

CHIEF OF ENGINEERS
ENVIRONMENTAL ADVISORY BOARD
WASHINGTON, D.C. 20314-1000 (CECW-P)

1



25 September 2006

Lieutenant General Carl A. Strock
Chief of Engineers
441 G Street, NW
Washington, D.C. 20314-1000

Dear General Strock,

As we discussed at our meetings of December 1, 2005 and July 19, 2006, the EAB recognizes that the Corps has become a major participant in the planning, design and implementation of ecosystem restoration projects.

While the Corps has substantial in-house expertise relevant to ecosystem restoration, the Board believes that conceiving, implementing and maintaining a restoration project requires an adaptive management framework. We recognize that the Corps faces certain institutional and organizational constraints in accomplishing the long-term monitoring and evaluation that are essential to effective adaptive management.

Therefore, we recommend that the Corps undertake an initiative that involves training, learning and outreach to promote ecosystem restoration and adaptive management within the agency; and that a Center for Ecosystem Restoration be established. We have enclosed a paper that further elaborates on the attributes of such a Center.

Thank you for your consideration of our recommendations. We look forward to our continued discussions with you. Please feel free to call on me or any member of the Board if you have questions.

Sincerely,

A handwritten signature in black ink that reads "Kenneth M. Babcock".

Kenneth M. Babcock
Chairman
Environmental Advisory Board

Integrating Ecosystem Restoration into Programs of the US Army Corps of Engineers

Report of the Environmental Advisory Board to the Chief of Engineers

The Problem

By virtue of its size and expertise, the US Army Corps of Engineers has emerged as a major planner, designer, and implementer of ecosystem restoration projects in the nation's rivers and wetlands. The Corps' Civil Works strategic plan includes an objective to 'invest in restoration projects or features that make a positive contribution to the Nation's environmental resources' and to do this in a cost-effective manner. While the Corps has substantial in-house expertise relevant to ecosystem restoration, extensive experience in planning and implementing water resources projects, and a nation-wide presence, the organization has traditionally focused on its mission areas in navigation and flood and coastal storm damage reduction. The current project process reflects the needs of these mission areas as projects are planned in a deterministic manner, construction budgets are fixed, and projects are turned over to local sponsors after completion. By virtue of the biological systems to be established, ecosystem restoration projects involve greater uncertainty in outcomes, and it may take a long period of time for the predicted physical features and ecological communities to develop. Thus, conceiving, implementing, and maintaining a restoration project requires an adaptive management framework. This poses challenges to the Corps, in large measure because of the difficulty in funding the long-term monitoring and evaluation essential for effective adaptive management. Implementing effective ecosystem restoration will require a new focus within the Corps. The Board recommends that the Corps undertake an initiative that involves training, learning, and outreach (whose elements are described below) to promote ecosystem restoration and adaptive management within the agency.

What's Needed for the Corps to More Effectively Implement Ecosystem Restoration

Train and proactively support districts to implement ecosystem restoration

The Corps as a whole, from top to bottom, must provide technical support to Districts as they plan and implement ecosystem restoration and adaptive management on projects and provide means for considering and incorporating ecosystem restoration mission into all projects where appropriate. This could be achieved through a focused orientation and training program for Corps staff (which should be open also to staff of sister agencies). This would involve outreach on ecosystem restoration and adaptive management to other agencies, and to "inreach" throughout the Corps structure (districts, divisions, and labs). This additional training and networking will improve Corps' staff ability to organize and

conduct both Independent Technical Review and External Peer Review, allowing them more readily to identify and recruit top-flight reviewers.

Facilitate learning from projects

Each restoration project provides the opportunity to learn and improve future practice, but these opportunities are rarely recognized, let alone taken advantage of. The Corps can facilitate learning through regular seminars, by assigning specialists to the ecosystem restoration initiative, providing opportunities for interactions among permanent staff, visitors, and interns, securing outside experts through IPAs, etc. The Corps should convene workshops on specific topics, bringing in project managers and other staff from districts, those with experience from other agencies and industry, academics, etc., and summarizing findings for broader distribution. Where feasible, this training could coordinate with university courses, such that Corps staff may enroll in regular university classes, and all students in the classes have the opportunity to participate in research related to Corps projects or on topics relevant to the Corps mission.

The current bi-annual PCOP conferences encompassing environmental planning issues are excellent, but more is needed as the challenges go beyond planning to construction, monitoring, and operation. For example, the Corps could host conferences/workshops on specific types of restoration projects, in which participants share lessons learned from project challenges and failures (which often teach us the most) rather than simply reporting their successes. Importantly, workshops should be structured to facilitate exchange and learning with outstanding challenges being recognized and communicated to Corps leadership for advice and potential follow through (e.g., modified planning guidance, design manuals, etc.).

Lead and Advocate for Ecosystem Restoration

To effectively implement the ecosystem restoration mission and to ensure training and learning are efficient and value-added, the Corps will need staff whose sole job is to lead the Corps in its transformation into an effective adaptive management and ecosystem restoration organization. While there is currently strong leadership for ecological restoration, this is one of many hats worn by staff charged with this mission. With competing demands for their time, the staff members cannot follow through in all areas.

Develop incentive and reward structures within Corps

The current project approach will need to be altered to accommodate the needs of the ecosystem restoration mission, including by providing incentives for implementing effective ecosystem restoration and adaptive management and recognizing the need for staff to adjust budgets, designs, and timelines throughout the life of a project. This issue has emerged as a significant obstacle to the Corps' objectives.

Elements Needed for Implementation

A Strong Leader

This initiative will require a strong, dynamic leader, an ecosystem restoration scientist (natural/social/engineer) with a strong reputation within and outside the agency, one who also has the personality to lead, attract top staff, and build momentum for the transformation required. The leader must be an advocate for scientifically-based ecological restoration and adaptive management within the Corps and a dynamic leader who is charged with transforming how the agency undertakes ecological restoration. The leader must be adequately supported by staff and resources and be granted adequate authorities, responsibilities, and reporting relationships.

Commitment of Resources

In addition to attracting a strong leader, to make the initiative work the Corps must commit the resources needed to support training and learning and for effecting change in the organization. This will require significant commitments, but they are justifiable given the Corps' involvement in major ecosystem restoration and management programs, such as in the Everglades, the Upper Mississippi, the Missouri, coastal Louisiana, and the Columbia River, and the budgets associated with these efforts. Funding of this effort will provide direct benefit to existing and future Corps activities.

Strengthen Corps Staff and Build Partnerships with Academia and Industry

The initiative will need a strong staff, with depth of knowledge, experience, and commitment. The staff should be drawn not only from the Corps, but also other agencies, academia, and industry. Professional development should be supported. Staff members will serve as "ambassadors" within Corps and outside. Staff can be attracted using the IPA model, enabling the involvement of outside experts for short and long stays, and for repeated involvements at programmatic levels and following specific projects. Likewise, funding for post-docs and graduate student fellowships could establish long-term relationships with universities and encourage young Corps staff to get graduate degrees (where possible using projects as partial basis for thesis topics), increasing their experience and enhancing their professionalism in the area of ecosystem restoration.

Recommendation: Establish a Center for Ecosystem Restoration

The Board recommends the Corps establish a Center for Ecosystem Restoration, with the above attributes. The Center should have a physical location, the most logical location being determined by Corps staff but potentially building on one of the existing laboratories, institutes, or divisions. Having the Center established with a permanent physical location, staff, and core funding, will help to attract an effective leader, who will bring prestige, professionalism, and credibility to the initiative, and will help attract talented, dedicated staff.

The Center should have all the necessary authorities to operate within and outside the Corps, including the authority to engage consultants and fund research, a capability held by only some units of the Corps. The Center would need the widest possible capability to interact with academia, industry and NGO's. It should be fully integrated into the Cooperative Ecosystem Studies Units (CESUs), have contracting authority, be able to use of Broad Agency Announcements (BAAs), Inter Personnel Associates (IPAs), cooperative agreements, and any new means that develop to secure capabilities. The Center should be able to have personnel from other agencies (e.g., NRCS and US Fish and Wildlife Service) in residence, much as ERDC has done in the past.

To properly lead the Center, the leader should be full time, supported by a line item budget. There are a number of strong leaders in the Corps currently, and most have multiple jobs. The Center's leader and staff need to be focused on the center. The leadership position should not be an additional duty for someone already committed to other responsibilities. The Center should have an outside review and advisory group.