

## ELI Research in Action

### Conservation Science and Land Use Planning



*“Land use and development decisions made at the local level have a significant and cumulative effect on the conservation of native species diversity. ELI’s Conservation Thresholds Program seeks to infuse traditional planning tools with science-based conservation information to support proactive, landscape scale conservation planning.”*

—Jessica Wilkinson

Only a few years ago, local government planners trying to do right by the environment had nowhere to turn to find clear, useful guidance informed by biological science. *What type and size buffer is needed to protect a stream? How big a patch of urban forest should be protected to make a natural reserve area, as opposed to recreational land? How can we find information to avert endangered species problems?* Land use professionals simply had no comprehensive resource to help them answer these questions. Those who couldn’t afford expensive consultants just guessed, or looked at the regulations of the next town over; maybe, they figured, they could be guided by what the neighboring community had already divined. Academic scientific journals might be used by the more ambitious or well-funded, but even those sources weren’t written for, or accessible to, even the most sophisticated planner.

Few land use planners had access to the science of conservation biology or knew how to effectively integrate conservation biology into traditional land use planning. At the same time, conservation biologists were frustrated by the failure of existing plans to address the threats to the system that they saw daily.

Jessica Wilkinson, the Director of our Biodiversity and Wetlands Programs, was determined to bridge these areas of experience. A talented senior science and policy staffer as well as a trained facilitator and visionary, Jessica launched ELI’s Conservation Thresholds Project in 2002 to convene scientists and planners and develop resource materials that would address the need for biologically defensible land use, open space,

and infrastructure plans that maintain natural habitat and native species. She began by mining the literature. She and her staff reviewed more than 1,400 scientific papers, incorporating the best of these into a synthesis of the scientific literature that offers basic “thresholds” or science-based rules of thumb that could be used by planners. ELI’s 2003 report, *Conservation Thresholds for Land Use Planners*, has since become the basis for biologically sound land use, open space, and smart growth planning decisions throughout the United States.

The response was dramatic. We began receiving enthusiastic feedback as planners throughout the country began to use the report to develop, support, and explain legal and policy decisions to protect natural resources in development and growth plans. From Dane County, Wisconsin to Methuen, Massachusetts to Napa County, California, to Blaine County, Idaho ELI’s “thresholds” were cited as a basis for actions establishing legal protections and policies applying conservation to land use choices. In New Hampshire the state’s Southwest Regional Planning Commission told us that the report is “routinely recommended” by its staff to local land use boards and conservation commissions to guide their “deliberations regarding buffers and setbacks from sensitive resources” and to establish “block sizes for open space set-asides in subdivisions.”

*Conservation Thresholds* has also been cited in a report prepared for England’s Rural Development Service on how to target lands for conservation under the country’s new Environmental Stewardship Scheme. It served as a resource for the Protected Area Network established by

Jessica Wilkinson and Robert Perez (Fenton Communications) discuss how to communicate strategies on conservation planning.





Rebecca Kihslinger

Whistler, Canada, and has been downloaded in Argentina, Australia, Denmark, India, Italy, Mexico, New Zealand, Norway, South Korea, Spain, Switzerland, the United Kingdom, and Venezuela. And particularly in New Jersey, the Appellate Division upheld the state's statewide stormwater rules requiring the protection of a 300-foot natural vegetated buffer on certain waters, again based on the advice provided by the *Thresholds* report (see box below).

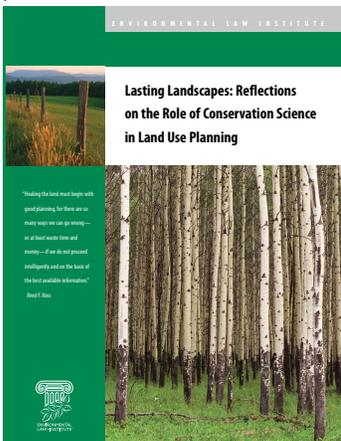
A major resource for planners, conservation professionals, land trusts, consulting firms, legal clinics, academia, and national and local agencies, the report has filled the gap. Effective conservation planning at the local level need no longer be quick and dirty guesswork. The report has already influenced dozens of stream and wetlands buffer regulations, an endangered species recovery plan, regional forest quality standards, county zoning ordinances, regulatory or infrastructure assessments, land use guidelines and standards, natural resource inventories and assessment guidelines. When the U.S. Green Building Council's LEED ND (Leadership in Energy and Environmental Design—Neighborhood Development) Program was searching for standards to include in its certification system, it too turned to *Conservation Thresholds*. The wetlands and habitat conservation standards now included in their certification scheme for “green” neighborhoods—neighborhoods that protect wildlife as well as wetlands and streams—are indeed based on the ones recommended by our report. When the National Wetland Mitigation Action Plan Workgroup adopted draft guidance on protecting buffers around wetlands in September 2004, it too relied upon *Conservation Thresholds* to support

its recommendations. In 2007, ELI's Science and Policy Analyst Dr. Rebecca Kihslinger co-authored a chapter on “biodiversity corridors” in Doug Farr's highly influential planning handbook, *Sustainable Urbanism: Urban Design with Nature*.

But there is still more to do. Jessica and Rebecca turned to nine of the nation's leading land use planning, conservation biology, and conservation policy thinkers to help us explore how to ensure that conservation biology is integrated into planning decisions more often and more easily. ELI's report, *Lasting Landscapes: Reflections on the Role of Conservation Science in Land Use Planning* pulled together their findings and set the ground work for our historic two-day conference at the Wingspread Conference Center. There, the group of experts convened by ELI developed and ambitious three-part strategy designed to make biologically sound land use plans the norm. Led by Jessica and Rebecca, over the next three years our program will:

- promote interdisciplinary research on effective conservation planning, including the use of economic and political incentives;
- develop a “best practice” primer to support science-based conservation planning and a conservation planning communications toolkit; and
- engage and educate conservation and planning professionals.

Connecting local land use decision makers with the best science-based conservation information will make a positive difference in the quality of land, water, and wildlife habitat in our communities.



On February 2, 2004, the Appellate Division of the New Jersey Superior Court upheld the state's statewide storm water rules requiring the protection of a 300-foot natural vegetated buffer on certain waters, deferring to the environmental agency's expertise of the state's Department of Environmental Protection (DEP). The 300-foot buffer had been vigorously opposed by the building industry and others. The New Jersey DEP adopted the final rule by relying primarily and extensively on ELI's *Conservation Thresholds*, quoting at length from the document in justifying the standard.

The ruling was a major victory for the environment and for deference to the scientific expertise of the state agency. It established a forward-thinking precedent, laying the groundwork for adoption elsewhere around the country.

