

Manage risks all the time

By Col. Mike Pfenning, St. Paul District Commander

We were reminded of the inherent danger of our district's mission this past month with the occurrence of two separate accidents at the dewatering of Lock and Dam 2 in Hastings. In



one instance, an employee was struck by a large ice chunk which fell from the stoplogs that had been installed in the

lock chamber four months earlier. In another instance, the boom brake on one of our 12 Link Belt cranes in the district failed, causing



Crosscurrents

Crosscurrents is an unofficial publication, authorized under the provisions of AR 360-1. It is published monthly for the St. Paul District, U.S. Army Corps of Engineers.

Editorial views and opinions are not necessarily those of the Corps of Engineers, nor of the Department of the Army.

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District Commander Public Affairs Chief Media Specialist Editor E-mail: Col. Michael Pfenning Mark Davidson Shannon Bauer Peter Verstegen cemvp-pa@usace.army.mil damage to the observation deck, but, fortunately, no injuries. While investigations into these accidents and lessons learned are still being developed, we are reminded that we must not only ask what happened, but learn new methods of identifying these hazards and taking measures ahead of time to reduce the risk to ourselves and our equipment in executing our missions.

Similarly, with the onset of spring, it is time to start looking forward to the warmer days ahead, reminding ourselves of the personal hazards we may face, as well as the measures to take to reduce our risk. As we transition into spring, the vegetation starts to green-up outside, and we have set our clocks ahead to daylight savings. For many of us that means working outside in the garden and yard or starting or resuming those home projects that we put off due to the cold and snow. Others will be setting out on the roads to the cabin or that favorite fishing spot in pursuit of a relaxing time away with their families. Barbecuing and picnics in the park will once again be a popular off-duty choice.

As you pursue these activities, remember to act in a safe manner. Always drive defensively. That is

driving to prevent accidents, in spite of the incorrect actions of others or adverse weather conditions. When you get behind the wheel of any vehicle, remember that defensive driving is a full-time job. The most dangerous mile is the one directly ahead of you. And please, don't drink and drive. And motorcycle, all-terrain-vehicle drivers and bicycle riders – wear your helmets at all times.

When preparing to cut the grass or use other power tools, do not forget about personal protective equipment, such as safety glasses, gloves and proper foot protection. Always heed the manufacturer's warnings and insure that you are using tools for their intended purpose. Choose the right tools for the intended job.

If you will be on or around water, remember to respect the dangers associated with it. Wear personal floatation devices and operate all watercraft safely. Be situationally aware of other watercraft, skiers or swimmers in the area. If alcohol is your beverage of choice, do not attempt to mix it with operating any form of watercraft. Please be safe during your off-duty time and remember that risk management begins with you.

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Ice provides dredging platform at Warroad Harbor



A novel dredging project on ice three- to four-feet thick this winter saved money and reduced the environmental impact to Lake of the Woods. The lake links northern Minnesota with Canada.

The St. Paul District project means boaters will have a clear channel to access a safe harbor at Warroad, Minn. The harbor is a congressionally authorized harbor of refuge. The harbor is located in the city of Warroad on the western shore of the lake and is approximately six miles south of the Canadian border in northwestern Minnesota.

The project is a team-effort among the Corps' St. Paul District, the city and a contractor with experience working on ice. When complete, a 2,900-foot channel will extend from the letty north into the lake.

"The technique appears to some to be sawing off the branch that you're sitting on," said Col. Mike Pfenning, St. Paul District commander, "except that parts of the branch are sitting on the ground – or in this case, the bottom of the harbor."

Dredging, continued from Page 3

Dredging on a platform of ice more than 36 inches thick is a first for the St. Paul District and for the Mississippi Valley Division. "The precedent-setting techniques were result of collaboration with the Corps' local sponsor," said Pfenning. "The techniques are less environmentally damaging, as the impacted water environment is restricted by an ice cavern. This confines the sediment drift."

Said Kevin Bluhm, project manager, "Working on ice lowers the cost to about one-tenth of conventional dredging. Part of the reason is the scale. It's hard to justify conventional dredging for a small job."

Sediment generated by a flood in 2002, recent high water and wave action off the lake has hindered boat access to a critical harbor of refuge during navigation season.

Said Dave Nelson, construction engineer, "It's like a huge shallow sand bar. The channel has to be cut out to deeper water."

Boaters need harbor access when a storm sweeps across the 642 square-miles of waters in U.S. jurisdiction. Miles of water separate Warroad from the other harbors of refuge at Baudette, Northwest Angle Inlet and Zippel Bay.

Heavy equipment from the Corps' contractor, Lake Area Construction, Inc., of Williams, Minn., rolled out on the ice March 12. Two weeks later, they had dredged nearly 10,000 cubic yards at priority locations in the channel. "That is enough sand to fill a football field about five-and-one-half deep," said Bluhm. Operations halted when unseasonably warm weather hindered truck access to the temporary storage site.



Photo by Dave Nelson

Employees of Lake Area Construction, Inc., (left) drilled through the ice to test the thickness and check water depth. "The measuring wheel lays out stations on the ice for dredging," said Dave Nelson, construction engineer. Kevin Bluhm, project manager, is at center and Rex Block, the contractor, is at right.



Photo by Dave Nelson

Loaded dump trucks, each weighing about 27 metric tons, rolled about three-fourths of a mile across the frozen lake often covered with surface water, leaving the frozen lake at the public access in Warroad. The trucks are hauling sediment to an area owned by the city previously used as a disposal site.

U.S. Army on



Seventeen years ago, preparing for a job on Lake of the Woods' ice, Rex Block, owner of Lake Area Construction, Inc., visited his local library to research the U.S. Army's experience with heavy equipment on ice. "I found old data collected by the Corps of Engineers from World War. II," he said. "They measured and tested the ice before taking tanks and trucks across frozen rivers in Europe. They cut holes in the ice in trial-and-error tests. They discovered ice could really support large amounts of weight. Their weights were really accurate." Block, right, is on the ice at Lake of the Woods with a hydraulic excavator weighing 30,000 pounds.



Photo by Dave Nelson



Photo by Kevin Bluhm

Left, a 30,000-pound backhoe scrapes and breaks the ice on Warroad Harbor. Center, a 40,000-pound excavator scoops dredge material off the bottom of the channel and drops it into a waiting dump truck. Ice remains in the water.



Ice measurements foretell navigation season

by Shannon Bauer

The St. Paul District's survey crew in Fountain City, Wis., started this year's annual Lake Pepin ice measurements on Feb. 15. March 21 was the last ice reading. The Corps takes ice measurements at this location each year to predict the navigational outlook on the Upper Mississippi River.

Lake Pepin is located on the Mississippi River between Red Wing, Minn., and Wabasha, Minn. It is the location of choice for these measurements, because the lake is the last part of the river to break up, and the current is slower on Lake Pepin than it is on the rest of the river.

Each February, the surveying crew uses an airboat and a portable global positioning system to measure ice thickness. In addition to measuring the ice thickness, they also record the general condition of the ice. This data is used by the towing industry to predict whether or not it will be difficult for towboats to break through the ice and determine when it's safe to begin towing to St. Paul, Minn.

Last year, the first tow to make it all the way to Saint Paul, Minn., was the Motor Vessel Reggie G, a tow operated by Alter Barge Line, Inc., of Bettendorf, Iowa, on March 21.

The average opening date of the navigation season in St. Paul for the last 10 years is March 20.

"The Corps usually only does measurements until the ice is considered not to be an obstacle for tows," said Steve Tapp, operations manager, channels and harbors project.

The Motor Vessell cooperative Venture a tow operated by the American River Transportation Company of St. Louis, was the first two to make it to St. Paul on March 30, with 12 barges.

"Most of the ice was gone by March 21 and what is left is very soft," said Mark Upward, channels and harbors project.



Photo by Mark Scholl

Kevin Ressie, left, small craft operator, and Jim Marquardt, survey technician, sampled the ice thickness on Lake Pepin on the Mississippi River. Lock and Dam 2, Hastings, Minn., reopened to navigation on March 22 with the completion of major maintenance. Passage through ice in Lake Pepin on the Mississippi River into the Twin Cities signals a new interstate navigation season.

St. Paul District hires its first female park manager

by Shannon Bauer

Mary Kay Larson, of Lakeshore, Minn., began her new job as the manager of the St. Paul District's Gull Lake Dam and Recreation Area Feb. 18.

Larson has worked as a park ranger at Gull Lake, which is located 10 miles north of Brainerd, Minn., for more than 18 years.

As a park manager, Larson will supervise all rangers, seasonal hires and volunteers, as well as manage an annual budget of \$340,000 and all operations of the park to include the operation and maintenance of the dam, campground and day-use facilities. "I'm excited about my new position," she said, "and I look forward to the new challenges that await me."

Her goals for the job include making the park an integral part of the Brainerd Lakes community, developing and maintaining an effective interpretive program, maintaining a safe and enjoyable environment and continuing to encourage a sense of ownership in the park with the park volunteers.

Larson is the district's first female to hold a park manager position.

"I guess I knew going into my profession that I would be outnumbered," she said. "I came to this job from working on the Crow Wing County Water Patrol, where I was also one of the first female water deputies the county employed, so I'm used to it.

"I have always felt totally accepted here in the Headwaters. We worked well as a team at Gull Lake Dam. Each one of us had their own qualities to add and that made our team a success," she continued. "I appreciate the training and direction I received working under the former manager, Gregg Struss, and I never felt that gender was an issue.

"In the last 18 years as a park ranger, I have met so many families that love to camp, and they all call our park their 'home away from home.' They are making memories that will be passed on to the next generation of campers, and I feel fortunate to be a part of that," she said. "I'm also able to take pride in maintaining the park for people's enjoyment. Where else can you experience such variety, from registering campers, to planting grass, to putting out loon nesting platforms? It



Photo by Gregg Struss

Mary Kay Larson, kneeling, is the district's first female park manager. Above, she works with Girl Scouts to make an effective interpretive program, to maintain a safe and enjoyable environment and to encourage a sense of ownership in the park with the volunteers at the Gull Lake Dam and Recreation Area.

is all in a days work, and I enjoy it."

Larson graduated from St. Cloud State University, in St. Cloud, Minn., with a degree in recreation. She also holds an associate's degree in natural resource from the Brainerd Area Vo-tech in Brainerd, Minn. Larson has been a life long resident of the Brainerd area.

"The Gull Lake campground is one of the busiest recreation sites in the St. Paul District," said John O'Leary, Corps of Engineers Headwaters' operations manager. "The Corps is extremely fortunate to have a person with Mary Kay's [Larson's] credentials. She brings an extraordinary level of experience, insight and leadership skills to Gull Lake and the Headwaters' management team. I know that under Mary Kay's direction, Gull Lake will continue to hold its place as one of the premier Minnesota campgrounds."

Lock and Dam 10 caps 20-year project

by Melissa Gulan Eastern Area Office

The major maintenance and rehabilitation program at the locks and dams north of the Iowa-Minnesota border, underway for the last 20 years, will be finished 18 months from now when the work at Lock and Dam 10 is done.

Lock and Dam 10, located in Guttenberg, Iowa, is undergoing a much need rehabilitation of its 70-year-old structures. The Corps' Rock Island District constructed the facility in the mid-1930s at an original cost of about \$4 million and placed it in operation in 1937. In 1940, the St. Paul District boundary was extended south to include Lock and Dam 10.

The Rock Island design is reflected in a unique layout of the original building. The structures built in the 1930s have exceeded their design lives and require rehabilitation on major elements of their structures. The purpose of the program is to extend the useful life of these structures for another 50 years.

The major maintenance and rehabilitation program has been underway at locks 2 through 10 for the past 20 years.

The current \$14.5 million contract for the work at Lock and Dam 10 was awarded in April 2005 and is the tenth and final central control station replacement under this program.

It has been a long wait for the staff at Lock and Dam 10, but lockmaster Marvin Althoff has a positive outlook on the situation. "Input from other lockmasters has made us aware of lessons learned



Photo by Brad Miller

Marv Althoff, Lock and Dam 10 lockmaster (left), confers with and Eric Johnson, project engineer, Winona Resident Office.

and has given Lock and Dam 10 the advantage of their experience," said Althoff. "I am very satisfied with both the quality of the work and with the professionalism of the contractor and all the workers. There is partnering taking place every day."

Eric Johnson, project engineer, said, "The Lock and Dam 10, Stage 2, contract has been one with a total team effort in achieving a project without a lost-time accident, on schedule, with minimal changes and within budget. This benefits both the Corps and the public."

The construction team has been sensitive to the preservation and protection of the historic lockmaster's house. The white clapboard house is the last remaining lockmaster's house in the district and offers a glimpse at how the lock and dam sites were originally organized.

Doris Sullivan, a district

landscape architect, said, "This project presented interesting design challenges as we worked to provide an up-to-date facility that respects the past. It was critical to maintain the original structure and location of the house. Moving the house would have significantly reduced its historical value."

The contract work for Lock and Dam 10 is about 50 percent complete. By the time the project is complete in August 2008, the site will have a new central control station and be totally renovated. The layout of the new building, which has been standardized and improved through the earlier lock and dam rehabilitations, consolidates most of the operations under one roof. Personnel at the lock will be able to operate the upper miter gates from inside the building. The positioning of the new building also improves sight lines along the lock wall, resulting in safer operations.

District supports African-Americans in Science

by Terry Fluekiger

There are many good things that come with working for the Army Corps of Engineers and participating at the African-Americans in Science event at the Science



Photo by Larry Kjellberg

Terry Fluekiger, head operator at Lower St. Anthony Falls Lock and Dam in Minneapolis, instructed kids how to work a model lock and dam.



St. Paul District photo

The model showed children how a lock and dam works and acquainted them with locking through and allowed them to take charge of running the lock.

Museum of Minnesota, St. Paul, Feb. 17, was one of them.

After being asked to participate, I wasn't quite sure what to think or what to expect.

Our counterparts in the district office responded to our questions and provided help and direction.

I, along with Larry Kjellberg, equipment mechanic, Upper and Lower St. Anthony Falls lock and dams in Minneapolis, started our day by meeting Kevin Burns, the parent liaison from Washington Technology Middle School, and two of his students, Chad Summers and Jeremy Adams, at the museum.

Our goal was to teach kids about the St. Paul District and the U.S. Army Corps of Engineers.

Our team arrived at this event with a toy lock and dam model, brochures, pictures and lots of marshmallows and toothpicks. Kids learned how to build a marshmallow dome out of some very simple household items, which showed them the great strength that a design acquires when engineered and constructed correctly.

The lock and dam model was also a great hit that had many kids attracted to the sound of water and laughter – granting them the opportunity to ask lots of questions.

"We also passed out brochures and information on the Corps of Engineers' missions," said Kjellberg.

Many visitors did not realize everything the Corps does – everything from enhancing our waterways to aiding our country during times of natural disaster.

Overall, Corps' participation built a working relationship with the science museum, with the school and more than 400 kids along with adults went away with a smile on their faces.

Corps, Red Lake Band of Ojibwe agree to fish passage on reservation at Lower Red Lake

by Peter Verstegen

The St. Paul District and the Red Lake Band of Ojibwe agreed to work toward construction of a fish passage at the outlet of Lower Red Lake in Clearwater County, northwest of Bemidji, Minn. The project will be constructed on the Red Lake Band of Ojibwe Indian Reservation.

Col. Mike Pfenning, St. Paul District commander, and Floyd Jourdain, Jr., Red Lake tribal chairman, signed a memorandum of understanding March 13. "The MOU provides Bureau of Indian Affairs permission to construct the project on tribal land and was the last document needed prior to finishing the plans and

specifications," said Steve Clark, project manager.

In 1951, the Corps of Engineers modified the Red Lake Dam, located on the Red Lake Band of Ojibwe Indian Reservation, and assumed its operation under the conditions set forth in tribal resolutions passed by the Red Lake Band of Ojibwe. Since completion of the project, the Red Lake Band has expressed concerns regarding the congregation of fish below the dam and the inability of fish to re-enter Red Lake.

The Corps attempted to alleviate this problem by installing a temporary fishway in the 1950s and by reducing the ability of fish to swim out of the lake through the dam by placing stoplogs in front of

the dam gates. However, early fishway technologies were ineffective and reducing downstream fish passage through a dam is difficult at best.

The proposed fishway would be a natural channel design that has recently proven successful in Minnesota and other locations around the world.

A concrete fish trap would be included in the design to prevent common carp from entering the lake by allowing selective transport of desirable species. The fish trap would also facilitate the capture of walleyes for egg stripping in the spring for rearing in a fish hatchery operated by the Red Lake Department of Natural Resources. Construction costs for the project are estimated at about \$700,000.

"In the past few years, the district has worked through many obstacles to move this project forward," Clark said. "Among them were the approval of a construction authority from Assistant Secretary of the Army (Civil Works), the planning and design of a unique project and, most recently, obtaining the real estate permit from Bureau of Indian Affairs. Through the process of planning this project, an excellent working relationship has been developed with the Red Lake Band."

A construction company owned by the Red Lake Band, will be completing the work as an 8(a) small business contractor after the district completes the plans and specifications and requests a cost proposal from the contractor.



Photo by John O'Leary

Col. Mike Pfenning, St. Paul District commander, signed a real estate memorandum of understanding with Red Lake Tribal Chairman Floyd Jourdain, Jr., for a fish passage at Red Lake, Minn., March 13. The photo was taken during a tribal council meeting.

News and Notes

Grand Forks projects recognized

The pedestrian bridge linking Grand Forks, N.D., and East Grand Forks, Minn., and a segmental block retaining wall in Grand Forks received Gold Star Awards from the North Dakota Ready Mix and Concrete Products Association in "Hardfacts: Special Awards Edition," distributed in January 2007. Both projects are part of the St. Paul District's 10-year, \$400-million flood reduction project on the Red River of the North.

Craig Johnson, resident engineer, and Jay Bushy, project engineer, managed the block retaining wall. Mike Nelson was the contracting officer representative for the pedestrian bridge.

The Corps' awards represented two of 13 categories recognized by the association.

Announcements

Steve Tapp was selected as the new channels and harbors operations manager in March.

Kristin Kosterman, information management, began a six-month detail to the front office as the executive assistant, March 19. She replaces Steve Grannes as executive assistant. He returns to IM.

Andy Beaudet will be temporary promoted for 120 days to fill Kosterman's duties in IM.

The Department of Army selected **Randy Brunet** as the recipient of the fiscal year 2006 Individual Award for Auditing Below the Major Subordinate Command Level.

"Brunet's exceptional performance at district and regional levels is further highlighted by the fact that there were only four individuals across all of the Army Corps of Engineers who received Department of Army recognition in the resource management program for fiscal 2006," said Mike Pfenning, St. Paul District commander. (A more complete article is scheduled for the April *Crosscurrents*.)

Paradise Lady transits upper locks

The excursion boat Paradise Lady locked up-bound and downbound through Upper and Lower St. Anthony Falls locks and dams the on the first day of spring, the afternoon of March 20, said Greg Yale, lockmaster, Upper St. Anthony Falls. The passage was "to check clearances between them and the bridges and their dock at Boom Island," Yale said.

Donate clothing

The gender subcommittee of the Special Emphasis Program Committee sponsored its annual clothing drive March 20-30. Clothing donated goes to the Employment Action Center of Minnesota

"This year we are looking for casual and professional clothing in

good condition – undamaged and unstained – for both men and women," said Lupe Santos, SEPC manager.

Accepting donations are
Theresa Teed, project
management; Nate Johnson,
contracting; and Annette Vogel,
engineering and construction. In
field offices, contacts are Tammy
Wick, Headwaters Office, Grand
Rapids; Deb Griffith, Cross Lake
Recreation Area, Crosslake,
Minn.; and Judy Harris, channels
and harbors project office,
Fountain City, Wis.

Prepare for eldercare

The disability subcommittee of the Special Emphasis Program Committee is hosting a brown bag session on April 5 on the topic of Eldercare. Contact **Nan Bischoff**, project management, subcommittee chairperson, at 651-290-5426 for more information.

Newcomers

John Murphy, civil engineer, engineering and construction in the district office.

Sarah Joyce Watts, administrative assistant, contracting in the district office.

Retirements

Duane Wilson, maintenance worker at Lac Qui Parle in western Minnesota, with more than 22 years federal service.

Taps

Clyde J. Hovell, retired from the derrick boats Hauser and Wade, died Feb. 27.

District presents safety award

by Shannon Bauer

The St. Paul District presented Ostrom Painting and Sandblasting, Inc., of Rock Island, Ill., the "2007 Construction Superior Safety Award" this year for its work repainting Lock and Dam 4, in Alma, Wis., and Lock and Dam 6, in Trempealeau, Wis.

The painting of locks and dams 4 and 6 is part of the St. Paul District's Major Maintenance/ Major Rehabilitation Program and includes work at locks and dams 2 through 10 on the Mississippi River. The purpose of this program is to extend the useful life of these structures another 50 years.

"I am impressed with the efforts put forth, by both the project superintendent and the employees of Ostrom Painting and Sandblasting," said Jeff Pfannes, the district's safety manager. "The team exhibited outstanding management and safety awareness, working 31,686 manhours with zero lost-time accidents."

The project included working on elevated platforms, while wearing cumbersome personal protective gear — to include blast hoods with limited visibility while utilizing high velocity sandblast hoses. All workers knew they could not become lax concerning personal safety, since a slight misdirection with a blast hose or a misplaced step while on an elevated platform could result in a serious injury.



St. Paul District photo

Virginia Regorrah (above) and Melissa Lembke, Western Area Office, Grand Forks, N.D., presented engineering demonstrations for a class of 60 fifth-grade girls at Southpoint Elementary in East Grand Forks, Minn., for "Introduce a Girl to Engineering Day" on Feb. 28.



Photo by Marsha Mose

Jan Lassen (left), and Mike Dahlquist, both from St. Paul District's design branch, worked at the hurricane protection in New Orleans this February. Lassen is describing the design on a V-line levee that is part of the hurricane and flood protection for the city. Said Dahlquist, "My role was liaison between the Hurricane Protection Office and U-5 design team for the Lake Pontchartrain levee system." The U-5 team represents the upper five districts in Mississippi Valley Division: St. Paul, Rock Island, St. Louis, Memphis and Vicksburg districts.

Breza honored as December 2006 Employee of the Month

Jane Groth, head lock operator at Lock and Dam 6, Trempealeau, Wis., nominated Matt Breza, at right with Lt. Col. John Kunkle, deputy district commander. Breza works as lock operator at Lock and Dam 5A, Fountain City, Wis. Mark Beseler, subsequently mentioned, is the lockmaster at 5A. Wrote Groth:



At the second annual open house on Aug. 12, Breza went above and beyond his normal duties to help a couple that came for a long-awaited tour of the locks and dams. The following letter below truly speaks for itself and the great job he did. His actions positively reflect not only on Lock and Dam 5A but also the district and the Corps' family.

Dear Mark [Beseler],

My wife Sonya and I would like to thank you for the super open house you and your people hosted on Saturday. In particular, a huge thank you for a very special thing you did. I have a disability that limits my walking distances, but I was determined to at last get a chance to see the workings of a lock and dam. After trudging a distance, I knew I wouldn't make the entire trip. You were kind enough to see the situation and arranged for a cart to assist me

the rest of the way. Along with that cart came Matt, whom we have decided must be the premier lock and dam guide on the Upper Mississippi [River].

Seriously, he did a terrific job of seeing that we saw every nook and cranny in the place and explained thoroughly all of the operations. We wish you would convey our thanks to him for a great tour....

Phil and Sonya Niemeyer Rochester, Minn., and Alma, Wis.



St. Paul District photo

Chris Botz (left) and Scott Tichy, both rangers at Lake Ashtabula-Baldhill Dam recreation area, Valley City, N.D., represented the Corps of Engineers' St. Paul District at the 70th annual winter sport and home show in Valley City on March 10-11. "We had 1,300 direct contacts at our booth," said Botz. "We handed out lake brochures, recreation and water safety information." They also operated a booth at the Fargo boat show, Fargo, N.D., March 3-4 and had 2,200 direct contacts.