



# PIANC Bulletin

Quarterly Newsletter of the International Navigation Association U.S. Section  
Permanent International Association of Navigation Congresses (PIANC)

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## Chairman's Message *by Honorable John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works)*

Dear Members,

As we gathered for our summer meeting at Fort Belvoir, Virginia, Congress was going through its annual work on the Energy and Water Development Appropriation, which funds the Army Civil Works Program, including its navigation activities.

We are keenly aware that the Nation has many competing needs, and the Budget for FY 09 for the Civil Works program of the U.S. Army Corps of Engineers reflects the President's priorities. The Corps must execute its missions within the resources it is provided as efficiently and effectively as possible.



**Honorable John Paul Woodley, Jr.**

## Proposed Investment in the Civil Works Program

The President's budget for FY 09, which Congress uses as a starting point in the appropriation process, includes \$4.741 billion in new federal funding for Civil Works, plus \$5.761 billion in an emergency request to reduce the risk from storm surges to greater New Orleans. Thus, the total comes to just over \$10.5 billion.

This budget emphasizes critical Corps activities. Construction of the water projects included in the budget will provide the highest economic and

### INSIDE...

- *Chairman's Message*..... 1
- PIANC NEWS**
- *PIANC Annual General Assembly, Beijing, China, May 25-30, 2008*..... 3
- *PIANC USA Annual Meeting, July 15, 2008*..... 5
- *PIANC USA 2008 Annual Report* ..... 9
- *Thank You for Allowing Me to Serve*..... 12
- *Dominic Izzo Appointed as New Member of the U.S. Commission of PIANC*..... 13
- *Inland Navigation Commission Working Group 30 Update*..... 14
- *Maritime Navigation Commission Working Group 49 Update*..... 14
- *Smart Rivers 2009, September 14-15, Vienna, Austria*..... 17
- *Gulf Coast Hurricane Preparedness, Response, Recovery, and Rebuilding Conference* ..... 17
- *PORTS 2010: Building on the Past, Respecting the Future*..... 19
- INDUSTRY NEWS**
- *WEDA XXVIII and TAMU 39 Held in St. Louis, MO*..... 21
- *Texas A&M's 39<sup>th</sup> Annual Dredging Seminar*..... 22
- *WEDA XXVIII: The Western Hemisphere's Annual Dredging Conference and Exhibition* ..... 23
- *Western Dredging Association 2008 General Membership Meeting* ..... 25
- *Cutter Suction Dredge Short Course Offered by Texas A&M University*..... 26
- *AAPA Hails Approval of \$400 Million for Fiscal 2009 Port Security Grants*..... 27
- *Students Soak up Army Corps Workshops*..... 28
- *Bed Leveling Following Dredging Operations*..... 30
- *e-Navigation: History and Status* ..... 33
- *"Historic" Ballast Water Bill Passes House*..... 37
- *DoIT - Bringing Innovative Dredging Technologies Online*..... 38
- *DHS Extends TWIC Compliance Date*..... 41
- *Encourage New PIANC Members!* ..... 42
- *Upcoming Related Conferences*..... 43
- *PIANC USA Dues*..... 43
- *About PIANC*..... 44
- *PIANC USA Leadership* ..... 44

environmental returns in our primary mission areas of commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration. Operations and Maintenance (O&M) funding, meanwhile, will address critical infrastructure maintenance needs.

There are 79 projects funded in the FY 09 Civil Works budget Construction account, including 50 Flood and Coastal Storm Damage Reduction projects, with five budgeted for completion; 19 Navigation projects, with seven budgeted for completion; five Aquatic Ecosystem Restoration projects, and five Hydropower replacement projects.

Funding by Business Line is distributed 40 percent for Navigation, 27 percent for Flood Risk Management, 8 percent for Environmental projects (not including Regulatory, Formerly Utilized Sites Remedial Action Program, or items that have migrated from Environment to other major Business Lines), and 25 percent for other activities.

Navigation “must haves” were operations costs for high yield commercial waterways, maintenance dredging of commercial harbors and waterways, subsistence harbors, critical harbors of refuge, harbors supporting critical Federal maritime missions (e.g., Navy and Coast Guard), and high yield commercial fishery harbors.

The FY 09 budget’s O&M account funds development of economic models for navigation to improve future investment decisions. The budget also provides funds to develop an Asset Management System and Risk-Based Condition Indices for Corps projects. These tools help the Corps evaluate maintenance and rehabilitation choices for flood and storm damage reduction, navigation, and hydropower assets.

Sadly, there were many very important and worthy projects around the Nation, justified for construction by a benefit-to-cost ratio above 1:1, or through other sound economic principles, that we were not able to fund. In an era of constrained

resources, we must focus on the highest-return projects. In recent years, many more construction projects have been authorized, initiated, and continued than can be constructed efficiently.

### **Continuing Contracts**

Language in the FY 09 budget would repeal the Corps’ existing continuing contract authority, and amend its authority on multi-year funding. Continuing contracts obligate funds before appropriations have been made, and Congress and the Administration have said that is not a desirable way to do business. It limits the discretion of the Executive and Legislative branches in making investment choices.

The new language permits the head of an agency to enter into contracts for “services” for up to 5 years, and to obligate only the amount needed each year (plus the amount of expected termination costs). With this new authority, the Corps would need Congressional approval to use multi-year contract authority for any contract over \$100,000,000. The Corps would also need to notify Congressional committees, and wait 30 days, prior to awarding any contract with a contingent liability (i.e., expected termination cost) exceeding \$20,000,000.

### **WRDA ‘07 and Peer Review**

As you know, Congress last fall passed the Water Resources Development Act (WRDA ‘07), which was the first WRDA passed since 2000. The budget funds external peer review, as called for in Section 2034 of the Act, and preparation of a Water Resources Priority Report required by Section 2032. There was concern regarding who would control the peer review. It might mean added delays or even consign projects to a “black hole” of litigation. But we accept our responsibility to comply with the law; and are now developing implementation guidance for each provision within the law. It will take 3 to 12 months.

Section 2034 establishes conditions under which project studies shall be subject to peer review by an

independent panel of experts. It calls for review of projects that exceed \$45 million in total costs; or where requested by a State Governor. It also specifies that costs of independent reviews (up to \$500,000) will be full federal expense.

WRDA '07 requires that external peer review panels be administered by the National Academy of Sciences or a comparable non-profit organization. The chosen organization, not the Corps, selects the members of the independent review panel. The Corps has no control over the selection. The organization administering the external, independent review directly pays the review panel members using Corps funds. There is no employer/employee relationship between a panel member and the U.S. Army Corps of Engineers.

### **The Future of the Corps of Engineers**

Passage of the Energy and Water Development Appropriations Act for FY 09 will enable the Corps to continue to execute its missions nationwide. Infrastructure requirements for the Nation will maintain a strong demand for Corps services, although with a changing mix. Quite likely, more emphasis will be placed on repair and maintenance of protective infrastructure. As the inventory of infrastructure we maintain and operate has grown through years, we have become increasingly mindful of economic and environmental sustainability of our products.

I believe that, in this post-Katrina period, the Nation is ready to grasp the state of our reliance on aging infrastructure designed to obsolescent standards. This is, therefore, a time of opportunity. If the Corps and its partners – other Federal agencies, States, local governments, and non-government sector – can communicate the state of the Nation's infrastructure to the Congress, we could see a renewed emphasis on rehabilitation.

We should still be working toward several developments for the future. We should have a national commitment to a marine transportation system equal to or better than any other nation's. We should initiate multi-year funding streams and

project authorizations determined at least 3-5 years out to enable all stakeholders to plan and react accordingly. There should be a commitment to improving and updating infrastructure related to waterways and harbors while balancing water supply, sewage, hydropower, etc.

### **Collaboration is the Key to Accomplishment**

Dialogue among all water resource stakeholders leads to collaboration and major changes in our program. Collaboration will modernize our harbors and bring them up to 21<sup>st</sup> Century needs. Cooperation and partnerships will deliver environmentally sustainable solutions. Harnessing the ideals and energies of a wide number of entities can accomplish far more than any of us could by working alone.

There are opportunities to change the way we do business, save valuable resources, and improve our performance. Together, as members of PIANC, we can ensure our water transportation systems continue to be our trade window to the world. In so doing, we will do our part to keep the hemisphere's economy strong for generations to come.

Honorable John Paul Woodley, Jr.  
Chairman, U.S. Section; and Assistant  
Secretary of the Army (Civil Works)

## **PIANC NEWS**

### **PIANC Annual General Assembly, Beijing, China, May 25-30, 2008**

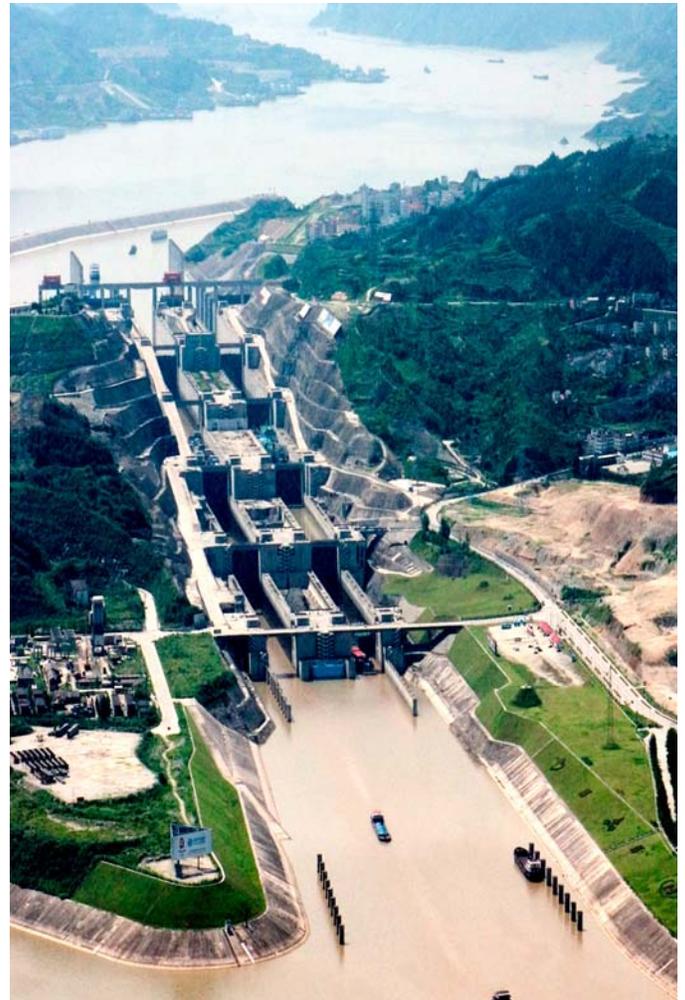
A PIANC USA delegation, including Anne Cann and David Grier of the Corp's Institute for Water Resources, and MG Don T. Riley, Deputy Commanding General of the Corps, attended the Annual General Assembly (AGA) and International Navigation Seminar, May 25-30, 2008, in Beijing, Peoples Republic of China. The Honorable John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works), and Chairman of PIANC USA, presented the U.S. Section Annual Report and a technical paper (co-authored with Anne Cann) at

the Navigation Seminar entitled “Balancing Inland Navigation with Flood Control and Environmental Needs in the U.S.” David Grier also presented a paper entitled “U.S. Harbor Improvements: Are They Critical to Trade with China?”



***John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works), and Chairman of PIANC USA, with Three Gorges dam, China, in the background, while attending PIANC AGA 2008.***

A technical tour of the Three Gorges locks (five stepped locks in each direction that elevate ships 113 m) and dam, and the Yangtze River up to Chongqing, followed the conference. This controversial reservoir project has provided flood control and hydropower to central China as well as enabling year-round navigation from Shanghai to Chongqing (a city of 30 million people). China is developing the Yangtze River on a massive scale and at an unprecedented pace. Officials see modernization of the Yangtze as the key to opening up the western interior of China, eliminating poverty, and helping to close the economic gap between the coast and the interior of the country. For centuries the Yangtze has been the most important east-west transport artery, and today it is larger than any other river in the world in terms of cargo carried. The PIANC delegation observed heavy traffic on the Yangtze River, including coal, containers, and roll-on/roll off (ro/ro) trucks.



***Five stepped locks in each direction at Three Gorges locks and dam, China.***



***View inside one of the Three Gorges locks, China.***



***Roll-on/roll-off barge traffic on the Yangtze River, China.***

With the significant growth in manufacturing and commerce within the Peoples Republic of China, PIANC recognizes that the development of China's waterways, both inland and coastal, is vital to China's and the Pacific Rim countries' continuing growth in world markets. The need to develop sustainable transport policies to overcome the environmental challenges created by road transport and climate change yet further enhances this role.

Since the mission of PIANC is to advance on a worldwide basis the sustainable developments of all forms of navigation, PIANC is able to assist navigation authorities and their engineers and operators to develop their skills and to benefit from world wide best practice to continue to grow the use of this natural transport system.

The environmental benefits of waterborne transport are now far more widely recognized and valued. PIANC's worldwide experience is available to support sustainable waterways transport with active environmental stewardship. In fact, mitigation of past harm is becoming more common and is facilitating growth in transport and commerce with further environmental improvement.

For a better future, the experience gained elsewhere in the rapid application of modern technologies, such as River Information Systems, is

readily available through PIANC. These and other technologies aimed at building with nature allow 21st century systems to be rapidly installed for the benefit of operators and government agencies to fully support sustainable and efficient waterborne transport with enhanced security. The opportunities for PIANC member states to develop and manufacture associated navigation equipment suitable for use within an international market will not only assist navigation within China, but also provide more readily available equipment for countries in transition worldwide.

Accordingly, PIANC resolves to build on the success of this AGA and the International Navigation Seminar, to collaborate more closely with the Chinese navigation community and its engineering colleagues, to share further their mutual expertise for the benefit of navigation in China and Asia.

## **PIANC USA Annual Meeting, July 15, 2008**

### **General Membership Meeting**

The 2008 PIANC USA Annual Meeting of 81 attendees (both members and guests) was convened on July 15, at the U.S. Army Corps of Engineers (USACE) Institute for Water Resources (IWR), Fort Belvoir, Virginia. Attendees were welcomed to the General Membership Meeting by the President of PIANC USA, MG Don T. Riley, USACE Deputy Commander. MG Riley pledged the full support of USACE to the work PIANC USA is doing in the way of Latin American activities and technology transfer throughout that region. He stated he is pleased by the upward movement of PIANC membership. He urged all Corps employees with navigation interest to join PIANC and its working groups. Publication as a PIANC author is both a professional accomplishment as well as a personal achievement.

Robert Pietrowsky, Director of IWR extended a welcome to that facility, and discussed studies being conducted in the areas of global warming,

navigation, financing, waterways trust fund, and harbor maintenance trust fund. He expressed the opinion that PIANC USA is model of public and private partnership. He also mentioned that Smart Rivers 2007 was a model partnership between PIANC and other organizations such as the COPRI (Coasts, Oceans, Ports and Rivers Institute) of ASCE, AAPA, Inland Rivers Ports and Terminals, TRB/Marine Board, Waterways Council, etc.

Anne Sudar Cann next presented the PIANC USA 2008 Annual Report. She emphasized measures to elevate PIANC on the world stage with such activities as PIANC involvement in the next World Water Forum, March 2009, in Istanbul, Turkey, and Smart Rivers 2009 in Vienna, Austria. The PIANC Congress 2014 will be hosted by PIANC USA.

Next, David Grier, IWR, presented a summary of PIANC USA Latin America activities. He pointed out that PIANC is not well established in that region, with Argentina being the only member at present although Brazil has taken the initial steps to become a member. This is an opportunity for outreach. Grier mentioned that while with PIANC USA, former secretary Bruce Lambert had made a concerted effort to broaden navigation contacts and introduce PIANC to Latin America.

Andrew Thomas, Moffatt and Nichol, presented his 2008 DePaepe-Willems award-winning paper titled "Subsurface 3D Modeling: An Application to Waterfront Project Planning and Site Evaluation," discussed in the 2nd Qtr 2008 PIANC Bulletin.

### **Inland Navigation Commission (InCom)**

The Final Report for InCom Working Group 96 (WG96) "Developments in the Automation and Remote Operation of Locks and Bridges" was presented by Dr. Ashok Kumar, USACE Construction Engineering Laboratory. Lock automation state-of-the-art in Europe and the U.S. was discussed. The optimization of operating modes and the associated instrumentation and controls was illustrated for the Programmable Logic Controller (PLC) system. A summary of European

lock and bridge operations was provided, including 104 remotely operated locks on waterways (25 in The Netherlands, 19 in France, 19 in Finland, and 41 in Germany).

John Clarkson, USACE Huntington District, presented a comprehensive InCom Update, including the following:

- WG27: "Guidelines to Reduce Environmental Impacts of Vessels."
- WG29: "Innovations in Navigation Design."
- WG30: "Inventory of Inspection and Repair Techniques of Navigation Structures (Steel, Concrete, Masonry, and Timber) both Underwater and In-the-Dry."
- WG32: "Performance Indicators for Inland Waterways Transport."
- WG128: "Alternative Bank Protection Methods."
- WG129: "Waterway Infrastructure Asset Maintenance Management."

James McCarville, Port of Pittsburgh, next discussed WG31 "Organization and Management of River Ports." Because only two of the 13 members are in the U.S. (Pittsburgh and Memphis), it is difficult to be viable. Work has been broken into sub-groups. There are three types of river ports: (a) publicly owned and publicly operated, (b) publicly owned and privately operated, and (c) privately owned and privately operated. Operational management is driven by multi-modal objectives. Local authorities are driven by jobs and taxes. State authorities are driven by land use issues. Deep sea and inland ports invest in each other.

InCom WG127 "Fish Passage" was presented by Mark Cornish, USACE Rock Island District. The purpose of WG127 is to document existing practices for the current state-of-the-science for fish passages that will aid designers when building and modifying existing locks and dams. Matters under investigation include:

- Structural and non-structural fish passage methodologies.
- Effective bioresponse monitoring techniques for quantifying success.
- Biological and hydraulic computer simulations techniques.
- Requirements of migratory fish species on connectivity and habitat availability.
- Computer simulation techniques for predicting longitudinal connectivity (systemic changes).
- Comparison of cost and economic benefits taking into account size of river and height of dam.

Permanent Working Group 1 (PWG1) “RIS - Rivers Information System” was next discussed by Richard Lockwood, USACE Pittsburgh District. This topic is considered so significant that it has been designated as a Permanent Working Group. RIS will be an electronic system that will pull data from various existing sources, both government and commercial, and process and display that information in customizable user-friendly formats. RIS will modify or replace existing USACE systems to achieve a single system that will inform, and be informed by, the systems already in use by the navigation partners.

### Related Items

The Honorable John Paul Woodley, Jr., Chairman of the PIANC USA Section, arrived and extended a warm welcome to all members and guests who were attending the PIANC USA Annual Meeting.

The history of PIANC USA was presented by Tom Ballentine. The report is being written as part of a larger PIANC history project. The history of the U.S. Section will be published this fall by IWR and will be available for free download off the PIANC USA website.

Tom Chase, COPRI, discussed Ports 2010 to be held April 25-28, 2010, in Jacksonville, Florida. PIANC USA is the primary co-sponsor of this event again. Kelly Barnes is serving as exhibits chair, so if

you are interested in exhibiting, contact her at [Kelly.J.Barnes@usace.army.mil](mailto:Kelly.J.Barnes@usace.army.mil).

Tom Grasso of the Erie Canalway National Heritage Corridor, and the Canal Society of New York State, extended an invitation to everyone to attend World Canals Conference (WCC) 2010 to be held in September 2010 in Rochester, New York. WCC presents new opportunities to bring together professionals, enthusiasts, and scholars from around the world to study and discuss a variety of topics related to canals.

### Maritime Navigation Commission (MarCom)

Dan Allen, Moffatt and Nichol, presented a comprehensive MarCom Update, including:

- WG42: “Implementation Manual for Life Cycle Management of Port Structures.”
- WG43: “Minimizing Harbor Siltation.”
- WG47: “Criteria for the Selection of Breakwater Types.”
- WG48: “Guidelines for Port Construction Related to Bow Thrusters.”
- WG50: “General Principles for the Design of Maritime Structures.”
- WG51 “Water Injection Dredging.”
- WG52 “Criteria for the (Un-)Loading of Container Ships.”
- WG53 “Recommendations with Regard to the Design and Construction of Maritime Structures in Tsunami Prone Areas.”
- WG54: “Use of Hydrometeorological Information to Optimize Safe Port Access.”
- WG55: “Safety Aspects of Berthing Operations of Oil and Gas Tankers.”
- WG57: “Stability of Pattern Placed Revetment Elements.”
- PIANC Dictionary - a special activity.

Dr. Michael Briggs, USACE Engineer Research and Development Center, discussed WG49 “Horizontal and Vertical Dimensions of Fairways.” The objectives of WG49 are to review, update, and

expand design recommendations on horizontal and vertical dimensioning in WG30 1997 report on approach channels. Recent developments in simulation and design tools will be incorporated. The sizes and handling characteristics of new generation vessels is being evaluated. The final product will also include maneuvering areas within harbors, and vertical bridge clearances.

Doug Gaffney, Ocean and Coastal Consultants, Inc., elaborated on WG56 “Application of Geotextiles in Waterfront Protection.” The objective of WG56 is to produce guidelines for such applications, and to expand from “geotextiles” to “geosynthetics” as materials other than fabric are now being utilized in their manufacture. Offshore foundation structures utilize geosynthetics for pipelines, weirs, sills, and barriers. In the coastal zone, geosynthetics are used on dunes and beaches, groins, breakwaters, and revetments. Flood protection structures also utilize geosynthetics in dikes and levees. Still, there is a need for more information on uses in waterfront applications. A range of permissible loads from waves and currents should be ascertained.

### **Young Professionals Commission (YPCOM)**

Jessica McIntyre, Moffatt and Nichol, presented the YPCOM update. She stated that there are 21 Young Professionals on YPCOM, representing 15 National Sections. There is an observer from YPCOM on each Technical Commission. YPs serve as Commission Delegates on CoCOM (International Cooperation Commission) and InCOM. There are over 60 YPs on active working groups. There are 19 PIANC USA YPs on the current roster. There are seven YPs on active working groups (two are Principal Representatives). This is a great leadership opportunity. The next YPCOM meeting will be October 24, 2008, in Washington, DC. Contact Jessica for more information at [jmcintyre@moffattnichol.com](mailto:jmcintyre@moffattnichol.com).

### **Recreational Navigation Commission (RecCom)**

Jessica McIntyre also presented the RecCom update. Recently published technical reports by

RecCom include WG9 “Regeneration of Harbour Areas” and WG16 “Protecting Water Quality in Marinas.” Other active working groups include WG15 “Use of Alternative Materials in Marina Construction,” WG130 “Anti-sedimentation Systems for Marinas and yacht Harbors,” and WG131 “Catalogue of Prefabricated Marina Elements.” There is a call for members for RecCom WG132 “Dry Stack Storage,” WG133 “Economic Aspects of Recreational Navigation,” and WG134 “Design and Operational Guidelines for Superyacht Facilities.” The next RecCom meeting will be held in Palermo, Italy, prior to the Mediterranean Days Conference, October 7-9, 2008.

Terence Browne discussed RecCom WG15 “The Use of Alternative Materials in Marine Structure Construction.” Traditional materials in the past have included timber, masonry, steel, and concrete. Four alternative material applications include: (a) structural shapes, (b) non-metallic reinforcements, (c) repair and strengthening elements, and (d) hybrid structural elements and systems. Collaboration activities outside PIANC include: (a) Composites World, (b) American Composites Manufacturers Association, (c) American Society for Testing and Materials, and (d) American Concrete Institute; inside PIANC include: (a) InCOM, (b) MarCOM, and (c) EnviCOM (Environmental Commission).

### **Environmental Commission (EnviCom)**

The EnviCOM update was presented by Edmond Russo, new EnviCOM Vice Chairman and Secretary, and Committee Chairman of the PIANC USA publications of the PIANC USA Bulletin. The EnviCOM vision includes: (a) environmentally sustainable development and maintenance of navigation infrastructure, and (b) a balance with protection and enhancement of global biodiversity. The EnviCOM Mission addresses both broad and very specific sustainability, and environment-related issues of interest to PIANC. EnviCOM provides guidance for sustainable waterborne transport, ports, and waterways. EnviCOM leadership changes included the departure of

Chairman Robert Engler, new Vice Chairman and Secretary, and two new U.S. Representatives (Dr. Susan Rees, Principal; Dr. Todd Bridges, Alternate). EnviCom Working and Task Groups are separated as: (a) Dredging, (b) Navigation, and (c) Ports. Strategic Initiatives of EnviCom include updating the EnviCom Action Plan through 2015, and “Climate Change and Navigation: Preparation of Future Activities of PIANC.”

Edmond Russo also presented the EnviCom Strategic Initiative “Climate Change and Navigation.” Climate change effects are visible regionally and are expected to increase in coming decades. Impacts are felt on both inland and maritime navigation. Change in the hydrologic balance of a watershed translates into loss of reliable draft. New marine and polar navigation routes are emerging. Future uncertainties must be addressed through planning scenario analyses. The European Commission concept is “Climate-proofing: ensuring the sustainability of investments over their entire lifetime, taking explicit account of a changing climate.” The Louisiana Coastal Protection and Restoration Project provides for no single most probable future, but includes multiple future scenario analyses.

EnviCom Task Group 2 (TG2) “Toward Sustainable Waterborne Transportation” was discussed by Keith Hofseth, IWR. TG2 was initiated in January 2008 in Brussels, Belgium. Terms of Reference for TG2 include:

- Document and highlight waterborne navigation as a sustainable mode.
- Highlight competition and improvements in performance of alternative modes.
- Highlight need for waterborne system and industry advances to achieve sustainability.
- Inform policy makers, educators, and other stakeholders.

### Meeting Wrap-up and Optional Events

The PIANC USA 2008 Annual Meeting concluding discussion with a question-and-answer

session was conducted by moderator Anne Cann, PIANC USA Secretary. Optional events included a Young Professionals Happy Hour, and a Group Dinner.

## PIANC USA 2008 Annual Report

The PIANC USA 2008 Annual Report was presented by Anne Sudar Cann, Secretary, at the PIANC USA Annual Meeting held at the U.S. Army Corps of Engineers Institute for Water Resources (IWR), in Alexandria, Virginia, July 15.



*Anne Sudar Cann, Secretary, PIANC USA, presenting 2008 Annual Report.*

### U.S. Membership Report

Secretary Cann stated “After a few years of slow membership growth, PIANC USA membership is now increasing with more momentum.” She reported that, as of April 2008, PIANC USA had 168 Individual members, 27 Corporate members, and 39 Life members. Of the 168 Individual members, 27 had been enrolled since May 2007. Fifty seven members are involved in PIANC Working Groups. Eleven are members of PIANC Commissions. Secretary Cann urged all members to continue to publicize PIANC to their co-workers, and to emphasize the benefits they would receive and the contributions they would make by becoming PIANC USA members.

## Media and Outreach

The electronic quarterly newsletter *PIANC Bulletin* continues to publicize both PIANC and Industry news events. If a member desires to have an article or announcement included in an upcoming *Bulletin*, contact the Editor, Mr. Edmond Russo, at [Edmond.J.Russo@usace.army.mil](mailto:Edmond.J.Russo@usace.army.mil).

The PIANC USA Section needed new promotional materials to attract new members and invigorate current members. The exhibit booth and brochure were outdated, and none of the materials conformed to a consistent design. All of the promotional pieces have been redesigned to create a consistent professional appearance. A new membership brochure and a new exhibit booth have been developed. The internet website redesign has a target completion date of September 2008. Potential, and new member packets have been developed to describe the PIANC organization and ongoing activities in which one can become involved for both professional enhancement and transfer of technology.

A PIANC USA commemorative coin has been produced as a token of appreciation to be presented to members for outstanding contributions to PIANC and navigation. A new PIANC USA logo has been designed.



*New PIANC USA logo.*

## PIANC 2007

Secretary Cann reported on the Annual Meeting of PIANC 2007, which had been held in March 2007 in conjunction with very successful PORTS

07, at La Costa Resort and Spa in sunny San Diego County. The well attended meeting included the general membership meeting of more than 60 PIANC USA members, technical presentations, and seminars on the environment and security. Ken Connell, U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, presented his 2007 DePaepe Willems award winning paper. There was also a Young Professionals (YP) networking reception at PORTS 07 that attracted more than 60 YPs.

## Smart Rivers

Smart Rivers 2007 was held in September 2007 in Louisville, Kentucky, on the Ohio River, with the theme “Positioning Inland Navigation as a Powerful Link in the Global Supply Chain.” Smart Rivers 2007 was a huge success for PIANC USA, but it could not have happened without our European partners. Secretary Cann added “We were very pleased to have the opportunity to organize this conference, and we look forward to hosting future Smart River conferences in the U.S.” A pre-conference workshop was convened on “The Future of the U.S. Inland Navigation System.” Over 200 attendees participated from the U.S. and Europe, attending technical sessions, networking functions, and a tour of McAlpine Locks and Dam. A final report on Smart Rivers 2007 has been printed, and will soon be available for download off the PIANC USA website.

Smart Rivers 2009 will be held September 14-15, 2009, in Vienna, Austria. PIANC USA is serving on the Organizing Committee.

Smart Rivers 2011 will be held at a location in the U.S. to be determined later.

## New PIANC USA Commissioners

Three new Commissioners were welcomed to PIANC USA by Secretary Cann. They include Mr. James McCarville, Executive Director of the Port of Pittsburgh Commission (effective January 2008); Dr. Craig Philip, Ingram Barge Company

(effective January 2008); and Mr. Dominic Izzo of Kellogg, Brown, and Root (effective June 2008).



**PIANC USA Chairman and new Commissioners (left to right): Dr. Craig Philip, Ingram Barge Company; Mr. Dominic Izzo of Kellogg, Brown, and Root; PIANC USA Chairman John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works); and Mr. James McCarville, Executive Director of the Port of Pittsburgh Commissioners.**

### **AGA 2008 and International Navigation Seminar**

Secretary Cann reported that the PIANC Annual General Assembly (AGA) held in May 2008 in Beijing, China, was a huge success. AGA 2008 resolved that waterborne transport must be enhanced for the growth of all nations, for benefit of the environment, and for a better future for all nations of the world.

PIANC USA placed second in the National Section Award.

Two papers were presented by PIANC USA at the International Navigation Seminar held in conjunction with AGA 2008. They were “Balancing Inland Navigation with Flood Control and Environmental Needs in the U.S.” by Chairman Woodley (co-authored by Ann Sudar Cann), and “U.S. Harbor Improvements: Are They Critical to Trade with China?” by David Grier, IWR and PIANC USA Latin America Liaison.

A highly educational technical tour of Three Gorges locks and dam was provided to the attendees.



**Three Gorges dam, China, site of technical tour for PIANC Annual General Assembly attendees.**

### **World Water Forum 2009**

The U.S. Army Corps of Engineers Institute for Water Resources and PIANC USA initiated PIANC’s involvement in the next World Water Forum (WWF), to be held in March 2009 in Istanbul, Turkey. It will take three forms: (1) a section on inland water transport in the World Water Development Report; (2) a side paper on Inland Water Transport to be presented at the WWF; and (3) a session on Inland Water Transport at WWF.

The inclusion of Inland Water Transport in the WWF is a major breakthrough. This activity will raise the profile of PIANC on a world stage. This endeavor fits into the new PIANC shift towards international thought leadership on sustainable water transport.

### **Gulf Coast Hurricane Conference**

Secretary Cann concluded her PIANC USA 2008 Annual Report by stating that “Our big conference this year is the Gulf Coast Hurricane Conference.” The theme of the conference to be held November 11-14, 2008, in Mobile, Alabama, is

“Hurricane Preparedness, Response, Recovery, and Rebuilding.” There will be a mix of 2 days of technical papers submitted by authors and invited high-level speakers, networking receptions, four technical tours, and four pre-conference workshops including one on Regional Sediment Management. It is expected that more than 200 people will attend. Although the topic is Gulf Coast Hurricanes, all lessons learned from the conference will have international applications. Secretary Cann ended by saying “Please make plans to attend!”

## Thank You for Allowing Me to

**Serve** by *Doris Bautch, former member of the U.S. Commission*

It has been a pleasure to serve as a Commissioner, PIANC USA, and to work with such a distinguished and knowledgeable cadre of experts. My work on the Commission has been devoted primarily in the international arena and to intermodal freight. My term on the Commission ended May 31, 2008. Here is a brief summary of my activities while I served on the Commission.

I have been the U.S. Principal Representative to the Maritime Navigation Commission (MarCom) Working Group 46 (WG46) “Maritime Freight Trans-Shipments,” The Chair of the WG was from Spain, which has had a number of representatives serving as Chair. I participated in meetings in Brussels, wherein I agreed to revise the Terms of Reference based on our discussions. Since that time, in 2005 we met in Madrid with only Spain and the U.S. participating. WG 46 appeared to have stagnated.

At the time I became a Commissioner, PIANC Headquarters in Brussels was discussing the lack of participation in PIANC by countries in the Western Hemisphere, except for the U.S. Since I was the U.S. Delegate to the Organization of American States (OAS) Inter-American Committee on Ports (CIP) at the time, I suggested to the PIANC USA

Commission that I explore the possibility of developing a relationship with the CIP.

I had numerous discussions with the CIP Executive Secretariat and confirmed that CIP was interested in pursuing a partnership. I arranged meetings in which Ron Conner, PIANC USA Secretary; the CIP Executive Secretariat; and I met to discuss a possible partnership. Subsequent to these meetings, I confirmed with the Commissioners that we pursue a Memorandum of Understanding (MOU) with the CIP and received approval from the Commission to proceed. We indeed did develop and sign a MOU with the CIP, and PIANC USA now participates in CIP meetings.

Also, as PIANC USA began to develop a Strategic Plan, we included an International Relations Goal. To date we have accomplished the following actions under this Goal:

- Represented PIANC USA at the CIP meetings (David Grier, USACE, is the primary representative. I also have participated in the meetings.).
- Developed a relationship with the CIP Magazine (We have provided articles.).
- Encouraged PIANC USA members to become members of the CIP Technical Advisory Groups (TAGS) (PIANC USA Bulletin, Spring Issue, Second Quarter 2008 includes an article titled “The Inter-American Committee on Ports (CIP)” written by Mr. Carlos Gallegos, the CIP Executive Secretariat, which I edited.).

PIANC USA has much to do under the International Relations Goal, and I encourage the Commissioners to take an active role. As we develop a working relationship with the Latin American/Caribbean countries we will strengthen our ports and waterways in the Western Hemisphere.



*Doris J. Bautch is Director of the Maritime Administration's (MARAD) Great Lakes Gateway Office, located in Chicago, Illinois, which covers the eight Great Lakes states and the eight Midwestern river basin states.*

*Ms. Bautch reports directly to the Maritime Administrator in support of all agency programs, including supporting and conducting supplementary training for personnel in the maritime industries and participating in regional port and intermodal transportation development activities. Prior to her Great Lakes post, she served as Chief of MARAD's Division of Ports in Washington, DC. Before joining MARAD, Ms. Bautch held executive positions at the Port of Greater Baton Rouge, Port of New Orleans, Hellenic Lines, and The Pillsbury Company.*

## **Dominic Izzo Appointed as New Member of the U.S. Commission of PIANC**

Assistant Secretary of the Army (Civil Works) and Chairman, U.S. Section, PIANC USA, John Paul Woodley, Jr., recently appointed Dominic Izzo to serve a 4-year term on the U.S. Commission of PIANC. Mr. Izzo is replacing Ms. Doris Bautch, whose term ended on May 31, 2008.



*Dominic Izzo*

Prior to his move to Kellogg, Brown, and Root a few weeks ago, Dom Izzo was a Senior Manager in the civil engineering practice of Exponent, Inc., in Houston, Texas. A project manager and civil engineer, he has served extensively in the public and private sector. President George W. Bush appointed Mr. Izzo to be the Principal Deputy Assistant Secretary of the Army (Civil Works), and he served in this position from July 2001 to November 2002. In addition, during this period he served as the first Chairman of the Estuary Habitat Restoration Council. Mr. Izzo began his career as an Army Engineer officer, serving in various command and staff assignments in Germany. He also taught Fluid Mechanics at West Point before leaving active duty as a lieutenant colonel in 1992. Prior to his appointment in the Bush Administration, Mr. Izzo was responsible for the design, construction, and start-up of a Liquefied Natural Gas (LNG) Terminal and Harbor in Dabhol, India. Previously he had also managed the design and construction of an LPG Terminal on the Yangtze River in China.

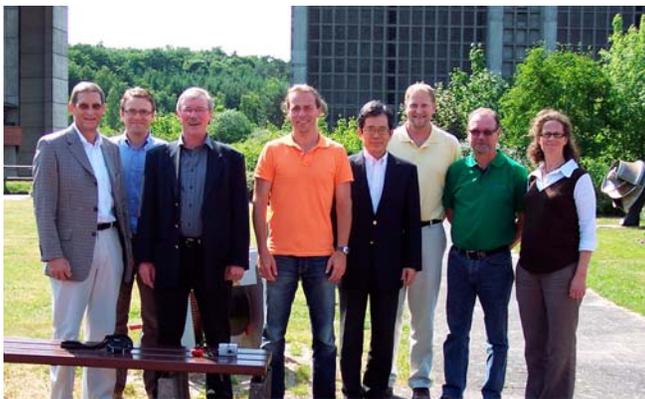
Mr. Izzo holds a Masters Degree in Civil Engineering from California Institute of Technology, Pasadena, California, where he studied Coastal Engineering. He is a Registered Professional Engineer in Louisiana and Virginia. Mr. Izzo is also a Fellow of the American Society of Civil Engineers (ASCE), in which organization he is currently serving as Chairman of the Wetland and Sediment Management Committee for the Coasts, Oceans, Ports, and Rivers Institute (COPRI). He is a member of both the National Energy, Environment, and Water Policy Committee and the Post-Hurricane Katrina Task Committee. He and his wife, Brigitte, have two sons who are both serving in the United States Army.

## **Inland Navigation Commission (InCom) Working Group 30 (WG30) Update: Inventory of Inspection and Repair Techniques of Navigation Structures (Steel, Concrete, Masonry, and Timber) both Underwater and In-the-Dry**

by Chad Linna

### **Meeting Venue and Attendance**

The sixth meeting of InCom WG30 was held in Hannover, Germany, June 3-6, 2008, hosted by Mr. Andreas Hüsiger of the Germany Inland Waterways Agency. The conference stretched over three days at locations in and around Hannover. Each day consisted of formal Working Group meetings as well as tours of the German Inland Waterway System and projects throughout the Hannover and Magdeburg area. Not all of the InCom WG30 members were present for this meeting.



*Members of InCom WG30 in attendance, left to right; Hans Joachim Uhlendorf (Germany), Peter Van Besien (Belgium), Chairman Eric Van Draege (Belgium), Andreas Husig (Germany), Hiroshi Yokota (Japan), Chad Linna (US), Jukka Tuovinen (Finland), and Astrid Laemont (Belgium).*

### **Agenda**

Each team member has contributed many details to exclusive report sections. All working group members have assignments and updates to submit by the end of June 2008 so that the composite draft can be compiled expediently. We expect the final report to be well beyond the recommended 50-page limit, but there appears to be no alternative due to the vast amount of technical material required for completeness. Team members will provide the draft report to a peer for review prior to the next meeting in Japan, October 7-10, 2008). The current workload includes over 10 innovations to be detailed in the final report.

The WG30 expects to finish the report during the Winter of 2008-2009, and present it to the PIANC Committee shortly thereafter.

### **Proposed Future WG30 Meetings**

- Tokyo, Japan                      October 7-10, 2008
- Madrid, Spain                      (If required)
- Brussels, Belgium              Winter 2008-2009  
(present Report to the PIANC Committee)

## **Maritime Navigation Commission (MarCom) Working Group 49 (WG49) Update: Horizontal and Vertical Dimensions of Fairways**

by Michael J. Briggs

### **Meeting Venue and Attendance**

MarCom WG49, "Horizontal and Vertical Dimensions of Fairways," held its seventh meeting at the Maritime Research Institute Netherlands (MARIN) facilities in Wageningen, The Netherlands, on April 17-18, 2008. The purpose of WG49 is to update the PIANC WG30 1997 report on "Approach Channels." A total of 16 members and four guests from 10 countries participated in this meeting, hosted by Jos van Doorn (The Netherlands). This was an excellent attendance as only three members were unable to attend.



*MARIN facilities, Wageningen, The Netherlands.*



*Participants at the MarCom WG49 seventh meeting included (L/R, 1<sup>st</sup> row) Hendrik Eusterbarkey (Germany, guest), Dr. Masayoshi Hirano (Japan, guest), Dr. Kohei Ohtsu (Japan), Paul Scherrer (France), Rink Groenveld (The Netherlands), Don Cockrill (UK), Captain Masanori Tsugane (Japan, guest), and Jose Iribarren (Spain); (2<sup>nd</sup> row) Chairman Mark McBride (UK), Jarmo Hartikainen (Finland), Carlos Sanchidrian (Spain), Werner Dietze (Germany), Martin Boll (Germany), Marc Vantorre (Belgium), Jos van Doorn (The Netherlands), Michael Briggs (U.S. Principal Representative), Pierre Debaillon (France), Roger Barker (UK, guest), Esa Sirkiä (Finland), and Terry O'Brien (Australia). Hendrik Eusterbarkey (Germany) and Roger Barker (UK) represented the International Association of Lighthouse Authorities (IALA).*

## Agenda

The 2-day meeting allowed time to discuss report content and other items of interest including the Japanese method of channel width prediction,

navigation accuracy, and aids to navigation. A tour of the MARIN facilities was conducted at the end of the second day.

## WG49 Report

The draft report is approximately 75 percent complete. Each of three subgroups had prepared a preliminary draft that was compiled into a booklet prior to the meeting for ease of discussion. The three subgroups are the (a) General, (b) Horizontal, and (c) Vertical teams led by Chairman Mark McBride (UK), Rink Groenveld (The Netherlands), and Mike Briggs (U.S.), respectively. The subgroups met separately to focus on the individual topics, and then reported to the larger group. Although substantial progress had been made since the last meeting, the consensus was that MarCom WG49 would require up to another year to finalize the draft for outside review and publication. Each subgroup will continue to work on their report sections with the next round of revisions due in September prior to the next scheduled meeting on October 1-2, 2008.

## Japanese Channel Width Methodology

Dr. Masayoshi Hirano (Japan), Captain Masanori Tsugane (Japan), and Dr. Kohei Ohtsu (Japan) presented some additional comparisons they had conducted since the last meeting with the existing guidance from the WG30 report. The WG30 guidance is based on empirical constants that multiply the ship beam as a function of different factors to predict the conceptual design channel width. It is relatively easy to apply and use, but has the disadvantage that the reasoning behind the selection of the different constants is not particularly clear. The new Japanese method is based more on a theoretical basis as the channel width is calculated using some relatively simple equations. Comparisons between the two methods have been somewhat variable, with some comparisons that are reasonably good and others that are not so good. The WG30 guidance has the advantage of being conservative and time-tested. The disadvantage of this methodology is that it often over-predicts channel width, which has the

potential to eliminate a project due to perceived costs before it has been properly analyzed. Due to page constraints for the report, there is still reluctance to include more than one method. MarCom WG49 will continue to evaluate the new method and may include it as an appendix.

### Navigation Accuracy and Aids to Navigation

Messrs. Hendrik Eusterbarkey (Germany) and Roger Barker (UK) presented the IALA input for navigation accuracy and aids to navigation. MarCom WG49 will rely on the IALA input for this important topic since IALA has the greatest expertise in this area.

### Tour

At the end of the second day, MarCom WG49 members and guests were given a tour of the MARIN ship simulator and physical modeling facilities. They were shown two Full-Mission Bridge Simulators (FMB1 and FMB2), the Shallow Water Basin, and the Seakeeping and Maneuvering Basin. The simulators are used to optimize port layouts and ship designs, reduce risk and downtime, and provide training in maneuvering and communications skills. The FMB1 has a full 360-deg view, and operates in real time. The FMB2 has similar capabilities as the FMB1, but it can also be operated in conjunction with the FMB1 as a tug simulator. The Shallow Water Basin measures 220 m × 15.8 m × 1.1 m and is used to optimize propulsion characteristics of ships in shallow water. It has a wavemaker and can simulate bank effects. The Seakeeping and Maneuvering Basin is 170 m × 40 m × 5 m. It is designed for performing seakeeping, maneuvering, and still-water tests of free-sailing and/or captive ship models in realistic wave environments. It has both main and transverse tow carriages, a multidirectional wavemaker on two sides, and wave absorption on the other sides.



*The MARIN Full-Mission Bridge Simulator FMB1 with 360-deg view.*



*The MARIN Full-Mission Bridge Simulator FMB2 simulator used to simulate tugs.*

### Next Meeting

The next meeting of MarCom WG49 is tentatively scheduled for October 1-2, 2008, at the Port of LeHavre, France. That meeting will be hosted by Mr. Paul Scherrer (France), International Association of Ports and Harbors representative.

## Smart Rivers 2009, September 14-15, Vienna, Austria

Mark your calendar to attend the Smart Rivers 2009 conference, to be held in Vienna, Austria, September 14-15, 2009. The conference is being organized by Transport Infrastructure Needs Assessment (TINA) Vienna Transport Strategies, and will include technical sessions, industry exhibits, and networking events. PIANC USA is serving on the organizing committee.

The 2009 conference will be the fourth in a series of international joint conferences on synergies for an efficient waterway system in Europe and the U.S. The theme of the conference is “Contribution of Inland Water Navigation to Climate Protection.” Extract of topics include:

- Impact of Extreme Weather Conditions.
- Availability of Infrastructure.
- Efficiency of Technologies Policy.
- Container Transportation.
- Role of Ports.
- Other topics to be determined.

The first Smart Rivers conference was held in Pittsburgh, Pennsylvania, in 2005; the second took place in Brussels, Belgium, in 2006; and last year’s conference was held in Louisville, Kentucky. More than 200 port and waterway executives, policy, and technical professionals from the U.S. and Europe attended the 2007 conference, organized by PIANC USA.

For more information on the 2009 conference, please contact Mr. Otto Schwetz at [otto.schwetz@tinavienna.at](mailto:otto.schwetz@tinavienna.at).



*Vienna, Austria, site of Smart Rivers 2009, September 14-15.*

## Gulf Coast Hurricane Preparedness, Response, Recovery, and Rebuilding Conference

The Gulf Coast Hurricane Preparedness, Response, Recovery, and Rebuilding Conference, to be held November 11-14, 2008, in Mobile, Alabama, is being organized by PIANC USA. The “Call for Presentations” yielded an overwhelming response, with more than 70 abstracts submitted. The conference organizing committee is now working to put together a very strong technical program. Topics for the conference include:

- Long Term Economic and Environmental Recovery.
- Emergency Preparedness.
- Watershed-wide Flood Hazard Master Planning.
- Self-Sustaining Ports.
- Navigation.
- Regional Sediment Management.
- Ecosystem Resiliency.
- Community Resiliency.
- Beneficial Uses of Dredged Material.
- Flood and Storm Damage Reduction.
- Engineering and Environmental Challenges.
- Technological Advances.



# PIANC USA ANNOUNCES A CONFERENCE ON

## Gulf Coast Hurricane Preparedness, Response, Recovery and Rebuilding

*A regional conference with international application*



Where: Mobile, Alabama  
 When: November 11-14, 2008  
 Who Attends: Anyone with an interest in post storm ecosystem restoration and coastal infrastructure protection

### Topics

- Long Term Economic and Environmental Recovery
- Emergency Preparedness
- Watershed wide flood hazard master planning
- Self Sustaining Ports
- Navigation
- Regional Sediment Management
- Ecosystem Resiliency
- Community Resiliency
- Beneficial Uses of Dredged Material
- Flood and Storm Damage Reduction
- Engineering and Environmental Challenges
- Technological Advances

CONTACTS: Anne Cann, 703-428-7166, r.anne.cann@usace.army.mil;  
 Kelly Barnes, 703-428-9090, Kelly.j.barnes@usace.army.mil.

[www.pianc.us](http://www.pianc.us)





*Mobile, Alabama, site of Gulf Coast Hurricane Preparedness, Response, Recovery, and Rebuilding Conference, November 11-14, 2008.*

PIANC USA would like to invite businesses and organizations to participate in the conference by becoming a sponsor and/or exhibitor. Sponsors will help keep our registration costs down, and we are confident that the conference will provide valuable advertising and marketing opportunities. Sponsors will be recognized in the printed program, will be highlighted at the conference, and will be able to link their web-site from the conference web site. If you sign up to sponsor or exhibit by August 15, your company's name and logo will appear in the conference registration brochure that is due to be released in late August.

The 4-day conference will include technical sessions, field tour opportunities, industry exhibits, technical workshops, and networking events. We expect more than 200 private sector and governmental participants.

Additional information can be found at [www.pianc.us](http://www.pianc.us) and will be updated as new information becomes available. Please contact Kelly Barnes, 703-428-9090 or [kelly.j.barnes@usace.army.mil](mailto:kelly.j.barnes@usace.army.mil), to confirm your participation as a sponsor or exhibitor.



*Hurricane Andrew boat facility damage.*

## **PORTS 2010: Building on the Past, Respecting the Future**

*by Steve Dickenson, Ph.D, M.ASCE, M.PIANC*

The Ports and Harbors Committee of the American Society of Civil Engineer's (ASCE) Coasts, Oceans, Ports, and Rivers Institute (COPRI) is very pleased to announce that Ports 2010 is scheduled for April 25-28, 2010, in Jacksonville, Florida.



*Jacksonville, Florida, site of Ports 2010, April 25-28, 2010.*



An Institute of The  
AMERICAN SOCIETY OF CIVIL ENGINEERS

# PORTS™ 2010

JACKSONVILLE, FL    APRIL 25-28, 2010

*Building on the Past, Respecting the Future*

## SPONSORSHIP AND EXHIBIT OPPORTUNITIES AVAILABLE.

Visit the Conference web site and click on "Sponsors" or "Exhibits" for more information.

## WHO SHOULD ATTEND?

This conference has been developed for professionals involved in port design, development, management, or construction including:

- Engineering related to land or water port access
- Planning, design, rehabilitation, inspection or repair of marine terminals
- Environmental planning for ports
- Transportation planning for ports
- Security for ports and harbors
- Construction of port facilities
- Monitoring and performance of port facilities during daily operations and extreme events

[WWW.PORTSCONFERENCE.ORG](http://WWW.PORTSCONFERENCE.ORG)

Ports 2010, the 12th in COPRI's successful series devoted to port and harbor engineering, continues ASCE's partnership with the PIANC USA in the development of the premier ports engineering conference in the world. The conference will focus on current projects, practical issues, innovative engineering and construction, and state-of-the-art developments for port engineering.

Developed for professionals involved in port design, development, management, or construction, the conference has traditionally drawn nearly 1,000 participants. The 2010 conference will feature short courses, 36 technical sessions, keynote addresses, and social activities planned to facilitate ample professional interaction in an informal atmosphere. Conference topics will include:

- Engineering related to land or water port access.
- Planning, design, rehabilitation, inspection or repair of marine terminals.
- Environmental planning.
- Transportation planning.
- Security considerations.
- Monitoring and performance assessment of port facilities during daily operations and extreme events.

The technical program is enhanced by cooperation with the Jacksonville Port Authority (JAXPORT), a conference sponsor that will offer technical tours of its facilities. Ports 2010 also will feature expanded programs for young professionals and students. A student paper competition is being planned, with details to accompany the call for abstracts later this year.

Ports 2010 will be held at the Hyatt Regency Jacksonville Waterfront, located along the St. John's River in downtown Jacksonville. In addition to Jacksonville's diverse cultural and recreational activities, coastal attractions and historic St. Augustine are within 45 miles of downtown. The Cape Canaveral-Orlando region, home to the Kennedy Space Center and world-

famous theme parks, is roughly 150 miles from Jacksonville.

The call for abstracts will be made in the Fall 2008, with abstracts due in January 2009. Many aspects of the conference program, sponsorship opportunities, exhibits, and information on the Jacksonville region will be available soon. For additional information on the conference program, please feel free to contact the Conference Organizing Committee Chairman, Dr. Stephen Dickenson at [stephen.dickenson@oregonstate.edu](mailto:stephen.dickenson@oregonstate.edu). Information will soon be posted at [www.portsconference.org](http://www.portsconference.org).

We hope to see you in Jacksonville, Florida. Mark your calendars for April 25-28, 2010.

## INDUSTRY NEWS

### WEDA XXVIII and TAMU 39 held in St. Louis, Missouri

The Western Dredging Association presented "WEDA XXVIII: The Western Hemisphere's Annual Dredging Conference and Exhibition," and Texas A&M University (TAMU) conducted "Texas A&M's 39th Annual Dredging Seminar" in St. Louis on June 8-11, 2008. The combined events collectively titled "Why We Dredge" were attended by 229 participants from nine countries including Brazil, Canada, Colombia, Germany, Ireland, Mexico, The Netherlands, United Kingdom, and the United States. The meeting was convened by WEDA President William Hanson.



*William Hanson, PIANC member, WEDA President; and Vice President for Business Development, Great Lakes Dredge and Dock Company.*



*St. Louis, Missouri, site of WEDA XXVIII and TAMU 39.*

The WEDA region covers North, Central, and South America. Additionally, the Central Dredging Association (CEDA) covers most of Europe, Africa, the Mid and Near East. The Eastern Dredging Association (EADA) covers the Far East and Pacific region. These three organizations constitute the World Organization of Dredging Associations (WODA) with equal representation on the Board of Directors of WODA.

Hanson discussed the goals and objectives of WEDA that are common for each of the three organizations. However, operations to attain these are carried out independently.

A primary WEDA goal is to promote the exchange of knowledge in fields related to dredging, navigation, and marine engineering and construction, by sponsoring or co-sponsoring national and international technical conferences, seminars, exhibitions, seminars, and symposiums, including publication and dissemination of the proceedings.

WEDA also strives to provide a forum for improvement of communications, technology transfer, and cooperation among associations, societies, and all organizations interested in dredging, navigation, and marine engineering and construction.

WEDA encourages educational institutions to initiate programs and courses to prepare students for employment in the dredging, navigation, and marine engineering field. WEDA provides support to educational institutions for students interested in pursuing dredging and marine engineering as a career.

WEDA promotes membership in, and furtherance of the Western Dredging Association, through the establishment and support of regional chapters, and recognizes individuals and organizations for outstanding engineering and operational achievements.

## **Texas A&M's 39th Annual Dredging Seminar**

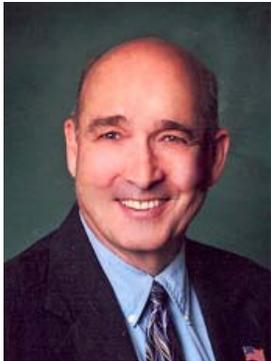
The first day of the combined WEDA XXVIII and TAMU 39 meeting was devoted to the Texas A&M 39th Annual Dredging Seminar. Dr. Billy Edge, Bauer Professor of Dredging Engineering; and Head, Coastal and Ocean Engineering Division; Department of Civil Engineering, TAMU, opened the Seminar by describing how the Seminar has grown in the past few years to such an extent that now a full day of concurrent sessions are necessary to present the extensive range of pertinent papers offered for discussion.



*Dr. Billy Edge, Department of Civil Engineering, Texas A&M University, PIANC member.*

Dr. Edge chaired two of the four Seminar technical sessions: (a) Dredging Research, and (b) Dredging Studies and Projects. The remaining two technical sessions were chaired by Dr. Robert Randall, Professor and Director of Dredging

Studies, Coastal and Ocean Engineering Division, TAMU. These sessions included: (a) Management of Contaminated Sediments, and (b) Environmental Aspects of Dredging.



*Dr. Robert Randall,  
Department of Civil  
Engineering, Texas A&M  
University, PIANC member.*

Twenty two technical papers were presented in the following four sessions:

- Dredging Research.
- Dredging Studies and Projects.
- Management of Contaminated Sediments.
- Environmental Aspects of Dredging.

### **WEDA XXVIII: The Western Hemisphere’s Annual Dredging Conference and Exhibition**

The second and third days of the combined WEDA XXVIII and TAMU 39 meeting were devoted to WEDA XXVIII Conference and Exhibition, and a field trip tour of stone quarry by Luhr Brothers Contractors to Tower Rock Stone Company (an affiliated company), Ste. Genevieve, Missouri, at Upper Mississippi River Mile 127. The Conference consisted of six technical sessions and two commission panels.



*Exhibition hall at WEDA XXVIII, St. Louis, Missouri.*



*Drs. Robert Randall and Billy Edge promoting Texas A&M University Coastal and Dredging Engineering with an exhibit in the Exhibition Hall during WEDA XXVII and TAMU 39.*

Twenty three technical papers were presented in the following six technical sessions:

- Navigational Dredging.
- Ashtabula River Remediation.
- Contracts and Construction Management.
- Dredging and Dewatering.
- Survey and Data Management.
- Dredged Material Disposal.

**WEDA Environmental Commission Panel, “Making It Happen: Management of Dredged Material and Sediment in the Watershed,” chaired by Craig Vogt, Consultant**

Panel members included Molly Madden, U.S. Environmental Protection Agency; Jeff Waters, Corps of Engineers Research and Development Center; David Knight, Great Lakes Commission; Polite Laboyrie, Central Dredging Association Environmental Steering Committee; and Frank Hamons, Port of Baltimore, Maryland.

**WEDA Safety Commission Panel, “Safety Updates,” chaired by Tom Verna, Headquarters, Corps of Engineers**

Panel members included M. Garbero, C. A. Short Company; LT Clint Townsen, U.S. Coast Guard, Section Upper Mississippi, St. Louis, Missouri; and Tom Verna.

**Tour of Tower Rock Stone Quarry by Luhr Brothers Contractors**

Tower Rock stone quarry is an approved Corps of Engineers quarry. It is an affiliate of Luhr Brothers Contractors with common ownership and corporate officers. The Ste. Genevieve, Missouri, quarry is located on the Upper Mississippi River at River Mile 127. Tower Rock Stone Company produces approximately 7.5 million tons of stone annually, and has the necessary facilities to produce: (a) agricultural lime, (b) manufactured sand, (c) bedding aggregates, (d) filter stone, (e) Gabion stone, (f) rip rap stone, (g) Corps of Engineers graded stone A, B, and C, (h) 4-ton boulders, etc.

Luhr Brothers arranged for one face of the quarry wall to be blasted while WEDA participants were on site to view the actual extraction of limestone for plant operations.



*Tower Rock stone quarry, Ste. Genevieve, Missouri, located on west bank of Mississippi River.*



*Quarry wall during blast.*



*Limestone product following quarry wall blast.*

A growing concern for Tower Rock Stone Company during the WEDA participants visit to the quarry that is located on the west bank of the Mississippi River was the rising water level on the River which was almost at flood stage. Some of the company facilities were susceptible to flooding if the river continued to rise.

## **Western Dredging Association (WEDA) 2008 General Membership Meeting** *by Larry Patella*

WEDA President William Hanson convened the 2008 meeting in St. Louis, Missouri, during WEDA XXVIII. He announced there are presently 4,230 current members of WEDA. He attributed this continued membership increase to the outstanding efforts of WEDA's North American Chapter, and expansion of WEDA activities in Central and South America. Hanson stated "Issues throughout our industry are changing almost on a daily basis, and the experiences and knowledge available to WEDA from new members will greatly benefit our industry." He advised that this expertise from new members in areas such as excavated materials, enhancement of our environment, disposition of contaminated sediments, sand and gravel industry, and dredging contractors would greatly benefit the dredging to enhance navigation industry.

President Hanson reported that WEDA would continue financial support to Texas A&M University through a \$2,000 contribution to the William R. Murden Scholarship fund. This scholarship is awarded annually to a Texas A&M graduate student in the fields of dredging, or marine engineering and construction. WEDA will continue to publish quarterly newsletters and the professional *Journal of Dredging Engineering*. WEDA continues to provide financial support to WEDA Chapters and WEDA's Student Papers Program that is designed to encourage university students to present technical papers at WEDA/Texas A&M conferences.

WEDA members were reminded that because of their hard and dedicated work, WEDA has become

the recognized center of dredging excellence throughout the Western Hemisphere. Hanson remarked "As the only professional technical dredging association in the Western Hemisphere dedicated to the exchange of information and knowledge related to dredging, and marine engineering and construction, as well as the enhancement of our environment, WEDA considers it an honor to be able to continue to promote our stated goals and objectives through conference and trade shows such as this one. The planning and preparation of programs such as WEDA XXVIII and the 39th Texas A&M University Annual Dredging Seminar, along with our *Journal of Dredging Engineering*, have contributed significantly to our ability to meet our stated goals and objectives."

President Hanson stated "Safety, which in the past has taken a back seat to other issues throughout our industry, has emerged as one of our most important issues. Because the health and welfare of WEDA members is paramount, and the safety of dredgers and other WEDA members on and off the job is one of our primary concerns, WED is planning on raising the awareness level of all our members about the hazards they face on a daily basis. WEDA will be creating an annual WEDA Safety Award to the WEDA member, company, or corporation that during each year makes the most significant contribution to WEDA's Safety Program."

Next, President Hanson announced:

- Western Dredging Association (WEDA 29) Annual Western Hemisphere Dredging Conference, and the 40th Texas A&M University Annual Dredging Seminar, will be held at The Buttes Marriott Resort Hotel, June 14-17, 2009, Tempe, Arizona.
- Central Dredging Association (CEDA) Dredging Days, October 1-3, Antwerp, Belgium. The CEDA African Section annual meeting will be held December 2-4, 2008, Nouakchout, Mauritania.

- Eastern Dredging Association (EADA) Annual Conference, November 18-19, 2008, Beijing, China.

The President reminded all present of WEDA's motto "Dredging Creates a Strong Economy and a Cleaner Environment". He said "Having recognized long ago that dredging contributes to the preservation and enhancement of our marine environment, and is essential to both a strong economy and a cleaner environment, WEDA has made great strides in making environmental dredging issues one of the focal points at these conventions. This is largely through the efforts of our Environmental Commission chairman Craig Vogt. It has become common knowledge throughout the industry that only by educating all concerned on the importance of dredging and working together can we hope to remove obstacles to dredging, and help solve the environmental problems facing our industry."

President Hanson announced the WEDA Lifetime Achievement Award was presented to Mort Richardson, publisher of *World Dredging, Mining, and Construction*. He also announced that the recipient of the 2008 WEDA Dredger of the Year is Judith Powers, editor and publisher of *International Dredging Review*. He also noted that this year WEDA presented its first Annual Exhibitor Booth Awards. The most inviting, warm, and receptive booth award was presented to ODOM Hydrographic Systems. The most technically educational booth award was presented to HYPACK, Inc. In recognition of their achievements, both will receive a complimentary 8 ft × 10 ft booth at WEDA XXIX and TAMU 40 in Tempe, Arizona.



*Larry Patella,  
Executive  
Director/Secretary,  
Western Dredging  
Association.*

## Cutter Suction Dredge Short Course Offered by Texas A&M University

A cutter suction dredge simulator short course will be offered by Texas A&M University January 19-21, 2009, to demonstrate the fundamentals of hydraulic dredging using a cutter suction dredge. Basic concepts of cavitation, deposition of sediment in the pipeline, pipeline length limitations, pump power limitations, and swing winch limitations will be demonstrated. Different sediment conditions and channel currents will also be simulated. A PC computer will be interfaced to actual controls for a cutter suction dredge. A training manual for the course will be provided. The short course will be held in the Haynes Coastal Engineering Laboratory, Texas A&M University, College Station, Texas.



*Short course student getting hands-on simulator experience.*

Instructors for the short course will be Mr. Peter S. deJong and Dr. Robert E. Randall. Mr. deJong, Consultant, Digital Automation and Control Systems, Inc., Houston, Texas, holds a BS degree from Technical College of Zwolle, The Netherlands; an MS degree from Delft University, The Netherlands; and a MBA degree from Northwestern University. Dr. Randall, Professor of Ocean and Civil Engineering, and Director, Center for Dredging Studies, holds a BS degree from Ohio State University, and MS and PhD degrees from the University of Rhode Island.

Advance enrollment is required for the short course, and may be made by individuals or companies. Applicants must mail or fax a completed enrollment application, and mail payment (check or money order) for the course fee of \$ 1,500 made payable to “Texas A&M University,” or use a government purchase voucher. Payment should be in U.S. funds and drawn on a U.S. bank, or contact Dr. Randall for electronic payment information.

Application deadline for the short course is December 1, 2008.

The application form for enrollment can be obtained from, and should be returned to:

Dr. Robert E. Randall  
Center for Dredging Studies  
Ocean Engineering Program  
Zachry Department of Civil Engineering  
Texas A&M University  
College Station, Texas 77843-3136

Other questions and information inquiries should be directed to Dr. Randall, Phone: 979-845-4568, Email: [r-randall@tamu.edu](mailto:r-randall@tamu.edu); Administrative Assistant, Phone: 979-845-4516, Fax.: 979-862-8162; Web Site: <http://oceaneng.civil.tamu.edu>.

## **AAPA Hails Approval of \$400 Million for Fiscal 2009 Port Security Grants** *by Aaron Ellis*

The American Association of Port Authorities (AAPA), on June 19, lauded both the Senate Appropriations Committee and the House Appropriations Subcommittee on Homeland Security for including \$400 million for the Port Security Grant program in their FY 09 federal budget recommendations for the Department of Homeland Security. The Port Security Grant program is the only one of its kind in the United States to assist seaports in securing port facilities against terrorism.

“Earlier this year, we were disappointed to learn that the Administration had only requested \$210 million to pay for port security grants in FY 09, even though it had approved our recommended \$400 million appropriation level for FY 08,” said Kurt Nagle, AAPA’s President and Chief Executive Officer. “AAPA worked long and hard to finally get the appropriation level up to the \$400 million level, and we will continue to urge Congress and the Administration to keep it at that level because that was the amount authorized in the SAFE Port Act and it’s what our ports need to protect their critical ship- and cargo-handling infrastructure from those having malicious intent.”



*Kurt Nagle,  
President and CEO,  
American  
Association of Port  
Authorities.*

On June 11, the House Appropriations Subcommittee on Homeland Security finalized its recommendations for the FY 09 Department of Homeland Security budget, including \$400 million in funding for port security grants. On June 19, the Senate Appropriations Committee recommended the same appropriation level for the grants program.

Since the Port Security Grant program was established in 2002, Congress has appropriated approximately \$1.5 billion for port facility grants. These grants are essential to U.S. ports for carrying out their regional security plans and hardening security at their individual facilities.

The American Association of Port Authorities was founded in 1912 and today represents 160 of the leading public port authorities in the United States, Canada, Latin America, and the Caribbean. In addition, the Association represents 335 sustaining and associate members, firms, and

individuals with an interest in the seaports of the Western Hemisphere. AAPA port members are public entities mandated by law to serve public purposes. Port authorities facilitate waterborne commerce and contribute to local, regional and national economic growth. The benefits of ports are immense for national economies throughout the Western Hemisphere. These ports are gateways to world trade and are a critical component in these nations economic health, national defense, and growing cruise industry. In the U.S., commercial seaport activities provide jobs for 13.3 million Americans, whose earnings and consumption totaled nearly \$650 billion in 2007.



*Aaron Ellis is Communications Director for the American Association of Port Authorities.*

## Students Soak up Army Corps Workshops (with SpongeBob's help)

*By JoAnne Castagna, Ed.D.*

A young female school student from New York Public School 43 stands on the Rockaway Beach boardwalk and gently pokes a lifeless yellow mound lying on the bottom of a water tank. "What's this?" she asks.

"It's a yellow sea sponge like the cartoon character SpongeBob SquarePants, but unlike Bob this sponge does not have eyes, legs, arms, or a brain," explains Lisa Baron, a Project Manager with the Corps' Harbor Programs Branch.

The girl was stunned as were her classmates surrounding her. It seems the students did not make a connection between the popular cartoon character

and the marine life that live in the waters right behind their school that sits on Rockaway Beach, a peninsula on the south shore of Queens, New York.

This was the aim of the Rockaway Waterfront Alliance that asked the Corps to visit the students.



*Students learn about marine life living in their Rockaway Beach, New York, waters from Lisa Baron, Project Manager, Harbors Programs Branch, New York District (NYD), U.S. Army Corps of Engineers (USACE) (photograph by Dan Desmet, Public Affairs Office, NYD).*

"The Corps' projects have protected the Rockaway shoreline and waterways for some time, but the local community and youth have never had the opportunity to find out how necessary this work is to keeping their waterways open," said Jeanne DuPont, Director, Rockaway Waterfront Alliance.

A team of Corps biologists and engineers held several workshops for students at Rockaway Beach along the boardwalk right behind their school.

### Dredging Workshop

Douglas Leite, Project Manager, NYD, USACE, informed the students about the dredging work the Corps is performing off their shore and how it is beneficial to their community.



*Douglas Leite, Project Manager, NYD, USACE, informed the students about dredging work the Corps is performing off their shore and how it is beneficial to their community (photograph by Dan Desmet, Public Affairs Office, NYD).*

Over the years Rockaway Beach has eroded due to a number of reasons including severe storms over the years.

To help replenish the shoreline, the Corps dredges the East Rockaway Inlet and places sand back onto the beach.

“We dredge sand from the East Rockaway Inlet and place it onto the beach to increase the size and reduce flood risk and coastal erosion, as well as provide a recreation area for the community,” said Leite.

### Sea Life Workshop

Lisa Baron told the students that during dredging operations the Corps does all it can to protect marine life in their natural habitat. The Corps uses deflectors to prevent sea turtles from

getting caught in a dredge. Dredging work is done when species are not present.

Baron showed live species of Rockaway marine life for the students to hold and touch that included slime-covered moon snails, hermit and mole crabs, sea horses, mud snails, sea anemones, sea stars, and a yellow sea sponge.

Baron said the students asked many questions and appeared very fascinated with the marine life.

“They were intrigued to learn that male sea horses play Mr. Mom and give birth to their babies, and that sea stars regenerate their arms and pull their stomachs outside of their body to feed.”

Some of the sea critters gave real life demonstrations for the students, such as a sea anemone that shot out its stinging cell at a baby sea star and attempted to eat it as students stared in amazement.

### Piping Plover Workshop

Robert Smith, Project Biologist with NYD, collected critters from the East Rockaway Inlet.

He talked to students along the beach about threatened and endangered species, and how the Corps is taking measures to protect them.

One of these is the Piping Plover, a threatened shorebird due to beach erosion. Smith created a mock Piping Plover egg hunt for the students to show them what Piping Plover eggs and nests look like. During their hunt he told the students that by the Corps building up the beaches with sand they are creating a habitat for the birds to nest and care for their young. He also said that the Corps schedules the sand placement outside the nesting season.

During Smith’s workshop, a horseshoe crab slowly crept from the shore towards the students. Smith saw this as an opportunity to tell the students that horseshoe crabs are ancient creatures predating the dinosaurs, and dating back over 500 million years.



**Robert Smith, Project Biologist, NYD, takes students out on a Piping Plover egg hunt (photograph by Dan Desmet, Public Affairs Office, NYD).**

The Corps’ workshops created such a buzz among the students that their school’s principal asked the Corps team to visit a class of second-grade students.



**Corps engineers and biologists are invited to visit a class of enthusiastic second-grade students (photograph by Dan Desmet, Public Affairs Office, NYD).**

DuPont said, “The Corps visit was extremely informative for the students. Their workshops also support the efforts that the Rockaway Waterfront Alliance has been addressing by encouraging public access to the waterfront through education with local youth.”

Baron said, “To know that the Corps’ outreach may inspire the students to become future scientists or merely improve their environmental awareness is rewarding.”



*Dr. JoAnne Castagna is a Technical Writer-Editor for the U.S. Army Corps of Engineers, New York District. She can be reached at [joanne.castagna@usace.army.mil](mailto:joanne.castagna@usace.army.mil).*

## Bed Leveling Following Dredging Operations

Michelle Rau, ANAMAR Environmental Consulting, Inc., discussed “Biological Assessment for the Use of Bed Leveling Devices in Port Canaveral--Baseline Research and Data Compilation,” at WEDA XXVIII.



*Michelle Rau, ANAMAR Environmental Consulting, Inc.*

### Bed Levelers

A bed leveler is considered to be any type of dragged device used to smooth sediment bottom irregularities left by the dredge. Bed levelers are frequently used following new work and maintenance dredging by clamshell, bucket, hydraulic cutterhead, and hopper dredges to level out ridges and trenched by the dredging equipment. In various part of the United States, this process is known as “barring” or “knockdown.” In certain cases, bed levelers are used to relocate sediment to

maintain navigable depth as an alternative to dredging with conventional methods. Bed levelers are not a new dredging technique, and can be documented as far back as 1565.

Historically, drag bars first used as bed levelers were probably sections of spuds or fabricated from I-beams. Bed levelers are custom fabricated devices and can resemble anything from a bulldozer blade to a box-beam reinforced with added weight to facilitate penetration into soft or hard substrates, occasionally including small grades of rock.

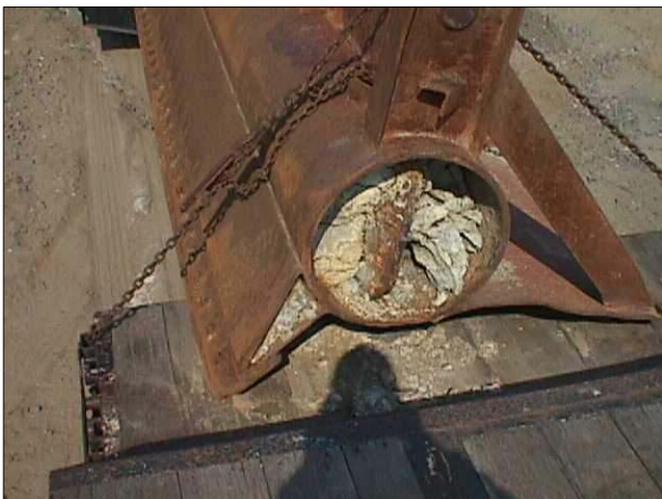
Bed levelers are suspended from work barges by winches on A-frames to control the operating depth of the device. A 1,000 to 3,000 hp tug is generally used to push or pull the barge-mounted bed leveler at towing speeds ranging from 1 to 2 knots. A typical bed leveler varies from 30 to 50 ft in width and weighs anywhere from 25 to 50 tons. The bed leveler developed by Manson Construction Company was described to the Corps of Engineers as being a 2- to 2-1/2-ft-deep I-beam device with added weight, about 40 ft wide, and weighing about 30 tons.



*Bed leveler (photo courtesy Great Lakes Dredge and Dock Company).*



*Bed leveler (photograph courtesy Weeks Marine Incorporated).*



*Bed leveler (photograph courtesy Bean Dredging Corporation).*

### Bed Levelers and Sea Turtles

Early in 2003, Corps of Engineers Division and District personnel became aware that regulatory agencies were concerned over the potential impact of bed levelers on sea turtles. At that time, nine sea turtles with traumatic injuries were found washed ashore near the entrance channel to Brunswick Harbor, Georgia, at about the time the dredging contractor was using a bed leveler. Although no conclusive evidence was found to link the bed leveler with any of the reported sea turtle strandings, concerns were nevertheless raised that

operation of a led leveler in Brunswick Harbor could result in take of sea turtles.

Prior to this incident, resource agencies were apparently unaware of the routine use of bed levelers during dredging activities. Districts within the Corps's South Atlantic Division (SAD) had not previously assessed potential effects of bed leveler use on sea turtles, and acknowledged that this information would be difficult to ascertain. Hence, the need to better describe the bed leveling process, including gear types and ranges of applications, was identified as an initial step toward a balanced evaluation of this sediment management practice.

The risk of entrainment is dependent on the type of dredging equipment used, the timing of the operation, behavior of turtles occupying the project area, weather conditions, and other project-specific factors. Many sea turtle entrainment incidents occur in the late stages of hopper dredging projects. Sea turtles may rest in trenches created by repetitive transits of the dragheads, then become susceptible to entrainment when the dredge attempts to level the remaining high spots during the "clean-up" phase of the project.

In 1997, the National Marine Fisheries Service (NMFS) stated "Turtle takes occurred in a number of the 1997 dredging projects during clean-up. Ridges left behind after the initial dredging are then leveled by the hopper dredge during clean-up, but the draghead passes over troughs. Takes occurring during clean-up by the hopper dredge may be difficult to avoid since the draghead deflector must remain hard on the bottom to be effective. Some method to level the peaks and valleys created by dredging would reduce the amount of time dragheads are removed from the bottom sediments."

This rationale was again discussed by the NMFS in 2003 coordination documents for a Gulf Regional Biological Opinion. If bed levelers are used during hopper dredging projects to minimize trench formation and perform clean-up operations, the actual dredging duration can conceivably be shortened and the potential turtle take reduced. Furthermore, a bed leveler that works more on the tops of the trenches with no hydraulic suction

capabilities could potentially impact fewer sea turtles than a draghead with entraining flow field exposed as it skips over bottom trenches.

### **Port Canaveral**

Rau stated "The Canaveral Harbor entrance channel is unique because it is historically the most densely populated area of sea turtle activity in the country. Hopper dredging has not been allowed in Canaveral Harbor since 1992, except during temporary emergency exemptions, because of the high numbers of sea turtles present year round and the potential for an unacceptable number of takes. In 1997, NMFS issued a Regional Biological Opinion governing hopper dredging along the southeastern United States that also imposed a continuous restriction on hopper dredging in Canaveral Harbor due to the high abundance of sea turtles in the area. Since then, almost all of the dredging of this channel has been accomplished, at a substantial increase in cost, by mechanical or cutterhead dredging with no documented sea turtle takes."

Turtle take is defined as a turtle that has been entrained and injured or killed by a hopper dredge. Turtle stranding is defined as a turtle that has been found either washed up on the beach or floating in the water.

### **Biological Assessment**

The Corps' Jacksonville District performed a Biological Assessment (BA), submitted to NMFS in March 2006. The objectives of the BA was to research, collect, and compile baseline information regarding use of bed leveling devices and potential effects on sea turtles to initiate consultation under the Endangered Species Act of 1973. The tasks included: (a) researching documents and dredging history reports from 1990-2005 to determine use of bed levelers at several ports, (b) compiling sea turtle take and stranding reports for turtles within a 4-mile radius of port entrance channels for dates coinciding with dredging projects, and (c) summarizing survey results of interviews with dredging industry and SAD District personnel.

The BA determined that from 1990-2005, dredging had been conducted annually in Canaveral Harbor channels and turning basins. Of 18 total projects, five involved hopper dredges. Sea turtle takes were reported during three of the five hopper dredging projects, which resulted in 13 takes (9 Greens and 3 Loggerheads). Fifty-four turtle strandings exhibiting crushing- or impact-type injuries happened within a 4-mile radius of the entrance channel. Of these 54, 16 either occurred during a dredging project or within 2 weeks after the dredging projects were completed. These 16 strandings coincided with 7 different dredging projects over the 15-year period.

Although strandings occurred within dredging timeframes, there was insufficient evidence to link the strandings with dredging operations and bed leveler use because there was no documentation. Historically, bed levelers have not been a specific pay item; therefore, they are not included in plan and equipment lists of contractor's bids.

### **Corps of Engineers Determination**

Although NMFS has determined that bed leveling is a cause of injury or lethal take to sea turtles, a review of the use of bed-leveling devices in Port Canaveral over the last 15 years does not support this belief, according to the Jacksonville District. Based on a review of the information provided in the Biological Assessment, the Jacksonville District determined that the proposed use of bed leveling devices in Port Canaveral may affect, but is not likely to adversely affect, listed marine turtle species within the action area, and requested concurrence with this determination from NMFS.

NMFS reviewed the BA, and in June 2006 determined that they believed that use of a bed leveler was part of the larger dredging process, and that the Corps' SAD (of which the Jacksonville District is a component) should re-initiate consultation under the Endangered Species Act for dredging activities in the southeast United States (from the North Carolina/Virginia state line south through and including Key West). After internal

discussions within the SAD districts, SAD formally re-initiated consultation with the National Marine Fisheries Service in April 2007. This consultation remains in an on-going process.

### **e-Navigation: History and Status**

*by Michael F. Winkler, U.S. Army Corps of Engineers; Darren Wright, National Oceanic and Atmospheric Administration; and Brian Tetreault and Jorge Arroyo, U.S. Coast Guard*

Correlating a ship's identity, position, and associated information in coastal waters, inland rivers, ports, and terminals has frustrated authorities for quite some time. Automatic reporting technology aboard vessels will contribute greatly to the needs of authorities in the promotion of safe navigation, vessel traffic management, and efficient maritime commerce. Recent advances in technology, and the emergence of new communication techniques, offer the ability to exchange static and dynamic vessel information and also incorporate the ability to transmit relevant information about the waterway to the vessel and from vessel-to-vessel. As a result of these advances, the marine industry is undergoing a technical revolution often called "e-Navigation".

To assist in understanding the description of the current organizations and initiatives involved with e-Navigation, a brief history that led to the development of the e-Navigation concept is provided. Because this concept is being refined at an international level it is important to be aware of the organizations that have played key roles in the past and present. The Titanic disaster of 1912, in which 1,503 people lost their lives, provided the impetus for safety at sea considerations. In 1914, 2 years after the Titanic disaster, maritime nations gathered in London to adopt the International Convention for the Safety of Life at Sea (SOLAS), taking into account lessons learned from the Titanic. The 1914 version of the SOLAS Treaty has been superseded by SOLAS 1929, SOLAS 1948, SOLAS 1960, and SOLAS 1974. SOLAS 1974 is still in force today, but it has been amended and updated many times.



*The Titanic disaster provided the impetus for safety at sea considerations.*

The Geneva SOLAS Convention in 1948 established three main organs: (a) the Assembly, (b) the Council, and (c) the Maritime Safety Committee (MSC). At this Geneva Convention, the Inter-Governmental Maritime Consultative Organization (IMCO) also was adopted. The name was changed in 1982 to the International Maritime Organization (IMO).

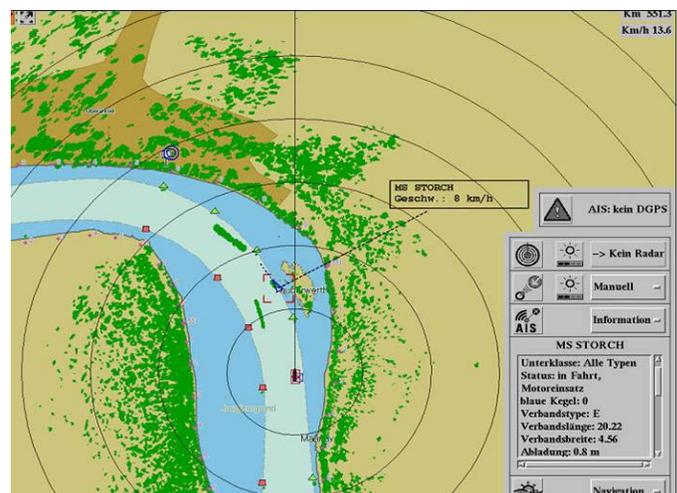
**International Maritime Organization (IMO)**

The IMO develops and maintains the SOLAS Treaty. The goal of the IMO can be expressed as *safer shipping and cleaner oceans*. At the SOLAS Convention in 1974, a proposal was submitted that would mandate the carriage of a robust Universal Automatic Identification System suitable for ship-to-shore and ship-to-ship. The IMO adopted the proposal, and the system was called a Universal Ship-borne Automatic Identification System. The name was later changed, and is now called the Automatic Identification System (AIS). The AIS is navigation safety technology for the exchange of vessels' static and dynamic information among other vessels and competent authorities regularly, automatically, and autonomously.



*Real time graphical display of AIS data.*

The international standards and regulations regarding the AIS for SOLAS vessels are established by the IMO. The majority of maritime traffic has been required to operate the AIS equipment since July 2004. The adoption of the AIS made a vast amount of information available both onboard ship and ashore that was previously difficult or impossible to obtain. It also highlighted the importance of being able to integrate the AIS information with that from other sensors and sources. Thus, the AIS has served as a catalyst to the maritime community for the development of the concept of e-Navigation.



*Ship-based integrated Electronic Chart System/AIS/radar.*

e-Navigation is now a strategic program being led by the IMO. Furthermore, the IMO intends to develop an implementation strategy for e-Navigation by the end of 2008. The IMO has formally requested the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the International Hydrographic Organization (IHO) to support and advise the IMO in the development of the vision and scope of e-Navigation.

### **International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)**

The purpose of the IALA is to assist in safe navigation of shipping and protection of the environment by ensuring that seafarers are provided effective and harmonized marine Aids to Navigation services worldwide. The guidelines and recommendations developed by the IALA provide a one-stop information source for both operational and technical aspects of the AIS. These guidelines and recommendations cover an increasingly wide range of ship and shore-based applications. Such guidance also aims to serve as inspiration and motivation to make full use of the AIS, achieve efficiency and effectiveness, and support maritime productivity, safety, and environmental protection. This guidance keeps ship-to-ship safety its primary objective. The IALA brings together representatives of more than 80 member countries as part of the work of the six technical committees within the IALA.

At the request of the IMO, the IALA has also expanded efforts in drafting guidance on e-Navigation. The IALA concentrates on (a) requirements of the mariners and shore-based users/stakeholders, (b) harmonization and standardization of technical/electronic systems and instruments, and (c) information management (collection, integration, exchange, and analysis and presentation of maritime information onboard and ashore). The IHO focuses on the development of global coverage of Electronic Nautical Charts (ENCs), recognized as one of the key elements of e-Navigation. The International Telecommunications Union (ITU) and International

Electrotechnical Commission (IEC) are also involved in e-Navigation with respect to all technical aspects related to frequencies, space allocation, and standardization of equipment.

The IALA has defined e-Navigation as “*the harmonized creation, collection, integration, presentation and exchange of maritime information on board and ashore by electronic means to enhance berth-to-berth navigation and related services, for safety and security at sea, and for protection of the marine environment.*”

Components of e-Navigation include but are not limited to:

- AIS
- Radar
- Very High Frequency/High Frequency/Medium Frequency radios
- Global Maritime Distress and Safety System
- Terrestrial radio navigation systems
- Marine safety information
- Navtex, Inmarsat, Orbcomm, and other satellite communications
- Electronic charts
- Integrated navigation/integrated bridge systems
- Meteorological/hydrological sensors
- Long-range identification and tracking systems
- Data reporting standards

### **Aspects of e-Navigation**

- **Safety:** e-Navigation will provide improved integration of the display of relevant data to support complex decision-making processes on board and ashore and, therefore, reduce risk of critical error.
- **Security:** e-Navigation can contribute to improved maritime security by providing routes through areas that can be policed. However, it is not in itself a security system,

but it is an instrument that could be used by security agencies to improve communications supporting maritime security.

- **Environment:** e-Navigation will reduce accidents through its improved navigation safety, therefore protecting the marine environment from pollution.
- **Efficiency:** e-Navigation will allow:
  - (a) enhancement of current shore-based Vessel Traffic Services (VTS), and
  - (b) coordination and exchange of comprehensive data in formats that will be more easily understood and utilized by shore-based operators and vessels.
- **Stakeholders:** e-Navigation infrastructure will enable authorized seamless information transfer onboard ships, among ships, ship-to-shore, and among shore authorities and other parties.

Currently the IALA is working to define e-Navigation data standards for ship-to-ship, ship-to-shore, shore-to-ship, and shore-to-shore communication. Shipboard and shore-side presentations just focus on providing appropriate, relevant, and timely information to the officer on watch. The e-Navigation committee intends to produce an open, telematic architecture for e-Navigation including conceptual, logical, and physical layers. As technologies advance, this e-Navigation architecture will be scalable and flexible to grow and adapt to those advances.

### **e-Navigation Projects within the United States**

#### **U.S. Army Corps of Engineers (USACE).**

Within the USACE there are currently many developments ongoing that relate to e-Navigation. During the 2006 Inland Navigation Conference, industry requested a single data reporting standard. In response to that request, the Corps' Institute for Water Resources (IWR) is working with the towing industry and multiple other Federal agencies to develop a harmonized reporting standard. The Corps and the United States Coast Guard (USCG)

are working to develop a plan to assist the USCG in their Nationwide Automatic Identification System (NAIS) program by sharing Corps assets. The Corps Engineer Research and Development Center (ERDC) is developing sensor packages that transmit relevant data regarding structures in real time to the vessel. The ERDC Coastal and Hydraulics Laboratory is working with the Corps' St. Louis District to develop a program to assist in Lock Operations Management. The ERDC Topographic Engineering Center is also completing the development of the Inland Electronic Navigation Charts (IENC) for inland waterways. The IENCs will greatly improve the chart data, and will update charts electronically.

**U.S. Coast Guard (USCG).** As the competent authority for the AIS, the USCG is installing a nationwide shore-side AIS infrastructure through the NAIS project. This infrastructure will provide AIS capability for the U.S., supporting maritime missions of all government agencies. The USCG is developing requirements and investigating future uses of this capability in conjunction with other government agencies, in particular the USACE and the National Oceanic and Atmospheric Administration (NOAA). The USCG maintains a leadership role in the IMO and the IALA on e-Navigation.

**National Oceanic and Atmospheric Administration (NOAA).** The USCG and NOAA are working together to provide Physical Oceanographic Real-Time System (PORTS®) data via the AIS at USCG VTS sites, and ultimately through sites established under the NAIS project. PORTS® data are currently available to mariners via the internet, by telephone, and on request by radio from the VTS. PORTS® sensor data will be processed by the VTS system and transmitted to AIS-equipped vessels. Onboard the vessels, the data will be received by the AIS equipment, and then may be displayed on shipboard navigation systems. Data such as wind speed and direction, current speed and direction, water level, air temperature, water temperature, and barometric pressure will be available to the mariner. NOAA is also examining the use of this information to

develop an electronic nautical chart with dynamic depths based on real-time water level information. The NOAA ENC's support all types of marine navigation by providing the official database for electronic charting systems (ECS), including the Electronic Chart Display and Information System (ECDIS). NOAA ENC's support real-time navigation as well as the collision and grounding avoidance needs of the mariner, and accommodates a real-time tide and current display capability that is essential for large vessel navigation. NOAA ENC's also provide fully integrated vector base maps for use in Geographic Information Systems (GIS) that are used for coastal management or other purposes.

**Conclusion**

e-Navigation is a concept that incorporates services and systems, and will generally bring the integration of electronic systems and information within a strategic plan governed by the IMO. There are many stakeholders affected by e-Navigation who should be involved in its development. These include but are not limited to mariners, pilots, port authorities, port services, coastal states, manufacturers, data providers, ship-owners, the IALA, and the IMO.

**“Historic” Ballast Water Bill Passes House** *by Great Lakes Maritime Task Force*

The U.S. House of Representatives on April 24, 2008, passed a bill containing the most stringent standards ever, and is the world’s toughest invasive species control measure. The bipartisan legislation, which was endorsed by a broad cross-section of Great Lakes organizations creates a historic opportunity to address one of the most vexing issues facing the Great Lakes and our Nation’s waterways.

The legislation, H.R. 2830, sponsored by Rep. Jim Oberstar (D-MN), and supported by Rep. Steve LaTourette (R-OH), ranking Republican on the U.S. Coast Guard (USCG) subcommittee, was endorsed by the Great Lakes Maritime Task Force (GLMTF). The GLMTF is an association of shipping companies, labor organizations, shipyards, and

ports, plus a coalition of environmental groups including Great Lakes United, National Wildlife Federation, Healing Our Waters Coalition, Defenders of Wildlife, the National Audubon Society, and the Nature Conservancy.



*U.S. Representative Jim Oberstar, Democrat, Minnesota, co-sponsor of H.R. 2830.*



*U.S. Representative Steve LaTourette, Republican, Ohio, co-sponsor of H.R. 2830.*

“This bipartisan bill is historic because it passed the House overwhelmingly and because it is endorsed by a broad cross-section of Great Lakes interests, from shipping companies to environmental groups,” said Patrick J. O’Hern, President of the GLMTF, an organization representing most shipping interests on the Great Lakes. “This legislation is tough but fair. This problem is big enough that it needs a tough response.”

More than 185 non-indigenous species have become established in the Great Lakes basin. Invading species, such as the zebra mussel and round goby, are aggressive, extremely adaptable, and have high reproduction rates enabling them to spread. It is believed these species arrived through ballast water dumping by foreign ships.

Unchecked, these invaders will out-compete native fish and wildlife, and unbalance the natural system.



**Zebra mussel beach (photograph by NOAA Great Lakes Environmental Research Lab).**



**Round goby (photograph by Environment Canada).**

“The passage of this legislation is a watershed moment for the Great Lakes,” said Dr. Marc Gaden, Legislative Liaison for the Great Lakes Fishery Commission, the bi-national agency that manages many federal invasive species programs. “Most importantly, the bill is designed to protect the Great Lakes from new invaders introduced by ocean-going vessels. Building upon the initiative that Lakers (those ships that do not leave the Lakes) have taken voluntarily, this bill also provides for an emergency response to inter-lake movement of organisms. We urge the Senate to complete the job and pass its legislation immediately,” Dr. Gaden said.

Among other requirements, the bill imposes the most stringent ballast water standards ever; standards that are 100 times tougher than existing

international standards. An Environmental Protection Agency official recently said that the standards in the bill are far tougher than what the Agency could impose under existing law.

The ballast water legislation is part of a comprehensive USCG budget bill. It first passed a House Committee more than a year ago, but has been stalled over a range of issues, including disputes related to the ballast water title.

The Senate’s Commerce, Transportation, and Science Committee has approved roughly similar legislation (S. 1578), but that bill has yet to pass the full Senate. S. 1578 is sponsored by Senator Daniel Inouye (D-HI), Chairman of the Senate Commerce Committee.

For more information, contact Glen G. Nekvasil, Secretary, Great Lakes Maritime Task Force, phone 216-861-0592, e-mail [info@glmtf.org](mailto:info@glmtf.org).

## **DoIT - Bringing Innovative Dredging Technologies Online**

*by Tim Welp*

Historically there has been no programmatic approach to the demonstration, evaluation, and reporting of new or innovative applications of dredging technology in the U.S. Army Corps of Engineers (USACE) dredging program. Attempts to exploit innovations developed within and outside the U.S. have also been random and less than ideal.

The Dredging Operations and Environmental Research (DOER) program supports the navigation portion of the Corps Operation and Maintenance activities. DOER consists of four focus areas: (a) Dredged Material Management, (b) Environmental Resource Protection, (c) Risk, and (d) Operations Technologies.

Research and development under the Operations Technologies focus area, among other things, facilitates diffusion of well-performing technologies into the dredging community of practice. One work unit of this focus area is structured such that

commercially-available innovative technologies can be objectively evaluated for USACE applicability through Diffusion of Innovative Technology (DoIT). If the process or resource is not available or in a form suitable to meet a specific USACE need, it may be developed or modified to meet that need.

## DoIT

Innovative technologies considered for evaluation by DoIT must be mature enough that they can be fielded/demonstrated without requiring research and development. DoIT provides engineering and scientific expertise to evaluate the technology's demonstration and, for innovations that test well, performs diffusion activities to foster their subsequent use on a USACE-wide basis.

Past demonstrations have investigated aspects such as recycled glass and dredged materials, mechanical dewatering of navigation sediments, tons dry solids hopper production measurement, confined disposal facility telescoping weirs, and dustpan dredging using flexible floating discharge pipeline.

## Telescoping Weir

Confined disposal facilities (CDF) are engineered structures designed to provide required storage volume for dredged materials and meet required effluent solids standards. If properly designed, constructed, and operated, the CDF retains the dredged material solids within its diked confines while allowing the carrier water to be released from the containment area with suspended sediment concentrations allowed under the state water quality certification. Dual requirements of short-term effluent control and long-term storage capacity are directly related to the ability of the operator to effectively and efficiently manage influent and effluent water within the CDF.

In conventional CDF operations, weir boards are raised to obtain the required ponding depth, and lowered periodically as the dredging rate decreases to control the effluent quality and to discharge water

during dewatering operations. The tasks of raising and lowering weirs have not always been easy or safe.

The telescoping weir has the ability to closely control the environmental water quality during decantation and drainage of water from the dredged material surface of confined placement sites. The weir itself consists of nested cylinders set on end with their axes vertical, and with the bottom cylinder fixed to a steel frame foundation that is anchored to a concrete pad at the bottom of the placement site and connected to a discharge pipe. The upper cylinders are extended in a telescoping manner to position the upper rim of the top cylinder to any desired elevation below or above the water surface. As the cylinders are lowered below the water surface, the decant water flows over the weir crest into the interior sections, exits through the discharge pipe in the lower section, and returns to the nearby waterway.



*Extended cylinders of the telescoping weir.*

To date, five full-size telescoping weirs have been built and installed. Two are located at the Craney Island placement site for the Corps' Norfolk District. Another is located at the Upper Blakeley Island CDF for the Corps' Mobile District. Two more are located at the Popular Island CDF for the Corps' Baltimore District. The telescoping weir has been licensed and a maintenance manual has also been developed.



*First telescoping weir installed at Craney Island CDF, USACE Norfolk District.*

### **Flexible-Discharge Dustpan Dredge**

The navigation channel of the Mississippi River in the vicinity of the Head of Passes (HOP) downstream of New Orleans is an area where significant dynamic shoaling occurs. During the traditional high-water period in the spring, the shoaling in this area occurs rapidly and can represent a hazard to deep-draft vessel traffic. The shoaling must be removed rapidly to maintain adequate channel depth.

Currently, dredging of the channel at HOP is conducted using hopper dredges, primarily due to their mobility. Hydraulic dredges with conventional spudding systems and floating discharge pipelines, such as cutterhead dredges, are considered a safety hazard in this area due to their inability to rapidly (and consistently) move out of the way of vessel traffic. Unfortunately, hopper dredges simply move the dredged material out of the channel and redeposit it in open-water disposal sites at the heads of Pass A Loutre and South Pass.

Dustpan dredges equipped with a flexible-discharge floating hose and sufficient pumping capacity potentially have the mobility required for safe passage of vessel traffic, and can economically pump dredged material the distances required for placement in a beneficial use scenario such as marsh construction. The Corps' New Orleans District requested the DOER Program to partner in the demonstration and evaluation of use of a flexible-discharge dustpan dredge in the HOP area. Specific demonstration objectives were to (a) demonstrate safe navigation and dredging operations of the flexible discharge dustpan dredge on the Mississippi River in the HOP area, and (b) demonstrate sufficient production capability to dredge and place material in a designated marsh construction site.

Operational requirements meant that the dredged material must be pumped up to a total distance of 15,000 ft, and with competitive dredging production rates including stoppages required for normal vessel traffic passage. Navigational requirements meant that the total length of flexible floating pipe must be utilized during dredging and moving up and down, and across the channel. The maximum length of flexible floating pipe was 1,410 ft. The dredge also must be maneuvered safely to allow for normal vessel traffic passage. The (then Weeks Marine Inc.) non-self-propelled dustpan dredge *Beachbuilder* was used for the demonstration project.

The ability of the dredge to move laterally across the channel was a major element in analyzing this type of dredge's operational feasibility regarding navigation safety. The average production rate of the entire demonstration between the beginning and end of dredging (192 hr) to move 222,000 cu yd was approximately 1,200 cu yd/hr or approximately 28,000 cu yd/day. The average production rate per pumping hour was approximately 2,300 cu yd/hr. The highest production rate obtained during the demonstration was 4,600 cu yd/hr while advancing 719 ft.



*Dustpan dredge “Beachbuilder.”*



*Flexible floating hose extended across navigation channel.*

The demonstration provided experience in the use of a flexible-discharge dustpan dredge. Mobility related operational characteristics from this demonstration provided information necessary to evaluate dredge mobility in working between specific dredging assignments and in sailing between specific dredging regions. The demonstration results confirmed a flexible-discharge dustpan dredge’s capability for safely yielding to vessel passage.

**Continue Diffusion Process**

The DoIT office will continue diffusion activities to foster implementation of innovative dredging technologies. A critical part of the diffusion process will be to have the USACE members of the Innovation Adoption Process assist

in communicating results to their respective Districts and Divisions.



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*Manager of the Operations Technologies focus area of the Dredging Operations and Environmental Research program.*

**DHS Extends TWIC Compliance Date**

The U.S. Department of Homeland Security (DHS) on May 2, 2008, announced that the final compliance date for the Transportation Worker Identification Credential (TWIC) program will be April 15, 2009, which reflects a realignment of the September 25, 2008, compliance date set in the final rule. The 7 month extension is a direct result of collaboration with port officials and industry, and realigns the enrollment period with the original intent of the TWIC final rule.

TWIC was established in the Maritime Transportation Security Act and the Security and Accountability For Every (SAFE) Port Act to serve

as an identification program for all U.S. Coast Guard (USCG) credentialed mariners and personnel requiring unescorted access to secure areas within a port. The program is on track to complete enrollment for a substantial number of jurisdictions by the end of 2008, and several ports will be required to comply with TWIC regulations this year.



***SAFE Port Act requires TWIC for unescorted access to secure areas within a port.***

Owners and operators of facilities located within Captain of the Port Zones Boston, Northern New England, and Southeastern New England will need to comply by October 15, 2008. These three ports were selected based on favorable conditions that facilitate near-term implementation. These ports are ideal for initial compliance based upon geographic proximity, size of their TWIC enrollment population, and respective enrollment efforts to date. Additional ports will be announced in the coming weeks, and the USCG will provide at least 90 days notice prior to enforcement.

The TWIC program is progressing steadily, and has opened more than 100 fixed enrollment centers and dozens of mobile sites nationwide. More than 250,000 workers have enrolled to date, and thousands more are processed each week. Enrollment began at the Port of Wilmington, Delaware, in October 2007.

Workers can pre-enroll at [www.tsa.gov/twic](http://www.tsa.gov/twic). Pre-enrollment can accelerate credentialing by allowing workers to provide biographic information, and schedule a time to complete the application process in person. This eliminates delays at enrollment centers, and reduces total enrollment time for each worker.

Although the compliance date has been extended 7 months, workers are encouraged to enroll as soon as possible. Additional information can be found on the USCG Homeport site <http://homeport.uscg.mil>, and on the Transportation Security Administration's web site at [www.tsa.gov/twic](http://www.tsa.gov/twic).

## **Encourage New PIANC Members!**

Please continue to encourage your friends and colleagues to join PIANC USA so they can start to receive all the benefits that PIANC has to offer! Refer them to [www.pianc.us](http://www.pianc.us) for a membership application.

## **PIANC USA Member Benefits**

As a reminder, your PIANC USA membership entitles you to receive many outstanding benefits. We hope you are taking advantage of all of the following:

- **Quarterly Technical Magazine, *On Course***, with technical articles and news from the navigation community.
- **Technical Reports** in the field of inland maritime and recreational navigation, including environmental issues.
- Quarterly electronic **PIANC USA Newsletter, *Bulletin***, with news and articles related to navigation and PIANC news in the United States.
- **PIANC International Electronic Newsletter, *Sailing Ahead***, with international news updates for the navigation community.

- Complimentary or reduced registrations to **Conferences** such as the PIANC Annual General Assembly and World Congress, PIANC USA Annual Meeting, Ports Conference, SMART RIVERS, PIANC USA-COPEDEC Conference on Coastal and Port Engineering in countries in transition, etc.
- PIANC **Membership Directory**, an international network of like-minded professionals.
- Opportunity to develop “cutting edge” advancements in your profession by serving on **Technical International Working Groups**.
- **Networking Events** to strengthen your professional connections and business opportunities worldwide.
- **Professional Recognition** with awards such as the De Paepe-Willems Award, Jack Nichol Marina Design Award, and the PIANC USA Scholarship.
- **Young Professional** activities for students and professionals under age 40.

## Upcoming Related Conferences

### 2008

- **31st International Conference on Coastal Engineering.** August 31 - September 5, Hamburg, Germany.
- **International Conference on Safety and Operations in Canals and Waterways.** September 15-16, Glasgow, Scotland, The United Kingdom.
- **World Canals Conference 2008.** September 15-17, Kingston, Ontario, Canada.
- **Maximizing Port Capacity.** September 24-25, Barcelona, Spain.
- **Eastern Chapter, Western Dredging Association, Annual Meeting.** October 7-9, Charleston, South Carolina.
- **Docks and Marinas 2008.** October 15-17, Madison, Wisconsin.

- **National Waterways Conference.** November 5-7, New Orleans, Louisiana.
- **Pacific Chapter, Western Dredging Association, Fall 2008 Conference.** November 5-7, Seattle, Washington.
- **Gulf Coast Hurricane Preparedness, Response, Recovery and Rebuilding.** November 11-14, Mobile, Alabama.
- **Annual Water Resources Conference.** November 17-20, New Orleans, Louisiana.
- **Atlantic Intracoastal Waterway Conference.** November 19-21, St. Augustine, Florida.

### 2009

- **Cutter Suction Dredge Short Course.** January 19-21, Texas A&M University, College Station, Texas.
- **XXIX Western Hemisphere's Annual Dredging Conference and Exhibition, and 40<sup>th</sup> Texas A&M University Annual Dredging Seminar.** June 14-17, Tempe, Arizona.
- **Smart Rivers 2009.** September 14-15, Vienna, Austria.

### 2010

- **Ports 2010.** April 25-28, Jacksonville, Florida.
- **PIANC 2010.** 32<sup>nd</sup> International Navigation Congress, May 10-14, Liverpool, The United Kingdom.
- **World Canals Conference 2010.** September, Rochester, New York.

## PIANC USA Dues

PIANC USA 2008 membership fees are as follows:

- Individual member: \$120
- Student member: \$40
- Small corporate member: \$600
- Large corporate member: \$1,150

PIANC USA dues enables us to continue to meet our international commitment as well as to expand and re-energize our current programs and fund new initiatives. At PIANC USA, we are dedicated to being good stewards of our resources and we stretch every penny to make sure that your investment in our organization is being put to the best use. We thank you for your continued membership and support, and we look forward to working with you in 2008.

## About PIANC

**What is PIANC?** The International Navigation Association (PIANC) is a worldwide organization of individuals, corporations, and national governments. Founded in 1885 in Brussels, Belgium, it is concerned with maritime ports and inland waterways. The Association promotes contact and advances and disseminates information of a technical, economic, and environmental nature between people worldwide in order to efficiently manage, develop, sustain, and enhance inland, coastal and ocean waterways, ports and harbors, and their infrastructure, in a changing environment.

**Where is PIANC?** The international headquarters is located in Brussels, Belgium, at facilities provided by the Belgian Government. The headquarters of the United States Section is located in the Washington, DC area, within facilities provided by the U.S. Army Corps of Engineers.

**International Interaction.** The Annual General Assembly operates through a Council, which directs the working level permanent technical committees, international study commissions, and working groups.

**Working Groups.** Technical working groups are composed of participants from member countries who have interest in various subjects being studied. The groups gather, analyze, and consolidate state-of-the-art material from each country. The resulting reports are published and sent to each PIANC member. Working group reports and the International Bulletin are sent to each member from Brussels.

Every 4 years an International Congress, open to all members and other registrants, is held for the presentation and discussion of papers on subjects pertaining to waterways and maritime navigation.

PIANC also participates in technical activities with other organizations to study navigation problems and joins with them to present symposia on related subjects.

**In the USA.** The United States became a member of PIANC by Act of Congress in 1902. The Chairman of PIANC USA is the Assistant Secretary of the Army (Civil Works). The Director of Civil Works for the U.S. Army Corps of Engineers serves as President. A National Commission of 11 individuals, which represent both private industry and the Federal Government, manages PIANC USA. PIANC USA has two standing and four technical committees, which promote the flow of information between members and facilitate cooperation with other national organizations. The committees are Membership, Publications, Environment, Inland Navigation, Maritime Navigation, and Ports and Recreation Navigation.

## PIANC USA Leadership

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