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North Carolina's Ecosystem-Impact Innovation

The demands of compensatory wetland mitigation for transportation impacts were overwhelming North Carolina's mitigation-delivery system, delaying projects across the state. Rather than trying to improve the system at the margins, officials decided to overhaul it entirely and embrace a proactive, watershed-based approach to wetland mitigation.

BY WILLIAM GILMORE

The same challenge faces every state in the nation: achieving responsible growth while simultaneously protecting the environment. In every state, new roads and other economic development activities cannot go forward until federally mandated environmental safeguards protecting wetlands and waterways are achieved. North Carolina is working to meet this challenge by proactively and comprehensively addressing the environmental impacts associated with certain development activities through its newly created, groundbreaking Ecosystem Enhancement Program (EEP).

In the mid-1990s the North Carolina Department of Transportation (NCDOT) experienced significant project delays. Up to 40 percent of the missed start-dates of new construction projects could be attributed to problems with wetland mitigation required as compensation for environmental impacts. To address this problem, NCDOT leadership, in collaboration with the North Carolina Department of Environment and Natural Resources (NCDENR) and the U.S. Army Corps of Engineers Wilmington District, charged a multi-agency task force with developing a solution. This initiative drew input from 10 state and federal environmental agencies representing interests in water quality, endangered species protection, coastal resource management, highway infrastructure development, and environmental protection.

The task force identified the main problem: NCDOT was unable to meet the need for compensatory mitigation at satisfactory rates or quality to meet permit needs. The agency was forced to buy additional mitigation credits from the Wetlands Restoration Program, a state in-lieu-fee compensatory mitigation initiative housed in NCDENR, and transportation projects had to collect mitigation credits from both NCDOT and NCDENR. This piecemeal crediting system was characterized by inconsistent policies and created complicated permitting processes that spawned confusion and delay. Rather than attempt to regularize the dual-agency system, the task force chose to begin with a clean slate and create an entirely new mitigation-delivery protocol. The first step in creating that system was determining the state's core mitigation needs:

- Mitigation in advance of impacts. The new mitigation system should enhance, restore, and create wetlands and streams as mitigation in advance of environmental disturbance to ensure no net loss of natural resources.
- Watershed-planning-based mitigation. The system should focus

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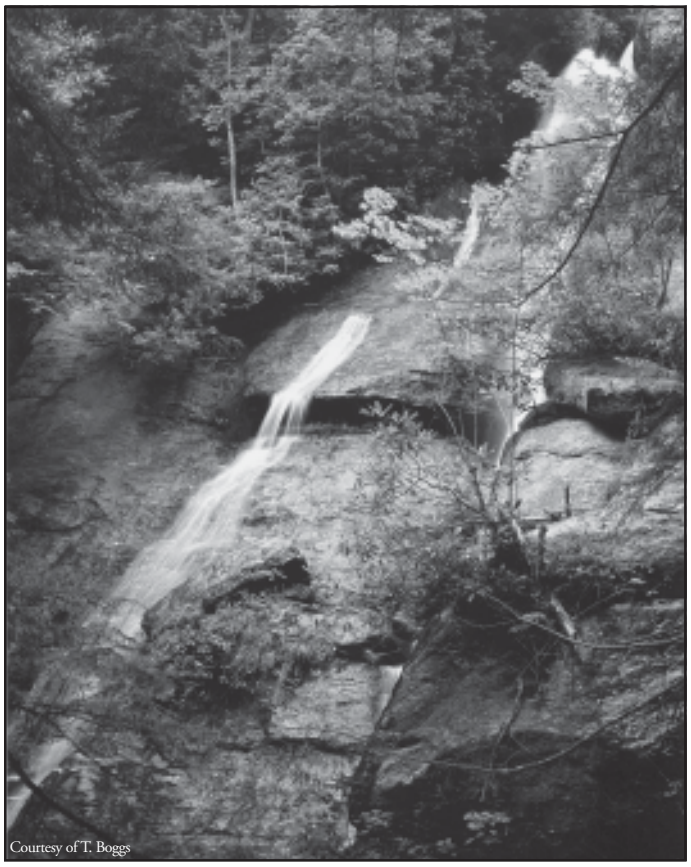
on the watershed context of mitigation, seeking restoration sites of high ecological value.

- Adequate funding. The system should be sufficiently funded to assure that projects are completed in advance of impacts.
- Separation of impact-permitting decisions from mitigation decisions. All projects carried out by EEP must follow a specific sequence that considers avoidance, minimization, and finally, mitigation. EEP should combine all project impacts and address cumulative impacts with cumulative mitigation.

Vision

In late 2001 the task force recommended to the leadership of NCDENR, NCDOT, and the Wilmington Corps District that a new mitigation system



Courtesy of T. Boggs

An EEP project preserved this waterfall at the headwaters of the Yadkin River.

be installed that would focus solely on mitigation and on meeting the identified needs. The three agencies accepted this recommendation and approved a basic plan that would guide the subsequent development of EEP. The plan gave responsibility for mitigation efforts to NCDENR and explicitly stated that the new mitigation program would focus on environmental priorities. Oversight and accountability mechanisms for the programs were established by a tri-party memorandum of agreement hammered out over the next 18 months.

On July 22, 2003, leaders of NCDOT, NCDENR, and the U.S. Army Corps of Engineers met at the site of an NCDENR-led urban stream restoration project in Greensboro to sign the memorandum of agreement establishing EEP procedures. The pact reflected the state's commitment to leaving behind its project-by-project strategy and focusing on quality mitigation that would benefit and protect the state's natural resources while promoting responsible economic growth. The state would move beyond efforts to merely comply with environmental permits and instead base its mitigation practice on a solid foundation of watershed planning.

Mechanics

The EEP proactive approach to environmental management establishes mechanisms for advance funding and implementation of mitigation. A frequently cited problem with wetland and waterway mitigation is the temporal loss of natural systems. A wetland can be destroyed or degraded by development if the promise of replacement wetland acreage or function is enshrined in a permit, but actual achievement of the compensatory mitigation may be years away. In the meantime, the ecosystem and human communities have lost the services provided by healthy, functioning aquatic systems. EEP addresses this problem by allowing NCDOT to stockpile mitigation credits years before the agency will need them to clear permitting hurdles. These environmental investments are targeted via broad-scale, in-depth watershed planning. EEP considers long-range projections of road-building and other development-related impacts, as well as environmental data, and directs program resources to high-priority watersheds.

EEP follows a carefully developed business model. Each year, NCDOT examines the state's seven-year highway construction program to determine the type, amount, and location of impacts to wetlands and stream corridors. NCDOT then provides its analysis to EEP, which is administered by NCDENR. EEP develops a plan to meet the mitigation needs and crafts a biennial budget to fund the necessary mitigation. Once the North Carolina Board of Transportation approves the funding ($175 million for the current biennium), EEP implements projects through private-sector firms.

The strength of EEP lies with the coalition of partners working to improve North Carolina's advance-mitigation process. Working along with NCDOT, NCDENR, and the Corps are the Federal Highway Administration, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, and the U.S. Fish & Wildlife Service. Representatives from these agencies oversee the program via an advisory panel, the Program Assessment and Consistency Group, that functions as an external quality-assurance mechanism for EEP management processes, methods, and outcomes.

The program also relies on private-sector partners and public-private cooperative initiatives, partnerships that help EEP avoid big-government stereotypes and as well as access the expertise of consultants and contractors. The program forged an innovative agreement with the Conservation Trust for North Carolina and by extension with that state-level trust's associated local and regional land trusts. This contractual relationship, perhaps unmatched in scale nationwide, brings EEP into partnership with 23 separate land trusts across North Carolina to promote land acquisition and open-space preservation. EEP seeks to acquire threatened natural areas to protect the state's most precious lands from development and the subsequent loss of wildlife habitat and stream buffers.

EEP created a liaison council to monitor stakeholder relationships and provide a forum for information exchange. Representatives of the state's land trusts and banking, legal, construction, and development communities

help form objectives and safeguards for EEP, creating transparency that program architects hope will foster public support.

Challenges

In a baseline assessment report for EEP prepared during the program's first year by RTI International, an independent nonprofit scientific research group the state contracted to evaluated progress of the program, reviewers noted that the EEP vision for mitigation would have to be a collaborative effort. "The EEP concept will either be a collective success or a collective failure," the report stated. "EEP cannot succeed or fail alone."

The assessment was apt. The fate of EEP depended from the beginning on the ability of all involved agencies to review their business processes and implement changes necessary to meet their commitments to the program. Establishing EEP required the state's traditional players in mitigation, NCDOT and NCDENR, to forge unconventional relationships and play unfamiliar roles. The mitigation programs in NCDOT and NCDENR had to merge, and it is no secret, and is perhaps understandable, that the two agencies historically did not see eye to eye on a range of policy issues. Human nature also made the early days of EEP turbulent. Watershed-planning specialists working for the environmental agency were asked to work shoulder-to-shoulder with transportation planners, and some staff members from each side of the equation chose not to participate. At the same time, oversight both from state and federal regulators charged with carrying out statutory and administrative obligations and from stakeholders made EEP a watched target. The concept of advance mitigation was itself politically difficult, because it required more up-front funding for mitigation than transportation authorities had ever been required to provide. No one was sure how well—or if—EEP would work.

Fortunately, the program had strong support on the executive level of state government. The office of Governor Mike Easley backed the program early on, banking on EEP's promise to advance the state economy while protecting the environment. Officials with the Federal Highway Administration were also supportive; the agency has provided roughly $2.5 million to EEP for program assessment services and the development of an internet database system to track credits and permit actions. Federal Highways also supplied EEP with a full-time liaison staffer who provided vital input and support to the program during its infancy, when only a handful of state staffers had been secured for the program.

Successes

EEP has had remarkable success, most notably reversing the trend of increasing delays in state transportation projects, key drivers in the North Carolina economy. In its first 23 months of operation, EEP spent $36 million on mitigation and helped advance roughly $1.5 billion in road projects, none of which experienced mitigation-related delays. The low cost of EEP mitigation—approximately 2.3 percent of the value of the road projects—represents an excellent return on investment.

EEP has collaborated with private-sector partners in about 400 wetland- and stream-restoration projects statewide. Preservation alliances identified and funded by EEP have already protected more than 30,000 acres of high-quality natural areas, including roughly 120 miles of streams and 7,000 acres of wetlands. Another 11,000 acres are either under option or in the process of being purchased for preservation, including 2,600 acres of wetlands and 115 miles of streams. EEP has carried out or is working on approximately 30 local watershed plans across North Carolina.

The program has earned national recognition. In 2005 EEP was chosen from more than 1,000 applicants as one of the top 50 new government initiatives in the nation by the Innovations in American Government Awards of Harvard University's Kennedy School of Government—the so-called Oscars of government prizes. The National Association of Environmental Professionals honored EEP with an Environmental Excellence Award in 2005 for the program's local watershed planning efforts. EEP also earned a national award for innovation from the National Association of Development Organizations in 2003.

In 2003 the Federal Highway Administration designated EEP as one of 15 projects nationwide worthy of designation as an Exemplary Ecosystem Initiative, an honor awarded to transportation projects that successfully employ an ecosystem approach to environmental management. Also in 2003 Federal Highways recognized the state agency sponsors of EEP with an Environmental Excellence Award, in part for their roles in creating EEP. In November 2004 the program also received the honor of a visit from the assistant secretary of the Army for civil works.

Lessons

The concepts that underpin EEP can be replicated elsewhere. Given the sometimes-conflicting interests that such an initiative must encompass, resource managers should heed three recommendations when seeking to create advance-mitigation initiatives:

1. Secure funding commitments for organizational development and implementation. When EEP unveiled its first budget request to the state board of transportation, members expressed palpable "sticker shock." They were not used to seeing the up-front costs of mitigation because those expenses had previously been buried in the cost descriptions of each project, not aggregated at the outset. Resource managers committed to advance mitigation must continually educate policymakers about the long-term economic gains of this approach.

2. Avoid political minefields.The EEP concept is controversial, bringing together bureaucracies that traditionally have highly divergent priorities. The success of an EEP-type program will require political support from the top down. In North Carolina, the governor lent such support early on.

3. Build trust. EEP is expected to meet state and federal regulatory mandates for clean-water permitting. Thus, state officials must have functioning, cooperative partnerships with pertinent regulatory agencies. Building these relationships requires trust, sacrifice, and personal commitment.

By grounding advance mitigation on a solid foundation of watershed planning, North Carolina is providing states around the nation a model for a transportation-development program that works to restore, enhance, and protect wetlands and waterways. ■

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