

MINUTES
CHIEF OF ENGINEERS ENVIRONMENTAL ADVISORY BOARD

February 15, 2013
Phoenix, Arizona

1. CALL TO ORDER

COL Mark Toy, Commander Los Angeles District, U.S. Army Corps of Engineers (Corps) called the Chief of Engineers Environmental Advisory Board (EAB) meeting to order at 0900 hours, February 15, 2013 at the Sandra Day O'Connor U.S. Courthouse in Phoenix, Arizona. **COL Toy** made general welcoming remarks, and asked those seated at the tables to introduce themselves. 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;
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, Chief Scientist, The Water Institute of the Gulf;

Also present were **LTG Thomas P. Bostick**, Commanding General, U.S. Army Corps of Engineers, **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, **Dr. Elizabeth Fleming**, Director, U.S. Army Engineer Research and Development Center, Environmental Laboratory, and **Mr. John Furry**, Designated Federal Officer to the EAB.

After introductions were complete, **COL Toy** introduced LTG Thomas P. Bostick and turned the meeting over to him.

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. **LTG Bostick** emphasized the importance of the Corps work in bridging between the Department of Defense (DoD) and the American people. He recapped from the EAB meeting in Chicago last August [2012] that our work with controlling nuisance invasive species continues and efforts to implement the reinvigorated Environmental Operating Principles (EOP) are moving forward. **LTG Bostick** summarized the current status of events in Washington and explained how these events are expected to impact the Corps. He explained that DoD had not been planning for sequestration but now expect it will occur and that Continuing Resolution Appropriations is anticipated for the rest of the year. Before the end of the year the Army will need to reduce its military construction spending by approximately \$6 billion, O&M will be reduced approximately \$6 billion and another \$6 billion in

reductions will come from other areas. Funding priority will continue to be on support for the warfighters in Afghanistan and other hot-spots like Korea. He expects the Corps' military program to drop about 15% and the Civil Works program will decline about 5%. These cuts will continue for the next 5 to 10 years. The Civil Works program will support the warfighters stateside through water and energy sustainability work on bases. He briefly mentioned the ongoing efforts to modernize/transform the Civil Works Planning process. LTG Bostick emphasized the Corps must prepare for tomorrow, not only by keeping up with science and technology but also by investing in people to develop and apply these innovations. He asked the EAB to focus on needs; explaining the Corps normally has about a \$60 billion backlog of authorized projects and receives about \$1.5 billion annually to catch-up. Part of the backlog included incomplete components of the long ongoing New Orleans project that may have played a role in the Katrina disaster. The \$50 billion needed to complete the New Orleans project was being funded over a 50-year plan before Katrina. Post-Katrina recovery will cost \$135 billion and \$14.5 billion of that will be through the Corps. Recovery following Hurricane Sandy will cost the Corps \$5 billion. He pointed out the economic impacts of Sandy may be exceeded by the economic costs of the ongoing drought and related navigation impacts in the Midwest. Congress and the Whitehouse are listening to needs and understand the importance of our environmental concerns. Ecosystem needs and approaching ecosystem efforts from a watershed perspective builds a stronger case. He expressed thanks to the Board for what he believes will be valuable guidance regarding environmental issues faced by Corps.

Dr. Kundell opened by thanking COL Toy and the Los Angeles District for hosting the Board. He also related his appreciation of the staff representing the cities of Scottsdale, Tempe, and Phoenix, the Audubon Society, and Luke Air Force Base for the very informative tours and field visits at the various environmental projects around the Phoenix area. Reflecting on the Board's recent record for visiting locations after major floods **Dr. Kundell** stated this arid ecosystem was unlike any area the EAB had visited before.

3. REVIEW OF RECENT EAB ACTIVITIES AND DISCUSSIONS

Dr. Kundell said he was pleased with reports that since the meeting on August 28, 2012, the Corps had turned the reinvigorated Environmental Operating Principles over to staff for implementation. He was also pleased that media within and external to the Corps had picked-up on the new emphasis of the EOP and complimented Dr. Christine Altendorf for her leadership in publicizing release of the EOPs.

Dr. Kundell reminded that aquatic ecosystem restoration is a long-term effort and that many benefits are not immediately obvious. He continued that many restoration projects have been identified throughout the country, but funding is limited. The challenge is to determine which restoration projects would be the best investments for the Corps' limited resources. The EAB is proposing four criteria to determine which of the many possible projects proposed by local advocates should be considered further. Following feedback from the Corps regarding these first-cut criteria, the EAB will now develop more detailed metrics to compare projects. **Dr. Kundell** then discussed the Board's recent working sessions and the need to focus more on basin/watershed scale to strengthen the argument for larger ecosystem projects. He then pointed out that funding is very site-specific in part because of the cost-sharing requirements and the way local authorities are set up. He concluded that having these contrary approaches/perspectives is not the best way to consider larger ecosystem concerns. Referencing the August meeting **Dr. Kundell** noted that the Chief had asked the Board to start considering ways they could contribute to the Military side of the Army. He told the Chief that the Board is studying both the Army Campaign Plan and the Corps Campaign Plan looking for ways for the Board and the Corps to contribute more and to be more actively involved in military aspects of the Army. At a work session in Augusta, Georgia, the Board also heard from Dr. Mark Sudol (Corps Institute for Water Resources) about a Corps initiative looking at financing maintenance of aging infrastructure. During this workshop, the EAB toured the Savannah River downstream from J. Strom Thurmond Dam and discussed the Sustainable Rivers Program and potential

outputs of environmental flows. The Board is confident it can contribute to sustainability issues. **Dr. Kundell** concluded his comments saying the Board needs to develop a written strategy on how to move forward considering both traditional and new fields of involvement.

LTG Bostick responded that the Corps is working hard on implementing the Army Campaign Plan. As the Corps moves forward, we need to see how the present work of the Board aligns with the Army Campaign Plan. He asserted the Corps is a leader in science and technology. Academic involvements should reflect this leadership role. The Corps should be looking at better and bigger programs; programs beyond the local organization relationships. He offered the STEM¹ program as a potential model for preparing the next generation of environmental leaders. Partnering with universities and engaging younger students to enter the fields of science and engineering is extremely important.

Dr. Kundell then invited the Board members to provide comments to the Chief.

Dr. Reed started by saying how pleased she was to see the release of the “Morganza To The Gulf Report”. Referencing LTG Bostick’s comments about preparing for tomorrow she talked about the importance of involving the next generation – showing them what engineering and science does. She said that she [The Water Institute of the Gulf] had recently hosted a meeting on the lower Mississippi and the main message was that we need more folks under 40 working the issues -- she pointed out that practically everyone in the room and certainly everyone at the tables is well over 40. She then referred to the Army and Corps Campaign Plans and asked how they might play out if younger people had a greater role in the organization. She asked the Chief what he thinks the Corps might do to entice the next generation to pursue science and technology careers.

LTG Bostick replied that we need to look at the various ways to apply STEM. He pointed out that only 37% of new lieutenants coming into the Army majored in science or engineering. In addition, there is an imbalance of gender and ethnicity in these fields; specifically within the Corps. He explained that he was the only black cadet in his West Point class [class of 1978] to enter the Corps of Engineers and this past class [2012] had only 4 black graduates who entered the Corps of Engineers from a class of over 1,000 cadets. He noted that this is not much of a change. Nationwide, of the number of minority students who graduate with degrees in engineering or technology is also disproportionately very low. And very few of these graduates enter the military. He continued that the Corps is in touch with more civilians than any other part of the military and he emphasized that should be considered an opportunity to get youth involved in engineering, science, and in the military.

Mr. Joe provided a rundown of the Phoenix area project visits emphasizing that these projects were considered fast track projects. He pointed out that some ecosystem restoration projects should not take three years and can very well fit within the SMART Planning (3x3x3) initiative. **Mr. Joe** stated that he was impressed with the Corps follow-up and implementation of the EOP since the last EAB meeting [Chicago, 8/28/12]. He pointed out that the Corps energy efficiency program needs to have specific funds set aside to deal the monitoring and implementation measures.

LTG Bostick pointed out the recently initiated SMART Planning approach is a great step to reduce the time and money required to move projects of all types through the process faster. He added full consideration of the EOP will contribute to the overall quality of projects.

Dr. Hotchkiss echoed the reviews of the site visits and the accolades for those who arranged and conducted the visits. He added that the local sponsors at the project sites had very high opinions of the Corps efforts and the professionalism of the Corps staff. Without citing specific examples,

¹ STEM = Science, Technology, Engineering, and Mathematics Education Coalition for grades K-12

Dr. Hotchkiss pointed out that many of the restoration and design ideas could be replicated at other locations. He emphasized the importance of sustainability in the [Army and Corps] Campaign Plans. Furthermore, he suggested that the EOP should be mentioned in the Campaign Plans; currently it is not referenced in this document. He also suggested that the Corps should try to capture the holistic costs of sustainability rather than being so focused on capturing the economic benefits in a 50 year period of analysis.

LTG Bostick acknowledged he understood the points Dr. Hotchkiss was making and asked Dr. Altendorf to look into the current evaluation approach. The Chief said that after hearing the great reviews of the site visits he was convinced he needs to look at the sites himself.

Mr. Cook related that importance of his internship with the Department of Energy that included time at the Corps Waterways Experiment Station [now known as the Engineer Research and Development Center] in Mississippi early in his career. He challenged the group to imagine the potential of a program like STEM that makes experiences like his intentional rather than incidental. **Mr. Cook** said he was excited to see the effort being made to make EOP a “way of life throughout the organization”. This mindset stands out to partners who are seeing both mission success and a spirit of collaboration. The focus on community and the importance of engaging the community with the environment will have benefits that multiply with time. **Mr. Cook** emphasized the importance of exposing new commanders and senior leaders to the EOP. He closed his comments by stating that the EAB would support, and in fact is willing, to present and discuss the importance of the EOP at a pre-command course.

LTG Bostick replied that he feels it that an EOP presentation by an EAB member during the pre-command course would have great value. He said Corps would work on making the EOP presentation during the pre-command course happen.

Dr. Graf opened stating the importance of good communications. He referenced the relationship of the Corps and The Nature Conservancy on Sustainable Rivers Program (SRP) as a shining example adding that there are also other examples. The SRP project on the Bill Williams River near Phoenix was a great example of the Corps working with many other agencies was able produce positive results. **Dr. Graf** added that the SRP project on the Savannah River that the EAB visited last December [2012] was bogged down in the legal agreements involving various agencies in two states, TNC and the Corps. He pointed out that the onus is presently on the Savannah District and the South Atlantic Division to move the agreement through the Washington-level process. **Dr. Graf** remarked that this may be difficult; in personal discussions with an Office of Management and Budget (OMB) examiner, they had never heard of the SRP. Changing subjects **Dr. Graf** emphasized the critical importance of the University-to-Corps connection to get students thinking in terms of the science-engineering fields and public service. Engaging graduate students with Corps projects is key to making this connection. It is important that this interface be more than financial support, and must clearly benefit the Corps, the student, and the university. This mutually beneficial relationship is critical for drawing students into the desired science and technology fields and to the Corps and is key to improving diversity.

LTG Bostick agreed with the need to improve communications on projects. He also agreed with the importance of the Corps-student-university relationship.

Dr. Goddard opened referring to his link to the Great Lakes region and his amazement with the Corps efforts to conserve energy. He added that the Electric Dispersal Barrier in the Chicago Area Waterways System is the Corps greatest single consumer of electricity. He suggested that the immediate implementation of a physical, hydrologic separation between the Great Lakes and the Mississippi River Basin would go a long way towards the Corps achieving its energy use reduction goals. **Dr. Goddard** thanked Mr. Stockton and Mr. Brown for their involvement on the Great Lakes Restoration Initiative and

the HQ efforts to develop a Project Partnership Agreement to delegate Initiative decisions to the Great Lakes & Ohio River Division Commander and to make the Initiative a named budget item. **Dr. Goddard** said these projects will have extremely high ecological value to both aquatic and terrestrial species relative to their small cost and geographic size.

LTG Bostick thanked Dr. Goddard for his comments regarding the Great Lakes Restoration Initiative and promised to look into his suggestion for saving energy in the Chicago area.

Dr. Ambrose opened saying the river systems observed over the last few days are nothing like the systems in the regions the Board has visited before. He pointed out how small these streams are compared to the Mississippi, Missouri, and Savannah Rivers. He emphasized how extremely sensitive these streams are and how super-critical small streams are to arid region ecosystems. **Dr. Ambrose** concluded this thought saying how important it is that stream restoration projects in this region not be short changed in favor of bigger projects in better watered parts of the country. **Dr. Ambrose** described the Sustainability Scorecard presented to the EAB during an earlier information briefing. He was appreciative of the Corps efforts to move from all red ratings to a mix of green, yellow, and red scores in one review period. **Dr. Ambrose** acknowledged the scorecard being used and presented was prescribed for interagency reporting, but pointed out that nothing prevents the Corps from tracking sustainability metrics in addition to energy consumption and suggested the Corps develop a more comprehensive scorecard for its internal use. **Dr. Ambrose** closed saying the diversity issue within the science and engineering fields is critical to the Corps and reiterated the need for the Corps to work with the universities to improve the situation.

LTG Bostick agreed the scorecard needs to be more inclusive. He then pointed to scorecard being used is driven by the White House. He said that he did recognize the importance of the different river systems.

Mr. Cook referring again to STEM, said that the TNC has a program that works with large corporations to sponsor students from underrepresented groups to work in the sciences with TNC. The Leaders in Environmental Action for the Future (LEAF) program is a mentoring program for youth with interest in environmental conservation. The TNC has tracked students in the LEAF program for eighteen years; of records show that many of these students remain in engineering, science, and tech fields after this opportunity.

LTG Bostick agreed that tracking is key to showing success. There seems to be a lot of anecdotal information but very little real data.

After **Dr. Kundell** verified there were no more comments from the EAB members he yielded the floor to **LTG Bostick**.

LTG Bostick thanked the Board for the excellent rundown of their past site visits, updates on their activities and recognized that they are very busy people and thanked them for taking time to gather information and present their thoughts. He said it has been a highlight to see the rollout of the EOP and seeing it get traction. He then pointed out to the Board and his staff that the Board needs to sketch out a path forward. He wants ideas on how the Corps can become more focused – getting rid of internal redundancies and overlap. **LTG Bostick** said the Secretary of Army wants HQ staffs reduced by 30%. He wants the Board to consider even such basic questions as “are we the right agency to do the job?” We need to be so good others will tell our story. Finally, the EAB needs to work with HQ staff to develop a work plan that links the EAB to both the Corps and the Army Campaign Plans.

5. PRESENTATIONS

The following are summaries of three presentations to the Board and the Chief and the discussions.

a) National Update of the Sustainable Rivers Program; Mr. Mark P. Smith, Deputy Director, North American Freshwater Program, The Nature Conservancy, Boston, MA.

Dams and other water infrastructure have far-reaching influences. The TNC presentation addressed opportunities to update the operations of dams and other infrastructure to broaden the reach and scale of the benefits provided by these facilities. **Mr. Smith** explained the importance of the variability of flows in river systems. Using examples from the TNC/USACE Sustainable Rivers Project and related efforts, **Mr. Smith** discussed how changes to help improve environmental conditions can also improve other benefits, such as recreational opportunities and water quality and increased hydropower and water supplies.

Discussion:

Dr. Reed pointed out that the approach presented is two-dimensional and does not reflect the environment well. She asked if the intent of the program is to focus so narrowly.

Mr. Stockton replied that the focus is on infrastructure, not on changing/different outcomes. He said we need to re-evaluate this point.

Dr. Reed replied we are not likely to see many new reservoir projects. Rather, the trend will more likely be improving existing project operation. She pointed out the Campaign Plan can be the means to empower new ideas from the troop level.

LTG Bostick added we need to also consider the size of the watersheds involved. We need to see how we can best operationalize potential changes within available funding and across multiple agencies.

LTG Bostick then asked Mr. Smith, if you were king for a day – what do you need to make this happen?

Mr. Smith responded, “Emphasis to the field from the top to look for low cost opportunities”.

Mr. Stockton said we would need to look at the full portfolio of opportunities and that includes infrastructure projects built over more than 100 years. We would need to consider how well each project is serving its authorized purposes. We may also need to look at alternate funding of operations where a project is no longer on-line or seeing greatly reduced use.

Dr. Reed replied we need to think broader about the capability of a structure, not just about what it was built for.

Mr. Smith concluded that he will look at contributed funds [contributed to TNC] after it is determined how much may be need in addition to Corps funding.

b) Bill Williams River – A Sustainable Rivers Program Project; Mr. Rene Vermeeren, PE, WRE, Chief, Hydrology & Hydraulics Branch, U.S. Army Corps of Engineers, Los Angeles District, Los Angeles, CA. **Mr. Vermeeren** explained Alamo Dam is a Corps of Engineers multi-purpose project built in 1968 and located on the Bill Williams River, a major tributary of the lower Colorado River, in western Arizona. The lake’s one million acre-feet of storage was congressionally authorized for flood control, water conservation, and recreation. Competing goals and objectives of water resource and natural resource agencies were a major source of conflict with respect to the original operation of the project. A multi-agency collaboration effort among various federal and local agencies, and more recently The Nature

Conservancy has successfully worked to improve the operation of Alamo. Mr. Vermeeren's presentation described the evolution of the water control plan; past and future approaches to address the needs and objectives of the various stakeholders and compliance with National Environmental Policy Act and the Endangered Species Act; the importance of continuous multi-agency engagement and collaboration; and the successful outcome on the Bill Williams River.

Discussion:

Dr. Graf emphasized the links of the Bill Williams River Project to points made in Mr. Smith's presentation. He stressed how a modified release plan can influence downstream ecosystems and that these "not too expensive tweaks" can achieve great differences. Dr. Graf pointed out that Corps efforts to evaluate and implement the Sustainable Rivers Program is hobbling along on about \$100,000 per year.

Directing the question to his staff, **LTG Bostick** asked if this level of effort is a conscious call that "doing nothing is easier than looking for benefits?"

Mr. Brown explained that maintaining the Operation Plan for a project comes from O&M funds and the cost to evaluate and make any proposed changes to an Operation Plan must compete with everything else competing for O&M funds.

LTG Bostick responded that if that is the case we may need to look at some reallocation of funds. There is never enough money. We need to look at the value of the potential benefits relative to the value of what is not done with the funds.

Dr. Kundell asked if anyone has looked at what has been done at the Sustainable River Projects and the gains achieved in the last 15 years. What are the lessons learned?

Mr. Cook asked, "What is the incentive to rework an Operations Plan that has been operating one-way for decades?" He pointed out that lessons learned are being exported to and implemented at projects outside the USA faster than between Corps districts.

Dr. Hotchkiss interjected that in his experience dam operators are trained not to ask questions. He stated that we need to get directly to those operators who know their projects better than anyone else and let them know it is OK to propose changes based on what they know.

Mr. Stockton pointed out that it is very hard to invest in reoperation studies when hard structure repairs are needed and often behind.

LTG Bostick proposed that there may be some places we can take a bit more risk to consider the benefits.

Ms. Lisa Morales (a Corps subject matter expert in the audience) asked to provide information to the Board and was allowed to do so. **Ms. Morales** explained that funding allowed for coordination of the environmental flows proposals with TNC Sustainable Rivers Program has been reduced. However, there are several low-cost, high benefit changes being considered that are non-controversial but currently stalled.

c) Environmental Sustainability Initiatives in the SPD/SPL Region: Military and Civil Works; Mr. Mike Ternak, PE, Sustainable Engineering Program Manager, South Pacific Division, U.S. Army Corps of Engineers, Phoenix, AZ.

Mr. Ternak's presentation summarized the USACE approach to design and construction of sustainable infrastructure for military customers. The presentation also summarized the USACE strategy, execution

and reporting of energy and sustainability for civil works operations including some regional examples at USACE owned facilities.

No comments were offered about this presentation.

6. PUBLIC COMMENTS

Mr. Furry stated that nobody had requested time to make a Public Comment during sign-in. He asked the audience if anyone would like to make a Public Comment. No Public comments were made.

7. CLOSING REMARKS AND ADJOURNMENT

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

LTG Bostick likewise thanked Board members for their ideas, and insightful discussions. He said that he will continue consideration of the points made. As a closing point he thanked the local district staff for their support and announced COL Toy would be his new Chief of Staff and moving from the District to HQ in the summer. He then adjourned this session of the Chief of Engineers Environmental Advisory Board.

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



MAY 09 2013

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