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Lake Roosevelt Forum

NEWSletter

WINTER 2015

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Additional soil sampling to be offered to Upper Columbia Valley property owners

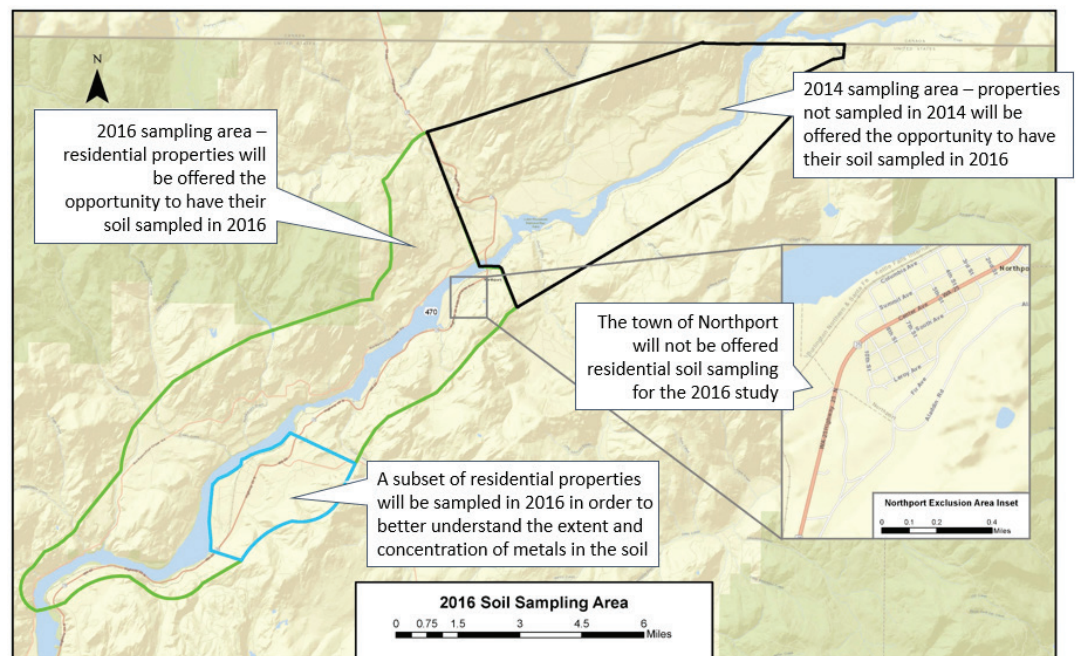
Property owners who declined the opportunity to receive free residential soil sampling in 2014 will get a second chance. In addition, the area in which property owners will be offered the opportunity to receive free residential soil sampling has been expanded.

The 2016 Residential Soil Sampling Map provides an outline for eligibility.

- The black line shows the 2014 residential soil sampling area. If you own residential property within this area and did not volunteer to receive sampling in 2014, you will be eligible to receive sampling in 2016.
- The green line shows the extended sampling area, which goes as far south as the China Bend area. All residential property owners will be eligible to receive sampling in 2016 except for the area shown in blue.

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2016 Residential Soil Sampling Map



Getting to Know Coleman Smith

Now that Coleman Smith has been Power Manager at Grand Coulee Dam for a year, the Forum decided to stop by and see how things are going.

“Just great,” said Coleman. “The area fits with the rural lifestyle that reminds of where I grew up, which was Alabama.” Not a surprise, then, that the Auburn Tigers, his alma mater, is clearly on display in his office.

And how does a gentleman from the south find his way to eastern Washington? “I got a degree in electrical engineering from Auburn, then went to work for the air force for 12 years and the navy for seven years. The last eight years has been with the Bureau of Reclamation.”

With his wife Lauren, who he met and married while at Auburn, the journey has taken them to Virginia, Colorado, Idaho, Wyoming and Washington. “All of these places have been good to us as we raised our family.”

“Now we’re empty nesters enjoying hiking, camping, backpacking and the occasional fishing trip. Washington has all of that and then some, so it’s a great fit.”

The job of power manager of the largest dam in North America keeps Coleman very busy. The Grand Coulee Dam Third Power Plant Overhaul Project is about two years into a 10 – 15 year effort. When done, the turbine and generators of six units will be modernized. At an estimated cost of about \$650 million dollars, it’s a big job.

“Right now,” said Coleman, “we’re finishing up unit 24. With the lessons learned, we expect to be able to apply better processes that will make overhauling the next ones faster. It’s a bit like remodeling your kitchen, until you tear into it you don’t necessarily know what you’ll find.”

In addition to the need to replace aging infrastructure, big benefits of the overhaul include increased generating capacity and efficiency. The three units that currently have an electrical generating capacity of 600 MW each will have their turbines replaced to increase their generating capacity to 770 MW each. Further, there is the increased efficiency of the units. These efficiency gains translate into increasing power output by as much as 2 percent. In practical terms, that’s about 84 additional megawatts of electricity, or enough to power about 63,000 homes.

Looking forward, Coleman sees efficiency gains at hydropower projects and implementation of smart grid technologies as being central to meeting the Northwest’s future energy needs. When combined with renewable resources such as wind and continued gains in conservation, he sees a bright future for those interested in maintaining the Northwest’s clean air, low cost electricity, and low carbon footprint status.

The other critical variable that Coleman believes needs to be addressed is the aging workforce. “There’s a big bow wave of retirements working through the system. We need to get new, qualified workers in before the corporate knowledge leaves.”

That’s easier said than done. Although these are excellent wage jobs, the numbers of people graduating from programs with the right credentials is very limited. In addition, although Coleman is comfortable and attracted to the rural scene, others are not. “So it’s both a recruitment and retention problem,” said Coleman.

In an innovative effort to “grow our own,” Grand Coulee Dam is partnering with a Lake Roosevelt High School to allow students to volunteer at the dam as part of taking an engineering class. Students come in once a week to work on projects with engineers, operators, machinists and others to get practical hands on experience. Thinking long term, the hope is some of these students will be part of the next generation operating Grand Coulee Dam.

“We’re making progress on a lot of fronts,” concludes Coleman. “Support and partnerships with the community is very much part of what we value.” 🌟



Coleman Smith, Grand Coulee Dam Power Manager

Spokane Tribe readies habitat assessment proposal to evaluate reintroduction of salmon above Grand Coulee Dam

The Spokane Tribe of Indians (STOI), working with the Colville, Coeur d'Alene and Kalispel tribes, as well as the Department of Fish and Wildlife, is preparing a proposal to assess habitat conditions necessary to sustain reintroduction of salmon above Chief Joseph and Grand Coulee Dams. This is in response to the Northwest Power and Conservation Council (NWPCC) 2014 Fish and Wildlife Program's emerging priority to "investigate habitat, availability, suitability, and salmon survival potential in habitats above Grand Coulee."

At the Forum conference and in policy documents, the Council has made it clear that the possibility of salmon reintroduction should follow a science-based, phased approach. Said Brent Nichols, STOI's Fisheries Program Manager, "We agree that management agencies should make informed decisions regarding reintroduction. We're talking about a situation where Chief Joseph and Grand Coulee dams didn't just remove salmon, they fundamentally changed instream and riparian habitats salmon rely on. This study will let us know what's possible given current river conditions."

The assessment will integrate a number of components. This includes outcomes from NOAA employed modeling, GIS data, information from previous habitat studies, reconnaissance surveys, and collection of field data. "Previous habitat work" said Conor Giorgi, Anadromous Program Manager for STOI, "focused on the needs of resident fish not the requirements of anadromous salmon. We need to create and integrate existing data sets into a new model to really understand the potential to reintroduce salmon."



The habitat assessment is particularly pointed at Chinook, Sockeye and steelhead historically native to the area but not ESA (Endangered Species Act) listed stocks. The field work is contemplated to occur in 2016 and 2017 with a final report being available in early 2018. 🌟

Conor Giorgi joins Spokane Tribe as Anadromous Program Manager

As part of the Spokane Tribe's commitment to prepare the upper Columbia waters for the return of salmon, a staff position for an anadromous program manager was recently created. Conor Giorgi, who previously worked for the Washington Department of Fish and Wildlife and various consulting firms, was selected to fill the position.



Conor Giorgi

Conor knows the area well. He did his undergraduate work at Gonzaga and his graduate work at Eastern, where his thesis focused on sockeye salmon and their effects on the ecosystem in the Wenatchee River watershed. Since graduating, he's done various types of fisheries and habitat work in eastern

Washington and Alaska.

"It's a special opportunity," said Conor "to be part of bringing a keystone species back to an iconic river system." His initial focus has been coming up to speed on policy, various studies, and working with co-managers from area tribes. He's now deeply engaged in the habitat assessment plan being proposed.

Said Conor, "I like the phased approach being proposed. Some methods like trap and haul can be considered sooner rather than later, but getting to the point of establishing a self-sustaining population will take time, study, perseverance and commitment. Working for the tribe is perfect for what's ahead." 🌟

Upper Columbia Valley residential properties receiving cleanup

Based on results from residential soil sampling conducted by EPA in 2014, 13 residential properties and 1 tribal allotment qualified for and agreed to cleanup activities that began this summer and were completed in early November. Property owners agreeing to cleanup activities did so voluntarily and incurred no cost for actions taken.

Referred to as a Time Critical Removal Action, EPA has the authority to quickly address threats to human health from contaminants released into the environment. EPA set an action level of 700 ppm of lead concentration to trigger qualifying for this time critical removal action. What to do about properties above the federal screening level of 400 ppm for lead (or the Washington Department of Ecology's screening level of 250 ppm) will be determined as part of EPA's multi-year Remedial Investigation and Feasibility Study. This includes completing a human health risk assessment.

Who did the work

In the spring and summer of 2015, EPA visited qualifying properties to create a work plan for each one. This was done in consultation with each owner and included marking out the areas that would receive cleanup, types of obstructions and special needs to be addressed.

Examples of issues addressed were protection of trees, interfacing with subsurface utilities, and working around structures like parking areas and play structures. As the process unfolded, property owners made decisions related to restoration such as whether to replace areas with sod, hydro seed, gravel or other material.

In August, EPA reached a settlement agreement with Teck American Incorporated (TAI) in which the company voluntarily agreed to carry out the residential cleanup plans under EPA oversight. TAI, in turn, hired Arcadis, an international firm that specializes in environmental restoration and cleanup. TAI also hired the Colville Confederated Tribes to assist with historic or cultural considerations.

Shortly after the agreement was reached, between 20 – 30 personnel quickly mobilized to the Northport area and the community began to see excavators, dump trucks, water trucks, dozers and other equipment arrive. At the same time, it was determined that soil could be disposed of at the Stevens County Landfill.

How the work was conducted

Based on the work plan for each property, site work included excavating a minimum of 6 inches of soil and up to a maximum of 12 inches. Using XRF (the equivalent of taking an x-ray of soil to determine lead and arsenic concentrations) and laboratory soil analyses results, crews excavated until remaining soils were equal to or less than the state cleanup standard of 250 ppm of lead present. If the standard was not met by a depth of 12 inches, a marker liner was put down. For trees with root systems that could not be excavated to meet standards, a geotextile fabric was placed above the root system to warn of underlying soil with lead above 250 ppm.

Clean backfill and topsoil material was then placed to replace excavated soil. The finish work commonly included a sod lawn placement or hydro seed grass mixture application.

So what happened?

The 13 residential properties and 1 tribal allotment that qualified and voluntarily agreed to cleanup received it. From a numbers perspective:

- A total of 7,685 tons of soil were removed to the Stevens County Landfill;
- 5,909 cubic yards of clean fill was brought in for backfill;
- 56,000 square feet of sod was laid;
- 325,000 square feet of property received hydro seed treatment; and
- 5,542 tons of gravel or other finish material selected by property owners were used.

Most importantly, reports from EPA, TAI, Citizens for a Clean Columbia and others are that property owners were

Properties receiving cleanup



EPA Remedial Investigation Sampling and Report Status

Bossburg Flats: Soil sampling for heavy metals was completed in May, 2015 at several locations between Young American Mine and just below Evans Campground Beach. The purpose is to better determine the extent of lead contamination at the Bossburg Flat beach, which is located adjacent to the historic remains of the Bossburg town site. The work also was designed to evaluate if historic ore milling discharge from the now cleaned up Young American Mine mill located in this area may have contributed contamination to the nearby river, or possibly to the Bossburg Flat beach downstream. A data summary report is being reviewed and findings may be available to the public in early 2016. Initial indications are that the highest Bossburg Flat contamination is localized and not due to the historic Young American Mine mill.

Sediment Sampling: Building on sampling done in 2005, additional sediment sampling was conducted in the fall of 2013. Approximately 1,500 gallons of sediment were collected from 136 sites for chemistry analysis; 69 of these samples were selected for toxicity testing and sediment porewater chemistry. The scientific focus is to determine the magnitude of unacceptable risks to benthic invertebrates (sediment dwelling bugs) associated with exposure to metals in sediments. Toxicity tests are complete and a draft data summary report will be submitted by Teck to EPA in December, 2015.

Residential Soil Sampling: In 2014 the EPA sampled soil at 74 residential properties in the Upper Columbia River Valley between Northport and the border. The objective of this study was to determine if people could be exposed to levels of lead and arsenic, as well as other metals in the soil that could cause health concerns. Using EPA's Time Critical Removal Action policy, results led to immediate soil cleanup on 14 properties that was administered and funded by Teck American Incorporated (TAI) and overseen by EPA. See www.lrf.org/publicguide2015 for background information and article in this newsletter for more information.

EPA also reached agreement with TAI to extend further opportunities for residential soil sampling in 2016. See article in this newsletter for details.

Upland Soil Sampling: In 2014 soil sampling to evaluate if there is unacceptable risk to ecological receptors from exposure to metals in the upland soils took place in a 100 square mile area from the U.S. / Canada border south to

approximately China Bend. In general terms, concentrations of lead averaged across approximately 25-acre sampling areas in the more widespread upland soil sampling program were less than in residential samples, which were based on different objectives and sampling design. Further, lead concentrations decreased with distance downstream from the international border; were greater on the west side of the Columbia River; and decreased as elevation increased and with distance from the river. Findings will be incorporated into the human health and ecological risk assessment portion of the RI/FS.

Mussel and Crayfish Sampling: An evaluation of contaminants potentially in the tissues of fresh-water mussel and crayfish is a part of the river and reservoir investigation. A Quality Assurance Project Plan (QAPP) (e.g., a field sampling plan) for mussel and crayfish is being reviewed with EPA. Tissue will be sampled to consider human health risks of consumption and inform other aspects of the remedial investigation. Sampling may begin in the summer of 2016.

Surface Water: Surface water sampling at several locations from the U.S.–Canadian border down to Grand Coulee Dam was performed in 2009 and 2010. After three rounds of sampling the U.S. Environmental Protection Agency (EPA) work showed Lake Roosevelt and the Upper Columbia general water quality safe for swimming. Further, surface water concentrations for all metals (e.g., arsenic, cadmium, copper, lead, mercury, selenium, and zinc); and organics (e.g., PCBs, dioxins/furans and pesticides) are within limits protective of aquatic life. The investigation only looked at contaminants, not at bacteria; therefore, it is good practice not to drink water from the Columbia River without treating it first, as it may contain Giardia (which causes beaver fever).

Beach Sampling: Of the 43 beaches sampled since 2005, all but three are considered safe for recreational use. The exceptions are the recreational locations upstream of Kettle Falls known as: Bossburg Flat beach due to high lead levels; Evans Campground because of lead levels; and the "Swimming Hole" near Sheep Creek because of arsenic levels. As reported in EPA's April, 2012 Beach Fact Sheet, "Because the screening levels for lead and arsenic are set very low, even the 'Swimming Hole' near Sheep Creek and the beach at Evans Campground are not likely to present significant risks to visitors who swim and play in these areas." Copies of EPA's fact sheet can be accessed online (http://www.epa.gov/region10/pdf/sites/ucr/beach_study_fact_sheet_april2012.pdf).

Transboundary Cooperation in the International Columbia River Basin



Meghan Carter



Ingrid Timboe

A new report, *Transboundary Cooperation in the International Columbia River Basin*, identifies a number of areas for improved cooperation and collaboration across

the international border in the Columbia River Basin. Commissioned by the Northwest Power and Conservation Council and the Columbia Basin Trust, it's a follow-up outcome of the International Columbia River conference (Learning from Our Past to Shape Our Future) held in Spokane during October, 2014.

The report reflects an increasing realization that individuals and organizations working across the international border need to share data, information, and funding to effectively and efficiently address complex Columbia River Basin natural resource issues. A noble objective that the report recognizes is devilishly difficult to attain.

The report found that "... while there is a great deal of work being done cross - border, the work is fragmented and, at present, there are a limited number of truly basin-wide initiatives." What one does find is "... a significant amount of cross border coordination happening throughout the basin, most of it ... limited to regional, sub-basin activities, i.e., ... Lake Roosevelt fish and invasive species."

Areas identified as having little to no existing cross-border cooperation include:

- "Transboundary climate change mitigation and adaptation activities
- Effects of legacy mining on the basin as a whole
- Water quality monitoring, especially in the upper Columbia
- Non-point source pollution

- Effects of forest and timber harvest with respect to sedimentation, habitat (terrestrial and aquatic), and riparian corridors
- Mitigation for Canadian Okanagan salmon
- Post-2024 flood risk management and its implications for current ecosystem enhancement work
- Establishing and maintaining a basin wide 'report card' including, but not limited to, a suite of basin wide biophysical, socio-economic and governance 'indicators' "

To stimulate increased transboundary cooperation, the authors winnowed ideas down into three focal areas:

- "convening annual meetings or forums on transboundary issues such as, for example, efforts to eradicate invasive species;
- creating a publicly accessible, shared transboundary database; and
- expanding and integrating environmental monitoring programs to share information across the border."

As the Lake Roosevelt Forum was identified as a leader in convening transboundary stakeholders, the Forum is hopeful leaders from the Council and Trust will identify transboundary efforts that can be highlighted and built on at the November, 2016 Conference.

Said Andy Dunau, the Forum's Executive Director, "The two authors of this report, Ingrid Timboe and Meghan Carter, were selected because one was a university intern from the U.S. and the other from Canada. Give credit to the Council and Trust for recognizing that fresh thinking and eyes are needed to help shape a more sophisticated transboundary future. They started by selecting interns that don't see borders in traditional ways. Good for them."

For full report, go to: <https://www.nwcouncil.org/news/blog/transboundary-collaboration-report>. 🌐

Upper Columbia Valley residential properties receiving cleanup

CONTINUED FROM PAGE 4

pleased with the process and results. Said property owner Connie Hickman, "We have about 3 acres of property. The grandkids like to play games on the lawn and we enjoy family time around the fire pit. We decided to do the clean-up knowing that if they want to sell the property they can say it was cleaned up."

Continues Hickman, "The crews were, all of them, very

friendly and polite. They went out of their way to meet our needs, even using a hydro seed mix that reflects what we've found works best over the years."

The Forum is also pleased to report that no work related injuries or safety incidents were reported. Particularly because of the drought conditions and fires, the Forum commends the safety procedures employed by EPA, TAI and Arcadis. 🌐

BC Local Government and U.S. Columbia River County Commissioners discuss Columbia River Treaty

On both sides of the border local governments continue to be concerned about the future of the Columbia River Treaty (CRT). Representatives met in Nelson B.C. in September to compare notes and perspectives.

The overriding mutual concern is whether local interests will be accounted for in any future negotiations. On the Canadian side, the Local Government Committee (LGC) was formed and subsequently worked with the provincial government and BC Hydro to create the Columbia Basin Regional Advisory Committee. Said Deb Kozak, Mayor of Nelson and Chair of the LGC, “This Committee of local government, First Nations and citizen representatives will provide advice to the province on the future of the CRT and to BC Hydro and other hydro operators about regional operations.”

On the American side, Washington State Association of Counties (WSAC) represented by Columbia River county commissioners do not believe their views were fully addressed and incorporated into the Sovereign Review Team CRT recommendations to the U.S. State Department.

Since recommendations were submitted to the State Department in December, 2013, the U.S. government has been “studying” the recommendations for nearly two years. At stake is whether to modernize the treaty or allow it to continue in its present form until the year 2024, at which point flood control and the nature of cooperation between our countries becomes more ad hoc and less certain.

After two years of contemplation, the issues in the U.S. remain the same. How to meet flood control needs;

Pictures from Upper Columbia River Tour in British Columbia.



sharing of the electricity benefit produced at U.S. hydropower facilities that rely on transboundary water management cooperation; keeping electricity rates low; and meeting 21st century environmental values, be it salmon migration, climate change or other needs.

Said Wes McCart, Stevens County Commissioner, “Meeting the water supply needs of our counties, cities and agriculture is vital to human health and safety, and to the economies of the region.”

In a joint editorial released in November, Steve Wright (former chair of the U.S. entity for administration of the Columbia River Treaty and now general manager of the Chelan County Public Utility District) and Matthew Rooney (a former deputy assistant secretary of state for North America that was directly engaged in receiving CRT recommendations) said that “Renegotiation should begin now, and the United States should not hesitate to provide notice of intent to terminate the applicable treaty provisions to ensure a serious negotiation.”

Local governments agree with the perspective of Wright and Rooney that there is a sense of urgency to initiate negotiations. To that end, they are preparing a joint letter to be sent to both governments requesting an update and a

desire to move forward. Said McCart, “Providing certainty and including local government interests are of great importance to a modernized treaty.” Kozak agrees with this view.

Representatives also spent a day touring lakes and hydro facilities in British Columbia. Said McCart, “Many of the impacts from the Columbia River system are the same on both sides of the border, they just differ in timing.” 🌟

Additional soil sampling to be offered to Upper Columbia Valley property owners

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- The blue line shows the Marble community. A representative subset of properties will be offered residential soil sampling in 2016 to determine typical soil metals concentration in that immediate area and if further sampling needs to be offered to additional property owners in this area.
- The gray line shows the town of Northport, which is not currently eligible to receive sampling. Northport underwent a soil removal action program in 2004. EPA is reviewing records and evaluating appropriate next steps for Northport yards that did not previously qualify for cleanup or were not sampled in 2004 or 2005.

Teck American Incorporated (TAI) and their contractors will be performing the residential sampling under EPA oversight.



2014 Soil Sampling Reconnaissance

Signing up for sampling

The current plan is for TAI to send out letters to property owners just after the first of the year offering residential soil sampling. Those opting for soil sampling will be asked to complete access agreements to allow sampling to be conducted on their property.

Spring will include site visits by TAI, EPA and contractors to identify sampling locations. A specific sampling plan for each landowner will be created and shared with them. Sampling will then take place in fall 2016, and results will be made available within months thereafter.

Even before letters are sent, you can ask to see if your property will be considered eligible by contacting Laura Buelow at Buelow.Laura@epa.gov, or Kris McCaig



2014 Soil Sampling

at Kris.McCaig@teck.com. If you are interested in having your property sampled, but do not receive a letter to offer soil sampling, be sure to contact Laura Buelow at EPA.

Responding to questions

TAI and EPA will be available to answer property owner questions. The Forum, as part of its mission to serve the greater Lake Roosevelt community, is working to assist in this effort by working with the community to develop a short publication that will respond to frequently asked questions. For example, what is being tested for? What will be in the report? What happens if an archeological artifact is found? The Forum will also proactively work with service clubs, churches and other community groups to schedule meetings for TAI and EPA to answer questions.

Said Andy Dunau, the Forum's Executive Director, "We don't expect residential soil sampling to be offered over and over again. So it's very important for landowners to make an informed choice now about whether to participate in this free soil sampling and to possibly be considered for free immediate actions if metals are found at unsafe levels." 🌱



2014 Soil Sampling



Lake Roosevelt Water Festival

September brings the start of the school year as well as the Lake Roosevelt Water Festival. This full day of student activities is held at the Kettle Falls Swim Beach and the Sherman Creek Fish Hatchery. This year's event included 376 students from 9 schools. Over 30 volunteers from the following organizations taught students: National Park Service, US Forest Service, Avista Utilities, Spokane Tribe of Indians, Colville Confederated Tribes, Ferry County Conservation District, Stevens County Conservation District and the Washington Department of Fish & Wildlife. Thank you to the great volunteers who makes this event possible! 🌊



Lake Roosevelt Forum

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EPA Remedial Investigation 2015 Sampling and Report Status

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Lead concentrations at Bossburg Flat beach, however, have resulted in beach closure by the National Park Service and the need for additional information (see Bossburg Flats). The historic town of Bossburg included ferry operations to shuttle people, along with various goods and services, back and forth across the river, reportedly including mined ores from the district.

Fish: The Washington Department of Health issued an updated fish advisory pamphlet in June 2015. Go to www.lrf.org/fishadvisory to view the advisory and public information materials.

Recreational Use Survey: A survey to assess where, when, what, how, and how long visitors utilize Lake Roosevelt and the Upper Columbia River began in October 2010 and completed in 2012. Over 2300 survey interviews were completed, with results being used to inform key sections of the human health risk assessment. Go to <http://www.ucr-rifs.com/assets/Docs/05-10-13FINALUCR-Rec-Survey-Summary-Report.pdf> to view the report. 🌐

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