facilities, integrating inspections into the permitting process and targeting inspections based on facility monitoring information.

Of the states surveyed, only Nuevo León has incorporated criminal sanctions into its State Ecology Law, although other states have enacted environmental crime provisions in their Criminal Codes. Regardless of which law is applied, environmental crimes are defined fairly broadly in terms of violations of applicable pollution control standards, and carry with them specific fines and/or prison terms. The state environmental agency is responsible for referring appropriate cases to the state's Public Ministry in charge of criminal prosecutions. The possibility of criminal prosecution provides state environmental officials with an important tool for deterring violations and ensuring compliance with administrative orders. States such as Nuevo León and Baja California have filed criminal complaints in matters involving discharge of waste water and illegal dumping.

Nearly all of the states surveyed authorize administrative arrest for violations of the State Ecology Law.

***Non-regulatory incentives.*** In addition to providing the traditional regulatory mechanisms described above, some State Ecology Laws call for the use of tools such as economic incentives to achieve compliance with environmental requirements. Oaxaca's Ecology Law contains the broadest provisions governing incentives. That law directs the state and municipalities to provide economic incentives to persons and institutions that undertake various environmental protection activities, and specifically identifies the use of tax reductions, the facilitation of credit and investment, and the issuance of preferential permits and concessions. The state of Mexico's Ecology Law declares as a priority the use of financial and technical incentives to reduce air pollution, and the state's water and soil pollution regulations direct state officials to develop financial incentives in those areas. The State Ecology Law for Veracruz also authorizes state officials to grant economic incentives to those who reduce air pollution through steps including research, siting and use of equipment. These provisions establish a basis for state agencies to incorporate incentives into their developing regulatory programs, and to promote additional legislative action where necessary to implement tax and other measures.

***Financial guarantees.*** Some of the states surveyed have enacted legislative provisions authorizing or requiring the use of financial guarantees to ensure compliance with the law. The state of Mexico's Ecology Law, for example, gives the state Executive authority to require bonds on the

part of those who undertake works or activities that can result in significant contamination of the environment. Funds collected are to be deposited in an Environmental Protection Fund, although the law does not specify how such funds are to be used. This authority to establish bonds may be exercised by the state Executive in carrying out the law generally, and is not linked to any particular regulatory action such as environmental impact authorization. The State Ecology Law of Baja California establishes a bonding requirement relating to closure of landfills, and directs the state to consider, when setting the bond, the amount of land involved, the volume of the wastes, and the financial capacity of the operator.

***Voluntary agreements.*** The regulatory mechanisms included in the State Ecology Laws, including the enforcement authorities described above, provide the states with an important basis for achieving voluntary compliance with new environmental standards. In the state of Nuevo León, the environmental agency has devoted considerable efforts to developing voluntary agreements with facilities, aimed at affirming the facility's obligation to bring its operation into compliance. The agreements are short and fairly general in nature. For example, the facility may affirm its commitment to environmental protection and promise to install pollution control equipment or take other similar actions within a stated time. The government generally offers to assist the facility in some way to carry out these measures. This type of voluntary agreement may be a useful tool in other states, particularly during the early phase of implementation of the new state laws and related standards.

### **III. STATE INSTITUTIONAL FRAMEWORKS FOR ENVIRONMENTAL PROTECTION**

#### *State Agencies*

With the enactment of new framework environmental laws, many states have restructured their administrative agencies. The principal state environmental agency is generally responsible for developing state environmental policy and for carrying out the requirements of the State Ecology Law. In some cases, the environmental agency is also charged with coordinating the actions of other state agencies relating to environmental protection. This coordination role is critical, particularly to the extent that land use planning and other state activities are required to incorporate environmental principles. The states surveyed generally have not yet institutionalized the degree of interagency coordination and cooperation envisioned in the state laws.

The administrative structures developed to implement the State Ecology Laws vary from state to state. For the most part, the laws surveyed call for the creation of a new administrative entity to function as the state's principal environmental regulatory body, reflecting the increased emphasis on

environmental protection. In some states, those entities are independent agencies which report to the Governor. In other cases, states have been charged with creating a new environmental protection office within the existing urban development Secretariat -- a structure which may reflect the close connection in federal and state law between environmental protection, land use planning and urban development.

Funding for state environmental agencies comes mainly from the state government. In general, Mexican states generate their own financial resources to support their environmental protection activities. This income is derived from a variety of sources, including the collection of state taxes. The state government (through the Secretariat responsible for developing the state budget) determines the resources that are available to each state agency, including the agency responsible for environmental protection. Income generated by state agencies (e.g., through charging fees or issuing fines) is remitted to the state treasury, and subsequently is distributed in conformity with the state budget. The state environmental agencies also may receive economic assistance directly from the federal government, including funds targeted for environmental protection activities. For example, Nuevo León has received targeted funding to address its serious environmental problems.

#### *Municipal Agencies*

Some municipalities have agencies -- or personnel -- charged specifically with carrying out municipal environmental responsibilities. The State Ecology Laws in most of the states surveyed require the municipal government to establish an executive entity dedicated to environmental protection, although the laws do not indicate explicitly the consequence of failure to establish such an agency. In Oaxaca, the State Ecology Law requires the creation of a position or an office within the municipal government dedicated to environmental matters. Only about 15 of the state's 570 municipalities have such an office; the capital, Oaxaca de Juárez, has a fairly developed environmental program within the municipal Office of Urban Development and Ecology. In Oaxaca, as in other states in Mexico, the lack of resources and infrastructure at the municipal level presents obstacles to the development of administrative offices for environmental protection.

As at the state level, municipal budgets are based on the income generated by the municipal governments. Municipal environmental agencies receive their resources in accordance with the municipal budget. Any funds collected by the agency are remitted to the municipal treasury and subsequently distributed in conformity with the municipal budget.

#### **IV. JURISDICTIONAL AUTHORITIES AND INTERGOVERNMENTAL COORDINATION**

State and federal officials in the states surveyed report that there have been few direct jurisdictional conflicts thus far. Nevertheless, coordination among agencies of different levels of

government has been important -- in part due to the potential for jurisdictional conflict, and in part due to the need to maximize limited resources and ensure an effective regulatory response.

### *Federal/State Jurisdiction*

For the most part, coordination among federal and state agencies has been accomplished informally, with potential issues about jurisdictional authority handled on a case-by-case basis. All of the State Ecology Laws surveyed provide for the development of written coordination agreements with the federal government or with other states. Written agreements may be a means of ensuring that informal intergovernmental cooperation continues as personnel change and state programs expand. Such agreements could establish, for example, the procedures or criteria to be followed when determining the federal, state and local roles in matters that may involve more than one agency. Another potentially useful vehicle for institutionalizing intergovernmental coordination is the scheduling of regular meetings for representatives of federal, state and municipal environmental agencies. Officials in Nuevo León have held interagency meetings on a weekly basis to discuss particular cases.

Although federal and state officials indicate that there have been relatively few direct jurisdictional conflicts in the states surveyed, questions about the scope of state environmental authority are inevitable, especially as states (and municipalities) develop and expand their regulatory programs. Whether, and the extent to which, such questions arise will vary from state to state, depending on the provisions of the State Ecology Law and on how local officials apply federal and state law. For example, state officials in Baja California indicate that most industries in the state are subject to state regulation. Officials in Veracruz note that industrial activities in that state (e.g., in the areas of environmental impact assessment and air pollution control) generally are the responsibility of the federal government. According to officials in Veracruz, this dominant federal role results in part from a lack of resources at the state level to take a more expansive approach.

***Subject Matter Authorities.*** As noted earlier, the Federal Ecology Law's delineation of jurisdiction leaves room for interpretation and the exercise of considerable discretion on the part of federal officials. In addition, some matters -- e.g., an industrial spill of hazardous substances into the local sewer system -- may involve both federal and state (or municipal) jurisdiction.

The State Ecology Laws surveyed raise other potential questions over subject matter jurisdiction to the extent that they grant authority in areas not explicitly delegated to the local governments in the Federal Ecology Law. For example, Oaxaca's Ecology Law includes detailed provisions on the protection of wild flora and fauna. Nuevo León's Ecology Law provides for state regulation of discharges to groundwater, although groundwater resources are generally subject to federal control. Baja California's Ecology Law contains provisions governing pesticides, hazardous substances and

damage to the ozone layer. Whether conflicts materialize in these areas will depend on the types of activities undertaken by the state. In one case, Baja California officials issued a regulation covering biological wastes, a matter not explicitly delegated to the states; the state regulation was subsequently preempted by the issuance of a federal regulation on the matter.

**Implementation Authorities.** Standard setting is an important regulatory tool for addressing a particular subject matter. As noted earlier, the Federal Ecology Law gives the federal government authority to issue technical standards, and does not give the states similar authority; rather, the law explicitly requires states to apply federal standards in areas of state jurisdiction.

Nevertheless, some of the State Ecology Laws surveyed clearly authorize the state government to issue technical standards. In general, these state standards are defined as the state equivalent of federal standards. In some cases, the state laws use the term "Ecological Technical Norms," the term used in the Federal Ecology Law, while others use terms such as "Environmental Technical Norms" or "State Parameters."

Thus far, none of the states has adopted any standards in areas delegated to local governments under the Federal Ecology Law. The adoption of state standards in local matters already covered by federal Official Mexican Norms would likely present a direct jurisdictional conflict. It is perhaps more likely that the states will begin developing standards in local matters not covered by existing federal standards. The federal response to the adoption of such standards may depend on whether the federal government perceives the need for national uniformity -- and hence the development of a federal Official Mexican Norm -- in the particular subject area.

Federal law does delegate to local governments authority to issue Special Discharge Conditions for facilities that discharge to sewer systems. State Ecology Laws such as those in Baja California, Mexico and Oaxaca, explicitly authorize the state to set these Conditions where, e.g., existing standards do not cover a particular parameter for the type of facility being regulated by the state. The state of Mexico has established Special Discharge Conditions in numerous cases, while Baja California's environmental agency has set such Conditions for two facilities.

Other than standard setting, the Federal Ecology Law provides for state exercise of broad administrative authority in matters under state jurisdiction. Where a state has not yet established a program in a particular subject area delegated under the law, the question arises whether the federal government may take action in that area.

This issue may be more likely to arise in areas such as environmental impact assessment or air pollution control, where the distribution of jurisdiction is less clear. Until recently, because the state had not yet initiated its own permitting program, federal officials in Nuevo León issued operating permits to fixed emission sources under state jurisdiction. In areas that are more clearly within the local realm -- e.g., solid waste management -- the federal government may be less likely to take action in the absence of a state or municipal program. As suggested earlier, the development of



written agreements between federal and state, or federal and municipal, agencies is one available means of formal coordination in these situations.

### *State/Municipal Jurisdiction*

The states have adopted various approaches to distributing jurisdiction between state and municipal governments. In general, municipalities are responsible for establishing local environmental policy and land use planning, and are given authority to control motor vehicle emissions and solid waste management facilities. Some of the states surveyed provide explicitly for municipal jurisdiction in these and other areas. For example, the State Ecology Laws of Oaxaca and Veracruz assign municipal governments responsibility over waste water discharges to the sewer systems and mobile source emissions, and they authorize municipalities to play a large role in the management of non-hazardous solid wastes. In areas such as regulation of fixed emissions sources and environmental impact review, those laws also provide for municipal jurisdiction in matters that do *not* fall under state and federal jurisdiction.

Other State Ecology Laws strike a different balance, delegating fewer powers to municipal governments. In some cases, however, those laws leave room for municipalities to assume a more expansive role. For example, the state of Mexico assigns jurisdiction over most matters to the state, but contains a mechanism for municipal assumption of jurisdiction. According to the State Ecology Law for the state of Mexico, municipal governments may enter into agreements with the state to assume state jurisdiction in the areas of air and water pollution, if the municipal government demonstrates technical and financial capacity. In the state of Baja California, the State Ecology Law also directs the state government generally to promote decentralization of environmental authority and resources to the municipalities.

In some cases, state agencies have been active in matters over which the municipalities have authority pursuant to the State Ecology Law. In Nuevo Leon and Baja California, for example, the state governments undertake motor vehicle emissions inspections, even though the State Ecology Laws authorize municipalities to carry out this function. In addition, some states have control over the provision of sewage treatment services -- and consequently over waste water discharges to those systems -- notwithstanding that the State Ecology Laws provide for municipal jurisdiction in that area.

Most State Ecology Laws authorize the state to apply the law in areas of municipal jurisdiction until the municipalities have enacted their own legislation governing those matters. The development of framework municipal environmental ordinances is therefore an important step in establishing municipal regulatory authority and implementing regulatory programs. The municipality of Oaxaca de Juárez has adopted an ordinance which describes in some detail the municipality's

authority in the area of environmental impact review, a municipal power mentioned only in passing in the State Ecology Law.

Some of the states surveyed have entered into written coordination agreements with municipal government to improve coordination in environmental protection. The state of Mexico has been most active in this respect. Twenty four municipalities have general agreements with the state establishing principles to guide intergovernmental coordination. A number of more specific agreements have been created to address particular areas of concern, such as regulation of waste water discharges from automotive service stations. The state of Veracruz also has developed coordination agreements with several municipalities.

## **V. OPPORTUNITIES FOR PUBLIC PARTICIPATION UNDER STATE LAW**

With the passage of the Federal Ecology Law in 1988 and the State Ecology Laws in more recent years, environmental law in Mexico has begun to incorporate formal mechanisms for public involvement in governmental environmental protection programs. These legal provisions present important opportunities for the growing number of organizations and individuals already active in environmental issues at the federal, state and local levels in Mexico, and may also provide the basis for developing broader public awareness of, and participation in, environmental policymaking.

The federal Constitution establishes, as an individual guarantee, the right to information and the right to petition. The right to information, contained in the article relating to freedom of speech, consists of the right of any person to investigate, receive and disseminate information that is truthful and timely. The right to petition government is a vehicle for the public to direct inquiries to the government and requires the government to respond to those inquiries.

The Federal Ecology Law envisions three basic forms of public participation in environmental matters:

- public access to environmental information;
- public involvement in the formulation of environmental policy; and
- the establishment of coordination agreements between the government and non-governmental organizations, including educational institutions and researchers.

In general, neither the Federal Ecology Law nor its regulations specify how these public participation mechanisms are to be implemented. One important exception is the section of the law relating to environmental impact assessment. These provisions grants citizens the right to consult federal agency files containing environmental impact documents, although its does not specify requirements for obtaining public input into environmental impact decisions.

The constitutions of some of the states surveyed contain provisions similar to the Federal Constitution. For example, Nuevo León's Political Constitution declares inviolable the right to petition the government in writing and to receive a response from the government.

The State Ecology Laws surveyed adopt an approach similar to the Federal Ecology Law with respect to public participation. The laws provide state officials with a broad legislative basis for taking action, by explicitly charging the state environmental agency with encouraging public participation in matters covered by the law. For example, the State Ecology Law of Veracruz specifically requires the state to promote public participation in developing and implementing environmental policy, in undertaking environmental monitoring, and in carrying out other ecological actions covered under the law.

The State Ecology Laws surveyed incorporate some of the mechanisms for achieving public participation set forth in the Federal Ecology Law. The laws also contain unique features, described below, that illustrate important opportunities for increasing the public role in environmental protection. For the most part, however, these provisions are framed in general terms, and their usefulness depends on the guidelines and specific procedures developed to implement them, as well as on the extent to which the public is informed about such procedures. Baja California is notable for having adopted a regulation to guide the development of an official state publication designed to inform the public on a wide range of environmental activities. The state of Mexico has taken a potentially significant step by creating within its environmental agency an office charged with promoting public participation.

#### *Mechanisms for Public Involvement in Governmental Actions*

A key aspect of public participation is citizen involvement in specific decisionmaking activities of the government, such as permitting and enforcement. As the state environmental agencies continue to develop their environmental programs, they have an opportunity to implement effective mechanisms for receiving and considering diverse public input.

One of the major vehicles for public input envisioned in the State Ecology Laws is the establishment of a state ecology commission comprised of both governmental and nongovernmental representatives. Nearly all of the states surveyed are required to set up a commission (or council) to provide review and advice on state environmental matters and facilitate public participation. Some laws contain specific duties of the commission, such as review of accident prevention and emergency planning programs (in Veracruz) or review of the State Program of Environmental Protection (in Mexico). As advisory bodies, the commissions could play a potentially significant role in channelling public input into governmental decisions, particularly in Veracruz, where the State Ecology Commission is required to consider any proposals submitted by

public groups when making decisions. At the same time, state commissions may serve to bring governmental actions to the attention of the public, as in the state of Mexico, where the meetings of the commission are required to be open to the public.

Another key mechanism for public involvement in environmental decisionmaking is the public complaint process. All State Ecology Laws surveyed contain provisions which parallel those in the Federal Ecology Law, enabling any person to file with the state a complaint regarding activities that cause environmental harm or ecological imbalance. The state (or municipal) government is required to look into the matter and provide a response within a relatively short period of time. The public complaint process is the principal vehicle for public participation in administrative enforcement matters, and in practice it appears to be a widely used means of focusing governmental attention on a problem. In some states, the public complaint process has been the principal driving force behind the state's enforcement efforts. The state government in Nuevo León has established a hotline to receive complaints, and in Mexico, a toll free number and a green mail box were set up to facilitate the complaint process.

A somewhat narrower vehicle for public participation found in all of the laws surveyed is the establishment of coordination agreements between the government and public organizations. These provide for joint activity on a particular issue or problem. For example, the state governments are authorized to develop agreements with public and private sector organizations aimed at facilitating joint administration, conservation and monitoring of protected nature reserves.

Beyond the establishment of ecology commissions, the receipt of public complaints, and the development of coordination agreements, the State Ecology Laws surveyed contain few provisions relating specifically to public participation in governmental decisions. One exception is a provision in Baja California's Ecology Law directing the Governor (through the state environmental agency and the municipal government) to promote the convening of public forums (*foros de consulta*) on environmental issues. Although this directive is fairly vague -- forums are only explicitly required by the law to review the progress of the State Ecology Program -- it may nonetheless provide an important opportunity for fulfilling the law's broad goal of greater public involvement in the state's environmental protection activities. In Nuevo León, the Subsecretariat of Ecology has utilized *informal* meetings with members of the public and groups who have expressed concern about a particular environmental issue. In Veracruz, the state environmental agency must submit ecological land use plans to the public for review and comment prior to sending the plans to the Governor for final approval.

#### *Public Access to Environmental Information*

Environmental information collected or maintained by government agencies can be an important catalyst in expanding public involvement in environmental protection. Citizens who have access to information can assist government agencies in ensuring compliance with environmental

standards. In addition, when information on environmental conditions is available to residents of a community, facilities located in that community have a greater incentive to take steps to improve their environmental performance.

Most of the State Ecology Laws surveyed seek explicitly to increase public awareness of environmental issues, thereby providing a general basis for state agencies to make more environmental information available to the public. The State Ecology Laws surveyed implement the goal of public education chiefly through measures designed to increase awareness of environmental problems generally. Thus, the laws include provisions on promoting educational curricula and using the media to inform the public about the environment. In addition, some of the laws surveyed require agencies to publish reports on the general state of the environment, which would then be available to the public.

The State Ecology Laws contain few provisions on public access to more specific regulatory information collected by the state or municipal governments. The one notable exception contained in each of the laws surveyed is a provision based on the Federal Ecology Law requiring that environmental impact review files be made available for public review. The availability of environmental impact document files can represent an important opportunity for the public to learn about the nature of proposed facilities, particularly if the state laws are interpreted to require notification of and access to Preventive Reports in cases where an EIS was not subsequently required. Access to environmental impact documents might encourage community involvement in future licensing and permitting decisions, and might lead to greater community monitoring of the facility. For this reason, formal provisions or guidelines for facilitating access to these files can be important steps in expanding public participation. The state of Mexico's Ecology Law contains potentially important provisions in this regard; the law requires EIS applicants to pay the costs of notifying the public of the existence of the EIS and requires the state to publish a list of EISs.

One potentially significant limitation of the state (and federal) provisions for access to environmental impact documents is that access appears to be guaranteed only after the environmental impact documents have been found to satisfy the government's requirements. Thus, the public review process may not facilitate public input into agency evaluation of the documents. Such public input can be critical to ensuring adequate consideration of a facility's impacts and to avoiding future conflicts with local communities over the proposed facility. Indeed, several proposed facilities throughout Mexico -- for example, a proposed golf course in Tepoztlán, Morelos and a proposed hazardous waste treatment facility in Guadalcázar, San Luís Potosí -- have faced strong community opposition during the local land use and construction licensing stage *following* federal EIS approval and considerable financial investment by the facilities.

All of the laws surveyed leave state officials some discretion to deny access to environmental impact information where the applicant requests confidentiality to protect certain commercial interests. How officials exercise this discretion will be one factor in determining the effectiveness of the laws' provisions on access to EIS information. Baja California's Ecology Law provides explicitly that the claimed protected commercial information must be presented in a manner such that

information pertaining to the environment or public health can be examined without prejudicing the protected material. This may be a useful model for other states in implementing broad confidentiality provisions. States can develop guidelines to address this and other issues, such as the logistics involved in reviewing files. The State Ecology Law of Mexico requires the development of such guidelines; other State Ecology Laws contain broad provisions authorizing the government to issue dispositions necessary for implementing the laws.

Other than provisions regarding EIS documents, the State Ecology Laws surveyed contain few explicit requirements for public access to specific environmental information. A notable exception, however, is Baja California's Ecology Law, which requires the state environmental agency to permit public access to information contained in registries and reports that are in the control of the agency, as well as to facility discharge monitoring reports. This provision is unique among the laws surveyed, and is particularly significant in light of the law's requirements that facilities submit detailed air and water registry information. Another important and unusual provision in Baja California's Ecology Law is the requirement that the state publish an *Ecological Gazette* containing a wide range of information on environmental protection in the state. The gazette is to inform the public of all major actions taken by the state environmental agency, and its publication could be an important means of promoting public involvement in environmental decisionmaking.

On a more general level, many of the State Ecology Laws surveyed require the state and municipal governments to publish reports on the environment and to conduct air and water quality monitoring for inclusion in local and national information systems. Although progress in these areas has been slow, such information could prove useful in focusing public attention -- and potentially, further governmental efforts -- on particular areas of concern.

## **VI. CONCLUSIONS**

The state laws adopted to implement the Federal Ecology Law provide a broad framework for expanding environmental protection activities at the local level. The State Ecology Laws surveyed contain far-reaching objectives, principles and policies. They provide the basis for achieving those goals and implementing environmental policies through concrete regulatory activities such as permitting, monitoring and enforcement. In addition, the State Ecology Laws provide a legislative basis for strengthening public participation in the regulatory process and expanding access to environmental information. Significantly, the laws also link environmental considerations with a range of governmental decisions -- particularly urban development and land use planning -- and thereby lay the foundation for a strategic, integrated approach to environmental protection.

However, the enactment of legislation is only a first step toward decentralization of authority. States are still in the early stages of developing programs to implement their new authorities, and the

federal government continues to play a dominant role in environmental protection throughout the country. The following issues will be important to address in the coming years as part of further efforts to support the process of decentralization and to strengthen the capacity of state and municipal governments:

*Jurisdictional Authorities:*

- What mechanisms should be used for resolving or clarifying questions about the scope and limits of federal, state and municipal authority over general subject matters, and with respect to particular cases?
- Since some matters will involve activities regulated by more than one level of government, how can federal, state and municipal officials coordinate their actions to ensure an effective and efficient regulatory approach?

*Regulatory Programs:*

- How can states and municipal agencies use the authorities provided in the State Ecology Laws to develop innovative programs for achieving the broad objectives of the legislation?
- What further regulatory guidance is needed at the state and municipal agencies in order to provide the clarity, predictability and finality necessary for states to take effective administrative actions -- from permitting and monitoring to enforcement and public participation?

*Resource Allocation:*

- Given the current system for allocating funds for local environmental protection activities, how can state and municipal environmental agencies secure adequate financial, human and technical resources for their expanded roles in this area?
- What is the role of the federal government in providing financial and technical support to local programs?

## **THE ENVIRONMENTAL LAW INSTITUTE**

**For a quarter century, the Environmental Law Institute has played a pivotal role in shaping the fields of environmental law, management, and policy domestically and abroad. Today, ELI is an internationally recognized, independent research and education center.**

**Through its information services, training courses and seminars, research programs, and policy recommendations, the Institute activates a broad constituency of environmental professionals in government, industry, the private bar, public interest groups, and academia. Central to ELI's mission is convening this diverse constituency to work cooperatively in developing effective solutions to pressing environmental problems.**

**The Institute is governed by a board of directors who represent a balanced mix of leaders within the environmental profession. Support for the Institute comes from individuals, foundations, government, corporations, law firms, and other sources.**



**ENVIRONMENTAL  
LAW • INSTITUTE®**

**1616 P Street, N.W., Suite 200  
Washington, D.C. 20036  
Telephone: (202) 939-3800  
Fax: (202) 939-3868**

**E-mail: [law@eli.org](mailto:law@eli.org) • Web site: [www.eli.org](http://www.eli.org)**