# CORPS'PONDENT

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US Army Corps of Engineers®
Portland District

After nearly 80 years, the Sandy River's east channel again flows freely to the Columbia River.

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**Commander: Col. John Eisenhauer, P.E.**
**Chief, Public Affairs: Matt Rabe**
**Editor: Erica Jensen**




# Commander's Column

## Emergency preparedness – Are you ready?

Several project employees living near Goldendale, Wash., were evacuated from their homes or helped others evacuate due to the Mile Marker 28 Fire, which burned through more than 26,000 acres of brush, grass and trees near Goldendale, Wash., last July. In all, the 23 District employees impacted by the Mile Marker 28 Fire, even though the fire was away from Corps property, were ensured safe and accounted for by John Day Lock and Dam/Willow Creek Project management.

In the southern part of the state, the Oregon Department of Environmental Quality categorized air quality in the Applegate Valley as unhealthy due to large fires in the area and designated the entire Rogue Valley as unhealthy for sensitive persons. As a result Jim Buck, operations project manager of the Rogue River Basin Project, limited outdoor work around the project and asked his employees to use particulate/smoke masks if they needed to be outside. We also reduced official travel into the area to limit exposure to the hazardous conditions.

Whether off or on the job, your safety is of utmost importance to this District.

In situations such as those above, two-way communication is critical. If there's an emergency near your hometown or residence, we want to be able to contact you quickly to find out if you're okay. Likewise, we want you to call your supervisor, if you can, to let them know you are safe. With that, it's important we have updated phone numbers and address information for each of you – so get with your supervisor if you have changes to make.

Currently we use our Employee Information Line (877-808-4999 or *http://www.pdxinfo.net*) to notify you about emergencies, but Northwestern Division is implementing a system known as AtHoc across the region. You can learn more about this interactive crisis communication system at *http://www.athoc.com* so that you are aware of what's coming our way. We expect this to come online in Fiscal Year 2014.


Our Corps of Engineers headquarters in Washington D.C. has already implemented this employee notification service and we will soon be able to determine how it might be used Division-wide – with each District having the ability (and associated operating projects and field offices) to contact only those employees within their organizational structure. As we make progress, we will let you know through your supervisors if there are changes to how we transmit information.

The fires also were a wake-up call to just how fast someone may need to evacuate their home. Would you be ready for that? Do you have a plan of where you would go, how you would get there and a basic emergency kit to help you survive for at least three days? It's something we talk about a lot – especially in September which is National Preparedness Month … but have you put one together? For your home and car? If not, I'd encourage you to print off the Basic Emergency Supply List on the next page, take it home and make a point of putting your kit together.

**Col. John Eisenhauer, P.E.**

Again, the emergencies that happened this summer are a reminder for us all. As we roll into winter here in the Pacific Northwest … with long months of rainy, stormy weather which always carries the possibility of emergencies, I hope you will prepare for yourself and your family … like I will for mine … for Kate, Stella and Johnny.


## Basic Emergency Supply Kit:

- Water, one gallon of water per person per day for at least three days, for drinking and sanitation
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- First aid kit
- Whistle to signal for help
- Dust mask, to help filter contaminated air
- Plastic sheeting and duct tape to shelter in place
- Moist towelettes, garbage bags and plastics ties for personal sanitation
- Wrench or pliers to turn off utilities
- Can opener for food (if kit contains canned food)
- Local maps

## Additional items:

- Prescription medications and glasses
- Infant formula and diapers
- Pet food and extra water for your pet
- Copies of insurance policies, identification and bank account records in a waterproof, portable container
- Cash or traveler's checks and change
- Emergency reference materials such as first aid book or information from *http://www.ready.gov/*
- Sleeping bag or warm blanket for each person
- Complete change of clothing for each person
- Household chlorine bleach and medicine dropper
- Fire extinguisher
- Matches in waterproof container
- Personal hygiene supplies
- Mess kits, paper cups, plates and plastic utensils, paper towels
- Paper and pencil
- Books, games, puzzles or other activities for children.

## A kit for your vehicle:

- Jumper cables
- Flashlights and extra batteries
- First aid kit and necessary medications in case you are away from home for a prolonged time
- Food items containing protein such as nuts and energy bars; canned fruit and a can opener
- Water stored in your car for each person and pets
- AM/FM radio to listen to traffic reports and emergency messages
- Cat litter or sand for better tire traction
- Shovel
- Ice scraper
- Warm clothes, gloves, hat, sturdy boots, jacket and an extra change of clothes
- Blankets or sleeping bags
- A fully-charged cell phone and phone charger
- Flares or reflective triangle
- Baby formula and diapers if you have a small child

Be prepared for an emergency by keeping your gas tank full and if you find yourself stranded, be safe and stay in your car, put on your flashers, call for help and wait until it arrives.

More information is available at *http://www.ready.gov/*

# *In Memoriam*

*Col. (Ret.) Robert L. Friedenwald*
*June 24, 1935 – July 31, 2013*

Col. (Ret.) Robert L. Friedenwald had courage above and beyond the call of duty. He helped the Pacific Northwest recover from the effects of the 1980 Mount St. Helens eruption by making bold decisions in a situation never before faced by a District Commander. He was responsible for preparing the Corps of Engineers' first Presidentially-directed study to address the problems created by the eruption and also oversaw the completion of the Bonneville Second Powerhouse in 1983. He was a model for future District commanders in how to interact with and support the communities which we serve.

Following his retirement, he continued to work on water resource development projects with Cowlitz County, Wash., and the Port of Portland, and also worked for the Confluence Project where he managed the construction of large public art projects along the Columbia River.

His career included responsible command and staff assignments in Washington D.C., California, Montana, The Philippines, Vietnam, Turkey and Korea.

Although a native of Maryland, Friedenwald received his bachelor's degree in geology from the University of Colorado and his master's degree in civil engineering from Texas A&M University.

Our hearts go out to Col. Friedenwald's family, and to an entire community that has lost a patriot and a good friend.

Corps of Engineers photos

Col. (Ret.) Robert Friedenwald was Portland District Engineer from June 1982 until August 1985.

# Ryan Braaten

Park Ranger, Bonneville Lock and Dam

When you first meet Ryan Braaten he comes across as a man of few words. Put him in front of a crowd and you almost don't recognize him. His sense of humor and energy burst through his quiet demeanor, engaging his audiences, entertaining and educating thousands of people who visit the Bonneville visitors' centers each year. His obvious passion for and skillful presentation of the history and mission of Bonneville Lock and Dam is just one of the reasons he earned the 2012 U.S. Army Corps of Engineers Hiram M. Chittenden Award for Excellence in Interpretation.

Braaten joined the Portland District in November 2009, and says the reason he's here is because one day when he was in college he forgot to put a fork in his lunch.

**Describe your job.**

I am an interpretive park ranger. I work with the public in our visitor centers, but I also assist with natural resource management. I teach people about fish, hydropower, the dam and our navigation lock using props, stories, demonstrations and hands-on activities.

**What do you find most rewarding about your job?**

I enjoy seeing visitors get excited about our natural resources. When this happens, I can see the light bulbs turn on in their heads; and that is why I enjoy this job so much.

I realized in high school I wanted to teach. People would ask me to help them with their homework and I really enjoyed explaining it to them in a way that made sense. Being a park ranger is like being a teacher, but without the homework.

**How does your job fit into the District's Missions?**

The U.S. Army Corps of Engineers is the largest provider of water-based outdoor recreation in the nation. Park rangers are the face of the Corps. We ensure that visitors are being safe and enjoying our public lands and waterways. At Bonneville Lock and Dam, park rangers help manage nine recreation sites, five natural resource management areas, and a regional visitor complex within a registered national historic site that receives more than 600,000 visitors annually.

**Is there a meal that influenced your life?**

At the end of college I realized I wanted to be a park ranger and I had applied to several jobs with no luck. One day while working at a bowling alley I realized I forgot to bring a fork for lunch. I went to the store to get one and saw a man dressed as a park ranger. As it turned out, he was looking for a summer intern for the Bureau of Land Management at Yaquina Head Outstanding Natural Area in Newport, Ore. I got the job and for seven months I gave tours of the historic lighthouse and helped to run the interpretive center. At the end of the internship the chief ranger suggested I contact Pat Barry, who ran the visitor center at Bonneville Lock and Dam. Pat hired me and I've been here ever since; all because I forgot to bring a fork for lunch.

Corps of Engineers Photos

# Intern develops different strokes for water safety

By Eric Hamilton, Public Affairs Office

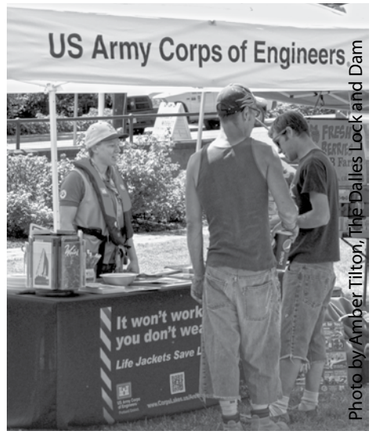


Photo by Amber Tilton, The Dalles Lock and Dam

While staffing a booth for the U.S. Army Corps of Engineers at a Farmer's Market in The Dalles, Ore., water safety intern Avery Kool explains the importance of life jackets and swimming well to interested passers-by.

This year Portland District was selected to host one of the 16 Student Conservation Association water safety interns, funded by the U.S. Army Corps of Engineers National Operations Center for Water Safety. While Portland District has had interns before, this year marked the first internship devoted solely to preventing water-related fatalities.

"We recruited for this internship through local colleges," said Kelly Thomas, natural resource manager for The Dalles Lock and Dam. "Avery Kool joined our natural resource staff to provide water safety public education and outreach at Bonneville, The Dalles and John Day dams."

Kool graduated from Oregon State University this spring with a bachelor's degree in recreation resource management and minors in natural resources and communication.

"It is important to stay visible, keep our efforts fresh, and remind people that drowning is preventable," said Amber Tilton, park ranger at The Dalles Lock and Dam. "From her first day, she consistently came up with new ideas and demonstrated innovative ways to reach out and engage the public."

Kool's new ideas for water safety messages resulted in several projects. First, she took initiative by contacting local artists and schools about re-using old life jackets as a public work of art or in recycled "fashion shows." Currently, life jackets that are torn, faded, or have mildew are just thrown away. However, thanks to Kool, these jackets will be creatively reused, drawing attention to water safety themes.

Photo by Amber Tilton, The Dalles Lock and Dam

Water Safety intern Avery Kool uses a stencil to spray-paint some water safety message in some high-visibility locations at 12 different parks and outgrant sites.

Then, Kool used baling wire and paper cups to "write" in a Corps fence along Interstate 84. As a result, more than 21,000 motorists passing daily are reminded to "LOOK BEST IN YOUR LIFE VEST" and "WEAR YOUR LIFE VEST."


Corps of Engineers photo

In another effort, Kool stenciled water safety messages at over a dozen recreation areas. Colorful safety reminders are now on walkways leading to boat ramps, sidewalks in day use areas, and at swim beaches at Bonneville, The Dalles and John Day.

Kool also updated the Spearfish Lake geocache with a water-safety theme on *www.geocaching.com*, adding water safety messages and safety-related items.

Her efforts weren't just "behind the scenes." Kool was a "regular" at several special events over the summer, such as The Dalles' Jammin' July street fair, First Friday in Hood River, The Cross-Channel Swim Event and Free Fishing Day at the Bonneville Fish Hatchery.


Examples of Water Safety intern Avery Kool's "tagging" can be found on the ground approaching the docks to get to boat ramps or on the sidewalks in day-use areas and swim beaches at Maryhill State Park, Heritage Landing and Columbia Hills Park; and also at the Corps' Celilo, Avery, Plymouth and North Shore parks.

At these events, Kool gave hands-on demonstrations, such as "Cold Hand Luke" and the "Fatal Vision" goggles. With Cold Hand Luke, ice water chills participants' hands, causing numbness and loss of fine motor control as they try to thread nuts onto bolts. The Fatal Vision goggles mimic the effects of intoxication. Participants wearing the goggles fumbled to retrieve and properly put on a life jacket. By engaging participants on a tactile level like this, it was easier to show why it's necessary to wear life jackets at all times during water recreation.

But this didn't mean it was easy. Kool said it was hard to deal with "parents who didn't want me to talk to their kids or who didn't want to listen," and it was also difficult to convince some people who'd grown up along the river that life jackets were necessary. She also had to overcome initial anxieties about dealing with the public … which she did by seeking common ground.

"I did not have any strong feelings about water safety before I took this internship. As I worked and learned more about the risks associated with the river and the importance of wearing a life jacket, I could see the danger everywhere," Kool said. "Kids jumping off of bridges and diving into the water… they simply don't understand the risks. I did a lot of those things when I was younger too, because I didn't see the risks either. That connection and knowledge made it easier to relate and to explain the dangers of cold water, a fast current, and variable depths to them."

While Kool's internship offered only a limited financial reward (a weekly $75 stipend plus reimbursement for lodging and mileage), she valued the


Water Safety intern Avery Kool watches as a passer-by tries to don a life jacket while wearing "Fatal Vision" goggles at the Jammin' July Street Fair in The Dalles, Ore.

experience and knowledge she gained, as they are transferable skills in her field of study. Learning about the life-saving worth of water safety helped to drive her creative efforts to heighten awareness.

"It was a great way to learn more about the Corps as well as to give back to the community," Kool said.

"She turned out to be great," Thomas said.

"Avery has taken the information we have provided her and not just repeated it to the public but absorbed it and applied it." Tilton said. "I just wish her time with us was longer!"

After 12 weeks on the job, Kool left her internship on Sept. 15 to head back to Corvallis before pursuing a career in recreation management.

# Water safety outreach seeks to lower drowning risk year-round

By Eric Hamilton, Public Affairs Office

Question: If statistics and common-sense tell us life jackets will save our lives … then why are there so many tragedies?

According to U.S. Army Corps of Engineers' national statistics, 89 percent of people who drown were not wearing life jackets, and most of those victims were males between the ages of 18 and 35. Many drowning victims never intended to be in the water.

Maj. Gen. Michael J. Walsh, the deputy commanding general for Civil and Emergency Operations, likely had these numbers in mind when he started a Public Fatality Reduction Initiative in May 2012, with a target of reducing public fatalities across the Corps 50 percent by fiscal year 2014. Portland District's Natural Resource Management team set out to meet the general's mandate this past summer.


Education and outreach are vital; one of the best ways to make an impact is to teach young people the skills for being safe around water, explained Kelly Thomas, natural resources manager of The Dalles Lock and Dam. While those at the highest risk for drowning are young men, there's no age where accidents are acceptable. By using varied approaches tailored to several demographics, water safety practices become more well-known and commonly understood. Messages are then reinforced by secondary audiences – like parents, siblings and significant others of the young men at risk.

"When this behavior is learned at a young age, it becomes a habit, and when safety is a habit, risks diminish significantly," said Dave Stanton, chief of Portland District Safety Office.

## It won't work if it's not worn.

"It's like wearing your seat belt," said Melissa Rinehart from Portland District's Natural Resources Section. "Just like driving without a seatbelt is a dangerous risk, being out on open water without a life jacket could threaten your life."

"It can be the most expensive seat cushion you have," agreed Thomas. "Not wearing it could cost you your life."

But outreach can give skills to save a life, as ten-year-old Malinda Tucker proved when she saved her eight-year-old cousin after he fell from a fishing dock into Lake Leon, Texas.


Tucker used the "reach or throw but don't go" technique that Fort Worth District Park Ranger Tim Horn taught while visiting her school.

After Park Ranger Brian McCavitt and other rangers began a multi-faceted safe anchoring program at Bonneville Lock and Dam, there have been no more cases of anchoring-related fatalities. This program has sustained this safety record for 15 years, using flyers, posters, signs, videos and bumper stickers to spread the word.

## Common knowledge isn't always common — or correct

For some people, the dangers of the water are unfamiliar, because water recreation can be a rare treat. Visitors more experienced with water recreation may become complacent.

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# Sandy River Delta: Restoring diversity to a complex habitat

By Diana Fredlund, Public Affairs Office

About 70 guests gathered Aug. 15 to watch a backhoe take a bite out of the Sandy River Delta dam, located just east of Troutdale, Ore. The dam removal is part of a habitat restoration project being undertaken by the U.S. Army Corps of Engineers, and its partner the U.S. Forest Service.

The eight-foot tall, 750-foot wide rock and timber dam was built in the 1930s to try to improve fish runs. According to a 1932 article in the *Gresham Outlook*, a barge sunk in 1907 in the westernmost outlet of the river called the Little Sandy, which effectively blocked water passage. The obstacle forced the water to flow through the east channel, which was considered unfavorable to fish passage.

Photo by Michelle Rhodes, Engineering and Construction Division

The U.S. Army Corps of Engineers removed an eight-foot dam from the Sandy River Delta near Portland, Ore., as part of an ecosystem restoration project. The dam was constructed in the 1930s but biologists now know it stranded fish and caused water temperatures to increase beyond what is safe for fish.

Although it took years to obtain funding, the Oregon Game Commission – now the Oregon Department of Fish and Wildlife – was able to raise funds more easily after the smelt run collapsed in 1931, when not a single fish entered the Sandy River. The dam was constructed in 1931, but the smelt runs continued to be very small through the 1930s.

After the dam was built, the area downstream of the structure in the east channel – the original Sandy River – began silting in and losing its complex hydrology.

"It was hard even to see where the dam stood after nearly 80 years," said Gail Saldana, Sandy River Delta Dam Removal project manager. "The stones on top of the dam looked more like a paved path through the trees."

Prior to the dam's construction, extensively braided shallow-water habitat in the East Channel and abundant backwater habitat throughout the Sandy River delta provided excellent conditions for rearing juvenile salmon and steelhead. After the dam's construction, the East Channel gradually silted in and became a slough. The delta lost much of its hydrologic complexity and had fewer backwater habitat areas. The dam impeded access and limited cool water flow to the east channel, resulting in summer ponding and an increased potential for juvenile fish stranding and death.

The Sandy River Delta dam removal was listed in the 2010 Federal Columbia River Power System Biological Opinion as one of the habitat restoration actions the Corps was required to undertake. Planning began in 2010 by identifying the federal and state partners. The U.S. Forest Service manages the land surrounding the dam, the Oregon Dept. of State Lands manages the riverbed and banks up to the high water mark and ODFW manages the wildlife that calls the delta home.

The original plan was for the Corps to cut a 60-foot notch the dam, allowing water to flow freely. Representatives from the Portland Water Bureau learned about the project and wanted to participate.

"The Water Bureau provided funding and technical assistance for removing the rest of the 750-foot dam as part of its 50-year Bull Run Water Supply Habitat Conservation Plan," said Terry Black, public information officer for the Water Bureau. "The Habitat Conservation Plan enables the city to meet its Endangered Species and Clean Water Act obligations with 49 separate measures designed to protect and improve aquatic habitat in the Bull Run River and wider Sandy River basin. We are glad to be working with the strong network of local partners on salmon recovery in the Sandy basin."

Photo by Diana Fredlund, Public Affairs Office

Laura Guderyahn with the City of Gresham shows volunteer Callie Goldfield how to measure a female Western Pond Turtle at the Sandy River Delta Aug. 7. The U.S. Army Corps of Engineers is removing a dam on the Sandy River and before ponds are disturbed, biologists are trapping turtles and moving them to ponds not disturbed by construction.

The two-year project proved to be nearly as complex as the delta's original habitat. The dam had long been used by Northwest Pipeline, a natural gas provider, and Bonneville Power Administration to reach Sundial Island. "BPA was very supportive in helping us explain the project and encouraging Northwest Pipeline to work with us toward a common goal," Saldana said. Both companies were concerned about being able to access equipment in the event of an emergency once the dam was removed.

"We had extensive discussions about access," Saldana said. "After lots of conversations it was decided that the rock from the dam would be stored near the site. That way if an emergency road needed to be constructed, the rock would be easily available." Trying to accommodate the often competing needs of city, state, federal and commercial organizations made this one of the most complex negotiations she'd been involved with, Saldana added.


Photo by Matt Rabe, Public Affairs Office

Corps of Engineers contractor CEO Kim Erion uses a backhoe to take the first bite out of the dam.

Photo by Matt Rabe, Public Affairs Office

Corps of Discovery re-enactor Roger Wendlick talks with Kevin Brice, the Corps' deputy district engineer for Programs, Planning and Project Management Division.

Photo by Diana Fredlund, Public Affairs Office

A Western Pond Turtle is seen after being removed from the construction zone.

Background photo by Brian Wingert, Bonneville Power Administration

Once negotiations were complete, preparations for the big dig got underway. The Water Bureau managed a turtle relocation at the Sandy River delta, in the weeks before construction began. Twenty-four native Western Painted Turtles were captured and relocated to Company Lake, a Port of Portland habitat restoration site that is known to have a colony of Western Painted Turtles. Although biologists searched the ponds in the east channel they found no fish to rescue, Black said. "The biologists weren't completely surprised to not find any fish, since the warm water temperatures aren't conducive to cold-water fish species."

LKE, the Corps' contractor, began construction in the East Channel in early July, digging from the confluence with the Columbia River up toward the dam. "The contractor is digging a 60-foot wide pilot channel up to the dam, about a mile upstream from the mouth," Saldana said. "Once the dam is removed the water should flow year-round through the east channel for the first time in 80 years." While the dam was in place, water flowed over the dam on average about 90 days of the year, she added.

Restoring the delta's diversity will mean healthy habitat for the area's fish and wildlife species, Saldana said. "This restoration will provide cooler water, additional shallow water habitat and decrease the risk of stranding in the east channel for ESA-listed species," she said. "The west channel should benefit as well by encouraging healthier river banks and returning the channel to a more natural flow."

Photos by Matt Rabe, Public Affairs Office

The U.S. Army Corps of Engineers and its partners BPA, U.S. Forest Service and the Portland Water Bureau celebrated the first bite out of the Sandy River Delta dam Aug. 15. Corps contractor CEO Kim Erion uses a backhoe to take the first bite out of the dam.

Once the dam is removed the contractor will begin replanting and seeding native plants and trees in areas disturbed by construction. Rootwads – trees with their roots still attached – will be placed along the newly created pilot channel to create shade and hiding places for young fish.

"The contractor should be finished with all work by the end of October," Saldana said. "In all, construction will have taken only about four months. We expect to see the delta start to meander and braid into small channels of its own choosing in the next few years. It shouldn't take long – Mother Nature is pretty dynamic."

Background photo by Brian Wingert, Bonneville Power Administration



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"It is better to learn how to manage risks before a crisis hits," said Rinehart. "A dangerous situation is a tough time to begin learning the merits of water safety. It's better to learn that with a life jacket on!"

"Drowning doesn't look like drowning," according to Mario Vittone, a retired rescue trainer with the U.S. Coast Guard. Vittone explained that drowning looks very different from how it is portrayed on television or in the movies. Instead of calling out for help, a true drowning victim is almost always unable to call out, because breathing is top priority, and speech can't happen when someone is struggling to breathe.

Vittone's insights underscore the importance of wearing life jackets. It can take as little as three minutes for an adult to drown, but putting on a life jacket while in the water can take ten minutes. That's a lopsided race that could cost you your life. With the cold water temperatures of the Pacific Northwest, it's clear that numb fingers and jittery hands are best used for flagging down assistance, not trying to stay afloat. The best prevention is to start with a life jacket on, with all the buckles and snaps ensuring a snug fit.

For a practical test to try at home – fill your sink with ice water. Plunge your hands in for a few minutes, and then test your dexterity by screwing nuts and bolts together. We call this "Cold Hand Luke." You'll begin to see how the cold can make it harder to buckle a life jacket!

If you don't have a life jacket, you can always borrow one from one of the Corps' 22 life jacket loaner stations spread across Oregon and southwest Washington. The Corps developed a national Life Jacket Loaner Policy in 2007 that the Portland District quickly adopted. Between 2007 and 2012, loaner stations were added to many boat ramps, swim beaches and popular recreation areas along rivers and reservoirs managed by the Corps and partnering agencies. The stations not only serve as a place to find life jackets, but also show how to inspect and properly wear them.

The loaner stations are one way the Corps demonstrates its commitment to water safety.

"Even one tragedy is one too many so this is a message we will repeat as often as we can to whomever will listen,' said Thomas. "Water safety is a year-round concern."

**Portland District Loaner Stations**

**Columbia River**

**Bonneville Lock and Dam/Lake Bonneville**
Bonneville Lock and Dam, Washington Shore ..... Hamilton Island boat ramp
Hood River Waterfront Park ..... Day use area swim beach
Mayer State Park ..... Boat ramp

**John Day Lock and Dam/Lake Umatilla**
Plymouth Park ..... Day use area swim beach and boat ramp
LePage Park ..... Day use area swim beach and boat ramp

**The Dalles Lock and Dam/Lake Celilo**
The Dalles Marina ..... Boat ramp
The Dalles Riverfront Park ..... Day use area swim beach
Columbia Hills State Park ..... Boat ramp
Celilo Park ..... Boat ramp
Heritage Landing ..... Boat ramp
Maryhill State Park ..... Day use area swim beach

**Rogue River Basin**

Joseph H. Stewart State Park ..... Boat ramp
Takelma Park ..... Boat ramp

**Willamette Valley**

**Fern Ridge Reservoir**
Richardson Park ..... Boat ramp

**Cottage Grove Reservoir**
Pine Meadows Campground ..... Swim beach
Lakeside Park ..... Boat ramp
Wilson Creek Park ..... Swim beach

**Dorena Reservoir**
Schwarz Campground ..... Near campground entrance bulletin board
Baker Bay Campground ..... Boat ramp

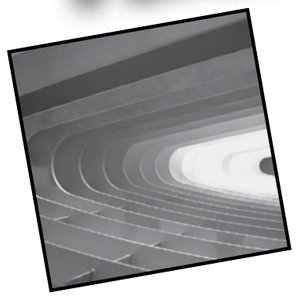
**Dexter Reservoir**
Lowell Park ..... Boat ramp and marina

**Fall Creek Reservoir**
Cascara Campground ..... Boat ramp

**Detroit Reservoir**
Mongold Day Use Area ..... Boat ramp

# Portland District earns national lead in technical expertise

By Amy Echols, Public Affairs Office



It takes a highly skilled and trusted engineering team to design, fabricate, maintain and inspect the 1,300 hydraulic steel structures in Portland District's 23 locks and dams. That is 13 percent of the Corps' total hydraulic steel structure inventory and includes several of the largest powerhouses and high-head navigation locks in the country.

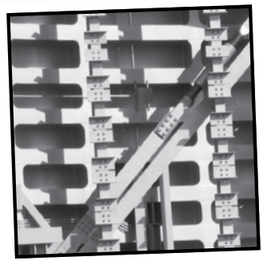
As the go-to team to advise, design, fabricate and inspect steel structures for other Corps districts, this team is bound to get some high-level attention for their expertise. Recognition came this year as the Corps' Commanding General, Lt. Gen. Thomas Bostick, recently confirmed a Portland District team from the Engineering and Construction Division as the Corps' Welding and Metallurgy Technical Center of Expertise.

"This "TCX" designation acknowledges the unique technical HSS expertise we've developed and maintained to support mission critical functions for USACE," said Lance Helwig, chief of Portland District's Engineering and Construction Division.

Around the country and around the world, the Corps uses a variety of materials to build complex civil works structures and specialized technical experience is critical to maintain safety, performance and design life.

"A center of expertise is a key organizational tool for sustaining this expertise and services into the future, wherever these projects are. It also includes facilitating the ongoing transfer of technology and expertise around the Corps through design manuals, codes, documents and training courses," explained Travis Adams, the TCX team lead, a structural engineer and a Corps veteran of nearly 17 years.

Portland District's experience in designing and fabricating hydraulic steel structures dates back to the 1930's, with the more recent completion of over 900 hands-on HSS inspections of

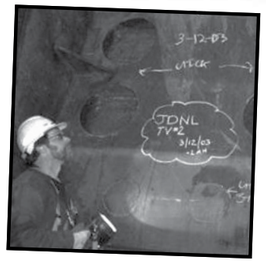


Portland District bulkheads, stoplogs and gates. Team experience deepened over the years, with technical reviews, inspections and structural analysis in Baltimore, Detroit, Seattle, Los Angeles, Omaha and other Corps districts.

The District TCX team includes an in-house staff of certified welders at operating projects, certified welding inspectors for fabrication shop inspections, and structural engineers with state-of-the-art expertise in welding and fabrication projects. The

Corps of Engineers photos

The twin gates at The Dalles navigation lock are typical of the huge yet functional structures at many Portland District projects that support the nation's infrastructure and economy.

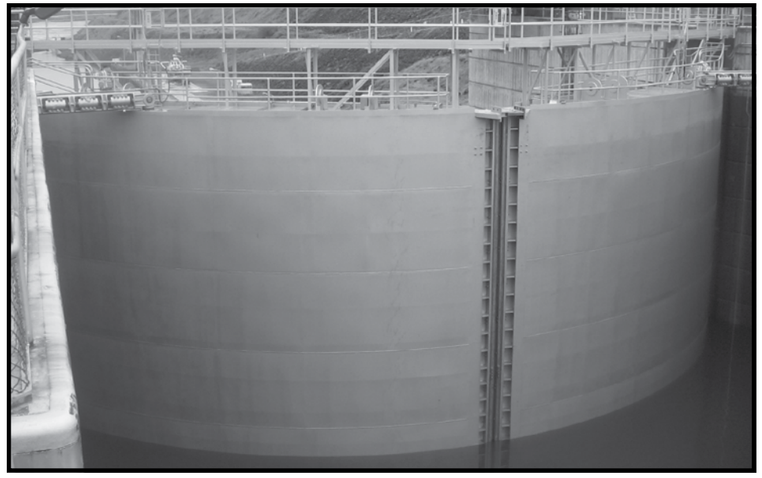



team also includes several mechanical engineers with specialized experience in metallurgy related to dissimilar metals and machinery design, including high-tech greaseless bushings and bearings. Welding inspector John Pariseau, with Adams and mechanical engineers Matthew Hess and James Calnon, assisted Corps Headquarters in authoring critical HSS and welding guidance for application around the Corps.

Adams and the team ensure that requests for welding, material and machining procedures and specifications and quality assurance inspections are addressed in a timely manner since the calls often come during construction or fabrication where quick resolution is paramount.

The TCX team is busy – already they have supported over 100 requests for assistance in 2013.

If someone has a question, needs technical review or a fabrication shop or field inspection, even metallurgical questions, it is Adams' job to find an answer, or find someone on the team who does. Along with these responsibilities, he will continue in his role as a Structural Regional Technical Specialist and a Potential Failure Modes Analysis facilitator for the Corps' national Risk Management Center.



Jordan Reimer and Matt Hanson, Portland District structural engineers, and other TCX staff designed The Dalles' 113-foot tall navigation lift gate with its 1¼-inch thick curved skin plate to meet current fracture and fatigue guidance. The team monitored all stages of gate replacement for quality assurance, from construction through installation.

"Our TCX team is deep in its reach of technical experience and expertise and will maintain and teach these skills to support tomorrow's mission as we face aging infrastructure issues around the Corps," said Helwig.

As Adams explains, all the knowledge gained can and should be passed on. "The Corps does not build new 1000-ton navigation lock gates every day."

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Opposite page:
Top left - Smooth lines and radii create more than an aesthetic appeal inside steel structures. TCX engineers design structural details with smooth curves to reduce restraint-induced cracking and increase design life
Top right - Intricate welding and structural detail of a new lock gate.
This page:
Top left - Richard Amacher, retired Corps certified welding inspector, inspects Tainter Valve Number 2 at the John Day navigation lock for cracks.
Top right - The TCX team designed this 99,000 pound, 18-foot diameter friction sheave for a 50-year service life at the John Day downstream navigation lock.

# *Bonneville Dam encourages visitors to leave no trace*

By Jesse Brownlee, Bonneville Lock and Dam

As one of the U.S. Army Corps of Engineers' most popular visitor attractions, Bonneville Lock and Dam can sometimes feel a little too well loved – staff can be left feeling the brunt of their guests' thoughtlessness as they try to clean up after all those visitors. Located in the Columbia Gorge National Scenic Area 40 miles east of Portland, Bonneville Dam's staff takes pride in protecting and preserving the ecosystems within its boundaries for the nearly one million people who visit, fish and recreate here.

The truth is, without the public's help making sure they pick up after themselves, Bonneville's ranger staff can barely keep up.

In years past, the Corps provided trash services in the public areas in the form of trashcans or dumpsters, but these quickly became receptacles for everything from outdated couches and broken furniture to old car parts and hazardous liquids. This made them unusable by visitors and actually increased the problem. The containers overflowed with illegally dumped garbage and trash blew around the scenic shorelines, threatening wildlife and attracting large numbers of rats. In the 1990s, some of the fishing areas actually had to be shut down until the hazards and garbage could be cleaned up.

Visitors to Bonneville Lock and Dam may see a variety of wildlife during a visit, including Canada geese and their young.

Many visitors do not realize the cumulative impact of their garbage has on Bonneville's ecosystem: that scrap of fishing line or a single food or bait container really adds up. Even if only a fraction of Bonneville Dams' 600,000 visitors left one item behind, keeping up with that amount of garbage would be more than staff can handle.

In these days of declining budgets for federal and state agencies, it is no longer possible to fund someone to pick up the massive amounts of litter that accumulate daily along the shorelines. Trying to keep all the six-pack plastic rings, tangled fishing lines and rusty hooks from harming unsuspecting wildlife has become a monumental task. Without critical hands to help clean up, Bonneville Dam needed to find another way to preserve its beauty from mountains of trash.

Bonneville Lock and Dam is located about 40 miles east of Portland, Ore.

The rangers turned to the Leave No Trace Foundation for help, implementing a Bonneville-wide "pack it in, pack it out" policy. We placed posters to educate visitors about key messages such as "pack it in, pack it out" and "know before you go," trying to encourage everyone to come prepared to do the right thing – take their garbage back home with them for proper disposal. We took to the recreation areas and shorelines in 2012, tallying nearly 2,000 one-on-one personal conversations while handing out cases of garbage bags – making it easy for visitors to take responsibility for their own actions and not rely on others to clean up after them. This year, we've seen a small but noticeable effect from that intense effort – regular anglers seem to have gotten the message that "many hands make light work" and are helping keep their public lands clean.

Better still, more and more visitors are coming prepared: they are even reminding potential litterbugs of the "pack it in, pack it out" policy, and are going the extra mile to clean up their favorite fishing spots.

It's a lot of work for the ranger staff to keep reminding visitors to "pack it in, pack it out," but it's critical if we are going to keep these areas open for sightseers, birders, anglers, hikers and everyone who uses these public lands. Ultimately, the effort benefits every member of the visiting public – not to mention that it decreases human impacts on wildlife. And for the rangers, it allows us to focus on visitor assistance and continuing to improve these public areas we all love so well.

The Leave No Trace program is an important tool for the rangers at Bonneville Lock and Dam. Only by working together to make sure trash is safely removed can we all continue to preserve and protect some of the most beautiful land in the Columbia Gorge National Scenic Area – and still be ready to welcome the nearly one million visitors wanting to share Bonneville's beauty.

The Fort Cascades Historic site trail, located on the Washington shore at Bonneville Lock and Dam, offers visitors a self-guided tour through what remains of the fort and the townsite of Cascades.

Corps of Engineers photos

## Leave No Trace Principles

### Know Before You Go

Know the regulations and special concerns for the area you'll visit. Recreation hours may vary seasonally.

Be prepared! Remember food and water, and clothes to protect you from cold, heat and rain. Prepare for extreme weather, hazards, and emergencies.

Walk and ride on designated trails to protect trailside plants. Use only authorized fishing access trails.

### Trash Your Trash!

Pack it in, pack it out. Inspect your site and rest areas for trash or spilled foods. Pack out all trash, leftover food, and litter.

Repackage food to minimize waste.

### Leave It As You Find It

Allow others a sense of discovery by leaving rocks, plants, archaeological artifacts and other objects of interest as you find them.

Avoid introducing or transporting non-native species.

### Be Careful with Fire

Remember, a campfire isn't a garbage can. Pack out all trash and food.

Firewood should be either bought from a local vendor or gathered on site, if allowed. Don't bring firewood from home – it can harbor tree killing insects and diseases. Many states regulate the movement of untreated firewood.

### Keep Wildlife Wild

Observe wildlife from a distance and never approach, feed or follow them.

Human food is unhealthy for all wildlife and feeding them starts bad habits.

### Share Our Trails and Manage Your Pet

Be considerate when passing others on the trail.

Keep your pet under control to protect it, other visitors and wildlife.

Listen to nature. Avoid making loud noises or yelling. You will see more wildlife if you are quiet.

Be sure the fun you have outdoors does not bother anyone else. Remember, other visitors are there to enjoy the outdoors too!

# AFTER YEARS OF TRANSITION, ELK CREEK PROJECT SETTLING INTO NEW ROLE

By Scott Clemans, Public Affairs Office

Corps of Engineers photo

The Elk Creek Project includes key oak savannah habitat for elk, deer and other upland game.

If there's any truth to the old adage about nothing being constant except change, then Portland District's Elk Creek Project has been a model of constancy over the past 25 years.

The saga of what Congress in 1962 intended as the third dam and reservoir of the District's Rogue River Basin Project has produced enough twists and turns to keep *Medford Mail-Tribune* reporter Mark Freeman almost fully employed – he's authored more than 150 stories on the subject.

But with a new management plan in place, things at Elk Creek may finally be settling down.

Portland District initiated the Elk Creek Project in 1971, with acquisition of project lands and relocation of some residents, roads and utilities. Construction of the roller-compacted concrete dam itself started in 1986, but litigation by environmental groups concerned with potential effects on endangered fish species halted the project in 1988, leaving an incomplete dam 83 feet tall, one-third its designed height.

With construction indefinitely stopped, the Corps – at the request of federal and state fish and wildlife agencies – developed plans to restore Elk Creek to a free-flowing creek while preserving most of the existing dam structure.

Corps of Engineers photo

What to do with a dam and reservoir project lacking its dam and reservoir? The Elk Creek Project needed a new master plan to address its new management missions.

Demolition crews used nine explosive shots to blast a notch through the dam, opening the passage Aug. 17, 2008. Meanwhile, other crews restored the stream channel to its original alignment and gradient, placed stream bank protection, planted native trees and shrubs for slope stability and erosion control, and built a training wall to maintain proper stream flow.

The environmental restoration work also included in-stream features such as rock weirs to maintain suitable water velocities for fish passage, and a series of riffles and pools to provide holding, feeding and spawning habitat.

The Corps diverted Elk Creek into its "new original" channel on Sept. 15, 2008, providing permanent passive fish passage for threatened salmon and other native fish.

"This is a moment about 10 years in the making," said Assistant Project Engineer Capt. David Nishimura at the time. "It marks the first time in almost 25 years that Elk Creek will run unimpeded into the Rogue River."

Corps of Engineers photo

The new Elk Creek master plan identifies methods of allowing public access to the area for recreation, while limiting users' impacts on the environment.

Portland District now faced an unusual dilemma: What to do with a dam and reservoir project lacking its dam and reservoir?

"We completed a master plan for the area in 1987, anticipating a completed and fully operational dam and reservoir," said Rogue River Basin Project Natural Resource Manager Justin Stegall. "But the events of the previous 20 years had radically changed the needs, operations, opportunities and resources of the area."

The Corps now manages the 3,502 acre Elk Creek project area primarily for fish and wildlife conservation and enhancement, water quality and low-density recreation, and needed a new master plan to reflect those missions.

"We completed an analysis of natural resource needs of the Elk Creek area, and hosted workshops in 2011 to receive input from federal, tribal, state and local agencies and the interested public," said Gail Saldana, project manager for the master plan redevelopment effort. "From that effort, a pretty strong consensus emerged as to what our new master plan should include."

Among many improvements, the plan identified methods of allowing public access to the area for recreation, while limiting users' impacts on the environment.

"The Elk Creek Project is about 3,500 acres of contiguous lower watershed habitat, which is rare to come by," said Stegall. "It represents about 10 percent of the native habitat in the upper Rogue watershed for coho salmon and spring and fall Chinook, plus it's key oak savannah habitat for elk, deer and other upland game. We want people to use the area, but in such a way as to protect that habitat."

A number of small projects are underway or in the works in the area to meet that goal. Bridges and roads are being improved or replaced; parking, picnic and restroom facilities are being developed; trails are being created to link developed sites; and "user-created" roads and trails are being blocked off – all with the intent of permitting low density and largely non-motorized recreation.

Most of the projects currently under construction should be complete in time for next summer's recreation season, with others to follow next year. The end result should be a project area with a tumultuous history beginning to settle into a new role as a destination – for fish and wildlife, and we humans who cherish them.

Photo by Scott Clemans, Public Affairs Office

The Corps is replacing three bridges in the project area to improve safe public access to the area for recreation.


The Elk Creek master plan includes improvements to recreation, including new interpretive signs and picnic areas.

Corps of Engineers photo

# SHARING THE CORPS MESSAGE:

You are the face of the Corps. Share these messages with your family, friends and community.

# NORTH SANTIAM FISH IMPROVEMENT PROJECTS

In late September, we started updating stakeholders about a subject that is very sensitive to businesses, residents and visitors at Detroit Reservoir – the status of our efforts to help endangered fish species in the North Santiam River.

NOAA Fisheries' 2008 Biological Opinion calls for us to implement a downstream water temperature control solution at Detroit Dam by 2018, and a juvenile fish downstream passage solution by 2023. However, the BiOp suggests that we should do both at the same time, if possible.

Our process for these types of projects is to first develop an Engineering Documentation Report, in which we brainstorm and evaluate options and select a preferred alternative. We then move to a Design Documentation Report, in which we develop the details of the selected alternative. The findings of the DDR are used to develop plans and specifications – a complete set of construction plans that will ultimately be used to award and implement a construction contract.

We recently completed the EDR for the temperature control project. Our EDR identified a structural solution as the most feasible alternative for meeting downstream water temperature targets, while accommodating the later addition of a juvenile fish passage solution. We are now in the 12-18 month DDR phase of the project, in which we will develop some of the technical details of this structural solution. Design details and construction methods have not been determined at this point. We are currently weighing the costs and benefits of the various details and construction methods to determine the best path forward.

Assuming adequate funding to continue this process, after the DDR is complete we will take 12-18 months to develop the plans and specifications necessary to award a contract. Finally, we will solicit bids, award a contract and begin construction. Construction for a project of this magnitude could take 18-36 months.

Some North Santiam Basin residents have mistaken the completion of the EDR to mean that construction is imminent. This is not true. It is true, however, that we are looking at a possible future construction project that will involve impacts to reservoir levels, river flows, dam access and other factors.

We are committed to keeping North Santiam stakeholders informed and engaged in this process. We have held meetings with Congressional staffers, state legislators, business and environmental group leaders, and the general public to explain the status and path forward of these projects, and ask for their help in identifying and quantifying potential impacts.

Corps of Engineers photo