



US Army Corps
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St. Paul District

Crosscurrents

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**District
interviews
contractors
for contract
compliance**



Be aware of safety at home, on the water and on the road

By Col. Mike Pfenning
St. Paul District Commander

With another Midwest winter and tax preparation behind us, it is time to start looking forward to the



warmer days ahead. We have transitioned into spring as the vegetation is starting 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/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 hole 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.

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 manufacturers 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 situational 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 it is all about you.

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Cover photo



Photo by Francis Schanilec

Tom Stiel, construction representative on the Heartsville Coulee Diversion project, East Grand Forks, Minn., conducts a labor standards interview with ironworker Pamela Anderson from Swingen Construction, a project subcontractor. The photo was taken on top of the new Heartsville Coulee bridge, currently under construction.



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St. Paul District

Crosscurrents

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Civil Servants of the Year for 2004



Merrill Cotter



Bonnie Greenleaf



Kevin Ressie

St. Paul District photos

By Shannon Bauer

Merrill Cotter

Position Title: property book officer
Duties: Maintain accountability of district personal property
Years at St. Paul District/Corps of Engineers: 12.5
Years with federal government: 33
Previous Positions/Employment: chief storekeeper, U.S. Navy
Education: Associate’s of Applied Science in business administration
Hobbies: Gardening
Residence: Coon Rapids, Minn.
Family: Wife of 39 years, two sons, three grandsons and one granddaughter
Comments: “I am honored to receive this award – but most of all, I want to thank the logistics team for their teamwork and their support in meeting the district’s mission.”

Bonnie Greenleaf

Position Title: project manager
Duties: project manager for Grand Forks Flood Control and Devils Lake Levees, as well as mission manager for the temporary housing project delivery team
Years at St. Paul District/Corps of Engineers: 17
Years with federal government: 17
Previous Positions/Employment: Michigan Bureau of Aeronautics; San Francisco Redevelopment Agency
Education: Bachelors in Engineering (Civil) from the University of Michigan
Hobbies: Gardening
Residence: White Bear Lake, Minn.
Family: Four nieces and nephews
Comments: “I am honored to be selected.”

Kevin Ressie

Position Title: small craft operator
Duties: Hydrographic surveys on the Upper and Lower Mississippi River
Years at St. Paul District/Corps of Engineers: 28.5
Years with federal government: 28.5
Education: High School Diploma; Coast Guard Licensed Boat Operator
Hobbies: Hunting, fishing and taxidermy
Residence: Fountain City, Wis.
Family: Son and daughter
Comments: “I have enjoyed my career with the Corps and working on the river in hydro-surveying and dredging operations. My job provides me the opportunity to experience nature and the river close-up on a daily basis. It fits well with my hobbies and personal interests. I appreciate being recognized by our district as a civil servant of the year.”

Corps' crew drills 1,800 holes in 7 days on Devils Lake ice

By Peter Verstegen

A survey crew from the St. Paul District drilled 1,800 holes through the ice at Devils Lake, N.D., to obtain elevation data, the week of March 14. The crew, among a team of five Corps' personnel, worked in temperatures ranging from 5 below zero to 35 above, with winds up to 40 mph. They gathered data for the Roads Acting as Dams project, which is designed to protect the surrounding region from high lake levels.

Miray Welle, engineering technician, and Paul Johnson, survey technician, both from the district office (below), worked with Doug Kelly and Jeff Huseby, maintenance workers from the Baldhill Dam project office, Valley City, N.D., to gather data through the ice to determine lake bed elevations from the shore to 500 feet out on the lake ice. Johnson and Welle are holding a sounding pole used to measure elevation.

A wind break protects Kevin Nelson, geologist (left), who was at the lake to take soil samples for lab classification. The bottom photo shows a 16,000 to 18,000-pound drill rig belonging to a Corps' contractor, Interstate Drilling, out on lake ice 22 inches to 37 inches thick.



Photos above and below courtesy of Interstate Drilling



Photo by Kevin Nelson



Special Emphasis Program members introduce girls to engineering

By Shannon Bauer

In celebration of the nation's fifth ever 'Introduce a Girl to Engineering Day,' the district's Special Emphasis Program gender subcommittee arranged for participation in two schools located within the district boundaries.

Female Corps' engineers visited both the district's adopt-a-school, Washington Middle School, in St. Paul, Minn., and Southpoint Elementary School in East Grand Forks, Minn. (For more information on these visits, see adjoining stories.)

Introduce a Girl to Engineering Day is part of National Engineer's Week or NEW. NEW is a formal coalition of more than 70 engineering, education and cultural organization and more than 50 corporations and government agencies. The National Society of Professional Engineers founded NEW in 1951 to raise public awareness of engineers' positive contributions to quality of life; to promote recognition among parents, teachers and students of the importance of a technical education and a high level of math, science, and technology literacy; and to motivate youth to pursue engineering careers. Each year, Engineers Week reaches thousands of schools, businesses and community groups across the United States.

NSPE created Introduce a Girl to Engineering Day in 2001 as a way to increase interest in engineering among girls and young women. In the United States, only 10 percent of all engineers are women. By planting the seeds of interest early, NSPE hopes girls will be motivated to do well in math and science and be well prepared to enter engineering programs in college.

Each year, the program directly reaches more than one million girls. Thousands of women engineers, along with their male colleagues, take time to demonstrate that engineering is not only a viable career option but also a desirable one

"The response from the girls is incredible," said Victoria Rockwell, 2005 Engineers Week chair, American Society of Mechanical Engineers member and a mechanical engineer. She also serves as a senior manager of investment development with Air Liquide America, LP, in Houston, Texas. "And the continually increasing numbers of professionals, organizations and members of industry who have joined us reflects the sincere commitment that the engineering community has in this effort."

Rockwell added, "We may only reach one girl at a time, but when you multiply that by one million times around the world, it will make a difference."



Photo by Tom Stiel

Lisa Marynik (left), office engineer at the district's Western Area Office, Grand Forks, N.D., participated in "Introduce a Girl to Engineering Day" at Southpoint Elementary School, East Grand Forks, Minn., on February 25, 2005.

Engineers make eggs a science project

By Michelle Schneider

Kari Layman and Michelle Schneider, both in hydraulics, visited the district's adopt-a-school, Washington Technology Middle School, in St. Paul, Minn., to support the Special Emphasis Program gender subcommittee's Introduce a Girl to Engineering Day initiative, Feb. 24.

They talked to 16 students, an equal mix of boys and girls in Sarah Weaver's life science class, and led them in a hands-on engineering activity.

Layman and Schneider talked to the class about engineering and the Corps of Engineers and then led



Photo by Michelle Schneider

Kari Layman (center), engineering and construction division, talked to students at Washington Technology Middle School in February as part of the Special Emphasis Program gender subcommittee's Introduce a Girl to Engineering Day initiative.



Photo by Kari Layman

Michelle Schneider (left), talked to a class at Washington Technology Middle School in St. Paul, Minn., about engineering and the Corps of Engineers. Her presentation was part of Introduce a Girl to Engineering Day initiated by the Special Emphasis Program gender subcommittee.

the class in an experiment on diffusion and osmosis that was part of the unit Weaver's class was starting. Diffusion is the movement of molecules from an area of high concentration to an area of lower concentration. Osmosis is the diffusion of water through a membrane. (Water purification is done using reverse osmosis.)

Schneider stopped at school the day before to put raw eggs into white vinegar. Vinegar is a weak acid that dissolved the eggshell leaving just the membrane. Students found the eggs gross and had fun making observations of the eggs. Each group weighed their eggs and put one-half of the eggs in water and the other half into corn syrup until their next class period. The

eggs changed in size and appearance as a result of the difference in concentration of water molecules inside of the egg and outside of the egg in either the water or corn syrup.

The eggs in corn syrup became small, hard and wrinkly because the water in the egg went into the syrup through osmosis. The eggs in water became large and rubbery because the water in the beaker went into the egg through osmosis. "We lost one egg, out of eight, when a couple of students decided to squeeze their egg," said Layman.

Schneider stayed at school longer and helped with doing this experiment with a basic science class of nine students having difficulties learning in the regular science class due to varying cognitive and emotional disabilities.

Fettuccine and marshmallow bridges demonstrate engineering

By Tricia Liggett
East Grand Forks project engineer

Hands shot up when the girls were asked, "When you think of Egypt, what comes to mind?"

The first little girl yelled out, "SAND!" A few seconds later, some of the girls responded, "the Pyramids."

"Introduce a Girl to Engineering Day" was off to a great start at Southpoint Elementary School in East Grand Forks, Minn. Sixty-eight girls from six fifth-grade classes participated in three sections.

Female engineers Virginia Regorrah, Lisa Marynik and Tricia Liggett, from the Western Area Office in Grand Forks, N.D., then began presentations with brief personal vignettes on what first interested them in engineering and what they do in their present jobs.

The three displayed poster boards that represented different kinds of engineering.

The boards started out with a mountain range in the background, a stream and primitive farm in the foreground.

After a brief description, the girls were asked to place a sticker depicting a type of engineering on the boards – roads and bridges representing civil engineering, a plane representing aeronautical engineering, etc. The girls placed stickers until the board was full – a depiction of the contributions of engineers to this nation's quality of life.



Photo by Mark Krenelka

Students in the fettuccine and marshmallow bridge building exercise enjoy their new hard hats with Virginia Regorrah, resident engineer, East Grand Forks, Minn. The exercise was part of Introduce a Girl to Engineering Day at Southpoint Elementary School in East Grand Forks, Minn., Feb. 25. Regorrah personally purchased the hard hats.

In each of the three rooms, the girls broke out into three smaller groups to conduct experiments. One group, the marine engineers, built foil boats and loaded them with marbles to see which one would hold the most. A second group, civil engineers, built fettuccine and marshmallow bridges and loaded them with pennies to see which would last the longest before failure. A third group, the aeronautical engineers, built paper airplanes to see which would fly the farthest.

Engineers from the Corps each supervised an experiment in their room, while their assistants, Mark Krenelka, Tom Stiel and Marvin Regorrah, all from the Western Area Office, supervised another experiment. The teachers supervised a third experiment.

The winners of each experiments received a hard hat. Bailey Garnett, who signed her thank you note to the WAO as "An Engineer Girl," said, "I had

fun building the bridge, a boat and a plane. It was fun learning about engineering. Thank you for the hard hat, it is awesome." The 68 girls also received certificates of participation.

In planning for the Corps' arrival at Southpoint Elementary School one of the teachers asked her class, "Why do you think this presentation is only for the girls?" One of the boys answered, "Because this is a job that not many girls choose." According to the National Engineers Week Foundation, fewer than 10 percent of American engineers are women.

Introduce a Girl to Engineering Day is designed to introduce girls to the engineering profession and encourage more women to pursue a career in science and engineering.

Beth Vetter, a teacher at Southpoint, said, "All the girls seemed to be involved and enjoying themselves. You are most certainly welcomed back!"



Portrait of Zebulon Montgomery Pike by Charles Willson Peale, ca. 1807, oil on canvas. From the Independence National Historical Park Collection, U.S. National Archives & Records Administration, "Annotation: The Newsletter of the National Historical Publications and Records Commission," Vol. 26:4, Dec. 1998.

Lt. Zebulon Pike's Mississippi River exploration reaches bicentennial

By Ray Nelson

America honors and commemorates the major events and the significant people in our nation's history. Our democratic ideals typically classify these major events and people with degrees of major importance as they describe this country's storied successes. In 1805-06, an Army exploration in quest of national knowledge occurred in the northwest wilds of Minnesota that, so far, has not reaped a great amount of national acclaim.

This year, 2005-06 is the 200-year bicentennial of Zebulon M. Pike's Mississippi River expedition. During these past 200 years, Pike has been referred to casually as a "poor man's Lewis and Clark." Most historians recall Pike with "ho hums," when describing the results of his short career as an explorer. Much minimized have been his effort by comparison to Lewis and Clark's grand expedition and its national tracking of interest. However, in respectful study of Pike, perhaps it is now timely to look closer at his accomplishments and retrace what is truly a very devoted military persistence.

Zebulon Pike's journey to the Headwaters of the Mississippi River is a story that finds Pike in the midst of an ordinary military career but unveils a man armed with the inner fortitude to accept an abrupt new challenge. His challenge, become an explorer with very little pre-planning, training or having the political contributions provided to Meriwether Lewis. Pike's exploration may justly be described as "Explorer Duty 101" and daily "trials-by-fire." His inexperience and situational judgment provoke Pike's developing leadership style and point out his exploring struggles to succeed. His journey provides true examples of what one does to do the ultimate best with what you are handed.

In July 1805, a United States military unit was quickly formed under the guidance of the young 26-year-old Lt. Zebulon Pike. He

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 was outfitted with orders to locate the source of the Mississippi River and explore the surrounding Headwaters region of this country and report these factual findings. This historical nine-month expedition is a minor ripple in length in comparison to Lewis and Clark’s three-year expedition to the west coast. However, historians do agree these early explorations were related and are connected to the larger dramas with the entangling myriad of acquiring truth, resource speculation, economic conditions and real life tales.

Pike’s published written adventures along the Mississippi regions provided revealing firsthand environmental and geographic information about the native upper country resources. His written words supported prosperous images of a frontier land available for hard working folks that sought new opportunities for better lives. Today, as the 200-year living descendants, we can leisurely read his written accounts, take time to reflect with new perspective and imagine in our minds Pike’s descriptive travelogue thorough the virgin Upper Mississippi River country.

In Pike’s own words are written:

“In the execution of this voyage I had no gentleman to aid me, and I literally

performed the duties (as far as my limited abilities permitted) of astronomer, surveyor, commanding officer, clerk, spy, guide, and hunter; frequently preceding the party for miles in order to reconnoiter, and returning in the evening, hungry and fatigued, to sit down in the open air, by firelight, to copy the notes and plot the courses of the day.”

“As a military man – as a soldier from the time I was able to bear arms – it cannot be expected that a production of my pen can stand the test of criticism; and I hope, by this candid appeal to the justice and indulgence of the learned, to induce them to spare their censure if they cannot award their praise.”

To the public, Pike wrote:

“Soon after the purchase of Louisiana by an enlightened administration, measures were taken to explore the then unknown wilds of our western country – measures founded on principles of scientific pursuits, combined with a view of entering into a chain of philanthropic arrangements for ameliorating the condition of the Indians who inhabit those vast plains and deserts. His Excellency, Meriwether Lewis, a Captain of the first regiment of infantry, was selected by

Pike, continued Page 10



From the Library of Congress description: “Map of the Mississippi River from its source to the mouth of the Missouri. Laid down from the notes of Lieutt. Z. M. Pike by Anthony Nau. Reduced and corrected by the astronomical observations of Mr. Thompson at its source; and of Captn. M. Lewis, where it receives the waters of the Missouri. By Nichs. King. Engraved by Francis Shallus, Philadelphia.” The library estimated the date of 1811.

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Thomas Jefferson, President of the United States, in conjunction with Captain William C. Clark, to explore the then unknown sources of the Missouri, and I was chosen to trace the Mississippi to its source, with the objects in view contemplated by my instructions; to which I conceived my duty as a soldier should induce me to add an investigation into the views of the British traders in that quarter as to trade, and an inquiry into the limits of the territories of the United States and Great Britain.

“This being a written work which has arisen from the events of youthful military exertions, is merely a volume of details, and if it should be found that in the relation I have delivered myself with perspicuity and exactitude, it is the highest need of praise that I claim. When I touched on abstract subjects, or presumed to hypothesize, I have merely suggested

doubts without conclusions, which, if deemed worthy, may hereafter be analyzed by men of genius and science.”

In July 1805, Pike was given his specific orders by Gen. James Wilkinson, the then U.S. Military Governor of the new Louisiana Territory, to ascend the Mississippi River to its source. On the way, he was to proceed with maximum diligence, map the course of the river, calculate his daily mileages by time and note “rivers, creeks, highlands, prairies, islands, rapids, shoals, mines, quarries, timber, soil, Indian villages and settlements in a diary to comprehend reflections of the winds and weathers.”

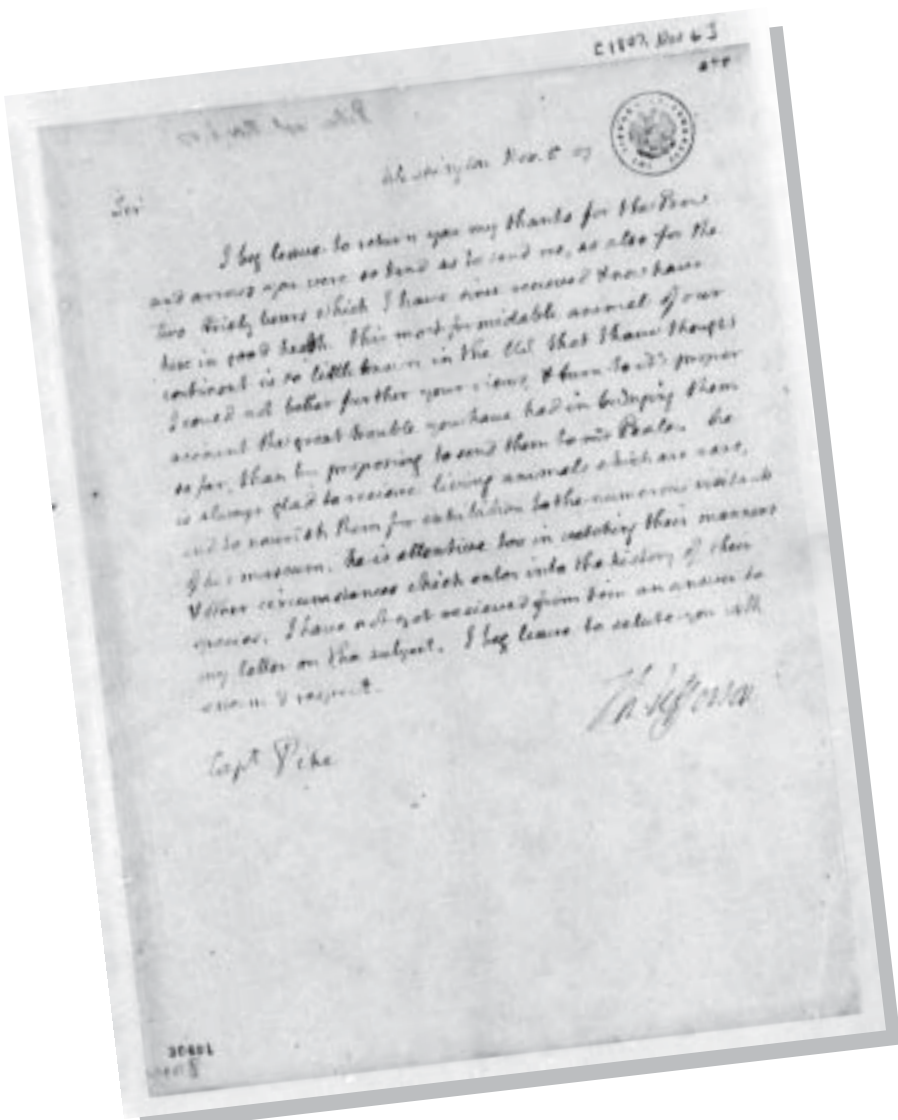
He was asked to “procure specimens of whatever you may find curious in the mineral, vegetables or animal kingdoms,” and gather data on the “population of the several Indian nations, of the quantity and species of skins and furs they barter per annum and their relative price of goods, of the tracts of country on which they generally make their haunts and the people with whom they trade.

Additionally, he was asked to select sites for future military posts, meet with the Indians to purchase these strategic locations, make peace if possible between the Sioux and Ojibwas and find out information about the British fur trade in the area. On the whole, Pike was to have a relatively free hand in directing the enterprise for “your own good sense will regulate the consumption of your provisions, and direct the distribution of the trifling presents which you may carry with you, particularly your flags.”

Fitting out this river highway expedition to the Mississippi’s source had to be

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Archive copy of a letter from Thomas Jefferson to Zebulon Montgomery Pike, Nov. 6, 1807, from the Library of Congress, “The Thomas Jefferson Papers Series 1. General Correspondence. 1651-1827.”



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completed quickly and as straightforward as possible. Pike planned to leave St. Louis in time to reach the Mississippi's source before the winter weather cut off his return home. Consequently, his preparations were rushed. Lewis and Clark took nearly a year preparing for their journey, Pike had approximately one month!

In this short time, he put together a military exploring unit consisting of 12 men from Fort Kaskaskia, Ill., and eight soldiers from Fort Bellefontaine, Mo., bringing the strength of his command to 20 regulars – 17 privates, two corporals and a sergeant. There was no interpreter of Indian languages along, no physician or anyone with medical training.

For his supplies, Pike drew on the assistant military agent at St. Louis, who furnished him with standard equipment from the quartermaster's stores. The most important item, which was specifically prepared, was his 70-foot keelboat. Long and slim, keelboats were considered to be the best mode of travel on the rivers. The graceful keelboat was designed to make round trips. The "keels" were carefully designed for they needed to be stout enough to withstand frequent grounding on shoals and beaches, as well as battering from floating logs and snags that were strewn in the river.

Equipment and food for the projected four-month journey presented little difficulty. The keelboat could carry several tons of cargo, and Pike needed to be cautious not to laden the boat to the degree that it could not be worked over the river shallows. Most of the supplies — flour, pork, gunpowder, corn meal, salt and tobacco, were packed in barrels. The barrels were cumbersome but kept the stores dry. Pike also added several kegs of rum for his troops, as well as the Indians, and a quantity of calico, knives, powdered paint, American flags and colored bunting to be distributed as presents. He also brought along tents, spare clothing,

blankets, lead shot, carpenter's tools, extra weapons and necessaries to make his unit as self-sustaining as possible.

For his private use, Pike took along a rifle and pistols, some special double-battle Sussex powder and a supply of ink, pens and paper. His scientific equipment was limited to his watch, thermometer and the crude theodolite instrument for determining latitude. By the second week in August and after this hurried preparation, Pike determined his patrol ready to go.

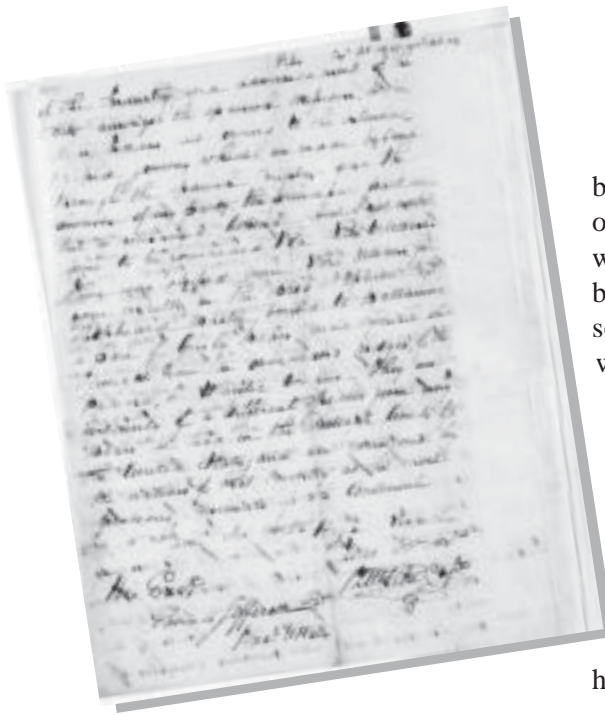
Aug. 9, 1805

"Sailed from my encampment [Fort Bellefontaine], near St. Louis, at 4 p.m., on Friday, the 9th of August 1805, with one sergeant, two corporals, and 17 privates, in a keelboat 70-feet long, provisioned for four months. Water very rapid. Encamped on the east side of the river, at the head of an island [Chouteau's Island]."

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Online facsimile edition of Page 1 of a letter from Zebulon Montgomery Pike to Thomas Jefferson, Oct. 29, 1807, from the Library of Congress, "The Thomas Jefferson Papers Series 1. General Correspondence. 1651-1827."



Online facsimile edition of Page 2 of a letter from Zebulon Montgomery Pike to Thomas Jefferson, Oct. 29, 1807, from the Library of Congress, "The Thomas Jefferson Papers Series 1. General Correspondence. 1651-1827."

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Pike and his men explored the river as they ascended, met with various Indians and switched from the keelboat to two barges at Prairie du Chien, Wis. On Sept. 23, 1805, they met with the Dakota Indians at the junction of the Mississippi and Minnesota rivers. Pike purchased more than 155,000 acres from the Indians for a military reservation – on credit. Later, army engineers thought this site the finest on the Mississippi for a fort, which later became Fort Snelling when constructed in 1819.

Pike had traveled some distance beyond the Falls of St. Anthony, when the party ran into the full force of a northern winter. Pushing and pulling boats in the freezing month of October taxed him and his men greatly. Much time was needed to be spent hunting elk, deer and southerly flying waterfowl to feed his men who consumed 7 to 8 pounds of meat daily.

Oct. 16, 1805

Sgt. Kennerman, called by Pike "one of the stoutest men I ever knew, broke a

blood vessel and vomited nearly two quarts of blood." Four other members of his party were also severely disabled, and Pike became convinced that he should do something for these poor fellows who were killing themselves to obey his orders.

Pike decided to split the party, leaving some of the men in a rough stockade that they would build near present day Little Falls, Minn. On Oct. 18, 1805, Pike wrote, "Stopped hunting and put every hand to work. Cut 60 logs for huts and worked at the canoes. This, considering we had only two felling axes and three hatchets, was pretty good work."

Dec. 10, 1805

Pike continued on along the river with the other half of his men, carrying supplies on homemade sleds. "My sleds were such as are frequently seen about farmers' yards, calculated to hold two barrels or 400 weight, in which two men were geared abreast," he wrote.

Moving further along, they enjoyed Christmas Day about 3 miles south of present day Brainerd, Minn., and celebrated with two pounds of extra meat, two pounds of extra flour, one gill of whiskey and some tobacco per man in order to distinguish this important day.

Dec. 31, 1805

They passed the mouth of the Pine River, where he observed an unoccupied Indian encampment of 15 lodges. This is 18 miles downstream of where the Corps' present day dam and campsite is located at Crosslake, Minn.

Jan. 2, 1806

The party encountered the British influence and Native Americans living in the area for the first time. Cuthbert Grant, an English fur trader, and a group of Chippewa's had an establishment on Cedar Lake near the present town of Aitkin, Minn. Grant's hospitality proved to be a most beneficial contact in support of

Pike, continued Page 13

Pike, continued from Page 12

Pike achieving his mission. His presence offered valuable knowledge, assistance and an able guide service to trekking the remainder of this northerly winter expedition.

Jan. 4, 1806

“In the night I was awakened by the cry of the sentinel, calling repeatedly to the men; at length he vociferated, “G—dd d—n your souls, will you let the lieutenant be burned to death?” Pike’s tent was in flames and resting beside him were three small casks of gunpowder!”

Grant and the Native Americans generously provided Pike and his men with shelter from severe frostbite not only at the Cedar Lake Post after this incident but also at the Sandy Lake Post, lodges at Pokegema Falls and the Leech Lake branch of the NW Company as they continued to travel

Despite all this hospitable wilderness aid, it was Pike’s official duty to inform the British that the U.S. government was no longer going to allow the British to reside and do their fur trade business in the Mississippi region. This land is on U.S. soil and the resource profits are to remain in U.S. accounts.

One forceful incident at the Leech Lake post occurred when Pike asked the British trader Hugh Mc Gillis to lower the British flag. Mc Gillis refused and Pike subsequently ordered one of his soldiers to shoot the pin out that fastened the flag to the pole and replace it with a U.S. flag. With this task done, Pike proceeded on to Cass Lake, where Pike then incorrectly proclaimed Cass Lake as the source of the Mississippi River.

With his mission accomplished, he developed a plan to return to his stockade near Little Falls. Pike decided on taking a shorter overland route from Leech Lake to the Mississippi River. This overland course brought him directly to and across the Whitefish Chain of Lakes.

Feb. 22, 1806

“Our course a little to the S. of E., through woods not very thick. Arrived at White Fish Lake at eleven o’clock, and took an observation [46 –32’ 32”]. My party crossed this lake and encamped between two lakes. This may be called the source of Pine River. At this place has been one of the N.W. Company’s establishments at the N. E. and S. side. It was a square stockade of about 50 feet, but at this time nearly all consumed by fire. Also one standing over the point on the E. side.”

Feb. 23, 1806

“My two Indians, Boley, and myself, with sleigh and dogs, left the party under an idea that we should make [Lower] Red Cedar Lake. We marched hard all day, without arriving at the Mississippi. Our course was nearly due east until night, when we changed more south. Took no provision or bedding. My Indians killed 15 partridges, some nearly black, with a red mark over their eyes, called the savannah partridge. Overtaken about noon by two of Mr. Anderson’s men, named Brurie and [Blank], Mr. Anderson himself not being able to come. Distance 30 miles.”

The march was hard on Pike. He described, “The pressure of my racquet strings brought the blood through my socks and mockinsons, from which the pain I marched in may be imagined.” Nevertheless, Pike reached the Cedar Lake Post one last time before proceeding back down from whence he came.

Feb. 28, 1806

Pike departed the company of Grant. About Grant, he wrote, “For I conceive him to be a gentleman of as much candor as any with whom I made acquaintance in this quarter.”

April 30, 1806

Pike’s expedition returned to St. Louis, after having traveled nearly 5,000 miles.

Pike, continued Page 14

Pike, continued from Page 13

The results of the expedition has not tremendously impressed most historians; but in his frontier classroom, it gives us glimpses of military values, sense of duty and the fulfillment of ones higher orders. Pike saw and verified knowledge previously rumored, his written travel accounts surely assisted the future immigration movements and helped direct growth patterns in this country.

Again, in Pike’s own words, from a letter to Wilkinson:

“I have at length finished my reports, observations and journals which arose from my late voyage to the source of the Mississippi, and hope they may prove interesting from the information on different subjects which they contain.

I do not possess the qualifications of the naturalist and even had they been mine, it would have been impossible to gratify them to any great extent, as we passed with rapidity over the country we

surveyed, which was covered with snow six months out of the nine I was absent. And indeed, my thoughts were too much engrossed in making provision for the exigencies of the morrow to attempt a science, which requires time and a placidity of mind, which seldom fell to my lot.

The journal in itself will have little to strike the imagination, being a dull detail of our daily march. The daily occurrences written at night, frequently by firelight, when extremely fatigued, and the cold so severe as to freeze the ink in my pen, of course have little claim to elegance of expression or style; but they have truth to recommend them, which, if always attended to, would strip the pages of many journalists of their most interesting occurrences.”

With great respect,

Your obedient servant,

Z.M. Pike,

Lt. 1st Regt. Infty.

Meteorological Observations, made by Lieutenant Pike in his voyage up the Mississippi river, in the years 1805 and 1806.

Time of observ.	Thermometer.				Wet.	Wind.		Latitude.	Longitude.	Variation.	Direction.	Remarks.
	days.	max.	min.	mean.		Course.	Force.					
1	10	4	14	14	Clear	-	at 47 30 W	-	-	-	-	Leach Lake.
2	10	4	14	14	do.	-	-	-	-	-	-	
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Online facsimile edition at <<http://www.americanjourneys.org/aj-143/>>. Accessed April 2005, Wisconsin Historical Society, digital image AJ-143-0121*

The table above presents “Meteorological Observations, Made by Lieutenant Pike in His Voyage up the Mississippi River, in the Years 1805 and 1806,” in February. Note “Leech Lake” and “White Fish Lake,” right column.

*Citation: “Pike, Zebulon Montgomery. An Account of Expeditions to the Sources of the Mississippi, and through the Western Parts of Louisiana, to the Sources of the Arkansaw, Kans, La Platte, and Pierre Jaun, Rivers; Performed by Order of the Government of the United States during the Years 1805, 1806, and 1807, and a Tour through the Interior Parts of New Spain, when Conducted through These Provinces, by Order of the Captain-General, in the Year 1807. By Major Z.M. Pike. Illustrated by Maps and Charts. (Philadelphia: Published by C. & A. Conrad, & Co.; Somervell & Conrad; Bonsal, Conrad, & Co.; and Fielding Lucas, Jr., 1810).” © Copyright 2003, Wisconsin Historical Society, Madison, Wis.

Life on the Mississippi River, Illinois Waterway shapes Corps' program

Managing regionally weighs economic uses and ecological integrity

By Peter Verstegen

Editor's note: This is the second of three articles illustrating regional management of projects, programs and communities of practice. The Corps' Navigation and Environmental Sustainability Program offers lessons in how regional management works across commercial, agency, geographic and political boundaries to achieve economic and environmental sustainability of the Upper Mississippi River system.

"The most exciting thing about working on NESP is that the people involved in it are excited about doing a great job on the river," said Rebecca Soileau. Soileau, a geologist by profession, made this observation as a team leader for institutional arrangements. She works out of the St. Paul District.

NESP is the Corps' Navigation and Environmental Sustainability Program, which encompasses the recommendations contained in the Corps' navigation feasibility report on navigation and ecosystem improvements for the Upper Mississippi River-Illinois Waterway system. While not yet authorized for construction, pre-construction engineering and design on NESP is proceeding under the study authority.

The program's scope includes



U.S. Army Corps of Engineers graphic

The Navigation and Environmental Sustainability Program study region encompasses five states, 37 lock sites, 1,200 miles of river with locks and dams constructed 1930-45.

five states and hundreds of stakeholders on the upper river basin.

The navigable waterway flows through Minnesota, Wisconsin, Iowa, Missouri and Illinois. The nine-foot navigation channel ends at mile 857.6 in Minneapolis. The channel begins at river mile zero near Cairo, Ill., at the confluence

of the Ohio River. The Illinois Waterway stretches from Grafton, Ill., on the Mississippi River, to the Thomas J. O'Brien Lock in Chicago.

The upper river navigation system was largely constructed in the 1930s. The system was aging when the Corps initiated a

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navigation feasibility study to examine ways to improve it. The chief of engineers signed his report endorsing recommendations in the feasibility report on Dec. 15, 2004. Congress, acting on recommendations in the feasibility report, appropriated funds for fiscal year 2005 to start pre-construction engineering and design for NESP.

Dual-purpose program

NESP is an integrated dual-purpose program with a 50-year framework. It's designed to ensure economic and environmental sustainability of the Upper Mississippi River system through implementation of navigation efficiency improvements and environmental sustainability. In addition, it adds ecosystem restoration as an authorized purpose of the 9-Foot Channel Project. Ecosystem restoration under NESP will build from the successes of the Environmental Management Program. Congress passed legislation authorizing the EMP in 1986. The EMP initiated system-wide regional management program for the river, managed out of the Corps' Rock Island District. (See "EMP partnership works regionally to achieve program and project goals," *Crosscurrents*, February 2005.)

The program's dual purpose and magnitude are the challenge.

"NESP differs in scope and effort from the usual Corps' program," said Richard Worthington, senior policy advisor at Corps' Headquarters. "For one, it's a huge study area with some 1,200 miles of river and 37 locks, 29 on the Upper Mississippi alone.



Photo by Claudia Emken, The Nature Conservancy

The man pointing is Doug Blodgett, floodplain director for the Upper Mississippi River Program of The Nature Conservancy. At the time of the photo, Blodgett was TNC's Illinois River projects director. TNC hosted U.S. Senate staff, Corps of Engineers, Fish and Wildlife and Illinois Department of Natural Resources at Spunky Bottoms Preserve, near Meredosia, Ill., April 2004. Spunky is a floodplain restoration site. The trip gave committee staff a first-hand view of wetland restoration, the need for floodplain and backwater reconnection to the river and how they fit into the bigger efforts on the Illinois River and the Upper Mississippi River. "It definitely was tied to the navigation study/NESP," said Claudia Emken, director of government relations for The Nature Conservancy, Illinois Chapter. "After the Spunky tour, they all went down to the Alton, Ill., area and did a barge trip the next day with MARC 2000, so they got both sides of the issue – ecosystem and navigation." MARC 2000 is Midwest Area River Coalition, based in St. Louis, Mo.

Second is the scale and level of vertical and horizontal integration. It's a true collaborative effort involving a river management council, a federal principals group, river management teams, non-governmental organizations, the Upper Mississippi River Basin Association, representatives from a variety of federal agencies and five states."

Lessons learned

The vast area includes floodplain habitats critically important to large river floodplain ecosystems. The total acreage of the river-floodplain system exceeds 2.5 million acres of aquatic wetland, forest, grassland and agricultural habitats. The Mississippi flyway is used by more than 40 percent of the migratory waterfowl traversing

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the U.S.

NESP incorporates “lessons learned” from the Navigation Feasibility Study. “One lesson-learned was restructuring the navigation study in August 2001 to include ecosystem restoration and environmental sustainability,” said Worthington. Another lesson was to incorporate a high degree of vertical integration in program management. “From district to division to headquarters, communications occurs in a coordinated effort and not sequentially,” he said.



St. Paul District photo

Dan McGuinness (left), director of the Upper Mississippi River campaign for the national Audubon Society, confers with Kevin Bluhm, Corps’ public involvement team leader for NESP. They were at a Corps’ sponsored public meeting in La Crosse, Wis., in 2003. “Audubon is actively supporting the ecosystem restoration recommendations of the Corps, and it supports the Corps having dual-purpose management for both ecosystem restoration and navigation,” said McGuinness. He is based in Minnesota. Bluhm works out of the St. Paul District.

Regional skills honed with EMP, navigation study

“St. Paul, Rock Island and St. Louis districts had been working under the regional business concept long before we ever heard of 2012 or regional business centers,” said Greg Ruff, program manager at Corps’ Mississippi Valley Division Headquarters. “The regional management skills that have been honed with EMP, the Navigation Study and other regional initiatives such as the Floodplain Management Assessment, the Flow Frequency Study and the Comprehensive Plan for Flood Damage Reduction are allowing a smooth transition into preconstruction engineering and design phase of NESP.

Added Ruff, “Without that regional management experience, we would be at a great disadvantage facing the execution challenges that a program the size of NESP brings.”

NESP is managed up, down and sideways – a regional management matrix – with an integrated approach to engage the passion of the many stakeholders who have an interest or livelihood in the massive ecosystems. The program invites practically everyone who has an interest in navigation and ecosystems to participate.

Matrix management

“This is matrix management,” said Jeff DeZellar, who oversees project activities on NESP within the St. Paul District. Separately, he is team leader and project manager for eight other projects. He started with the navigation study in 2001 and joined NESP in 2005. “There’s a lot of coordination vertically with the district, with Mississippi Valley



Photo by Alan Dooley, St. Louis District

Paul Rohde, president of MARC 2000, speaks at a public involvement meeting in St. Louis, Mo.

Division and headquarters.” In coordination among districts – lateral management – DeZellar and his team must be sensitive to differences in cultures, procedures and organizational structure. “Rock Island has a Plan Formulation Branch. St. Paul is organized differently in that area,” said DeZellar. Public involvement receives great emphasis across all participating districts.

NESP applies the “learning organization” value into program management through adaptive management and P2, a suite of software applications used to manage projects.

“I want to just briefly explain what is meant by the terms of adaptive management and integrated management,” said

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U.S. Geological Survey photo by Mary Craig, Rock Island District

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Chuck Spitzack, regional project manager for NESP. Spitzack manages the program out of two Corps' districts, Rock Island and St. Paul. Spitzack became the manager in 2004, with marching orders to continue development of a system perspective as a complement to district perspectives. NESP borrowed many lessons from the successes of the EMP, a collaborative effort among many agencies.

Science and adaptive management come together

“Adaptive management is the process of refining decisions and projects and products through monitoring and performance evaluation of actions,” said Spitzack. “It allows and encourages actions which have a risk of failure and uncertain results, because with adequate monitoring and project evaluation, there will be an improvement in management knowledge. Adaptive management has a feedback loop that assesses how well the overall adaptive management process is working.

“Adaptive management is applicable at the project and system levels. We need research and monitoring on the systemic processes – sedimentation, for instance – to assess how well management efforts are achieving ecosystem objectives, as well as how individual management actions achieve localized objectives.”

The photo at left was taken at about rive mile 564, looking downstream. The complete photo is on the cover of the Upper Mississippi River Navigation Charts.

Gretchen Benjamin, the Mississippi River team leader for the Wisconsin Department of Natural Resources, La Crosse, Wis., said, “Science and adaptive management come together in NESP within institutional arrangements. Using science to adaptively change EMP projects over the years has been a basic building block,” said Benjamin. “The NESP process will formalize this work. My experience in working with the Corps has been very positive,” she continued, citing projects that incorporate collaboration and science-driven adaptive management.

“Initially, the St. Paul District and the natural resource agencies worked on dredging and disposal issues on the river,” said Benjamin. “That large issue was resolved, and we were able to work on other issues like the drawdown of Pool 8 and the potential drawdown of Pool 5 this summer, siting mooring cells at the locks and dams and altering channel structures for environmental benefit. While I understand the differences in the river morphology from north to south, it is my hope that any new NESP management arrangements would allow this type of positive work to be conducted in all the Corps' districts.”

P2 works across districts

P2, though still in its infancy, is becoming an effective tool for managing regional programs like NESP. P2 supports NESP at both the project and system level – across district and division boundaries. P2 allows managers to identify the details of specific activities and projects. “One of the

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benefits of P2 is cross charging labor codes, which allow for more accurate and timely financial tracking and reporting of labor resources when compared to the traditional MIPR approach,” said Scott Whitney, assistant regional project manager for NESP in Rock Island District.

P2 is designed to make regional management more efficient and effective by allowing for better tracking and reporting of the project’s financial resources (e.g. labor, contracts, travel, etc.) and execution. “P2 provides project managers and team members the ability to comprehensively track program and project specific obligations and expenditures even though most NESP project teams are comprised of members from different districts and even different divisions,” said Whitney.

“An important metric that management is interested in applying P2, is in the calculation of ‘earned value,’ which integrates cost, schedule and technical performance for specific project tasks or products. As a learning organization, we hope such metrics can help make our PDTs [project delivery teams] and product delivery process more efficient and effective,” said Whitney.

Value engineering applied early in plan formulation

Alongside P2, NESP adaptive management incorporates value engineering as a cost-savings tool. “In contrast to the traditional emphasis on seeking cost reductions, VE’s unique function analysis methodology is now used as a tool in the early stages of product planning to develop

- 1,200 miles of river
- 37 lock sites
- Constructed 1930-1945
- 2.5 million acres of aquatic wetland
- Flyway for 40 percent of the nation’s migratory waterfowl

approaches that achieve the highest level of sustainable quality,” said Gene Degenhardt, St. Louis District value engineer. “The technique has proven invaluable in the early identification of issues, problems and needs, and serves as a successful consensus-building forum to get teams off to a jump-start by achieving a ‘fast focus’ on what needs to be done.”

A science panel, composed of members inside and outside the Corps, supplies advanced scientific understanding through a feedback loop so important to adaptive management. “The science panel

is one component of the institutional arrangement concept that is being developed,” said Soileau. Scientists from the Corps, the U.S. Geological Survey, the Fish and Wildlife Service, many universities and the state natural resource agencies provide guidance for the adaptive management. “The institutional arrangements provide an opportunity for various groups to learn from one another and to coordinate management actions,” said Spitzack.

Nature Conservancy works on sustainable ecosystem

The Nature Conservancy is a participating stakeholder in NESP. “The Conservancy has been very involved in NESP through the Navigation Environmental Coordinating Committee for almost three years,” said Catherine McCalvin, an ecologist and assistant program director on the Upper Mississippi Program with

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U.S. Geological Survey photo by Mary Craig, Rock Island District

Above is the La Grange Lock and Dam on the Illinois Waterway. The lock is one of two on the waterway that MARC 2000 recommended be expanded to have a 1,200-foot long chamber.

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The Nature Conservancy. She's based in Trempealeau, Wis. "We are very excited about working with the Corps and others during implementation of NESP. The Conservancy supports the goal in NESP for achieving sustainable river ecosystem and hopes to build on this aspect of NESP.

"The Conservancy is also excited to work with the Corps and the science panel in exploring how to adaptively manage such a large and complex river," she continued. "The Conservancy has its own process, 'Conservation by Design,' for identifying conservation strategies and measuring success. Adaptive management is integral to this process. We are applying 'Conservation by Design' to the Upper Mississippi River System and want our results to integrate with the NESP as much as possible."

Said Spitzack, "Integrated river basin management is the process of managing water and related resources across purposes with the goal of maximizing economic and social benefits in an equitable manner, while preserving and restoring freshwater ecosystems. We are presenting integrated river management as the process of managing multiple programs of multiple entities in a balanced manner toward achievement of system goals and objectives."

MARC 2000

The navigation study feasibility report addressed navigation efficiency and ecosystem restoration. MARC 2000 or the Midwest Area River Coalition, is a St. Louis-based industry association and one of many

"Adaptive management is applicable at the project and system levels."

groups which have a passionate interest on how the river is managed.

MARC 2000 represents a coalition of agricultural, industrial, shipping, environmental and government interests, carriers and labor unions to promote Midwest economic growth by responsibly developing and improving the Upper Mississippi and Illinois River Systems.

"In 2001, the Corps of Engineers proposed restructuring the navigation study into a more comprehensive review of both navigation and ecosystem needs," said Paul Rohde, president.

"MARC 2000 not only supported this approach, but agreed to participate as a full partner in this collaborative process with other federal and state agencies and private nongovernmental groups," said Rohde. "We do not honestly know whether the recommendations, a compilation of known types of projects that have been effective locally, will produce system-wide results suggested ... Working collaboratively, industry, federal and state biologists have produced tangible benefits to the ecosystem while maintaining both commercial and recreational benefits. Many, if not all, of the projects envisioned in the recommended plan build on this type of approach."

Adaptive and integrated regional management is designed to address the tension of these sometimes-dueling uses –

commercial navigation and the ecosystem restoration.

Districts share 'lessons learned'

In managing regionally, St. Louis, Rock Island and St. Paul collaborate with a lessons learned database. "Although the planning and design for the numerous NESP projects will be undertaken within a virtual context across the Corps' three Upper Mississippi River districts, the ideas will be collaboratively shared via a network-based 'lessons learned database,'" said Degenhardt. "This database will insure the maximization of navigation efficiencies and ecosystem restoration measures."

"Recommendations in the Navigation Feasibility Report called for integrating implementation of the recommended plan with existing programs of the Corps and the Fish and Wildlife Service," said Spitzack.

"The study also called for implementation of the framework plan for navigation efficiency and ecosystem restoration through science-based adaptive management," he continued. "Existing institutions were created around specific initiatives and programs. Although they have adjusted over time to accommodate integrated and adaptive management, more is needed. Under NESP we are exploring modification of institutional arrangements to more efficiently and effectively support integrated, adaptive management."

U.S. Geological Survey photo of Mississippi River by Mary Craig, Rock Island District

News and Notes

Mississippi Valley Division and Sand County Foundation to work together to protect natural resources of Mississippi Valley

The Mississippi Valley Division and the Sand County Foundation, Inc., based in Madison, Wis., signed a memorandum of understanding March 23 to work in partnership at effectively managing one of the nation's most important environmental resources, the Mississippi River Valley, from its headwaters to its delta, as well as its major tributaries.

By signing this document, the two organizations agreed to share information and expertise in exploring potential restoration and water-management projects, to work together to monitor and assess the success of any joint projects and to promote a broader public understanding of water level management tools used for resource sustainability. Additionally, the Corps' districts of the Mississippi Valley Division will now consider environmental sustainability concepts suggested by the Sand County Foundation for all of its projects.

The Sand County Foundation is a private, nonprofit organization dedicated to working with private landholders to improve natural



Photo by Perry Gamble

Left to right: Brig. Gen. Robert Crear, commander of the Mississippi Valley Division, Dr. Brent Haglund, Sand County Foundation president; and Col. Mike Pfenning, St. Paul District commander.

habitats on their land. It assists landowners, private and communal, with monitoring and management of hundreds of thousands of acres of land in several countries. Its mission is to advance the use of ethical and scientifically sound land management practices and partnerships for the benefit of people and the ecological landscape.

Announcements

Bill Csajko, project management, will serve as acting chief, project management branch, for one year, effective April 17.

Craig Evans, project management, will serve as the district's senior planner, effective in July.

Roland Hamborg, project management, was officially selected in March to serve as the manager of the Planning Assistance to States, Environmental Infrastructures and

Flood Plain Management projects.

Joe Mose, project management, was selected as the Continuing Authorities Program manager in March.

Russ Snyder, project management, will serve as acting chief, project management and development branch, for one year, effective April 17.

DeLisa L. Kviz was selected as the new St. Paul District finance and accounting officer. She has been serving the district as a systems accountant and Corps of Engineers Financial Management System data manager in the finance and accounting branch since April 1999.

Newcomers

Jamie Gibbons, Lock and Dam 4, Alma, Wis.

Chris Laidlaw, student hire in regulatory.

Retirements

Lloyd Dosh, physical support, effective Feb. 7, with 19 years federal service.

Dennis Holme, hydraulics and hydrology, effective March 3, with 32 years federal service.

Marilyn Kruchten, project management, effective April 1, with 35 years federal service.

Ted Petersen, hydraulics and hydrology, effective March 3, with 31 years federal service.

Perry Tobin, construction management in western area

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office, effective March 3, with 25 years federal service.

Elmer Yeoman, Lock and Dam 9, effective Feb. 28, with 22 years federal service.

Taps

John Dammon, retired St. Paul District employee at Lock and Dam 8, Genoa, Wis., passed away April 5.

Judy M. (Heutmaker) Mickelson, former St. Paul District employee in the personnel office from 1970 to the early 1980s, passed away March 31. She was retired after 35 years of federal service.

Robert Serene, retired St. Paul District employee at Lock and Dam 4, Alma, passed away April 21.

Corps' retiree speaks to local writers' group

Local historian **Rose Marie Braatz**, a retiree from the old

construction operations division, now operations, talked about genealogy and family at a gathering of The Polk County Penners' spring conference for writers April 30, at the Oakwood Inn, Luck, Wis.

Eight selected for Leadership Development Program

The Leadership Development Program will have eight participants for the class of 2006.

- They are:
- Shannon Bauer, public affairs office;
 - Aaron Buesing, engineering and construction;
 - Rebecca Gruber, operations, (Waukesha, Wis.);
 - Warren LaPlante, safety office;
 - Tom Novak, project management;

Natalie Siok, engineering and construction, Winona, Minn.;
Bart Spriggle, operations, Dredge William A. Thompson, Fountain, City, Wis.; and
Annette Vogel, engineering and construction.

The program is an 18- to 24-month long, multifaceted leadership and development program.

The program's primary purpose is to identify and develop a diverse pool of high potential leaders. This is accomplished in part through an evaluation and analysis of one's leadership style, guided preparation of an individual development plan, attendance at various district meetings, participation on team projects, a mentoring relationship with a senior manager and developmental assignments in other offices. The program is intended to be as flexible as possible, in order to allow for the dynamic nature of both organizational and employee needs and goals.

Jan Pream honored as February Employee of the Month



Photo by Jon Lyman

Col. Mike Pfenning, district commander, recognized Jan Pream, operations division, as February Employee of the Month.

The Awards Committee selected **Jan Pream**, operations division, as the February 2005 Employee of the Month. Dave Christenson and Shelly Shafer, readiness branch, nominated Pream.

Pream conducted outstanding support in deploying the nearly 60 personnel to hurricanes Charley, Frances, Ivan and Jeanne recovery efforts. Christenson wrote, "She went beyond the expected performance to ensure all personnel had travel orders, flight reservations and labor codes established. Her dedication resulted in improved morale for those deploying for the emergency operations. They were confident that all the paperwork was right; and they would have no problems with administration, timekeeping or travel."

Added Shafer, "She has been instrumental in the deployment of our hurricane responders. We simply would not have gotten through this without her dedicated service,"