

CORPS' PONDENT



US Army Corps
of Engineers
Portland District

Vol. 32, No. 1 January-February 2008

INSIDE THIS ISSUE:

- 4 Protecting residents,
building trust and
saving trees
- 6 Rangers make an
impact on students in
Willamette Valley
- 8 Wetland mitigation
banking
- 10 Managing sediment
at Mount St. Helens

Mitigation banker Ray Fiori, right, shows Portland District Regulatory employees seeds from some of the grasses growing at the Mid-Valley Mitigation Bank. Any construction that will impact wetlands must plan for mitigation; banks are becoming a successful means to safeguard the environment.





Before we turn to face the challenges of 2008, I'd like to take a moment and review the accomplishments the Portland District achieved in 2007. Along with an impressive list of deployed District employees, we completed the interim repairs to the jetties at the mouth of the Columbia River in September, completed the Environmental Assessment for the Willamette Valley biological opinion, and we executed more than 100 percent of our obligations in O&M and construction general at our projects.



Col. Thomas O'Donovan

One of the metrics by which Congress judges our performance is: did we do what we said we would with our financial obligations? The best way to think of this is in terms of benefits – if we execute the obligations efficiently, the nation will see the benefits of projects we complete more quickly. By completing a project like the MCR jetties, the benefits can be seen in savings to commercial shipping. If the jetties had breached, sand and silt could have clogged the shipping lane, causing delays in moving products to and from Portland. Completing the draft Willamette Valley Environmental Assessment means the National Marine Fisheries Service can finalize its Biological Opinion, which addresses operations by the Corps, BLM and the Bureau of Reclamation in the Willamette Valley and any environmental impacts – and how to mitigate for them – resulting from our work in the valley.

The District is facing some challenges in 2008 that will test us, but I am confident we will succeed. After the fire at Detroit Dam, District staff is working to get the first unit in the powerhouse running by late February and the entire facility back on line by late 2008. The biggest challenge we face is getting some critical electrical equipment manufactured in time. In May we will change the way the Corps manages its IT resources when the ACE-IT changeover occurs. In addition to learning new processes for requesting IT support, the District will receive new computers after the

changeover, which may take folks some time to adjust to.

Our efforts often mean adjustments for those affected by our actions, and no one group has seen change more than the residents at Celilo Village. For them, the success of breaking ground and beginning construction gives way to the waiting for the new permanent homes to be completed. A significant challenge this year is to continue construction with a decreased budget, but more importantly, it is to complete the project as quickly as possible, as to allow the

residents to get back into their homes and end the inconveniences they've faced for the past year.

Finally, we've already had to say good-bye to some good friends this year: Marty Siegel, from the Willamette Valley Project, was tragically killed on Jan. 6, and Howard Jones, the District's chief of Engineering and Construction, succumbed to cancer Jan. 13. Our hearts are with their families and we are doing everything possible for them. Howard's wife, Brenda, who works in the Office of Counsel, wants to thank everyone for their kind words and thoughts.

Essayons!

CORPS' PONDENT is an unofficial offset publication authorized under provisions of AR 360-1, published monthly by the Public Affairs Office of the Portland District, U.S. Army Corps of Engineers. Circulation 2000. The Corps' pondent is circulated to District employees, retirees, and persons who request it in writing. The views and opinions expressed herein are not necessarily those of the Army.

Contributions, on computer disc or as hard copy, are welcome. If you have news tips or suggestions for articles, call (503) 808-4510, or forward them address them to the following address:

Editor, Corps' pondent
Portland District
U.S. Army Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208-2946
Email: CENWP-PA@usace.army.mil
All manuscripts are subject to editing prior to publication.

Commander
Col. Thomas O'Donovan
Acting Chief, Public Affairs
Amy Echols
Editor
Diana Fredlund

Check out the Corps' pondent online at:
<https://www.nwp.usace.army.mil/pa/cp/home.asp>

Publication Services are provided by Carol Hastings CENWP-IM-RV.
The Corps' pondent is printed on recycled paper.

Portland District says good-bye to Howard Jones, EC chief

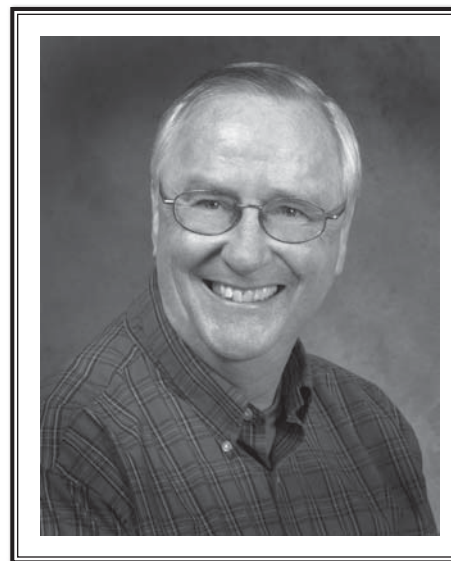


Colleagues were saddened to learn that Howard Jones, Portland District's chief of Engineering and Construction Division, died Jan. 13. Jones had been battling cancer for more than six months. He was 62.

Jones had more than 40 years of federal service. In 1967 he was appointed as an engineering aide for the Department of Agriculture. Between 1968 and 1971, Jones proudly served in the United States Army as a medical science officer. He earned a Bachelor of Science and a Master of Science degree in Civil Engineering from the University of New Mexico; he was a registered professional engineer since 1973.

After beginning his Corps career in Hawaii, Jones moved to Camp Zama, Japan and later became the deputy area engineer for the Nuremburg Area Office, Germany, in 1984. As deputy, he supervised the renovations and new construction for quality of life projects for the military community, including family housing, schools and commissaries. Jones moved his family to the Portland area in 1987 when he became the District's resident engineer for the new navigation lock being constructed at Bonneville. During the six-year, \$360 million project, Jones led a team of about 40 engineers, contracting and quality assurance employees. Work included relocating the railroad, excavating the hole and building the new navigation lock.

In 1990 Jones moved to the District office as the chief of Construction Division and later became chief of the newly combined Engineering and Construction Division in 1998. As chief, some of his accomplishments included leading efforts to gain ISO certification for the District, which certifies operations are managed to industry standards; managing the increased workload generated by BPA's direct-funded hydropower capital program,



which created rehabilitation projects at the District's dams; and completing repairs at Fern Ridge Dam after inspections showed the facility was in danger of failing. Although his hands-on efforts were limited as Engineering and Construction chief, friends remember how much he loved the technical challenges and the field work aspects of his job.

While colleagues knew about his interest in all things engineering, Jones was also a swimming enthusiast. He

became interested in the sport when his children were with local swim clubs, but after they took their last laps and moved on to college and other interests, Jones remained at the pool. He was president of the Mount Hood swim club booster organization and a member of the club's executive board. He became a referee for Oregon Swimming, Inc., the local chapter of United States Swimming. As one of the top officials for OSI, Jones was always ready to help find timing officials and referees to officiate and sanction swim meets, whether they were local or championship events.

Jones loved the water, as well as the fish swimming in it. He was an avid fisherman and chartered fishing trips throughout Oregon's coastal streams. Many peaceful hours were spent at his favorite fishing hole.

In addition to his family, Howard Jones had another love in his life: his cherry-red Corvette. When asked about his car, his smile would light the room as brightly as headlights in the dark.

Jones is survived by his wife, Brenda, who works in the District's Office of Counsel; his daughter, Kim Bailey; his son, Chris and his sister, Elizabeth Petree. Remembrances in Howard Jones' name may be made to the Northwest Steelheaders Association, P.O. Box 22065, Milwaukie, OR 97269.



Protecting residents, building trust and saving trees

Levee inspections can cause relief, but some residents disagree with findings

By Amy Echols, Public Affairs Office

The dramatic wake-up call that hurricanes Katrina and Rita gave the U.S. Army Corps of Engineers spurred urgency in the country's flood management agencies to inspect levees and fix problems. New projects to further reduce flood damage and better protect life and property are literally underway all around us.

Portland District's Geotechnical, Civil and Environmental Design section is reviewing 188 miles of federal and non-federal levees in Oregon and Southwest Washington. With the right inspections, certifications, documentation and corrective actions, more than 55,000 acres of property can be better protected from floods. If problems are found but go uncorrected by a levee's owner, people and property behind the levee are not only more vulnerable to physical devastation, they may not be eligible for federal assistance following a flood.

Correcting these deficiencies might seem to be a welcome activity for areas with an increased risk from flooding. But as the Portland District and a Multnomah County drainage district found out last year, these efforts are not always without conflict.

In a small, residential neighborhood in Northeast Portland is a levee that was built in the 1920s from sand and silt. Bridgeton neighborhood homes and small shops located on the levee offer views of the Columbia River and Cascade mountain peaks. Trees crown the slopes and provide shade and a bit of green for this neighborhood.

During inspections of the Bridgeton levee in 2007, a team of District engineers determined that about 50 trees along 10 blocks of the Bridgeton levee presented an increased risk to public safety and were not in compliance with Corps' levee



The Bridgeton levee on the Columbia River is threatened by large trees and vegetation.

safety standards. Jerry Christensen, the team's chief, explained to Bridgeton area residents that intrusive elements (such as the trees) that were not part of the original levee design can compromise the structural integrity of the levee and increase its chances of failure. Residents were adamant that their trees were too important to their quality of life to be removed.

The fate of these trees rested with the Multnomah County drainage district that owns and operates the levee. Any corrective action would be the responsibility of the drainage district, which designed a plan to remove the 56 trees identified by the Corps and another 80 from the levee crown, its slopes and overbuilt areas around the levee. Drainage district officials believed that removing these additional trees might further reduce the risk of levee failure in the near term; in the long term, it would simplify the drainage district's inspection and maintenance activities and reduce the potential for erosion and other problems.

Crews marked the trees destined for cutting with orange tape. Reaction to the large-scale tree removal

plans was swift: Bridgeton residents had grown fond of the trees on the levee. Protest efforts around the neighborhood quickly developed. The drainage district received letters, media inquiries and threats regarding the trees' removal.

A wide range of factual and subjective information about the value or risks of vegetation on levees spread rapidly via e-mail around the neighborhood; elected officials heard from constituents on both sides of the issue.

Over the course of several weeks, representatives from the drainage district and the Corps met with residents to discuss the situation and possible consequences of the drainage district's decision to remove some or all of the trees.

Heated discussions about science, engineering and updated (or outdated) vegetation standards absorbed the neighborhood and the drainage district staff for weeks. Lines blurred between recommendations regarding which trees would be cut for certification purposes and which addressed long-term maintenance and other issues. The neighborhood association hired an attorney and sponsored a visit from a scientist who inspected the levee and defended the trees as critical its structural integrity.

The neighborhood was emotionally charged by the prospect of losing so many of their trees, Christensen said. "It was not particularly receptive to understanding the value of complying with the Corps' levee inspection program," he said.

"This certification would, in simplified terms, allow property owners to insure their property against flood damage and qualify for federal assistance in the case of a catastrophic event," Christensen added. Although the Corps team explained national standards and certification the drainage district was seeking for this levee, residents insisted that their trees should stay.

Recognizing that their constituency behind the levee included more than just the Bridgeton neighborhood, the drainage district decided to prioritize the removal of the trees.

On Sept. 19, a row of 12 established, tall birch trees, with roots deep into the levee's critical core, were felled by chainsaws.

A court-ordered halt to tree removal later that day quieted the neighborhood. During the following months, representatives from the drainage district, the neighborhood association, the City of Portland and the Corps met to resolve the situation.

Of the original 126 trees, 56 need to be removed to comply with Corps levee certification. The drainage district will maintain the remaining trees to reduce the potential for being uprooted by wind, keep their roots out of the critical sections of the levee, and reduce their potential to hinder flood-fighting activities and future levee inspections.

The job of managing, inspecting and certifying levees will continue to balance the needs of the drainage district and the desires of residents who want to live near rivers. Levees and levee easements may often conflict neighborhood values and landscaping efforts, but building relationships with all stakeholders is as important as building strong levees. The Corps will be working to stabilize relationships as well as levees for many years throughout the Portland District. ☐



Trees growing near homes built directly on the levee were listed for removal.



FROM THE FIELD

Corps of Engineers Photos



Rangers make an impact on students in Willamette Valley

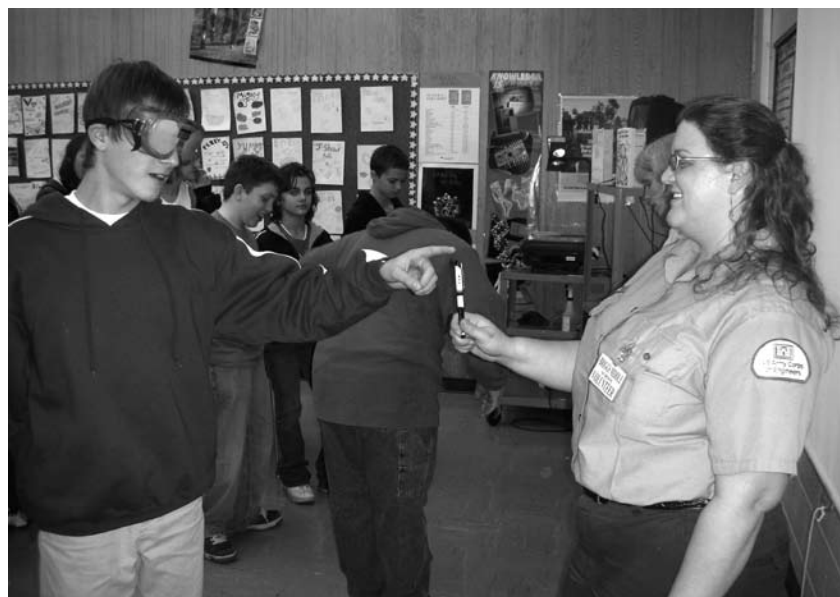
By Christie Johnson, Willamette Valley Project

The U.S. Army Corps of Engineers park ranger introduced a story by showing a photo of a speedboat crashed high up on the rip-rap of Fall Creek Dam. After viewing the photo, the audience of middle school students immediately wanted to know how such an accident could happen.

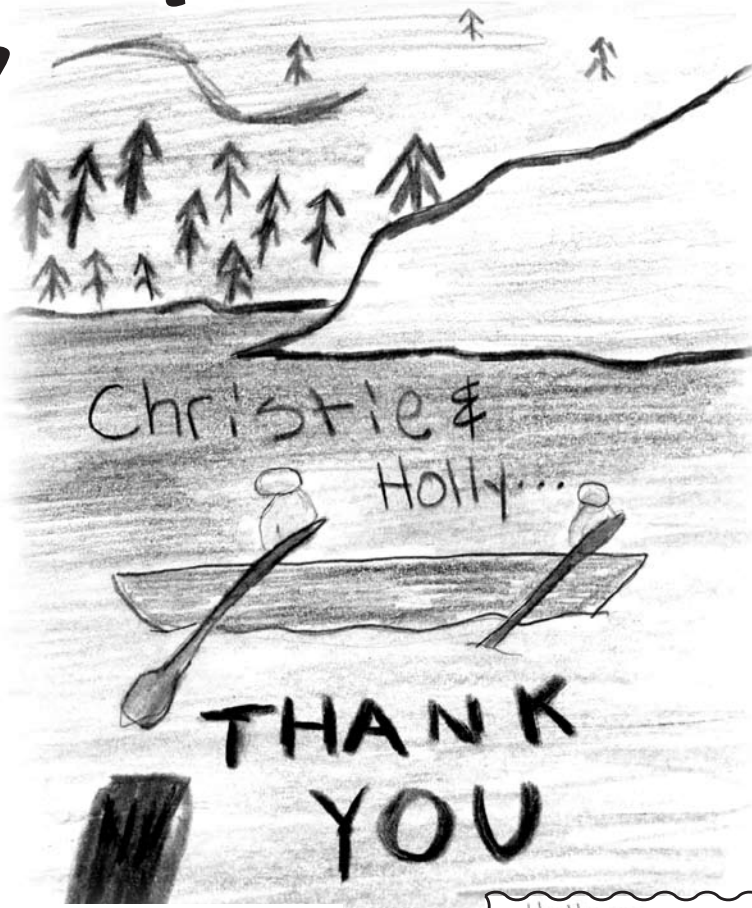
The ranger explained that the boat driver had been drinking alcohol, speeding and towing a water skier across the lake using only the light of the moon for navigation. He didn't see the dam until it was too late and all of the people involved in the crash were severely injured. This tragic story helped demonstrate how drinking alcohol impairs people's judgment, causing them to take risks on the water that they wouldn't take if they were sober.

Using a real-life story is a new technique that the Willamette Valley Project park rangers have introduced into their "Water and Alcohol Don't Mix" middle school outreach program. In the past, the rangers relied only on Fatal Vision Goggles® to teach the dangers of boating under the influence of alcohol. The goggles are a standard technique used by Corps park rangers and DARE officers in school outreach programs.

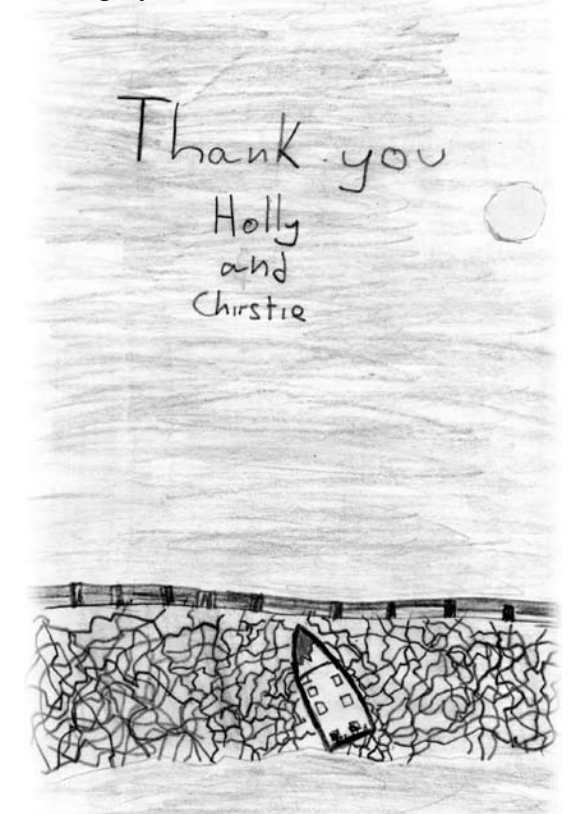
By simulating being under the influence of alcohol, the goggles impair a person's vision, balance, coordination, and reaction time. While wearing the goggles, student volunteers are put through a series of activities that demonstrate how having these basic body functions impaired makes



Corps of Engineers Photo




Holly
Thank you for coming to our class and teaching us about the dangers of drinking alcohol and boating. I learned that the affect of alcohol can take place almost immediately after drinking it. I also learned that 500 people die each year from alcohol caused boating accidents. I thought the drunk vision goggles were very interesting because they showed what would happen to your vision after drinking a large amount of alcohol. I hope you keep coming to schools and teaching people about alcohol/boating safety. Thanks again!
-Lesha



normally simple tasks much more difficult. The effect is often humorous and the students enjoy laughing at each other and themselves.

By the end of the program, each student has had an opportunity to put on the goggles and experienced "testing" their sobriety. Fatal Vision Goggles are an effective and memorable teaching method, but the goggles can't completely demonstrate how alcohol actually impairs students and people's judgment. The addition of the Fall Creek Lake story made the lesson complete.

If the Willamette Valley rangers ever question the impact their new program has on their pre-teen audiences, they need only look through the many thank you notes they receive from their audience. The students quote statistics directly from the program and say they were surprised by the number of deaths caused each year by alcohol-related boating accidents. Some students drew pictures illustrating the messages the rangers offered. In fact, drawings of the Fall Creek boating accident were common in many notes this year. Overall, the notes tell the rangers that their water safety message made an impact on these students – their efforts might just prevent an alcohol- and water-related tragedy in the future. 



Wetland mitigation banking draws media attention, business interest

By Scott Clemans, Public Affairs Office

Wetland mitigation banks in the Portland District have been getting a lot of news coverage lately. Corrie Veenstra wants to capitalize on that attention to attract more bankers.

Veenstra is a mitigation specialist for the Portland District's Regulatory Branch who is helping land owners establish mitigation banks in Oregon. She is also a Northwestern Division subject matter expert for mitigation, where she works to improve consistencies between mitigation banks in different Corps districts.

Under the Clean Water Act, the Corps is responsible for approving or denying permit applications to perform work in waters of the United States, including wetlands. That includes making sure that applicants mitigate any impact their work might have on wetlands.

Wetlands generally include swamps, marshes, bogs and similar areas. They are important animal and plant habitats; they can contribute to an area's water quality, flood damage reduction, economic and recreational potential.



An improved section of Mud Slough Mitigation Bank includes many species of native plants growing near Eugene, Ore.

Often permit holders cannot mitigate for impacts on-site; that is where mitigation banks come in. If a developer needs to fill in some wetlands in order to create an industrial site or residential subdivision, he or she must create or restore an equal amount of wetlands elsewhere as mitigation.

"Developers have three mitigation options: On-site, off-site at another parcel of land that belongs to them, or mitigation banks," Veenstra said. Banks are large-scale mitigation projects ranging from 20 to 300 acres that landowners undertake to create wetlands, mostly on former grass farms, she added.

Landowners interested in creating a mitigation bank apply to the Corps and the Oregon Department of State Lands, which co-chair a Mitigation Bank Review Team. The EPA and other agencies like the U.S. Fish and Wildlife Service and Oregon Department of Environmental Quality are part of the MBRT.

Before a bank can sell credits, however, the sponsor must demonstrate that the new wetland meets specific performance standards and they aren't low. It takes bankers a lot of time and money to meet them.

"It's high risk, high reward," said Chris Kiilsgaard, who, with business partner Jeff Reams, is restoring a 108-acre commercial grass seed farm near Monroe, Ore., to its historic wetland function. The farm is now the Muddy Creek Mitigation Bank.

"We're undoing about 100 years of manipulation meant to move water off the property," Kiilsgard said, referring to their efforts to fill drainage ditches and eliminate non-native grasses from the property. They have invested about \$325,000 to buy the land and spent at least \$100,000 for consulting and restoration work during the first two years.



Corps of Engineers Photos

Portland District Commander Col. Tom O'Donovan tours a section of One Horse Slough Mitigation Bank, near Lebanon, Ore., with Fiori in January 2007.

Muddy Creek is the 14th wetland mitigation bank approved in Oregon in the past 10 years. Portland District currently has 15 approved banks and eight more in the works, said Veenstra.

"The Portland District has been able to streamline the mitigation banking process," Veenstra said. "What used to take years to get approved now can be accomplished in six to nine months."

It may get easier yet, Veenstra added. The program has been operating under Corps and EPA guidance since its inception, but federal regulations are expected to change this year to formalize and further streamline the banking process.

Only one or two percent of the district's permittees currently use mitigation banks, Veenstra said. "That is too bad, because banks are good for permittees, bankers and the environment."

Developers who opt to buy credits do not have to deal with the complicated process of creating an independent restoration project and monitoring it for the mandatory five years. Nor are they responsible for fixing a project that might be ruled substandard.

As for the bankers, mitigation banking can be very profitable, Veenstra said. "[Bankers] can charge whatever the market will bear," she said. That can mean an average of \$40,000 to \$65,000 per credit in the mid-Willamette Valley, and as much as \$175,000 per credit in the Portland area.

The banks are part of an emerging worldwide market. They generate up to \$3 billion a year in the United States alone, according to Ricardo Bayon,

who heads Ecosystem Marketplace, which provides information and analysis on the trend.

From an environmental perspective, mitigation banking has gained favor in recent years as a way of consolidating a hodgepodge of smaller on-site mitigation projects that haven't worked very well.

A 2002 study by the Washington State Department of Ecology found that only 13 percent of scattered man-made wetlands have been fully successful, and fewer than half were even moderately successful.

"Mitigation banks provide a larger footprint where wetlands can function as a larger unit, as opposed to small parcels of land that aren't connected to each other," Veenstra said.

Veenstra is working to spread the news about mitigation banking to the Corps' own projects where impacts are occurring. "District project managers can identify opportunities to use mitigation banking for our own projects," Veenstra said. The National Defense Authorization Act of 2004 allows civil works projects to purchase credits at approved mitigation banks, which means the Corps can mitigate for impacts caused by its own projects through mitigation banking, she added.

The District is also looking for potential new sites to create new banks across the state. "Mitigation banks will be a growing trend in the coming years, and some of our partners may have just the land for a new bank."

Thanks in part to the recent news coverage on mitigation banking, the good news seems to be getting around. 📺



Managing sediment at Mount St. Helens still a big job

By Jennifer Sowell, Public Affairs Office

The U.S. Army Corps of Engineers began dredging the lower Cowlitz River near Longview and Kelso, Wash., in November to deal with sediment that has accumulated since the Mount St. Helens eruption 28 years ago.

As a Portland District contractor, the Port of Portland's dredge *Oregon* and a smaller pipeline dredge from Vancouver's Underwater Earth Movers will dredge more than 1 million cubic yards of sediment from the lower Cowlitz River.

The work is an interim measure to maintain the authorized level of flood protection for the cities of Longview, Kelso, Lexington and Castle Rock, Wash., and is part of the last phase of the Mount St. Helens Sediment Management Project.

If "last phase" sounds like the project is near completion, think again.

"We've got about another 30 years to go with this project," said Tim Kuhn, Planning, Programs and Project Management Division.

The Corps is conducting a sediment trend analysis to determine how much there is and what can be done about it in the long term.

When Mount St. Helens erupted in 1980, more than 3 billion cubic yards of debris flowed into the Toutle River system, plugging rivers with sediment, flooding communities and blocking navigation on the Columbia River. The Corps cleared 100 million cubic yards of sediment from the Columbia, Cowlitz and Toutle rivers; levees were built on the lower Cowlitz River and temporary

small retention structures were placed on the north and south forks of the Toutle River.

A 1985 decision document called for a 50-year project to handle the excess sediment from the eruption. As part of this project, the Corps constructed a sediment retention structure on the Toutle River to slow the flow of water enough to allow sediment to drop out and remain stored behind it. So far the structure has stored about 100 million cubic yards of sediment.

The SRS outlet pipes were closed in 1998, which directed all flows through the spillway. Although the SRS was designed to store another 100 million cubic yards of sediment, the spillway allows more and larger sediments to get downstream compared now, to when the outlets were open, Kuhn said.



This aerial view of the Lower Cowlitz River shows a pattern of interwoven sand bars formed by sediment.



The dredge *Oregon* clears a channel 400 feet wide, 24 feet deep and half a mile long in the lower Cowlitz River. Photo by Jennifer Sowell.

That sediment ends up downstream, where measures such as dredging must be implemented to maintain the river channel's capacity. "The sediment is building up in the bottom and on the sides of the river, causing a loss of channel capacity and degrading flood protection," said Patrick O'Brien, Hydraulics and Hydrology Branch.

The added accumulation in the river was predicted by the original engineering team more than 20 years ago, Kuhn stressed. "We knew there would be a need for future interim dredging; what we didn't know was when we'd need to do it."

The SRS worked so well it almost gave engineers a false sense of security, Kuhn said. "We just kept monitoring the sediment," said Kuhn. Then in 2005, engineers realized that sediment was building up in the lower Cowlitz River faster than it had been: it was time for something besides monitoring to happen.

"People could almost walk across the river at low tide in some places," said O'Brien.

With loss of flood protection hanging in the balance, the Corps moved to get environmental clearances and a plan in place for interim dredging.

The Corps requested permits to dredge for the next five years so it may continue if future funding is available. "Dredging will provide a temporary relief from the buildup," said Kuhn. "The sediment upriver will flow downstream and eventually settle in the area that was

dredged, rather than flowing through to the Columbia River."

A more thorough study of sediment trends should be completed in spring, which will help the Corps determine what other measures are needed in the constant battle to manage the sediment.

"We are taking a much more holistic, watershed approach in the sediment study to determine which alternatives to incorporate," said O'Brien.

In addition to dredging, alternatives could include levee improvements,

modifying the SRS to capture more sediment, installing sumps in the Toutle River to pull sediment from the upstream portion of the system and managing erosion along the rivers.

Knowing the source and quantity of the sediment system-wide will help the Corps determine which methods combine most effectively to minimize the impact of the sediment on the river system.

Mount St. Helens caused system-wide changes to the surrounding rivers when it erupted and Corps engineers are still learning about its effects. One thing Kuhn and his team do know is that managing sediment to maintain channel capacity is a big job. The Corps moved a mountain out of the rivers 28 years ago, but engineers know they will still be managing sediment for many years to come.



The river deposits sediment between the trees and the levee, resulting in a loss of channel capacity.

Other photos provided by Patrick O'Brien



In Memoriam

Homer “Bud” Bray died Nov. 23, 2007, of complications from cancer surgery at age 87. Bray graduated from Eugene High School in 1940 and served in the Army during World War II. He worked for the U.S. Army Corps of Engineers in Cottage Grove. He is survived by his wife, a son, two daughters and many stepchildren and grandchildren.

Nathaniel Haynes died Dec. 11, 2007, at age 82. Haynes served in the Navy during World War II, was captured by the Japanese and held as a prisoner-of-war. He also served in the Korean War. He moved to Portland in the 1940s and worked for the U.S. Army Corps of Engineers. In 1990, he married Mae Fern Green; she died in 2004. Survivors include sons, a companion, four grandchildren and 10 great-grandchildren.

Martin Seigel died Jan. 6, 2008. He was 57. Siegel held a Master of Science degree in engineering from California State Polytechnic University. He was a civil engineer for the Navy in San Diego for 26 years. After he retired from the Navy, Seigel moved to Oregon in April 2007 and began working with the U.S. Army Corps of Engineers at the Willamette Valley Project as a mechanical engineer. He is survived by his wife, Herlinda, daughter Lisa, son Andrew and two sisters.

Leonard Stein died Jan. 11 at age 90. Stein graduated from North Dakota State University and served in the Army during World War II. After the war he was a civil engineer for almost 40 years, primarily for the U.S. Army Corps of Engineers in Portland. Survivors include his daughter, two sons and two grandchildren.

Ogden Beeman, an international port expert and one of the founders of Portland’s neighborhood associations in the 1970s, died Jan. 12 of cancer. He was 72. Beeman began working for the U.S. Army Corps of Engineers in 1960 and became chief of waterways maintenance. In 1967, he became the marine manager of the Port of Portland. In 1976, he began a consulting firm, Ogden Beeman & Associates. Survivors include his wife, two daughters, son, sister and four grandchildren.