

MINUTES
CHIEF OF ENGINEERS ENVIRONMENTAL ADVISORY BOARD
January 15, 2009
San Francisco, California

1. The Chief of Engineers, **LTG Robert L. Van Antwerp**, called the Environmental Advisory Board (EAB) to order at 0900, hours, 15 January 2009 at the Marines Memorial Club and Hotel, San Francisco, CA. The following EAB members were present:
 - **Dr. Courtney T. Hackney**, Vice Chair; Professor of Biology, University of North Florida, Jacksonville;
 - **Dr. Richard F. Ambrose**, Director of the Environmental Science and Engineering Program, Professor, Department of Environmental Health Sciences, University of California at Los Angeles;
 - **Mr. Terry Cook**, State Director of the Kentucky Chapter of the Nature Conservancy.
 - **Dr. Stephen O. Farber**, Director of the Environmental Management and Policy Program in the Graduate School of Public and International Affairs, University of Pittsburgh (retired);
 - **Dr. Christopher I. Goddard**, Executive Director of the Great Lakes Fisheries Commission;
 - **Mr. Robert S. Joe**, Special Projects Manager, Metropolitan Water District of Southern California; and,
 - **Dr. James E. Kundell**, Director of the Environmental Policy Program, Vinson Institute of Government, University of Georgia

Also present were **Mr. Steven Stockton**, Director of Civil Works; **MG Merdith (Bo) Temple**, Deputy Commanding General for Civil and Emergency Operations; **COL Janice Dombi**, then Deputy Commander, South Pacific Division; **Mr. Theodore (Tab) Brown**, Chief of Planning and Policy; and **Ms. Rennie Sherman**, Executive Secretary for the EAB.

2. WELCOMING REMARKS

LTG Van Antwerp opened the meeting with a welcome to the Board and public. Those at the head table, including the members of the Board introduced themselves to the public. LTG Van Antwerp specifically welcomed and swore in two members participating in their first public meeting, Mr. Terry Cook and Mr. Robert Joe. He also thanked two Board members, Dr. Courtney Hackney and Dr. Steven Farber, participating in their final meeting, for their service to the U.S. Army Corps of Engineers (Corps).

LTG Van Antwerp stated that the Board has taken on a wide variety of issues such as the activities of the Corps in New Orleans following Hurricane Katrina. The Board has also been to the Seattle District to look at ecosystem restoration regarding salmon populations. He also referred to the Corps Campaign Plan that includes enduring solutions to comprehensive water resources management and calls for risk informed asset management and addressing climate change. He said that collaborative partnerships will need to be developed.

Dr. Courtney Hackney thanked the San Francisco District for their coordination of the EAB meeting and their organization of the field trips. He said that the Corps Environmental Operating Principles (EOP) were the focus of the discussions with the District. Before referring to the EOP discussions, he talked about the work session on 14 January with Dr. Beth Fleming of the Engineer Research and Development Center (ERDC) Environmental Laboratory (EL) and Mr. Rayford Wilbanks of the Corps Ecosystem Restoration Planning Center of Expertise (ECO-PCX) in the Mississippi Valley Division. Dr. Fleming's description of the Environmental Laboratory's work in ecosystem restoration helped the Board better understand the science underlying the Corps restoration program. The Corps is conducting large scale restorations. While Dr. Fleming's presentation showed the Board how the laboratory was supporting these activities, the Corps ecosystem restoration mission still needs to be strengthened. Mr. Wilbanks gave the Board a view of how the ECO-PCX is working in the ecosystem planning arena. This discussion showed also how the ECO-PCX and the EL were working together to complement each other's activities. Dr. Hackney, however, stressed that the Corps also needs to establish a senior position at headquarters to keep ecosystem restoration on the agenda and provide a vision for the future. Essentially, Corps ecosystem restoration needs a champion— a spokesperson.

Dr. Hackney then discussed the roundtables held in the work session 14 January, where, similar to the prior Board meeting in the Seattle District, the Board asked whether and how the EOP are being used in the San Francisco District. Per two roundtable discussions—with middle level managers in the District and with non-governmental organizations (NGOs)—the Board has a better understanding of the way the EOP are being applied and where the problems are. The NGOs, however, often do not perceive that the EOP are being implemented. The NGOs believe that the EOP are superseded by more established district bureaucracy. There is unsureness in the District about EOP flexibility to override historic engineering principles and practice. It will take a change in Corps culture to push an emphasis on the EOP. The Corps needs to regularly address the EOP so that staffers remember to include them in their project justifications.

Dr. Hackney continued by stating that a good place to start would be some sort of presentation or model on how to use the EOP for each Corps training session and class. Individuals need to understand that the EOP can be applied to almost every Corps activity. Dr. Hackney supported issuance of a Corps directive about how to apply the EOP. Dr. Hackney believes some Corps staffers are afraid to use the EOP because of an apprehension, and they defer to the more legal regulations that mimic the EOP

Dr. Hackney also stated a concern about a Corps role in group activities such as restoration of wetlands per discussion with the NGOs. The Corps has tremendous expertise in water resources and water resources management and should be a participant or leader, not only an observer. In ecosystem restoration activities led by other organizations, the Corps should have senior participation because of its expertise and roles and act as a think. Furthermore, the Corps needs to continue developing cooperative agreements with Federal and state governments and academia. This will not happen overnight, but the Corps needs to keep focusing on increasing these types of participation.

Dr. Hackney said that the stimulus package has raised some red flags raised and requested that the Corps be sensitive to environmental community concerns. There may be an opportunity to push 'shelved' but 'shovel-ready projects' forward in some key areas of restoration. He

suggested perhaps use of a rapid assessment team to review stimulus projects, for example, on ecosystem restoration. There is much better information now. The Corps should apply the EOP in identifying prospective projects, ask how projects embrace the EOP, and choose wisely. He suggested that as the Corps moves forward in the areas of ecosystem restoration and climate change, they need to ensure that the Environmental Laboratory is integrally involved in looking at the implications to the EOP

Dr. Hackney concluded his opening remarks by thanking the new members of the Board for their work. He stated that there is potential for the Corps to be a major component in conservation and that he knew the new members would assist in this process. He announced that Dr. Jim Kundell will be the new Board Chair replacing outgoing member Dr. George Crozier and that Mr. Terry Cook would assume the EAB position of Vice Chair replacing him (Dr. Hackney).

Dr. Steve Farber said that no one could disagree with the EOP and that Districts do many of the things contained in the EOP. Many NGOs, however, do not believe that the EOP are being addressed. He asked if there was a person to monitor the EOP throughout the Corps. A Corps senior level champion would help make the EOP real and direct staff to use the EOP as they work on their projects.

LTG Van Antwerp responded that this role has to be imbedded in project delivery teams. He directed the Chief of the Planning Community of Practice, Mr. Tab Brown to look at establishing a person in this role and report back to the Board at the next meeting.

Dr. Chris Goddard stated that this is a meaningful time with the new Administration. The Corps may see a recommitment to be green and do the correct things put forth in the EOP. The Corps has the opportunity to enhance the environment, and a revision of the Principles and Guidelines (P&G) should incorporate the EOP.

Dr. Richard Ambrose thanked Dr. Hackney and Dr. Crozier for their leadership. He stated that this is an exciting time for ecosystem restoration initiatives, and that future climate change effect is an area of concern. He said that the Corps must be proactive in ecosystem restoration to accommodate the climate change driver.

Mr. Terry Cook thanked the Chief for his support. He reported on an eye-opening experience particularly in the Board's discussion with the NGO's. The NGO's reported that they did not see the Corps tapping into the expertise outside the organization; the Corps needs to reach beyond to capture this expertise. While the Corps has some great people, the organization needs to look outside so it can have a better vision in ecosystem restoration and climate change. The NGOs and outside organization can give the Corps a view that will enhance the Corps work projects. The Corps can be a leader to get the best science and the right people involved. The Corps needs to consider what can be done, not what cannot be done.

Mr. Robert Joe said that Dr. Hackney's summary was very good. The Corps is a complex organization that needs to be continually examined.

LTG Van Antwerp responded that the question was how to bring talent back into the planning arena. Districts have been in different planning modes. He directed Mr. Brown, newly appointed as Chief of the Planning Community of Practice, to invigorate the planning community.

Mr. Tab Brown replied that that Corps headquarters has a vacancy for the Chief of Environmental Planning that will be filled. The Corps is also looking at ways to incorporate the EOP into the P&G.

MG Merdith (Bo) Temple offered that it is good to see cross fertilization this Board has with Corps activities such as the Coastal Engineering Research Board. He also indicated that Administration economic stimulus package could provide new opportunities.

Mr. Steve Stockton said that the planning process is stressed. The Corps needs to step up and rethink how it does business. The Corps needs to ask what its' 21st Century planning should look like. He asked what should be the role of centers of expertise, of universities, and NGO's in the evaluations process. The Corps is looking at ways to integrate the EOP into planning efforts and any projects that come before the Civil Works Review Board must discuss the EOP.

3. Building Strong Collaborative Relationships

Ms. Ada Benavides, Deputy Chief, South Pacific Regional Integration Team, made a presentation on "Building Strong Collaborative Relationships for Sustainable Water Resources." The project is an assessment of where states are today with their water resources planning, where they want to be in the future, and how Federal agencies can help them get there. The initiative's vision is to provide appropriate Federal support to help states and regions tackle America's water problems through collaborative planning, a robust support toolbox, and an integrated Water Resources Management framework. The Corps has a team of researchers collecting, analyzing, and summarizing data on what states and regions have identified as their important needs. The Corps will produce three regional reports about the identified regional needs and priorities to serve as background for collaborative discussions with states and regions. As such, the Corps will hold three regional conferences in the first half of 2009. These conferences will be by-invitation-only; a national conference to be held in August in Washington, DC will include Congressional participation.

Mr. Stockton invited the Board members to attend these conferences to help the Corps define the beginning of this initiative. He said the goal was to tell the states that they can do what's needed, but the Corps can help. This is really the beginning of this effort, to find out where the states are, where they are going, and how the Federal government can help.

Dr. Hackney asked how much human capital the Corps is devoting to this project.

Mr. Stockton replied that this effort will have to be carried on by the planning community, as the Corps does not have the funds to undertake comprehensive studies. He said that the Corps cannot undertake this project alone, rather it has to be examined in relationship to other activities process/ assessment and strategies for the future. He continued saying that initiative is not meant

to change ongoing efforts related to the International Joint Commission, the Columbia River, and the Great Lakes.

Dr. Goddard said that the effort appeared to be focused on the states and congress. He asked if after the National Conference, this ought to be taken out to more people?

Mr. Stockton yes, districts and divisions need to follow up locally. This effort is about a broad strategy.

MG Temple added another initiative—the Green Projects—that would not be affected.

LTG Van Antwerp said that the Corps would put the EAB on this initiative's distribution list.

Mr. Joe noted that water agencies are looking for quick response R&D and wondered how such concerns as Quagga mussels might be accommodated.

Mr. Stockton stated that this initiative was more about problem definition than solutions, adding that research and development is needed, and we should be discussing these problems with other agencies.

4. Climate Change Initiatives Within the Corps

Dr. Kathleen White, ERDC Cold Regions Research Laboratory (CRREL) made a presentation on Corps Climate Change Initiatives. She said that water managers must use imperfect data to make decisions. Also, assumptions change; for example, stationarity assumptions are no longer employed in hydrologic modeling. She also said that climate is changing and that changes can be abrupt. She said that the Corps has been examining climate change with respect to water resources management for two decades. For example, the Institute for Water Resources (IWR) held the First National Conference on Climate Change in Water Resources Management in 1991 and has conducted a number of studies, such as providing climate analysis in 2002, for the Upper Mississippi, Lower Mississippi and Illinois Rivers Flow Frequency Study and a study for the U.S. Department of Transportation on Climate Impacts on Inland Waterways. Also, IWR participated in the First, Second, and Third Intergovernmental Panels on Climate Change (IPCC), 1996-2007. An IWR scientist was the lead author for water resources chapters and one of the recipients of the 2007 Nobel Peace Prize.

Currently, the Corps has an intensive, extensive, and far reaching initiative called “Actions for Change” for which she reported on a major part—Temporal and Spatial System Changes. Among current near-term efforts: interim and detailed guidance to address sea level change; water management operations incorporating climate change and systems approach to water control; geospatial tool for vulnerability analysis; and a workshop on alternatives to stationarity in hydrologic modeling. Also, the four major US water resources agencies—the Corps, the U.S. Geological Survey (USGS), the Bureau of Reclamation, and the National Oceanic and Atmospheric Administration—have evaluated practices of Federal agencies to incorporate climate change considerations into activities related to Nation's water resources to provide a

foundation for future policies. The agencies will release their final report as USGS Circular 1331 on February 2, 2009.

In April 2008, the Corps proposed interim guidance on sea level change. The interim guidance addresses how to incorporate future sea-level change into planning and engineering design and provides a foundation for detailed guidance. An interagency team comprised of the Corps (IWR and ERDC), NOAA National Ocean Service, USGS, and the Sacramento and Philadelphia Districts developed the guidance (Corps Engineering Circular 1165-2-XXX which applies to planning, engineering and construction) using a multi-scenario approach with alternatives for each sea level rise scenario. The Corps expects to release the guidance in April 2009. Dr. White indicated that the interagency team, in considering sea level rise projections, discussed sea level change with members of the Intergovernmental Panel on Climate Change (IPCC). Dr. White also described a Corps South Pacific Division-Sacramento District preliminary study on water control, essentially an effort to examine downscaling global models to regional application. A team (including the Bureau of Reclamation and IWR) is analyzing General Circulation Models under different temperature and precipitation scenarios to generate reservoir inflows for perturbed temperature and precipitation using National Weather Service River Forecast System, and test flood control curves using HEC RES-SIM

LTG Van Antwerp asked how the Corps can use the multi-scenarios to make decisions, that is, how the Corps gets to the point where it knows that it needs to build levees higher over the next 100 years? How does the Corps deal with different risks? How does the Corps choose?

Dr. White replied that it has to be part of a national dialogue to understand the problems. The Nation will have to decide retreat or rebuild. We as a Nation continue to build in areas that are going to be threatened; the next time flooding may come early. She asked, does the Nation not do those projects because the cost will be great as the areas will have to be upgraded often?

Dr. Hackney replied that a typical approach is to build levees and asked when does one start to think outside the box—when do one let areas flood since it would be cheaper to let it flood and not rebuild it?

Dr. White indicated that decisions are more political with an economic base, not on an engineering view. There are pushes to move into the rebuild area. However, scientists can communicate these problems.

Dr. Farber asked about ecosystem restoration and how to incorporate it down the line.

Dr. White indicated that ecosystems and climate change is a huge problem. The Nation will have to continue to make decisions. We do not have good understanding of ecosystems now let alone how they will change with climate changes. We need the scientific community's help. Habitat is a moving target.

Dr. Goddard said that increased temperatures are a big issue, for which we will have to start planning for the communities that will develop.

Mr. Joe asked about the sea level change guidance and the use of the 1987 National Research Council report sea level rise projections.

Dr. White replied that the team talked to IPCC members about the sea level change projections that they considered and suggested in 2008 and the issues associated with making their projections. The 1987 sea level rise curves denote relatively large change rates compared to the much more recent various IPCC projections.

5. PUBLIC COMMENT

One individual addressed the EAB and LTG Van Antwerp.

Ms. Melissa Samet, Senior Director of Water Resources, American Rivers, said that in looking at the EOP on a project by project basis, American Rivers does not think that they are being implemented effectively. There needs to be a stronger emphasis from above (by senior leaders) rather than not addressing these concepts, particularly as they coincide with other laws. There are many opportunities to move the EOP forward if there were statements from above and if people were held accountable if they are not utilized.

Ms. Samet discussed several initiatives including the upcoming economic stimulus package, in which she said the Corps should have a commitment to employing the EOP. She hoped for funds for key ecosystem restoration projects, but expressed fear of other the implementation of projects, such as those that may be shovel-ready-to-go while at the same time may be outdated. She said that the Corps should incorporate the EOP into the P&G revisions; the EOP should be the first statement. The environmental community is very unhappy with the product to date. The Corps should start over from scratch. She recommended that if non-structural solutions can be implemented, then no more alternatives should be analyzed. She said that the Corps has more influence over political decisions and if the Corps just presented alternatives (i.e., non-structural) to Congress, she is sure congress would accept them.

Ms. Samet expressed disappointment that mitigation reform has not moved forward. Per the Water Resources Development Act of 2007, reforms were to have been done immediately. She indicated that from now, mitigation has to be a central part of a project, and as such, we will design better projects. She also expressed concern about the Independent Review process. She stated that the environment must be proactively considered in every project.

She also discussed American Rivers concern for instream structures constructed in the Mississippi River to reduce dredging costs. This was resulting in increased flood heights as well as damage to the environment. If one mission is negatively impacting two other primary missions, it needs some re-evaluating.

LTG Van Antwerp said that the Corps needs to go back looking at the operations of our systems. Some water control manuals go back a long way. The Corps needs a holistic review and look at what EOP could be employed on each project.

LTG Van Antwerp also said that there needs to be a review of structures and how they have multiple influences. The Corps needs to examine more than the one aspect that they were designed for. Sedimentation is having an impact on the main stem of the river, and this should to be examined.

6. CLOSING REMARKS AND ADJOURNMENT

There being no further business, LTG Van Antwerp thanked the San Francisco District and adjourned the meeting.