

MINUTES
CHIEF OF ENGINEERS' ENVIRONMENTAL ADVISORY BOARD MEETING
Orlando, Florida
1 December 2005

1. The Chief of Engineers, **LTG Carl Strock**, called the Environmental Advisory Board (EAB) to order at 0900 hours, 1 December 2005 at the Embassy Suites Hotel Airport, Orlando, Florida. The following EAB members were present:

- **Dr. George Crozier**, Executive Director, Dauphin Island Sea Lab;
- **Dr. Stephen Farber**, Director, Environmental Management and Policy Program, University of Pittsburgh Graduate School of Public and International Affairs;
- **Dr. Michael Donahue**, Vice President, URS Corporation, Water Resources and Environmental Services;
- **Mr. Kenneth Babcock**, Director of Operations, Ducks Unlimited Southern Regional Office;
- **Dr. Denise Reed**, Professor, Department of Geology and Geophysics, University of New Orleans;
- **Dr. Courtney Hackney**, Professor, Department of Biology and Marine Biology, University of North Carolina at Wilmington; and
- **Dr. Mathis Kondolf**, Associate Professor, Department of Landscape Architecture and Environmental Planning, University of California at Berkeley;

Also present were: **MG Don Riley**, Director of Civil Works; **Mr. Tom Waters**, Chief, Civil Works Planning and Policy, **Ms. Pat Rivers**, Chief, Southwestern Division Regional Integration Team and of the Environment Community of Practice (CoP); and **Ms. Rennie Sherman**, Acting Executive Secretary for the EAB.

2. WELCOMING REMARKS

Ms. Sherman noted the meeting was being conducted under Federal Advisory Committee Act (FACA) rules.

LTG Strock welcomed everyone and emphasized that the business meeting of the EAB was open to the public. He thanked the Jacksonville District staff who helped organize and host the EAB meeting.

He reaffirmed his commitment to this process and this Board, saying that “this is part of my corporate conscience” providing him an independent outside opinion on the conduct of the Corps environmental business. Both he and Assistant Secretary of Army (Civil Works), Woodley are interested and passionate about the environment, which represents a great vertical support team in the Corps.

Mr. Babcock, Board Chairman also thanked the Jacksonville District staff for organizing this meeting and the preceding working session and field trip, which helped board members to learn about the Corps Kissimmee Restoration Project.

LTG Strock recognized EAB desire to contribute to the Katrina recovery operations which represent a challenge to the Corps management as it may require the Corps to incorporate new ideas and ways of approaching traditional water resource problems. The Kissimmee project represents that change for ecosystem balance, where once the Corps developed a conveyance for flood waters, the Corps is now restoring the ecological and economic balance in the flood plain. The following EAB members were sworn on the EAB: Dr. Stephen Farber, for a first term, and Dr. G. Mathias Kondolf, Mr. Kenneth Babcock and Dr. Denise Reed, for their second terms.

3. DISCUSSION ON ECOSYSTEM RESTORATION TOPICS

Mr. Babcock stated that during the earlier working session, Mr. Tom Waters briefed the EAB on the Corps Katrina activities in response to the EAB's letter to LTG Strock, dated 21 October, requesting EAB involvement in the Corps Gulf Coast Recovery actions. The EAB's efforts to learn about the Kissimmee ecosystem restoration represented the EAB's desire to help the Corps become a leader in Ecosystem Restoration. He emphasized "a leader" not "the leader", since ecosystem restoration is a collaborative process involving many other agencies and stakeholders. For review, Mr. Babcock itemized the seven important individual, but interconnected, sub-themes, under EAB consideration: Adaptive Management, Outreach and Partnering, Restoration Authority Gaps, Improving the Corps Regulatory Program, Independent Scientific Review, Environmental Benefits Assessment and Performance Measures. The Environmental Benefits Assessment and Performance Measures sub-themes are interrelated and will be combined in future EAB discussions. While the EAB prepared a report dealing with the Independent Scientific Review sub-theme earlier, the EAB will continue to review Corps efforts to implement peer review, and make recommendations as necessary. At this meeting Mr. Babcock said the EAB would (1) report on its Ecosystem Restoration Authority Gaps assessment, (2) present comments on Regulatory integration into disaster relief work, and (3) present its opinion on the Corps present efforts to apply adaptive management to ecosystem restoration.

RESTORATION AUTHORITY GAPS

Dr. Donahue. The Corps approach to ecosystem restoration management has evolved to include both small individual projects and large-scale efforts that include multiple purposes. The EAB was interested in understanding if the Corps had sufficient legislative authorities to implement ecosystem restoration, to determine if there were authority gaps and other barriers to the Corps ecosystem restoration efforts. The EAB reviewed reports and specific authorities with the help of the IWR staff to develop its findings and recommendations, which are contained in a paper entitled Restoration Authorities of the U.S. Army Corps of Engineers, A Discussion Paper. The EAB findings and recommendations are both internal and external, that is, to the Corps and the EAB, with more recommendations for the EAB than the Corps.

1. Adequate authority for ecosystem restoration generally exists, but authorities are dispersed and not well understood by current and prospective partners and constituents
The EAB recommended that the Corps should develop and implement an information/education campaign to inform current and prospective partners and constituents of its authorities and capabilities for ecosystem restoration. This should include "general consumption" materials that clearly reference and describe authorities, document capabilities; provide examples of successful restoration initiatives and partnerships, and explain the process for requesting Corps assistance.
2. Existing authorities are not being fully exercised generally due to funding constraints, competing priorities and limited partnership opportunities. The EAB recommended that the Corps elevate ecosystem restoration as a priority activity, and actively pursue opportunities to educate prospective partners and constituents about Corps capabilities.
3. The Corps role in large scale ecosystem restoration varies significantly from one initiative to the next, suggesting that authorities and capabilities are not being fully employed. The EAB recommended the Corps review recently signed Memorandums of Understanding (MOU) and develop a strategy for collaborative restoration efforts (e.g., Natural Resources Conservation Service (NRCS), the U.S. Environmental Protection Agency (EPA), Ducks Unlimited (DU), and The Nature Conservancy (TNC)) based on those MOU's, identifying specific tasks and

timelines. Further, enter into additional MOU's where needed, to ensure that Corps restoration authorities are fully employed.

The EAB identified 4 actions to be addressed by the EAB at a future time.

1. Develop a detailed, descriptive inventory of selected ecosystem restoration efforts and, based on an assessment of those efforts, develop guidance for future efforts.
2. Select, as a case study, a basin or watershed that is a candidate for ecosystem restoration. Collaborate with relevant public agencies and stakeholder groups to assist with the planning process and ensure that guidance from lessons learned elsewhere is fully employed.
3. Identify and characterize the ecosystem restoration authorities and capabilities of all relevant federal agencies, compare and contrast with Corps authorities, and identify opportunities for partnership as well as constraints to be addressed.
4. Through the use of case studies, develop and apply evaluation methodologies to determine the anticipated benefits of restoration initiatives. In so doing, characterize expenses as an investment with substantial return.

In regards to seeking a case study, Dr. Donahue noted that the majority of EAB members were from the Gulf Coast, but he hoped that some projects in the northern areas of the US could be considered.

LTG Strook indicated he was impressed with the report and wondered if the Corps should establish a center of expertise.

Dr. Donahue indicated that the idea of a Center of Expertise has evolved due to the integrated and interrelated nature of skills need in ecosystem restoration.

Mr. Babcock asked if there was an EAB motion to accept and present the report to the Corps. Dr. Donahue made the motion, Dr. Hackney seconded the motion, and EAB members present voted to send the report to the Corps.

LTG Strook asked MG Riley to get the Corps staff to formally reply to the report by the next EAB public meeting.

REGULATORY IMPROVEMENT

Dr. Hackney indicated that the EAB is encouraged by the Corps Headquarters Regulatory efforts to improve its data collecting and analysis abilities which will improve permit processing, decision consistency, transparency of the regulatory process to the agencies and public, and performance. The EAB will continue to review the Corps Regulatory Program improvement initiatives. He stated that the, Corps Regulatory emergency permit process needs to review and consider floodplain and coastal zone management and environmental restoration during emergency responses and recovery operations. He believed there was an opportunity to reconsider whether or not to re-authorize the construction of damageable structures in the flood hazard areas. However, he indicated that the EAB needs to understand the Corps Regulatory emergency permit process better and will work with the IWR support staff on this topic.

The EAB also wants to review the Corps assessment of its wetland delineation survey, which is a partial result of court case dealing with Corps jurisdiction. Other recent legal challenges to the Corps authority to regulate wetlands are of great concern to the EAB. The EAB wants the Corps to keep it advised on the status of these challenges.

Dr. Reed emphasized that inclusive of EAB interest in the emergency permit application process in the Gulf Coast, the Corps should consider the entire nation in developing contingency plans for disaster operations. She said there should be a thought process in place for better management of the coast and floodplains and referenced the regulatory role in the State of Hawaii's effort to eliminate seawalls along the coast following hurricane events. She noted that regulatory is integral to Corps roles in ecosystem restoration.

Dr. Hackney echoed Dr. Reed's emphasis that developing Regulatory emergency contingency plans for better management of the coast and floodplains was not just about Katrina, but how the Corps regulatory program could be used proactively to prevent repeating future damages and loss of life. He indicated the EAB members' observations of repeated development mistakes during post-disaster rebuilding efforts.

Mr. Babcock emphasized that the Corps regulatory mission is an integral part of ecosystem management in the coastal zones and floodplains.

LTG Strook asked MG Riley to follow up with Mark Sudol (Chief, Corps Regulatory Sub-Community of Practice) to provide the EAB with an update on the survey of Corps regulation of isolated waters, second a review of the Corps emergency permit authorities, and third, the Corps Office of Counsel for a status to the EAB of recent court cases challenging the Corps ability to regulate isolated waters. He pointed out the EAB makes a valid point regarding developing action plans to guide Corps responses to disaster operations relating it to the Army's battle drills. He also recognized that the Corps is an applicant during disasters and must also meet the intent of other agency regulatory requirements, where they have similar emergency permits as the Corps.

Dr. Reed suggested that the Corps also go back and determine if mitigation is actually implemented during post-disaster recovery work. She understood that FEMA may not be funding mitigation requirements, but it should be clearly understood who is responsible for implementing mitigation during disaster recovery. She said that the EAB wants to look into this more.

LTG Strook agreed that EAB's interest was appropriate.

CORPS ECOSYSTEM RESTORATION AND ADAPTIVE MANAGEMENT

Mr. Babcock provided EAB observations on the Corps ability to apply adaptive management to ecosystem restoration and suggested that the EAB will look into recommending the Corps establish a center for ecosystem restoration. He noted that there are generally adequate existing authorities for ecosystem restoration, but no consistent definition of ecosystem restoration within the Corps (e.g., National Ecosystem Restoration objective), which was discussed at last meeting. Ecosystem restoration requires adaptive management

The EAB is not convinced that the Corps understands the concept of adaptive management, because (1) the Corps policies don't really address adaptive management and (2) there appears to be no Corps adaptive management doctrine. There are philosophical hurdles to adaptive management in Corps terminology, which fails to acknowledge uncertainty, ambiguity and complexity in natural systems. The EAB believes that the Corps has trouble with adaptive management because:

1. The Corps is project-focused
2. There are inherent problems with environmental measurability and quantification that run counter to Corps deterministic processes.
3. There is no champion for ecosystem restoration within the Corps
4. Ecosystem Restoration science is a rapidly evolving field, and there is a lack of expertise depth in the Corps regarding ecosystem restoration.
5. There are organizational hurdles to ecosystem restoration (e.g., funding stream issue, process structures)
6. Current reward structure focuses on delivering projects that are on time and within budget, which does and did not recognize the need for the acceptance of uncertainty.

The EAB, therefore, recommends that the Corps consider creating a Center for Ecosystem Restoration, which can help make it a leader in ecosystem restoration. Mr. Babcock discussed potential center attributes and said the center should have a physical location with staff, a budget, a strong leader and staff, fellowship funding, and academic relationships. The Center would work with districts on projects and facilitate idea exchange. The EAB intends to develop this idea over the next few meetings and make recommendations to the Corps.

Dr. Crozier. The EAB reviewed the National Research Council recommendations, which are generally good, but rather purist and this is a problem. The EAB needs to become more familiar with the Corps project formulation process. Ecosystem Restoration success must incorporate adaptive management. Adaptive management is a tool not an objective and needs to be incorporated up front. An agency's willingness to incorporate adaptive management is a proactive stance

Dr. Donahue. The value of the center is to attract other skills and agencies that create a synergy of new ideas. The center would infuse the Corps with ecosystem restoration principles, and he's looking forward to working with the EAB and Corps to develop the center attributes.

LTG Stroock suggested that adaptive management applies to all areas of decision making and noted that economic analysis integrates adaptive management. Opportunities may exist to reshape Corps management and to identify a champion for environmental restoration. In regards to a center, the Corps cannot simply establish and fund a center, but will be interested in reviewing EAB recommendations. Elements already exist within the Corps to pull together the necessary skills needed for ecosystem restoration through existing laboratories, such as the Engineer Research and Development Center and IWR. He liked the idea of tapping into academia on visiting scholar programs and attracting non-government organizations in the process. The Corps could be a leader in ecosystem restoration and is the natural leader to balance the environment maintenance with water supply, hydropower, regulatory, disasters.

MG Riley noted that a leadership role is important, and the idea of a center is interesting, but as proposed, the center idea is contrary to the Corps matrixed virtual team approach. There are, however, some things that can be done on the short term.

LTG Stroock indicated with the proper leadership, we could pull the interests together. He appreciated the EAB ideas on the center. We may want to consult with the Council on Environmental Quality regarding a champion.

Mr. Waters responded that a center could be a collaborative, holistic approach to policy, function and regulatory management fostering a synergy, which would not threaten stakeholders. The Center could blend with the Corps strategic approach without a separate stovepipe, integrating the field expertise without isolating them.

4. HURRICANE RESPONSE UPDATE TO EAB

Mr. Waters provided an update of Corps post-Katrina activities in the Gulf Coast (PowerPoint slide presentation attached). He welcomed EAB input as the Corps moves forward with recovery of the Gulf Coast. The presentation addressed the EAB's 31 October 2005 letter to LTG Stroock, expressing concern that the Corps adhere to the Environmental Operating Principles during rapid response and near- and longer-term planning.

During the Corps mission to repair the levees and unwater New Orleans, the Corps collaborated with EPA, State and local agencies to insure that unwatering did not create a second disaster. Environmental protection and preventative measures were incorporated into the Corps actions as determined by the interagency group headed by EPA. Much of the credit for controlling

environmental effects of watering is due to EPA and the Louisiana Department of Environmental Quality.

The Corps is also working with EPA, states and local entities to remove debris rapidly from public areas. Recycling is an issue, but not in our contracts. The Corps near-term mission is reconstructing levees, clearing navigation channels, repairing pump stations, reconstructing flood walls, and undertaking other interim flood protection measures.

The Corps has initiated studies to determine the engineering forensics of the levee system failure, as well as a study of historic and future planning initiatives and decisions regarding water management in the region. The Corps is also tasked with providing an increased Hurricane Protection Assessment. The Corps expects that these studies will influence national hurricane protection policy, project justification and planning processes, to include the role of natural barriers. Mr. Waters ended emphasizing that the Corps will continue to provide updates to the EAB, but also solicit their input to the studies planned by the Corps.

Dr. Reed was reassured that many borrow sites were previously identified, approved, and used during hurricane recovery. Their use did not cause substantial impacts. The Corps needs to get this news and other items related to its environmental ethic out to the public. She stated that she was impressed with the Corps waste recycling efforts that reduce landfill requirements.

5. PUBLIC COMMENT

Two individuals addressed the EAB and LTG Strock.

Mr. Jefferey Schardt – Environmental Administrator, Bureau of Invasive Plant Management Florida Department of Environmental Protection. Mr. Schardt asked that funds be restored for aquatic plant control research and implementation. Invasive plants infest greater than 90% of 1.25 million acres of Florida public lakes and navigable rivers. In the Kissimmee Chain of Lakes hydrilla infests more than 65% of the 65,000 acre reservoir system, which are the head waters to Lake Okeechobee and the Everglades. The US Army Corps of Engineers controls water levels and discharges, but does not fund any Aquatic Plant Control Program, while Florida spends greater than \$8 million annually controlling hydrilla in the Kissimmee Chain of Lakes. The US Army Corps of Engineers can partner in this effort.

LTG Strock responded that he understood that an invasive species discussion was included in the EAB visit to the Kissimmee Rivers Restoration Project and wondered if there was some level of study to determine invasive species effect there. He asked MG Riley to look into the matter and determine the adequate level of funding for the aquatic plant control program.

Mr. Richard Pierce – Mote Marine Laboratory. Mr. Pierce asked that the Corps investigate how the Comprehensive Everglades Restoration Plan (CERP) will alter nutrient discharge on the southwest Florida coast. The area is experiencing red tide occurrences and he fears that CERP activities could aggravate these conditions. He indicated that the first phase of the study was funded in 2005, but no funds were appropriated in 2006. The CERP will alter freshwater discharged from Lake Okeechobee and the Caloosahatchee River with the potential for altering total nutrient loads and ratios that can impact the coastal regions. The effects of these changes are not known, and it is essential to provide an accurate assessment of impacts resulting from the CERP. These concerns originated from residents who experienced recent intense red tide blooms in Lake Okeechobee and the Caloosahatchee River and the Gulf Coast.

LTG Strock directed the Corps staff to look into the matter and see what could be done.

6. CLOSING REMARKS AND ADJOURNMENT

Mr. Babcock thanked LTG Strock for providing the opportunity for a two-way conversation and responding to the EAB. He hopes that the EAB will be proactive and bring issues to LTG Strock's attention consistent with the EAB overarching theme. He hopes to bring the Board's input to the Corps regulatory program and is glad to hear that LTG Strock was interested in the Board's opinions regarding the recent challenges to the regulation of isolated waters.

LTG Strock replied that he is very much interested in the EAB's opinions and will get Mark Sudol, Chief of Regulatory, to provide information on isolated waters regulation and the results of the survey when available.

Dr. Reed recommended that EAB continue to interact with the Coastal Engineering Research Board (CERB) on topics of communality. She indicated that her attendance at the CERB meeting in St. Petersburg, Florida on 2-4 November, at the request of the CERB, showed her that the EAB and the CERB have interrelated and parallel concerns and interests, particularly in the area of post-Katrina recovery and investigative actions. A member of the CERB attended an EAB working session. There is a potential synergy between the environmental concerns and coastal engineering activities regarding Katrina recovery considerations.

LTG Strock supported EAB links with other boards in an integrated approach to water management. LTG Strock again thanked the Jacksonville District for their support and the EAB for the substantive discussions. There being no further business, he adjourned the meeting.