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**Conservation Thresholds for Land Use Planners**

**A Wingspread Conference Sponsored by  
The Environmental Law Institute  
The Surdna Foundation  
The George Gund Foundation  
and  
The Johnson Foundation**

***Conference Notes***

## Introduction

On March 21-23, 2007, the Environmental Law Institute (ELI) and the Johnson Foundation hosted a conference, ***Conservation Thresholds for Land Use Planners***, at the Foundation's Wingspread Conference Center in Racine, Wisconsin. The conference was supported by generous grants from the Surdna Foundation and the George Gund Foundation. The goal of the conference was to advance the field of conservation planning by identifying robust and measurable implementation strategies that support the development and application of science-based conservation thresholds. Conference participants included a small group of accomplished land use planners, conservation biologists, and public policy practitioners (see Appendix A).

The specific objectives of this working meeting were to:

- Identify the type and format of conservation thresholds needed by planners to transform traditional planning approaches into innovative and effective conservation tools;
- Highlight gaps in the conservation biology literature and available resources that could be utilized to support the development of science-based planning thresholds;
- Identify the most significant obstacles to applying science-based conservation thresholds; and
- Develop a set of clear recommendations for effectively carrying out conservation planning and applying conservation thresholds in practice.

## Background

The *Conservation Thresholds Wingspread Conference* was based on two components of ELI's on-going Conservation Thresholds Program. In 2003, ELI published *Conservation Thresholds for Land Use Planners* with support from the Doris Duke Charitable Foundation. The report lays out straightforward and accessible "conservation thresholds," or concrete targets that can be used by land use planners when making decisions about how much land to protect, the adequate size and location of habitat corridors, riparian buffer widths, and the maximum distance between isolated patches. The principles outlined in *Conservation Thresholds* are already being put into practice, and have influenced statewide and local land use, open space, and smart growth policy across the country (see "Conservation Thresholds Success Stories" at: <http://www2.eli.org/research/thresholdsconference.htm>).

In 2006, ELI commissioned seven short essays and an overview by distinguished individuals in the conservation biology, land use planning, and conservation policy professions. The collection of essays was published as *Lasting Landscapes: Reflections on the Role of Conservation Science in Land Use Planning*. In their contribution, each author was asked to address issues related to the role of their respective profession in promoting the use of science-based information in land use planning. The compendium of essays was published in March 2007.

Design of the meeting agenda and assembly of the list of invitees was guided by our assessment of the successes and limitations of the 2003 *Conservation Thresholds* report, the recommendations outlined in the commissioned articles, and input from the Conservation Thresholds Advisory Committee (see Appendix B). This report represents our efforts to compile a summary of the conference discussions. The final agenda can be found at Appendix C. The notes that follow represent the discussions held in breakout sessions and the top implementations strategies identified by the breakout participants and reported back during plenary sessions.

ELI continues to work closely with the conference participants to fully flesh out the top implementation strategies identified at the Wingspread conference. We anticipate that the four broad categories of implementation to emerge from the Wingspread conference will be: research, outreach, communications, and coordination. ELI plans to play a role in directly implementing some of the identified strategies, as well as help others pursue these ideas into the future.

Additional information on ELI's Conservation Thresholds Project can be found on ELI's web site at: <http://www2.eli.org/research/thresholdsconference.htm>.

## **PLENARY SESSION: Identifying Planners' Science-Based Information Needs**

Facilitator: *Jessica Wilkinson, ELI*

### **Science Needs:**

#### Summary and Translation of Existing Information

1. Conduct a meta analysis of the total universe of datasets available to guide conservation planning (start with [watermatters.org](http://watermatters.org))
2. Identify useful data at all levels (EPA, NOAA, GAP data, Natural Heritage, GeoPlan)
3. Translate and synthesize data from scientists to planners
4. Improve access to information on how management strategies can support conservation planning, in addition to guiding the form, design, and scale of growth
5. Develop definitions of conservation principles for planners

#### Types and Format of Data Needs

6. Need fine scale, parcel level data
7. Need the science data to be usable in the context of existing laws and regulations
8. Need data that is spatially rectified and available over the internet
9. Need conservation planning tools that are cheap and easy
10. Need science-based information provided along with concise take-away points and executive summaries
11. Need additional information on both spatial and temporal scales; proactive and reactive planning require a different set of tools

#### Research Needs

12. Need additional research on the end uses and limitations of science-based information
13. Need additional data on water budgets and water quality in relation to land use
14. Need additional studies on the effects of exurbia on wildlife
15. Need additional studies on the effects of transportation, water infrastructure, and planning infrastructure on biodiversity
16. Need to develop rapid assessment procedures for evaluating terrestrial ecological features
17. Need to conduct empirical research on how the interaction of planning patterns across scales influences conservation goals

#### Communication Needs

18. Planners need to highlight the five strategic points of intervention that each require different kinds of information
  - a. Visioning
  - b. Plan making
  - c. Tools, regulations
  - d. Site plan review
  - e. Public investment
19. Need messages for communicating the importance of conservation planning

### Development of Tools, Case Studies, and Decision-Making Frameworks

20. Need risk information on the types of trade-offs planners face under alternative growth scenarios
21. Need information on the biological trade-offs in the context of legal constraints and values
22. Need procedural guidelines for how to identify core problems, identify appropriate science-based information, and integrate the information into the decision-making process
23. Need information on land use intensity and the ramifications of land use intensity
24. Need real world local and specific prototypes or case studies
25. Need empirical studies on growth alternatives, patterns of development, and the associated trade-offs
26. Need access to bioregional information that is consistently organized, readily available, and coupled with expertise to interpret the data
27. Need procedural decision rules and greater access to information
28. Need a frame of reference for including science-based information into planning
29. Need a framework for translating a full range of biological information on species to planners
30. Develop methods for integrating ecological protection into all urban forms
31. Need to explore the relationship among the five points of intervention and information needs at each point

### Development of Conservation Thresholds

32. Need thresholds for the bioregional level
33. Planners need biological information in the form of ranges; i.e., if you protect 10% of your land cover, you will preserve x species; if you protect 25% of your land cover, you will preserve y species.
34. Need thresholds that are specific to areas under extreme pressure of growth

### Training Needs

35. Need training on field-based techniques
36. Need to develop certification programs for conservation planning

## **BREAKOUT SESSION I A: Tools to Measure the Effectiveness of Conservation Planning**

Framer: *David M. Theobald, Ph.D., Colorado State University*

Facilitator: *Rebecca Kihlslinger, ELI*

### **Plenary: Top Implementation Strategies**

1. Adopt an adaptive management strategy as an organizing framework for comprehensive planning at all points of intervention. Need to develop goals, baseline data and data on effectiveness to develop and test hypotheses in the future.
  - a. Catalog and distribute existing planning tools and information -- literature review, identification of analytical frameworks, databases (e.g., geospatial database for Ventura County), basic inventories of open space, planning programs (i.e., software)
  - b. Improve dialogue between planners and scientists to reach common understanding – clarify definitions, encourage training
  - c. Address scale issue and incorporate all levels of geographical jurisdiction
  - d. Conduct additional research on the outcomes of planning efforts

### **Breakout: Possible Implementation Strategies**

1. Implement conceptual models at smaller scales at the beginning of the planning process
2. Develop accessible geodatabases (e.g., Ventura County)
3. Develop agreed upon objectives and testable assumptions for each plan
4. Develop good research designs that are built into the plan implementation strategy (pre-test and post-test studies on plan implementation)
5. Develop baseline data and incorporate a commitment to evaluate the plan
6. Define measurable, readily available indicators derived from plan objectives on both biodiversity and plan measures
7. Publicize and utilize tools (e.g., Miradi and other desktop tools), such as those found at Conservation Measures Partnership, to help define what a plan should contain, implementation strategies, and indicators of success
8. Develop tools to determine how analysis at one scale affects the measures and outcomes at other scales
9. Develop measures of conservation success on the ground
10. Incorporate existing adaptive management techniques/resources/methods into the planning process
11. Identify the easy and representative indicators of success early in the planning process
12. Track the history of plans (i.e. whether and why they have been upheld, rejected, or circumvented)
13. Develop model natural resources elements of comprehensive plans and encourage their integration into land use planning process and procedures to encourage proactive planning
14. Connect plan objectives with quality of life issues for public officials to improve public acceptance of plans

15. Improve terminology (e.g. “land management ordinance”)
16. Conduct studies on public satisfaction with plan outcomes
17. Improve communication between actors in conservation planning
18. Conduct research on the relative effectiveness of different tools and plans to conserve biodiversity/habitat

## **BREAKOUT SESSION I B: Innovations and Investments in Outreach and Training**

Framer: *Laura Watchman*

Facilitator: *Jessica Wilkinson, ELI*

### **Plenary: Top Implementation Strategies**

1. Develop a model conservation planning curriculum for both accredited planning programs and conservation biology academic programs
2. Highlight conservation planning through APA's suite of products and activities in partnership with group(s) representing conservation biology i.e., Society for Conservation Biology
3. Develop a circuit rider program to conduct outreach to decision makers
4. Encourage Natural Heritage Programs in all 50 states to have a dedicated "locality liaison" staff member

### **Breakout: Possible Implementation Strategies**

1. Seek ways to communicate goals of conservation planning that resonate among different interest groups. Frame the issue.
2. Encourage Natural Heritage Programs to hire staff in each office that can provide and interpret scientific data for planners.
3. Provide a forum for professionals with scientific expertise to expand across boundaries and provide technical support to planners, i.e., land grant university staff, sea grant university staff, state chapters of different groups with scientific expertise.
4. Develop a primer on planning and the strategic points of intervention for conservation biologists e.g. how planning works, the limits of planning authorities, etc.
5. Encourage local chapters of science support groups to exchange membership rosters to enable dialogue, i.e., American Planning Association, Ecological Society of America, The Wilderness Society, The Nature Conservancy, etc.
6. Utilize ICMA venues:
  - a. Green book series
  - b. ICMA Sustainable Development Advisory Committee
7. Develop a speakers bureau/database and tools for speakers to communicate values of conservation planning
8. Encourage collaboration among the American Planning Association and Society for Conservation Biology
  - a. Develop recommendations for conservation planning curriculum for accredited planning programs
  - b. Develop a workbook for local planners that includes the most important questions both groups need to ask about the effects of land use decisions on biodiversity and a decision making protocol for how to incorporate biological information into planning.
9. Create a regional network of biologists (a learning network) drawn from chapters of SCB to provide biodiversity support for planning
  - a. Include wildlife managers and other practitioners
10. Convene regionally based interdisciplinary meetings supported by web-based



- communities
11. Develop a circuit rider program for biologists to provide science-based information to planners:
    - a. Train a group of speakers
    - b. Develop materials for speakers
    - c. Have speakers available to facilitate dialogues among planners, elected officials, and other key stakeholders
  12. Utilize APA venues to communicate the importance of and tools for conservation planning:
    - a. Develop a best practices manual on conservation planning with sister biological organizations, i.e., PAS
    - b. Develop audio web conferences
    - c. Develop planner Training Services – 2-day focused conferences
    - d. Develop plug-and-play training
    - e. Utilize serial publications, i.e., Zoning Practice
    - f. Develop a policy guide on biodiversity, which is vetted by APA, adopted by chapters, and then adopted by the APA board (i.e., policy guide on energy)
  13. Conservation biologists should articulate that conservation planning is an imperative. Give conservation planning credibility and legitimacy with elected officials
  14. Conduct outreach to disadvantaged populations by framing specific messages for these audiences
  15. Conduct outreach to homebuilders, professional associations of private companies, and other development sectors on best practices.

## **BREAKOUT SESSION II A: Effective Incentives and Requirements for Pro-Active Conservation Planning**

Facilitator: *Jessica Wilkinson, ELI*

### **Plenary: Top Implementation Strategies**

1. Develop economic and political arguments for supporting pro-active conservation planning
2. Enact state laws with regulatory requirements for planning, zoning/incentives that are consistent with plans, and the inclusion of a conservation element in comprehensive plans
  - a. Couple with incentives
3. Establish typology of communities based on ecoregional and political types. Establish pilot projects in a cross section of types to generate case studies that give momentum to conservation planning in other communities

### **Breakout: Possible Implementation Strategies**

1. Develop economic and political arguments for conservation planning, i.e., cost of services for sprawl (value added and triple bottom line)
2. Inform elected officials in fast growing and rural counties that this is an election issue
  - a. Need research to demonstrate whether and to what degree effective planning in these communities is an election issue
3. Identify *where* we need to conduct conservation planning; how many places does the model need to be replicated to create a tipping point?
4. Conduct social science research on “growth machines” (i.e., coalitions): how they are formed and what causes them to collapse.
5. Foster leaders who can communicate the positive values of conservation planning
6. Develop a typology for what strategies are going to work where
7. Identify pilot projects for applying conservation planning principles
8. Create a streamlined/expedited process and financial incentives for communities that engage in proactive conservation planning, such as additional open space funding
9. Implement density bonuses for clustering
  - a. Need to conduct additional research on the effectiveness of clustering for biodiversity conservation
10. Develop programs for states to target infrastructure planning and funding based on conservation plans
11. Create state incentives to encourage visioning that reflects different values
  - a. Conduct research on whether visioning creates better plans for conservation
12. Provide biological information to municipalities: cheap and easy
13. Enact state laws with regulatory requirements for planning and zoning/incentives that are consistent with plans (horizontal and vertical), and require that plans include a conservation element
14. Conduct outreach and education to municipalities regarding their legislative authority to conduct zoning. Need examples of how conservation planning and zoning will be supported by the courts.

15. Create greater incentives for farmers and ranchers, including marketing or certification of agricultural practices that support conservation

## **BREAKOUT SESSION II B: Effective Incentives and Requirements for Pro-Active Conservation Planning**

Facilitator: *Jim McElfish, ELI*

### **Plenary: Top Implementation Strategies**

Preliminary Thoughts:

- What is our goal? To marginally increase the incorporation of conservation planning into land use planning.
- How do we do this? Audiences are key – identify their values and appeal to them.

Implementation Strategies:

1. Set state goals for projects using a “scorecard” to determine whether projects or local government activities are eligible for state funding or benefits
2. Set state goals and include these as requirements for local land use plans (i.e., Washington state)
3. Build on SAFETEA-LU mitigation requirements by MPOs using their power to influence local governments to identify opportunities for conservation
4. Determine and show financial benefits of conservation planning to local governments– safety, hazard avoidance, municipal services, foregone costs, liability (current and future). Ways to do this:
  - a. Integrate into planning and biodiversity professions
  - b. Make such analysis required through CEQA and similar environmental impact assessments
  - c. Include in information requirements for development applications
  - d. Major study by/for entire state (e.g., Maine)
  - e. Have MPOs prepare these data

## **BREAKOUT SESSION II C: Effective Incentives and Requirements for Pro-Active Conservation Planning**

Facilitator: *Rebecca Kihlsinger, ELI*

### **Plenary: Top Implementation Strategies**

1. Find funding partners
  - a. Federal funding mechanisms (ISTEA, Farm Bill, State Wildlife Action Plans)
  - b. Identify new financial incentive programs and model programs
  - c. Identify possible funding mechanisms through the Endangered Species Act (i.e., HCPs)
2. Translate conservation values into financial metrics
3. Develop education/outreach/training programs for conservation biologists, planners, and stakeholders
  - a. Strengthen the role of the boundary organizations (i.e. organizations that can bridge the gap between conservation biologists and land use planners)
  - b. Convene regional stakeholders to identify regional information needs and implementation strategies

### **Breakout: Possible Implementation Strategies**

1. Develop planning capacity, especially in small planning departments, and have it in place before development occurs
2. Educate the public on the importance of critical resources
3. Increase the fact base for conservation planning
4. Monitor growth and development before it hits the ground (i.e., through the analysis of permitting information)
5. Secure government or foundation funding to support conservation planning
6. Strengthen boundary organizations (i.e. Sea Grant, Cooperative Extension, ELI, etc.) to bridge the information gap between conservation biologists and land use planners
7. Have a conservation requirement in state planning law that is similar to transportation requirements in ISTEA
8. Improve training for low capacity planning organizations; secure foundation funding for training
9. Frame the issues at the state or regional level and scale down solutions to the local planning process
10. Utilize new advances in visualization technology to help better understand the consequences of growth
11. Secure regional and state funding to support regional efforts to respond to growth pressures
12. For the places needing the most planning (i.e., low capacity planning offices), reevaluate state laws and reinstate state as *ad hoc* planning authority
13. Strengthen planning statutes at the state level
14. Encourage changes at the state level to allow and encourage conservation planning at the local level
15. Evaluate model open space plans
16. Evaluate model state statutes (these are available online from ASLA)

17. Adopt locally based ecological curriculum in school systems to connect people to nature
18. Develop a blue ribbon commission of land use planners and conservation biologists to review nationwide planning tools
19. Convene regional stakeholders to discuss and identify conservation planning needs in the region
20. States should set new standards for conservation planning
21. Utilize State Wildlife Action Plans to support the development of regional plans that can be scaled up to the next level of implementation
22. Research how to utilize the Endangered Species Act to conserve more land and improve planning
23. Convene land use planners and conservation biologists to explore the problems/obstacles for land use planning
24. Develop financial incentives for private land owners and communities to proactively plan (i.e. federal government programs, FEMA)
25. Partner with universities to teach students applied planning (i.e. through service learning)
26. Develop innovative funding sources (i.e., Florida documentation stamps from sale of property for agencies to purchase land)
27. Add conservation reading and questions to AICP exam
28. Research why regional planning is not happening; identify the barriers to regional planning
29. Translate conservation values into financial metrics for stakeholders/decision-makers

## **BREAKOUT SESSION III A: Communication Needs to Support Conservation Planning**

Framer: *Arlan Colton, FAICP, Pima County Development Services*

Facilitator: *Jim McElfish, ELI*

### **Plenary: Top Implementation Strategy**

1. *Develop a core story* to communicate the need for conservation planning  
The group created a model for how to develop a core story. The model is represented by a pinwheel with a common story in the middle. It is designed to identify the key values held by the relevant communities and constituencies. Different spokes come out of the center, each one representing a different constituency, e.g., biologists, policy-makers, voters, business leaders, planners, developers. The different values of these constituencies are identified so the most effective story can be developed for each community for “reaching them where they are.” For example, voters care about their taxes not being raised, livable communities, and high property values; developers care about their customers’ needs, their reputations, and the ease of doing business; policy-makers care about open space and affordable housing; and planners want to find win-win scenarios to manage and reach consensus, take pride in creating livable communities, and care about their reputations.

The goal is to identify the common values – the ideas you would use to populate the main story. The common value identified in the breakout was that of “livable communities.” It is a common value even if the different constituencies define the term in different ways. A biologist may define livable communities in terms of ones that support biodiversity. A voter may define it in terms of how long it takes to get to work in the morning. In any case, it is the plotline for how to reach the different communities so that the story will resonate.

The model can also be used to identify the “hot button” issues, or mutually exclusive values, that you should avoid leading with.

2. *Test the assumed values.*  
Go home and try it – from the perspective of a planner, biologist, etc. Begin to populate the diagram.

To determine whether the values and therefore the story could serve as a national model or needs to be tailored to different communities the story could be developed and tested in different regions.

3. *Share what you learned from the process*
4. *Develop a mechanism – tool kit – to deliver the message*

Train planners, biologists, and other on how to communicate the story and reach the target audiences. This could be accomplished through the circuit rider concept. Improve the story iteratively.



## **BREAKOUT SESSION III B: Requirements and Incentives for Overcoming the Scale Barrier**

Framer: *Andy Laurenzi, Sonoran Institute*

Facilitator: *Jessica Wilkinson, ELI*

### **Plenary: Top Implementation Strategies**

1. Leverage state and federal funding to support conservation planning
  - a. Score cards
  - b. State Wildlife Grants
  - c. Federal programs, i.e., Homeland Security, Farm Bill programs, federal transportation funds, DOD funding for planning at bases, FEMA
  - d. Existing state land conservation programs
2. Provide Councils of Government (COGs) with conservation planning information (not data) including:
  - a. Conservation Biology research
    - i. Develop a framework for the core elements of a conservation plan
    - ii. Absent a full and complete spatially explicit map that reflects scientific data, determine the construct for guiding conservation planning
  - b. Link to affordable housing
  - c. Frame as a Homeland Security issue
  - d. Initiate the outreach through a national campaign spearheaded by National Association of Counties, National Association of Regional Councils, League of cities, or other such groups
    - i. Identify and work with leaders/spokespeople from within these groups

### **Breakout: Possible Implementation Strategies**

1. Create a national map identifying the bioregional boundaries that should be used to guide conservation planning
  - a. Ensure that the bioregional boundaries intersect with socio-cultural boundaries
2. Harness existing legal drivers (e.g. land use, environmental, public lands, conservation easements) to bring interests together
3. Develop a federal grant program to provide funding to COGs to drive the exchange and use of biodiversity information for conservation planning
4. Provide eco-regionally relevant biodiversity information at the socio-cultural scale
  - a. Contextualize resource problems for the socio-cultural region
5. Provide Councils of Government (COGs) with biodiversity information (not data)
  - a. Develop national campaign to bring the information to the COGs (i.e., National Association of Counties, National Association of Regional Councils, League of Cities)
  - b. Piggyback conservation planning onto affordable housing
  - c. Frame as a Homeland Security issue to secure funding
  - d. Pursue private foundations
6. Harness State Wildlife Grant program to enable/require collaboration with land use planners

7. Harness funding and influence of Farm Bill
8. Construct state grant program to lead local and regional jurisdictions to package conservation planning

## **BREAKOUT SESSION III C: Gaps in Our Knowledge**

Framer: *Adina M. Merenlender, Ph.D., University of California, Berkeley*

Facilitator: *Rebecca Kihlsinger, ELI*

### **Plenary: Top Implementation Strategies**

1. Identify the 7 – 10 most important (“magical”) data layers that are needed by planners to implement conservation planning. These need to include ecological baseline data and spatially explicit data on the built environment.
2. Develop and conduct a comparative study through a series of planning charettes across a set of communities. Key components would include:
  - a. Working in a cross-section of individual communities with a group of stakeholders (i.e., planners, elected officials, etc.) to help identify the communities’ planning/information needs and how the communities use current ecological information and planning tools. Selection of communities should be based on achieving ecoregional representation and a range of planning expertise/capacity.
  - b. Analyze how communities with different ranges of expertise and technological capacity could/ would use the 7-10 “magical” data layers to meet the needs of each step.
  - c. Develop a research framework for the analysis to ensure that the results will be comparable and quantifiable (e.g. utilize similar metrics across the communities).
  - d. Determine how the built environment affects ecological stability and sustainability.
  - e. Identify short- and long-term payoffs of adopting the approach.
  - f. Co-sponsored by a multi-disciplinary group, i.e., APA, ESRI, etc.
3. Develop a set of “key conservation planning” steps that need to be followed in each community to support the goals of conservation planning.

### **Breakout: Possible Implementation Strategies**

1. Develop detailed vegetation maps that can be used by planners for site development
2. Identify the 7 – 10 best/most useful data layers for planners along with a framework for how to use them locally
3. Need more research on cumulative impacts
4. Need more research on what has been lost, the existing or current conditions and the desired future conditions for a given region
5. Develop ecological visioning (tools and concepts)
6. Quantify spatially explicit planning tools (DSS)
7. Research on how current ecological information and planning tools are being used in the planning context
8. Need cross-sectional studies of the planning process, planning theories, and plans themselves at all levels of planning (i.e., studies would have similar metrics, control variables, etc.)
9. Write a joint interdisciplinary grant proposal on these issues including SCB, ELI, APA, etc.

10. Develop delivery mechanisms for the biological information
11. Develop strategies to import strong inference and research from other areas into conservation planning
12. Need inclusive inductive approach
13. Need more research on the interactions/synergies between threats and impacts
14. Need data layers on
  - a. LULC: need nationally consistent monitoring and framework for land use
    - i. Number of housing units
    - ii. Roads: number, type, volume
    - iii. Impervious surfaces
  - b. Stewardship
  - c. Threats
15. Need to characterize the footprint of different land use forms and urban forms
16. Need more modeling at larger regional scales on the implication of different urban forms (e.g. EPA stormwater)
17. More data is needed on how to make policies, tools, and research more iterative in a rapidly changing landscape context
18. Need an interdisciplinary study that links the data needed by communities to support conservation planning – the decision support tools available to the communities – and the cross sectional study model
19. Need social science research on the forces driving community behavior (socio-economic and situation analysis)
20. Need retroactive research studies on the effects of land change especially in places with good data on the biology
21. Need standardized community by community studies/typologies/charettes to identify needs and frameworks across the country

**PLENARY SESSION: Review & Discussion of Implementation Strategies –  
Nuggets of Truth and Take Home Points**

Speakers: *Jessica Wilkinson, ELI*

**Robert Sitkowski:** We need a better understanding of the funding leverage points.

**Jessica Wilkinson:** The five points of intervention seemed to resonate with the group. We should explore further the type of science-based information needed at each of these points of intervention and how it can be used to effectively in guide conservation planning. In particular, it would be valuable to better understand how conservation biology can inform the visioning stage of the planning process and how to support more visioning at the community level.

**Sherry Ruther:** We need to understand what the needs are at each of the five points of intervention. Officials often do not know how to use the biological information provided to them. At each of the five points of intervention, there is a corresponding point in biology. The visioning level is critical in setting the scale and level for planning.

**Sarah Michaels:** We need to find a way to connect conservation planning to elected officials. If elected officials are not part of picture, we're not accomplishing much.

**Reed Noss:** The main value of this conference was to meet and start a dialogue between the disciplines. This is the start of a connection/reaching/collaborative process between planners and biologists (e.g., possible NSF proposal).

**Adina Merenlender:** We need to move forward in quantifying the consequences of not incorporating conservation biology into land use planning. Conservation biologists are grabbing and pushing – grabbing land and pushing people out. If we are more coordinated then we will be more effective and we will have fewer unintended consequences. Together we can more effectively grow sustainably. Conservation biology and land use planning are two sides of the same coin. We need to better articulate our message. The “triple E” is suffering economically and ecologically because we are not doing effective conservation planning.

**Phil Berke:** We need to find support for interdisciplinary research on conservation planning (e.g. the possible NSF proposal). There are broader cross-fertilization possibilities that go beyond the outcomes of one study.

**Liz Chattin:** The five points of strategic intervention and connection to planning needs to be published. For critical areas, we need to pull together the regional-specific information on voluntary conservation measures and distill it into a brochure for landowners. In addition, the regulatory/mitigation community needs a more comprehensive framework in which to operate.

**Susan Crow:** There are multiple layers of planning and local and regional land use organizations need to better connect and share information.

**Lesli Ellis:** The conference reaffirmed that we have more common ground than not. We have a common story to tell and we can coordinate to implement the strategies. The story needs to be specifically tailored to different audiences.

**Michelle Edwards:** We need to focus more on the commonality between stakeholders. When working with planners, we are often preaching to the choir. This conference can help us develop a tool kit that can be used to communicate to decision makers.

**Gene Schiller:** Land use planners and conservation biologists need to better communicate with administrators and managers (i.e., ICMA). There is a need to communicate the practical applications of conservation planning and why it is part of good business.

**Dan Perlman:** There is tremendous potential to advance conservation planning by conducting interdisciplinary research that combines spatial ecological data with data on the effects of different forms of built environments.

**George Schuler–** Boundary groups can be key players in supporting conservation planning. We need to identify existing groups, individuals, and available tools and find the middle grounds between them.

**Molly Cross –** Boundary groups are important and can play a lead role in improving understanding between land use planning and conservation planning, getting information to planners, and figuring out the type of science-based information they need.

**Jim Van Hemert:** The interdisciplinary nature of the planning field needs to be reinforced. This setting highlights the need to build our towns as not in a black hole but as part the landscape.

**Doug Porter –** We need to think about how to use conservation principles to build cities so that conservation is not something that you do “out there.”

**Dave Theobald:** There is a need to craft a compelling message to communicate the importance of conservation in planning to decision makers and the public. Planning is a social process (as Tim Duane mentioned in his primer). The analytical framework, tools, and GIS data need to allow for easy evaluation of trade-offs on a real-time basis.

**Jeff Porter:** Academics should continue to work with practicing planners to craft the message about why conservation science is important to planning. This message needs to be translated to the approximately 35,000 regional governments (counties, cities, townships, towns, villages, boroughs) that are served by Regional Councils. The job of regional commissions is to facilitate the movement of information from the scientists to the decision makers (i.e., National Association of Regional Councils and

National Association of Development Organization). Additional planning needs to occur in wild exurban areas.

**Mike Harper:** The information gleaned on conservation planning will be used to inform revisions to his county's open space natural resources plan.

**Dennis Murphy:** Each of the five strategic points of intervention needs to be addressed. For each point, an adaptive management approach needs to be applied, which will identify the tools needed and how each tool should be applied for each entry point. The missing information – or key uncertainties that will articulate the research agenda – also needs to be identified. Then the information will enter the process and be used in a cost-benefit analysis (thresholds) – which takes us from information needs to the available tools. We can then communicate that there are not hard number thresholds but a range.

**Andy Laurenzi:** The conference helped Andy learn more about ELI and their work (identified several ELI publications with real world application). The principles involved in conservation planning have evolved, and collectively people are moving away from the idea that there is a right answer and toward the presentation of alternative scenarios. There are consequences to the ways we work. In the past, the planning community was attached to the right answer but now it is moving toward the understanding that planners and biologists can only hope to bring enough information to light to make sound choices.

**Bob Sitkowski:** Conservation science is a complex component of the planning equation. The recognition that there is no one answer is heartening.

**Robert Perez:** Participants should apply the lessons learned at the conference. The conservation planning field needs to identify connectors (those connected to the people), mavens (experts), and sales people to move the communication process forward.

**Laura Watchman:** The research proposal proposed would have benefits beyond the outcomes of the study. There is an opportunity to collaborate together in the future (e.g. write NCEAS proposal to reconvene this group). The idea of connecting issues to values that different stakeholder groups hold is vital. We need to work on breaking down boundaries and working with building industries and environmental groups to advance common goals. We need to have more people with scientific expertise directly involved in planning.

**Bill Klein:** We need to accommodate an additional 100 million people in the U.S. in the near future and we simply do not have the tools to deal with the current level of population growth. We should dive into the work and learn from the specific community-based approaches. Our country does not have a great reputation for fitting the built environment into the environment. We need to get serious about conservation and stop repeating that we don't have money. When we have external threats, we come together

and find money. We are not going to be able to solve this problem using regulations or incentives; we need to find dedicated money to parcel out to states and regions to acquire large plots and to guide growth to nodes centered around transit.

**Sam Brody:** This conference solidified the importance of installing planning capacity and making decisions before rapid growth takes place. Understanding where and when the tidal wave of development will take place will help us to take action before the wave breaks. It is important to build monitoring systems, leverage money, and learn how communities learn to speed up the process for proactive conservation planning. Future research needs to be systematic, analytical, convincing, and empirical.

**Arlan Colton:** The role of biologists working in planning departments is incredibly valuable. Development of a communications strategy would support the conservation planning framework.

**Frank Banish:** Tim Duane made the distinction between planning and plans. The process is the most important part. Plans should not just be examined in terms of their long-term outcomes. Planning is a continuing process and plans can be dynamic. Scientists need to provide planners with critical information as it becomes available so it can be more effectively applied. States also should provide financial support to local governments to support visioning.





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## Conservation Thresholds for Land Use Planners

### A Wingspread Conference Sponsored by:

**The Environmental Law Institute  
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and  
The Johnson Foundation**

**March 21-23, 2007**

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## **Conservation Thresholds for Land Use Planners**

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### **Statement of Purpose**

Advance the field of conservation planning by identifying robust and measurable implementation strategies that support the development and application of science-based conservation thresholds

## Program

Wednesday, March 21, 2007

3:00 p.m.	<p>Hospitality</p> <p><u>Welcome to Wingspread</u>  <b>Carole M. Johnson</b>          Program Officer          The Johnson Foundation</p>	Living Room/ Guest House
3:30 p.m.	<p>Plenary Session</p> <p><u>Goals and Expectations for the Conservation Thresholds Conference</u>  <b>Jessica B. Wilkinson</b>          Director          State Biodiversity Program          Environmental Law Institute</p>	Living Room/ The House
4:30 p.m.	<p><u>Breakout Sessions: Primers for Professionals</u></p> <p>Breakout A: <u>Conservation Biology Primer for the Non-Conservation Biologists</u>  <b>Dan L. Perlman</b>          Associate Professor and Chair          Environmental Studies Program          Brandeis University</p> <p><i>Facilitator:</i>  <b>Jessica B. Wilkinson</b></p> <p>Breakout B: <u>Land Use Planning Primer for the Non-Planners</u>  <b>Timothy P. Duane</b>          Associate Professor          Landscape Architecture          and Environmental Planning          University of California, Berkeley</p> <p><i>Facilitator:</i>  <b>James M. McElfish</b>          Director          Sustainable Use of Land Program          Environmental Law Institute</p>	<p>Living Room/ The House</p> <p>Terrace Room/ Wingspread</p>

Wednesday, March 21, 2007 (continued)

5:15 p.m.	<p>Plenary Session</p> <p><u>The What, Where, When, Why and How of Conservation Planning</u>  <b>Rebecca Kihslinger</b>  Science and Policy Analyst  Environmental Law Institute</p> <p><u>What Are We Protecting, Where Should We Focus Our Efforts, and When Should It Take Place?</u>  <b>Reed Noss</b>  Davis-Shine Professor of Conservation Biology  University of Central Florida</p> <p><u>What Is Conservation Planning and Why Do Planners Need Conservation Thresholds?</u>  <b>Lesli Kunkle Ellis</b>  Principal  Clarion Associates</p> <p><u>The “Implementation Crisis” of Conservation Planning</u>  <b>Reed Noss</b></p> <p><u>Questions and Discussion</u></p> <p><i>Facilitator:</i>  <b>James M. McElfish</b></p>	Living Room/ The House
6:30 p.m.	Hospitality	Living Room/ Wingspread
7:00 p.m.	Dinner	
8:15 p.m.	Adjournment	
	Evening Hospitality	Living Room/ Guest House

Thursday, March 22, 2007

Breakfast is available from 6:30 to 8:15 a.m.  
in the Living Room of the Guest House.

8:30 a.m. Plenary Session and Facilitated Exercise Living Room/  
The House  
Identifying Planners' Science-Based Information Needs

*Facilitator:*  
**Jessica B. Wilkinson**

9:45 a.m. Break

10:00 a.m. Breakout Sessions: Implementation Strategies  
for Conservation Planning I

Breakout A: Tools to Measure the Effectiveness  
of Conservation Planning Living Room/  
The House  
**Dave Theobald**  
Associate Professor  
Natural Resource Ecology Lab  
Colorado State University

*Facilitator:*  
**Rebecca Kihslinger**

Breakout B: Innovations and Investments in  
Outreach and Training Terrace Room/  
Wingspread  
**Patrick Crist**  
Director, Conservation Planning  
Conservation Services  
NatureServe

*Facilitator:*  
**Jessica B. Wilkinson**

11:15 a.m. Plenary Session Living Room/  
The House  
Breakout Reports

*Facilitator:*  
**James M. McElfish**



Thursday, March 22, 2007 (continued)

12:00 noon	Hospitality	Living Room/ Wingspread
12:15 p.m.	Luncheon	
1:15 p.m.	Plenary Session	Living Room/ The House
	<u>Now Hear This: Key Best Practices and Must-Haves for Successful Advocacy Communications</u>	
	<b>Robert A. Perez</b> Senior Vice President Fenton Communications	
2:45 p.m.	Break	
3:00 p.m.	<u>Breakout Sessions: Implementation Strategies for Conservation Planning II</u>	
	<u>Breakout Set-up and Framing</u>	
	<b>Philip R. Berke</b> Professor Department of City and Regional Planning University of North Carolina	
	<u>Effective Incentives and Requirements for Pro-Active Conservation Planning (Parallel Working Groups)</u>	
	Breakout A: <i>Facilitator:</i> <b>Jessica B. Wilkinson</b>	Board Room
	Breakout B: <i>Facilitator:</i> <b>James M. McElfish</b>	Studio
	Breakout C: <b>Rebecca Kihslinger</b>	<i>Facilitator:</i> Mezzanine
4:15 p.m.	Plenary Session	Living Room/ The House
	<u>Breakout Reports</u>	
	<i>Facilitator:</i> <b>Jessica B. Wilkinson</b>	
5:15 p.m.	<u>Wrap-Up</u>	

Thursday, March 22, 2007 (continued)

5:30 p.m.	Leisure/Tour of Wingspread (optional)	
6:30 p.m.	Hospitality	Living Room/ Wingspread
7:00 p.m.	Dinner	
8:15 p.m.	Adjournment	
	Evening Hospitality	Living Room/ Guest House

Friday, March 23, 2007

Breakfast is available from 6:30 to 8:15 a.m.  
in the Living Room of the Guest House.

8:30 a.m.

Breakout Sessions: Implementation Strategies  
for Conservation Planning III

Breakout A: Communication Needs to Support  
Conservation Planning  
**Arlan Colton**  
Planning Official  
Department of Planning and Zoning  
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Board Room

*Facilitator:*

**James M. McElfish**

Breakout B: Requirements and Incentives for  
Overcoming the Scale Barrier  
**Andy Laurenzi**  
Land and Water Policy Program Director  
Sonoran Institute

Studio

*Facilitator:*

**Jessica B. Wilkinson**

Breakout C: Research Advances to Address  
Incomplete Areas of Understanding  
and Fill Significant Gaps  
**Adina M. Merenlender**  
Cooperative Extension Specialist  
Division of Ecosystem Sciences  
University of California, Berkeley

Mezzanine

*Facilitator:*

**Rebecca Kihlslinger**

9:45 a.m.

Plenary Session

Living Room/  
The House

Breakout Reports

*Facilitator:*

**Jessica B. Wilkinson**

Friday, March 23, 2007 (continued)

10:45 a.m.	Break	
11:15 a.m.	Plenary Session	Living Room
	<u>Review and Discussion of Implementation Strategies</u>	
	<b>James M. McElfish</b>	
	<b>Jessica B. Wilkinson</b>	
	<b>Rebecca Kihslinger</b>	
12:00 noon	<u>Conclusion and Next Steps</u>	
12:30 p.m.	Buffet Luncheon	Living Room/ Guest House
1:30 p.m.	Conference adjourns	
	Transportation departs	