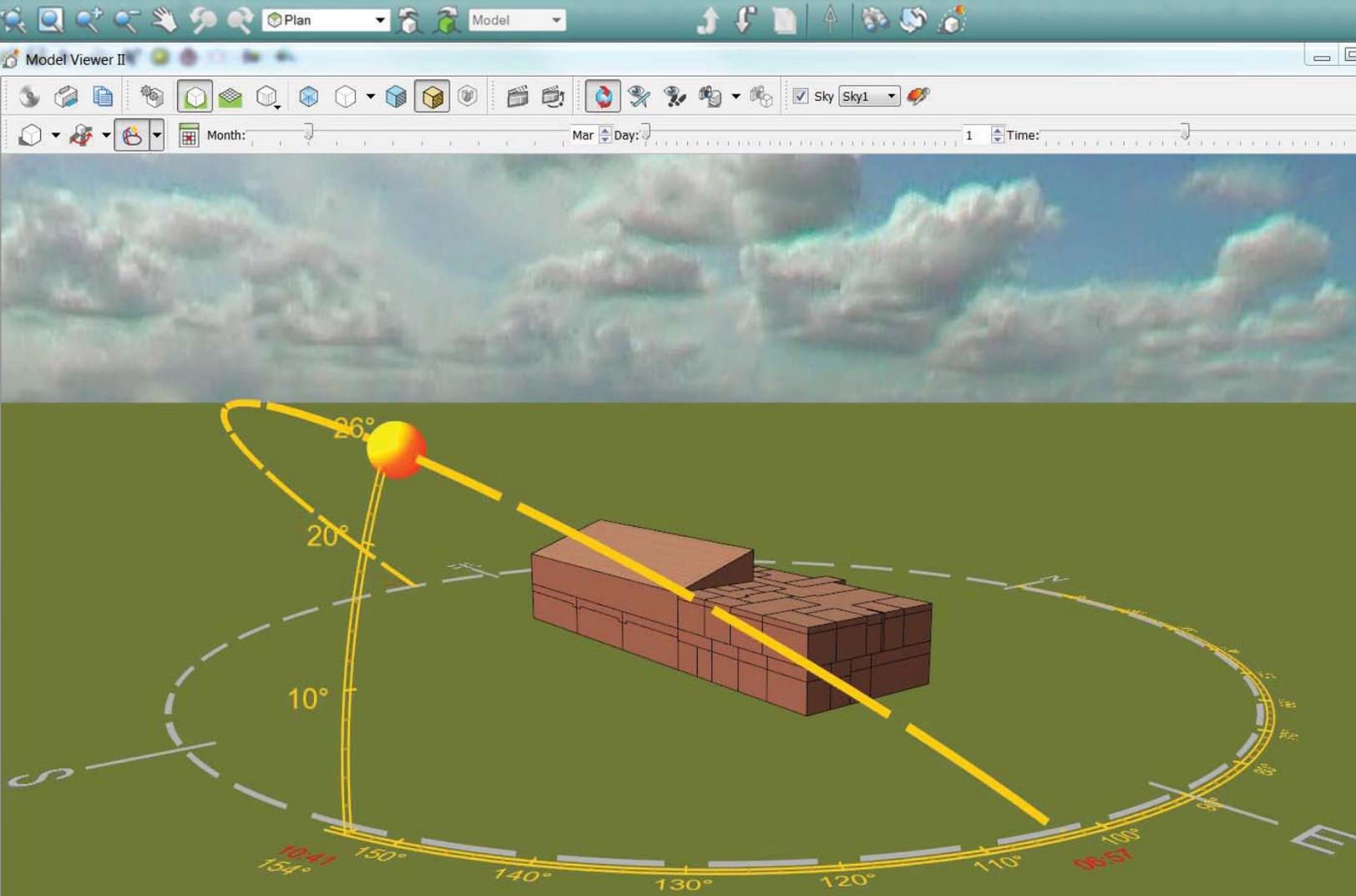


# Flagship

SEATTLE DISTRICT



## ***BIM: Supporting Energy Analysis***

inside

## U.S. Army Corps of Engineers Volume XXVIII No. 4

3 commentary

4-5 Fish survivability study

6-7 BIM: Supporting Energy Analysis

8-9 Vivian McGinty

10 GreenGov winner

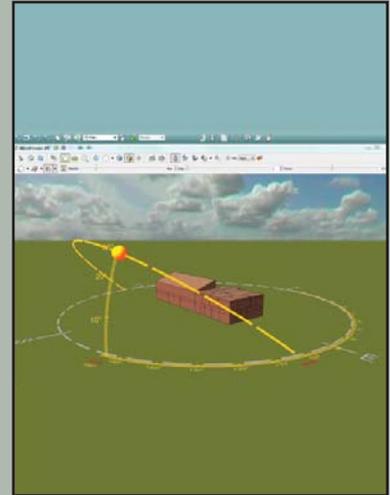
11 Building teams through partnering

12-13 What's lurking in the Locks?

14 Winter driving tips

15 Around the District

16 Veterans Day video chat



Cover:

### **BIM: Supporting Energy Analysis**

The front cover shows a screen shot of early design-stage energy modeling of Seattle District's FY12 Battalion Headquarters. The software depicted in the photo illustration is Integrated Energy Solutions Virtual Environment Pro software, Seattle District's newest and most powerful energy modeling tool. Full story on page 6. (Courtesy photo illustration)

### ***Flagship***

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## ***Belinda Diza-Saito: This Flagship is for you***



**Belinda Diza-Saito** serves as the Budget Officer and as the Chief of the Budget and Manpower Management Branch of the Resource Management Office. Belinda and her team are responsible for the development and execution of the Annual Command Operating Budget. Her dedication was especially evident during the sequestration/government shutdown/furlough, as she worked to provide information to support the district while at the same time ramping up to pull data for the next fiscal year's budget. In addition, she is looked to by senior leadership and the commander to provide budgetary input and advice.

**Belinda Diza-Saito** this Flagship is for you.

# Prepare for tomorrow

commentary

The Roman philosopher Seneca said, “Luck is what happens when preparation meets opportunity.” U.S. Army Corps of Engineer’s Campaign Plan Goal 4 seeks to prepare the district for a challenging future in what some refer to as a “VUCA” environment – Volatile, Uncertain, Complex and Ambiguous. Quality, near-term execution remains imperative, but we must also build resilient people, teams, systems, and processes to sustain a diverse culture of collaboration, innovation and participation to shape and deliver strategic solutions. A future where the district gets smaller as we align workload and workforce may look like “survive” mode. Somewhere in our preparation for this change is an opportunity for “thrive” mode – we must be ready when it arises.

Readiness comes by investing now in technology, engagement, processes and people to set conditions for continued success. Let’s take a look at the district’s achievements in each area, and more importantly, our efforts to further advance them.

Seattle District’s history is replete with examples of early adaptation and innovative technology solutions. Our nationally renowned Building Information Modeling team provides leadership within USACE and collaborates with industry, while we are the first district to deploy Autodesk Revit software to optimize early energy modeling and decision-making. Seattle’s “pioneer” district efforts blazing technological trails brings credibility and expertise to support our projects and attract “consulting” and/or “recurring” business from other “settler” districts and the Army. For example, the district’s newly designated Northwestern Division CAD (computer-aided design)/BIM Center of Expertise recently integrated BIM and geographic information systems to support Army Force Structure Analyses/Force Stationing.

District efforts to improve strategic engagement and communication are aimed at enhancing trust and understanding with our customers and the public. Clearly and consistently communicating our key messages to multiple points among partner and stakeholder organizations, and elected leaders is especially critical in the “new normal” resource-constrained environment. A key effort underway is the Corporate Board relationship’s team development of a strategic engagement plan, schedule and tracking system intended to synchronize messaging at the leader and project team levels.

The Corps is seeking to streamline business, acquisition, and governance processes. Most prominent and challenging among these at the District level are those aimed to improve acquisition execution with policy, process and certified professionals. The Corps Contracting Directorate recently announced role and responsibility changes among regional and national acquisition nodes to both facilitate District execution and target multi-discipline acquisition training. Nationally the Corps is taking a play from the Army’s “grand ideas” book and initiated seven Focus Area Review Groups to develop implementable game

changers within a year to counteract challenges associated with reduced resources and staffing. Each FARG has a designated mandate – with the overall thrust being to streamline, empower and enhance.

The District’s need and ability to invest in its people has never been greater. After several years of unprecedented military construction and a forgiving civil works climate,

realigning our workload/workforce imbalance is job number one. The hard reality is 16 percent more people were added to meet record program years than are required for future viability. Our goal is to smoothly reshape the future workforce using personnel tools such as the district’s 10 percent annual attrition, targeted early retirements, and management directed reassignments, as well as organizational shaping tools like consolidation. Budget constraints during this drawdown limit formal training expenditures relative to historical levels. However, unprecedented situational opportunities exist to meet the chief of staff of the Army’s top training priority –

developing adaptive leaders for a complex environment in preparation for an uncertain future. This is the essence of the Army’s next challenge, as well as that of the Seattle District. Some development will occur in our formal Leadership Development Programs, and other via continued supervisor training. However, I believe people learn by doing, and we can expect much to occur in real time as our employees take on new challenges in service to the nation and the Northwest. One key to this approach is avoiding end-strength increases by accepting near-term “80-percent personnel solutions” then relying on a teach-coach-mentor model to grow and develop leaders to the full performance level.

Preparing for the future is uncomfortable business. The horizon, while unclear, indicates a generally downward trajectory District leadership is planning for. Beyond people and organizational shaping, The District is seeking new markets and business efficiencies as part of a holistic path forward. I appreciate everyone’s steadfastness in challenging times as the team adapts and innovates to serve the nation and capitalize on opportunities.

—*Essayons!*



**Col. Bruce A. Estok,  
Seattle District commander**



# Army Corps, Kalispel study f

By Scott Lawrence  
Public Affairs Office

In an effort to determine impacts on fish migrating downstream through Albeni Falls Dam, the U.S. Army Corps of Engineers, Seattle District, and the Kalispel Tribe of Indians recently teamed up to conduct a fish survivability study.

The \$725,000 federally-funded study, conducted Oct. 21-Nov.9, examined route-specific survival for fish passing downstream through the dam's turbines or over its spillways.

Although the original concept was to study all fish, a U.S. Fish and Wildlife Biological Opinion issued in 2000 called for additional analysis on impacts to bull trout passing downstream through the project, so fish biologists decided to focus efforts on that species. Since bull trout are listed as "threatened" under the Endangered Species Act, however, the study team used surrogate fish – rainbow trout purchased from hatcheries and consistent with the size of sub-adult and adult bull trout – to test downstream passage impacts.

"This study will help us understand what fish experience as they migrate downstream and their survival rates as they pass through our powerhouse or over the spillways," said Fred Goetz, a Corps fish biologist and study project manager. "It's important to determine baseline conditions, and we could not have executed this study as

Corps photo by Linda Lamb



well, or as cost-effectively, were it not for the Tribe's contribution of expertise, equipment and labor."

During the study, about 500 rainbow trout were tagged and passed downstream over the spillway and 600 more were passed through a powerhouse turbine.

To ensure fish took a specific route during downstream passage, an elabo-

rate system of steel and flexible plastic induction pipes was designed to deposit test subjects within a few feet of a passage route where water velocity prevented them from swimming back upstream.

Once the study team made sure fish took specific passage routes, the next challenge was recovery, especially since fish that weren't recaptured were counted as study mortalities.

"The challenge is that normally a fish passing through the dam would go right down into the water column and you'll never see it again. It might be alive, it might be dead, but you don't know," Goetz said. "Since we wanted a 100-percent recapture rate, we had to create a situation where fish are near the surface, visible and available to be recaptured 100 percent of the time."

To achieve that goal, the study team employed a unique fish tagging system known as the Hi-Z Turbine Tag, or balloon tagging.

Named after its inventor, Paul G. Heisey, Hi-Z tagging consists of small deflated plastic balloons attached with a stainless steel pin through the musculature along a fishes' back using a modified ear piercing gun along with a radio tag to aid in tracking.

The balloons are filled with sodium bicarbonate, set to mix and inflate after a predetermined time period once fish complete passage through a specified route.

Once in the tailrace below the dam, the brightly-colored balloons inflate and are easy to spot for boat operators waiting to scoop them up.

"The balloon tags improved our ability to recapture nearly all released fish and that allows us to get the statistical precision we need when estimating mortality and injury rates," Goetz said.

Although this type of study is a Seattle District first, Hi-Z balloon tags have been used in similar fish survivability studies during the past 20 years and have been found to cause no undue harm to test-subject fish, an important factor since these



Corps photo by F

# Fish survivability at Albeni Falls

studies aim to determine dam impacts.

“We treat the fish as humanely as possible because we need them to come out the other end not impacted by anything we’ve done,” Goetz explained. “We want to have a clear measurement, a clear signal that says it’s the dam that was the source of whatever harm has come to them, not tagging or another outside factor.”

The process for identifying potential dam impacts began as soon as fish were recovered by Kalispel boat crews and given an initial assessment.

Next, recovered fish were placed in holding pools where they were closely monitored and evaluated for 48 hours in case any suffered internal injuries that weren’t immediately apparent.

At the end of the evaluation period, surviving rainbow trout were provided to the tribe. Juveniles were taken to a hatchery to be reared over the winter so they can be brought up to sufficient size for a kids’ fishing derby next year. Some adult rainbow trout were used to stock fishing ponds on the reservation, while others were provided to a local food bank and to a local raptor recovery center.

Although final study results won’t be available until spring, Goetz said that Albeni Falls Dam is expected to be more fish friendly than other structurally different dams.

The project uses Kaplan turbines which have four blades and rotate at 54 revolutions per minute, rather than Francis turbines with 15-25 blades and rpm rates that are often twice as fast. Slower revolutions, combined with fewer blades reduce the risk of fish being struck or impacted.

In addition, Albeni Falls is a low-head dam, meaning there is less elevation difference between either side of the dam than a high-head dam that uses gravity to speed up flows. It also means that fish aren’t subjected to pressurization

changes that could cause internal injuries similar to a human diver experiencing the bends.

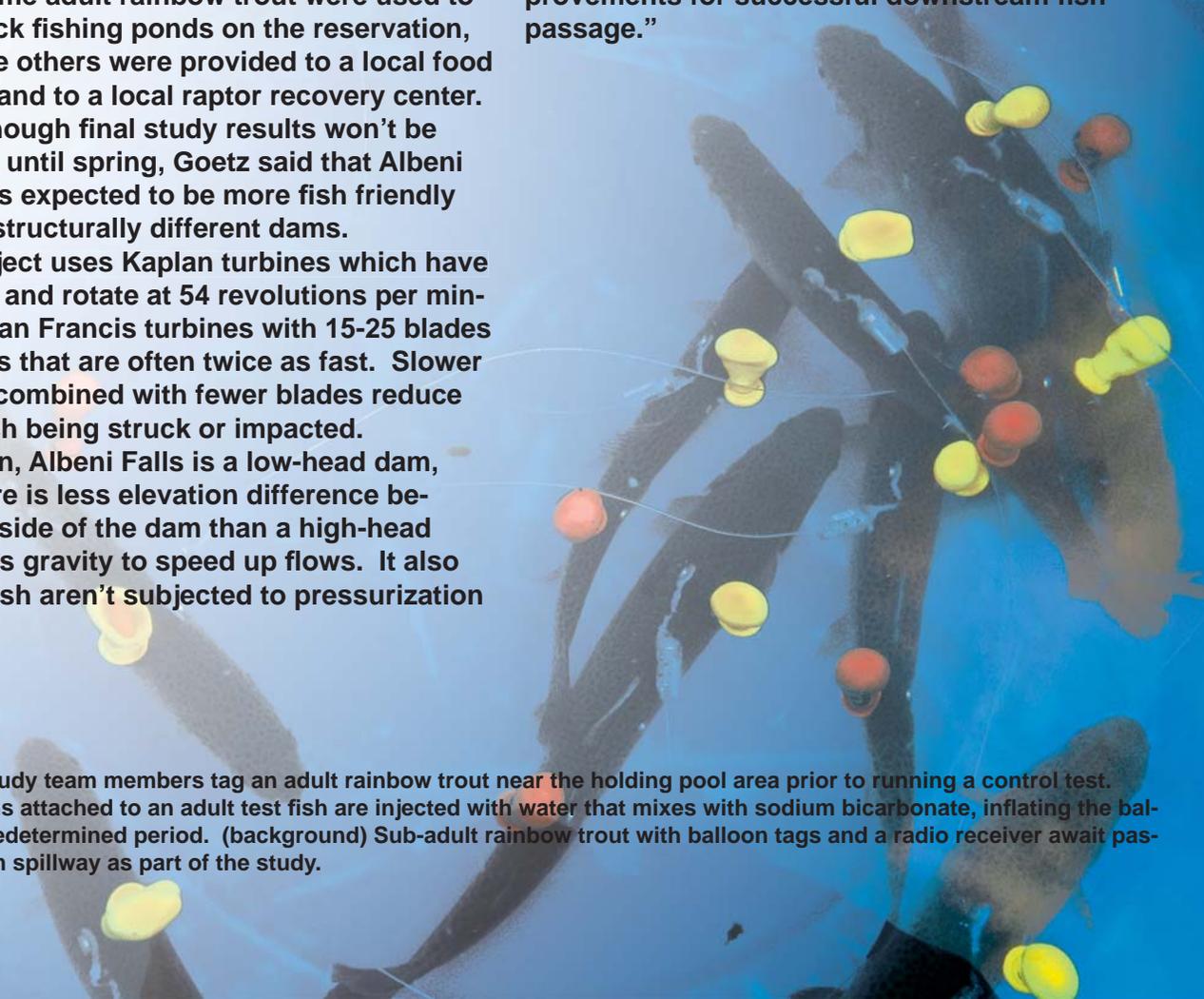
“We’re all interested in the study’s findings because we don’t really know how fish are impacted as they pass downstream through the dam,” said Ryne Linehan, operating project manager for Albeni Falls Dam. “There’s been a lot of positive collaboration and cooperation with the Tribe because we have a shared interest in conserving the resource and in being good environmental stewards.”

Once the study’s findings are complete and reviewed, the Corps will coordinate with the Kalispel Tribe, Bonneville Power Administration, U.S. Fish and Wildlife Service and state fish and game agencies to determine what, if any, new pathways for downstream fish passage may be considered.

“Our hope is that this low-head dam with slow-rotating turbines is benign, and that most fish will get through safely,” Goetz said. “If that’s the case, this study could demonstrate that we need little or no additional dam improvements for successful downstream fish passage.”



Fred Goetz



Photos: (left) Study team members tag an adult rainbow trout near the holding pool area prior to running a control test. (center) Balloons attached to an adult test fish are injected with water that mixes with sodium bicarbonate, inflating the balloons after a predetermined period. (background) Sub-adult rainbow trout with balloon tags and a radio receiver await passage over a dam spillway as part of the study.

# BIM: Supporting Energy Analysis

**By Tanya King**  
Public Affairs Office

Charged with being good stewards of public funds in today's rapidly changing fiscal environment, government employees are increasingly turning to technology and innovation to do more with less.

The Design Branch and Geospatial Section at the U.S. Army Corps of Engineers, Seattle District, have been

doing just that with computer software coupled with innovative ideas to come up with solutions.

One solution has been to use Building Information Modeling software to create their structures digitally before constructing the real thing. BIM is a process involving the generation and management of digital representations of physical and functional characteristics of facilities and sites.

Seattle District design teams have

been so successful using it that one district team was awarded the "BIM Supporting Energy Analysis" award at the "2012 USACE Autodesk BIM Awards" competition earlier this year. There were four categories in the competition: BIM in Preliminary Design Charrette, BIM Supporting Energy Analysis, and Innovative use of Civil 3D, and Visualization category.

District award recipients were responsible for the energy modeling process and life-cycle validation costs over an 18-month design to approval process through several iterations of design. Design team members included Supervisor Sven Lie; architects Kyle Shaw (lead), Nathan Gregory and Jennifer Ramirez; mechanical engineers Dave Chapman and Kevin Waring; and electrical engineers Shenouda Bolos and Gerd Padilla. They worked with Geospatial Section team members Van Woods and Tim Grimm.

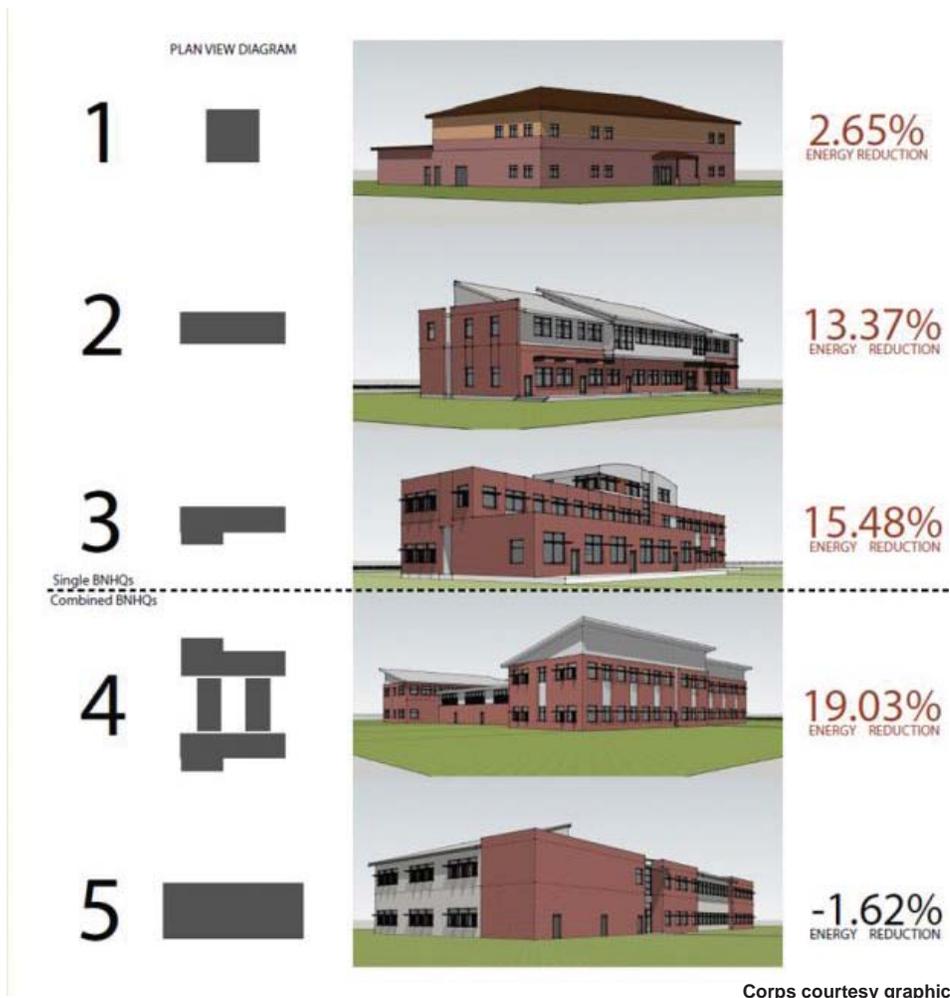
Geospatial's role working with the Design Branch is what helped the team win the award.

The award is the fruit of Geospatial Section Chief Steve Hutsell's idea implemented a few years ago to translate BIM's full potential from theory into practice in order to do more with less.

"Getting BIM integrated with energy analysis is the single highest BIM innovation priority because of the emphasis in the government on energy reduction, sustainable design and lifecycle cost," Woods said. "Winning the award and the progress we've made with BIM wouldn't be possible without the vision Steve [Hutsell] set in place a few years ago."

Ramirez said it isn't about winning awards though—it's about creating solutions that work within our mandates, regulations and codes.

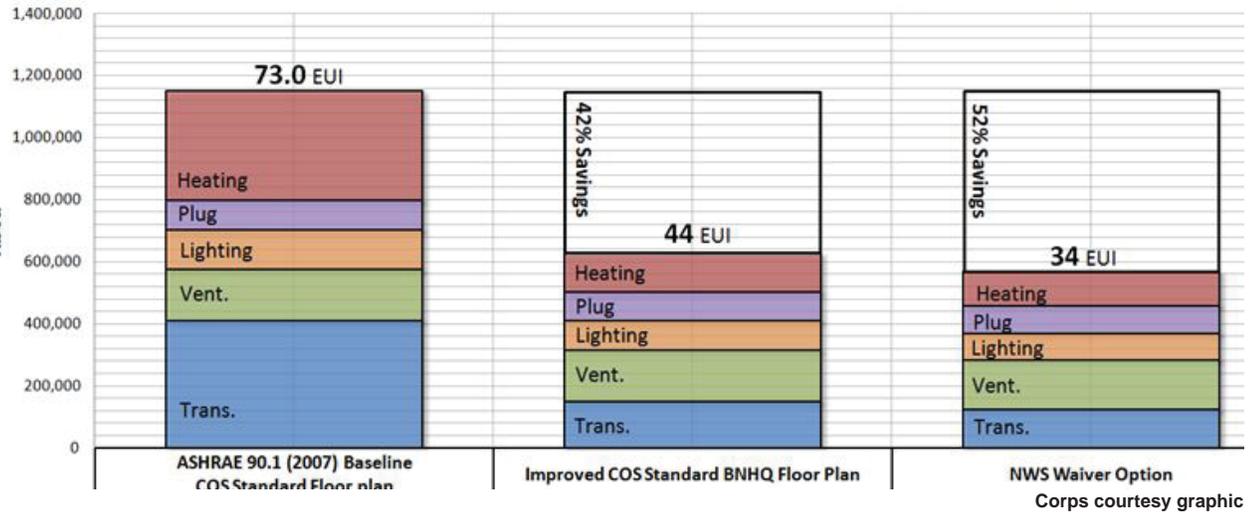
"It's a delicate interplay of deci-



"Form Follows Function," the creed architects have lived by since Louis Sullivan first published his work. Speed forward 75 years and the face of architecture is changing to reflect, "Form Follows Function AND Energy." The above image, shows the building layout options the architects created on this project to have tested for energy consumption. The final building design was selected based on the most energy efficient layout. This practice is commonly referred to as "Rationalized Design." Where analysis takes precedence.

### NWS Total BNHQ Annual Building Energy

Calculations created for a large BNHQ (18,100 GSF). The software application used for this process was Carrier-Hap.



The image above symbolizes the iterative analysis process the design team did to achieve the final 52 percent energy savings from the Center of Standardization original design. The above images summarize efforts in daylighting analysis, electrical energy consumption, energy modeling, life cycle cost analysis and architectural envelope development to make a regionalized building approach that meets the requests of the customer. Energy reduction is the “gift that keeps on giving” the easiest piece of equipment to maintain is one that isn’t there, and this project utilized the power of the environment to create passive design solutions that helped to greatly reduce energy and maintenance costs.

sions,” Ramirez said.

For example, they are tasked with reducing energy in new buildings by 30 percent, which might seem simple to someone not familiar with the logistics of making that happen.

“It’s a 30 percent energy savings from a baseline standard building,” said Dave Chapman, Seattle District mechanical engineer.

“Those baseline buildings are no clunkers—they are already pretty energy efficient. Not only is the percent we are tasked to save difficult to achieve, but at some point we’ve found all the ways to save as much energy as possible.”

“We really get creative to find ways to reduce energy in our temperate climate with an abundance of inexpensive energy and still meet laws and executive orders,” said Ramirez. “Making cost justification for expensive technological solutions is nearly impossible, so we rely on innovative ideas and design strategies instead.”

Using BIM for energy modeling has been instrumental for Ramirez to help her team meet multiple federal mandates.

“Energy modeling using BIM helps us to confront our assumptions and test them before it’s too late—it’s cheaper, easier and faster to try alternatives digitally rather than living with the cost of a less efficient completed project for the life of a building,” she said. “BIM helps us understand the relationship between functionality and energy reduction without decreasing the occupant’s standard of living. This is important because when people are unhappy in their work environment,

productivity goes down. Everyone wants a perfect building, and we get there by considering each component.”

After the teams have brainstormed, they build their energy-saving ideas into the design in BIM and then run them through other software systems to make sure their models are giving them the most accurate predictions.

“No single software will do it all though,” said Ramirez.

“It will always take multiple software platforms working together, adding additional layers of complexity,” Woods said. “What’s unique about Seattle District is we approaching this challenge holistically as a collaborative process between people, process and technology.”

Another added complexity is that many alternatives are considered from multiple disciplines throughout the entire design process, according to Woods.

Architects work with defining form and function, integrated with building systems, according to Ramirez.

“From the mechanical side, we’ve gone into every project to design the most efficient system we can get,” Chapman said. “We don’t even look

at boilers and chillers; we go straight for heat pumps.”

“The heart of it is balancing out the big systems,” Waring said. “A set of ideas gets chopped up and we go back and forth, always working and refining the models.”

In one instance, Chapman and Waring recalled how they used an existing water pipe running past a building and incorporated it into the design for heating and cooling.

“The cost of installing a ground source heat exchanger is astronomical, but we already had this water running by—we didn’t reroute it but tapped into it,” said Chapman. “We design around the most efficient way possible. We think outside the box—these are not traditional designs going out our door.”

Chapman said they are always looking for unique and collaborative ways to get the job done.

“We show people what can be possible, that you really can save a lot of money on a project,” said Ramirez. “We may spend more time on the design in the beginning, but we will save project funds with a streamlined project and can save a lot on capital and maintenance in the long run.”

## in house

## HOME IS WHERE THE H

**By Tanya King**

*Public Affairs Office*

She was just expecting to have a nice quiet family of four children, but that's not how this story goes.

"For me, that would have been ideal," said Vivien McGinty, Seattle District Operations Division program analyst. "I never planned to have eight—it just kind of happened."

How does one "kind of happen" to have eight children?

McGinty was adopted as an infant and when she turned 4, her parents adopted her brother. As a result, she felt called to adopt and foster children later in life in addition to having her own biological children.

"I had my daughter right away in college, I adopted a son, and then I had another son," McGinty recalled. "I wanted to round out my family with another girl who was around my daughter's age."

The foster care service they were working with called one day and said they had an 8-year-old girl, but she only needed a home for a month. When her family agreed to bring her into their home, the agency revealed the girl also had two younger brothers. McGinty didn't want them to be separated so



**Vivien McGinty in a family photos with three of her children, four grandchildren, one great-grandchild, an aunt and a cousin taken at a former family home in Federal Way, Wash., just prior to her deployment to Afghanistan in 2011.**

she agreed to let them all come live with the family.

Some people asked her why she didn't just let the children go stay at a shelter when they thought they were only getting one girl for one month; others thought she was nuts for taking in all three.

"A foster child doesn't know where they are going to be and you can imagine how traumatic it would be to be split up from your siblings," she said as she remembered the day the three children arrived on her doorstep. "They literally came to us with a little tiny bag. I'll never forget the looks on their faces as they stood on the front porch. I'm sure they were terrified wondering what was on the other side of the door or what is going to happen to them at this home."

Though McGinty received more support than negativity, she had to deal with a lot of misconceptions about being a foster parent.

fam·i·ly <sup>ˈfɑːmə-leɪ</sup>  
noun.pl.  
fam·i·lies

★ The Result of two people falling in love ★ individuals who share the same ancestry through blood, adoption or marriage ★ people related to one and so to be treated with a special loyalty or intimacy.  
★ Lifetime memory makers.

# HEART IS

“One myth is that you can profit financially from being a foster parent,” she explained. “Any money we received went to cover the costs of bringing extra people into our home. When you have six teenagers, things get expensive quickly. And not all of them left home when they turned 18, which is when the stipends stop.”

But the good outweighed the bad for her. One of her most rewarding moments came when she was fixing a bath and one the oldest of the two boys asked if he could call her mom.

“We both started crying at that moment,” she smiled as she recalled the memory. “That meant they accepted us. It was less than a year after we took them in. We also realized then that they were going to be staying and we’d need a bigger house.”

As time went on, McGinty did her best to make each child feel like a member of the family and not like someone who was just there on a temporary basis. The three foster children eventually changed their names too.

“It felt funny for them to go to school with their brothers and sisters with their different last names,” she said. “They wanted to do anything that would make them feel more a part of the family and not be distinguished from the others.”

“I never thought of my adopted brothers and sisters as different because we all called the same person ‘Mom,’ and we are a family just like any other,” said McGinty’s biological daughter Shannon Wilson, Seattle District Regulatory Branch support assistant. “They are my brothers and sisters. There are so many of us not blood related, but we are one big family. I loved going to high school with my nieces, nephews, brother and sisters all at once. I’m sure not too many people are able to experience that.”

To a curious onlooker, McGinty’s family might seem different considering a typical American family has two children on average. But to Wilson, different is normal.

“Everyone’s family is different, with different histories and backgrounds,” said Wilson, the youngest of the eight. “I would say I have an average family, from what I know—I wouldn’t say there is anything outstanding about my family.”

McGinty has a similar outlook on family, largely due to



Courtesy photos

**Vivien McGinty and her children from left James, Tanisha and Damian taken in Des Moines, Wash., in 2013**

her upbringing. Her aunt and uncle also adopted children and took in foster children.

“Because we don’t make distinctions, once you are family you are in,” said McGinty, who now has more than 35 grandchildren and eight great-grandchildren. “We’re just one big happy family.”

In the past she has cared for her grandchildren when her children have needed her to and she cares for her brother now as well.

“My brother is disabled due to dementia as a result of a previous cardiac arrest. He is totally alone—he has no children and his wife died 13 years ago,” McGinty said. “People just seem so amazed that I’d have my disabled brother move in with us because he isn’t related by blood. They say ‘you’re such a good person for doing that,’ but he’s my brother—my mother would expect me to do that.”

“I always appreciated that my mom worked so hard,” Wilson reflected about her mother. “She took many jobs to make sure we had at least some of what we wanted and everything we needed. I know she put us before herself and did what she knew was best for us. I had a pretty good life growing up and if it was hard on her any time, which I am sure it was, I never knew. She’s a great mom.”

# Feiss named winner in 2013 GreenGov Presidential Awards

## By Northwestern Division

Public Affairs Office

A local engineer was recognized Nov. 5 when the White House Council on Environmental Quality announced the fourth annual winners of the GreenGov Presidential Awards, which honor federal civilian and military personnel as well as agency teams, facilities, and programs that have taken innovative steps to reduce energy use and carbon pollution, curb waste, and save taxpayer money in federal agency operations. At a White House ceremony, senior administration officials recognized the eight award winners, including Seattle's Jeanette Fiess, for exemplifying President Barack Obama's charge to lead by example and demonstrating extraordinary achievement in the pursuit of the president's 2009 Executive Order on Federal Leadership in Environmental, Energy and Economic Performance (Executive Order 13514).

Jeanette Fiess, an electrical engineer working in Seattle for the U.S. Army Corps of Engineers, Northwestern Division, was selected by the White House as this year's winner in the Sustainability Hero category.



Courtesy photo

U.S. Army Corps of Engineers Chief of Engineers Lt. Gen. Thomas Bostick (left), award winner Jeanette Fiess and JoEllen Darcy, Assistant Secretary of the Army for Civil Works, pose for a photograph at the GreenGov Awards ceremony Nov. 5 in Washington D.C. Fiess was named the 2013 Sustainability Hero for her extraordinary achievement in pursuit of the President's 2009 Executive Order on Federal Leadership in Environmental, Energy and Economic Performance (Executive Order 13514).

"I was very surprised and honored," Fiess said.

"I was singled out as the winner, but the truth is that there is a huge team behind me that made this possible. I manage a program, but the people behind me are the ones getting the work done. To me, it's the significant accomplishments of our program, capabilities, and commitment to the program that made this possible."

Under Fiess' leadership, the USACE Northwestern Division has increased the number of employees with training in high-performance building standards by 70 percent. In 2012, Jeanette Fiess led the nationwide USACE effort to update the USACE Unified Facilities Guide specifications, which lacked critical sustainability requirements.

"We have federal requirements to use bio-based products, which have high corn or plant contents, not just recycled contents," Fiess said. "This wasn't previously identified, but increases our potential for success."

Another area the Seattle-based electrical engineer worked in was leading a team of engineers to develop a new policy for central heating plants at Army bases.

"This is especially important for us in the Army because we, as the federal government, own and operate those buildings for their lifetime and anything we can use to reduce the energy, cost savings, while considering the environmental benefits," Fiess said. "It's at the core of what we do—we are fiscal stewards of these resources and this just builds on that. It's what we've been doing and what we've been charged to do."

USACE Headquarters has recommended that training developed by Fiess be included as part of their national training platform. Fiess serves as the Northwestern Division program manager for sustainability and energy.

CEQ solicited nominations for the 2013 GreenGov Presidential awards from the Federal community earlier this year. A panel of judges that included Federal and national sustainability leaders reviewed the nominations and recommended the award finalists to the President.

*Editor's Note: Tanya King of Seattle District Public Affairs Office contributed to this report.*



# Partnering: building great teams is all part of the job

on base

**By Tanya King**  
Public Affairs Office

How do you take a concept that is just lines on a piece of paper and turn it into a 3-D structure with walls, running water and doors?

For Ken Weaver, U.S. Army Corps of Engineers project manager, recognizing that people are a factor in any project he works on and relying on the partnering concept is key to building a team.

But the team doesn't become a team just by being assigned to one, according to Weaver.

"It's one thing to grind out a contract, but if we can establish a 'we' and not a 'them versus us' identity, we'll be stronger for it," Weaver said about the first steps he takes when a project begins and contractors and government employees come together for the first time. "You have to establish a team identity and find out where people are invested in the success of the team and the project. In the beginning all we have is the design and if we don't integrate people into the process, the team will disintegrate."

The partnering process is organized around multiple stakeholders having a shared interest performing as a team to achieve mutually beneficial goals. The idea is to establish those goals early on in the project lifecycle, building trusting relationships, and engaging collaborative problem solving.

"It helps a lot for people to realize there are normal people sitting on both sides of the table and to just have a free flowing conversation without worrying about the officialness of it all," said Matt Bryant, Seattle District project manager who uses partner-



ing regularly to achieve success. "In the end, we are all here for a mutual goal—we all want a well-built project, to keep people safe, and for the contractor to make a profit."

The outcome should ideally empower team members to solve problems at the lowest level; remove organizational barriers; achieve decisions through consensus when possible; result in joint responsibility for maintaining, improving and nurturing the partnering process; and demonstrate a personal commitment by every member of the team, according to a November 2006 USACE Engineering and Construction Bulletin.

The partnering concept was especially effective for Weaver, who was the project manager of the 110th Chemical Battalion Complex at Joint Base Lewis-McChord, Wash.

"It was a single project design across three USACE districts and an Architecture and Engineering firm and there were a lot of execution challenges," said Weaver, whose team ultimately won awards for Seattle District's 2012 "Team of Teams" and USACE Northwestern Division's 2012 "Project Delivery Team of the Year—Honor Category." "We don't very often do a complete design

across districts, but we needed design resources that weren't available at a single location."

Weaver explained the way they were able to make it work was by establishing communication early, developing action plans and contact lists and following it through to the end.

Weaver and Bryant both agree communication can break down when players come on board several months into the process, or when partnering is rushed or introduced too soon. They normally schedule a follow-on partnering session six months down the road.

"If someone isn't cooperating or there is a big issue, we can readdress or analyze the situation," Bryant said. "We don't always do this, but it gives everyone a chance to get away from email. At least if you can get everyone face-to-face, people will find a way to fix the problem."

"In the end, it's about recognizing the people factor in any project; if you don't integrate people into the process and build a team, the project will disintegrate," Weaver said. "It's not just dirt, steel and glass we are working with to complete a project—the team is what makes that transformation happen and partnering is how we build the team."



in maintenance

# Annual lock pu treasures, secr

By Dave Harris  
Public Affairs Office

**O**the spellbinding stories that arise with the rise and fall of the water levels at the Chittenden Locks in Ballard that will be celebrating its Centennial in 2017. If only the locks walls and waterborne creatures could talk.

Thousands upon thousands throng to the Locks for the delight of watching pleasure boats, commercial and emergency vessels rise and fall with the water. But behind the scenes, the Lake Washington Ship Canal staff is dead serious, knowing the hazards that threaten the frivolity of the visitors and vessel occupants.

If boaters fail to follow instructions and, for example, secure a line

to a cleat instead of allowing it to slip with the changing water levels, the result may be disastrous (and has, in the 96-plus-year locks history, which was the first large project of its kind in the Corps of Engineers). Today, ever-present safety posters reiterate safety meetings and training ensuring that accidents are rare.

Workers pursue maintenance schedules with the precision of an aircraft mechanic in an attempt to minimize danger to humanity and other living creatures. Such operations can result in rapturous joy of found treasures or in improvements to enhance life and limb.

Nov. 5 through 20 saw the parting of the waters from the large lock – the de-watered cavernous chasm revealing historic secrets and pungent odors of the deep. Sometimes

a worker stumbles across a shiny or even bejeweled keepsake caked in muck and sludge.

This year a retrieved salt-water-inundated iPhone gave up the ghost and failed the “can you hear me now?” test, along with such discoveries as a corroded dime that likely made the plunge when pay phones prevailed. Apparently a Seinfeld-era Kramer wannabe drove in some

formerly white and international orange golf balls for good measure, while ailing Sea Starfish expired in crevasses after losing a fight with a prevailing disease that’s been going around.

Several years ago in the de-watered lock, a staff member discovered a wedding ring mired in crud. Relentless super-sleuthing and perseverance had put the likes of Colombo to shame. Besides the ring, the staffer successfully uncovered the identity of the rightful owner. The customary dedication and diligence of locks staff typically results in visitors’ rejoicing. Bride and ring tearfully reunited.

Body parts have appeared during de-waterings. Fortunately, once-potential seafood described most of them. However, the scattered carnage convinced sea-life proponents to collaborate with Locks staff and Corps and state biologists and engineers in reducing the hazards to fish and mammals. Result: smolt slides that transform fish passage from deadly near-blender adventures to water-park slide-chute, safety-first thrills and spills for grateful fish.

The Adult Salmon Exclusion Structure, immediately upstream of the locks, prevents salmon from entering the locks’ saltwater return intake in late spring. Navy divers from Naval Base Kitsap close 10, 10-foot-by-6-foot doors and inspect the 30-by-60 foot curved-front, mesh screen structure. The Navy regularly supports the U.S. Army Corps of Engineers with this procedure before salmon migra-



Corps photos by Dave Harris

An ailing Sea Starfish is losing a fight with a prevailing disease that’s been going around. Fish agencies, including the Corps, are eager to see what’s at the bottom of the de-watered lock in order to enhance conditions for myriad sea creatures.

# mp-out reveals ets from the deep

tion season begins mid-June. In late October, divers opened the Adult Salmon Exclusion Structure until next spring.

And in the past, explosive seal bombs scared sea life out of the locks prior to de-watering to avoid mammal and gill-clad pisces dehydration and their untimely demise.

This time, rather than using seal bombs, aquatic biologist Scott Pozarycki came up with an innovative idea. Environmental and Cultural Resources Branch and Lake Washington Ship Canal staff created an array of lights to sweep fish out of the chamber just prior to closing the west work gates. An array of 21 strong strobe lights was hung off of a 60-foot pipe on the edge of a small barge. A boat pushed the barge slowly from the east end of the lock chamber to the west end, finishing at 11:30 pm.

In the 1990s, sea lions hungrily pursued salmon. State and other stakeholders wanted to protect salmon by ridding the locks of such persistent intruders. Explosives failed to deter the hungry beasts. Perhaps the two most dazzling solutions conceived by the non-feds: taste aversion and removal of the locks.

Advocates tainted dead salmon with vinegar or some such and tried to coax the wily sea lions to sample it in the ill-fated hope of convincing the wily sea lions to resolve never to eat nasty-tasting salmon ever, ever again. It was the first time visitors may have heard sea lions chortling as they continued their feast by biting bellies out of more tasty-but-



Corps photos by Dave Harris

Marian Valentine, center, Operations Project Officer, briefs Congressional staffers Sara Crumb, left, and Debra Entenman on locks maintenance priorities during a tour when the large lock was de-watered.

hapless salmon.

Then there were those who said the only redemption of sea-lion-endangered salmon was to remove the locks and allow Lakes Union and Washington to revert to their primitive levels.

In a display of triumphant brilliance, the Seattle District Commander held a news conference and applied an ample dose of common-sense reverse psychology that sent the (here again, protecting the innocent) removal advocates scurrying for friendlier waters. The Commander calmly told the media that yes, the Corps of Engineers had an abundance of expertise in building or removing dams, and we certainly could remove the "Ballard Locks." He would only ask for such essentials as sponsorship, consensus, Congressional authorization and, oh yes, funding. Of course, the floating bridges would no longer be usable. End of discussion.

In yet another flash of radiant illumination, a well-meaning, would-be problem-solver discovered that treaty rights allowed tribal harvesting of the sea lions. Someone drew up a contract, but the tribal harvesters refused to sign, finding that the contract prohibited the use of the tribe's traditional weapon – the rifle.

The sea lions met a well-intentioned end. Non-feds, thinking the behemoths would find joy in a theme park, provided the critters with first-class plane tickets to Sea World.

Woody Allen once said he discovered a faith that would enable the devotee to live one's life over and over again. "But if that means sitting through Ice Capades again, it isn't worth it." Apparently the sea lions thought the same of Sea World and elected instead to check out from their watery paradise.

Perhaps someday you can visit them in Sea Lion Heaven.

in review

# Winter Driving Tips

**By Seattle District  
Public Affairs Office**

The leading cause of death during winter storms is transportation accidents. Preparing your vehicle for the winter season and knowing how to react if stranded or lost on the road are the keys to safe winter driving.

Have a mechanic check the following items on your car: battery, anti-freeze, wipers and windshield washer fluid, ignition system, thermostat, lights, flashing hazard lights, exhaust system, heater, brakes, defroster, oil level (if necessary, replace existing oil with a winter grade oil or the SAE 10w/30 weight variety), and install good winter tires.

Make sure the tires have adequate tread. All-weather radials are usually adequate for most winter conditions. However, some jurisdictions require that to drive on their roads, vehicles must be equipped with chains or snow tires with studs.

Keep a windshield scraper and small broom for ice and snow removal.

Plan long trips carefully, but maintain at least a half tank of gas during the winter season.

Listen to the radio or call the highway patrol for the latest road conditions. Always travel during daylight and, if possible, take at least one other person.

If you must go out during a winter storm, use public transportation.

Dress warmly.

Wear layers of loose-fitting, layered, lightweight clothing.

Carry food and water.

Store a supply of high energy "munchies" and several bottles of water.

Contact your local emergency management office or American Red Cross chapter for more information on winter driving.

If you are trapped in the car during a blizzard, know what you can do.

Stay in the car.

Do not leave the car to search for assistance unless help is visible within 100 yards. You may become disoriented in blowing and drifting snow.

Display a trouble or help sign.

Hang a brightly colored cloth on the radio antenna and raise the hood.

Turn on the car's engine for about 10 minutes each hour. Run the heater when the car is running. Also, turn on the dome light when the car is running.

Beware of carbon monoxide poisoning. Keep the exhaust pipe clear of snow, and open a downwind window slightly for ventilation.

Watch for signs of frostbite and hypothermia.

Do minor exercises to keep up circulation, but avoid overexertion. Move arms, hands and legs occasionally. Try not to stay in one position for too long. If more than one person is in the car, take turns sleeping.

For warmth, huddle together.

Use newspapers, maps, and even the removable car mats for insulation.

Cold weather puts an added strain on the heart. Unaccustomed exercise such as shoveling snow or pushing a car can bring on a heart attack or make other medical conditions worse.

Be aware of symptoms of dehydration, frostbite and hypothermia.

Frostbite is a severe reaction to cold exposure that can permanently damage its victims. A loss of feeling and a white or pale appearance in fingers, toes, or nose and ear lobes are symptoms of frostbite.

Hypothermia is a condition brought on when the body temperature drops to less than 90 degrees Fahrenheit. Symptoms of hypothermia include uncontrollable shivering, slow speech, memory lapses, frequent stumbling, drowsiness, and exhaustion.

If frostbite or hypothermia is

suspected, begin warming the person slowly and seek immediate medical assistance. Warm the person's trunk first. Use your own body heat to help. Arms and legs should be warmed last because stimulation of the limbs can drive cold blood toward the heart and lead to heart failure.

Put person in dry clothing and wrap their entire body in a blanket.

Never give a frostbite or hypothermia victim something with caffeine in it (like coffee or tea) or alcohol. Caffeine, a stimulant, can cause the heart to beat faster and hasten the effects the cold has on the body. Alcohol, a depressant, can slow the heart and also hasten the ill effects of cold body temperatures.



## Emergency Kit items:

- Flashlights with extra batteries
- First aid kit with pocket knife
- Necessary medications
- Several blankets
- Sleeping bags
- Extra newspapers for insulation
- Plastic bags (for sanitation)
- Matches
- Extra set of mittens, socks, and a wool cap
- Rain gear and extra clothes
- Small sack of sand for generating traction under wheels
- Small shovel
- Small tools (pliers, wrench, screwdriver)
- Booster cables
- Set of tire chains or traction mats
- Cards, games, and puzzles
- Brightly colored cloth to use as a flag
- Dried fruit and nuts
- Bottled water

**Congratulations:**

**JoAnn Walls** is the new Engineering Division chief, and **Rob Frazier** is the new Resource Management chief.

**Vickie Shepard** is the new Lake Washington Ship Canal Lockmaster.

**Jon Norquist**, project engineer, recently earned his Leadership in Energy and Environmental Design Accredited Professional designation.

**Out and About:**

In September, Hydraulic Engineer **Travis Ball** attended the Northwest Regional Floodplain Management Association's annual conference in Stevenson, Wash. He presented on the PL 1984 to 1999 mitigation

of Cockreham Levee and design of the Cumberland Creek realignment.

In October, Mechanical Engineer, **Joyce Herschberger** assisted with a Boy Scout Science, Technology, Engineering and Mathematics Merit Badge Clinic. Participants included the Pacific Harbors Council of the Boy Scouts of America with approximately 160 scouts attending 23 classes, in other STEM-related areas.

**Catherine Desjardin, James Dexter, Adrienne Murphy, Mike Peele, Chase Temple, Jason Villarreal** and **Doug Weber** deployed in September and October as as part of a combined effort with the Federal Emergency Man-

agement Agency to assist Colorado flood victims. They conducted infrastructure site visits and prepared project worksheets for the FEMA Public Assistance Program. These define the scope of the damage for which the locals will be reimbursed when moving into the repair phase.

**Deployed:**



Jackson Vanpelt



Sean Doherty

**Returning:**

**Tam Huynh**  
**Vincent Daniels**

**Moving On:**

**Patrick Couvillion**  
**Sean Killeen**  
**Jacob Kreitzer**  
**John Mercado**  
**Mark Ross**  
**Jose Valdes**

**Retirements:**

**Sandra Harvey**  
**Darlene James**  
**Dave Spicer**

# FEST-A boots are on ground

**By Seattle District**  
*Public Affairs Office*

The 34th Engineering Detachment, Forward Engineer Support Team (Advance), left for a deployment to Afghanistan earlier this year.

Their mission is to provide engineering planning and a limited execution capability to a combatant command, Army Service Component Command engineer staff, or a joint task force.

They were activated in 2009 in response to the nation's need for an engineer team that was light, rapidly deployable and rugged enough to work in hostile environments.

They returned from Iraq in



Maj. Toby Flynn  
FEST-A commander



Chris Jarvis  
Electrical Engineer



David Nishimura  
Civil Engineer



SFC Michael Bamba  
Construction Supervisor



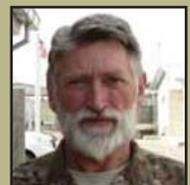
Allison Bruner  
Cartographer



Nick Myron  
Civil Engineer



Michael Suh  
Environmental Engineer



Rick Petersen  
Mechanical Engineer

2011 and began preparing for their next mission, which was a deployment to the Republic of Korea to support exercise "Ulchi Freedom Guardian." This deployment is a nine-month deployment.

Public Affairs Office  
Seattle District (CENWS-PA)  
U.S. Army Corps of Engineers  
4735 East Marginal Way South  
Seattle, WA 98134-2392

## Deployed deputy commander video chats with school children on Veterans Day



Corps photo by Scott Lawrence

**Lt. Col. Kevin Stoll greets fourth-grade students from Our Lady of Guadalupe Catholic School in Seattle prior to the school's Veteran's Day assembly held Nov. 8.**

**Stoll, who is currently based in Iraq, used Skype to participate in the assembly where he talked about what military service means to him while his family discussed what it's like to be a military family with a parent deployed overseas.**