

# **BUILDING ON THE BLUEPRINT:**

## **How Virginia's Communities are Implementing Sustainable Development**

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*"Then I say, the earth belongs to each...generation during its course, fully and in its own right. The second generation receives it clear of the debts and encumbrances, the third of the second, and so on. For if the first could charge it with a debt, then the earth would belong to the dead and not to the living generation. Then, no generation can contract debts greater than may be paid during the course of its own existence..."*

Thomas Jefferson to James Madison, September 6, 1789

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*Building on the Blueprint: How Virginia's Communities are Implementing Sustainable Development*

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# Implementing Sustainable Development in Virginia

With the passage of Joint Resolution No. 653 in February 1993, the Virginia House of Delegates called for state and local governments and private citizens to prepare a strategy for achieving sustainable development. This commitment built upon the promise of environmental protection stated in Article XI of Virginia's Constitution:

To the end that the people shall have clean air, pure water, and the use and enjoyment of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands and its historical sites and buildings. Further, it shall be the Commonwealth's policy to protect its atmosphere, lands and waters from pollution, impairment or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.

In 1994, the House of Delegates passed Joint Resolution No. 291 establishing a Task Force on Sustainable Development to "develop a statewide strategic plan for sustainable development, and recommend appropriate actions which state and local governments, citizen groups, and nonprofit organizations, especially in rural areas of the Commonwealth, might consider for implementation." Also in 1994, the Environmental Law Institute (ELI) published the Blueprint for Sustainable Development of Virginia: How Virginia's Citizens, Economy and Natural Resources Can Thrive in the Future, which recommended specific actions that could be taken by Virginia communities to achieve sustainability.

This report now provides a follow-up to the Blueprint and reviews the status of various community efforts throughout the Commonwealth to protect natural resources and enhance both economic health and quality of life. Unfortunately, the Virginia Task Force on Sustainable Development concluded its deliberations without making any recommendations about how the Commonwealth can implement sustainable development. Nevertheless, a number of sustainability projects are already under way in Virginia. They may enable their respective communities to achieve the goal of sustainable development; and they can serve as models for other Virginia towns, cities, and counties that may seek to pursue that same goal.

Throughout the Commonwealth, a number of individuals, organizations, agencies and communities are pursuing sustainable development. Some do so explicitly, while others employ the concept indirectly as they are accomplishing particular projects. Some efforts focus on one sector, such as water resources. Others seek to change the culture of decisionmaking, planning, and policy formulation through more comprehensive sustainable development initiatives. Many efforts involve public/private partnerships, recognizing that these costly and complex problems require the resources of both sectors. Despite the lack of a coordinated statewide strategy, these grassroots efforts demonstrate that many Virginia

communities are answering the House of Delegates' call in 1993 "to work together to prepare a Virginia strategy for sustainable development, to serve as a national model for widespread emulation."

Achieving a sustainable level of development in Virginia is a difficult challenge. It is still too early to determine whether or not the endeavors described here are correcting fundamental social, economic, and environmental problems which are obstacles to sustainability, as described in the Blueprint. Many of the current sustainable development initiatives in the Commonwealth acknowledge that a cultural shift in thought and action will be required to implement sustainability. Some Virginia communities are struggling with the responsibilities that sustainable development imposes. For example, a group of homebuilders involved in a community planning process wanted to know if agreeing to engage in sustainable activities required them to ensure reforestation of the site from where they imported their lumber. In other situations, similar discussions about achieving sustainability can quickly become rather complicated. When considering solutions that will correct simultaneously social, economic, *and* environmental problems, sectoral interests can clash all too easily.

"Sustainability is a term that encompasses a new approach for the way we live."<sup>1</sup> Virginia's citizens need to understand these differences in order to learn how to adopt this new approach in their own communities throughout the Commonwealth. The projects reviewed in this report are examples of the sustainable development efforts now under way in Virginia. The summaries highlight the organizational structure, activities, and accomplishments of each project. Through this report, ELI seeks to disseminate information about implementation of sustainable development in Virginia and to provide useful information which will demonstrate the concept of sustainability in a number of very concrete ways. ELI hopes that this report will enable more Virginia communities to launch similar sustainable development initiatives across the Commonwealth.

### **Endnote**

1. Interview with Richard Collins of the University of Virginia's Institute for Environmental Negotiation, December 19, 1995.

# Northampton County Sustainable Development Initiative

Communities on Virginia's Eastern Shore are involved in initiatives to build a strong and lasting economy by protecting and investing in its natural and human assets. Northampton County leads this effort to build sustainable industries, protect resources, and foster a sense of community ownership.

## STRUCTURE

On September 13, 1993, the Northampton County Board of Supervisors appointed a Sustainable Development Task Force to spearhead a Sustainable Development Initiative. The Initiative focused on the need to reduce the peninsula's poverty and the need to coordinate environmental protection with community strengthening. The Task Force seeks to achieve consensus for implementing action plans designed to achieve stated goals.

All sectors of the community are involved including religious, educational, business, and environmental interests. The County's full-time Director of Sustainable Development coordinates the Task Force and organizes projects. He receives administrative help from one full-time equivalent staff person and many volunteers.

Northampton County received a grant in 1992 from the Virginia Coastal Resources Management Program and the National Oceanic and Atmospheric Administration (NOAA). This grant partially supports the County's Special Area Management Plan, which in turn finances the County's Sustainable Development Initiative through 1996. State and federal funds sustain the rest of the program.

## ACTIVITIES

The Sustainable Development Task Force published "The Sustainable Development Action Strategy for Northampton County, Virginia" in June 1994, which outlines objectives and strategies for developing industry as the County's first step in its sustainable development efforts. The Board of Supervisors adopted the Strategy as official county policy on the report's release date. The County considers this document to be the basis of its economic development policies and coordinates the objectives of the Strategy with longer term visions like the comprehensive plan.

To implement the Strategy, the Sustainable Development Task Force created six subcommittees to address development and asset protection issues: Agriculture, Seafood/Aquaculture, Heritage Tourism, Arts/Crafts/Local Products, Research/Education, and New Industry. Through these subcommittees, Northampton County involves local

residents and encourages them to participate in local decisionmaking. Currently, the County is completing its planning phase and moving into the implementation of projects that will meet the Strategy's objectives.

The President's Council on Sustainable Development selected the Port of Cape Charles in Northampton County as one of four sites in the U.S. for an Eco-Industrial Park demonstration project. This Sustainable Technologies Industrial Park will feature facilities that incorporate resource efficiency and pollution prevention. One future tenant, Solar Building Systems Inc., has already committed to the park and will build a facility for assembling solar cells into photovoltaic panels. At the entrance of the park, fifty-five acres of the project site comprise an EPA Brownfields Pilot project which will remedy possible hazardous substance contamination. Upon completion of assessment, remediation, and construction phases, the Port will host the park, restored wetlands, a nature trail, an environmental education facility and a tertiary sewage treatment system. Other entities providing support to the park include the U.S. Department of Agriculture, U.S. Department of Commerce, Virginia Department of Transportation, and Northampton County.

Development of a Heritage Trail also continues. It will link the natural and cultural resources throughout the Eastern Shore via a series of trails and historic sites. Through this project, the County hopes to increase public understanding of the region's resources, secure their long term protection, and develop a sound economic base. The local Chamber of Commerce sponsored the third annual Eastern Shore Birding Festival in 1995 through the Initiative's efforts. With its involvement in this event, the Chamber of Commerce has become one of the major supporters in the County for habitat protection. Private investment and government cooperation have strengthened the local aquaculture industry from sales of less than \$1 million in 1991 to projected sales of \$5 million in 1995.

In 1996, the Initiative will pursue further economic development and job creation by helping to start a food processing company for the region's agriculture and seafood industries. With its emphasis on protecting the raw materials of local industry, Northampton County aims to improve quality of life by growing an environmentally sound, vital economy. (For other sustainable development efforts on the Eastern Shore, see Virginia Coast Reserve.)

***For more information, contact:*** Timothy E. Hayes, Director of Sustainable Development, County of Northampton; P.O. Box 538, Eastville, VA 23347; 804-678-0477.



# Virginia Coast Reserve

The Nature Conservancy (TNC) manages the Virginia Coast Reserve on Virginia's Eastern Shore. TNC began to take protective measures on Virginia's barrier islands in the early 1970s when development pressures there threatened some of the last remaining parcels of eastern coastal wilderness. Eventually, the project evolved to incorporate studies for sustaining the livelihoods of local residents. In 1979, the Virginia Coast Reserve received the designation of World Biosphere Reserve by the United Nations in acknowledgement of TNC's efforts to provide a model for environmental protection and non-destructive human habitation.

## STRUCTURE

Today, all or part of 14 barrier islands have been acquired by TNC to form the Virginia Coast Reserve. The Reserve also protects some marsh and mainland sites. It spans both Accomack and Northampton Counties. The Brownsville Farm near Nassawadox serves as Reserve headquarters. The Director of the Virginia Coast Reserve oversees a full-time staff of ten which is responsible for all of the Reserve's operations. The Reserve functions as a project of TNC's national office; it is not under the jurisdiction of a particular state or regional office. The Reserve receives funds through TNC chapter membership as well as grants and contributions from foundations and corporations.

## ACTIVITIES

The core area of the Reserve, the barrier islands and estuary, remains a natural protected area. Low-impact, traditional economic activities, such as fishing and farming, occur in the adjoining buffer zone. Throughout the surrounding area, TNC engages the local population in thinking about building and sustaining a productive economic base. TNC also conducts long-term research throughout the Reserve to monitor environmental changes, study the natural systems, and evaluate human influences and land-use practices.

Much of the work at the Virginia Coast Reserve centers on TNC's partnerships with numerous local landowners, businesses, public agencies, non-profit organizations, and EPA. Local business people and conservationists join in community organizing and projects on economic vitality, natural resource preservation, and quality of life improvement. Through the Northampton Housing Trust, TNC aids the elimination of substandard housing and creation of affordable housing. A partnership between TNC, federal and state agencies, and the Center for Conservation for Conservation Biology at the College of William and Mary launched the Barrier Island Avian Partnership (BIAP) in July 1995. They produced a Draft Conservation Action Plan for Virginia barrier island bird communities facing predation and habitat loss. Among its many Reserve endeavors, TNC has established the for-profit Virginia

Eastern Shore Corporation which functions as a holding company with three operating entities: Eastern Shore Products; Eastern Shore Venture Fund; and Eastern Shore Lands. The Reserve also assists Old Dominion's Entrepreneurial Center with developing business plans for community ventures, and TNC has joined efforts with the University of Virginia to establish a Long-Term Ecological Research (LTER) Program for the Reserve with funds from the National Science Foundation.

Even with concerted efforts to implement fully the Reserve's operations, development issues still concern TNC staff because of their threats to water quality. Protecting water quality on the mainland as well as between it and the islands continues to be a challenge to maintaining the Reserve's integrity. Because sustainable development cannot be achieved simply by land acquisition for ecological protection, sustainability needs to be considered in public and private decisions on every aspect of the Reserve, and its status as a bioserve requires Reserve staff to consider the livelihood needs of local residents as well as environmental protection. (For other activities on the Eastern Shore, see Northampton County Sustainable Development Initiative.)

***For more information, contact:*** Virginia Coast Reserve, P.O. Box 158, Nassawadox, VA 23413; 804-442-3049.

# **Chesterfield County's Riverfront Project**

Chesterfield County adjoins both the Appomattox and James Rivers and is home to industry as well as several environmental and historic resources. Due to its proximity to Richmond, the County will probably experience major growth in the next decade. To prepare for this situation, the Board of Supervisors and Planning Commission of Chesterfield County initiated the Riverfront Project to create and implement a common vision for the protection and development of the County's riverfront along the two rivers. A number of interested parties are working together to develop a riverfront plan and implementation strategy for pursuing appropriate industrial and residential development while preserving vistas and environmental integrity and allowing public access at key locations.

## **STRUCTURE**

The Riverfront Project Committee was appointed in the fall of 1994, and then helped to select a consultant team to perform a detailed study of the river and adjacent lands. Groups of interested stakeholders will work closely with County personnel to formulate recommendations for the plan. Several County staff members work on the Riverfront Project; one devotes most of her time to it. Three consultants were hired to help with studies. The Board of Supervisors and Planning Commission eventually will adopt and help implement the plan through future investment decisions. Funding is provided by the Board of Supervisors, federal block grant funds, and donations from ten corporations located in Chesterfield County.

## **ACTIVITIES**

In the winter of 1995, background planning information was collected. On June 6, 1995, the first public workshop was held to present the project to the public and discuss initial findings of research on the visual, economic, environmental, historic, and infrastructure aspects of the riverfront. Consultant team members spent the summer of 1995 studying the Appomattox and James Rivers and the county lands associated with them. On October 10, 1995, they held a second public workshop to present the results of seven studies: Visual Analysis; Transportation and Utilities Infrastructure; Economic Market Findings and Demand Potential; Land Use and Zoning; Environmentally Sensitive Lands; Recreation Resources; and Historic Resources as well as draft planning concepts. Through its "River Currents" newsletter, the Planning Department has kept the public informed about the progress of the project.

Currently, those involved with the project are analyzing the studies to devise implementation projects and long range recommendations. On March 12, 1996, the Committee recommended a comprehensive plan, with ideas for implementation, to the public. It will be submitted to the Chesterfield County Planning Commission and the Board of Supervisors for approval later in the spring of 1996. A non-profit group will be formed to implement the plan once approved.

This project is the first time the County Planning Department has studied details of the riverfront; previous plans had simply used the river as the edge of the area under review. One project representative noted the interesting ideas sustainable development raises for local planners, most especially how to design development that lasts and instills a sense of community in the local population. In short, the Chesterfield County staffer says, "We are trying to think about how to design the communities of today so we don't have the ghettos of tomorrow." (For an affiliated organization, see James River Association and James River Task Force.)

***For more information, contact:*** Susan McGarry, Riverfront Plan Manager; Chesterfield County Planning Department, P.O. Box 40, Chesterfield, VA 23832; 804-748-1086.

# **Heritage Gardens Foundation, Inc.**

The Heritage Gardens will be an educational and recreational public garden in the city of Hopewell.

## **STRUCTURE**

A citizen proposed the idea for the Heritage Gardens in 1992 in response to the city's condemnation of a deteriorated property near her home. In considering the future of this land, she envisioned community gardening and her proposal was received favorably by the city. The Heritage Gardens Foundation formed in March 1993 after the city of Hopewell permitted the project to use the site. The land is leased free of charge from the city for 39 years. Every three years, the Foundation must obtain the City Council's approval of planned activities at the Gardens.

Brenda Harrup, President of the Heritage Gardens Foundation and its founder, administers the Gardens in conjunction with the Foundation's Budget and Finance Committee. Sixteen people sit on the Board of Directors and about 80 members have contributed funding. Besides memberships, the project has received funds from the community in the form of honorariums, memorials, in-kind support, and brass plaque sales. The foundation also has received grants from the Virginia Environmental Endowment, Allied-Signal Corp., and Hopewell Manufacturers, as well as a community development block grant from the federal Department of Housing and Urban Development. Future progress depends on raising further funds.

## **ACTIVITIES**

At present, the Gardens' infrastructure is under construction. Phase I is construction of an outdoor environmental classroom which will serve as a multi-purpose facility and as a bandstand for community entertainment. Gardens will be installed beginning in spring 1996 and will include eleven individual gardens as well as a nature trail. Public education at the Gardens will teach the community about horticulture and conservation through programs concerning air and water quality, pesticide usage, organic gardening, recycling, and composting. The Heritage Gardens are so named because the project developers believe that they are providing an environmental heritage to their children.

Although still in its initial stage, this grassroots effort has received national attention. Two local citizens, who are now the president and vice president of the Foundation, galvanized support with their determination to address community deterioration even though

they had no political nor administrative experience. They see this effort as an opportunity to give back to their community what they learned about gardening through the Virginia Cooperative Extension.

President Harrup cautions that each community will face its own challenges in trying to achieve something like this, but individuals can make a difference. She advises those who might plan similar projects to solicit community support, read everything about the subject, and realize that there are unknowns. In short, she asserts, "If you believe in your project hard enough, it is worth it."

***For more information, contact:*** Brenda Harrup, President, Heritage Gardens Foundation, Inc.; P.O. Box 843, Hopewell, VA 23860; 804-458-1892.

# James River Association

The James River Association promotes conservation of the natural and historic resources in the James River watershed. The Association encourages low impact land-use policies along the River and environmentally responsible practices by all the River's agricultural, industrial, and recreational users. With the goal of protecting the integrity of aquatic life and water quality of the James River, the Association seeks to increase public awareness about the River's importance.

## STRUCTURE

Citizens concerned about growth pressures from the Richmond and Hampton Roads metropolitan areas formed the Lower James River Association in 1976. The founders hoped to gain a voice in the land-use and water quality decision-making processes. They wanted the River to be considered a common resource which required regional planning so that development would not destroy the River's watershed. The Association merged with Friends of the James and became the James River Association on January 1, 1995. A two-person staff directs the activities of the James River Association. A 30-member Board of Directors and its Executive Committee set the organization's agenda. An annual membership meeting provides activity updates, financial information, and special keynote addresses to over 1400 James River Association members. Contributions from members, as well as government and private grants, finance this non-profit citizens' organization.

## ACTIVITIES

The merger of the two organizations has allowed both continuation and expansion of activities. The Association conducts various river studies, seminars, and educational projects. It reviews legislation before the Virginia General Assembly to ensure that water quality standards are protected. In May 1995, it co-sponsored "The Future of the James River" workshop in Richmond to discuss watershed planning, heritage tourism, and sustainable development for waterfront communities.

The goal of the James River Fish Restoration Project is to reopen the River to migratory fish and enhance its fisheries. For the first time in almost 200 years, fish will be able to reach spawning grounds via vertical slot fishways constructed at five dams along the River in the spring of 1996. The last passage should be completed in 1996. Funded by EPA, the project also supports restocking efforts to augment the number of fish swimming upriver. Another project supports ongoing research of the success of fish restocking efforts in the River.

The Association continues to sponsor "Discover Your James River Days," begun first by Friends of the James River. The summer series of outings, children's programs, fishing tournaments, tours of water treatment plants, and educational events serves to increase public awareness about the River. The Association also sponsors an annual river cleanup day in June.

The Association publishes a quarterly newsletter entitled "Tidings" that covers its activities and issues concerning water quality, land use, historic resources, and archaeological sites. In addition, it has produced two videos. One is a general educational video called "Reflections on the James," and the other explains watershed management planning and sustainable development. Other publications include: "Lower James River Corridor Study" (1988); "Lower James Watershed Management Plan" (1991); a Historic Landmarks brochure; and a brochure entitled "An Action Plan for Sustainable Development," which suggests an integrated approach to development involving state and local government, landowners, and developers.

The James River Association seeks ways to preserve the River while accommodating present and future human activities along it. The Association finds that it must concentrate some effort on educating the public about the reality behind the concepts of sustainable development and regional planning. (For other James River projects, see James River Task Force and Richmond Riverfront Development Corporation.)

***For more information, contact:*** Patricia Jackson, Executive Director; P.O. Box 110, Richmond, VA 23218; 804-730-2898.



# James River Task Force

As the James River passes through Richmond, it is heavily used by industry and ocean-going vessels. The James River Task Force works to balance the interests of all stakeholders while promoting the protection and responsible use of the River.

## STRUCTURE

The Task Force was established by elected officials from the Richmond metropolitan area at a summit meeting in 1993. One representative each from Chesterfield, Henrico, Hanover Counties and the city of Richmond make up the Task Force. They consider planning options for long range orderly growth and appropriate economic development along the James River. They seek to promote tourism and recreational use, encourage public access, and preserve the historical aspect of the River. The Task Force appointed a 25 member Advisory Board composed of River stakeholders, including developers, private property owners, large industry, and those concerned about recreational or historical aspects of the waterway. The Board meets four times a year. The projects are mostly self-funded or grants are sought for specific endeavors. Chesterfield County pays the Executive Director's salary.

## ACTIVITIES

The Task Force designs activities to call attention to the James River and educate the public about its importance. The Advisory Board's first goal was to do something every month to focus on the River, and it has done so with both large and small projects. Among its preliminary efforts were the James River Parade of Lights in support of promoting the River as a regional tourist attraction. The Task Force sponsors James River Days in June of each year in the Richmond metropolitan area. It is usually a three day event to raise public awareness -- including fishing tournaments, raft trips, and symposiums -- but it will be extended to a month of activities in 1996 following the General Assembly's proclamation that June is James River Month. The Assembly recognized the Task Force and Advisory Board with a commendation. Through affiliation with other organizations, the Task Force also encourages regional planning activities.

The organization is beginning to consider long range goals. A group of stakeholders compiled a varied list of recommended activities for the Task Force. The Task Force opens lines of communication among parties for discussion about how to better use the River. The challenges that the Task Force faces include conveying its mission to the public, achieving cooperation among the municipalities involved, and obtaining funds to implement specific projects. In the words of the Executive Director, "We think we have a wonderful resource here and we don't want to waste it." (For affiliated organizations, see Chesterfield County Riverfront Project and James River Association.)

***For more information, contact:*** Pauline A. Mitchell, Executive Director, James River Task Force; P.O. Box 297, Chesterfield, VA 23832; 804-768-7252.

# **Richmond Riverfront Development Corporation**

The Richmond Riverfront Development Corporation (RRDC) coordinates redevelopment of the city's downtown riverfront area and canal system and will execute a long-term development and funding plan for achieving the fullest potential of the area.

## **STRUCTURE**

RRDC was created in 1991 as a non-profit public/private venture between the city of Richmond and various private riverfront property owners. Five private corporate landholders -- Dominion Lands, Inc.; Ethyl Corporation; Lady Byrd Co., L.C.; Norfolk Southern Corporation; and Reynolds Metals Company -- joined state and city officials in planning this effort, donating land to the city for public use, and furnishing funds to the development project. Richmond contributes operating funds earmarked for economic development efforts. This project combines the city's redevelopment policies and long-term investment efforts with private investment and landowner agreements in order to achieve directed development along the riverfront. RRDC has a two-person staff. The Board of Directors includes representatives from the participating businesses as well as local officials.

## **ACTIVITIES**

RRDC aims to link the riverfront with downtown, encourage new investment and business in the area, and preserve the historic and environmental aspects of the city's James River frontage. The endeavor encompasses the redevelopment of walkways and canals, the construction of terraces and plazas, and the construction of a sewer along one mile of the James River. Crews broke ground on about 35 acres of riverfront property in the fall of 1995. The historic Kanawha and Haxall towpath canal system will be refurbished. The canal restoration and public improvements, including an eight acre public park, will be integrated with installation of a combined sewer overflow system meant to protect the James River from untreated sanitary and storm sewer discharges during heavy rain storms. The private partners have committed to coordinating their riverfront development and following guidelines that focus on high quality redevelopment and pedestrian-oriented traffic. The city's project is scheduled to be completed in 1998, and the private development will continue until 2008. RRDC estimates that redevelopment will spur over \$450 million in commercial and residential development of approximately 3 million square feet of mixed-use commercial space over the next 12 to 14 years. It will generate \$9 to \$10 million new tax revenues annually, as well as 6,000 retained and new jobs.

The redevelopment of the riverfront canal corridor comprises an unique approach insofar as it involves negotiating the redevelopment of underutilized or abandoned industrial land. Trying to redevelop an historically industrial riverfront area in an economically and environmentally sound manner constitutes a significant challenge. The effort has overcome a number of other challenges, not least of which was bringing together the various property owners. The approval process for implementation has presented many difficulties. Due to constraints on public funding, finances remain an issue. Upon completion, RRDC will establish a management company that will treat the canal corridor and public spaces as a special service district. The management company will operate as long as the property has needs beyond those that city services supply. RRDC will continue to function, but as the project builds out, its role will diminish.

***For more information, contact:*** Marc Hirth, RRDC Executive Director, 600 E. Broad St., Suite 960, Richmond, Virginia 23219; 804-648-6549.

# Virginia Cooperative Extension

Located at Virginia State University in Petersburg, the Virginia Cooperative Extension strengthens local agriculture through rural economic development, stewardship, and education programs. As farm profits continue to decrease, the Cooperative Extension aims to supplement or replace income from traditional crops and livestock. The Cooperative Extension serves the entire state of Virginia and tailors its projects according to farmers' specific regional needs.

## ACTIVITIES

The Virginia Cooperative Extension searches for, and provides information on, alternative agricultural enterprises to help Virginia's farmers augment their income. Among its 300 options are ostriches, emus, pick your own strawberries, bean sprouts, cut flowers, and nursery crops. The Cooperative Extension also sponsors the Virginia Sustainable Agriculture Conference, attended by 500 organic farmers, to teach farmers about minimizing use of fertilizers and pesticides, integrated pest management, field rotation, legume planting for nutrient restoration, and community outreach. It conducts demonstrations of organic farming during field days.

The Cooperative Extension encourages Virginia's eastern farms to grow English holly for Christmas berry sprays, which can add \$2,000-3,000 extra dollars per year to a farmer's income. The holly can be grown on marginal land which helps curb soil erosion. In the coal mining area of southwestern Virginia, a home-based cottage industry for everlasting flowers is one of the Cooperative Extension's rural economic development programs. The project, begun in 1989 with a Tennessee Valley Authority grant, teaches 60 families how to grow, cut, and dry flowers in existing buildings. They also learn how to make dried flower arrangements and sell them. They market their products as ecotourism; tourists seek homemade crafts, cut flowers, sorghum molasses, apples, and pumpkins from rural towns. Increases in annual income range from \$400 to \$4,000. These programs increase agricultural diversification and decrease farmers' dependence on increasingly non-profitable crops like tobacco.

Over 200 hundred people participate in a program to add value to woodland products. Traditional uses of woodlands include hunting and harvesting firewood. The Extension also increases woodland values by encouraging the cultivation of medicinal herbs, or the harvesting of wild varieties, like American Ginseng and Golden Seal, which sell at high prices. The Community Sustainable Agriculture project promotes growing foods for local consumption. Farmers sell memberships in their farms and consumer families gain the privilege of receiving produce all season. Depending on the agreement, consumers may contribute labor. Through its efforts to diversify agricultural activity among small farmers,

the Cooperative Extension labors to keep agricultural land in productive use. Its education efforts not only strengthen local economies, but also augment environmental protection by encouraging methods which will decrease soil erosion and chemical usage. (For a project the Extension has assisted, see Farmer's Market Nutrition Program.)

***For more information, contact:*** Andy Hankins, Extension Specialist- Alternative Agriculture, Virginia Cooperative Extension; P.O. Box 9081, Virginia State University, Petersburg, VA 23806; 804-524-5962.

# Energy Project of the Southern Environmental Law Center

The Energy Project of the Southern Environmental Law Center is one of the few entities in Virginia focused on energy issues. The Project emphasizes the need for energy efficiency and renewable energy in policy and regulatory decisions. In addition, it encourages utility commissions to consider the environmental impacts of their decisions and conducts public outreach and education.

## STRUCTURE

The Southern Environmental Law Center is a non-profit law firm founded in 1986. Eight attorneys staff its Charlottesville office and four work in Chapel Hill, North Carolina. SELC covers a six state region: Virginia, North Carolina, South Carolina, Georgia, Tennessee, and Alabama. SELC works on energy, air and water pollution, coasts and wetlands, public lands, and some land-use/sprawl issues. It provides free legal services to other environmental groups, most of which are small non-profit organizations, and performs some work in the legislative arena as well. SELC's funding comes from its membership, foundations, and other private donors.

## ACTIVITIES

SELC's Energy Project began in 1991 in response to the serious regional environmental problems caused by energy production and consumption. The Energy Project participated in the Virginia Energy Coalition which was convened in 1991 by a group of environmental, health, and consumer organizations to address concerns over planned power plant construction and worsening air pollution problems in Virginia. In December 1992, the Coalition produced "Energy 2000: A Blueprint for an Energy Efficient Virginia," which mapped out energy reform proposals for the state. Since completion of the report, some members hold *ad hoc* meetings and exchange information.

The Energy Project continues to push for sustainable energy policy. It encourages regulatory reform for utilities, demand-side management, and energy efficiency through intervention in State Corporation Commission proceedings. Sometimes the SELC represents other environmental groups before the SCC. The Energy Project conducts outreach programs to other groups as well. Often, Energy Project cases dovetail with SELC's air pollution program due to the serious air quality impacts of Virginia's electricity generation.

Increasingly, Virginia's utilities are aware of, and receptive to, the need to consider the environmental and economic impacts of wasteful energy consumption. Although Virginia's utilities are conducting several pilot projects to study various energy efficiency and demand-side management options, the Energy Project advocates implementing stronger

programs. Unfortunately, the current uncertain regulatory environment makes utilities adopt a short-term focus to keep rates as low as possible and causes them to overlook the long-term economic and environmental impacts of their decisions. The current rate of energy consumption in Virginia is not sustainable. It continues to grow both faster than the national average and faster than the state's population increase.

***For more information, contact:*** Trip Pollard, Southern Environmental Law Center; 201 West Main Street, Suite 14, Charlottesville, VA 22902-5065; 804-977-4090.



# **Institute for Environmental Negotiation**

University of Virginia's Institute for Environmental Negotiation (IEN) mediates disputes and builds consensus among parties engaged in environmental or land use disputes. IEN offers conflict management services as an alternative to litigation. It endeavors to reduce conflicts by tackling controversies in their early stages. The Center also seeks creative solutions for complex problems through the use of economic incentives.

## **STRUCTURE**

IEN was established within the Department of Urban and Environmental Planning at UVA's School of Architecture in 1981. Three faculty members occupy senior staff positions and graduate students from the department provide assistance on all projects. UVA's Schools of Law, Business, and Engineering and the College of Arts and Sciences cooperate on particular projects. The Virginia Environmental Endowment provided initial financial support. IEN receives university and foundation support, including a grant from the W. Alton Jones Foundation. It supplements this funding with fees for services rendered.

## **ACTIVITIES**

One current project deals with the problem of waste tires. With Virginia's Department of Waste Management, IEN created a group to investigate using the state's existing \$.50 tire tax to fund an incentive for the productive disposal of waste tires. A trust fund created with the tire tax finances payments of \$30 per ton to certified end-users who demonstrate legal end-uses of waste tires -- anything from generating energy to manufacturing playground equipment. Although the program has not yet achieved the highest possible level of re-use, which is reconstitution of tires, the problem of waste tires in Virginia has been alleviated. This approach demonstrates the effectiveness of economic incentives in promoting product stewardship.

Another IEN project encourages tobacco growers to grow economically more viable crops in light of the uncertain future market for tobacco crops brought about by health concerns and global competition. By finding institutional buyers for other crops, like universities that want to purchase locally grown produce, IEN helped to develop a demand for tobacco farmers to grow other crops. By shifting from production of a socially undesirable product to alternative crops, farmers can improve their economic situation and sustainable agricultural enterprises can flourish. Through such projects, IEN has worked to make recommendations on advancing the idea of sustainable economies with a state legislative committee and sustainable agriculture groups.

In addition, IEN coordinates some of the activities that UVA undertakes as part of the university's participation in the Tailloires Declaration. The Declaration created an international secretariat for the purpose of encouraging academic institutions to undertake sustainable activities on their campuses and within their communities. It has five main principles: faculty development, curricular review, research, institutional activity, and community partnership. The presidents of all universities in Virginia have adopted the Declaration. To support its implementation, IEN created a Sustainability Roundtable of faculty and administrators to measure activities and accomplishments towards implementing sustainability. Under the leadership of Dean William McDonough of the School of Architecture, a statewide secretariat for all public and private universities in the Commonwealth is being established at UVA as a means of developing a reporting system and information exchange to support the goals of the Tailloires Declaration.

Two other programs at the University of Virginia explore sustainable development. Dean William McDonough is creating a Center for Sustainable Design which will investigate the subjects of sustainable architecture and planning. Citizens will locate themselves geographically through a watershed initiative. The Center will coordinate efforts with IEN in calling for consensus on such concepts as sustainable design, energy efficiency, and product recyclability. Also, research on the relationship between corporate environmental and financial performance is conducted at the McIntire School of Commerce by Professor Mark White.

***For more information, contact:*** Rich Collins, Director, Institute for Environmental Negotiation; 164 Rugby Road - Peyton House, University of Virginia, Charlottesville, VA 22903; 804-924-1970, 804-924-0231 (fax). Contact Dean McDonough at 804-924-7019. Contact Mark White, Assistant Professor of Commerce, at 804-924-7365.

# **Piedmont Environmental Council**

The Piedmont Environmental Council (PEC) promotes rural preservation and urges decisionmakers to grant the rural economic base just as serious consideration as urbanized areas in land-use planning and zoning matters.

## **STRUCTURE**

The Piedmont Environmental Council was formed in 1972 to protect the rural quality of the Virginia Piedmont and to moderate economic development in order to conserve the quality of the region's air, water, and natural resources. Perceived threats to rural preservation continue to spur PEC's work and sometimes increase donations. PEC covers Clarke, Loudon, Fauquier, Rappahannock, Culpepper, Madison, Orange, Greene, and Albemarle Counties. PEC attracts more area newcomers than traditional farm families to its membership which currently is about 2700 households. Members provide almost all of PEC's financial support; municipalities offer some assistance. Rarely does PEC receive support from state or federal governments or large foundations. PEC's offices in Warrenton and Charlottesville operate with a \$600,000-700,000 annual budget. The full-time equivalent of 10 to 12 staff include planners, lawyers, economists, scientists, and support staff. The Board of Directors consists of 45 people (approximately five people from each of the nine counties, although distribution is not exact) and meets four times per year. A nine person Executive Committee meets between the quarterly board meetings.

## **ACTIVITIES**

The Piedmont Environmental Council addresses a wide range of growth management issues. Its projects encompass land-use and transportation policies, watershed protection, the Chesapeake ecosystem, General Assembly studies on takings and tax systems, local planning issues, and environmental education. PEC works on encouraging in-fill development, halting urban sprawl, and preserving open space.

In 1984, PEC announced the Virginia Piedmont Reserve initiative. The Council aims to create a permanent rural preserve of one million acres by encouraging private landowners to place their land under agricultural and forestal districts and conservation easements voluntarily. By the end of 1994, 80,000 acres were subject to permanent conservation easements and at least 400,000 acres were under short-term, voluntary protection by landowners. At community meetings and small gatherings, PEC staff encourage landowners to implement preservation measures on their own lands. Its efforts to protect large tracts of land are designed to sustain the productivity of rural land, maintain and strengthen the local rural economy, and protect natural resources.

***For more information, contact:*** Christopher Miller, President and CEO, Piedmont Environmental Council; P.O. Box 460, Warrenton, VA 22186; 703-347-2334.

# **Thomas Jefferson Sustainability Council**

The Thomas Jefferson Planning District Commission (PDC) established its Sustainability Council to change the culture of planning in the city of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties. Through sponsorship of various study groups, it aims to engage the public in an assessment of regional capacity to accommodate development that will both strengthen the economy and protect the environment.

## **STRUCTURE**

In 1990, a technical advisory panel of the Thomas Jefferson PDC launched the Thomas Jefferson Study to Preserve and Assess the Regional Environment (TJSPARE) as a vehicle to foster informed decision-making on growth and avert potential problems. The project involves more than one hundred people from policy and science areas in an examination of the different fields and economic sectors that influence sustainable lifestyles. TJSPARE receives local, state, and federal funds. Depending upon funding levels, TJSPARE should be completed at the end of the decade.

In 1994, the Thomas Jefferson PDC appointed 30 people to a Sustainability Council and charged them with a three year mission to define sustainability for the region, identify risks to this sustainability, and develop a sustainability compact, an agreement among regional stakeholders that ensures a viable future. Hundreds of citizens have been involved in fourteen working groups. The U.S. EPA, Albemarle County, and the Thomas Jefferson PDC each provide partial funding for the Sustainability Council. Funds from the Virginia Environmental Endowment and the Federal Highway Administration under the Inter-modal Surface Transportation Efficiency Act (ISTEA) are supporting the Regional Build-Out Analysis, one of TJSPARE's activities.

## **ACTIVITIES**

TJSPARE consists of ten components: Risk Assessment, Regional Build-Out, Economic Development, Urban Assessment, Transportation, Housing, Energy, Education, Environmental Assessment, and Carrying Capacity Analyses. Data will be developed in these areas to aid the city's and counties' policy and planning decisions. In January 1994, the TJSPARE Advisory Panel released a technical blueprint on sustainability, "The Thomas Jefferson Study to Preserve and Assess the Regional Environment: Economic Growth Within the Capacity of the Environment to Support It: A National Demonstration Project."

The Sustainability Council also involved the community in its discussions. After 18 months of meetings, it presented to the public a mission statement, principles, and goals for a sustainable community in June 1995. Two regional forums were held in the spring of 1995 as part of the process for drafting goals and objectives. Five "Wealth Teams" -- based on the area's produced, financial, natural, human, and social wealths -- were created to be consistent with the project's definition of economic quality; they supersede the original 14 working groups.

Currently, the Council is engaged in completing the Regional Build-Out Analysis and developing indicators and benchmarks which will measure progress toward the region's vision as articulated by TJSPARE. A technical charette was held in February 1996 to reconcile the indicators devised by all working groups and to set benchmarks (or targets) for the indicators. Indicator data will be compared against benchmarks and sectoral problems will be identified. Through a Risk Assessment, those problems which cut across environment, economy, and public health sectors will receive priority for community action. Through the *Sustainability Accords of 1997*, the public will have an opportunity to sign this compact and agree to work with others on achieving its principles.

The Thomas Jefferson PDC decided to manage growth before serious economic and environmental crises faced the community. TJSPARE maintains that success in achieving sustainability requires commitment to long-term planning and treating all sectors of the economy and environment as being interconnected. Accordingly, TJSPARE seeks to discover how to achieve economic growth within the carrying capacity of the region's environment.

***For more information, contact:*** Mike C. Collins, Project Director, Thomas Jefferson PDC; 300 East Main Street, P.O. Box 1505, Charlottesville, VA 22902-1505; 804-979-7310.

## Virginia Railway Express

The Virginia Railway Express (VRE) provides commuter trains between Fredericksburg and Manassas and Washington D.C. VRE aims to lure customers out of their cars. Ridership, measured in daily one-way trips, approximates 8,000 people or about 4,000 round-trip passengers. VRE may alleviate traffic congestion and air pollution problems, but it also may add to development pressures in rural areas served by the train lines.

### STRUCTURE

In 1984, VRE was established by the Northern Virginia Transportation Commission (NVTC), with help from the Washington Area Council of Governments, after it accepted a state-sponsored commuter rail feasibility study. Federal funding supported the initial efforts. 1986 state legislation created the Potomac and Rappahannock Transportation Commission and set up a motor fuels tax to finance the project. The Virginia Department of Rail and Public Transportation provided money and technical expertise for project implementation. The first VRE train rolled in the summer of 1992.

The Northern Virginia Transportation Commission and the Potomac and Rappahannock Transportation Commission jointly own VRE. Each commission has a Board of Directors to make major decisions. A joint committee of the two commissions, the Virginia Railway Express Operating Board, meets once a month to address operational and management concerns. The two commissions' primary role is to finance capital construction. A VRE staff of 12 operate the commuter rail, collect revenue, and maintain stations. At present, eighteen stations service northern Virginia. VRE owns its own cars, but has contracts with Amtrak for operations staff and maintenance. VRE leases tracks from CSX, Conrail, and Norfolk Southern, but must compete for track time with freight rail service. In addition, VRE leases access to Union Station in Washington, D.C. from the Washington Union Terminal Corporation, a subsidiary of Amtrak.

Passenger fares cover 50 percent of VRE's operating costs. Fares have increased annually. Local governments fund the other half of operating costs as well as capital costs based on each locality's population and share of ridership. Virginia provides funding through the motor fuels tax and the general fund. Recently, VRE received federal funds for capital costs such as station construction. VRE involves the public through hearings on proposed schedule and fare changes.

## ACTIVITIES

VRE provides one-way service for morning and evening commuters hours plus late night service Monday through Friday. VRE runs mid-day service to Manassas while Amtrak runs mid-day service to Fredericksburg. VRE operates 30 one-way daily trains. In addition, VRE ticket holders may take one of nine Amtrak trains along the same route.

With its current number of riders, VRE estimates that the commuter rail relieves the equivalent of one highway lane of congestion during peak hours. This decrease in auto traffic reduces air pollution problems, but the diesel trains still produce exhaust. VRE trains are already very crowded, so costs and capacity are current challenges. VRE administration asserts that the costs of VRE are less than what the state would have to incur to meet future transportation infrastructure demands if VRE riders traveled on highways.

While the VRE improves air quality by reducing vehicle miles traveled and, therefore, reduces automobile emissions, it also encourages urban sprawl. A substantial number of people cite VRE as a reason for moving farther away from the urban core. Manassas and Fredericksburg are 35 miles and 55 miles, respectively, from Washington D.C. Some daily commuters drive to these outlying stations from Virginia communities even farther away. While VRE reduces air pollution and highway demands, it indirectly encourages bedroom communities rather than promoting cluster development and urban redevelopment which are more sustainable. The Northern Virginia Planning District Commission has prepared a detailed study of VRE, "Impact Assessment of the Virginia Railway Express Commuter Rail on Land Use Development Patterns in Northern Virginia, Baseline Phase 1984-1992" (December 1993).

***For more information, contact:*** Rick Taube, Executive Director, Northern Virginia Transportation Commission; 4350 N. Fairfax Drive, Suite 720, Arlington, VA 22203; 703-524-3322; or: Cory Hill, Executive Assistant to Director of Operations for VRE; 6800 Versar Center Suite 247, Springfield, VA 22151; 703-642-3808.



## **Friends of the North Fork of the Shenandoah River**

The Friends of the North Fork of the Shenandoah River is a group concerned with protecting the water quality and quantity of the North Fork and its watershed. In an effort to safeguard ground and surface water, the organization conducts various programs to monitor and study the watershed as well as to support regulation of drinking water withdrawals, water treatment discharges, and recreational activities on the river.

### **STRUCTURE**

In 1988, two local residents called a meeting out of concern for the water quality of the North Fork. They inspired many area residents to form Friends of the North Fork. The only paid employee is the secretary who assists all projects. Committees manage all projects which are implemented by Friends of the North Fork's 500 members. These committees make decisions that are reviewed by the Executive Committee which, in turn, offers feedback to the committees as warranted. The Board of Directors guides the work of the organization; it has polled the members only once to aid its decisionmaking. Public and private grants, donations, membership dues and community fundraisers finance projects.

### **ACTIVITIES**

Friends of the North Fork work cooperatively with local, state, and federal agencies for the purpose of identifying current and future problems through monitoring and studying the river as well as improving regulations on the topics mentioned above. The organization encourages the Shenandoah County Board of Supervisors to consider the long-term effects of its development and planning decisions upon the local fragile karst topography and water table. Its voluntary monitoring groups analyze water quality through various projects including a cooperative effort with Friends of the Shenandoah River, the North Fork's sister organization. Friends of the North Fork are trying to establish a surface water management area (SWMA) in order to provide those living throughout the North Fork watershed with measurements for minimum stream flow. In 1995, the organization began a cooperative well-testing program in the Holman Creek watershed with the Division of Soil and Water Conservation in Virginia's Department of Conservation and Recreation.

Since the group began its work, Friends of the North Fork have improved the river's water quality, and area residents are more aware of watershed health. County governments are now more willing to engage the Friends of the North Fork in discussions and studies to

supplement the counties' own limited staff and budget. In fact, some of the water quality, groundwater, and well studies conducted by Friends of the North Fork now serve as baselines for data never before collected by government agencies. Nevertheless, citizen apathy still frustrates the efforts of Friends of the North Fork, and they also face a constant challenge from new development that would degrade water quality.

Friends of the North Fork also monitor the comprehensive land-use plan for Shenandoah County and advise government officials, planners, and developers about appropriate action. Future development raises difficult issues because water comprises such a vital and fragile resource for the area. Friends of the North Fork will support only development which protects natural resources. (For information on its sister organization, see Friends of the Shenandoah River.)

***For more information, contact:*** Pat Maier, Secretary; P.O. Box 746, Woodstock, VA 22664; 703-459-8550.

## **Friends of the Shenandoah River**

Friends of the Shenandoah River protects the river by educating the public and by monitoring the river's water quality. Using scientific data and a non-confrontational approach, the organization helps those who might jeopardize the river's health to adopt more protective practices.

### **STRUCTURE**

Friends of the Shenandoah River was organized in 1989 in response to severe PCB contamination of the river by a local rayon plant, which was the latest in a series of pollution problems on the river. Friends of the North Fork of the Shenandoah River supported efforts to form the group and acquire non-profit status. Warren County provided a grant during the organization's early years. Financial support now comes from 300 members, small grants from regional businesses, and grants from the Virginia Environmental Endowment. In 1996, Friends of the Shenandoah River began its first efforts to obtain other foundation support. One part-time lab technician performs water quality analysis. A 21-member Board of Directors meets once a month to handle long-term planning, and an executive board resolves day-to-day issues.

### **ACTIVITIES**

Initially, Friends of the Shenandoah River built a laboratory and monitored water quality along the lower third of the river. Currently, it has a grant to expand volunteer river monitoring and laboratory analysis throughout the Shenandoah River watershed for a long-term assessment of water quality. Shenandoah University provides lab space and scientific advice for this program. The group monitors most of the municipal wastewater treatment plants and industrial outfalls along the river; they also monitor many tributaries in an effort to isolate locations where high levels of pollutants enter the river. Other organizations assist in the monitoring efforts, including Friends of the North Fork, Friends of the North River, Virginia state agencies, and the Izaak Walton League of America. Friends of the Shenandoah River publish their monitoring data once a year. Both the Virginia Water Control Board and the U.S. Geological Survey use the data in their studies of the River.

The organization gives lectures to adult groups and students on the biology of the river, how it becomes polluted, and the consequences of pollution. It also sponsors the annual Shenandoah River Fest, which serves educational and entertainment purposes through canoe races, a water rodeo, a fishing tournament, historical demonstrations, and an informational environmental mall staffed by government agencies and citizens' organizations.

Friends of the Shenandoah engage in some lobbying of the Virginia General Assembly and Congress. Although the current political climate promotes re-evaluation of environmental regulations, they are working to maintain government regulations because they believe that the public wants pollution abatement, clean air, and clean water. (For information on its sister organization, see Friends of the North Fork of the Shenandoah River.)

***For more information, contact:*** President, Friends of the Shenandoah River, P.O. Box 410, Front Royal, VA 22630; 540-636-4948.

# Valley Conservation Council

This regional land-use planning and conservation organization operates in the Shenandoah Valley, covering Frederick, Warren, Page, Shenandoah, Rockingham, Augusta, Rockbridge, Botetourt, Highland, Bath, and Allegheny Counties. The Valley Conservation Council (VCC) encourages private landowners to consider conservation options and advises county governments on viable land-use and development goals in their comprehensive plans. Its goal is to sustain the rural character and cultural heritage of the Valley of Virginia.

## STRUCTURE

Six years ago, the VCC was founded as a private, non-profit organization out of concern for the haphazard growth affecting the economy and natural resources of the Shenandoah Valley. Over 800 members and an active Board of Directors supplement the work of the part-time Executive Director and Office Manager. The Virginia Environmental Endowment, Greenstone Foundation, and Conservation Fund provide funding for specific VCC projects, along with other grants and member contributions.

## ACTIVITIES

VCC concentrates its efforts on educating individual landowners about options for voluntary open space protection. Through the Landowner Outreach Program, VCC volunteers conduct meetings about agricultural and forestal districts and open space easements. Under the name Valley Land Trust, VCC receives gifts of land from individuals who wish to protect their property for natural, historical, or agricultural values. So far, over 8,000 acres have been protected voluntarily, including one agricultural district, eight permanent open space easements, and one wildlife easement. Over 2,000 of these acres are under permanent open space easements.

VCC influences public policy by advising counties in the Valley on their comprehensive plans. VCC members also provide comments to the Valley's Planning District Commissions and planners about the sustainability of their comprehensive plans. VCC studies the Valley's natural and cultural heritage through a variety of projects. The Valley Watershed Protection Project seeks to identify and protect undeveloped lands vital to the Valley's water resources. VCC assisted in the development of a riparian easement to protect land along stream corridors. VCC is proud of its cooperative approach to finding solutions to land-use problems. VCC seeks partnerships with the agricultural community through interaction with the Farm Bureau and Young Farmer Associations. VCC's greatest challenge

remains educating the public and elected officials about the economic, environmental, and aesthetic importance of conserving open space and rural lands.

***For more information, contact:*** Faye Cooper, Executive Director, Valley Conservation Council; P.O. Box 2335, Staunton, VA 24402; 703-886-3541.

# **Appalachian Regional Recycling Consortium**

The Appalachian Regional Recycling Consortium (ARRC) provides a cooperative regional recycling service for 24 counties in southwestern Virginia (Allegheny, Bath, Bland, Botetourt, Buchanan, Carroll, Craig, Dickenson, Floyd, Franklin, Giles, Grayson, Highland, Lee, Montgomery, Patrick, Pulaski, Russell, Scott, Smyth, Tazewell, Washington, Wise, and Wythe), and six cities (Covington, Clifton Forge, Radford, Galax, Bristol, and Norton). ARRC fills the gaps in infrastructure that rural local governments face as they try to reduce their solid waste stream.

## **STRUCTURE**

ARRC was created in February 1992 through an inter-agency agreement between the Lenowisco, Cumberland Plateau, Mount Rogers, New River Valley, Fifth, Central Shenandoah, and West Piedmont Planning District Commissions (PDCs). It was funded initially by the Appalachian Regional Commission (ARC) to serve the counties in the region. Presently, it operates on a \$70,000 annual budget with funds from U.S. EPA Region III, ARC, Virginia Water Project, Virginia Department of Environmental Quality and other agencies.

## **ACTIVITIES**

Rural communities face particular challenges -- low population density, long distance to markets, low or negative value of recovered materials, and lack of regionalization -- in trying to establish recycling programs. ARRC offers a variety of programs to assist communities in the region: recycling services; industrial technical assistance; recycled product development/business assistance; workshops and seminars; educational information; recycling equipment and market information; recycled product sourcing; and regulatory and legislative updates. ARRC recycling programs implement an "integrated systems approach" as a means to achieve environmental protection, economic development, and market expansion for recovered materials in the region.

AARC projects deal with the environmental problems of waste reduction, pollution prevention, resource conservation and recycling while at the same time tackling economic issues such as the creation, retention and expansion of employment opportunities. The Recycling Business Assistance Program (RBAP) promotes markets for using recovered materials and supports development of innovative recycling technologies. The Recycling

Industrial Technical Assistance Program (RITA) encourages local industry to use locally recovered materials and provides waste audit services, pollution prevention information, and technical assistance for process modification and material sourcing. The Regional Equipment Sharing Program/Mobile Tire Shredding Program circulates tire shredding equipment to localities, shreds tires, and provides information on how to use the product. The Southwest Virginia Waste Exchange facilitates the exchange of small quantities of one-time or low market value waste materials and maintains a database of them.

Currently, ARRC is beginning to work with local governments on identifying benchmarks and indicators for local planning processes. It is also helping to organize the sustainability conference for southwestern Virginia (see the description of the New Century Council). Despite its record of productivity, ARRC faces several challenges: meeting the diverse needs of the region; the changing regulatory climate; inflexible bureaucratic structures; and dwindling funding sources.

***For more information, contact:*** Patricia Therrien, Regional Marketing Manager, Appalachian Regional Recycling Consortium; 1612 Wadsworth Street, Radford, VA 24141; 540-639-9314, 540-831-6093 (fax).



# Clinch Powell Sustainable Development Initiative

The Clinch Powell Sustainable Development Initiative (CPSDI) is designed to respond to the region's weak economy, declining job market, and environmental threats. CPSDI aims to improve quality of life and environmental health using values which respect nature, people, community, and culture.

## STRUCTURE

CPSDI encompasses communities in southwestern Virginia (including Lee, Wise, Scott, Dickenson and Russell Counties) and eastern Tennessee within the watersheds of the Clinch and Powell Rivers. Founded in April 1993 by the Coalition for Jobs and the Environment with financial assistance from Virginia's Center on Rural Development, the Initiative originally served as a regional consortium of community organizations, small businesses, and public agencies under the name Clinch Powell Sustainable Development Forum.

With grants from the Appalachian Regional Commission, U.S. Forest Service's Rural Development Program, Jessie Smith Noyes Foundation, Virginia Environmental Endowment, and Virginia's Center on Rural Development, CPSDI hired its first paid staff, a full-time director and a part-time assistant administrator, in October 1995. Staff has been augmented by hiring one contractor each for the Sustainable Wood Products Marketing and the Agriculture Organizing and Outreach projects (see details below). The Wallace Genetic Fund has provided support for demonstration projects and research studies. CPSDI is in the process of pursuing tax-exempt status.

CPSDI does not intend to cultivate a large membership base. Instead, it aims to attract committed organizations and individuals. Members appoint a representative to the CPSDI board which sets policy and governs staff. The current organizational board members are: The Nature Conservancy; People, Inc. Business Start; Cumberland Plateau Planning District; Lonesome Pine Office on Youth; Coalition for Jobs and the Environment; Jubilee Project; Rural Resources; and Appalachian Office of Justice and Peace. CPSDI also has at-large board members so that individuals not affiliated with an organization can become involved.

## ACTIVITIES

The Initiative involves the public through its task forces that endeavor to create jobs, build worker skills, and support ecologically sound businesses. To achieve these goals, seven strategies were outlined in CPSDI's 1994 report: "Sustainable Development for Northeast Tennessee and Southwest Virginia." These are Sustainable Wood Products, Sustainable Agriculture, Nature Tourism, Sustainable Home Construction, Regional Information Bank, Land Resources, and Recycled Materials and Energy Efficient Products. Currently, task forces for the first three strategies are implementing projects, and each has a representative on the CPSDI board.

The Sustainable Wood Products task force is developing markets among regional manufacturers and craftsmen for sustainably-harvested wood products as well as studying possible external markets. CPSDI holds workshops to train loggers about sustainable horse logging and solar kiln processing. The first load of wood dried at the recently constructed solar kiln in Blackmoor has been sold. CPSDI helped a local entrepreneur obtain a portable saw mill and conduct workshops to demonstrate his technique. In 1996, CPSDI will conduct horse logger training, produce an analysis of the region's logging industry, and finalize a certification program for sustainably processed wood.

The Sustainable Agriculture task force expanded its efforts in 1995. Three community supported agriculture projects involving about twelve farmers served 80 households. Marketing efforts of CPSDI's local growers network resulted in agreements to sell locally grown products to restaurants and the Fresh Fields grocery chain. CPSDI plans to research ways to link farmers with food banks and health departments as a way to supply foods to low and moderate income families. Plans are underway to begin a program to develop home-based food processing businesses. As one of its 1996 nature tourism projects, CPSDI will investigate how to link hiking and bicycling activities with tours of local industry like the horse-logging operations.

CPSDI recognizes that the use of sustainable development planning reveals a shift in thinking as much as the implementation of a specific project does. The Initiative is finding that informing the public about the Initiative's efforts still presents a huge challenge. Although the media is sympathetic to CPSDI's objectives, it is difficult to reduce explanations into sound bite language. CPSDI plans to persevere, however, with continuing efforts to educate the public and to lead innovative efforts to create a locally supported, ecologically sensitive, and diversified economy.

***For more information, contact:*** Anthony Flaccavento, Director, Clinch Powell Sustainable Development Initiative; P.O. Box 791, Abingdon, VA 24212; 540-623-1121.

# **Giles County-New River Greenway Project**

The National Committee for the New River, Inc. is developing a canoe trail along 37 miles of the New River in Giles County. Through this project, the National Committee for the New River hopes to involve more people in environmentally sensitive use of the river and thereby increase the number of stakeholders interested in a clean river.

## **STRUCTURE**

The Giles County Greenway began in 1992 with the purpose of assisting a poor rural county to develop an environmentally-sound tourism industry while protecting the riparian corridor of the New River. The National Committee's Virginia office spearheads this process. A local support organization, Partners for the New River, assists in gathering local input and publicizing the effort. The Virginia office would like to involve more recreational user groups in its work. The National Committee for the New River headquarters, located in North Carolina, consists of an executive director, office manager, and part-time staffer; they provide support to the Virginia office. The National Committee, 21 years old, operates as a corporation with a Board of Directors. The National Committee has received most of the Giles County funding from the Virginia Environmental Endowment and the Mary Reynolds Babcock Foundation. In the summer of 1995, the County's largest employer made a donation to the project. Remaining funds come from the National Committee's general fund, which is financed by private foundations and a membership of 900.

## **ACTIVITIES**

The Giles County Greenway Project aims to create a river trail that users will float down, drive along, or visit through access parks. Throughout 1994, community meetings were held to introduce the greenway concept, and planning was completed in the summer of 1995. The National Committee has been working to develop local support for a series of five municipally-owned parks that would serve as access points to the river and trail along this non-traditional greenway. Part of the project is a campaign to encourage local governments and private enterprise to develop eco-tourism opportunities. The National Committee will publish New River Interpretive Trail Guidebooks to promote the river among hikers, canoeists, fishermen, and campers. The National Committee hopes to link the natural, cultural, historical, scenic, and recreational resources in the watershed. To date, the Project has achieved increased usage of the river and greater awareness of the river's tourism

potential. The project will be expanded to the entire New River watershed from West Virginia to North Carolina and will continue for 10 to 15 years.

Beyond limited staff and financial resources, the Giles County-New River Greenway Project has faced many challenges. The local community remained very skeptical of the National Committee as an organization and the "greenways" concept until the organization's goals were explained. Consequently, the Project has invested much effort in gaining the trust of the local landowners. The National Committee found it was important to understand the area, preferably by placing a local resident in a leadership position.

***For more information, contact:*** Van Anderson, Assistant Executive Director, Giles County-New river Greenway; 2807 S. Main, Suite 220, Blacksburg, VA 24060; 540-951-1024.

# **The New Century Council**

Through developing a community vision of the future, the New Century Council is preparing a 20 year blueprint for the Roanoke and New River valleys and the Allegheny highlands. A vision statement created by volunteer citizen committees outlines the goals of the community and a strategic plan for achieving them by the 2015.

## **STRUCTURE**

The Council started its work in the fall of 1993 as citizens realized they wanted to determine the course of the community instead of allowing external economic trends to define their future. The New Century Council operates as a volunteer non-profit corporation with two professional staff and a Board of Directors that makes policy decisions. Representatives from local government agencies, chambers of commerce, Virginia Polytechnic Institute, New River Valley Alliance, Economic Development Partnership of Roanoke Valley, Roanoke Valley Business Council, and Allegheny County participate in the Council's work. The Council began as a public/private partnership with a three year grant from the Commonwealth for research and support services during the visioning phase. Private donations also were contributed for the Council and will constitute a higher proportion of its funding in the future.

## **ACTIVITIES**

The New Century Council released the "New Century Vision for Western Virginia" on July 31, 1995. A twelve page summary of the statement was distributed throughout the community and covered by the media. It was presented for review and comment to the public through a series of meetings. Organizations become partners with the New Century Council by adopting the seven major declarations from the vision statement. Some organizations have shown an interest in adopting particular strategies.

The Council is in the midst of reorganizing itself and formulating an implementation plan for the vision statement. In 1996, the New Century Council will target over a dozen strategies for action. Activities will occur using the same seven task forces that conducted the visioning process: Education, Quality of Life, Health and Safety, Infrastructure, Economy, Leadership, and Governance. Implementation will take the form of a wide variety of projects from educational incentives to "smart highway" planning.

The Sustainable Development sub-committee of the Quality of Life Task Force is beginning its implementation phase. It plans to set up indicators and benchmarks that will measure environmental, social, and economic trends in the area. The New River Valley PDC, West Piedmont PDC, and the Fifth District Planning Commission (for the Roanoke Valley Area) will assist with implementation and lend some staff time to the New Century Council's efforts. The vision statements from the New Century Council, the New River Valley, and other regional organizations will provide the foundation from which to develop the indicators and benchmarks. The New River PDC is planning a conference, titled "Capturing the Wave: Western Virginia 21st Century Sustainability Conference" in mid-1996 to bring together a broad group of participants for discussion about activities occurring throughout the state and possible implementation of projects for the region.

The New Century Council proposes to engage the community in planning for long-term economic viability while protecting its quality of life. The Council seeks to make the public comfortable with this process of change. (For another project in this region, see Roanoke County 2010 Visioning.)

***For more information, contact:*** Mr. Beverly Fitzpatrick Jr., Executive Director, New Century Council; 10 Franklin Rd, Suite 675, Roanoke, VA 24011; 540-982-3720.

## **Powell River Project**

The coal industry, state and federal agencies, and Virginia Polytechnic Institute are participating in a cooperative research and education project that investigates reclamation techniques for coal mines and productive land uses for reclaimed lands. The Powell River Project operates in the seven coal mining counties of southwestern Virginia: Lee, Scott, Wise, Dickenson, Russell, Buchanan, and Tazewell.

### **STRUCTURE**

The Powell River Project began in 1980 with a broad-based approach to meeting the federal requirements of the Surface Mining Control and Reclamation Act in a cost-effective manner. Since then, it has brought together a host of actors including the Division of Mine Land Reclamation in Virginia's Department of Mines, Minerals, and Energy, federal agencies, multiple departments at Virginia Tech, and various coal companies. Penn Virginia Coal Company has been the primary industry participant. The Project's Board of Directors includes a cross-section of all involved interests. An advisory council and program development committee assist the Board in planning the activities of the Project.

Industry and state agencies provide most of the financial support for the Powell River Project. Virginia Tech also contributes funds. Often, the owner of a property under study gives materials and time. Including research grants to project investigators, the annual program value for the Project approximates \$1 million.

### **ACTIVITIES**

Specific research projects examine a variety of problems for mined lands. Sites are scattered throughout southwestern Virginia, West Virginia, and Kentucky. One project assesses options for installing or restoring water services in the coal producing regions of southwestern Virginia, especially for those remote communities experiencing groundwater supply difficulties. Through soil studies and ground cover seeding experiments, researchers are trying to make reclaimed land as productive as possible for forestry and agriculture.

Policy studies include an evaluation of local economies and forest products manufacturing so as to strengthen local industry to process harvested timber. Research into the ecological function of wetlands on mined lands and experiments with wetland construction for mined land reclamation are intended to benefit water resources and wildlife enhancement. Other studies involve creation of wetlands under the Clean Water Act. Wetland construction also operates as a passive system for acid mine drainage mitigation.

Other research includes reforestation of surface mine lands, coal combustion by-products, encouraging reclamation of abandoned mines through policy, and developing alternative on-site wastewater disposal technologies. An education center occupies a 1700 acre tract in Wise County. Through its education programs, the Powell River Project staff publicizes the findings of its researchers and brings industrial and regulatory interests together.

Overall, the Powell River Project seeks positive solutions for the coal industry and the environment. As research improves the coal industry's ability to comply with regulation and helps to reduce the costs of doing so, better reclamation efforts will benefit the environment. Because coal production probably has passed its peak in Virginia, the efforts of the Powell River Project to find productive uses for land are becoming even more important.

***For more information, contact:*** Jon Rockets, Area Extension Agent-Mined Land Development and Director, Powell River Project Education Center; 1 College Avenue, Wise, VA 24293-4400; 540-328-0162; or Dr. Carl Zipper, Associate Director for Programs, Powell River Project; Virginia Tech, Blacksburg, VA 24061-0404; 540-231-9782.



# Roanoke County 2010 Visioning

Residents of Roanoke County are engaged in a long range strategic planning initiative that will express community values and priorities for quality of life in the County through the year 2010.

## STRUCTURE

In 1994, the Board of Supervisors asked the Planning Department to conduct a visioning process in order to collect citizen input about growth management concerns. Since the county had completed or implemented its large capital projects such as a regional landfill, a storm water detention facility, and a new reservoir, it wanted to reassess community priorities as it prepared to produce its next comprehensive plan.

About 500 citizens have been involved in the visioning process and have maintained a high degree of interest in its completion. The County Board of Supervisors is financing the project. A citizen Steering Committee manages focus groups made up of local residents and makes administrative decisions.

## ACTIVITIES

The Planning Department launched the visioning project in January 1995. On April 1, 1995, the department held a large community meeting to kick off focus groups which would engage approximately 300 citizens for the next three months. Each citizen focus group concentrated on one of ten issues: Transportation, Growth Management and Planning, Agriculture, Housing, Resource Preservation, Education, Economic Development and Tourism, Health, Recreation and Culture, and Forestry. Each developed a report about its vision for its particular topic. The Steering Committee added common themes to the report like regionalism, sustainable development, and quality of life. A draft report was delivered to the Board of Supervisors in August 1995. In October 1995, the final vision statement was presented at a poorly attended county-wide meeting. In December, the Board accepted the vision report as county policy. Accordingly, the ideas expressed in the report will be incorporated into the County's comprehensive plan that will be written in 1996. Every citizen will receive a summary of the report in early 1996. Discussion is underway about how to package the vision statement in order to interest those citizens not involved with the process in the ideas and implementation of the vision report. The Planning Department found it difficult to maintain the intensity necessary to coordinate and motivate a large group of citizens over an extended period of time. It suggests that the length of the process needs to

be short enough to maintain momentum while allowing enough time to address the concerns of all citizens.

The Roanoke County 2010 Visioning process embraces responsible growth and community involvement. Each focus group considered the concept of sustainable development in its visioning process. Some groups fully incorporated the idea while others could not make the concept practically apply to their subjects. All groups embraced the notion of achieving a quality of life which would not sacrifice the future. Only when the County begins to implement its comprehensive plan will the community be able to determine whether or not it is practicing sustainable development. (For another project in this region, see the New Century Council.)

***For more information, contact:*** Janet Scheid, Planner, Roanoke County Department of Planning and Zoning; P.O. Box 29800, Roanoke, VA 24018; 540-772-2094.

# Virginia Water Project

The Virginia Water Project (VWP) helps rural low-income communities gain access to affordable and safe drinking water. It also improves rural quality of life through construction of sanitary wastewater treatment facilities and community development activities. The Virginia Water Project aims to eliminate Virginia's many rural homes that lack indoor plumbing.

## STRUCTURE

VWP emerged in 1968 from the Roanoke Valley Project which addressed rural poverty in the five counties surrounding Roanoke. Incomplete indoor plumbing constitutes one of the greatest factors related to rural poverty. In 1975, VWP expanded its activities throughout the state. In 1979, VWP obtained federal funding to extend its efforts regionally. With a 21-member Board of Directors and a staff of 24, VWP is now a non-profit agency with a \$2 million annual budget. It receives funding from the U.S. Department of Health and Human Services and U.S. EPA as well as private entities like the Ford Foundation. In the early 1980s, the Virginia Assembly recognized VWP's work and began to contribute state funding from the Department of Social Services and the Department of Housing and Community Development. VWP operates through a network of anti-poverty agencies around Virginia. VWP responds to both unsolicited requests for assistance and referrals, especially for small projects in the most isolated rural communities.

## ACTIVITIES

Over the last 25 years, VWP has helped 109,000 rural households obtain access to water and wastewater treatment facilities, including 49,000 low-income households. A little over 30,000 households remain without plumbing in Virginia, mostly located in the Northern Neck, Eastern Shore, Southwestern coalfields, and parts of the Piedmont. VWP estimates that it will require about five to seven more years of very hard work to provide plumbing to these households. Currently, Virginia ranks second in the nation for the most houses without complete plumbing. VWP educates state legislators about this problem and urges them to make rural water infrastructure a priority for Virginia.

In its early years, VWP focused on development of rural plumbing systems; now it also can concentrate on technical assistance for managing such systems. Because groundwater often is a source of drinking water, VWP focuses on improving groundwater protection. The project also educates local governments and citizens about water quality issues and water emergency plans. Support from the Ford Foundation in the early 1980s allowed VWP to

conduct leadership training and capacity-building workshops for rural communities to teach others about their experiences. With Ford support, VWP also instituted low-interest loans for short-term community water projects. State funds supported engineering studies for developing water supplies, wastewater treatment systems, and emergency grants. Under the name Southeast Rural Community Assistance Project, VWP also assists areas throughout the southeast through a variety of departments: Seed Grants; Loan Fund Program; Capacity Building; VWP Emergency Grants for Individuals; Volunteers for Communities Program; Operations and Management [of water and wastewater treatment systems]; Environmental Programs; and Rural Community Facilities Program.

VWP believes that through the process of improving water quality, a community builds capacity which will help it to address other development needs. It focuses first on solutions to inadequate plumbing. It then addresses deteriorating housing stock, compliance with federal water quality regulations, and poorly functioning water system infrastructure. As a basic element of community survival, the project asserts that water needs should be factored into economic development strategies. Of special concern to the VWP is the general public's ignorance about the lack of indoor plumbing in many rural areas of Virginia.

***For more information, contact:*** Mary C. Terry, Executive Director, VA Water Project; P.O. Box 2868, Roanoke, VA 24001-2868; 540-345-1184.

## **Virginia's Explore Park**

Located on 1,300 acres along the Roanoke River in Bedford and Roanoke counties, Virginia's Explore Park is a living history museum and educational park. Explore Park's developers intend to create sustainable, tourism-derived income for the region. According to its Executive Director, this project is a "destination attraction that lies lightly on the land."

### **STRUCTURE**

Explore Park operates as a public/private partnership. Chartered by the Virginia General Assembly, it is a state park (a "Special Purpose Unit of Government") administered by the Virginia Recreational Facilities Authority (VRFA), in partnership with The River Foundation. A special fundraising relationship exists between the two organizations. The River Foundation raises private money for construction, while public funds pay for land acquisition, road construction, and planning. The River Foundation retains responsibility for structures while they are built and then, upon completion, turns over operation of the facilities to VRFA. Local governments and public school districts also contribute funds.

Explore Park is the number one economic development project of Roanoke County. As a result, the park receives much in-kind support like aerial photographs, mapping, drilling wells, and construction materials from the County, area businesses, and contractors as well as volunteer help from local service clubs such as the Junior League, Kiwanis, Jaycees, the Rotary Club, and Society of American Foresters. Rupert Cutler serves as Executive Director of both the River Foundation and VRFA; there is some overlap of their boards. Other organizations involved in the project include Blue Ridge Zoological Society; Virginia Polytechnic Institute's College of Veterinary Medicine; Science Museum of Western Virginia; and the Roanoke Valley History Museum.

### **ACTIVITIES**

On July 2, 1994, Explore Park opened to the public. Its 1995 season ran from April through October. Many of the park's attractions are still under development including a conference center, an education center, and a Native American village. The Roanoke River Parkway will connect the Park directly with the Blue Ridge Parkway upon its completion in spring 1997. About three-fourths of the park's land, six parcels totaling 1,100 acres, is designated by VRFA as a scientific natural area which limits future development.

Explore Park defines "environment" as the aggregate of natural, social, and cultural conditions that act upon living organisms, including humans. Consequently, it combines cultural and historical education with environmental education. The Park's Environmental Education Center sponsors outdoor laboratory programs for local school children (with over 20,000 student visits to date), university students, and professionals. Also, it will host conflict resolution workshops. The Blue Ridge Settlement and Native American Village will re-create aspects of early historical Virginian populations. Native prairie grass restoration on an adjacent landfill will be managed by Explore Park. The Park hosts the American Center for Rare and Endangered Species (ACRES) captive breeding program of the endangered red wolf. The American Chestnut Association chose Explore Park as a site to raise blight-resistant chestnut trees. The American Wilderness Park, a zoo featuring regional native species groups, will be finished around the turn of the century. Park planners hope to increase attendance as more of the Park's programs and structures are completed. To this end, they consider completion of the spur road and a restaurant in the restored Brugh Tavern at the park entrance essential. Most of the Park's components will be completed for the 1997 season.

Explore Park offers a means both to provide educational and recreational opportunities and to diversify the economy. The Park's amenities will teach about cultural heritage and environmental protection. Emphasis on zoning for wildlife habitat protection has been incorporated into local greenway planning.

***For more information, contact:*** M. Rupert Cutler, Ph.D., Executive Director, Virginia's Explore Park; P.O. Box 8508, Roanoke, VA 24014-8508; 540-427-1800.

# Elizabeth River Project

The Elizabeth River Project is working to restore the environmental health of the Elizabeth River by building a coalition of the diverse interests represented in central Hampton Roads. The Project seeks consensus solutions among the communities of Norfolk, Portsmouth, Virginia Beach, Chesapeake, and Suffolk. The Project also educates the public about the River's ecological, economic, and recreational importance.

## STRUCTURE

After it was founded in 1992, the Elizabeth River Project was incorporated as an independent, non-profit organization in April 1993 both to involve the public in, and to find common ground for, the River's restoration. The staff consists of a full-time coordinator and a part-time administrative assistant. They combine efforts with volunteers from the private sector, industry, government, academia, and the U.S. Navy who serve on task forces, make recommendations about specific projects, and generally keep the Project moving. As the policymaking body, the volunteer Board of Directors contributes to the momentum. While recognizing that the area's watermen have little free time, the Project hopes to increase their level of participation. The Project receives individual donations as well as public and private grants. It held its first membership drive in October 1995, which produced over 150 members.

## ACTIVITIES

In 1993, the Elizabeth River Project began a two year Comparative Risk Program to assess the River's environmental problems, funded by the Virginia Environmental Endowment and the U.S. EPA. In an effort to connect science and public opinion, three volunteer committees -- Citizen/Industry; Government/Agency; and Science/Technical -- spent nine months identifying areas of concern, studying existing data, writing technical reports, and ranking the River's ten most serious problems. They achieved full consensus on nine out of ten issues in November 1994 and completed the first phase of the program.

In the second phase, the Elizabeth River Project launched the Watershed Action Team in April 1995 to design strategies that will address those problems identified as high risk. Four volunteer task forces of more than 80 community leaders developed an integrated Watershed Action Plan to be presented to the public in spring 1996 at the Project's annual conference. The Habitat and Living Resources Task Force is examining the loss of habitat and biota. The Sediment Quality Task Force is analyzing sediment contamination and sedimentation. The Water Quality Task Force is considering non-point source and point

source pollution. The fourth work group, the Toxics Reduction Regional Action Team, is focusing on toxics in the Elizabeth River in order to make stakeholder recommendations on toxics reduction to the Virginia Department of Environmental Quality. In return for this work, the Commonwealth provides technical support and partial funding. Other Project committees address issues of oversight, leadership review, and fundraising. Their proposed strategies must be affordable, effective, and acceptable to the community. An implementation plan will follow the release of the Watershed Action Plan.

Other programs of the Elizabeth River Project include a Wetlands Pilot Project which has targeted a one acre site for dredging and wetlands restoration. It is a partnership between Norfolk, which owns the land, and the Elizabeth River Project. The pilot project will, upon receipt of funding, create a wetlands habitat park and a demonstration site for filtering storm water through a wetland. Another volunteer committee is the Public Involvement Task Force which will identify eco-tourism possibilities.

The diverse community participating in the Elizabeth River Project constantly finds itself required to balance economic and ecological interests. The Project faces many challenges: how to restore habitat on an urban river which is mostly developed; how to clean up a heavily contaminated riverbed; how to decrease non-point source runoff; and how to find the required resources and ingenuity to deal with these problems. Through its efforts to restore the health of the River's ecosystem and to maintain its economic productivity, the Elizabeth River Project is striving to improve the region's water quality and strengthen its community.

***For more information, contact:*** Marjorie Mayfield, Coordinator, Elizabeth River Project; 109 East Main Street, Suite 305, Norfolk, VA 23510; 804-625-3648.



## **Farmer's Market Nutrition Program**

The Farmer's Market Nutrition Program matches farmers in need of customers with consumers in need of produce. The Program aims to improve nutrition levels and awareness among individuals who usually do not have access to farmer's markets, such as the elderly and families in the Women, Infants, and Children (WIC) program. It also encourages small scale farmers to sell produce to local communities with stationary or mobile, tailgate markets rather than haul their produce long distances. In addition, it educates farmers about the chemicals they use and promotes options for small scale community economic development.

### **STRUCTURE**

Modeled after a Massachusetts program, the Virginia Farmer's Market Nutrition Program began in 1992. Savannah Williams, Stephanie Hedley, and Rick Cagan, who are all both farmers and community activists, initiated this grassroots effort to address the marketing needs of local farmers in southern Virginia. The Southeast and Virginia Foodbank administered the program in its first year. Subsequently, Rural Virginia, Inc. became the administering agency. The Program helps communities to develop farmer's markets; but as they are established, participants acquire the responsibility for running them. The Federal-State Marketing Improvement Program provided a single grant for a part-time staff position to help launch the Program. Assistance has been provided by the Virginia Association of Biological Farmers (Farming Association), the Agency on Aging, Action Agency in Monticello, local health departments, churches, and individuals. The Virginia Cooperative Extension is available to provide technical advice.

### **ACTIVITIES**

The Farmer's Market Nutrition Program either approaches communities that need to find buyers for their produce or responds to community requests for assistance. Through cooperative efforts, the Program and communities encourage farmers to establish or participate in local markets, which require two to four years to become well-established. Their success is aided by local people working on the project. So far, there are active markets in Suffolk, Charles City County and Fluvanna County. Currently, the Program focuses on stabilizing and further developing those markets already established. The Program measures progress by the number of farmers involved in markets and by customer loyalty. Local government officials are becoming more involved, and more people are realizing that small farmer's markets can be successful.

As the Program enters its fourth year, interest in organic farming continues to grow. The Farmer's Market Nutrition Program fills an educational void by examining agriculture in its entirety, including transportation, marketing, and political issues, rather than only concentrating on labor and cultivation. The Program also tries to provide consumers with information about the nutritional values of the foods sold at the markets. Another project related to the Program exposes urban and rural schoolchildren to the science and business of farming and gardening. Groups of children from Arlington, Petersburg, Richmond, Suffolk, and Hampton participate in a gardening program; they will sell their produce in their own communities. This project also may teach the students how to cook the food that they grow.

By building local farm economies, the Program promotes sustainable agriculture and increases the likelihood that farmland will remain in production. Its efforts to increase awareness about nutrition, the impacts of chemicals, and land-use choices will further promote sustainable farming. (For other agricultural projects, see Virginia Cooperative Extension.)

***For more information, contact:*** Savanah Williams, Coordinator, Farmer's Market Nutrition Program; P.O. Box 248, Surry, VA 23883; 804-628-5476.

# **Man and the Great Dismal Swamp**

## **National Wildlife Refuge**

The Great Dismal Swamp National Wildlife Refuge has launched, in cooperation with New York Television, Inc., the "Man and the Great Dismal Swamp" as a multi-disciplinary educational program to promote interest in the swamp among students and community groups.

### **STRUCTURE**

The refuge occupies 107,000 acres of forested wetlands in southeastern Virginia and northeastern North Carolina and was established officially by the Department of Interior in 1974. Throughout centuries of use, the swamp had decreased in size, and what remained had been altered greatly by drainage and logging operations. The "Man and the Great Dismal Swamp" project was launched in 1993 when New York Television, Inc. visited the area to film a documentary for a private company on its twenty years of supporting the refuge. NYTV approached the refuge about the possibility of creating a video and education materials about the swamp. The project began at the end of 1993 and was completed in mid-1994. It received donations from many individuals, organizations, and corporations. The U.S. Fish and Wildlife Service contributed only a small amount to the total budget. Local biologists and teachers helped to develop educational activities and reviewed teaching materials.

### **ACTIVITIES**

The "Man and the Great Dismal Swamp" project consists of a video, background materials, and educational activities. They incorporate subjects like Math, English, and Ethics into study of the refuge. The project aims to help teachers introduce concepts like ecosystem management to their students and to encourage educational field trips to the refuge. The title of the project denotes the influences of humans upon the swamp, both positive and negative. The focus of the program is on wildlife management and the environment. The 30-minute video examines the refuge's history and purpose by following a group of students on a trip through the refuge. A 36-page teacher's guide details refuge information and provides several activities to do both at the refuge and in the classroom. The curriculum is intended for grades 3 through 6, but has been used by all ages. Reserve staff note that when students view the video before visiting the refuge, they have a clearer understanding of the reason for reserve's existence and they ask more questions related to the refuge during their visits.

Currently, the program is being distributed to interested parties. Materials are used at mini-workshops for teachers. The local public television station broadcast the video twice, once in the fall of 1994 and in May 1995. Many other public television stations in Virginia plan to air the video. Although it is too early to point to dramatic changes caused by the project, demand for programs at the refuge has increased. The project has garnered significant community support. Many misconceptions about the swamp still exist. Refuge staff continually struggle to educate the public about how and why the refuge functions. Through the "Man and the Great Dismal Swamp" program, the refuge can explain the linkages between humans and their natural surroundings.

***For more information, contact:*** Great Dismal Swamp National Wildlife Refuge, P.O. Box 349, Suffolk, VA 23439-0349; 804-986-3705.

# **Rappahannock River Resource Council**

With the goal of preserving the small town character of the lower Rappahannock River watershed, representatives of seven cities, several towns, and various Planning District Commissions are working to achieve holistic planning in the watershed. They are focusing on protecting natural resources while guiding economic development.

## **STRUCTURE**

Residents of Caroline, King George, Westmoreland, Essex, Richmond, Lancaster, and Middlesex Counties created the Lower Rappahannock Initiative in 1991 in cooperation with the Chesapeake Bay Foundation (CBF). In 1995, participants incorporated the Lower Rappahannock Initiative into a non-profit citizen organization called the Rappahannock River Resource Council. The Council, consisting of about thirty people, operates under a Board of Directors. Four committees address specific issues: Land Use, Water Quality, Living Resources (including fisheries and wildlife refuges), and Public Awareness (including fundraising). The Council works with local governments and Planning District Commissions on land use issues and would like to increase its involvement with these entities in the future. It requests technical assistance from state agencies for particular projects as required. CBF provided initial funding and still contributes technical assistance and staff support. The Council received a grant from the Virginia Environmental Endowment and now seeks matching funds from individuals. Recently the Council received a grant from the Chesapeake Bay Restoration Fund. It began a membership drive in 1996.

## **ACTIVITIES**

The Rappahannock River Resource Council pursues its goals through specific land use and economic development projects. In cooperation with CBF and the Trust for Public Land, the Council is assisting the U.S. Fish and Wildlife Service with the creation of a National Wildlife Refuge along the banks of the lower Rappahannock River. The Council, along with three planning district commissions, is developing a shoreline planning manual for local governments which will provide technical assistance for infrastructure development such as pier placement and septic systems. The Council also sponsored a project to develop model site plans demonstrating cluster development and is now introducing them to local governments and citizen groups.

The Council has launched aquaculture projects along the River as sustainable economic enterprises and plans to promote them through an oyster-marketing cooperative. Presently, over 200 people grow the native Rappahannock oyster. In order to attract tourism

revenue, the Council sponsors Rappahannock Appreciation Day. It publishes a yearly calendar showcasing the region. The Council also produces a regional *Natural Resource Atlas* and an *Economic Analysis* that provide background data to local governments and aid its own development planning.

By bringing together communities and governments throughout seven counties, the Council fosters consultation and coordination of efforts. Its vision statement emphasizes sustainable development concepts such as cluster development using existing infrastructure, open space protection, and promotion of local economic activities like agriculture, aquaculture, forestry, and tourism. The Rappahannock River Resource Council aspires to achieve sustainable development in the watershed by halting unplanned and environmentally damaging growth.

***For more information, contact:*** Estalena Thomas, Project Manager, Rappahannock River Resource Council; Box 220, Tappahanock, VA 22560; 804-443-5629, 804-443-1993 (fax).

# **Southeastern Association for Virginia's Environment**

The Southeastern Association for Virginia's Environment (SAVE) aims to preserve and protect the region's environment through grassroots activism, as well as to influence public policy and attitudes that shape the quality of life in southeastern Virginia.

## **STRUCTURE**

Originally organized as an umbrella organization for groups in the Virginia Beach area, SAVE was incorporated in 1990 and has operated mainly as a membership group. SAVE's single staff person coordinates the volunteers. The Board of Directors steers the organization. SAVE's first major project was funded by a U.S. EPA Near Coastal Waters Grant, the Virginia Environmental Endowment, and a Cooperative Agreement with the U.S. Fish and Wildlife Service (see the description below of the Agricultural Reserve Program). Currently, SAVE is seeking tax-exempt status and hopes to expand its efforts by securing funding for new projects.

## **ACTIVITIES**

SAVE undertook the Agricultural Reserve Program (ARP) for Virginia Beach in an attempt to conserve farmland and manage growth. The goal of ARP is to preserve land for agricultural use and to promote farming as an important local industry. For almost three decades, the Virginia Beach area has experienced extreme development pressures and has lost over half of its farmlands. ARP evolved from a one-day seminar in November 1993 when a diverse group, including those with agricultural, residential, and natural resource interests, decided to devise an alternative to the planning department's agriculture zoning proposal. SAVE funded a part-time environmental consultant who coordinated the effort. The group organized themselves as the Southern Watersheds Committee and continued to meet monthly for 18 months as it studied the work of various national organizations and met with civic leagues and service groups.

The committee formulated a proposal which it presented to the Virginia Beach City Council in January 1995. The proposal was adopted by the Council on May 9, 1995, and the first applications were distributed to farmers at the end of December 1995. Essentially, ARP establishes a voluntary program for farmers to receive a payment representing the difference between their lands' value as working farms and market prices in exchange for retiring development rights. The program will have a \$3.5 million annual budget for 25 years with

revenues derived from a property tax increase, a new cellular phone tax, and payments in lieu of taxes by the Back Bay National Wildlife Refuge. The city of Virginia Beach will run ARP.

ARP has succeeded in large part because all interest groups worked together toward their common goal. They put aside controversial subjects, made decisions by consensus, and eventually developed trusting relationships with each other. The Southern Watersheds Committee never adopted a formal structure, so all participants took part on the same level. Consequently, the promises made within the group during the process have been kept. The ARP managed to create a solution that could be implemented within the current structure. No new laws had to be written, and the committee was able to influence city policy. A working group will study sustainable agriculture and economic development possibilities for strengthening this sector. The group will also advise other communities on how to implement similar projects.

SAVE's other projects address the challenges that still face Virginia Beach, namely achieving sound economic development and finding solutions that address core problems. It is forming the Tidewater Environmental Network with other environmental organizations to assist each other with projects, investigate common concerns, share resources, and exchange information. SAVE continues its education programs on growth and quality of life issues. It holds an annual meeting for regional organizations. SAVE also participates in other activities of various watershed protection groups.

***For more information, contact:*** Mary Heinrich, Coordinator, SAVE; P.O. Box 6133, Virginia Beach, VA 23456; 804-460-0750.



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## Appendices

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# General Assembly of Virginia - 1993 Session

## House Joint Resolution No. 653

*Encouraging the Governor, state and local officials, and the leaders of educational institutions and civic organizations to work together to prepare a Virginia strategy for sustainable development.*

Agreed to by the House of Delegates, February 7, 1993

Agreed to by the Senate, February 16, 1993

WHEREAS, the leadership of the distinguished citizens of the Commonwealth of Virginia -- historically recognized as The Mother of Presidents -- has been intrinsic to the founding, development, well-being, and prosperity of the United States of America; and

WHEREAS, the United States of America has voluntarily accepted the goal of achieving sustainable development, and the need to prepare a U.S. National Strategy for Sustainable Development, by joining in the international consensus to ratify Agenda 21, the primary, long-term action plan stemming from the United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992; and

WHEREAS, sustainable development is defined as a process of dynamic change in which the allocation of resources, the direction of investments, the orientation of technological development, the substance of public education, the mechanisms for public and private decision making, and the structure of laws and institutions are made consistent with meeting the present needs of all citizens as well as those of future generations; and

WHEREAS, the concept of sustainable development combines a consideration and understanding of the need for continuing economic and social progress with a sensitivity to human reliance on protecting, restoring, and maintaining environmental quality and productive natural systems; and

WHEREAS, any successful plan for the achievement of sustainable development must proceed from the direct involvement and participation of, and a recognition of the legitimate needs and aspirations of, all citizens, especially those

with the greatest stake in a sustainable future: the youth of our nation; and

WHEREAS, the Global Tomorrow Coalition is a nonprofit alliance of approximately 100 organizations, institutions, and corporations focused on the goal of sustainable development and dedicated to building stronger leadership in the United States to resolve long-term environmental and socio-economic problems by promoting broad-based partnerships and responsible public policies; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Governor, state and local officials, and the leaders of educational institutions and civic organizations be encouraged to work together to prepare a Virginia strategy for sustainable development, to serve as a national model for widespread emulation; and, be it

RESOLVED FURTHER, That leaders in business, trade unions, educational institutions, youth groups, engineering, science and technology, faith communities, Native American organizations, philanthropy, and supportive civic organizations such as the Global Tomorrow Coalition, be urged to participate in this endeavor, which is manifestly in keeping with Virginia's acknowledged role as a national leader in philosophy and action for effective governance, enhancement of individual liberty and well being, promotion of economic productivity, prudent management of natural resources, and encouragement of youth leadership; and, be it

RESOLVED FURTHER, That the Clerk of the House of Delegates prepare a copy of this resolution for presentation to the

Governor, that the Secretary of Education be requested to send a copy of this resolution to the presidents of the public and private institutions of higher education and the chairman of the Global Tomorrow Coalition and that the Virginia Municipal League and the Virginia Association of Counties be requested to send a copy of this resolution to the city and town councils and the county boards of supervisors, respectively, in order that they may be apprised of the sense of the General Assembly.

# General Assembly of Virginia - 1994 Session

## House Joint Resolution No. 291

*Establishing a sustainable development task force.*

Agreed to by the House of Delegates, March 10, 1994

Agreed to by the Senate, March 8, 1994

WHEREAS, the Commonwealth of Virginia seeks both to promote economic development and to protect its environment and natural resources; and

WHEREAS, many areas of the Commonwealth, including rural areas, are facing serious economic hardship, including job losses, unemployment, poverty, migration of young people and other adverse socioeconomic conditions; and

WHEREAS, many of these same areas have significant environmental resources, including outstanding examples of ecosystems; significant habitats for plants and animals; pristine rivers, lakes and estuaries; prime farmlands; and excellent air quality; and

WHEREAS, Virginia's rich and diverse natural resources offer the potential for sustained contributions to economic vitality and quality of life for urban as well as rural residents; and

WHEREAS, studies have shown that small companies with fewer than 20 employees have created more than 60 percent of new employment in rural communities, that expansion of existing local firms has created the largest source of net employment, and that economic diversification is critical to the long-term economic and ecological health of rural communities; and

WHEREAS, the term "sustainable development" describes economic development which protects environmental resources and which is characterized by local communities that are diverse, productive and adaptable; and

WHEREAS, citizen-based sustainable development initiatives in the Commonwealth, including the work of the Northampton Economic Forum on Virginia's Eastern Shore, the Clinch-Powell Sustainable Development Forum in southwestern Virginia, and an emerging citizen initiative in the Lower Rappahannock Valley, and the Thomas Jefferson Planning District Sustainability Council in Piedmont have shown good promise for success; and

WHEREAS, the Commonwealth has laid a foundation to promote sustainable

development through various studies and programs such as the Commission Studying Capital Financing Needs of Small Business in Virginia, which proposed recommendations to encourage locally based environmental health and economic development; a strategic plan for sustainable development proposed in House Joint Resolution No. 653 (1993); support for community-based sustainable development planning initiatives, including microenterprise development programs by the Center for Rural Development of the Department for Housing and Community Development; and developmental plans for sustainable business ventures by the Entrepreneurial Center of Old Dominion University in conjunction with The Nature Conservancy; and

WHEREAS, private foundations have indicated willingness to support statewide planning initiatives for sustainable development; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That a task force be established to study sustainable development. The task force shall be composed of 18 members to be appointed as follows: six members of the House of Delegates to be appointed by the Speaker of the House, four members of the Senate to be appointed by the Senate Committee on Privileges and Elections, and six citizens to be appointed by the Governor, who shall be representatives of local government, community-based organizations, the Virginia Eastern Shore, far southwestern Virginia, Piedmont Virginia, and nonprofit economic development and environmental conservation organizations. The Secretaries of Commerce and Trade and Natural Resources shall serve as nonvoting ex officio members. The task force shall assess current sustainable development initiatives in the Commonwealth and other areas, develop a statewide strategic plan for sustainable development, and recommend appropriate actions which state and local governments, citizen groups, and nonprofit organizations, especially in rural areas of the Commonwealth, might consider for implementation.

The Division of Legislative Services shall provide staff support for the study. Technical assistance shall be provided by the Department of Housing and Community Development.

The direct costs of this study shall not exceed \$10,500.

The task force shall complete its work in time to submit its findings and recommendations to the Governor and the 1995 General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

# A Sand and Clay County Almanac

by Stephen R. Dujack

DRIVING A FORD PICKUP across his 3,500 acres, William C. Temple asks what I mean by "sustainable development." His family has been farming in Virginia's Brunswick County since his great grandfather moved there around 1830, and his land is lush with a few small cow pastures and large forests of loblolly pine.

I could tell him the famous definition given by the Brundtland Commission in its 1987 report *Our Common Future*, but instead I cite another Virginia farmer. "The earth belongs to each . . . generation during its course, fully and in its own right," wrote Thomas Jefferson in 1789. "The second generation receives it clear of the debts and encumbrances, the third of the second, and so on." The trees Billy harvests were tended by his father, who harvested his father's trees, and so on. Sustainability is a way of doing business on Billy's land. It is also a way of life. He is around 60 now, and his son, Randy, is taking over the farm, free of debt and encumbrances -- naturally speaking, at least. How many more generations that will last is not entirely up to them. It used to be a matter of the weather and the work and the ways and wants of the local market. Today, it is up to politics and policies set in Richmond and Washington and Brussels and Geneva, in Ottawa and Brasilia and Mexico City, to trade agreements and energy prices, to taxes and subsidies. Unlike in 1789, in a global economy sustainability across the generations is a futures market of great uncertainty.

The Temple farm lies a few miles west of Lawrenceville, seat of Brunswick County, home of Brunswick stew. Brunswick stew was invented in 1828, and by tradition is made of squirrel meat and this and that, but it takes a dash of brandy to make it work right. The agriculture of the county resembles the stew: a bit of this and that grown in the small spaces between the close-set hills and hollows, but it takes a dash of tobacco to make it work right.

A dozen or so miles to the east of Billy's land lies the fall-line between the piedmont and the coastal plain. Over the past two summers, he and I have spent a lot of hours in his green Ford crossing this area, traveling the vast network of rural roads that the farmers still use to get from field to field, between towns with names

like Smoky Ordinary and Dolphin and Valentines. Our journeys are bounded by a triangle formed by Interstates 95 and 85 and U.S. 58, the great highway that runs from the sea along the southern border of Virginia and through the Cumberland Gap. Between the Appalachians and the Atlantic is the agricultural region known as Southside -- to the east the sand counties, where they grow peanuts, soy, wheat, cotton, and some of the milder tobaccos; to the west the clay counties, where the tobacco thrives, plus pine for lumber and pulp. The two come together in Brunswick, and it is not unusual to cross from sand to clay to sand again within the space of a mile.

Rural stores abound on the back roads, but most have broken hand gas pumps out front and haven't sold a crate of melons or a box of nails or a bottle of Doctor Pepper in years. "The small stores and the small farms used to depend on each other," says Billy. "The stores staked the farmers in the spring with seed and bought the harvest in the fall. The farmers bought their groceries and their supplies from the stores." Few country stores remain in business today. The grocery and dry goods trade has moved to the Winn-Dixies and Wal-Marts along Route 58. In the early years, "farmers in Brunswick County had always been geared to self-sufficiency, and there had always been the assurance that there would be food on the table if a man cared to grow it, or hunt it, or raise and slaughter it," wrote Gay Neale in *Brunswick County, Virginia*. A century ago, "almost everyone grew a great deal of produce for his own consumption and for market." As is true throughout the United States, today most of the food on the table of the farmer in Brunswick County comes from the supermarket, where it may have arrived by truck on the Interstate from California or by ship from Chile. A melon I ate last July came from Florida; local melons wouldn't be ripe till August. Even the beef probably comes from Chicago, where the broad plains allow the more efficient growth of feed corn, and the trucks travel the highways taking the cattle of Brunswick County to the feedlots and slaughterhouses of the Midwest, then back to the supermarkets in Lawrenceville. It may even have come from the West, where range land is so cheap that farmers can profitably raise one head on 30 acres, compared with Billy's one on 3 acres of

pasture.

The value of the land that brings \$30–40 per acre when planted in soy beans is rising around Lawrenceville. Lake Gaston, straddling the North Carolina border a few miles to the south, was formed by a hydroelectric dam on the Roanoke River. Vacation home sites surround the large water body, slowly pushing real estate prices up in the region. Billy is concerned that pasture land across Route 681 from his large stucco farm house one mile outside Lawrenceville could eventually be converted into a housing development.

Lake Gaston itself is feeling the pressure of urbanization. Virginia Beach, now the state's largest municipality, wants to build a 100-mile-long pipeline to withdraw 60 million gallons a day from the lake for drinking water. Last June, local residents won a big battle by convincing the Federal Energy Regulatory Commission to prepare an environmental impact statement on the project because of fears that the withdrawals will affect water quality and fish populations in the lake and the river. "Pipeline on Hold," was the headline in the *Lake Gaston Gazette*. Billy stops his Ford when he spots an infestation of southern pine beetle amongst the loblolly. Trained in forestry at North Carolina State, Billy has read the works of Gifford Pinchot and the other forebears of American industrial forestry. Each year he sells about a hundred acres to a timber company, which comes in and clearcuts the land, a choice dictated by loblolly biology and timber economics. He would prefer not to grow loblolly as a monoculture, because of the susceptibility to insects and disease, but the tree cannot grow economically any other way. He admits to being a bit saddened by the desolation of the clearcuts, but it is biologically necessary, since seedlings cannot grow in the shade where a mature tree is harvested. With the profit on a stand of timber at only 3–5 percent per year, over a life cycle of almost four decades, and now with 28 percent coming off the top as a federal capital gains tax, there is not much flexibility in southern yellow pine, particularly with the competition from Canadian timber. The clay soil will also support yellow poplar, a hardwood used in furniture, but it must compete against tropical hardwoods. Aside from tobacco, "beef and timber are the crops with the least risk. They're also the least profitable," Billy says. But he won't grow tobacco. "I

prefer to grow something people need."

TOBACCO IS THE MONEY crop in Southside. In the colonial era, in fact, it *was* money. In 1992, the last year for which statistics are available, Brunswick farmers planted 2,800 acres of tobacco and received a profit of \$1,200 per acre, according to Forrest Hobbs, the county agriculture extension agent. That works out to a net of nearly 30 percent per year. This is so lucrative that the government and industry work together on a land quota system, keeping the market artificially high. They want to avoid the depression of 1885, when prices sank to \$5 per hundredweight, or the panic of the 1930s, when prices plummeted to a mere 25 cents, causing the farmers to leave their bales on the warehouse floors. Today, tobacco brings \$150–180 per hundredweight. The industry interest is obvious. So is the government's: All told, state and federal taxes on the products derived from an acre of tobacco bring in an average annual revenue of \$62,685. Specialty crops might be an answer. But unlike the regulated tobacco industry, "It doesn't take much to flood a broccoli market," points out Hobbs. And the government can't get over \$60,000 an acre from taxes on the produce aisle.

Aside from the money, tobacco isn't good for much. It can't be used to eat or to weave or to build a house. It wouldn't fit into the Brundtland Commission's view of a sustainable society. It needs huge amounts of fertilizers and pesticides and irrigation water to make it grow, and it is so labor intensive that workers must be brought in all the way from Mexico to plant and tend and harvest the crop, tough, hot work at minimum wages the locals won't touch. As Hobbs tells it, for many of the county's farmers, it takes tobacco to pay for the combines needed to grow wheat and soy. To maximize profit, a farmer should grow tobacco and only tobacco on the land permitted by the quota system, but agronomy dictates crop rotation, so for many it's a two-year cycle of winter wheat followed by soy beans in the summer of the first year, then tobacco the following year. Tobacco buys the grain that fills the mouths.

Along Route 58 sits the plant of Brick and Tile Corporation of Lawrenceville, which did \$11 million in sales of 78 million bricks last year. According to Reid Wrenn, president and chief executive officer, 97 percent of the bricks made from the schists of Brunswick County are sold beyond its borders, from Canada to Florida. He can compete with a

brickmaker in Boston because transportation doesn't add much to the cost of the brick, and an architect will buy the brick with the finish he or she wants. "It takes about 30,000 bricks to build a house, and that means maybe an additional \$1,500 for imported brick. When you spread that out over a 30-year mortgage with the tax deduction, it doesn't make a whole lot of difference," says Wrenn.

Along with timber and cattle, the brick used to be shipped by rail, but in the last twenty years the Virginian Railway and the Seaboard Railroad have gone out of business, their rights of way still visible from the highway bridges but the tracks torn up for scrap. Trucks carry the produce and products of Brunswick, moving along the Interstates burning fuel that is cheaper than at any time since the Second World War. Lawrenceville is now the western terminus of the Norfolk Southern Railway, the last rail line in the county. One-fifth of Wrenn's bricks go by rail. The Norfolk Southern used to stretch from the seaport to Danville, Virginia, 100 miles to the west. When the local granite quarry fails some time in the future, Wrenn has been told, so will the railway, and all the bricks will go by truck.

In the years he has left, Billy wants to make sure that he can give his acres to his son "free of debts and encumbrances," and that Randy will be able to give it to his son, and so on. That depends on policies that speak to the future while learning from the past.

A vision of Virginia's future was provided by the *Richmond Times-Dispatch*, which in a recent three-part series compared the economy of Richmond-Petersburg, at the northern tip of Southside, to that of the Raleigh-Durham area, just below the North Carolina border. A decade ago, the two regions were almost identical. Today, however, Raleigh-Durham is "transforming its tobacco-dependent economy to one grounded in high-tech businesses." Richmond-Petersburg is not. Unemployment is one-third lower in Raleigh-Durham, the economic prospects brighter. Another vision of Virginia's future was provided by ELI's *A Blueprint for Sustainable Development of Virginia*, which contains the quote from Jefferson. The *Blueprint* describes a sustainable economy, in which "each region will develop hub markets for the diverse agricultural and renewable resource products of the surrounding area. Replacement of food and fiber from outside Virginia with locally produced, renewable products will

promote the Commonwealth's economic resilience." Again from Jefferson: "I trust that the good sense of our country will see that its greatest prosperity depends on a due balance between agriculture, manufactures, and commerce." When bricks and cows and logs and melons and water and labor need to move thousands of miles to make the economy work, when profit is maximized by growing a vegetable that kills, something about our agriculture, manufacturing, and commerce is out of balance.

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