



US Army Corps of Engineers

Upper Mississippi River - Illinois Waterway System Navigation Study

Senate action moves project forward

Congress has moved one step closer to authorizing the first increment of an ambitious 50-year framework for navigation improvements and ecosystem restoration for the nationally significant Upper Mississippi River System.

After failing to pass a 2004 version of the Water Resources and Development Act (WRDA), the current Congress redrafted a new version of the bill that was passed by the House of Representatives over a year ago.

The Senate passed by voice vote its version of WRDA in July. A conference committee of Senators and House members now will meet to work out the differences in the two bills. If a compromise bill is not approved before Jan. 1, both bills expire, requiring the new Congress to start over again.

The fact that both houses passed such similar versions of the bill indicates serious progress for the Upper Mississippi River System Navigation and Ecosystem Sustainability Program (NESP), the implementation phase of the 14-year-study that began as a Navigation Study of the Upper Mississippi River System. Though the bills differ slightly, both support the first increment of the river project, said Scott Whitney, Assistant Regional Project Manager.

The legislation currently authorizes \$2 billion for navigation improvements along the Upper Mississippi River and Illinois Waterway, half of that paid from the Inland Waterways Trust Fund, and \$1.5

billion in ecosystem restoration. The navigation improvements include the construction of seven new 1,200-foot locks to expedite shipping. The ecosystem projects would restore 105,000 acres of habitat and protect 35,000 acres of floodplain habitat in five states. A monitoring program is included so that successful projects can be implemented elsewhere on the river system.

continued on page 3



A tow passes near Mud Lake on the Upper Mississippi River, a nationally significant ecosystem and navigation waterway.



Inside this issue	
Fish Passage.....	4
Public Meeting Summary.....	5
Pool Drawdowns.....	7
New Locks.....	8

Recommendation pending

ASA asks for re-evaluation with new models before supporting river project

The U.S. Army Corps of Engineers is re-evaluating its recommendations for navigation improvements on the Upper Mississippi River using economic models recently developed through the Navigation Economic Technologies Program (NETS), as well as recently updated figures on river commodity movement.

The re-evaluation has been given the top priority of the 34 projects being explored as part of the Navigation and Ecosystem Sustainability Program (NESP).

“The Corps has taken to heart comments from the National Research Council and done additional research and development on economic modeling,” said Richard Astrack, St. Louis District Project Manager and coordinator of the re-evaluation navigation adaptive management efforts.

“We were asked to take the latest information we had and to update our basic economic data, then put it all together and provide a re-evaluation of the recommended plan for navigation efficiency.”

The Chief of Engineers’ December 2004 feasibility report recommendation called for \$2.4 billion in navigation improvements and \$5.3 billion in habitat restoration during the next 50 years. The Assistant Secretary of the Army for Civil Works initially expressed support for the recommendations. However, he put his approval of the project on hold pending a re-evaluation of navigation efficiency recommendations using models recently developed by NETS. Assistant Secretary John Paul Woodley Jr. stated he would withhold support until he sees results of the re-evaluation, said Scott Whitney, Assistant Regional Project Manager for NESP.

While the project is on track to receive authorization from Congress through the latest Water Resources Development Act, support at the administration level may be important to the project in terms of receiving future appropriations to allow construction to proceed, Whitney said.

The National Academies of Sciences had similarly recommended that the need for navigation efficiency measures, specifically the recommended construction of seven new 1,200-foot locks, be re-evaluated as new economic models became available. Specifically, the academies

wanted more accurate predictions of the amount of goods that would be carried on the river system in the future. The feasibility study’s adaptive management approach called for the re-evaluation to occur before the initiation of any lock construction. However, the secretary’s reluctance to provide full-fledged support to the project moved up the



Shorebirds along the river's edge

re-evaluation timetable, Astrack said.

The study team already has updated the traffic base—what is moving on the water now—using 2004 data versus the 2000 data used in the feasibility study. That information has been provided to the Tennessee Valley Authority, and the organization will use it to determine the cost of moving goods by water versus rail or truck to provide transportation rates.

Creating the forecast, or prediction of what commodities and how much of each will be moving on the waterways in the future, is also underway. One part of that forecast will involve use of a model recently developed by the Corps of Engineers’ NETS, a part of the Institute for Water Resources.

That model takes a systematic approach to forecasting future grain movements on the river system. Grain makes up just under half of the commodities carried on the Upper Mississippi River System. The study team is contracting with experts in other commodities to predict future movements of petroleum, coal, steel, cement and newer river commodities like shipping containers, Astrack said.

An external review panel with expertise in forecasting, modeling, grain trends, barge rates and more will also lend its expertise to the evaluation.

The project team will issue a new interim report by Sept. 30, 2007. That report will re-evaluate the navigation recommendations through new models and data, he said. Also included will be information gained on the effectiveness of navigation appointment scheduling and other non-construction methods, as well as potential benefits of river improvements such as world competition and multi-modal (other transportation option) considerations that aren’t easily quantified.

Depending on the results, either the initial recommendations could stand or the team could reconfigure new alternative plans.



Barge traffic

The recommendations for new navigation locks stem from navigation backlogs on the existing system and predictions these backlogs will increase. Over the last five years, delays have amounted to about three hours on average at Lock 25.

However, some experts are concerned that predictions of future river traffic were based on models that don't accurately enough predict the future. They are concerned because the model used in the original analysis assumed that as the river system gets congested, traffic would continue to get worse until a certain point. When delays got too costly, the initial assumption went, all goods would be moved off the river system and onto alternative modes like trains or trucks.

The Corps of Engineers now has a way to more precisely predict shipper behavior, says Keith Hofseth, Director of the Navigation Economic Technologies Program. While uncertainty exists with any model designed to predict the future, NETS has gone out of its way to more precisely determine shipper behavior, he said. NETS hired survey firms, for example, to contact shippers and find out in detail what they're shipping on the river and how they'd react if prices went up 10 percent, 50 percent, or more.

"We can shape the shipper response curve because we can better tell at which point they'd turn to an alternative way of moving goods," he said.

The NETS team also worked with economists at North Dakota State University to develop a worldwide grain forecasting model. That model, already reviewed by an independent panel, allows a study team to change variables like trade policies in China, crop production yields or domestic demand for corn to feed ethanol plants, and then see how those variables affect navigation traffic.

"People with different views of the future can input data reflecting those views and see how that affects the commodity flows," Hofseth said.

Senate action

continued from page 1

The Senate's action drew praise from a variety of groups including the National Audubon Society, which said it was long overdue in restoring "America's greatest treasure" and the American Association of Port Authorities, which said it was critical to America's position as a world trading partner.

While both the House and Senate versions are supportive of the Chief of Engineers' recommended plan, the project still is in a "wait and see" mode, Whitney said. That's due in part to lingering uncertainties about the economic models used in the original analysis of navigation improvement needs, he said.

To allay those concerns, the study team has accelerated plans to re-evaluate navigation efficiency recommendations using advancements in economic modeling and will issue an explanatory Interim Report in September 2007. In the meantime, 34 implementation teams are advancing planning and design through Congressional funding for pre-construction, engineering and design.

Initial project development is being done on small-scale navigation improvements. Those include mooring cells, buoys, and switchboats; two new 1,200-foot locks at Locks and Dams 25 and 22; environmental mitigation activities; investigation of nonstructural improvements and demand forecasting tools; ecosystem restoration adaptive management implementation strategies; fish passage projects; water level management opportunities; and several habitat restoration and floodplain restoration projects. Work also has been conducted on a public involvement plan and various collaboration efforts.

Design is progressing such that significant projects will be ready for construction or implementation in fiscal year 2008 should the compromise be worked out and WRDA passed in a timely manner, said Chuck Spitzack, Regional Project Manager.

Experts join advisory panel

The project team has brought together some of the nation's top experts in economics and agricultural policy to help guide a re-evaluation of navigation improvement recommendations using using newer data and different models. Members of the new expert panel include: Dr. Daryll E. Ray, the Blasingame Chair of Excellence in Agricultural Policy, a professor of economics and the director of the Agricultural Policy Analysis Center at the University of Tennessee; Dr. Stephen W. Fuller, a Regents Professor in the Department of Agricultural Economics at Texas A&M University in College Station, Texas; John Beghin, a professor of economics at Iowa State University, where he also serves as the Marlin Cole Chair in international agricultural economics, director of the Food and Agricultural Policy Research Institute and the Trade and Agricultural Policy Division of the Center for Agricultural and Rural Development; Alexander Metcalf, the President of Transportation Economics and Management Systems Inc.; and Denver Tolliver, associate director and senior research fellow at the Upper Great Plains Transportation Institute at North Dakota State University.

Fish passage alternatives refined through innovative research

The study team working to formulate and evaluate fish passage alternatives for the Upper Mississippi River System is investigating the latest structural designs and using emerging technologies to develop a recommended plan that would best allow the system's 34 species of migratory fish access to the larger river system. The migrating fish would then have greater river access for spawning and feeding.

The study team, for example, is following the movements of 120 acoustic-tagged fish to see how they navigate near existing locks and dams as one way to determine which of several fish passage alternatives is likely to be most effective.



Electrofishing boat in action

"We're trying to infer from a few fish what the whole population is doing using telemetry," said Mark Cornish, team leader for the Lock 22 fish passage project.

Other research already conducted has used a hydro-acoustic boat to identify the location, size, velocity and depth of fish. Once the fish were located, an electrofishing boat was used to catch and identify fish types.

In one November 2005 sampling, approximately 200,000 fish were identified just below Melvin Price Locks and Dam near Alton, Illinois, among the southernmost locks and dams on the river system. More than 10 percent of those fish were 40 inches or longer, Cornish said. Of the 13 species caught, the most abundant were the shovelnose sturgeon and blue catfish.

The findings were not a total surprise since Melvin Price is the first obstacle to big fish trying to move upstream, he said, and the world record blue catfish, weighing more than 100 pounds, was caught at this location in spring 2005.

"It's neat there were a lot of really big fish there, but it's also a concern," he said. "We're wondering why so many fish were stockpiled in one location. Are they stockpiled there, stuck, trying to move further upstream? We don't know. It's one question we're trying to answer."

The fish telemetry project now underway at Lock and Dam 22 near Saverton, Missouri, uses the relatively new technology of an acoustic grid and receivers to track the acoustic-tagged fish—one of the ways researchers are

working to extrapolate from a few fish the behavior of the larger fish population at system locks. Work is underway to tag an additional 225 fish at Melvin Price Locks and Dam, said Tamara Atchley, team leader for fish passage at that site.

What the study team already knows is there are 34 species of migrating fish on the Upper Mississippi River System including lake, pallid and shovelnose sturgeon; paddlefish, several species of catfish, skipjack herring, blue and white suckers, walleye and American eels. The natural migration behavior, however, is blocked by the existing locks and dams, which are open for only a small percentage of the year.

Fish passage systems now exist elsewhere in the world and in the Pacific Northwest. But unlike salmon, the Upper Mississippi River fish don't like to jump over obstacles, requiring fish passageways unique to the Upper Mississippi.

Six designs are being examined as alternatives for Lock and Dam 22 near Saverton, Missouri, the likely location of the first fishway, though fish passage systems are planned at four locks in the NESP project's first 15-year increment. The study team is evaluating potential costs and environmental benefits of each and also is working



Large catfish were plentiful at sampled lock sites

with experts on the project's Science Panel to design an initial system whose effectiveness can be tested scientifically.

Some of the fish passage measures being considered include: no project, fish lockage through the existing lock, building a semi-natural bypass channel around the dam, creating a rock ramp in the center section of the dam, extending the open river period by leaving the gates out of the water for a longer period of time and building a technical fishway (fish ladder) in areas where fish congregate. The project delivery teams are assessing the feasibility of each measure through pre-construction monitoring and modeling to determine which has the highest likelihood of success.

"We're hopeful that if we're clever in where we put the fish passage structure and how we construct it, we'll be able to erase the barrier for many of the fish species we have on the river and restore some of that movement," Cornish said.

Study teams gather public input

The study team continues to seek ways, formal and informal, to keep the public involved in planned improvements to the Upper Mississippi River System.

During the past year, public meetings have been held on a variety of projects being explored as part of the Navigation and Ecosystem Sustainability Program. While the program has not been authorized for construction, Congress has provided funding for pre-construction design and research.

Dozens of people attended presentations on the proposed seasonal water level drawdowns in two pools, an innovative fish passage project and proposed new 1,200-foot locks. Project teams took information learned from those meetings to further hone those projects, says Kevin Bluhm, leader of the public involvement team.

Meetings were held Aug. 30, 2005, in Burlington, Iowa, and Aug. 31, 2005 in Keithsburg, Illinois, on a planned seasonal drawdown for Pool 18 and related channel maintenance plans. As a result of concerns voiced, the study team is talking with facility operators and boat ramp and marine operators to find ways to maintain recreational access.



Kevin Bluhm opens a public meeting on new lock construction

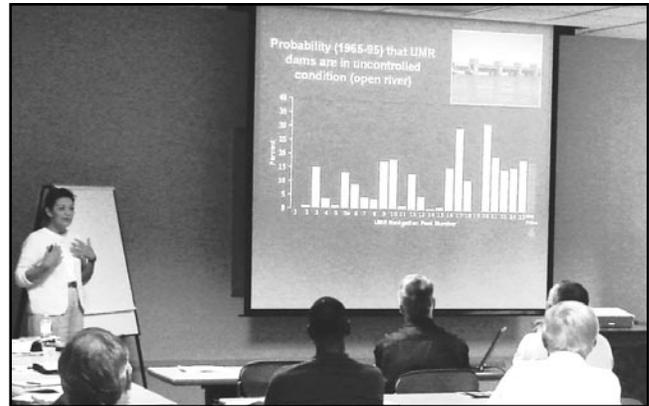
While there was a large turnout of local residents concerned about those potential impacts, "the study team explained how work can be done in advance to minimize groundings of recreational boats and access problems," Bluhm said.

More recent public outreach meetings, including one scheduled for late September, have focused on the new lock construction and fish passage proposals at Locks and Dams 22 and 25.

There was a relatively large turnout of about 38 members of the public for a May 9 meeting in Saverton, Missouri, about a new lock and fish passage system at Lock

and Dam 22. The project team is now working on alleviating concerns raised at the meeting, particularly relating to the potential closure of an existing boat ramp during the construction process and hazards of construction-related traffic.

A meeting was held July 25 to focus on fish passage systems at Melvin Price Locks. The meeting was held at the National Great Rivers Museum, located next to the



Tamara Atchley explains fish passage benefits

locks. Some speakers who attended the meeting suggested the study team incorporate an educational component in the fish passage system. Salmon passages have become major tourist draws in the Pacific Northwest. Some who attended the meeting, including Brett Stawar, president of the Alton Regional Convention and Visitors Bureau, asked the study team to keep education and tourism in mind when developing similar projects on the Upper Mississippi River. "This could serve as an attraction, drawing visitors to the area," Stawar said.

Fish passages are planned at three additional locations on the system within the project's first 15-year increment to make it easier for migrating fish to move upriver.

Planned future improvements also were shared in recent months through outreach efforts not directly related to NESP. For example, members of the study team:

- Presented an update to Office of Management and Budget officials who toured the Upper Mississippi River basin to learn about the Environmental Management Program, Operations and Maintenance and the NESP program and to meet with various stakeholders. "What was conveyed back was how effectively and well we work with stakeholders," said Scott Whitney of the project team.

- Gave presentations on the Corps' ecosystem and navigation missions and plans to 55 educators on board the Motor Vessel Mississippi, the largest working towboat on the Mississippi River.

- Spoke to members of the Illinois Corn Growers Association on the group's annual barge tour.

Science Panel releases adaptive management report

A Science Panel comprised of 10 independent experts and supported by representatives of three Corps of Engineers' districts completed a report on implementing adaptive ecosystem management on the Upper Mississippi River System (UMRS).

Adaptive ecosystem management is an approach to managing natural resources that acknowledges the unpredictable nature of living systems and features checkpoints at which managers can evaluate ecosystem responses and modify plans to optimize desired outcomes from management activities.

The panel recommended using scientifically-driven management practices to test predictions and assumptions in traditional management plans and using the resulting information to improve future plans. The panel also noted that the Corps and the UMRS partnership will need to manage the river system from a much broader perspective and that successful ecosystem restoration will depend on the additional learning through experimentation and effective monitoring and modeling of ecosystem responses to management actions. The panel will continue to work with UMRS stakeholders and river resource management teams to assure that learning is effective and translated into improved management on the entire system.

The panel is continuing work on sequencing criteria. Through that effort, it is helping the Corps of Engineers and other partner agencies determine the best order for future ecosystem improvement projects on the river because the results of some projects set the stage for the success of others. For example, water level drawdowns may necessitate the need for dredging to accommodate safe passage of both commercial and recreation vessels. This dredge material could be beneficially used for island construction.

To view a copy of the report go to <http://www2.mvr.usace.army.mil/NESP/>.

Environmental successes celebrated on program's 20th anniversary

The Environmental Management Program (EMP) of the Upper Mississippi River System celebrated its 20th anniversary in late August with a dockside recognition program and river cruise featuring many of the program's projects and successes. The program, formed through the 1986 Water Resources Development Act, set the stage for a coordinated and systemic approach to planning and habitat restoration of the Upper Mississippi River System, an approach that would be taken to another level with approval of the Navigation and Ecosystem Restoration Program (NESP).

The same 1986 act designated the Upper Mississippi River System as both a nationally significant commercial navigation system and nationally significant ecosystem.

To date, 42 major projects have been completed, leading to habitat improvement of some 80,000 acres—about 3 percent of the river and floodplain acreage in the Upper Mississippi River System. Another 54,000 acres of habitat is currently slated for improvement.

The completed project areas have found increased usage by fish and birds. The EMP also implemented the first comprehensive large river system natural resource monitoring network in the world with six scientific stations in five states.

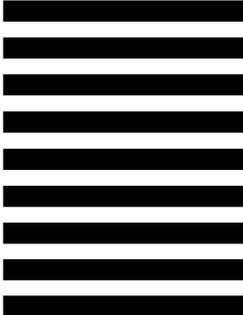
Many challenges exist, however, underscoring the need for expanded authorization such as would be provided by the Navigation and Ecosystem Sustainability Program, said Scott Whitney, Assistant Regional Project Manager for NESP. If implemented, that program would affect a much greater percentage of the river system habitat, he said.

Almost all native fish species collected in the river system during the past 100 years still exist today; however, they now are being forced to compete with invasive (non-native) species. Of the 260 species of fish in the system, 39, or 15 percent, are considered rare, endangered or threatened. In addition, aquatic vegetation is disappearing in some areas. Water quality and landscape diversity also were pointed out as challenges.

U.S. Army Corps of Engineers, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004



NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT No. 28534 ROCK ISLAND, IL

POSTAGE WILL BE PAID BY ADDRESSEE

U.S. Army Engineer District, Rock Island
ATTN: Planning Division (PM-A)
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-9908



----- Fold here and tape ends -----



Pool drawdowns show promise for ecosystem restoration

Planning and monitoring continues at two navigation pools on the Upper Mississippi River designated for potential future drawdowns of water levels, designed to increase plant growth and potentially also contribute to improved water quality, sediment reduction and other ecosystem improvements. Much of the planning is designed to ensure the drawdowns also allow for an adequate nine-foot channel for commercial navigation and reasonable access for recreational users.

Growing season drawdowns at both Pool 5 near Buffalo City, Wisconsin, and Pool 18 near Burlington, Iowa, have been recommended as part of the ecosystem sustainability portion of NESP as a way to expose mudflats to sunlight and increase plant growth to provide additional habitat for migrating birds and other wildlife and spawning habitat for fish. These pools have been selected for summer drawdowns to be implemented as early as sum-



Exposed mud flats in Weaver Bottoms in June 2005

mer 2008, contingent upon approval and funding of the larger NESP project.

In Pool 8, drawdowns in 2001 and 2002 led to the proliferation of more than 50 plant species. Much of this new vegetation still persists in Pool 8. A full-summer drawdown of Pool 5 in 2005 also resulted in an excellent plant response. "Impressive distribution and robust growth of arrowhead was observed over much of the area that had been exposed by the drawdown," said Jeff DeZellar, St. Paul District Project Manager and team leader for the Pool 5 drawdown. Willow was prominent in some areas, as were extensive beds of American lotus, apparently expanded as a result of the drawdown. Anecdotes from local river users indicated improved fishing and hunting in Pool 5 during the fall and spring of 2005-2006, he said.

Early study progress and previous experience also have identified potential challenges associated with drawdowns, including potential mussel impacts and maintenance of both the navigation channel and recreational access.

In both Pool 5 and Pool 18, study teams have continued studies on mussel populations after the 2005 drawdown in Pool 5 resulted in observed mussel mortal-

ity, DeZellar said. State-protected mussel species can be found in both pools.

"We expanded mussel monitoring efforts in Pool 5 in 2006 to try to get a handle on what the extent of that mortality was," he said. "We knew individual mussels had died during the drawdown; we didn't know how the observed mortality compared to the total population of mussels in the pool. The additional monitoring and data analysis will help to answer this important question."

Ongoing monitoring in both Pool 5 and Pool 18 is examining the distribution of mussels, particularly in drawdown impact zones, and estimating population numbers and types.

At Pool 18, the study team is also looking at the potential of the drawdown to improve water quality and compact exposed sediments, said Kevin Landwehr, team leader for the Pool 18 drawdown.



The same site the following fall

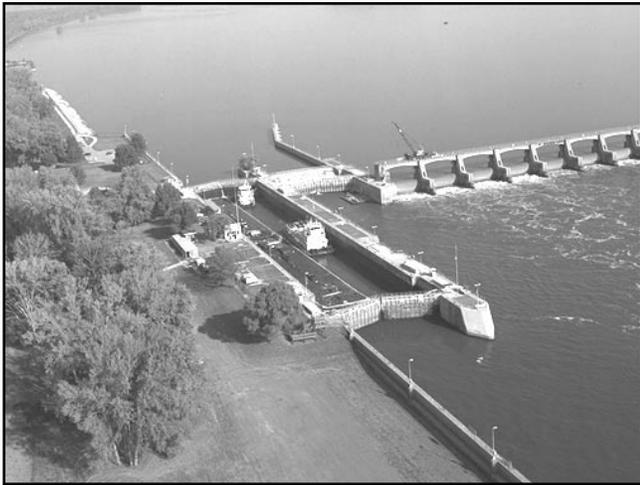
A second drawdown at Pool 5 was initiated in the summer of 2006, using operations and maintenance funding. It started as planned on June 12 and reached the target of 1.5 feet at Lock and Dam 5 and six inches at the Alma, Wisconsin gauge on June 26, 2006. However, the drawdown was halted when new main channel surveys indicated the nine-foot navigation channel couldn't be maintained during a drawdown without additional dredging.

As a result, the drawdown lasted only 27 days, short of the planned three months. In addition, full implementation of the drawdown in Pool 5 was challenged by the very low river flows at Lock and Dam 5 during the summer of 2006.

The plants likely weren't exposed to sunlight for enough of the growing season to see many benefits, though some may be detected, DeZellar said. Overall, it represents only a minor setback. "All of our monitoring is continuing as planned," he said. "We are going to be learning a lot. We will be able to use this new knowledge to adaptively manage future pool drawdowns to achieve even better ecological response while minimizing adverse impacts of the drawdown."

Physical Navigation Model simulates reality for study teams looking at new lock construction

Scale models designed to closely match real-life conditions on Locks and Dams 22 and 25—complete with a webcam to allow study team members access to the models at any time—are being used to develop new lock plans and locations. Because the models



1. Existing Lock and Dam 25 on the Mississippi River. View looking upstream.

are so accurate, they already have allowed the study team to reduce anticipated impacts on private property along one planned approach wall, study team members said.

The two scaled physical navigation models pictured in photographs 2, 4 and 5 are located at the Corps of Engineers Engineering and Research Development Center in Vicksburg, Mississippi. Both scale models are carefully built to match the real-life conditions in photographs 1 and 3.

Using the model scaled so that 1 inch equals 10 feet, a new lock can be studied and engineers given great insight into potential problem areas such as channel modifications and wall composition, said Jeff Stamper, Navigation Efficiency Technical Manager. The models also provide a test bed for potential solutions, he said. Study teams looking at new designs for Locks and Dams 22 and 25 are using this tool extensively.

The models were built using survey data collected at the two sites where new locks have been recommended. The surrounding landforms and the underwater landforms and features have been surveyed and scaled down for the model and the existing lock and dam built from the original, detailed engineering drawings.

The model towboat that actually floats within the

experimental models of locks and the river represents a scaled-down version of a 15-barge tow drafting 9 feet. The models capture one-to-two miles of river upstream and downstream of the lock and dam because a towboat prepares its path for lockage about a mile away from the



2. Model of Lock and Dam 25 with New Lock added and Model Towboat. View looking upstream

lock. The model is constructed with concrete, steel and wood.

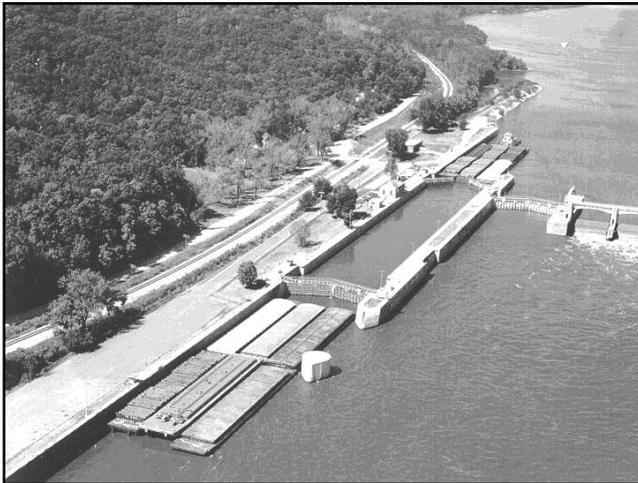
After the model of the existing conditions is built, engineers ensure that it accurately reflects real conditions by verifying flow and navigation conditions. River velocities and current directions are measured in the river and compared to those measured in the model. The model towboat is run through the model many times in both directions during at least three river flow conditions until it reflects reality. To ensure this, experienced towboat pilots help the Corps by validating that the model reflects real navigation conditions. After the model reflects real conditions, it can be modified by adding the new locks. The photos show the completed state of the modeled locks, but the model is built for flexibility allowing new pieces of the lock structures to be placed in increments to test impacts to navigation in steps.

Photograph 5 shows the model towboat entering the new lock area on its way upstream. The model allows engineers to visualize the safety and efficiency of this transit. Engineers can improve any unsatisfactory conditions that might occur by modifying the design being evaluated or by adding improvements such as river training structures, new wall structures, and/or channel realignment.

Any such adjustments are tested by running the model towboat again.

The models have many uses and are great communication tools, Stamper said. Many ideas ranging from environmental impacts, to navigation impacts, to construction issues can be visualized using the model, he said. And for the Locks 22 and 25 models, the Corps can use a ceiling-mounted webcam to observe the models without traveling

requirements. In fact, impacts on this point of land rely heavily on the model results currently under study. In photograph 5, the wall nearest the front of the towboat is called an approach wall. The models helped to determine if the approach wall should be placed to the left or right (as shown) of the towboat and help in determining the most efficient wall length. The model clearly indicated the advantages and disadvantages of both locations and



3. Existing Lock and Dam 22 on the Mississippi River. View looking upstream with only a portion of the dam shown.



4. Model of Lock and Dam 22 with new lock added and model towboat. View looking upstream

to the research station.

For example, the model helps to determine any channel realignment needs or tow path changes, which could have an impact on adjacent lands or their use, Stamper said. Photographs 1 and 2 show potentially impacted land near the center and bottom of the photo. Model testing can help with identifying land impacts due to navigation

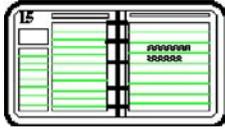
validated the location shown.

Testing of the models for Locks and Dams 22 and 25 will continue for approximately one more year. Typically, models like these are kept until some point during construction of the project. Sometimes testing during construction is necessary to help with construction issues on the project.



5. Model Towboat used for testing.

Models are a valuable tool for the Corps of Engineers, Stamper said. They allow visualization and testing of the eventual completed lock as well as testing at different stages of lock construction. They bring the design team together allowing collaborative ideas to be generated. They also help to identify areas of uncertainty such that more engineering can be planned to improve the project, he said.



Upcoming Meetings

Nov. 14, 2006 (8 a.m.-3 p.m.)
*Navigation Environmental Coordination Committee/
Economics Coordinating Committee*

Nov. 15, 2006 (9 a.m.-3 p.m. - tentative)
Upper Mississippi River Basin Association

Nov. 16, 2006 (8 a.m.-2 p.m. - tentative)
*Environmental Management Program
Coordinating Committee*

Crowne Plaza Riverfront Hotel
11 East Kellogg Boulevard
St. Paul, MN 55101
651-292-1900

Upcoming NECC/ECC, UMRBA, & EMP-CC Meetings:

20-22 February 2007 – St. Louis, MO (Location TBD)
22-24 May 2007 – Quad-Cities, IL-IA (Location TBD)

For more information: www.umrba.org/meetings.htm

Questions?

- For general study information, call Chuck Spitzack, Regional Project Manager, at 309/794-5340 or visit our home page at: <http://www2.mvr.usace.army.mil/NESP/>
- For information on Public Involvement meetings, check our website (address above) or call Kevin Bluhm, public involvement team leader, at 651/290-5247. You also can write to the address below, ATTN: CEMVR-PM-A.
- To be added to the mailing list for future newsletters, study updates, and meeting announcements, write to the address below, ATTN: CEMVR-PM-A.

U.S. Army Corps of Engineers, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004



This newsletter is printed on recycled paper. When you are finished with it, recycle it or pass it on to a friend.



MISSOURI
ILLINOIS
WISCONSIN
IOWA
MINNESOTA

PRSRRT STD
U.S. POSTAGE PAID
MINNEAPOLIS, MN.
PERMIT NO. 3395

Return Service Requested

U.S. Army Corps of Engineers, Rock Island
PM-A (Simmons)
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004