INTERCOM

U.S. Army Corps of Engineers, Walla Walla District
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Best in USACE 2012

Blasting off at Corps Day!

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The Walla Walla District

Serving our Community, the Nation, the World.

INTERCOM

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On the cover

Civil Engineer Michael Schaffer puts his engineering knowledge to work on Corps day helping kids launch bottles and water rockets into the air.

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From Where I Sit

So… after a year of boots on the ground here in the Walla Walla District, I wanted to take this opportunity to give a little feedback – From where I sit.

I'm extremely impressed by what I see from the men and women of the Walla Walla District. I've spoken about your complex and dedicated efforts at various community events the past year, and in every case people walk out of the event expressing to me that they "had no idea the Walla Walla District did so much great stuff."

The other thing that continues to amaze me is the volume of people who take the time to tell me about the great people in this District. I thank each of you for your personal efforts serving the public. I can tell you – we are making a significant positive impact on our little spot on the planet.

As I execute key leader engagements with federal, state and local partners, I'm often asked "What's NWW's biggest challenge?" It is most often followed by a rolling of eyes or a shoulder shrug, "and don't say funding." I always laugh (as if it was the first time I heard it) and respond emphatically that our biggest challenge is uncertainty.

The District is built to execute the vision of the Corps of Engineers: "Engineering solutions to the Nation's toughest challenges." What we want to know is what are the toughest challenges and what does right look like at the National level? The conversation usually concludes with us agreeing we need to get on with it and make some decisions. As far as NWW is concerned, we are doing our part. We know the challenges here and are pushing the system.

We need the national leadership to validate the requirements and prioritize our collective resources so we can be the "solutioneers" our Nation needs. It's what we do – and we're good at it.

Personally, I'm not sure when the light at the end of the tunnel will arrive, but I can tell you that we've got great people at division and headquarters level in the Corps of Engineers who are working very hard to get the answers we need.

Overall, Walla Walla District is postured well. Our program is relatively stable, our execution is solid and our value is high. In short, the battles we are fighting are the "normal" size. Others across the country are fending off significant program declines and huge staffing challenges.

The "so what" to us is: we look different during a time of uncertainty – that is a tough spot to be in. We are getting a high level of scrutiny on all of our actions. The downside is we are "burning lots of extra calories" on justifying our actions. The silver lining is the extra effort is making us a better and stronger organization.

We are challenging our assumptions, looking in areas we haven't paid as much attention to as maybe we should have, and thinking just a little harder about each and every decision. This is good, hard work. It's not real comfortable, but I'm convinced we're getting stronger.

As far as communications are concerned – our relationships with the Tribes, agency partners and regional stakeholders continue to be great. We may not always agree, but our relationships enable us to work through the disagreements and get to a reasonable conclusion.

The District is an integral part of the Corps as the Nation's largest water-based recreation provider. Our park rangers truly are the face of the District to over 8 million visitors to our parks and recreation sites.

We are resource challenged right now given the budget climate, but from my perch, we are doing a fantastic job with the limited resources we have.

Execution – It is absolutely critical we do what we say we are going to do. That means we must execute effectively. We've done well the past few years and we want to continue that track record. It's getting more challenging with uncertain resourcing, but we need to stay focused and get it done.

Safety – We need to continue looking out for one another. What that means at the projects and District headquarters is to continue emphasizing personal and public safety. That includes dam and levee safety. We continue to use our risk-informed process to

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District welcomes new deputy commander

Maj. Kurt L. Nelson assumed duties as the Deputy District Commander for the U.S. Army Corps of Engineers, Walla Walla District, on Aug 29, 2013. Nelson was commissioned into the U.S. Army Corps of Engineers upon graduation from Officer Candidate School in 2000.

Nelson was the former brigade operations officer, 18th Engineer Brigade, at Conn Barracks in Schweinfurt, Germany.

His previous assignments include: platoon leader and executive officer, 887th Engineer Company (Light Equipment), 326th Engineer Battalion, 101st Airborne Division (Air Assault), at Fort Campbell, Kentucky, with deployment to Iraq; requirements officer for the Iraqi Ministry of the Interior, J7, Multi-National Security Transition Command – Iraq in Baghdad Iraq; engineer operations officer for the 82nd Airborne Division, Fort Bragg, North Carolina, with deployment to Afghanistan; commander of the 618th Engineer Company (Airborne), 27th Engineer Battalion, 20th Engineer Brigade, with deployment to Iraq; and plans officer, 18th Engineer Brigade in Heidelberg, Germany, with deployment to Afghanistan.

He earned a Bachelor of Science in 2001 from Excelsior College through the Army Education Center and a Master of Arts in public administration from Webster University in 2005.

Major Nelson is a graduate of the Engineer Officer Basic Course, Engineer Captains' Career Course, and the Command and General Staff College.

His military awards and decorations include three Bronze Star Medals; the Purple Heart; the Defense Meritorious Service Medal; two Meritorious Service Medals; the Joint Service Commendation Medal; two Army Commendation Medals; the Combat Action Badge; the Air Assault Badge; the Pathfinder Badge; and the Master Parachutist Badge.

A native of Sioux City, Iowa, he and his wife, Pam, have two children.

Four complete Power Plant training program

Story by Gina Baltrusch

Four students graduated from the Walla Walla District's Power Plant Apprentice Program June 24 during a morning ceremony at McNary Lock and Dam.

Mark Hymas, from Kennewick, Wash., works at McNary as a power plant operator.

Ed Hodges, an Air Force veteran from Irrigon, Ore., works at McNary as a power plant electrician.

Doug McClellan, from Spokane, Wash., works at Lower Monumental Lock and Dam as a power plant operator.

Robert "Tad" Rathburn, a Marine Corps veteran from Kennewick, Wash., works at Lower Monumental as a power plant mechanic.

The apprentice program, based at McNary Lock and Dam near Umatilla, Ore., develops trades and crafts journeymen to serve in Walla Walla District hydropower facilities. The program typically graduates three to four apprentices each year. Depending on prior education or simultaneous enrollment in a related college education program, students can pursue a three- or four-year program to become electrical, mechanical or operations journeymen.

The first year focuses on gaining general hydropower knowledge, after which each student pursues a dedicated craft that signifies the start of a new career. The next two to three years are spent under the guidance of journeymen and a rigid academic curriculum. Academic work includes textbook studies, computer-based training and a strong emphasis of hands-on training. During their apprenticeship, students gain work experience at all six District hydroelectric facilities before they join the workforce as craftspersons.

"The power plant apprentice program enables the district to better meet its future craftsman needs. It's a critical part of maintaining a sustainable workforce in highly technical career fields. Apprentices learn from the masters, rather than trying to glean that knowledge out of a book at a later time when the experts may not be here to help them," said Robin Floyd, Walla Walla District's training manager for the program. "We're excited to welcome these graduates into the ranks of journeymen, and to thank the craftsmen who coached them."

For more information about the Walla Walla District's Power Plant Apprentice Program, check out our website at www.nww.usace.army.mil/Careers/PowerPlantApprenticeshipProgram.aspx.

U.S. Army Corps of Engineers photo

Top, pictored from left to right: Dwayne Weston, Robin Floyd; graduates Robert Rathburn, Mark Hymas, Ed Hodges; and District Commander Lt. Col. Drew Kelly.

From Where I Sit

Continued frpm page 3

prioritize dam and levee safety solutions and infrastructure improvements. We continue to implement interim risk reduction measures well. We cannot completely eliminate risk, but we can reduce risk. Keep up the great work as you pursue public safety measures.

Finally, maintain that winning attitude. If you act like you are the best at what you do, you'll drive yourself to become your best.

Our District is the most professional team I've ever been associated with. We've got some hills to climb and challenges ahead, but we are positioned very well to not just succeed – but excel. I am certain we will do it in our own unique way.

We're doing great – but this is not the time to rest. Keep up the great work and fiercely pursue opportunities to improve both yourself and the team.

Lt. Col. Drew Kelly
Walla Walla District Commander

Reflections on Superstorm Sandy

Story by Stephen Doherty

Hurricane Sandy made landfall and rocked the East Coast on Oct. 29, 2012, turning the lights off for more than 1.3 million people and causing more than $50 billion in damage.

Immediately after Sandy made landfall, the Walla Walla District deployed 14 members of its power team to help restore or provide temporary power to critical local infrastructure.

The Walla Walla District's contribution did not end there. It also provided four people to assist with post-Sandy recovery efforts.

On Jan. 29, the President signed the Disaster Relief Appropriations Act of 2013. This authorized the Corps to spend more than $5 billion on Sandy disaster relief. Under the Act, the North Atlantic Division began executing projects in five categories: near-term coastal restoration, operations and maintenance, authorized but not yet constructed, coastal storm damage risk reduction studies and continuing authorities programs.

Post-Sandy clean-up, studies and new project construction presented a new challenge -- communication. The Corps openly communicated by disseminating information to the public plus local, state and federal officials. The North Atlantic Division asked for interim public affairs assistance until positions could be filled full-time. Walla Walla District again answered that call.

I was honored at the opportunity to lend a helping hand while taking a professional journey. I arrived in New York on April 8 and was quickly integrated into the team helping develop communication tools for the projects ahead.

During my time at the North Atlantic Division office, I continued developing a website dedicated to Sandy relief effort information. I also drafted a fact sheet to inform the public and officials of the Corps current status. In addition, I had the opportunity to go to New Jersey to create a video spotlighting a beach nourishment project that was underway in Ocean City.

Each of these tasks taught me more about the disaster relief efforts and the processes that must be followed. I was fortunate to be able to contribute to such an important mission. Having an opportunity to be a part of such a great team was very a rewarding and eye-opening experience.

Top: Sunny spring day in New York City's Central Park. Bottom Left-top: Heavy machinery moves pipes into place in order to continue dredging on a beach near Ocean City N.J. Bottom Left-bottom: Dredged material is filtered through a basket in order to remove any potential unexploded munitions. Bottom Right: Excavator rinses munitions basket so further inspection can take place.

United against oil spills

Corps holds multi-agency oil spill training exercise at Lower Granite Dam

Story and photos by Bruce Henrickson

As part of its environmental stewardship efforts, the Walla Walla District of the U.S. Army Corps of Engineers expanded its 2013 annual oil spill training exercise at Lower Granite Lock and Dam on the lower Snake River. Several county agencies adjacent to the Lower Granite Lake's area of operation participated in this exercise in the first such collaborative training effort. Training with other agencies enhances each agency's readiness.

The Corps' goal was to foster closer working relationships with cooperating, responding and reporting agencies in case of an oil spill on the lower Snake River near Lower Granite. The Corps works closely with nearby responding agencies such as law enforcement and emergency management if an oil spill is discovered.

The training prepared participants to respond to potential oil spills from sources such as recreational or commercial watercraft, shoreline industrial activities or the dam itself. The Corps responds to oil spills at its locks and dams regardless of the source.

The Corps also reports oil spills to appropriate federal and state agencies.

When oil appears to be coming from upstream of a Corps dam, the Corps works with other agencies to identify the source and to control the spill.

Lower Granite Lake reaches about 39 miles up the Snake River to Asotin, Wash., from the dam, including eight miles up the Clearwater River from the confluence at Lewiston, Idaho.

The Corps hosted June 26 exercise involved practical open-water oil spill control activities. Training included boom deployment using both watercraft and shore anchors. Sara White, environmental protection specialist, was exercise director. Mike McCain of the Washington Department of Ecology led training.

Agency participation included Whitman County Emergency Management, Sheriff and vessel, and Public Health; Nez Perce County Sheriff and vessel; Asotin County Fire and Rescue and vessel; and Washington Department of Ecology's Spill Preparedness and Prevention response team.

Corps participation included Lower Granite Dam staff and "Granite Pride" vessel, Little Goose Dam staff, and Clarkston Office personnel and park ranger vessel.

Asotin County Fire District boat and crew deploy an oil containment boom. Top-left: Several agencies and the Corps provided vessels for the exercise. Top Center: Whitman County Sheriff and other agencies participated in an oil spill response training exercise at Boyer Park. Top-right: A Corps Park Ranger boat and crew deploy an oil containment boom. Bottom Left: Whitman County Emergency Management, Sheriff and vessel, and Public Health; Nez Perce County Sheriff and vessel; Asotin County Fire and Rescue and vessel; Washington Department of Ecology's Spill Preparedness and Prevention response team, and Corps personnel and vessels from Lower Granite, Little Goose, and Clarkston participated in the June 26 oil spill training exercise.

Goats serve as sustainable vegetation controllers…


Photos by Chris Alford

Story by Gina Baltrusch

The recent trend of using goats to clear unwanted weeds and brush from levees found its way to the Walla Walla District July 21-30.

Mill Creek Dam and Walla Walla District's Planning Branch staff were uncertain about how good of a job goats would do removing vegetation on the Mill Creek channel's south levee.

But, once they did some research on the topic, they were willing to give it a try.

"Goat-grazing has been used across the country as an effective, sustainable and environmentally friendly way to control vegetation," said Alex Colter, project manager for Mill Creek's vegetation management project. "Using goats eliminates the need for chemicals or burning on creekbanks, and the goats are far more agile than people in steep, rocky areas.

"Grazing also lessens future maintenance by reducing seed production," Colter added. "And, with the Corps' ongoing focus on environmental stewardship and sustainability, we thought it was a tool worth trying."

A $2,500 contract for weed removal was awarded to Healing Hooves of Edwall, Wash. Sub-contractor Goat Pros Organic Weed Control sent a herd of about 70 goats, accompanied by a shepherd and his working dog, Gus, to roam the south levee shoreline between the Mill Creek diversion dam and the foot bridge near the Mill Creek Office.

The agile, four-legged foragers gnawed away at anything green among the riprap rock, clearing the area to allow U.S. Army Corps of Engineers staff to safely inspect the levee during periods of flood risk.

"Overall, they did a pretty good job eating the weeds down to where we can see the levee better," said Chris Alford, a natural resource specialist at Mill Creek. "It was the first time we've used goats for vegetation maintenance, and we learned some lessons from the experience."

"The goats won't eat dry grass, so if we use them again, we'll have to get them out here a little earlier in the year," he noted. "And, they don't move as fast as we thought they would, so we'll need to consider a larger herd or keep them here for a longer time frame."

Visitors seemed to like seeing the goats grazing-working the Mill Creek channel shoreline.

"They were a novelty and drew quite a bit of attention…folks seemed to like them," he said. "I heard of only a couple of complaints that the south trail had to be closed while the goats were on site. But, we received dozens of compliments for choosing an environmentally sustainable means of vegetation control."

Mill Creek staff posted photos of the goats at work on their Facebook page and answered questions from the public. To see the posts, check out www.facebook.com/millcreekdam.

…remove weeds along Mill Creek levees


Photo by Jeremy Nguyen

Goat Pros Organic Weed Control sent a herd of about 70 goats, accompanied by a shepherd and his working dog, Gus, to roam the south levee shoreline between the Mill Creek diversion dam and the foot bridge near the Mill Creek Office.

BEWARE OF BEARS

and other threatening wildlife

Encountering different species may require different responses by visitors

Story by Gina Baltrusch

U.S. Fish and Wildlife Service Photo

The Walla Walla District of the U.S. Army Corps of Engineers reminds visitors to Corps-managed natural areas to exercise caution if wild animals are encountered.

The potential for conflict between humans and threatening wildlife exists since the District hosts 8 million visitors annually at its eight water resource projects in Oregon, Washington, and Idaho in the Snake-Columbia rivers basin.

Warmer months are rearing seasons for young wildlife. A seemingly harmless walk on a nature trail can suddenly change to a dangerous encounter with wildlife. Young wildlife may not yet have enough experience with humans to avoid interactions. Parents of newborn or juvenile wildlife may attack humans to protect their young.

Visitors recently reported seeing a bear eating blackberries along secluded trails within the District's Rooks Park along Mill Creek located about 2 miles east of Walla Walla city limits.

"It (the bear) didn't give me a second glance and kept on eating when I saw it on the trail in front of me this morning (Monday, July 22). It didn't seem to be afraid of people," said Jake Shaw, a Corps employee who frequently runs along trails through Mill Creek Dam and Bennington Lake lands. "It was obvious the bear wasn't going to go away, so I turned around and found another trail to run."

Mill Creek Dam staff reported the encounter to state fish and game authorities, and encourage visitors to remember that most of the lands surrounding developed recreation areas are managed for wildlife habitat purposes.

"A wide variety of wildlife species can be found roaming along trails and lands near Mill Creek and Bennington Lake. That's part of what makes it such a special place to visit," said Chris Alford, Corps park ranger at Mill Creek. "We usually hear of a few bear sightings on our lands each year during blackberry season. It's best to be on the lookout for them and quietly go in a different direction if you see one."

Visitors should be aware of their surroundings and familiar with appropriate responses to wildlife that pose a threat. Different species of threatening wildlife may require different types of responses.

If you encounter threatening wildlife on Corps lands and need immediate assistance, contact local law enforcement, state fish and game agency or Corps of Engineers officials, but remember that cell phones generally do not work in remote areas. Once you are safe, report encounters to local law enforcement officials.

If you encounter seemingly abandoned young wildlife, do not touch or attempt to rescue them. Leaving young animals alone while the adults forage nearby is part of their learning experience that will help them survive on their own. Leave the area quickly, and do not disturb young wildlife, as their mother is almost always nearby. Contact the state fish and game agency or local law enforcement if the animal appears sick or seriously injured, or you were threatened.

The Washington Department of Fish and Wildlife (WDFW) provides suggestions for black bear encounters at http://wdfw.wa.gov/living/bears.html. Information about encounters with other predator-species wildlife is available at WDFW's website at http://wdfw.wa.gov/living/dangerous/.

A day at McNary Lock and Dam

Water, hydropower, cranes and fish, it's all in a days work at McNary

Inside McNary Lock and Dam, it's not just a 7,365 ft. long concrete dynamo, it's also like a living creature.

People hustle and bustle within and around the massive project to keep the dam alive. The turbines lend themselves to giving life to the communities they power. And not just a little. This dam alone could power about 686,000 homes.

Inside, 14 hydroelectric generator units hum harmoniously to bring us our lights and power, while two other smaller units power the dam itself.

Off to one side of the dam you can see the navigation lock, which enables millions of tons of goods and cargo to travel to inland communities.

Meanwhile, the District's environmental-stewardship efforts are saving salmon. During the past decade, survival rates of juvenile fish migrating downstream past the dams have increased because Corps scientists, biologists and engineers developed extensive dam modifications.

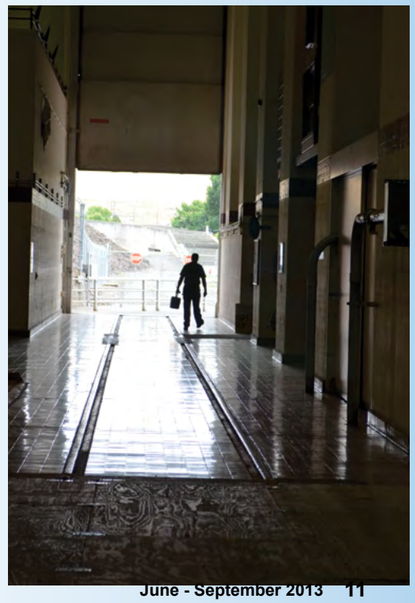
They also developed more effective and efficient spillway operations, and improved fish surface passage and fish bypass systems.

At McNary, two spillway weirs help juvenile salmon and steelhead pass downstream with less stress to fish.

You can see nature in action as adult salmon, having spent two to five years in the ocean, move up river in one of MacNary's two fish ladders, pass McNary's fish counting windows, then swim on upstream en-route to their birthplace to spawn.

All this is possible is only because of hard-working Corps employees working behind the scene. More than 120 Walla Walla District employees make a daily commute to McNary to serve community and Nation.

For them, it's all in a day's work.



Left: Juvenile fish collection channel. Above and right: Contract workers repair a turbine and prepare a 30-ton crane for lifting. Top-right: E.J. Harris and Phil Wright from the East Oregonian newspaper view McNary operations. Far-right: A worker departs at the end of the day.

Story and photos by Cassi Meelhuysen

3rd in a three-part series on the Design Branch

Structural Design

Story by Joe Saxon

Optimizing a building's integrity starts with the Structural Design team in the U.S. Army Corps of Engineers Walla Walla District.

"The Structural Design team serves as the Walla Walla District's architects and structural engineers," said Section Chief Danielle Stephens. "We provide analysis and designs, and prepare plans and specifications for construction at the operating projects (dams)."

In coordination with other disciplines, the 18-member team also provides structural assessment of dam safety concerns, and they design concrete, steel and fiberglass foundations.

Structural design is one of the five technical disciplines within the Design Branch of the District's Engineering and Construction Division. The others include mechanical design, geotechnical design, electrical design and general engineering.

The structural design staff work a number of high-value projects including Lower Granite Dam's fish collection channel.

"At Lower Granite Dam, we're expanding the collection channel as part of Juvenile Fish Facility improvements," Stephens said. "We're creating an above-ground fish bypass route to the juvenile fish facility. We have six engineers working on it, so as you can imagine, it's a big part of what we're doing."

Other major staff projects include McNary's powerhouse stability analysis, Dworshak Dam's issues evaluation studies, the Little Goose Dam's adjustable spillway weir, and the Ice Harbor Dam's spillway modifications efforts which are "changing the shape of the spillway to improve fish passage."

Although their workload is steady, its emphasis changes throughout the year, Stephens said. For example, the team provides increased support during annual winter navigation lock outages for dam safety inspections and conducting hydraulic steel structure inspections during fish ladder outages in December and January.

"We work on plans and specifications, year round, and we also participate in yearly dam-safety periodic inspections that are staggered by project," she said. "But end-of-year contract awards drive a lot of what we do," she said, "so there is always a push in the third quarter and early in the fourth quarter of the fiscal year."

Making all of this possible is a dedicated group of hard-working engineers and architects who are quick to respond, flexible, accommodate project needs and seek successful outcomes, Stephens said.

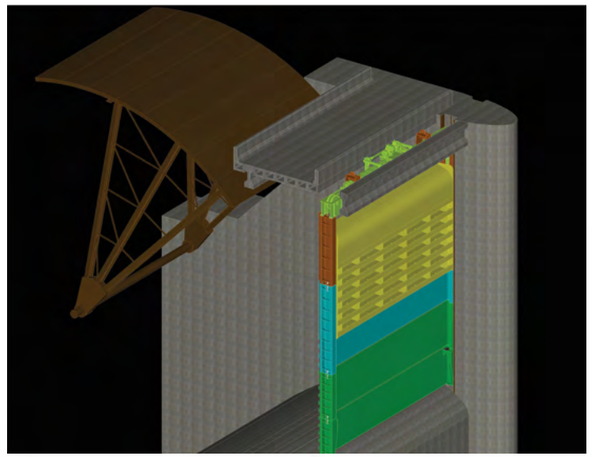
"This highly skilled group of people, who readily serve, are simply awesome," she proudly stated.

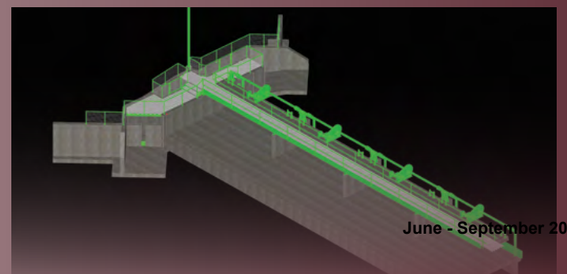
During a typical week "we're very busy," she said. "Most employees are working on more than three projects with staggered deadlines. We conduct a variety of site visits; temporary duty trips; review meetings for design projects; project delivery team meetings to track status such as schedule, technical issues, funding and design work.

"The architects support the Fort Worth District as part of a facilities condition assessment team," she said. "In addition, since Portland District doesn't have architects, we provide most of their architectural designs, as well. Our architects are working on elevator and office space designs for the Portland District, and we're on the ground floor for some of their fish enhancement efforts."

It's all part of building integrity by Walla Walla's structural designers.

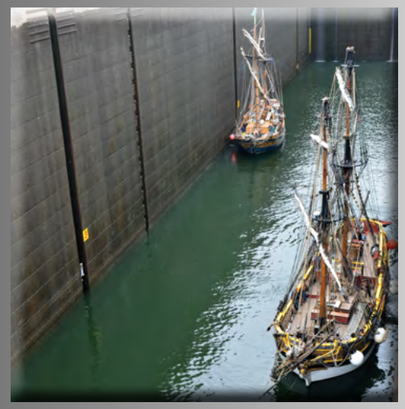
U.S. Army Corps of Engineers photos





Left page, bottom-left: Adjustable Spillway Weir 3D model. Left page, bottom-right: Portland District's Minto Fish Facility. Above and top: the Dworshak Fish Hatchery Degassing construction project; Upper right: McNary Dam Collection Channel Bulkhead precasting. Bottom-right: 3D fish ladder model.

McNary Lock & Dam hails the Tall Ships



Story and photos by Cassi Meelhuysen

Ahoy matey!

Did you spy the Hawaiian Chieftain and Lady Washington cruising through McNary Lock and Dam's navigation lock this summer?

The Lady Washington is an awe-inspiring "tall ship" towering 89 feet tall and 112 feet long. It'sa modern replica of the eighteenth-century original that sunk in 1797.

So why bring it back in 1989? That was the year of the Washington state centennial, and the modern replica is the official ship of the state.

The original ship accomplished feats such as being the first American-flagged ship to sail around Cape Horn and make its first Pacific Northwest landing in 1788.

The Hawaiian Chieftain is an interpretation of a nineteenth century coastal trader 75 feet tall and 103 feet in length. It was launched in 1988.

The two ships often sail together. The voyage through McNary this summer gave onlookers a special glimpse, almost within reach.

The Lady Washington has been seen in "Pirates of the Caribbean: The Curse of the Black Pearl" and other films.

So keep your spyglass handy. These tall ships may sail again through a navigation lock at a nearby Corps dam. Consider seeing the ships, and then visiting nearby Corps recreation areas.

Prepare the deck. It's time to set sail.

Top: Crowds gather by McNary's navigation lock to view the ships' passage. Far left: Views of the Hawaiian Chieftain. Left: Both ships transit the navigation lock. Right: The Lady Washington in all her splendor.

Invasive Species

The Columbia-Snake River system is the last major river system in the United States without them ...but they are only a day's drive away.

Zebra and quagga mussels clog equipment, foul waterways

Story by Greg Moody

They are a bad date all way around.

Zebra and quagga mussels, both nonindigenous and invasive species, arrived in the United States from Europe in the 1980s, most likely in the ballast water of oceangoing ships. Zebra mussels rapidly spread throughout many major river systems and the Great Lakes.

Zebra mussels have caused major ecological and economic problems since their arrival in North America, and quagga mussels pose much the same threat.

When the quagga mussel was discovered in North America in the late 1980s, it caused much concern due to possible effects and environmental tolerances.

Invasive zebra and quagga mussels attached to a boat are now only a day's drive away from the Columbia-Snake river basin, which is not yet infested with them. The Walla Walla District is responding to this threat by monitoring for zebra and quagga mussles. In addition, a facility vulnerability assessment at Lower Granite Lock and Dam is complete. Vulnerability assessments at other District dams will follow.

Impacts of mussel infestation

Quaggas are exceptional water filterers that remove substantial amounts of phytoplankton and suspended particulate from the water. Removing the phytoplankton decreases the food source for zooplankton, which alters the aquatic food chain.

Impacts associated with the quagga filtration of water include increases in water transparency, decreases in mean chlorophyll-a concentrations and also accumulation high levels of contaminants within their tissues. This increases wildlife exposure to contaminants through the food chain. Water clarity increases light penetration causing an explosion of aquatic plants that can change species dominance and alter the entire ecosystem.

Zebra mussels are known to heavily colonize any hard substrata, including native mussels and other invertebrates, causing stress and even mortality among native mussels due to feeding interference. This fouling has severely reduced populations of native mussels.

Quaggas can colonize both hard and soft substrata so their negative impacts on native freshwater mussels and invertebrates are unclear. Both mussels' ability to rapidly colonize hard surfaces causes severe economic problems.

Biofouling, a serious economic threat, can clog water intake structures such as pipes and screens, thus reducing hydropower and municipal water treatment plants' pumping capabilities. This costs industries, companies and communities.

Recreation-based industries and activities have also been impacted. Docks, breakwalls, buoys, boats, fishing gear and beaches have been heavily colonized.

The spread of quagga mussels to Lake Mead and Lake Mohave on the Colorado River is expected to potentially cost millions of dollars for cleanup and control because of mussel effects. This includes clogging engines, encrusting boats and facilities, disrupting the food chain, disrupting sport fishing and littering beaches with sharp smelly shells.

In Utah alone, the state recently indicated that it spends $15 million dollars annually on cleaning and control. The Washington State Invasive Species Council indicated yearly costs to Americans total more than $137 billion.

Many of the potential impacts of these mussels are unclear due to the short time frame of North American colonization. However, it is very clear that these mussels are highly adaptable, and have a very high potential for rapid adaptation to extreme environmental conditions, leading to significant long-term impacts on North American waters.

The colonization of deeper water by quagga mussels exposes it to a new range of environmental conditions and new habitats to be exploited.

History and background

Scientists have been conducting studies to understand the biology, ecology, and physiology of these mussels.

Zebra and quagga mussels appear to have different distributions. Zebras are primarily warm, shallow-water inhabitants. Quaggas are shallow, warm water to deep, cold-water inhabitants.

Quagga mussels are freshwater mollusks that typically have a zebra-like pattern on their shells. The quagga mussel is a freshwater aquatic bivalve mollusk with an average life span of three to five years. This subspecies is indigenous to the Dnieper River drainage of Ukraine. Canals built in Europe allowed range expansion of this species, and it now occurs in almost all Dnieper reservoirs in the eastern and southern regions of Ukraine and deltas of the Dnieper River tributaries.

In August 1991, what is now known as the "quagga mussel" was first found in a random zebra mussel sample from the Erie Canal near Palmyra, New York. After confirming this mussel was not a variety of Zebra mussel, the new species was named "quagga mussel" after the "quagga," an extinct African relative of the zebra.

Both the quagga mussel and zebra mussel are prolific breeders, which possibly contributes to their spread and abundance. Both of these mussels are dioecious (either male or female) with external fertilization.

A fully mature female mussel is capable of producing up to a million eggs per season. After fertilization, pelagic microscopic larvae develop within a few days. These larvae soon acquire small bivalve shells. Free-swimming larvae drift with the currents for three to four weeks, feeding by their hairlike cilia while locating suitable substrata in which to settle. Mortality in this transitional stage from planktonic larvae to settled juveniles may exceed 99 percent.

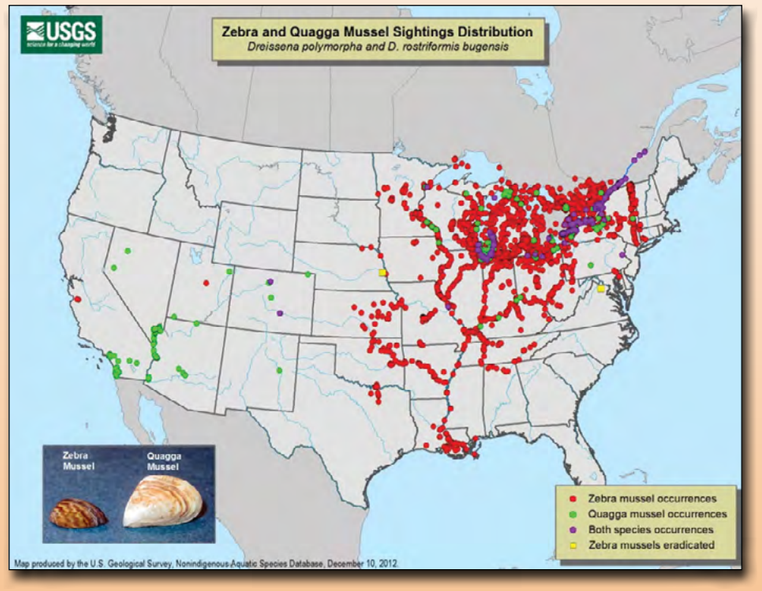
U.S. Fish and Wildlife Service photos

A fully mature female mussel is capable of producing up to one million eggs per season that cling and clog and biofoul waters.

Quagga mussels have spread and were discovered in Lake Mead, Lake Mohave and Lake Havasu on the Colorado River in January 2007. They spread to other inland waters either in their immature form by being transported in water hidden in livewells, bilge, and motors; or as adults attached to boat hulls, engines, aquatic weeds, or other surfaces; or drifting in the water current.

Why you should be concerned

The Columbia-Snake River system is the last major river system in the United States without invasive zebra and quagga mussels. In 2012, fifty-one of the 4,675 watercraft inspected at Oregon invasive species statewide check stations were found to be contaminated with aquatic invasive species. Eighteen were contaminated with either quagga or zebra mussels. All boats were decontaminated at the inspection sites.



The "Washington State Aquatic Invasive Species Prevention and Enforcement Programs: 2012 Report to the Legislature" quoted a 2010 report by the Independent Economic Advisory Board prepared at the request of the Northwest Power and Conservation Council.

The Council concluded that a zebra and quagga mussel infestation will eventually occur somewhere in the Columbia River drainage system and there is a substantial economic risk – hundreds of millions of dollars annually – if mussels become established.

The report indicated that costs to mitigate zebra and quagga mussels at hydropower facilities will be substantially greater within the Columbia River basin than those incurred at other infested sites around the country due to comprehensive fish passage facilities.

It also concluded it would be a good economic investment to improve prevention programs to delay infestations for as long as possible.

Continued on next page

STOP AQUATIC HITCHHIKERS!™

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

Zap The Zebra!

When you leave a body of water:

- Inspect and remove any visible mud, plants, fish or animals before transporting equipment.
- Eliminate water from equipment before transporting.
- Clean and dry anything that comes into contact with water (boats, trailers, equipment, clothing, etc.).
- Never release plants, fish or animals into a body of water unless they came out of that body of water.

If You See A Zebra Mussel Please Call
1-800-437-2744

CRIME WITNESS 1-800-437-2744

To Stop The Spread of Zebra Mussels
Please report any sightings to the Crime Witness Hotline at 1-800-437-2744

Have they arrived

No, but they are only a day's drive away. They attach themselves to boats, so if someone uses a boat in an infected lake and then launches the boat in Washington waters, they could be introduced here. The WSP since 2008 has responded to 37 different incidents of watercraft entering Washington, contaminated with zebra / quagga mussels. The Walla Walla District has an ongoing program, monitoring monthly for early detection at hydropower facilities and identified potential recreational sites within the District as early detection monitoring sites.

This summer, the Walla Walla District will initiate its first facility vulnerability assessment at Lower Granite Dam. Other operating projects within the District will follow.

This report will be focusing on the specific risks and problems that a particular facility will have with the mussels and how it depends on: raw water avenues into the facility, any ongoing processes to treat or transform the water for various facility applications, the routing of all piping branches and location of components and equipment, including materials of construction, and the operating envelope of the various water systems (such as max and min flow rates, frequency of operation, and temperature ranges). This report will assist the operating project management and staff in anticipating and planning for impacts should a future infestation occur.

Prevention and control

Veligers may be carried in livewells, bilge water, or bait buckets. Microscopic, free-floating larvae can be found anywhere there is standing water remaining on vessel or trailer. Attached juveniles the size of sand grains, older juveniles as large as shotgun shot, or adults up to an inch in length, might be found anywhere on your boat. To prevent chances of introducing these species, boaters should drain water from the motor, live well, bilge, transom wells and any other water from the boat and equipment while on land before leaving any water body. This is the method of clean, drain and dry.

Zebra and quagga mussels also cling to vegetation, so great care should be taken to clean off all vegetation from the boat, trailer, and motor before transporting it to another body of water. Not only watercraft should be inspected, but all equipment that has been in contact with infected water. Everyone's help is needed to spot them before they become a problem.

For a source of cleaning methods, procedures and more information you may look online for the 100th Meridian Initiative at: www.100thmeridian.org. This is a great source for mussel distribution and other information.

Lucky Peak staff assists Idaho firefighters


Photo by Keith Hyde


Photo by Keith Hyde

Fires were problematic this summer for Idaho residents and fire crews. Top: Corps boats waiting at Barclay Bay to shuttle firefighters back from the fire lines to camp. Above: Corps staff helped deliver several hand crews to the fire lines. Here one team hikes off along the eastern edge of the burn to begin a long and arduous day.

ALERT

avoid dam spillways

Story and photos by Stephen Doherty

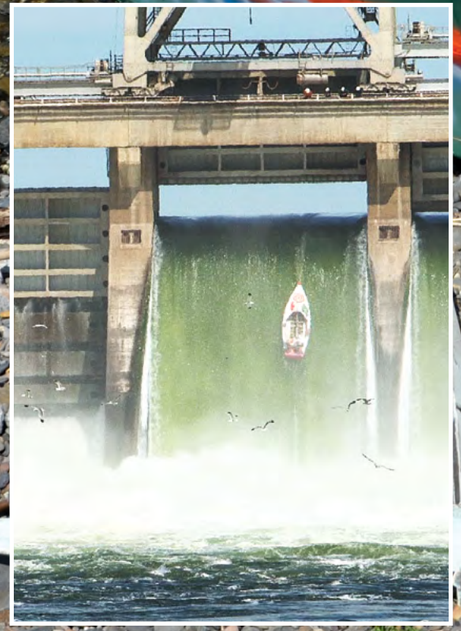
Getting too close to a dam while boating or fishing can lead to tragic results.

The warning signs and buoys placed around the dam are there for good reason. While large spillway releases present obvious dangers, even a small release can be deadly. Conditions both upstream and downstream from a dam can be very dangerous.

On the upstream side of dams, there is a strong undertow created by the flow of water through the gated section of the dam. In addition, boats that approach too closely from the upstream side are in danger of being lodged against the dam, capsized by the undertow, or swept over the spillway.

Certain hydropower operations can lead to the sudden release of a large volume of air into the river downstream. This air release results in reduced buoyancy for boats in the affected areas.

The power of water should never be underestimated, as this recent demonstration for a safety video shows. http://youtu.be/TeLtX7NgYzs



Far left: Two dummies got the stuffings knocked out of them after riding a boat over the McNary spillway during a demonstration staged for a boating safety video. Middle: remnants of the boat. Left: Boat going over the spillway. Above: Stark reminder of the type of damage vessels could sustain from spillways.

Walla Walla District Employees and their families take a timeout to have a little fun in the sun. This years Corps day activities included a picnic, friendly volleyball competition, giant water slide, face painting, water rockets, Sparkles the Clown, horse shoes, kids games and tours of the new Mill Creek Project office.

Having a blast at Corps Day!

Photos by Stephen Doherty

Peach Basket Classic

Photos by Joe Saxon

Top: Andrew Dankel-Ibáñez takes a shot while Jon Renholds blocks out an opponent. The Corps' team finished second at the Walla Walla Peach Basket Classic Corporate Challenge. Below, left: Jon Renholds pops a jumper. Middle: Jeff Lyon plays defense. Right: Jordan Fink pulls up for a shot while avoiding defenders. Above: A slam dunk contestant goes "sky-walking" enroute to a dunk.

ACE Committee goes the Sustainability route with Corps T-shirts

Story by Ruthann Haider and Joe Saxon

3rd in a four-part series on the Walla Walla District's Sustainability efforts

One normally would not associate T-shirts with sustainability, but leave it to LaRhonda McCauley and the Association of Corps Employees (ACE) committee to make that connection.

The ACE committee provides morale, welfare and recreational support to Corps employees.

The District's latest shirts are 50 percent recycled plastic bottles and 50 percent organic cotton.

"Every year we try and come up with a T-shirt for the annual Corps picnic," McCauley said. "This year's design contest winner was Michael Schaffer."

His back-of-shirt design featured the District's dams and rivers.

"We already had the back of the shirt designed when I noticed the Army's 'Go Green' logo on a story in the Intercom," McCauley said. "I thought that would be really nice to have on the shirt, especially if we could get recycled shirts. We contacted the company, and they had environmentally friendly, sustainabile T-shirts."

"When I found those shirts were available, I proposed to our ACE committee that they use the 'Go Green' on the front and Michael's design on the back. The committee unanimously approved it," McCauley said.

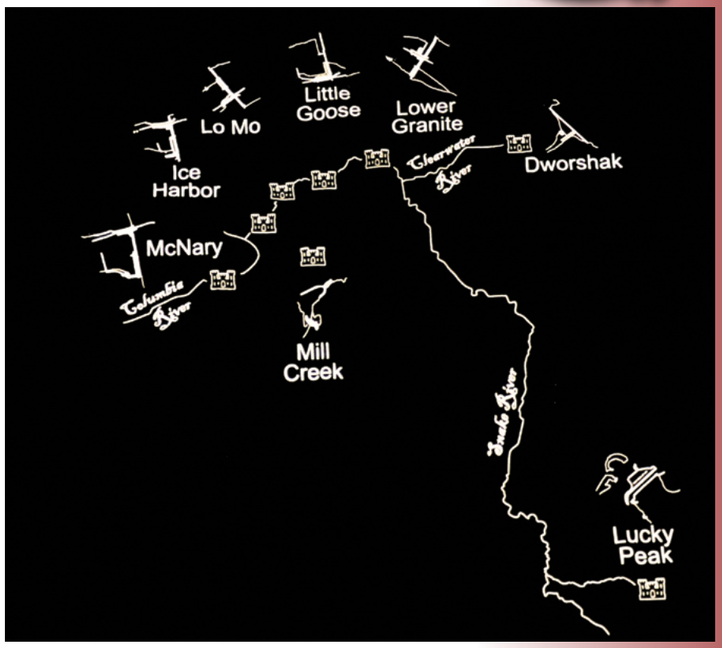
According to the shirt's label, the 4.8 ounce shirt consists of 50 percent ringspun pre-shrunk organic cotton, and 50 percent post-consumer P.E.T. recycled polyester.

"This T-shirt feels incredible and is made of 50 percent recycled water bottles, McCauley noted. "It's environmentally friendly AND good looking! How cool is that!"

In addition to having sustainable T-shirts, the ACE picnic committee took another significant step to improve sustainability efforts in the District. Instead of buying cases and cases of plastic water bottles and putting all those bottles in a local landfill when empty, the committee asked all attendees to bring their own non-disposable water bottles instead.

A water "buffalo" was made available for all the picnickers to re-fill their personal water bottles. Ruthann Haider, chairperson of the NWW Sustainability Committee was excited about this grassroots effort to reduce landfill material.

"LaRhonda is our poster child for sustainability right now," Haider said. She clearly took some extra time to think of significant ways to recycle or reduce waste material related to the annual picnic. Simple efforts like this help our District's efforts to become greener and focus on waste reduction."



ACE is:

Lonnie Croft
Mitsi Fukuhara-Poloa
Ronetta Holland
Jennifer Rand
Michael Schaffer
Ken Koebberling
LaRhonda McCauley
Al Sutlick (Retired)

Above: Back of the new Walla Walla District T-shirt was designed by Michael Schaffer. Left: LaRhonda McCauley displays the front of the District T-shirt.

Around the District

U.S. Army Corps of Engineers photos

Above: Walla Walla District Commander Lt. Col. Drew Kelly escorts Corps Commander Lt. Gen. Thomas Bostick at McNary Lock and Dam. Top, left: McNary Operation's Manager Dave Coleman briefs Lt. Gen. Bostick near a fish screen.

Welcome Lt. Gen. Bostick Corps Commander

U.S. Army Corps of Engineers Commander Lt. Gen. Thomas Bostick visited the Walla Walla District on June 3.

While here, he viewed facilities and met with workers at Dworshak and Ice Harbor dams.

A graduate of the U.S. Military Academy, he also holds a masters degree in both civil engineering and mechanical engineering from Stanford University. He is a licensed professional engineer in the Commonwealth of Virginia.

As the USACE Commanding General, he is responsible for more than 37,000 Civilian employees and 600 military personnel who provide project management and construction support to 250 Army and Air Force installations in more than 100 countries around the world.

Leadership Development Program
Congratulations 2013 Graduates

Members of the Walla Walla District's 2013 Leadership Development class are all smiles as they prepare to graduate.

Back Row

Hydraulic Engineer
Curtis Been
District Headquarters

Contract Specialist
Cam Allen
District Headquarters

Archaeologist
Scott Hall
District Headquarters

Mechanical Engineer
David Salgado
District Headquarters

Fishery Biologist
Dean Holecek
District Headquarters

Chief of Operations
Bill Gersbach
McNary Lock and Dam, Umatilla, Ore.

Front Row

Fishery Biologist
Greg Moody
District Headquarters

Structural Engineer
Jon Lomeland
District Headquarters

Support Services Specialist
Stephenie Renshaw
District Headquarters

Hydraulic Engineer
Brandon Hobbs
Boise Outreach Office

Corps Day award winners

The Walla Walla District recognized employee excellence at the annual Corps Day town hall.

Wendell Greenwald (pictured left) joined the Gallery of Distinguished Civilian Employees. His photo will join the others in the District Headquarters building hallway outside the Castle Room.

Pictured left to right: New Employee of the Year Awardee Procurement Systems Support Analyst Chris Koch.

Outstanding Achievement Awardee (GS10/above) Project Engineer Ryan Bliss.

Support Employees of the Year Realty Assistant Terri Peterson and Realty Specialist Nancy Herres.

Quality Proponent Awardee Project Manager Steve Hartman and Electrical Engineer Brian Head. PMBP Proponent Shawn Nelson, Kevin Crum, and Martin Ahmann.

Not pictured: Outstanding Achievement Awardee (GS9/ below) Jim Wade, Outstanding Achievement (T/C) James Harris. Engineering Excellence Awardee Electrical Engineer Stuart Gregory.

employees of the quarter *Fiscal year 2013*

Third Quarter

Sandy Shelin (far left)
Environmental Resource Specialist

Alex Almeida (left)
Power Plant Electrician
Lower Monumental Lock and Dam

I'M WITH THE CORPS

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Tim Roberts

Position:
Chief of Maintenance, McNary Lock and Dam

Describe your job.
I oversee the maintenance of the "McNary Lock and Dam" multi-purpose hydroelectric project. It is my job to set priorities, schedules and goals. Then get out of the way, so my staff of 50+ people can accomplish them. I try to spend most of my time out on the floor with the craft workers to ensure their needs are being met, so they can focus on the task at hand.

What are some of the biggest challenges you've faced in your current position?
This is a multipurpose project with a number of competing interests that are all looking for the same resources in a web of regulations, rules, and compliance requirements. The safety manual has doubled in size, the Fish Passage Plan became increasingly stringent, and the requirements on taking generators out of service has become progressively more difficult with NERC/WECC standards. Most of these things are outside of our control and necessary, but they place additional challenges on meeting our schedules and goals.

Please highlight a notable milestone or memory in your position.
I've been very fortunate in my career with the Corps. In 1998 I started out as an electrical apprentice at McNary Dam where I was able to work in all of the different maintenance shops and operations. This time gave me an appreciation for the diversity at an operating project. When I moved into my first leadership role, my eyes were awakened, and I gained an understanding that I was part of something bigger. Through the years, I have became very proud of what we do for the region and the Nation.

What is the most rewarding part of your job?
Hands down, the people. I know it sounds kind of cliché to say that, but in my 15 years of experience, I have had challenges personal in nature and watched others deal with difficult life experiences. The Corps as a family has always been there. I feel I'm very blessed to be here working with such a great group of professionals and look forward to another 15 years.