

CORPS' PONDENT

Vol. 38, No. 1 January - February 2014



US Army Corps
of Engineers®
Portland District



Kevin Kitchen, a John Day Lock and Dam crane operator and an Air Force veteran, hiked the Appalachian Trail to promote awareness of two critical veterans' issues: unemployment and Post Traumatic Stress Disorder.

CONTENTS



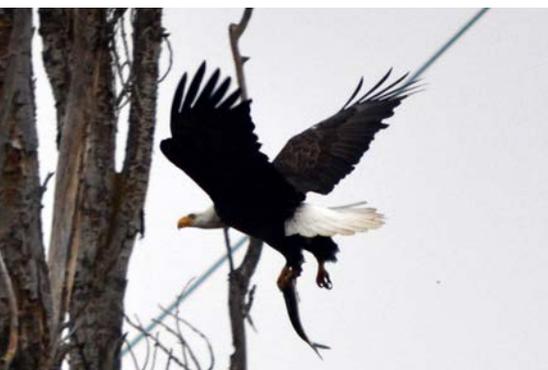
pg.6

January - February 2014

INSIDE THIS ISSUE:



pg.8



pg.10



pg.14

**3 Commander's Column:
Assuming command of the Portland District**

4 Portland District People

**5 Paving the way – The future of
sustainability**

6 Corps contributes to Oregon chub recovery

**8 Hiking Hero promotes awareness,
understanding**

**10 Visitors flock to The Dalles Lock and Dam to
see our Nation's symbol in action**

**12 Spare parts critical for stable power
generation**

**14 Corps engineers consult with Dragon Ninjas
on bridge design**

**16 Sea lion predation at Bonneville Lock and
Dam**

Cover photos: Corps of Engineers photos

Corps'pondent is an authorized unofficial newsletter for Department of Defense employees and retirees. Editorial content is the responsibility of the Public Affairs Office, Portland District, U.S. Army Corps of Engineers, P.O. Box 2946, Portland, OR 97208. Contents herein are not necessarily the official views of, or endorsed by, the U.S. Government or the Department of the Army. Layout and printing by USACE Enterprise Information Products Services. Circulation 750. Contributions and suggestions are welcome by mail, phone at (503) 808-4510 or email to CENWP-PA@usace.army.mil Check out Corps'pondent online at www.nwp.usace.army.mil/library/districtpublications.aspx

**Commander: Lt. Col. Glenn O. Pratt
Chief, Public Affairs: Matt Rabe
Editor: Erica Jensen**





Commander's Column

Assuming command of the Portland District

Lt. Col. Glenn Pratt assumed command of the U.S. Army Corps of Engineers, Portland District, Dec. 4, 2013, after serving more than two years as the District's deputy commander. He follows in the footsteps of departing District Commander Col. (retired) John W. Eisenhower, P.E., who retired the same day.

But this tour of duty was not the first time the two had met.

As a young second lieutenant arriving at his first engineer battalion in 1993, Pratt traveled to the Grafenwoehr training center in Germany for 30 days. His company commander told him, "Pratt, you think you know – but you don't know," and then assigned him to shadow a senior lieutenant who had been a veteran platoon leader, outstanding company executive officer and exceptional battalion staff officer. That senior lieutenant's name? John Eisenhower.

Nineteen years and two crossing of path's later, Pratt met Eisenhower again when he assumed the duties of Portland District's deputy commander, and said his former mentor looked about the same... except for his lack of "top cover."

"My job as the District's deputy commander was a lot like being the chief engineer on one of our dredges," said Pratt. "Think of Dave Paquet on the *Essayons*. The engineer room is his baby, but keeping the ship going on a day-to-day basis is his calling."

According to Pratt, as deputy commander, the District is your

ship. Over time, you get to know the infrastructure of your ship. You learn what works well together, what gets cranky when playing with others and you definitely learn what you can and cannot do – often through counseling from the Contracting Division or the Office of Counsel who tell you, "Sir, you can't do that."

"My focus for the next months as District Commander is to ensure we maneuver the District smoothly through the turbulent waters that lay ahead of us this year. As we look at the challenges facing us federally, regionally and locally we have two choices, we can be shaped by our environment, or we can shape our environment.

"To shape our own environment we need a strong shared vision across the District and we must be willing to examine all of our business practices (even our successful ones) to see if they can be improved and optimized. Just as importantly, we need a shared understanding – that there is no more 'business as usual.'

"I am a strong proponent of top down guidance and bottom up refinement – meaning I and the District Corporate Board need to give clear direction, but our workforce has to help shape how improvements should occur from concept to reality.

"As we move towards our new environment we must be willing to accept new directions all the while remembering that 'changes aren't permanent but change is.' My mission during this time is to provide consistent and clear guidance to allow us, as a



Lt. Col. Glenn O. Pratt

District, to SHAPE our own future, not be shaped by it.

"I fully acknowledge the height of the bar Col. Eisenhower set for me and want to thank him publicly for his unwavering example of courage, dedication and fighting for what was right – both for the District mission and for its employees.

"I fully accept his challenge to take care of our District as we work together to meet our missions. But at the same time, I also recognize that our employees are the heartbeat of this District. Everything else is only property where we practice and perfect our trades.

"I will never be able to properly convey the honor it is to serve here and how I look forward to leading us in the Corps' motto, 'Essayons, let us strive.'"

Lt. Col. Glenn Pratt



Portland District People

Patrick Smith

Power Plant Operator, Rogue River Basin Project



Corps of Engineers photos

Describe your job.

As a power plant operator I monitor and control hydropower generation, river flow and temperature requirements. In short, this means I provide clean hydropower for the electrical grid; maintain flood control ensuring our public's safety and also support fish and wildlife habitat through river flow and temperature operations.

What challenges do you encounter when doing your job?

My job is most challenging during heavy weather events – when I must remain alert and manage changes in river flows while also ensuring constant communication with our District personnel. It's during these times I am the most vigilant as public safety is paramount.

My biggest rewards come from knowing what I do as a power plant operator is a cornerstone of the District's mission – supporting our public safety, recreation, and environmental awareness.

What inspires you or motivates you as you do your job?

Having worked in the Portland District since 1999, I can't imagine working at any other District. I have met my career goals here and plan to retire in the immediate area.

What was your first job?

I grew up in a small farming community in Iowa. My first work experiences were steeped in farming activities – haying, hoeing beans and general farm chores were

part of my life, starting about age 13. I also worked at the grocery store, as an orderly at the hospital and even at the local grain mill. I joined the U.S. Navy in 1969 at 19 and retired in 1989 as a Chief Warrant Officer 3 – my success in that career was due to many inspiring and influential people along the way.

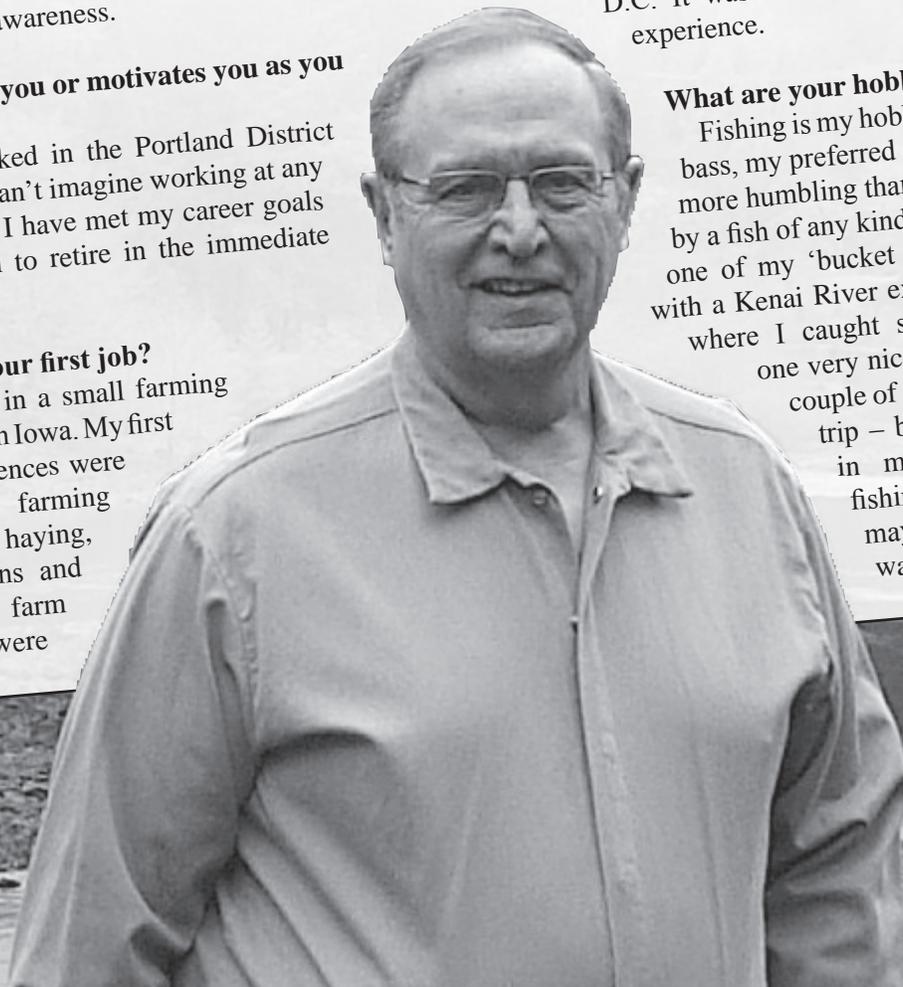
None of this would have been possible, however, without the values and foundation of life instilled by my parents who exhibited a strong work ethic and personal responsibility. Their influence helped me to stay grounded and to regain focus when life tossed a curve.

Favorite travel destination?

My Navy career allowed me to see many exotic locations. But none has moved me more than when my wife, Debbie, and I spent a week in Washington D.C. It was a very humbling and proud experience.

What are your hobbies?

Fishing is my hobby of choice – with bass, my preferred species. Nothing is more humbling than to be out-smarted by a fish of any kind. I also checked off one of my 'bucket list' items in 2011 with a Kenai River experience in Alaska where I caught some great halibut, one very nice king salmon and a couple of sockeye. It was a fun trip – but in hindsight (and in my opinion) salmon fishing in the Northwest may be superior in many ways. 





Paving the way – The future of sustainability

By Amber Tilton, The Dalles Lock and Dam



Photo by Amber Tilton, The Dalles Lock and Dam

Members from the Northwest Youth Corps, an organization that provides youth with work experience and educational opportunities, lay pavers to transform what was once a foot path through Memorial Park into a nice trail.

We all hear the phrase ‘Reduce, Reuse, Recycle.’ This past summer, employees at The Dalles Lock and Dam took that cliché seriously when they came up with a creative way to do just that.

It all started when the powerhouse was being re-roofed. At the same time as the roof replacement, park rangers also were discussing new service projects to be completed by members of the Northwest Youth Corps, an organization that provides youth with work experience and educational opportunities through unique on-the-job training.

The natural resource staff relies on the youth corps and other groups who participate every year in annual volunteer events to help them complete a backlog of maintenance items that

have become part of their ever growing to-do list.

“While discussing future volunteer efforts and our plans for Memorial Park, one of our resource maintenance employees suggested we use the old pavers from the powerhouse roof to fix the park’s trail,” said Kelly Thomas, a natural resource manager at the dam.

It made sense. Pallets of concrete pavers removed from the roof had been set aside while construction on the new roof began – and using these pavers for a new path in Memorial Park would keep the material out of the landfill and save the Corps nearly \$2,700.

Memorial Park is dedicated to employees who have passed away while employed at The Dalles Lock and Dam. Trees are planted and a memorial plaque is installed honoring each employee. “The trail before was really just a foot path,” said Thomas. “The improvements really add honor to the purpose of the park.”

Work began in June 2013, started by local volunteers from Google who helped resource maintenance staff and park rangers begin to ‘pave the way’ through the park’s green space. Young members from NWYC followed right behind them, completing the trail, one paver at a time. In all, the construction work by both groups resulted in a labor cost savings of almost \$11,000!

Completing the Memorial Park Trail is just one of the innovative ways The Dalles Lock and Dam natural



Photo by Kelly Thomas, The Dalles Lock and Dam

Google volunteers began work on the Memorial Park path in June, 2013, with final work later completed by members of the Northwest Youth Corps.

resource staff uses alternative means to complete projects that would otherwise be deferred due to lack of resources.

Thomas said a total of \$13,542.78 was saved on labor and materials to build the new path, and that its construction is just one concrete example of how the ‘Reduce, Reuse, Recycle’ concept and ‘thinking outside the box’ has benefitted the Corps.

“This is our future,” concluded Thomas. “We must continue to think creatively because we lack the resources to complete all the work we need to do. Using these types of methods will help us ensure a sustainable and viable recreation program and positive experience for our employees, visitors and for the citizens of the Northwest.” 



Corps contributes to

Willamette Basin minnow is first fish proposed for removal from Endangered Species List

By Elizabeth Materna, U.S. Fish and Wildlife Service
and Scott Clemans, U.S. Army Corps of Engineers, Public Affairs Office

In a monumental success for Portland District and the other members of the Oregon Chub Working Group, the U.S. Fish and Wildlife Service has proposed delisting the Oregon chub from the federal Endangered Species Act due to species recovery. If finalized, it would be the first fish to be delisted through recovery rather than administrative or legal review.

“This is an excellent example of how the Endangered Species Act is intended to function: A great vision, and a lot of hard work together with partners to recover an endangered species,” said Paul Henson, Oregon Fish and Wildlife Office state supervisor. “This is a monumental success and couldn’t have happened without our partners at the Oregon Department of Fish and Wildlife, U.S. Army Corps of Engineers, and many others.”

Oregon chub were listed as endangered in 1993 under the Endangered Species Act and reclassified as threatened in 2009, moving this fish from endangered to recovered in just over 20 years.

The Oregon chub is a small minnow existing only in Willamette River Basin floodplain habitats with little or no water flow, such as beaver ponds, side channels and flooded marshes. These habitats generally have considerable aquatic vegetation to provide cover for hiding and spawning. Along with the delisting proposal, USFWS also is proposing to remove the species’ critical habitat designation throughout its range.

The species is one of four covered under Portland District’s Willamette Biological Opinion Implementation

Program. The District’s Fish Operations Section and Willamette Valley Project contributed significant resources to the monitoring and successful management of many Oregon chub populations, particularly on Corps land below its Willamette Valley dams.

For example, biologists with the Corps’ Willamette Valley Project and partner agencies identified ponds below the Hills Creek Dam spillway as suitable habitat and reintroduced a



Paul Scheerer, ODFW fish biologist and Oregon Chub Recovery Project leader, looks for Oregon chub in a side channel of the North Fork Santiam River near Stayton, Ore.

Photos courtesy Oregon Department of Fish and Wildlife



Oregon chub recovery

few hundred chub into them. Just a few years later, surveys found tens of thousands of fish.

The District's Fish Operations Section also provided significant funding to ODFW monitoring efforts.

"The U.S. Army Corps of Engineers is known for building and creating, but our role in stewardship of a completed project is integral to its long term success," said Greg Taylor, Willamette Valley Project aquatic stewardship supervisor. "We're proud of our role in identifying suitable Oregon chub habitat on our project lands, supporting reintroducing the species into it, and providing funding to support monitoring and reintroduction efforts throughout the Willamette Basin."

Other recent Corps feasibility studies conducted with local partners, such as the Willamette River Floodplain Restoration Study and the Springfield Metropolitan Waterways Ecosystem Restoration Study, have identified opportunities to create additional habitat for the species along the McKenzie River and Coast and Middle forks of the Willamette River.

Partnerships have been the foundation of the Oregon chub's recovery, beginning with ODFW's conservation planning efforts which led to the development of the species' recovery plan. Other key partners include the U.S. Forest Service's Willamette National Forest, Oregon Parks and Recreation Department, McKenzie River Trust,

and Confederated Tribes of the Grand Ronde, all of which manage habitat that support Oregon chub populations.

Many private landowners have also contributed to the recovery of Oregon chub by creating and managing habitat to support existing or reintroduced Oregon chub on their property.

"This has been a very strong public-private partnership in the Willamette Valley and clearly demonstrates that listed species can be recovered and delisted in a highly populated, working landscape," said Paul Scheerer, ODFW Oregon Chub Recovery Project leader.

This recovery underscores the success of the Endangered Species Act as it celebrates its 40th anniversary. Twenty-six species have successfully recovered and been removed from the endangered species list since the ESA was signed.

Recent status reviews for two other Oregon species – the Borax Lake chub and the Columbian white tailed deer – have recommended reclassification from endangered to less critical threatened status.

The ODFW now has up to one year to determine whether the proposal to remove the Oregon chub from the endangered species list should become final, and to validate the Oregon chub Post-Delisting Monitoring Plan. 

For more information about the Oregon chub, visit <http://www.fws.gov/oregonfwo/Species/Data/OregonChub>.



Oregon chub, which are endemic to Oregon's Willamette Valley, were listed as "endangered" under the Endangered Species Act in 1993. In 2014, they qualified for delisting under the Act and were the first fish to be recovered under the Act due to species recovery.



Hiking Hero promotes awareness, understanding

By Michelle Helms, Public Affairs Office



A John Day Lock and Dam crane operator set out for a hike one day on the Appalachian Trail. It was a long hike. Six weeks and 1,100 miles later, Kevin Kitchen, an Air Force veteran, and his hiking partner Army veteran Eric Bourquin reached the marker at end of the trail, adding their names to the list of people who have made the same trek.

Their journey, sponsored by the Hiking Heroes Foundation, was intended to bring awareness to two issues many veterans struggle with: unemployment and Post Traumatic Stress Disorder.

“It’s amazing,” said Kitchen. “You go through parts of Virginia and they have never been around people in the

military. All they know is what they see on the news; they have no idea what PTSD truly is.”

Bourquin began the hike July 11 at the northern end of the trail at Mount Katahdin, Maine, with Army veteran Sean Niquette. It’s not an easy hike; the Appalachian Trail Conservancy website reports the trail is about 2,180 miles long and stretches through 14 states, from Maine to Georgia. Halfway into the hike Niquette had to fall out; that’s when Kitchen stepped up to support Bourquin’s quest to finish the trail.

“This is something I firmly believe in,” said Kitchen. “Eric needed someone to hike with him and I couldn’t leave him out there on his own.”

Kitchen is an Air Force veteran who still takes his “wingman” responsibilities seriously. He spent much of his military career on combat missions in Iraq and Afghanistan; missions where looking out for the airman or soldier serving next to you becomes second nature. His devotion to duty earned him awards and recognition, including a Presidential Citation and a Bronze Star with Valor.

The Department of Veterans Affairs National Center for PTSD says between 11 and 20 percent of veterans who served in Iraq and Afghanistan may experience post traumatic stress. Kitchen is one of those veterans.

“I have my days, but it’s not a bad thing,” said Kitchen. “[I am able to] function and do a job with post traumatic stress.”

He carried that message with him as he hiked the trail, meeting people of all ages from all walks of life.

“I talked to doctors, students, business people,” said Kitchen. “I told them to be aware. There are a lot of younger people out there who have post traumatic stress, but it doesn’t make them unemployable.”

In recent years, unemployment rates for veterans who served since 9/11 have hovered around 10 percent, but according to statistics released by the U.S. Department of Labor in



Corps of Engineers photo

Kevin Kitchen (right), a John Day Lock and Dam crane operator and Air Force veteran, and his hiking partner Army veteran Eric Bourquin reached the marker at the end of the Appalachian Trail Nov. 22, 2013. Their journey, sponsored by the Hiking Heroes Foundations, was intended to bring awareness to two issues many veterans struggle with: unemployment and Post Traumatic Stress Disorder.



December, it's getting a little better as more employers hire veterans.

Veterans returning to civilian life and jobs bring a lot to the table. In addition to job skills acquired in the military, veterans have reliable work ethics, communication and leadership skills – and they work well on teams.

Kitchen began working for the Portland District nearly two years ago. He is one of only four crane operators on the John Day structural crew. When he asked to join the hike his supervisor wasn't sure they could manage without him.

"Kevin came in my office on a Tuesday morning and said 'I have an opportunity to help another veteran,'" said Mike Decker, John Day Lock and Dam Structural Crew Supervisor. "My interest was piqued. So I asked how long are we talking about?"

Kitchen was talking about a six week commitment and would need to leave on Thursday, just two days later.

"It was right in the middle of our busiest season," said Decker. "The holidays were coming up, too. I wasn't sure we could do it. It would be a hardship for the entire crew."

Decker thought about it overnight; he visited www.hikingheroes.com, the Hiking Heroes website. As he learned more about their mission he felt he needed to try to find a way to let Kitchen go, but he needed his crew's support.

"Probably 95 percent of our crew members are veterans," said Decker.

"So when one veteran said that they were going to help another veteran they were all-in. They said they would do what they needed to do to support it."

Two days later Kitchen was on his way to Virginia to catch up with Bourquin and complete a hike for which most people spend months training.

"Prior to this, I told my girlfriend I would never hike again, or camp," said Kitchen. "I had no interest in either when I got out of the military."

It had been a few years since his last military deployment, but this quick deployment felt familiar in some ways.

"I've been in that mindset enough before, where you just kind of forget about everything else and focus on the mission at hand," he said.

Kitchen said in addition to spreading awareness and promoting understanding of PTSD and veteran unemployment, the hike gave him

some time to decompress, gave him a chance to clear his mind and focus on just one thing: reaching the end of the trail.

"It was time for me just to let go of everything and just think about walking and where I was going to sleep the next night," said Kitchen. "It was easy. I didn't have a million things going at one time."

That said he doesn't plan to do take a walk like this again anytime soon.

"It gets to be like tunnel vision out there, too. I mean, all you're doing is walking," said Kitchen.

There's a lot to be said about the benefits of taking a nice, long walk. For this hiking hero, those benefits included increasing awareness and understanding for his fellow veterans and how PTSD can affect them. And some long walks, like Kitchen and Bourquin's, bring you to the end of the Appalachian Trail. 



Corps of Engineers photo

Kevin Kitchen, a crane operator at John Day Lock and Dam and U.S. Air Force veteran, signs the log book at the end of the Appalachian Trail Nov. 22, 2013.





Visitors flock to The Dalles Lock and Dam to see our Nation's symbol in action

By Erica Jensen, Public Affairs Office

Nestled between Oregon and Washington is the Columbia River Gorge National Scenic Area, home to year-round resident bald eagles and temporary host to hundreds more that winter there – flying south as soon as northern rivers and lakes freeze over and food sources become scarce.

Westrick Park at The Dalles Lock and Dam has become a prime winter roosting habitat for bald eagles in recent years. The park, closed to the public several years ago due to increased security restrictions and declining budgets, has now become a secluded, quiet location whose proximity to the river makes it a perfect wintering site for bald eagles and other migratory birds.

“The mighty Columbia River is one of the largest rivers in North America and provides an excellent food source for our winter guests,” said Amber Tilton, park ranger at The Dalles Lock and Dam. “Each winter we see an influx of eagles taking advantage of the open water to hunt for fish and waterfowl.”

As more and more of the raptors arrived, the natural resource staff at The Dalles Dam also noticed an increase in visitors and, as a result, developed its annual Eagle Watch four years ago.

The Eagle Watch is held at The Dalles Dam Visitor Center, across from Westrick Park where the eagles roost. “The location allows everyone to enjoy watching these amazing birds while still keeping a respectful distance so as not to disturb them,” Tilton said.

Visitors watch from across the river as eagles congregate in the trees at Westrick Park. The Dalles Lock and Dam Visitor Center is a prime location for eagle viewing in the winter months between December and February.



Visitors use binoculars and powerful spotting scopes to view eagles and other birds at The Dalles Lock and Dam Eagle Watch on Jan. 11 and 12. Westrick Park, located across from The Dalles Dam Visitor Center, is a popular winter habitat for migrating bald eagles that roost there

Photo by Amber Tilton, The Dalles Lock and Dam

During this year's Eagle Watch, held in January, more than 340 people braved the threat of a winter storm to “see the eagles and other raptors and learn some new things” as James Bramer of Hood River, Ore., commented during his visit.

The weather in The Dalles held that day, with the sunshine breaking through the rain and wind, making it easier for visitors to view the birds through powerful spotting scopes and binoculars. Local residents and out-of-towners from as far away as Pendleton, Wasco, and Yamhill, Ore., who were kept warm with a blazing bonfire and hot cocoa, seemed to enjoy the Eagle Watch activities at the visitor center.

Photo by Emma Nelson, The Dalles Lock and Dam



Photo by Fritz Bentz

Every winter bald eagles stage themselves in trees at Westrick Park waiting for a meal of American Shad to float by in the waters of the Columbia River.

In addition to eagle watching, volunteers taught children about bald eagle anatomy by dressing them up in an eagle costume. A touch table was also available, complete with replicas of a bald eagle, osprey and turkey vulture skull and an osprey and eagle egg. An educational film about the bald eagle's recovery, a raptor display, and handouts provided "something for everyone" as one anonymous commenter said in the visitor log book.

"Thanks to the great partnership we have with the U.S. Forest Service, Rowena Wildlife Clinic and The Dalles Discovery Center, we can provide outdoor wildlife viewing and live raptor education during the event," said Tilton. "They were able to arrange for special guest appearances by an American kestrel and a great horned owl – and what better way can we promote environmental stewardship to our visitors than by helping them to experience nature first hand?"

It seems spectator Ron Fransen from Dallesport, Ore., would agree, "I came to see the eagles in their natural habitat and the 'live birds of prey' show, but I was also most impressed by the knowledgeable staff and volunteers who came together to put on this Eagle Watch for the public to come and watch our Nation's symbol, the American bald eagle in action." 

What visitor's experienced ...



This great horned owl resides at the Rowena Wildlife Clinic. His injury prevents him from being release back into the wild. Volunteer and park ranger with the U.S. Forest Service, Ron Kikel, educates visitors at the eagle watch about the challenges facing the raptor kingdom which include declining habitat and the dangers of toxic substances and litter.

"We dig eagles and Eagle Watch was a great place to witness them." Connie, Sherwood, Ore.

"We learned how to distinguish eagles from one another. We didn't know that an eagle's eye color changes as they age." Todd, Arlington, Ore.

"Great program, great scopes and educators. Very informative. Will come again and bring the kids and grandkids!" Mary, Goldendale, Wash.

"It was great to see the eagles through the scope and to see so many at one time." Heidi, White Salmon, Wash.

"I loved the eagle costume!" Melissa, Vancouver, Wash.

"I learned that eagles eat meat, they can hold two pounds in their crop. Their bones are hollow and they have a 6- to 8-foot wingspan. They are beautiful and majestic!" Sarah, The Dalles, Ore.

"I was surprised to learn that that they [the bald eagles] don't like each other." Chuck, Canby, Ore.

Photo by Amber Tilton, The Dalles Lock and Dam





Spare parts critical for

Story and photos by Amy Echols, Public Affairs Office

Here is a familiar story: your car breaks down. It's towed to a shop for repairs. You learn that the necessary parts are not in stock and will take two weeks for delivery from a distant warehouse. A rush job will cost twice as much and the situation puts you on public transportation for a while.

While auto repairs are a personal inconvenience, much worse ensues when generator bushings fail or a transformer stops working at a U.S. Army Corps of Engineers powerhouse. Replacing large, key parts can take from many months to several years, spurring a loss in production and potential impacts to consumers.

A collaborative, multi-agency Critical Spares initiative among the Corps, the U.S. Bureau of Reclamation and the Bonneville Power Administration (the three agencies that comprise the Federal Columbia River Power System) is improving some business practices by strategically building a reserve of these parts for critical hydropower assets, such as turbines, generators and transformers. Their goal is to be prepared for the unexpected failure of essential equipment and the speedy replacement of aging equipment that surpasses its usefulness.

“Aging equipment increases the power system’s risk of failure,” explained Sondra Ruckwardt, who manages Portland District’s hydropower assets funded directly by BPA. “Much of our power train equipment – turbines, generators, bushings – is made from components manufactured around the world, not unlike the cars we drive today. With that, it can take many months, even years, from our order to delivery through the installation of these huge parts.”

The Critical Spares process begins with inventories at Corps and BOR dams to identify the condition of critical equipment and prioritize each part’s value to the Columbia River’s federal hydropower system, including power production, safety and the environment. The agencies then evaluate the risk of the equipments’ failure, calculated by weighing the probability of something going wrong against the resulting consequences. Team members, including engineers, contract specialists, operations staff and

resource managers, research and document lead times for the manufacturing and delivery of replacement parts. All combined, this information guides investments to build up an inventory of “critical spares” in key locations around the system of federal dams.

Traditionally, Portland District warehouses stock a variety of parts but changing business conditions call for a reduction in inventory of the less-significant parts that don’t take much lead-time to manufacture. Conversely, increased access to more complicated spares (“essential exceptions” in operations business lingo) minimizes the loss of productivity. Typically, these parts take more than three months lead-time to acquire.



Dennis Schwartz, co-chair of Portland District’s Large Capital Program, checks over critical spare transformer bushings at Bonneville’s second powerhouse.



stable power generation

The failure of one transformer at a large dam like John Day puts a stop to several powerhouse generators and managers must divert resources, including staff, to other activities. Currently in stock, a spare

transformer on the deck of the powerhouse will eliminate the lengthy contracting, manufacturing and related efforts to acquire a spare. Generation can resume without extended

power loss. In addition, the compatibility of this spare transformer is a key part of the Critical Spares initiative as well – Walla Walla District projects on the lower Snake River can use this same unit should the need arise.

“We weigh the cost of building up a more expensive critical spares inventory, including the maintenance and storage of spare parts, with the benefits of a more resilient system,” said Ruckwardt.

“The failure of a transformer at Bonneville’s second powerhouse will reduce its generating capacity by 50 percent. The unit weighs more than 282 tons, including oil and an oil tank, so just removing it would take several months,” said Dennis Schwartz, co-chair of Portland District’s Large Capital Program. “But that is nothing when compared to the three years it can take to manufacture, assemble and deliver a spare. Then add a few months to get it working at the dam.”

With a large inventory of original and aging power train equipment in Portland District, the \$12 million spare transformers already on site at John Day and Bonneville dams are considered investments in efficiency.

Schwartz said that the initiative also establishes contracting and other mechanisms to acquire spares and adds to current successful business practices around the Corps. “So when a part is shipped off to the graveyard at the end of its life, this effort will help keep the region’s system at peak performance.” 



The original generator bushings on a transformer at Bonneville Dam are critical to the flow of power to transmission lines.



Corps engineers consult with

By Michelle Helms, Public Affairs Office

Three U.S. Army Corps of Engineers, Portland District employees shared their expertise with some potential future engineers from a Beaverton elementary school. The fourth graders, who call their team the Dragon Ninjas, asked the Corps engineers to take a look at their bridge design idea for the Intel® Oregon FIRST® LEGO® League Championships in January.

The Dragon Ninjas presented their challenge and solution to Matthew Hanson, Jordan Reimer and Ben Stolt, structural engineers from the District's Engineering and Construction Division.

The challenge: students and faculty need a second evacuation route from school grounds, but the only option

is through a marsh behind the school into an adjacent neighborhood.

The solution: a bridge to get everyone over the marsh away from the school.

“But the neighbors may not like it,” said Rishabh Sharma, Dragon Ninja team member. “That’s why we came up with the solution of a temporary roll-out bridge.”

The students determined that a temporary bridge meant the school’s neighbors wouldn’t have to worry about construction and that it would only be used in an emergency.

That idea sparked the interest of the engineers and for over an hour they and the Ninjas brainstormed ways to make the bridge stronger and safer, yet still simple enough to deploy quickly.

Corps of Engineers photo



The Dragon Ninjas explain their idea for a temporary bridge behind their school to three Portland District structural engineers. The fourth grade students competed in the Intel Oregon FIRST® LEGO® League Championships. The FLL competition challenges kids ages 9 to 14 years to work together to solve a problem. For this competition participants were told to find a solution to a problem related to a natural disaster.

The FLL competition challenges kids ages 9 to 14 years to work together to solve a problem. For this competition participants were told to find a solution to a problem related to a natural disaster.

“The kids chose earthquakes,” said Ravi Sharma, a Dragon Ninja parent-coach. “They met with the principal to learn how they could prepare their school to respond in the event of an earthquake.”

“Their concept is extremely unique,” said Stolt. “It is relevant and I can see it having uses even beyond a seismic structural application.”

The students’ parents looked on as the engineers used simple models to demonstrate the effectiveness of different designs and materials.



Dragon Ninjas on bridge design

“It’s always useful to have experts give them advice,” said Sharma. “Parents can only guide them so much, and having firsthand knowledge from the engineers who really do this is extremely useful.”

“We did learn a lot and now we’re going to improve our solution,” said Arushi Mantri, Dragon Ninja team member. “We realized it wouldn’t stay up unless there’s a load on both sides of it; and we need some sort of truss. We’re going to build a model and think more about it.”

Sharma said after the meeting the kids went back to their design to figure out how to use what they learned from the engineers. He said they modified their design somewhat to incorporate a way to secure and support the bridge as it rolls out over the marsh, making it safe for people to move across.

“We don’t know if it will work,” said Sharma. “But at least they’re thinking in the right direction.”

The Corps’ engineers said they enjoyed meeting the Dragon Ninjas and hearing their ideas. Stolt, who participated in similar competitions when he was in high school, said he saw this meeting as an opportunity to encourage youngsters to continue pursuing engineering knowledge.

“We need more engineers,” said Stolt. “And this shows them that something they consider fun, these Lego® competitions, is something you can keep doing. Your job can be something you enjoy and at the same time provide a valuable service to your community.”

The Dragon Ninjas presented their bridge design Jan. 18 at the FIRST®

LEGO® League Championships. Sharma says the judges were impressed with the project, and gave favorable comments on the team’s innovation, project practicality and for seeking out resources and consulting experts.

“I think the kids clearly benefited from the interaction with the Army Corps of Engineers,” said Sharma. “They’ve started thinking about how to use this new knowledge about bridges. I think the kids really appreciated it and so do all of us parents.” 



Photo by Ravi Sharma

The Dragon Ninjas presented their bridge design Jan. 18 at the FIRST® LEGO® League Championships. Judges had favorable comments on the team’s innovation, project practicality and for seeking out resources and consulting experts. The team also did well in the robot portion of the competition. They earned 1st place for Robot Performance and 2nd place for Strategy and Innovation in Robot Design. The Dragon Ninjas, from left to right, are: Uma Divekar, Anay Patki, Rishabh Sharma, Varun Bhat, Nafizur Rahman and Arushi Mantri.





SHARING THE CORPS MESSAGE:

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

Sea lion predation at Bonneville Lock and Dam

Predominantly male California and Stellar sea lions swim up the Columbia River to Bonneville Lock and Dam in mid-to late-February to eat part of the annual spring migration of sturgeon, salmon, steelhead and other anadromous fish. They do this to gain weight and energy for the spring mating season and leave by mid-May. The number of fish eaten by sea lions has increased nearly every year since studies were first undertaken by the Corps.

- The Corps' role in sea lion issues at Bonneville Lock and Dam Project is limited to monitoring sea lion numbers and predation; evaluating the effectiveness of management techniques; and keeping sea lions out of our fishways.
- We support the actions of NOAA Fisheries Service and state and tribal agencies to ensure the protection and continuity of native fish species.
- The Corps has contracted with U.S. Department of Agriculture's Wildlife Services to harass sea lions from the dam structure to keep them away from the fishway entrances. Wildlife Services is not shooting or killing sea lions.
- While the Corps operates the dam and the fishways, NOAA Fisheries Service has responsibility for sea lions under the Marine Mammal Protection Act, and the state fish and wildlife departments have hands-on responsibility for any animal within their borders
- Stellar sea lions – which can be hazed but are currently protected from removal – are having an increasing impact on white sturgeon below Bonneville. 

Corps of Engineers photos