Research Brief
Conservation Science and Land Use Planning

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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. Scientific journals might be used by the more ambitious or well-funded, but those sources were often not accessible to even the most sophisticated planner.

Few land use planners know how to effectively integrate conservation biology into traditional land use planning. At the same time, conservation biologists have been frustrated by the failure of existing plans to address the threats to the system that they saw daily.

Jessica Wilkinson, the Director of ELI's Biodiversity and Wetlands Programs — see profile on page 57 — stepped into the breach. A trained facilitator, as well as a visionary and talented senior science and policy staffer, Jessica launched our 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. She and her staff began by reviewing more than 1,400 scientific papers, incorporating the best of these into a synthesis of the literature that offers basic thresholds, or science-based rules of thumb, that could be used by planners.

The result, ELI's 2003 report ***Conservation Thresholds for Land Use Planners,*** has already influenced dozens of stream and wetlands buffer regulations, an endangered species recovery plan, regional forest quality standards, country zoning ordinances, regulatory or infrastructure assessments, land use guidelines and standards, natural resource inventories, and assessment guidelines around the country.

Planners have begun to use the report to develop, support, and explain legal and policy decisions to protect natural resources in development and growth plans. ELI's thresholds are cited as a basis for actions establishing legal protections and policies applying conservation to land use choices.

New Hampshire'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.

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.

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, deferring to the environmental agency's expertise; here again, the agency had relied primarily on *Conservation Thresholds* to justify the standard.

When the U.S. Green Building Council was searching for standards to include in its Neighborhood Development Program certification system, it too turned to *Conservation Thresholds.* The wetlands and habit conservation standards included in their certification scheme for green neighborhoods are 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 relied upon *Conservation Thresholds* for support for its recommendations. In 2008, ELI's work became the basis for "biodiversity corridors" in a highly influential planning handbook, *Sustainable Urbanism: Urban Design with Nature,* by land use planner Doug Farr.

But there is still much more to do. Our 2007 report ***Lasting Landscapes: Reflections on the Role of Conservation Science in Land Use Planning*** pulled together the findings of leading land use planning, conservation, biology and conservation policy thinkers and set the ground work for our historic two-day conference at the Wingspread Conference Center.

Led by Jessica and ELI's Science and Policy Analyst Dr. Rebecca Kihslinger, the Wingspread group helped us develop a strategy that will continue to engage conservation and planning professionals, focusing on promoting interdisciplinary research, developing a "best practice" primer to support proactive conservation planning, and creating a powerful communications toolkit.