MINUTES

CHIEF OF ENGINEERS ENVIRONMENTAL ADVISORY BOARD

August 28, 2012
Chicago, IL

1. CALL TO ORDER

The U.S. Army Corps of Engineers (Corps) Commanding General, **LTG Thomas P. Bostick**, called the Environmental Advisory Board (EAB) to order at 0830, hours, 28 August 2012 at the Metcalfe Federal Building, Chicago, Illinois. The following EAB members were present:

Dr. Richard F. Ambrose, Director of the Environmental Science and Engineering Program and Professor, Department of Environmental Health Sciences, University of California at Los Angeles;
Dr. Samuel Atkinson, Director-Institute of Applied Science, University of North Texas
Mr. Terry Cook, EAB Vice-Chair, State Director, Kentucky Chapter of the Nature Conservancy;
Dr. Christopher I. Goddard, Executive Director of the Great Lakes Fisheries Commission;
Dr. William L. Graf, Foundation University Distinguished Professor Emeritus of the Department of Geography at the University of South Carolina;
Dr. Rollin Hotchkiss, Department Chair, Hydraulics and Water Resources, Brigham Young University
Mr. Robert Joe, City Councilman, South Pasadena, CA; Special Projects Manager, Metropolitan Water District of Southern California (Retired)
Dr. James E. Kundell, EAB Chair, Professor Emeritus and Director of the Environmental Policy Program, Vinson Institute of Government, Professor Emeritus, Odum School of Ecology, University of Georgia; and,
Dr. Denise J. Reed, Professor, Department of Earth and Environmental Sciences, University of New Orleans;

Also present were **Mr. Steven Stockton**, Director of Civil Works, **Mr. Theodore Brown,** Chief of Planning and Policy, **Dr. Christine Altendorf**, Chief of the Environmental Community of Practice, **COL Frederic A. Drummond**, Commander and District Engineer – Chicago District, **COL Robert A. Sinkler**, Strategic Integration Office, and **Mr. John Furry**, Designated Federal Officer to the EAB.

2. WELCOMING REMARKS AND OPENING DISCUSSION

The Chief of Engineers, **LTG Thomas P. Bostick**, welcomed members and the public to this session of the EAB, his first as the Chief of Engineers. He discussed his interest in the upcoming session and expressed thanks to the Board for what he believes will be valuable counsel regarding environmental issues faced by USACE.

Dr. Kundell opened by thanking member Dr. Chris Goddard for hosting the Board, as well as the Chicago District for the tours and field visits to various environmental projects around the Chicago area, stating that much was learned yesterday. Dr. Kundell then opened the floor for Board members to introduce themselves. Dr. Kundell then welcomed the Chief to his new position and expressed a desire for a productive and exceptional working relationship.

3. ENVIRONMENTAL OPERATING PRINCIPLES

Dr. Kundell began with a review of recent EAB activities, particularly the work completed on the updated Environmental Operating Principles (EOPs), explaining the history of the task as a directive from **MG Michael Walsh** at the previous meeting of the Board. The EOPs have served USACE well in articulating the environmental focus of the agency, but that focus needs to be sharpened. In discussions with many varied staff around the country, the Board has found that the EOPs are frequently applied as intended in the decision making process and that personnel are generally very attentive. However, the Board also discovered areas in which staff, while espousing an environmental mindset, did not refer to the EOPs, and found further that other areas ignored the EOPs both in spirit and letter. Simply, there is a wide disparity in implementation of the Principles.

The Principles have played a great role in defining the USACE environmental mission, but they are ten years old and it was appropriate to revise them at this time as suggested by MG Walsh. At an EAB working session in March, it was decided that they needed to be more reflective of the advances in knowledge over the preceding decade, and to embody stronger and more proactive language. Following the working session, proposals for updates were submitted to MG Walsh and Mr. Brown. The version that became final is very similar to the initial proposals and for that the Board is appreciative. **LTG Bostick** thanked the Board for the effort, and agreed that a more succinct and cleaner set of Principles would help foster consistency both within the agency and with partner organizations. **Dr. Kundell** reiterated that the Board continues to be happy to assist with the Principles as they move towards implementation. **Dr. Altendorf** noted that inclusion of the EOPs into USACE training, through the PROSPECT program, will begin shortly, and that leadership desires to embed the Principles across the organization. **Mr. Stockton** spoke about the need for a forcing function, to possibly include the Civil Works Review Board, stating that the EOPs cannot simply be distributed and that is the end. Continued proactive engagement from leadership is required to make them stick. **Dr. Kundell**, in agreement, reminded the Board and others that the EOPs are not starting from zero and that there is no change in intent or focus from the previous version, simply an update.

Mr. Cook, expanded on the importance of how the EOPs are implemented and which metrics are developed to support the EOPs. What type of metrics should be developed and what are the desired outputs? What rate of progress is desired? The beginning might just be committing to turn off the lights, but the goals should be aggressive and challenging, since hard to attain goals breed more creativity and innovation in sustainability. Another angle is resource management, as much USACE money flows through to contractors. Are we able to compel contractors to abide by USACE EOPs, and how might we look at the total USACE supply chain for more environmental awareness? **Mr. Brown** volunteered that USACE does currently track energy metrics. **LTG Bostick** responded that much time was spent at the Senior Leaders Conference (SLC) discussing what those metrics should be and that the EAB can be of great assistance in determining their final form. **Mr. Joe** suggested having a Board member present a module on the EOPs at the new commanders' course as a method to embed the idea at all levels, while another might be for the EAB chair to attend the SLC for the same purpose. **LTG Bostick** said that he has spent much time speaking with ASA (Installations) Hammock trying to eliminate redundancies within the agency and within the Army, and wants to know how we can be more efficient and more effective. **Dr.**

Ambrose wanted to reinforce the idea of metrics and targets, and that they must be time constrained and with a baseline in order to gauge progress and track improvements. **Dr. Graf** continued upon Mr. Joe's thought, stating that the District Engineers are an important group, and if the leadership believes in and pushes the concept, staff will fall into place. If only Headquarters staff is behind it, the Principles will fail at the field level. **Dr. Altendorf** finished out the discussion of the EOPs, reminding that USACE current has metrics for sustainability, including water use, carbon emissions, and energy reduction, but that the data is suspect and in many cases no baseline exists. She questioned if the EOPs should be implemented if they cannot be measured.

4. DISCUSSION

Dr. Kundell continued the meeting with some comments on USACE Aquatic Ecosystem Restoration. Most USACE projects have hydrologic or geomorphologic consequences to sediment, nutrients, spawning habitat, and other areas, such as critical bird and fish habitat along the Lower Missouri, the Everglades, sediment in the Lower Mississippi, and as the Board observed yesterday, within the Chicago District. In the past these changes were deemed "the cost of doing business", but as understanding improved it became apparent the significant impact we have on aquatic ecosystems and that we should restore ecosystem functions. Aquatic ecosystem restoration is a high priority mission for USACE. We understand that there are many more projects proposed than there is funding, so consequently there must be a way to select projects. We are working on developing selection criteria for aquatic ecosystem projects, and a paper has been drafted. Following discussions with Mr. Brown, we are rewriting that paper and will meet with USACE personnel in the field on the best methods for implementation.

Dr. Reed said that the Board sees this as an iterative process, and agrees that current project selection/prioritization criteria are weak and inadequate. These types of criteria can help better focus and hone the mission, as described by Dr. Kundell. What remains to be done is to work out how ecosystem restoration fits in with the other business lines and mission areas, and how they can work together.

LTG Bostick asked how does one priority fit with each other. At the local level, when work must be done compromises are made, but in Washington it becomes a more complex task and HQ must provide better guidance. The USACE used to have great leeway in setting priorities, but the process is more stove piped now, and how can we undo those stove pipes. We need an integrating function at the national level. The National Security Council serves as a great example of a body bringing different players into solve problems quickly and effectively, and USACE should look to them as a model. Looking at what the Corps has done very well, the construction in New Orleans, $10B worth, stands out as how to work within NEPA and ESA and still get the job done quickly. There are similar crises playing out elsewhere at various levels but nobody notices because they are smaller and less visible. **Mr. Stockton** provided that tradeoffs are hard, and it's difficult to set national priorities. For the Fiscal 14 budget, the USACE Major Subordinate Commands have been asked to think at a watershed scale. How might a proposed project fit with all else that is ongoing in the basin, both USACE and other efforts. The Hudson-Raritan system is an excellent example of working together, with 63 entities involved and all efforts advancing to a common goal. **COL Sinkler** said that IWRM is the correct path, and that several District Engineers take the initiative to execute in that manner, but some need help to complete that task.

LTG Bostick asked "what is sustainability", and is there a real feel for it. **Mr. Cook** responded with his experiences with the Louisville District, stating that the previous District Engineer said he had been told to make his District more sustainable, but did not know what that truly meant. We want to help staff and others understand what it means in practice and not just as a buzzword which everyone is trying to navigate independent of guidance. We should be providing guidance from the top concurrent to folks at the field level working towards their own solutions. **Dr. Graf** said that there is increased interest in watershed based budgeting and planning. It takes us back 30 years to the river basin councils, which collapsed for various power sharing reasons. And from a science perspective, getting the things right in a watershed is absolutely the key to sustainability.

Dr. Kundell followed up another topic last discussed with MG Walsh, and that is the Mississippi River and the disposition of flood management structures following the flooding of last summer. Dr. Reed is currently serving on the Agency Technical Review team for a related effort on the Mississippi. BG McMahon spent one hour with the EAB on their visit to the basin discussing approaches to flood planning, noting that the long term plan is receiving pushback from farming interests who want the levees repaired immediately, before the implementation of a basin plan.

Dr. Kundell then opened the floor to each Board member to speak for a few minutes. **Dr. Goddard** mentioned that he enjoyed the local flavor of the meeting, and was glad that LTG Bostick would be taking visits to field sites with COL Drummond. Some will be large and complex like the carp barriers, but many will be small Great Lakes Fishery & Ecosystem Restoration (GLFER) projects that are hugely important to the Great Lakes basin. The existing guidance for GLFER does not allow compatible recreation, and Dr. Goddard asked for a minor change in the implementation guidance to allow it. **Dr. Reed** added only that the Board should identify opportunities for ecosystem restoration benefits associated with other USACE projects. **Dr. Hotchkiss** said that they have been invited to present to Kansas City District and the Bureau of Reclamation on environmentally friendly dam operations. **Mr. Cook** thanked Chicago District for the tour and the excellent staff support. The Nature Conservancy has a long history with USACE and a very important relationship, and for that he thanked the Chief. He appreciates working with the Louisville District on the Sustainable Rivers Program, highlighting the Green River as the only USACE dam operated for environmental flows in the operating manual. How can we spread this approach to the watershed level and to other projects? **Dr. Graf** said that conversations today have skirted the idea of the obsolescence of USACE facilities. He noted that 25% of all dams in the United States were built in the 1960s and nearing the end of their planned lives, including not just large dams but small dams and diversions as well. How do we deal with them? Many small, non-Corps structures are removed from waters at a rate of 60-70 per year in processes that require Corps approval. Such approval now requires exceptionally long time periods, and river restoration could be more efficient if the approval process were accelerated and standardized. Can the Corps find a way to bring its military experience to bear on the environmental issues? **Dr. Atkinson** declined comment, explaining he'd like to withhold comment until he understood better about the Board. **Dr. Ambrose** further offered the services of the Board to the Chief, and mentioned his particular interest in regulatory issues, which he believes the Board does not address frequently.

5. PRESENTATIONS

-moderated by Mark Cornish of USACE

Mr. Cornish made a short introductory presentation about some USACE activities surrounding invasive species management, mentioning that the USACE has been active in invasives management since 1890 in the State of Florida. Currently, USACE has an Invasive Species Leadership Team (ISLT) with staff from across the agency and tasked with assuring the USACE meet Administration goals related to invasive species management. Currently, the most publicized areas of work for USACE in invasive species management are hydrilla control in upstate New York and Asian carp in the Chicago area. Mr. Cornish noted some other agency invasive species management highlights, including efforts in Brooklyn, Dallas, Nevada, the Upper Mississippi, and the Upper Peninsula of Michigan.

a) *Restoring the Natural Divide;* **Dave Ullrich**, Great Lakes and Saint Lawrence Cities Initiative

The Great Lakes and Mississippi River Watersheds have been connected in the Chicago Area Waterway System (CAWS) since 1900. This connection, created to carry Chicago's wastewater and storm water away from Lake Michigan, has also served the needs of waterborne transportation, as well. The open passage has also allowed the movement of invasive species between the two basins, and the threat of Asian carp reaching the Great Lakes is a major concern of the Great Lakes basin. One of the most effective options for stopping the movement of the 39 invasive species in a position to move from one basin to the other is a system of physical barriers that would restore the natural divide between the basins that existed before. The Great Lakes and St. Lawrence Cities Initiative and the Great Lakes Commission joined efforts with six funders in a one year study on the feasibility of such a project. The report was completed on January 31, 2012 and demonstrated that the project is feasible, and could be done in a way that enhances water quality, flood control, and transportation.

b) *Asian Carp Monitoring, A Cooperative Effort*; **John Rogner**, Illinois Department of Natural Resources

In Fall of 2009, a single bighead carp was recovered below the electric barrier through the application of rotenone to the Lockport Pool of the CAWS. DNA of both silver and bighead carp were detected in water samples from the CAWS below and above the barrier. In response to this new information, an interagency Monitoring and Rapid Response Work Group was assembled under the overall direction of the Asian Carp Regional Coordinating Committee to develop an Asian Carp Monitoring and Rapid Response Plan, which has undergone annual revisions in 2011 and 2012. Primary cooperators include the Illinois Department of Natural Resources, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers. Elements of the plan include electrofishing, gill nets, and trammel nets for biweekly sampling at fixed sites above and below the barrier; bi-weekly sampling for environmental DNA (eDNA); rapid response actions based on pre-determined triggers; and removal of Asian carp at the carp population front below the barrier by contract commercial fishermen.

c) *Ecosystem Restoration, Invasive Species, and Migratory Birds;* **Stephen Packard**, Audubon Chicago, Northwestern University

Recent initiatives by the Corps in "the restorative engineering of natural ecosystem function" are having a powerful impact and may set a model for the nation and the world in this emerging discipline. This work has focused on aquatic habitats with wise corrective measures not only on the aquatics themselves but also in the riparian zone and mosaic of wet prairies and forests along with the isolated wetlands that control much of the function of the aquatic systems. This work has relied on major contributions by partner agencies including state and local governments and NGOs. The work requires meeting three major challenges:

1) re-engineer an improved and compatible hydrology,
2) control "invasive" or "malignant" species populations, and
3) install sufficient plant life for a functioning ecosystem that will in time be "solar powered" by photosynthesis and largely self-maintaining.

In addition to their more obvious social benefits (flood control, soil conservation, water quality), these efforts have been proven highly beneficial to migratory birds and likely have similar benefits to other wildlife (fish, invertebrates, amphibians, mammals and others). This work has been pioneered on Earth in Wisconsin and Illinois by NGOs and local governments, but the work of the Corps has fostered order-of-magnitude advances thanks to expertise and resources brought by the Corps[1].

6. PUBLIC COMMENTS

1) **Bill James**, Indiana Department of Natural Resources, Chief of Fisheries

Mr. James introduced himself as the Chief of Fisheries for the State of Indiana. In the Great Lakes habitat restoration is done by many agencies and this helps leverage resources. GLFER is the flagship USACE ecosystem restoration program in the region and it's very important. Mr. James cited it is an outstanding example of a program that puts real projects on the ground and addresses local issues while maintaining perspective on the broader ecosystem. About 40 GLFER projects are currently in implementation, for which he thanked state, tribal, and federal partners. Many groups have invested resources in the program, including Indiana, which has invested because the benefit of the program is so high. The weak link is the lack of inclusion in the base budget of USACE as the project is funded entirely by Congressional adds. Mr. James asked for a commitment to include GLFER in the Fiscal 13 Work Plan.

2) **Tim Eder**, Executive Director, Great Lakes Commission

Following on Mr. Ullrich's presentation, Mr. Eder said that Restoring the Divide is now in Phase Two. One objective of the project is to promote greater understanding of the work with decision makers in a position to take action, with potential local sponsors, and to promote the mid system

[1] Based upon the observations and inspirational writings of a Wisconsinite, Aldo Leopold, ecosystem restoration work was started by local governments and NGO's in the State of Wisconsin and quickly spread to Illinois. However, it is the eco restoration work of the Corps that has fostered order-of-magnitude advances thanks to the expertise and resources brought by the Corps.

alternative. A better understanding of the economics of this project is needed, including who will pay, and what it will cost. Mr. Eder stated that the Great Lakes are the most important body of freshwater in the world, and with threats come opportunities. USACE has the challenge of conflicting authorities with navigation and ecosystem restoration, but Mr. Eder is confident solutions can be found.

3) **Jennifer Nalbon**, Director of Navigation and Invasive Species, Great Lakes United
Ms. Nalbon stated that she represents the thoughts of the NGO community on the Great Lakes-Mississippi River Interbasin Study. Preventing Asian carp is a critical issue to the $7 billion bi-national fishery in the lakes as well as the multibillion dollar recreation industry. NGOs strongly support hydrologic separation in the Chicago area to stop species movement in both directions. Following Congressional clarification on the transportation bill, the USACE is required to submit a 90 day interim report, and Ms. Nalbon urged USACE to articulate which options will be examined in that report. That articulation will allow the NGO community to build Congressional support for solutions. The NGO community wants to move towards full feasibility by summer of 2014, and hydrologic separation is one of the available options per Congress. Ms. Nalbon thanked the Corps for the leadership in this process and said that all want to move in the same direction on this critical study.

LTG Bostick asked Ms. Nalbon which NGOs she spoke for. Ms. Nalbon responded that their alliance includes more than 100 NGOs, with a list to be provided to the DFO.

4) **Marc Smith**, Senior Policy Manager, National Wildlife Federation
Mr. Smith wanted to expand Asian carp activities to vectors outside of the CAWS, noting that Zebra mussels are an instructive case, and it would have been much more cost effective to stop them before the invasion. The first new vector is the Minnesota pathways, for which one idea is to reduce the frequency of lockings using scheduled lock hours. The second idea is to sever ties down from Duluth since carp have no chance of making it that far up river. Mr. Smith asked is it possible to use Great Lakes funding outside of the basin on issues of importance to the lakes? He appreciated the transparency of USACE in these efforts and the public information being released.

5) **Joel Brammeier**, President & CEO Alliance for the Great Lakes
An idea for USACE: the GLC and Great Lakes and St Lawrence Cities Initiative have put forth tremendous ideas and there is much discussion about the interbasin study. One negatively impacted constituency, said Mr. Brammeier, might be the commercial navigation community. What is the best way to address the leaders that are needed to enact hydrologic separation? These include local sewer authorities, the City of Chicago, and others. USACE, as a national advocate for navigation, has an opportunity to bring navigation interests to the conversation.

6) **Dale Burkett**, Sea Lamprey Program Director, Great Lakes Fisheries Commission (GLFC)
The GLFC has been battling sea lamprey for some time. The Welland Canal has allowed the sea lamprey into the Great Lakes and to ravage them; this is also occurring along the Manistique River. Mr. Burkett said the GLFC has been dealing with them, but would like the reestablishment

of physical separation to deter sea lamprey movement. The GLFC has spent more than $2 million over 10 years fighting them, but has had success with some barriers that allow steelhead movement while barring the lamprey. Most barriers, however, are private or otherwise out of Federal control and WRDA 1135 is very important to this. The lack of Congressional adds has been damaging to the efforts, as the barriers were fully reliant on them.

7. CLOSING REMARKS AND ADJOURNMENT

Dr. Kundell thanked Board members, USACE leadership and staff, and the public for attending the meeting and passed microphone to LTG Bostick.

LTG Bostick said that the meeting was insightful and productive for him and his team. He thanked the Board for their ideas and insights and the speakers for their comments. He said we'll review their comments and provide feedback. He pointed out the EOPs are a great example of what this Board can do, and said the EOPs are something that needs to be executed in the short term while keeping an eye to the future at the things that must be accomplished. He said he would like to see continued work on watershed approached to planning and budgeting as a best practice for efficient resource use, and movement on implementation of watershed planning. He reiterated the need to provide metrics for the EOPs for Board review. He said the District Engineer pre-command course is a good opportunity to bring the EOPs into a training setting. We need to work on national level integration, particularly with aquatic ecosystem restoration, and there are win-win solutions that must be found. He added that we must have a strategy for dealing with our Nation's aging infrastructure and a strategy that the country is willing to go along with. He concluded with a point to consider what is our role with invasive species and the USACE part in dealing with them? Thanks all.

I have reviewed these minutes and certify they are an accurate account of the subject meeting:

_____ date 10/3/12
James E. Kundell, Ph.D.
Chairman, Chief of Engineers Environmental Advisory Board

Posted to the CoE EAB Webpage:

John C. Furry
Designated Federal Officer
Chief of Engineers Environmental Advisory Board