



US Army Corps
of Engineers
St. Paul District

Crosscurrents

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The U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service monitored hybrid and native willow cuttings in the Weaver Bottoms area. Biologist Teri Sardinias (left) and Forester Robert Anfang (standing) work at the St. Paul District. Cathy Cheap (center) works with the U.S. Fish and Wildlife Service. The Weaver Bottoms Rehabilitation Project is located in Pool Five, 20 miles north of Winona, Minnesota.

One of 57 finalists

Weaver Bottoms considered for presidential award

by Pat Simons, Public Affairs Office

For the second time in two years, the St. Paul District Corps project at Weaver Bottoms is receiving nationwide honors for its design. The project was submitted in the Landscape Architect category and is now under review for a Presidential Award for Design Excellence from the National Endowment for the Arts (NEA). In December, Landscape Architect Karen Nagengast, acting as the contact person for the district Design Awards Committee, was notified that the project was one of 57 chosen for a Federal

Design Achievement Award. Altogether, 487 entries competed in a variety of categories.

The NEA is expected to announce the Presidential Award Winners this month. Presentation of the Presidential Award is planned for a mid-April ceremony at the White House.

The Weaver Bottoms Rehabilitation Project, winner of the 1989 Chief of Engineers Award of Excellence, is located in Pool Five, 20 miles north of Winona, Minnesota. It was the first project in the 20-year award history to win solely in the Environmental

category. The project is also the first large-scale manipulation on the Upper Mississippi that achieved the dual goals of navigation channel maintenance and restoration of a major backwater for fish and wildlife habitat.

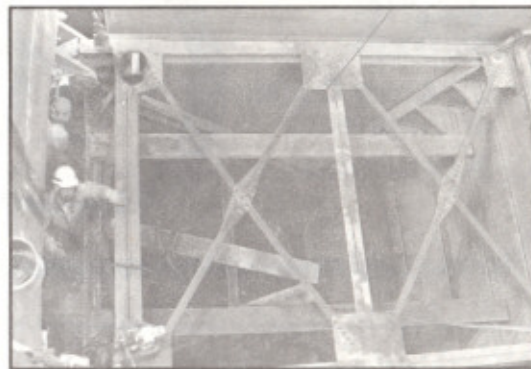
The Weaver Bottoms project began in 1974 after the Great River Environmental Action Team I (GREAT I) was organized as a partnership team among public, state and federal agencies to study the Upper Mississippi from Minneapolis/St. Paul to Lock and Dam No. 10 in Guttenberg, Iowa.

See Weaver, page 3

Lock No. 8 drained



The St. Paul District drained Lock and Dam No. 8 at Genoa, Wisconsin for rehabilitation and maintenance in December 1991. The



district flooded the lock on March 2, 1992, ready for more traffic. Richard Jacks, right photo, stands in a 33-foot deep tainter valve. (Photos by Gerald Cohen)

Upward Mobility Program succeeds at Lock and Dam No. 10

by Rosemarie Braatz

This continues a series by Rosemarie Braatz about Upward Mobility at the district's locks and dams. Since this article was written, all persons who were featured have completed their Upward Mobility training and have found permanent jobs at the locks and dams.

The Upward Mobility lockperson at the southernmost limits of the St. Paul District, Lock and Dam No. 10 at Guttenberg, Iowa, is DeLene ("D.J.") Moser. She's in her fifth year with the Corps, having worked as a clerk-typist at the site until the Upward Mobility opportunity came along.

Her previous experience includes three years as administrator of a 50-resident mental health institution and what she calls "a variety" of temporary jobs while raising three children. Moser, her husband Owen, Melissa, 21, DeYonda, 18, and Devlin, 9, live in Colesburg, Iowa, about 10 miles west of Guttenberg.

"While my temporary jobs gave me a wide variety of skills," says Moser, "it was being raised on a farm that taught me about how to maintain machinery and to understand the general workings of mechanical equipment. I also developed a healthy respect for it and for its potential dangers."

"Working as a lockperson is interesting work, and a good opportunity for



D.J. Moser appreciates having an understanding of both office work and operations, and to be able to cross lines between them.

women who like to work outside," says Moser, who recently completed a winter-time assignment with the Rivers and Harbors Unit at Lock and Dam No. 8. "I especially appreciate having an understanding of both office work and operations, and to be able to cross lines between them. The boaters and towboat people seem accepting of a woman at the lock," she says with a smile. "When they're approaching the lock wall, they'll often call me "Sir" out of habit, then be very apologetic when they realize their mistake."

Asked how she is accepted in what was traditionally a man's job, Moser answers, "Well, with any new idea or new project there are bound to be different viewpoints, but that's good. It challenges us to weigh the different aspects involved, and to keep our feet on the ground."

Lockmaster Marv Pedretti observes, "D.J. will clean dead fish out of the tainter gates or grease roller gate chains along with the others, and she will still be able and willing to type out a report in the office."

Weaver, continued from page 1

In 1975 and 1977 the Corps contracted with scientists from Winona State University and St. Mary's College to investigate the resource problems of Weaver Bottoms.

The idea of using dredging materials to benefit the environment arose from this partnership. Previously, 85 percent of Corps dredged materials were deposited on shoreline areas with no specific purpose.

The new partnership called for a cost effective and environmentally sound plan for channel maintenance. Major elements included the construction of crescent-shaped barrier islands and side channel closures to alter the flow between the main channel and backwater areas. When the first stage of the project was completed in 1988, the two islands were the most visible feature.

During the island design process, several factors challenged Nagengast

and her co-workers. The primary goal was to reduce wind-generated wave erosion. Additional goals were to preserve the existing aquatic vegetation, consider the desirability of small bays and coves for wildlife habitat, and place the islands in areas with slower currents to reduce erosion.

In the NEA award entry of June 1991, Nagengast updated the project through 1990. The entry stated the two-fold purpose was (1) to restore and preserve a 4000-acre backwater lake where habitat had declined and (2) to provide a cost effective, efficient, and environmentally acceptable 40-year plan for channel maintenance. Major goals were to (1) provide for channel maintenance, (2) reduce flows through the side channel modifications, (3) reduce wind-generated wave erosion, and (4) create and maintain a diverse habitat for fish and wildlife.

The first two barrier islands, Swan and Mallard, and all side channel

modifications were completed in 1988. Early results are encouraging. Swan Island was seeded with native grasses while Mallard Island was left as an unvegetated test site. Surveys conducted by the U.S. Fish and Wildlife Service in 1990 showed that waterfowl and other birds are using the islands for nesting especially on Swan Island because the vegetation provides excellent nesting cover.

Recreational users enjoy the increased fish and game populations and improved environmental quality in the Weaver Bottoms project. The dredged sand used to close side channels has created new beaches and boaters use the new lagoons which offer protection from main channel currents, turbulence, and traffic.

The Weaver Bottoms project was originally estimated to reduce the annual average dredging to 41,500 cubic yards. Since the completion of the closures the average annual dredging from 1987 to 1989 in the area has been reduced to 20,800 cubic yards. Dredging requirements and costs for the next 40 years are now expected to be reduced by 266,000 cubic yards and costs reduced by \$2 to \$3 million.

The NEA entry highlights the continued commitment to refine the project design through its evolution as a partnership venture. Through the monitoring and testing program, the design continues to change with improvements in island building and solutions for island cover and edge control. Current research efforts include establishment of emergent and marsh wetland plants within an island cove and a variety of bio-engineering techniques to control edge erosion. With its positive results, the St. Paul District Weaver Bottoms rehabilitation project is viewed as a model for the potential rehabilitation of other backwaters along the entire length of the Mississippi River.

Partnerships contribute to success at Weaver Bottoms

The following persons represented six state and federal agencies and a private contractor that worked together in the partnership on the successful design of Weaver Bottoms.

Dennis Anderson	biologist, St. Paul District
Rick Berry	refuge manager, U.S. Fish and Wildlife Service
Gerald Blomker	design engineering, St. Paul District
Deb Foley	project management, St. Paul District
Calvin Fremling	biology professor, Winona State University
Rodney Gordon	project engineer, McCombs, Frank, Roos Association
Bruce Heide	project management, St. Paul District,
Dan Krumholz	river resource coordinator, St. Paul District
David McConville	biology professor, St. Mary's College
Jim Mosner	design engineering, St. Paul District
Karen Nagengast	landscape architect, St. Paul District
Dennis N. Nielsen	dean, Science and Engineering, Winona State University
Cliff Schlueter	formerly design engineering, St. Paul District, Bureau of Reclamation, Arizona Projects Office
Rory Vose	biology professor, St. Mary's College

Zebra mussels reach Lock and Dam No. 8 at Genoa

by Tim Peterson, biologist

Zebra mussels are working their way up the Mississippi River. A zebra mussel was discovered at Lock and Dam No. 8 at Genoa, Wisconsin in January, 1991 during an inspection of the dewatered lock. In September, 1992, an adult zebra mussel was discovered attached to a native Pig Toe mussel near LaCrosse, Wisconsin.

The zebra mussel (*Dreissena polymorpha*) is a small, freshwater bivalve mollusk (clam), brown or yellowish in color, that usually has zigzag or wavy stripes on its shell. The stripes are how the "zebra" name was derived. The mussels grow quickly reaching lengths up to one inch and sexual maturity during their first year. Adult zebra mussels can grow to one-and-one-half to two inches and live up to five years.

A native of the Caspian Sea and Ural River area of Asia, the zebra mussel was introduced into European ports during the late 1700s and has since spread throughout Europe and into Scandinavia. During 1985 or 1986, the mussel was accidentally released into Lake St. Clair, probably through the discharge of ballast water from a vessel entering from overseas.

Since its introduction, the zebra mussel has quickly spread and is now found in all of the Great Lakes, the Illinois, lower Ohio, Susquehanna, and Tennessee Rivers, and recently has been reported from several locations on the Upper Mississippi River.

Where they have colonized, the mussels have clogged water intakes at power plants and municipal water systems, boat motor cooling systems, and fish

spawning reefs. They have littered beaches with razor-sharp shells, sunk navigation buoys with their weight, and have overrun native mussel populations. The zebra mussels quickly attach to boat hulls, impairing handling and increasing fuel consumption.

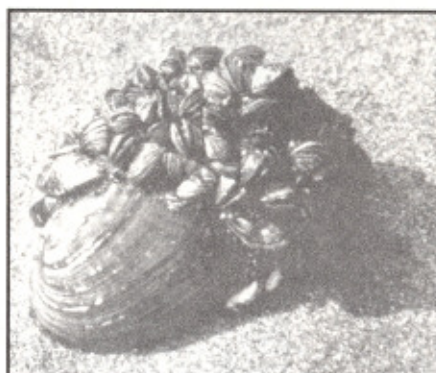
Zebra mussels are filter feeders, with adults filtering about one liter of water per day. Although this increases water clarity, it can also seriously affect the food chain. Zebra mussels take in pollutants, which are then transferred up the food chain. The implications for human health are still unknown.

In addition to disrupting the ecosystem of the river and its native species, the zebra mussel could cost municipalities, industry, shippers, and recreational users on the Upper Mississippi River millions of dollars for cleanup and control.

Because of the absence of predators and disease, exotic species typically achieve very high densities immediately after colonizing a new habitat. This should prove to be true of the zebra mussel also, with each female capable of producing between 30,000 and 40,000 larvae — called veligers — per season.



This cluster of zebra mussels allows comparison to the hand that holds them. The mussels grow quickly, reaching lengths up to one inch their first year. Adult zebra mussels can grow to one-and-one-half to two inches and live up to five years. (Photo courtesy Wisconsin Sea Grant.)



Zebra mussels attach themselves to any hard surface, including native mussels, crayfish, spawning reefs, docks, boat hulls, fishing nets, buoys, and water intake pipes. (Left photo courtesy Ontario Ministry of Natural Resources; photo to right courtesy Wisconsin Sea Grant.)

The microscopic veligers are free swimming, and do not require an intermediate fish host — unlike the native mussel species.

The veliger stage lasts from eight to 16 days during which they settle. Once settled, the mussels produce dense elastic strands, called byssal threads, by which they securely attach themselves to any hard surface, including other zebra mussels, spawning reefs, docks, boat hulls, fishing nets, buoys, water intake pipes, and native mussels. In some areas, mats of zebra mussels up to a foot thick have been recorded. Concentrations up to 70,000 mussels per square meter are not uncommon.

Like Eurasian watermilfoil, an exotic plant species, the zebra mussel is likely to hitchhike on commercial and recreational boats. During the upcoming boating season, recreational boaters and fisherman should take special precautions to limit the spread of these mussels. (See "A guide for boaters: How to out muscle the zebra mussel").

A number of state and federal agencies are working cooperatively on methods to control the spread of zebra mussels. The Corps of Engineers has been instructed to develop a program to control zebra mussels in and around public facilities, and to assist states with aquatic nuisance species management plans.

A guide for boaters

How to out muscle the zebra mussel

Recreational boaters can unknowingly carry microscopic zebra mussel larvae, called veligers, in bilges, engine cooling systems, minnow buckets, live wells, or with trapped water. Here's a list of precautions you can take to avoid introducing zebra mussels to uninfested waters.

- Flush clean water through the cooling system of your motor to rinse out any veligers.
- Carefully inspect your boat for mussels and Eurasian watermilfoil each time you remove it from the water. Run your hand over the hull. If it feels grainy, there are probably young zebra mussels attached. Remove visible zebra mussels with a paint scraper or use high-pressure (250 psi) water. Wash the outside of the hull with hot water (104 degrees minimum).
- Do not transport any water from one body of water to another. Drain all bilge water, live wells, bait buckets, and engine compartments. Make sure water is not trapped in your trailer. Veligers are microscopic and can live up to several weeks in water or damp areas.
- Completely dry your boat before launching it again in another body of water. Allow time for the veligers to die. Depending on weather conditions, it can take from three to 14 days for a boat to dry completely.
- A mild chlorine solution of one tablespoon of bleach per gallon of water is effective for killing veligers. However, chlorine solutions are not recommended for killing adult zebra mussels.
- Some chemical controls are available to boaters. However, use of chemicals such as chlorine and molluscicides could result in ecological harm. Before applying a chemical to your boat, check with the pesticide regulation section of the Department of Agriculture in your state to insure that use of the chemical is legal.

For more information, or to report the siting of zebra mussels, call Tim Peterson, PD-ER, at 220-0274.

Close enough

by Peter Verstegen

Fiscal: having to do with the public treasury or revenues; financial.

Integrity: 1. the quality or state of being complete; 2. perfect condition; 3. of sound moral principle; uprightness, honesty. — Webster's New World Dictionary

You're probably familiar with the old saw, "Close enough for government work."

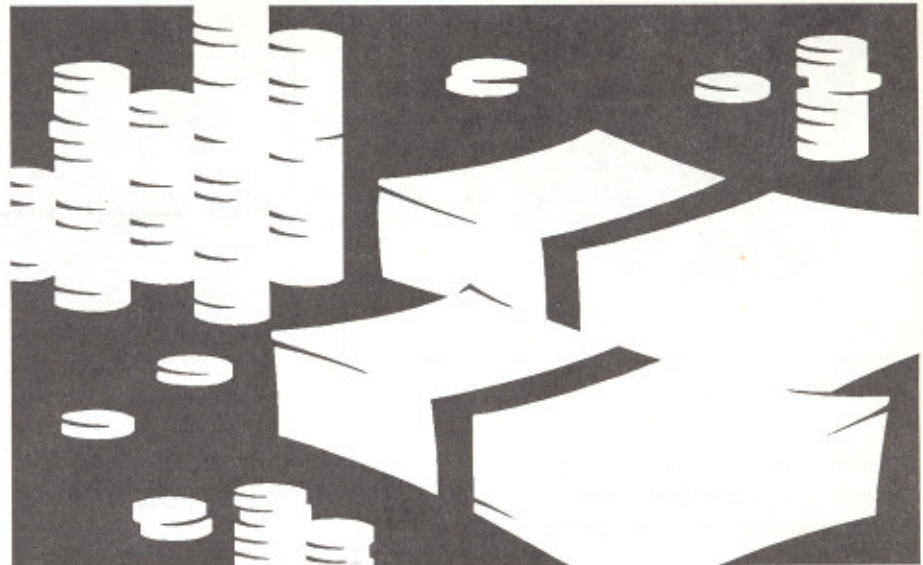
What would be your reaction if a government payroll clerk in some distant city decided to correct a data entry on your paycheck — next month. Meanwhile, you have to live with a paycheck that's less, but "close enough."

Or what if your financial institution changed your account number because of a merger and your payroll deposit disappeared into a computer void? What if this happened to millions of persons and businesses nationwide?

What would you feel about fiscal integrity? Would you become a vocal advocate? Would you join with others in a class action?

That's the issue that Russ Williams, resource management officer for the St. Paul District, wants to get across. "Resource Management Officers are not the only people responsible for fiscal integrity."

Fiscal integrity differs from financial management. Fiscal integrity is a command climate that uses a system of internal controls to assure compliance with both the spirit and letter of financial directives. Financial management is a command climate and capable organization with the tools, systems, and staff needed to maintain accurate financial records, to inform and advise commanders and staff, and



to provide independent analysis on financial issues. Financial management supports fiscal integrity.

A current example of fiscal integrity is prompt payment of the district's bills. "The command has placed us on notice that late payments are indicators of poor customer service, and are avoidable," said Williams. A recent memo tells division, office, branch and section chiefs to pay customers of the St. Paul District promptly.

"Financial integrity and compliance are command responsibilities that flow down through all managers and to all levels," wrote General Hatch, the commander of the Army Corps of Engineers, in a 1990 Policy Memorandum.

"The issue for everyone is proper internal controls and the accuracy and the adequacy of our financial records," said Williams. "The Chief Financial Officers Act of 1990 says that billions of dollars are lost each year through financial management systems that are obsolete and inefficient. Not only that, but our systems still don't accurately show the cost of operating and investment decisions."

"The taxpayer is our shareholder," said

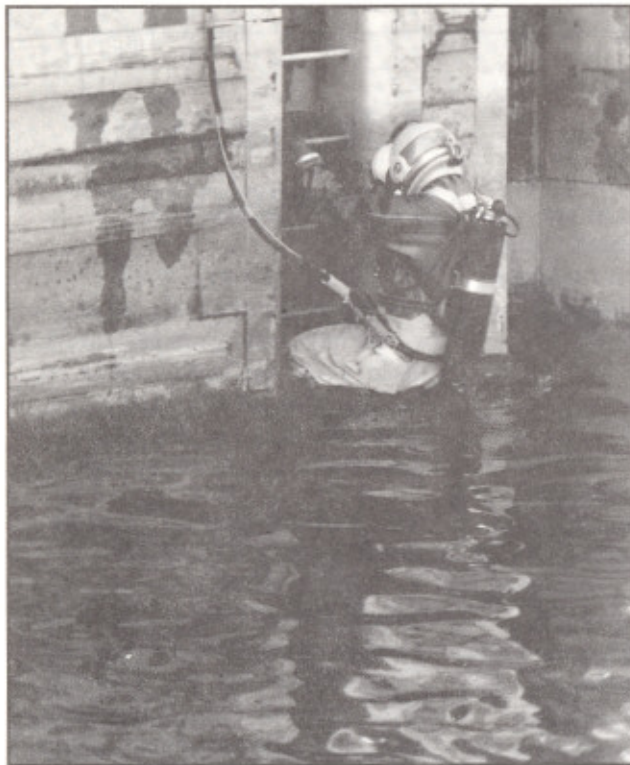
Williams. "It's imperative that we spend our shareholders money appropriately." Williams cited four practices that lack integrity: charging to accounts that have the funds rather than the account for which the work was done; going ahead with an activity without assurance of funding; padding rates to build a cushion; or permitting looser financial practices than are required to get the job done.

If financial guidelines are cumbersome, Williams recommends going up the pipeline to ask for help, or explaining how reporting rules hinder a project's objectives, goals, and mission.

"Consistent charging practices and uniform compliance with appropriation law and administrative policy are fundamental to sound financial management," said Hatch. "They are also fundamental to the concept of 'partnering.' Our customers are entitled to assurance that they are being charged only for appropriate costs."

"The law requires more effective general and financial management practices in the Federal government, including the Corps' St. Paul District," said Williams. "Each of us can make a difference for our shareholders, the taxpaying public."

Diving in cold water at Lock No. 1



Diver Thomas Hemstreet, top photo, climbs out of cold water at Lock and Dam No. 1 this February in Minneapolis where he dove to service the mitre gate. The muddy water reduced Hemstreet's visibility to one foot. Bottom photo, Edward Strand (left), Lock and Dam No. 9, Dana Werner (back center), St. Paul, and Robert Sikkila, Lock and Dam No. 5A, assist Hemstreet after the dive.



IG informs, investigates

"Are you spying on us?" a young, summer hire asked Lieutenant Colonel Susan Pakies at one of North Central Division's locks last summer. Pakies is Acting Engineer Inspector General (IG) and chief of Law Enforcement and Security for the North Central Division.

"No, I'm not, but do you need one?" replied the IG. Although not the Woman from SPY, the IG works both as a corporate conscience and an information broker. Fielding questions like this is just one of the many tasks the IG handled last year on her tour of 80 major projects in 13 states. She visited the St. Paul District in January to hear personal grievances and to give advice on ethics.

The IG investigates public vandalism, waste, fraud and abuse. "The good news is that even though vandalism in our parks is the biggest troublemaker, last year we only had \$112,000 in damage out of billions of dollars worth of property and thousands of visitors," said Pakies.

Sixty-five percent of Pakies' job involves informational referrals on questions of Equal Employment Opportunity (EEO), pay, promotions, personnel, and protocol. Travel fraud, misuse of government property, and overtime cases occupy the balance of her agenda. The IG also speaks to the small sins of government work--those little things that add up when they occur day after day.

Pakies advocates policies of conservatism. "I know this won't be popular, but federal employees must not copy their income taxes on government photocopiers. And driving a government vehicle to lunch is a 'No No,' except when traveling. Don't drive government automobiles home, or use government computers, telephones, or photocopiers for personal tasks."

News and Notes

Hello

Construction Operations welcomes **Dennis H. Boardman**, sandblaster; **Charles J. Brion**, laborer; **Roger Gilman**, laborer; **Robert C. Hanson**, sandblaster; **Royce Havlik**, laborer; **Dennis J. Kupietz**, sandblaster; **Robert A. Wildeisen**, sandblaster; **Duane W. Wilson**, laborer. **Gregory Johnson** joins Planning Division as landscape architect; **Keith E. Knoke**, civil engineering technician, in Engineering Division, Geology and Surveys Section; **Ruthanne M. Rodewald**, clerk-typist, Resource Management Office, Civil Works.

Good-bye

Jacalyn A. Bedworth, public affairs specialist, **Patricia E. Simons**, public affairs clerk, Public Affairs Office; **John M. Bock**, laborer, Construction Division, Lake Traverse; **Billy G. Cabe**, realty officer, Real Estate Division; **Senaida M. Casarez**, clerk-typist, Resource Management, Accounts Payable; **Heather L. Gomez**, clerk-typist, Resource Management, Civil Works; **Georgene K. Savolainen**, clerk-typist, Construction Division, Mississippi Headwaters; **Joyce G. Shillingstad**, accounts maintenance clerk, Resource Management, Finance and Accounting; **Patrick M. Stevens**, realty specialist, Real Estate, Acquisition Branch.

Promotions

Gary A. Eftmann, environmental protection specialist, Construction Division, Regulatory branch; **Kathleen M. Funke**, clerk-typist, Western Area Office; **Ivy D. Kaminsky**, visual aids clerk, Information Management; **Paul R. Machajewski**, outdoor recreation planner, Construction-Operations; **Leon F. Mucha**, supervisory civil engineer, Construction-Operations, Eastern Area Office; **Joseph J. Yanta**, environmental protection specialist, Construction Division, Regulatory Branch.

Safeguard your possessions

With the anticipation of warmer weather and Spring season, we tend to become more carefree. Sometimes this "Spring fever" can lead to carelessness regarding personal safety and security. These hints are designed to help you have a safe and theft-free Spring.

- Watch for suspicious or unfamiliar people walking about the halls. If you have a concern about them, ask if they need help locating a person or require assistance from Protective Service. The non-emergency number is 725-3642. If you feel threatened, dial 9-911 for emergencies. Notice features about the person, such as height, weight, hair and eye color, or other distinctive features.
- Lock doors when no one is in the office — even during office hours. If you are alone in the office, lock the door if you feel uncomfortable.
- Secure all personal belongings in a locked area. Never leave things such as airline tickets, wallets, purses, cameras or credit cards where they can be visibly seen.



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