



US Army Corps
of Engineers

Navigation and Ecosystem Sustainability Program for the Upper Mississippi River System

UMR-IWW Navigation and Ecosystem Sustainability Program

January 2008

Construction gets green light; funding wait begins



The Navigation and Ecosystem Sustainability Program of the Upper Mississippi River System was authorized with the November passage of the 2007 Water Resources Development Act (WRDA). That gives the project the green light to proceed, says Holly Stoerker, executive director of the Upper Mississippi River Basin Association. "The trick now," she said, "is getting gas in the tank and ongoing money to refill it."

Securing adequate appropriations from the Administration and Congress will take hard work and perseverance now from a broad coalition of interest groups, she said.

"As important as WRDA passage is, it's really only the first step. Securing annual funding won't be easy because the dollar amounts are big, and they're not a one-time deal. It'll mean working hard to get funding every year for as long as it takes."

For the past few years, the project has operated under PED (pre-construction, engineering and design) funding. This revenue source allowed for planning and design work, but no actual project construction or implementation. WRDA passage allows construction to proceed

for both the navigation and ecosystem projects, depending on annual funding. This year's omnibus spending bill provided \$8.856 million for the program, which allows the program team to continue design but not to start construction.



Ducks taking flight from the Upper Mississippi River

Overall, WRDA 2007 authorized \$23 billion in spending on new Corps civil works projects, about \$7 billion of which would go to flood protection along the Gulf Coast. Most significantly to the Upper Mississippi River System, the bill authorizes \$1.9 billion in upgrades to locks and dams and other navigation improvements and \$1.7 billion in ecosystem efforts. The bill also includes a "comparable progress" clause, directing the Corps to develop plans to ensure that both the navigation and ecosystem components of the program move forward at a comparable rate.

Congressional authorization of the Navigation and Ecosystem Sustainability Program of the Upper Mississippi River System (NESP) is good news that has been a long time in coming, says Charles Spitzack, Regional Program Manager.

"I understand the money is another story,
continued on page 2



Inside: Re-evaluation Report Completed; turn to page 4 for instructions on how to get a full copy and issue comments.

Also inside: Centuries-old maps helps forestry plan move forward (pg. 6); Science Panel works to measure economic benefits of ecosystem improvements (pg. 7); lock engineers find that a model is worth a thousand pictures (pg 8), more.

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but authorization makes it a real commitment of Congress and a real project,” Spitzack said. “It’s a big deal.”

The WRDA passage, achieved through a Congressional override of a presidential veto, represents the first authorization of new projects since 2000.

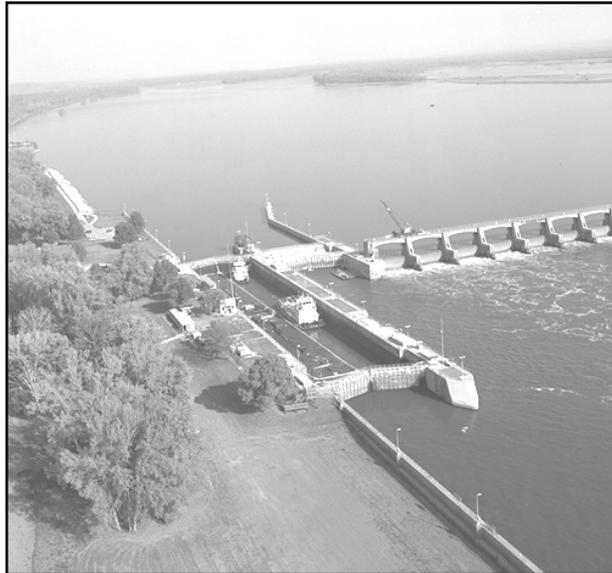
It validates the work being done by a variety of project partners, including the Audubon Society, that have been advocating both for a “river that works and a working river,” says Dan McGuiness, the group’s director of conservation policy for the Mississippi River Initiative.

“WRDA authorization gives us permission; now we need two things: significant annual appropriations and realistic and reasoned planning, design and implementation.”

The biggest challenge will be competition for Congress’s limited budget for domestic discretionary funds, adds Richard Worthington, senior navigation policy adviser for the Corps of Engineers in Washington, D.C.

“Authorization just simply adds the NESP plan for Up-

per Mississippi River and Illinois Waterway to the catalog of potential projects that Congress can appropriate money for,” he said.



Lock 25, slated for a new 1,200-foot lock

NESP is competing for those funds with ongoing projects not yet completed as well as other major new ecosystem improvement projects in the Everglades and flood control in New Orleans.

That said, the project enjoys a high level of support from the Midwest’s congressional delegation and the governors of the five project states, Worthington said. The more the various project partners pull together, he said, the better for the project.

Cooperation among project partners is something that Paul Rohde says he’s looking forward to. Rohde is vice president of the Waterways Council, Inc., an advocacy group for inland water-

ways improvements.

“I’d welcome wearing out shoe leather walking the halls of Capitol Hill with Audubon, UMRBA and anyone else willing to work toward achieving tangible results for our rivers’ dual-purpose use.”

WRDA 2007 at a glance

The bill authorizes the first increment of a larger 50-year dual-purpose improvement project for the Upper Mississippi River System. Specifically, it authorizes for construction:

Navigation

* Small-scale or non-structural improvements including mooring facilities at Locks 12, 14, 18, 20, 22 and 24 on the Upper Mississippi River and LaGrange on the Illinois Waterway, or at alternative locations that are economically and environmentally feasible; switchboats at Locks 20-25; and developing and testing of an appointment scheduling system at a combined cost of \$256,000,000.

* New 1,200-foot locks at Locks 20, 21, 22, 24 and 25 on the Upper Mississippi River and at LaGrange and Peoria Locks on the Illinois Waterway, totaling \$1,948,000,000. In both cases, half of the project cost would be paid by the Inland Waterway Trust Fund.

Ecosystem Restoration

* An estimated 225 projects, designed to address cumulative environmental impacts of operations of the rivers’ navigation systems and to improve the ecological integrity. They may include: island building, construction of fish passages, floodplain restoration, water level management (including water drawdown), backwater restoration, side channel restoration, wing dam and dike restoration and modification, island and shoreline protection, topographical diversity, dam point control, use of dredged material for environmental purposes, tributary confluence restoration, spillway, dam, and levee modification to benefit the environment, and land and easement acquisition. Total cost: \$1,717,000,000.

Comparable Progress

Projects are required to move toward completion at a comparable rate. An annual report to Congress, beginning in fiscal year 2009, must be made showing projects are moving forward comparably.

Re-evaluation report backs need for navigation improvements

Initial recommendations for navigation improvements on the Upper Mississippi River System stand as initially recommended and subsequently approved by Congress. Such improvements will be even more critical as traffic congestion grows on the nation's highways and rails.

That's the finding of an Interim Report, released in early January and available via the project's web site: www2.mvr.usace.army.mil/UMRS/NESP/.

The review was requested by the Assistant Secretary of the Army for Civil Works, and it uses new economic forecasting tools and updated world trade demand forecasts to better predict future demand for river transportation. It also for the first time takes into account congestion on highways and railroads and how that might affect need for waterway capacity.

The report reiterates an earlier call for \$2.4 billion in navigation improvements and \$5.3 billion in ecosystem restoration over the next 50 years—reaffirming the economic validity of the project Congress approved in November as part of the Water Resources Development Act.

While the report looked only at the economic viability of navigation improvements, the program's Science Panel of

experts is looking at methods by which ecological goods and services can be measured in economic terms as well. (See story, page 7).



Specifically, the Interim Report took an updated look at the economic benefits of the project through four lenses. One lens was the Corps' traditional National Economic Development (NED) plan or cost-benefit analysis, but with the benefit of more detailed forecasting data and methods. Those methods include a Global Grain model that tracks how much grain will likely be produced and consumed throughout the world, and where and how goods will need to move to meet those projections.

The report also reviewed the other lenses: regional economic benefits, environmental quality and social effects as well as how the project fits within the U.S. Department of Transportation's newly-stated strategic planning goal of "reducing congestion" on the nation's transportation system.

The analyses that involved regional benefits, environmental quality and other social effects had net benefits that were overwhelmingly positive. But even with more sophisticated models and inputs, the cost-benefit analysis remained in-

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Authorization v. appropriation

The authorization of the NESP through the Water Resources Development Act of 2007 does not necessarily mean imminent construction. How much is built, and how quickly, depends upon how much money Congress designates for the project through the appropriations process.

Funding for Corps of Engineers programs like this one is an annual process that begins with the Feb. 4 release of the President's budget. The budget then goes to the House and Senate, which separately consider the President's budget priorities through their respective Energy and Water Development Appropriation subcommittees.

The committees independently mark up the President's budget, opting to leave the priorities intact or to add or subtract from them, a process that generally stretches from early spring into mid-summer or beyond.

If there are differences between the two bills, representatives of the two subcommittees come together in conference to reconcile the differences. After a compromise is reached and passed by both chambers, the final Energy and Water bill is sent to the president to sign or veto.

The process ideally is complete before the Oct. 1 start of the fiscal year. If that does not happen, stopgap funding can be provided under continuing resolution. The ecosystem and navigation improvements authorized under NESP will not move forward without the annual appropriation.

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conclusive, says Richard Astrack, St. Louis District Project Manager and leader of the reevaluation team. Because of the uncertainty of many variables that affect future grain production and consumption, the analysis again used a range of possible future traffic.

Under the range calculated, the NED or cost/benefit figure could be as high as 1.3, representing a net annual gain of \$54.8 million under high traffic, or as low as .4, or a net annual loss of \$98 million.

Even though no certainty was reached, the model provided a better understanding of what the number range is based on, Astrack said.

"The model, as complicated as it is, gives a better understanding of how goods and services are interacting," he said. "If something changes five years from now, and it's a key factor, we now may be able to look at this using the new tools available."

In addition, the Interim Report goes beyond the limited NED analysis and looks at other potential trends not directly factored into the cost/benefit formula. These include a potential waterway traffic increase resulting from a planned expansion of the Panama Canal and the growing concern over highway congestion and resulting environmental impacts.

Currently, the Upper Mississippi River System is the primary conduit for the international trade of grains produced in the five-state project region. It generates \$1 billion in transportation cost savings to the nation annually, compared to operation and maintenance costs of about \$115 million.

But demand for waterways is likely to increase as congestion on highways grow, and the ability to meet the demand may depend upon improving reliability and decreasing back-ups at the most congested locks.

"It looks like we've got to find other ways to move goods around the United States," Spitzack said. "The waterways are one of the few modes that can take more traffic."

Waterways also are the most ecologically friendly way to transport goods, the Interim Report points out, about 7 1/2 times more economical than shipping by truck. For every gallon of fuel burned, one ton of cargo can go 70 miles by truck and 530 miles by barge.

Even if the project is delayed, the report found, uncertainty will not diminish. Not implementing the first increment of construction, it concluded, is riskier than implementing a project that may possibly include some overbuilding. If more traffic does appear, something that's likely under several possible future scenarios, construction of new locks would take 15-20 years to complete.

"The only negative consequences, under some conditions, were found in the economic side," Spitzack said. "But the risk of not acting is a fact. We're faced with a lot of uncertainty in the future. Postponing doesn't drive the uncertainty away. If traffic does appear, you cannot act fast enough to get these projects in place."

Not building would result in a lesser role for waterways in carrying freight in the future, he said, "which will put more pressure on alternative modes likely to have greater environmental and social impacts."

Interim Report Available for Review

Re-evaluation comments being accepted

With the final draft report available for review, here are a few options to look at or receive your personal copy. Comments for the draft report are being taken until February 29, 2008, and can be mailed to the address below. Your options for obtaining a copy are as follows:

- Electric download version:

Go to

www2.mvr.usace.army.mil/UMRS/NESP/Projects/NESPPProjects/default.cfm?cat=np&sec=documents&tid=3

The report is 124 pages long and saved as a pdf document. The document has been optimized so the file size is about 900KB and will take about 5-10 minutes to download on a dial-up connection.

- CD version mailed to you:

To request a CD to be mailed, please email Marsha.G.Dolan@usace.army.mil or call 309-794-5648 and a copy will be mailed to you.

If you wish to provide comments on the final draft report, please email them to Marsha.G.Dolan@usace.army.mil before the closing date of February 29, 2008, or write to Ms. Dolan, Clock Tower Building, Rock Island, IL 61204.

New bill looks to waterways to relieve highway and rail congestion

A new law passed last month looks to the waterways to relieve growing congestion on highways and trains, underscoring the need for greater navigation efficiency.

A provision in the Energy Independence and Security Act of 2007, signed December 19 by President George W. Bush, establishes a new government marine highway program designed to mitigate landside congestion. Under the law, water transportation routes will be designated as extensions of the surface transportation systems. Special tax incentives will help vessel owners construct a new class of cargo ships for short-sea shipping, defined as commercial transportation that doesn't transit an ocean but uses inland and coastal waterways to move commercial freight from major domestic ports to its destination.

The bill passed at about the same time as the release of the Interim Report for the Navigation and Ecosystem Sustainability Program of the Upper Mississippi River System (NESP). That report re-evaluated initial findings that proposed navigation improvements, including seven new locks on the river system, were economically justified. The report also pointed to growing evidence that an efficient navigation system could (and should) relieve congestion on other transportation modes.

"What we're seeing is congestion on the landside, both truck and rail," said Robert Goodwin, director of the Upper Mississippi River office of the U.S. Maritime Administration. "There is available capacity on the rivers, in marine transportation. That's what we want to try to utilize, more multimodal transport of cargo to support the economy."

The bill stems from the development of the "America's Marine Highways" program within the Maritime Administration, a project designed to respond to the country's changing transportation needs. Among its other provisions, the bill mandates additional research on the environmental and transportation benefits of shipping by waterways versus other modes.

Carrying freight by barge is 7 ½ times more economical than by truck since a barge can carry loads of up to five times its own weight.

For designated projects, the Federal Government will promote use of waterborne transportation services and will develop strategies to encourage short-sea transportation use. A board will be established to identify and seek solutions to anything hindering the effective use of alternate transportation modes.

What's already known is that using waterways takes less fuel to transfer more goods, with less environmental impact, maritime officials said. This assertion is echoed in the figures provided in the Army Corps' re-evaluation, presented in the December 2007 Interim Report for the Navigation and Ecosystem Sustainability Program of the Upper Mississippi River System.

Carrying freight by barge is 7 ½ times more economical than by truck since a barge can carry loads of up to five times its own weight, according to the report.

For every gallon of fuel burned, one ton of cargo can go 70 miles by truck and 530 miles by barge.

"I see this as very important legislation," says Chuck Spitzack, the NESP Regional Program Manager. "Title XI specifically recognizes marine transportation as part of a multimodal approach to reducing transportation congestion, air pollution, and energy use. It's on target in stating that Federal, State, and local governments need to develop and implement transportation plans and strategies that consider short-sea shipping and to identify incentives that encourage its use. I was glad to see that the legislation is consistent with the risk framework and recommendations in our NESP re-evaluation."

Actions required or encouraged under the new legislation will complement Corps actions being taken to operate and maintain the waterway system, Spitzack said.

"It's important that we invest sufficiently and smartly to ensure efficient and reliable waterways. This will minimize the impact of waterways on congestion, air pollution, and energy use and also provide incentive to shippers to increase utilization of waterways."

The inland waterway system, which totals 12,000 miles of navigation channels, carries 16 billion tons of goods annually with a value of over \$9 trillion. That's 15 percent of goods transported in America, a number that could be poised for an upward trend.

For the first time, the Department of Transportation listed "reduce crowding" as an area of strategic importance. In its recent "national strategy to reduce congestion on America's transportation network," the DOT cited a dramatic increase of highway traffic from 1982 to 2003.

That congestion impacted 33 percent of highway traffic nationwide in 1982, but up to 67 percent in 2003, the DOT report said, with congestion lasting an average of seven hours a day in 2003 compared to 4 ½ in 1982. Drive time over that period increased by an average of 37 percent. In 2003, congestion in 85 urban areas caused 3.7 billion hours of travel delay and 2.3 billion gallons of wasted fuel at a net cost of \$63 billion.

Centuries-old maps lay foundation for forestry plan

Enough mapping and other information exists to develop a comprehensive survey of the ecosystem restoration and management options for the Upper Mississippi River System, according to a new report issued last month.

The findings show that it's feasible to use a proven process known as the Hydrogeomorphic Method Evaluation and apply it—for the first time—to an area as large as the 2.8 mil-

lion acre Upper Mississippi River System. That's thanks to a rich archive of available photographs and maps, some dating back centuries, that provide information on such things as topography, soils, land cover and key plant and animal species.

make the river system exactly like it was pre-settlement," Urich said. "But from knowing what used to be there, you can build and factor in changes that have taken place in hydrology, land use and invasive species impact. And you can come to a point where you should be able to say with relative certainty, 'We may not be able to restore it to what it was like when Lewis and Clark came here, but we can get partway there.'"



Early Bridge to St. Paul

lion acre Upper Mississippi River System. That's thanks to a rich archive of available photographs and maps, some dating back centuries, that provide information on such things as topography, soils, land cover and key plant and animal species.

"It's pretty much a proven process, but up to this point, it's been limited to small land and water areas," said Randy Urich, team leader for the systemic forestry management plan of the Navigation and Ecosystem Sustainability Program of the Upper Mississippi River System. "Whether this type of assessment could be done on such a large river system was the question."

Such a survey looks at the historic conditions of the river system as well as alterations over time, with changes determined by comparing historic and current landscapes. Looking at historic uses of certain parts of the river system, as well as changes observed from photographs, maps and other information, helps foresters determine where they'll have the best chance for restoration success, Urich said.

In evaluating what tools existed to reveal the river's pre-settlement condition, contractors looked as far back as the first known existing map of the Upper Mississippi River System, dated 1682.

"We realize there have been quite a number of changes and alterations and that the potential may no longer exist to

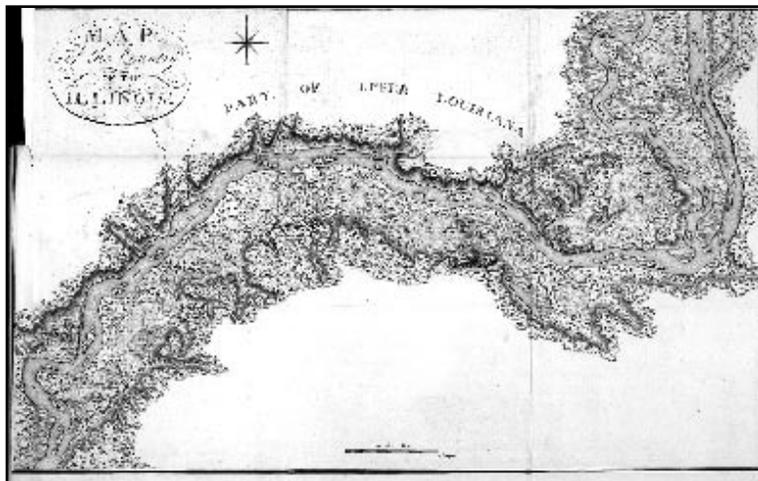
The Upper Mississippi River System is the largest continuous system of open water, wetlands and floodplain habitats in North America. Ecosystems degradation has been caused by alterations to natural hydrology, sedimentation, the clearing of land for agriculture, and human development of various kinds. The most dramatic alterations were caused by the construction of locks and dams, which raised water levels and as a result killed less tolerant water trees and enlarged bottomland lakes, the report said.

According to the analysis prepared by Greenbrier Wetland Services, a complete evaluation of the river system could be completed in three-to-five years. That evaluation would be the foundation for future forestry efforts and also would be available for use by other ecosystem restoration project teams.

"We're to a point now where it seems there are so many people out there collecting or developing data for different things that most of the ground has been covered," Urich said. "It's

more a matter of reaching out to those individual organizations that have done some portion of it but not the whole thing and pulling it all together to have the complete data set."

A copy of the complete Hydrogeomorphic Modeling and Analysis Report is available under the reports link of the project website: <http://www2.mvr.usace.army.mil/UMRS/NESP/>.

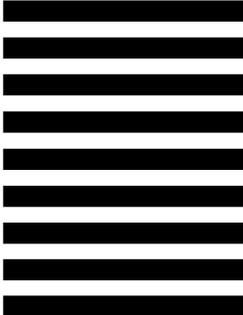


1826 map of a stretch of the Mississippi River

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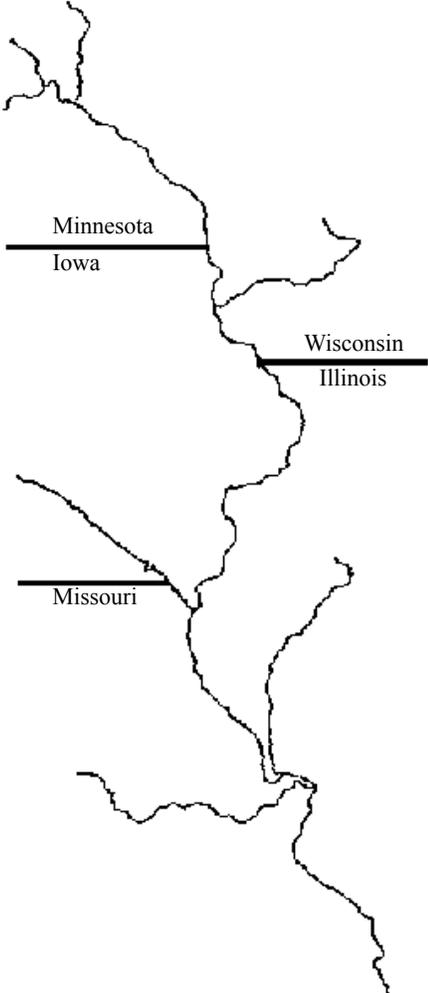
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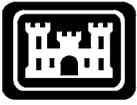
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US Army Corps
of Engineers

January 2008

UPPER MISSISSIPPI RIVER - ILLINOIS WATERWAY SYSTEM
NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROJECT
COMMENT SHEET

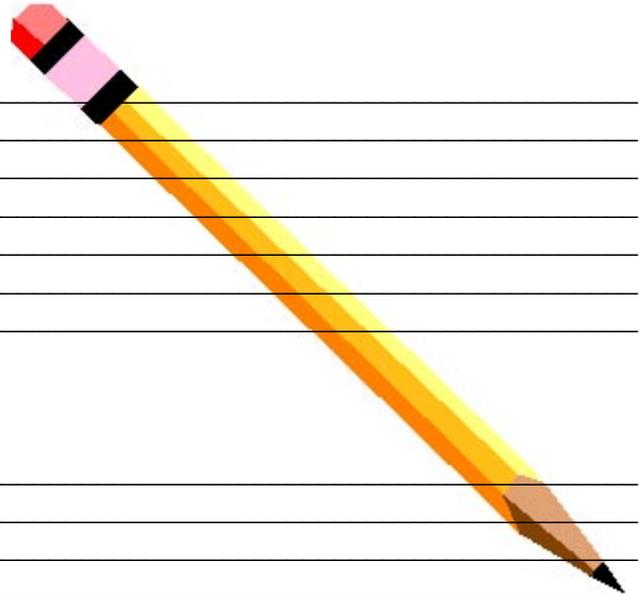
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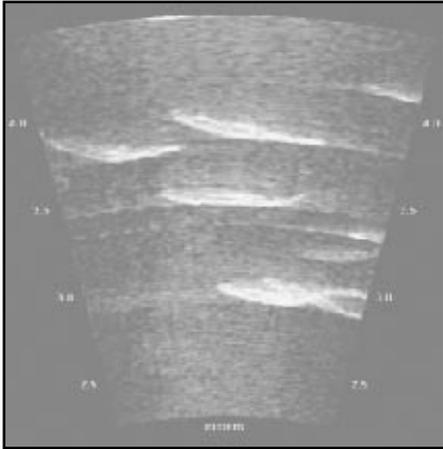
'Motion detectors' installed for fish passage

Biologists are working to figure out how many fish are moving through the locks—and in what direction—in order to ensure that elaborate fish passage systems are needed before they're constructed.

Project teams are installing stationary hydroacoustic devices, or a sort of fish motion detector, at the Melvin Price Locks and Dam in Alton, Illinois as a pilot project.

"It'll enable us to do two things," says Mark Cornish, supervisory biologist and team leader for the fish passage project at Lock and Dam 22. "It'll let us see what's passing through the lock right now so we have a baseline and allow us to study how we can adjust the lock filling and emptying process. That will improve the attractiveness of the lock for upstream fish passage using the equipment we already have there at the dam."

The hydroacoustic system is being installed above the 600-foot auxiliary lock chamber. Four beams will shoot



*Fish are recorded passing
Lock and Dam 22*

through the water column to detect movement as fish exit the lock. That data will be recorded on a computer that also collects information on gate settings and time of day.

"Once we understand how fish are using the lock, the Corps can then make adjustments, for example, leaving lower lock gates open longer to see if these operational tweaks are sufficient to allow upstream fish passage or if additional fish passage measures are needed," Cornish said. This information will be used to develop a strategy for improving fish passage at Mel Price Locks and Dam and can also be applied at other locks on the Mississippi.



*Fish Passage team stands by the hydroacoustic
fish detector.*

Ecosystem improvements may help the economy's bottom line

What is the value of a restored backwater in economic terms? Can the cost/benefit ratio of ecosystem restoration be quantified in dollars as well as improved habitat? That's what Science Panel of experts working with the Navigation and Ecosystem Sustainability Program (NESP) is hoping to determine, if only to tell a more complete story of the entire project's potential benefits.

An Interim Report recently took an updated look at the economic justification of the navigation improvement side of the program. While no similar analysis has been done for the ecosystem improvements, it's theoretically possible, the panel has concluded.

The Science Panel is comprised of 10 independent experts and supported by representatives of three Corps

of Engineers districts. Its report, issued last year, examined tools and approaches that have been used by other groups to determine restoration success in economic terms. The report determined that it was possible to apply similar methods to the NESP projects. And the first step likely will be setting goals and objectives, just as soon as Congress appropriates sufficient funds to the project, said Sandra Brewer, an ecologist with the NESP project.

"The Fish and Wildlife Service can show when they put in a wildlife refuge how much is added to the economy. It can be millions of dollars in terms of more hunters, flood control, etc. If we could provide both habitat and economic benefits, it would tell a much better picture."

New models improve lock construction process

Engineers are using proven technologies and looking to the latest in computer and virtual reality technology to help them better visualize their designs and see possible inconsistencies or incompatibilities before construction begins on seven new locks on the Upper Mississippi River System. They've also built a new 1:20 scale lock model that simulates the filling and emptying process of the new lock designs.

Filling and Emptying Model

This scale model of a lock, completed in October at the Army Engineer Research and Development Center in Vicksburg, Mississippi lets design teams test the lock filling and emptying process for all of the five Mississippi River lock sites initially scheduled for construction. It's the first time one such model can be applied to all the new construction sites.



"It's part of our systematic thinking in looking at all five locks on that basis," says Michael Tarpey, Lock 22 Project Manager.

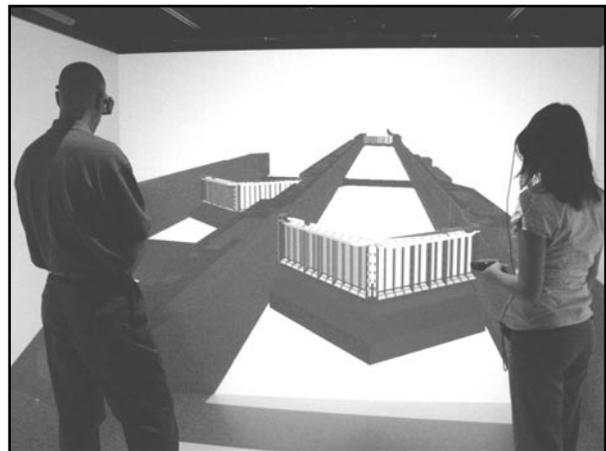
The new system differs from previous filling and emptying processes because the new locks will be built adjacent to the existing locks and will re-use parts of the existing filling and emptying systems. Testing through the model, Tarpey says, is important for both safety and efficiency. In addition, these models serve as great communication tools among managers, designers, modelers and users, such as the towboat pilots. If a picture is worth a thousand words, team members have determined, then a model is worth a thousand pictures.

"BIM" and "CAVE"

New technology also is being used to create three-dimensional, high-tech models of new locks and assess potential construction problems to an accuracy level never before possible. One new tool—the Building Information Model (BIM)—uses a computer process similar to a CADD drawing but connected to a sophisticated database. The resulting 3D computer model will not only help planners picture the new lock accurately, it will allow the tracking of ongoing construction to a degree that includes how much steel or concrete has been used on a given date, what the weather conditions were like when that concrete was poured, even whether the oil needs changing on a given piece of machinery, Tarpey says.

The second tool, the CAVE Automatic Virtual Environment, takes the three-dimensional idea a bit further. This process projects the design in real space, allowing designers to step into a 3D virtual reality environment wearing polarized goggles and see the locks as if they were standing inside them. This technology will help to reduce possible conflicts not evident on paper. Teams also will be able to see accurately how confined or unconfined a space may be and know, for example, if a welder or diver could fit into a confined space to which they'll need access.

"The application is truly leading edge," Tarpey said. "We're not aware of anything similar."



Engineers explore a new lock design in the CAVE virtual reality environment.

Engineers, scientists in high demand, short supply

The NESP team is developing plans to pool the resources of various Corps districts and team with private architectural engineering (A/E) and other firms to ensure successful execution of the new program.

That'll ensure the team can ramp up or cut back on manpower, depending upon appropriations from Congress in a given year, as it works to construct seven new locks and make millions of dollars in ecosystem improvements on the Upper Mississippi River System.

The biggest challenge now that the project has been authorized by Congress will be moving from the historic pre-construction, engineering and design allocations of about \$10 million a year to potential construction phase budgets of over \$100 million a year.

"We're standing at the foot of a mountain waiting for the right tools to ascend it," says Jeff Stamper, Navigation Efficiency Technical Manager.

"The mountain is the heavy workload associated with designing and building seven new locks, and the tools are the engineers required to perform the work—engineers in high demand and short supply due to extensive rebuilding efforts in the wake of hurricanes Katrina and Rita."

Primarily, project teams will look for solutions by prioritizing work, using contract services, increasing the staff of permanent engineers and increasingly using engineers and scientists from other districts, Stamper said.

Access to private sector resources allows the Corps great flexibility and adaptability because it allows the expertise and manpower to be added on an as-needed basis, he said.

Switchboats, Mooring Cells being readied for implementation

The implementation of two measures that will dramatically improve navigation at congested locks are being readied for potential contract award in Fiscal Year 2009. Both mooring cells and switchboats are under development as ways to improve the tricky maneuvers that today's tows face as they try to move through locks designed for something half their size.

Commercial navigation on the Upper Mississippi River and Illinois River system relies on the navigation locks system constructed by the U.S. Army Corps of Engineers in the 1930s. While the dam structures continue to satisfactorily perform, the lock structures, constructed to provide navigational passage through the dams, face a more modern fleet of traffic, said Jeff Stamper, Navigation Efficiency Technical Manager.

Most of the existing locks are 600 feet long, which once adequately serviced barge and towboat traffic. Today, however, the typical tow is 1,200-feet long. To pass through these 600-foot locks, the longer commercial tows have to break in half, lock the first half, then lock the second half and finally remake the tow. This "double lockage" adds several steps to the transit process and considerable time. Properly located mooring cells and switchboats are designed to assist in reducing the approach and locking time of a tow, helping to improve efficiency and save money.

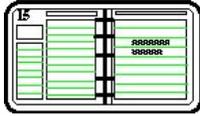
Mooring cells will reduce the approach time because the tow will wait closer to the lock, Stamper said. Eight new mooring cells will be constructed at several sites permitting barge traffic to have more reliable and efficient places to moor while waiting to lock through the lock and dam system.

Switchboats can reduce delays due to congestion and delays caused by constructing new locks directly adjacent to the existing locks at Lock and Dams 20-25. The Corps is currently studying the number and specifications of boats, their exact use and their function as they plan for the implementation. Switchboats reduce a tow's time to "double lock." Authorization allows for as many as 10 of these boats, two each at Locks and Dams 20-25.

The timing of the implementation of both mooring cells and switchboats will depend on the funding the Corps receives for NESP in Fiscal Year 2009, Stamper said.

Lock 22 Public Meeting Being Planned

A draft Supplemental Environmental Assessment (SEA) documenting the impacts of the proposed design and construction of a new 1,200-foot lock at Lock and Dam 22 has been completed. An informational public meeting is being planned for early spring to present the findings in the SEA. Please watch the calendar on the NESP website for more information.



Upcoming Meetings

February 20

Upper Mississippi River Basin Association

February 21

Environmental Management Program Coordinating Committee

February 22

*Navigation Environmental Coordination Committee
Economics Coordinating Committee*

Sheraton Westport Plaza
900 Westport Plaza Drive
St. Louis, Missouri
314-434-5010

May 20-22 - UMRBA, NECC/ECC, EMPCC
St. Paul, Minnesota
August 5-7 - UMRBA, NECC/ECC, EMPCC
La Crosse, Wisconsin

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

Questions?

- For general study information, call Chuck Spitzack, Regional Program Manager, at 309/794-5340 or Michael Tarpey, Assistant Regional Project Manager, at 309-794-5386. Or visit our home page at: <http://www2.mvr.usace.army.mil/UMRS/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, project updates, and meeting announcements, write to the address below, ATTN: CEMVR-PM-A.

U.S. Army Corps of Engineers, Rock Island
Clock Tower Building
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