



**US Army Corps
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Technology transfer goals surpassed at national interagency wetlands workshop

by Elke Briuer, U.S. Army Engineer Waterways Experiment Station

During the week of April 3 to 7, 1995, more than 450 wetland professionals gathered in New Orleans to participate in the U.S. Army Engineer Waterways Experiment Station sponsored wetlands workshop "Technology Advances for Wetlands Science." The workshop not only served as a forum for the presentation of research results from the U.S. Army Corps of Engineers Wetlands Research Program, but also featured wetlands technology from at least 13 other federal organizations as well as presentations by state and local government agencies, academia, and the private sector.

The meeting opened with an informal evening social, followed by a full day of plenary sessions. Dr. Russell F. Theriot, program manager for the Corps WRP, moderated the workshop. After welcome and opening remarks by Corps officials, Michael Davis, chief of the Corps Headquarters' Regulatory Branch, delivered the keynote address. Davis also chairs the White House Wetlands Working Group.

Plenary sessions

Davis discussed aspects of the Clinton Administration's Wetlands Plan issued in 1993. He presented an overview of the accomplishments since that time and spoke about the next steps to be taken. The emphasis in the policy arena remains "to reduce the burden of

Federal wetland regulations, to minimize Federal overlap, and to encourage greater participation by State, Tribal and local governments in protecting wetlands," said Davis.

Davis cited some Corps regulatory statistics for Fiscal Year 1994. More than 48,000 Section 404 permits were filed; of these:

- 82 percent were general permits and were processed in an (average) 16-day time frame
- less than 10 percent of the applications needed detailed, individual evaluations that took an average of 127 days
- only 0.7 percent (358 each) permits were denied

Federal wetlands research overview presentations followed the keynote address, beginning with a complete summary of the Corps Wetlands Research Program, presented by six task-area managers (Fig. 1). The task areas were processes, delineation and evaluation, restoration and creation, and stewardship and management research, as well as technology transfer and interagency coordination.

In the afternoon, speakers in two panel sessions provided comprehensive information on wetlands research conducted by 12 Federal agencies: the U.S. Environmental Protection Agency; the U.S. Department of Interior's National Park Service, National Oceanic and

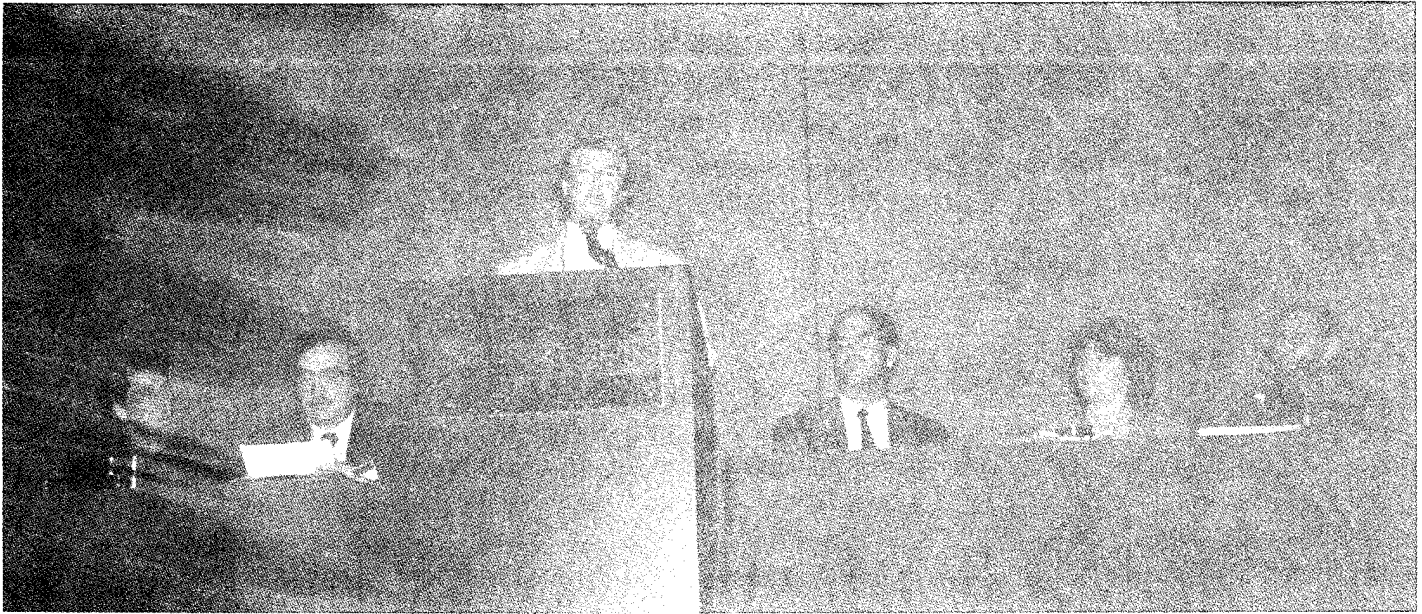


Figure 1. Dr. Mary C. Landin addresses audience during plenary session of the WRP workshop in New Orleans. Other speakers were (from left) Jack Davis, Chester Martin, Buddy Clairain, Elke Briuer, and Richard Coleman

Atmospheric Administration's National Marine Fisheries Service, U.S. Fish and Wildlife Service, Bureau of Reclamation, Bureau of Mines, National Biological Service, and the U.S. Geological Survey; the U.S. Department of Transportation's Federal Highway Administration; the U.S. Department of Agriculture's Natural Resources Conservation Service and Forest Service; and the U.S. Tennessee Valley Authority.

Technical sessions

Armed with information from these orientations, wetland professionals were able to attend their choice of some 200 technical presentations under nine topic areas. "The sessions were consistently well attended, with

Richard Coleman, WRP manager for interagency coordination, and Dr. Mary C. Landin, WRP manager for restoration and creation research, served as the administrative organizers of the workshop. "We had a tremendous response from our cooperators," said Coleman. "Throughout the Corps' Wetlands Research Program, we stressed interagency coordination as a prime goal, and I believe that this factor helped make the workshop so successful."

Landin, who personally compiled and supervised printing of the proceedings and oversaw registration, said, "Being able to hand out the proceedings at registration was great—you could see that everyone liked that."

standing room only in many presentations," said Theriot. The WRP showcased completed technology transfer products in an open house fashion during one afternoon. Workshop participants had an opportunity for hands-on interface with computer models and a multimedia summary report of WRP research, browsing through reports and other printed matter, and viewing WRP videos.

A final feature of the meeting was a wrap-up plenary session where topic-area chairs summed up the presentations. This format allowed workshop participants to come away with an overall impression of the technical sessions, since the concurrent format did not allow attending them all. Some 200 workshop participants heard from session chairs and, finally, from wetlands leaders who discussed views on tendencies for the 21st Century.

Session summaries

Critical Processes. "In 23 papers, all variations possible when looking at critical processes were represented," said Jack Davis, topic area chair from WES. He reported that papers that blended biological and physical sciences drew large crowds, presenters that spoke in tangible terms sparked the most energetic discussions, and papers on techniques and tools to make the jobs easier were sought out. "All bemoaned the scarcity of data—there is never enough data, ever" he summed up his impressions.

Delineation and Evaluation. WES's Ellis (Buddy) Clairain said that the main focus of the presentations was on "where is the wetland?" He concluded that in delineation there is "more stability on issues; a tendency to focus on concerns on wetlands in the West; and an emphasis on professional judgment." He explained that papers dealt with field observations that lead to establishing criteria and that it is generally felt that regional guidance is needed when it comes to wetland delineation.

Assessing Wetland Functions. R. Daniel Smith from WES began his talk with a summary of each paper and an introduction of the speakers. His subjective interpretation of themes followed. Smith said, "Functional assessments must include consideration of regional and geographic characteristics as well as classification and increased suitability of the wetland."

He said, "When attempting to use standards—reference wetlands—for assessment, it will be important to know what is the appropriate standard—for example, Whitney's floristic assessment of vernal pools. Also, ecosystem changes must be incorporated." Smith also said that Lori Sutter's project (North Carolina coastal area GIS-based wetland functional assessment procedure) successfully established a link between ecosystem and landscape in regional planning and management, an example that needs to be followed. He ended by saying that functional assessment is unique because it cuts across all areas and phases of wetlands science and is a unifying factor. "My take-away message to you is that functional assessment is evolving, dynamic, but approaching stability," said Smith.

Restoration, Protection, and Creation. Topic area chair Dr. Mary C. Landin, WES, reported that most of the sessions included presentations on non-regulatory, regulatory, and constructed wetlands. "Public education and learn-as-you-go seem to be challenges in construc-



Figure 2. Workshop participants attending presentation in New Orleans

The Clinton Administration Wetlands Plan: Accomplishments (reprinted from *The Clinton Administration Wetlands Plan: An Update*, Feb. 1995)

The Clinton Administration has already taken a number of actions to implement the Wetlands Plan, including:

- clarified, through regulations, that prior converted croplands are not wetlands under both the Swampbuster and Clean Water Act Programs;
- issued policies that have increased flexibility in wetland permitting and reduced burdens on permit applicants;
- given USDA the responsibility for identifying all wetlands on agricultural lands for both the Swampbuster and Clean Water Act programs;
- made it easier for permit applicants to use mitigation "banks;"
- allowed for greater flexibility in permitting requirements in Alaska, due to the unique circumstances in that State;
- authorized New Jersey to operate its own wetlands program, in place of the Clean Water Act Section 404 program;
- requested increased funding for the Wetlands Reserve Program, to assist farmers who want to restore wetlands; and
- increased funding to States, Tribes, and local governments for wetland program.

tion of non-regulatory wetlands," she said. "Public perception, restoration versus creation, and excessive costs appear to be major concerns in the regulatory arena." Landin concluded her synthesis by commenting on the positive trends and successes in wetland construction and that an education outreach program toward policy makers about these successes is needed.

Watershed Planning. Billy Teels, from the USDA Natural Resources Conservation Service, reported on 10 presentations covering California to Indiana. All were long-term projects with interagency involvement and public participation. Teels said that lessons learned included the need to plan early, to seek consensus from the public, to get sponsors, and to work on attainable goals by limiting objectives (including wetland preservation). His take-away message was, "integrate wetland conservation into watershed planning, which should be the direction for the future."

Constructed Wetlands. Tommy Myers, WES, said that latest findings from a variety of research efforts show that constructed wetlands are capable of removing

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a broad spectrum of water-borne pollutants, including livestock wastes, mining drainage, stormwater runoff, and domestic wastewater. "Pollutant removal requires careful engineering design, especially for nonpoint source pollution abatement. With continued performance data collection, the design elements for pollutant removal by constructed wetlands can eventually be standardized," he said. Myers said that more pollutant removal performance data are needed to develop cost/benefit relationships and to identify design flaws.

Stewardship and Management. Chester Martin, WES, summarized or described the work presented in 30 papers. "All types of wetlands throughout the United States were represented and the topics covered everything from inventory, cumulative impacts, getting information to the users, to an emphasis on making science user-friendly for field personnel," Martin said.

Mitigation and Mitigation Banking. Dr. L. Jean O'Neil, WES, said that although mitigation banking is a new concept for wetlands, interest in such programs is booming. "Presenters agreed that 'no net loss' is difficult to attain, that attainment of functional equivalency of wetlands in banks can only be evaluated after more time has passed, and that functional analyses need to be beefed up—the hydrogeomorphic classification method is a good start," said O'Neil.

Wetland Education and Training. John W. Bellinger, Corps Headquarters, reported on a trend toward interdisciplinary cooperation. "We need to connect wetland education and training to other disciplines who showed a lot of interest in this meeting—perhaps integrate it (*ed. note: the interdisciplinary approach*) into PROSPECT training," he said.

Conclusion

Vision statements from federal agency representatives concluded the workshop. Managers looked forward to continued research, to improved wetland technology, and to a better understanding of how to study, protect, and restore whole watershed ecosystems. These federal wetland executives expressed their belief that great progress has been attained and that, hopefully, this trend will continue into the next century.

"The workshop went extremely well. The entire staff and topic area chairs did an extremely professional job," said Theriot. "Many participants were complimentary on the format and the fact that sessions and papers focused on field level problem solving."

(The proceedings from this workshop will be placed on the World Wide Web under the WRP home page at "<http://www.wes.army.mil/>" under the heading "Other WES Resources, Centers, and Programs," Wetlands Research and Technology Center, hyperlink to "research".)

Elke Briuer, APRP, is the technology transfer specialist for the Wetlands Research Program and works for the Information Technology Laboratory at the U.S. Army Engineer Waterways Experiment Station. She received a BA from the University of Maryland and an MS degree in communication from Mississippi College. She is a graduate of the Army Advanced Public Affairs Course and has earned professional accreditation from the Southern Public Relations Federation.



Cache River work to be featured on Public Television

"The Black Swamp," a film about a southern forested wetland which is part of the Ramsar site of the Lower Cache/White River Area in eastern Arkansas, will be shown by Arkansas Educational Television Network during Oct. 1995.

Major portions of the film were videotaped at various locations by Jim Borden who also edited the material. Producer is Larry Foley of Foley Productions, Fayetteville, Ark. The project was co-sponsored by the U.S. Army Corps of Engineers, the University of Arkansas, and Arkansas Educational Television. The production will be available in digital format to Public Television stations nationwide. "The Black Swamp" includes



Producer Larry Foley (right) and videographer Jim Borden on location at the Black Swamp, Ark. (Photo by Elke Briuer)

interviews with WES scientists on location at WES and the Cache River research site. The materials showcased include WRP research but also paint a picture of the swamp through the seasons, profile the scientists and their work and allow a glimpse into the various reasons that lure visitors to the swamp.

AETN, through their video library, will make copies available in VHS format for a modest

price, targeting educational institutions. Wetlands enthusiasts are encouraged to lobby their State's educational television station to schedule the film during the upcoming seasons.

Briefs

PLANTS on-line program under development, tests running

The USDA's Natural Resource Conservation Service, Ecological Sciences Division, announces on-line access to PLANTS, and seeks comments from users. PLANTS currently provides simple access screens and not all reports are fully functional. Here is how to log on:

- TELNET access: Telnet > plants.usda.gov login: plants
- DIAL-UP access: Dial 800-633-2504 or 303-282-2958
Connect to server by entering username "plants" and password "usdascs"
At "annex:" prompt, enter 'rlogin plants.usda.gov'
On the emulation input screen, choose the -your terminal- emulation
Exit the system with the "hangup" command

- WWW access: To be functional by Sept. 1995. Accessible from the National Plant Data Center Home Page <http://trident.ftc.nrcs.usda.gov/npdc/>
POC for help with the above information is the PLANTS access coordinator via e-mail: thermandez@ag.gov.

American hydrologists issue invitation to join professional organization

The American Hydrological Society, a non-profit scientific and educational organization, was founded in May 1993. The mission of the organization is to help unify the hydrologic sciences and to meet challenges in our environment where water plays a central role. Hydrologists, and scientists and engineers, other individuals and organizations who are interested in promoting and advancing contemporary hydrology are encouraged to join. Point of contact is the AHS general secretary at (612) 783-3230, fax (612) 783-3103, e-mail csall002@maroon.tc.umn.edu.

WRTC activities

WRP research part of international conference in Tokyo

ECOSSET'95, the sixth international conference on aquatic habitat enhancement, will be held Oct. 29 through Nov. 2, 1995, in Tokyo. Sponsored by the Japan International Marine Science and Technology Federation, the conference will feature two WES speakers, Dr. Mary C. Landin and Ellis (Buddy) Clairain, who will present information from the Corps' Wetlands Research Program. Topics to be covered include wetlands protection, restoration, and creation and the hydrogeomorphic classification method and assessment system.

WRP engineers and scientists participate in SWS meeting

Dr. Russell F. Theriot, WRP program manager and WRTC director, moderated a session at the 1995 annual Society of Wetland Scientists meeting in Boston. In



addition, several WES wetland scientists presented final research results from the WRP. WRP interagency coordination and technology transfer topics were also included.

Around the Corps

WES to host interagency research group

The Interagency Research Coordination Conference will take place Oct. 17 to 19, 1995, at the Park Inn, in Vicksburg, MS. The U.S. Army Corps of Engineers, represented by WES, will serve as host.

The conference is held biannually and is hosted in turn by member agencies. Mandated by Congress, the conference is intended to foster cooperation between the nation's primary federal water resource development agencies. In addition to the Corps, members are the U.S. Bureau of Reclamation, the Tennessee Valley Authority, the Bonneville Power Administration, and the Western Area Power Administration.

WES research to be part of the Large Rivers ecosystem study

WES hosted members of Corps headquarters, divisions, and districts at a coordination meeting for discussion of problems associated with large rivers. Planning for future research needs was part of the agenda during the July 25 and 26 meeting.

WES invited to wetland research park dedication

The Director of the WES Wetlands Research & Technology Center, Dr. Russell F. Theriot, represented WES at a dedication of the Olentangy River Wetland Research Park, Ohio State University. The invitation was extended to WES based on its international reputation in wetlands research.

Federal agencies propose guidance for wetland mitigation banks

The five federal agencies responsible for wetland regulation under the Clean Water Act have proposed guidance on "The Establishment, Use, and Operation of Mitigation Banks." The proposed guidance was published in the March 6, 1995, *Federal Register*, Vol 60(43): 12286-12293. For more information, contact: Jack Chowning (Corps of Engineers) at (202) 761-1725, Thomas Kelsch (Environmental Protection Agency) at (202) 260-8795, Sandra Boyd (Natural Resources Conservation Service) at (202) 690-3501, Michael Long (U.S. Fish and Wildlife Service) at (703) 358-2183, or Susan-Marie Stedman (National Marine Fisheries Service) at (301) 713-2325. (reprinted from NCASI's *Southern Forest Wetland News*, May 1995)

Professional Meetings

September 1995 conference to be held by SER

The 1995 conference of the Society for Ecological Restoration will be held in Seattle, Wash., Sept. 12 to 17, 1995. Under the motto *Taking a Broader View*, the conference will include a symposium on ecosystem management. More information may be requested by e-mail from SER staff at ser@vms2.macc.wisc.edu, or from future mailings by the organization.

Wetlands and agriculture are topics at conference

The Society for Engineering in Agricultural, Food, and Biological Systems, together with the American Water Resources Association will hold a conference Sept. 17-20, 1995, at the Tampa, Fla., Hyatt Regency Tampa Hotel. The theme of the conference is *Versatility of Wetlands in the Agricultural Landscape*.

Registration information may be obtained by contacting the ASAE Meetings Department, 2950 Niles Road, St. Joseph, MI 49085-9659, telephone (616) 429-0300; fax (616) 429-3852.

Reminder—Wildlife Habitat Council symposium to take place

On Nov. 6 and 7, 1995, "Wildlife, Environment, & Business," the 7th Annual Symposium of the Wildlife Habitat Council, will take place at the Washington, D.C., Marriott. Additional information may be obtained by calling 301-588-8994 or fax ext 4629.

Practical approach to environment to be featured at conference

The National Association of Environmental Professionals (NEAP) invites papers for their 21st Annual Conference. The conference will take place June 2 to 6, 1996, in Houston, Texas. Deadline to submit abstracts is Nov. 6, 1995.



A complete listing of topics and guidelines for abstract preparation is available by calling (202) 966-1500.

Watershed '96: Call for papers past due, wetland protection included

Watershed '96, to be held June 8-12, 1996, at the Baltimore Convention Center, has issued its call for papers and presentations. A session is to be dedicated to the topic of wetland protection issues.

Abstracts (one page, single spaced) had to be submitted to Libby Strickland, Water Environment Federation, 601 Whythe Street, Alexandria, VA 22314-1994, and received not later than July 7, 1995. More information and formal application forms are available from the same address.

American Institute of Hydrology announces 1996 meetings

The following AIH meetings will take place next calendar year:

- April 21 to 26, 1996, Hydrology and Hydrogeology of Urban and Urbanizing Areas, The 57 Park Plaza Hotel, Boston, Mass.
- Sept. 22 to 27, 1996, Third USA/CIS Joint Conference on Environmental Hydrology and Hydrogeology, "Water: Sustaining a Critical Resource," Tashkent, Uzbekistan.

Point of contact for both events is Helen Klose, AIH, 3416 University Avenue S.E., Minneapolis, MN 55414, e-mail aihydro@aol.com, telephone (612) 379-1030, fax (612) 379-0169.

Ecology and management of southern forested wetlands conference topic

The Consortium for Research on Southern Forested Wetlands is sponsoring a conference on the Ecology and Management of Southern Forested Wetlands, March 25 to 27, 1996, at Clemson University, S.C. The conference will feature posters and papers on topics related to forested wetland ecology, emphasizing wetland processes, functions, and management effects. Abstracts will be due Nov. 1, 1995. Additional information is available from Dr. Kathryn Flynn, School of Forestry, 108 M. White Smith Hall, Auburn University, Auburn, AL 36849-5418, fax 334-844-1084, e-mail: flynn@forestry.auburn.edu. Completed papers turned in at time of conference will be published in a proceedings.



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Robert W. Whalin
ROBERT W. WHALIN, PhD, PE
Director

OFFICIAL BUSINESS
CEWES-EP-W

DEPARTMENT OF THE ARMY
WATERWAYS EXPERIMENT STATION, CORPS OF ENGINEERS
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