

# Citizens for a Clean Columbia

Our mission: to advocate for a clean Columbia River ecosystem  
NEWSLETTER JULY 2014

## Who are we?

Citizens for a Clean Columbia (CCC) is a volunteer organization focused on advocating for the health of the Upper Columbia River and Lake Roosevelt. Visit us at [www.cleancolumbia.org](http://www.cleancolumbia.org).

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## News in Brief

### Residential Soil Study

- The EPA is conducting a study of residential soil heavy metal contamination on properties near the US/Canadian border, based on two State of Washington Department of Ecology studies.
- Sampling has begun and will continue through October 2014 on 84 properties.

### Upland Soil Study

- This study will examine soil for contaminants from air emissions, historic flooding, or windblown dust from contaminated sediment.
- The areas of interest include 23 square miles along the Upper Columbia River downstream of the border, five relict floodplain areas, and near-shore areas near Marcus Flats and Seven Bays.
- Sampling began in September 2014 and will continue into summer of 2015.

### October 1: Lake Roosevelt Bus Tour

- The Lake Roosevelt Forum is inviting community members to join elected officials, natural resource managers and others on a bus tour of upper Lake Roosevelt on October 1, 2014 leaving from Colville.

## Technical Advisor Update

- Joe worked with CCC to provide comments on the Residential Soil and Upland Soil Study Quality Assurance Project Plans (QAPPs), the Bossburg Flat Beach QAPP, and the reanalysis of beach sediment samples.
- He also observed several field interviews for the Residential Soil study and the first day of sampling at one property, helping to resolve several issues.

## Teck Toxic Plume and Spill News

- No additional spills were noted since the February 2014 spill of about 25,000 liters of sodium hydroxide and 625 grams of copper concentrate.

## Residential Soil Study in the field: September 2014

As some of you heard at our General Member Meeting in April 2014 in Northport, the EPA is conducting a study to examine soil at residential properties near the U.S./Canadian border that may have been contaminated with heavy metals from smelter operations in Trail, BC (see purple area on the map on p 3). CCC provided comments to the EPA on the study plans in July and our technical advisor has worked with several local residents to ensure that sampling goes well.

This study was prompted by findings from two soil studies conducted by the State of Washington, Department of Ecology (DOE). The study sites were located near the U.S.-Canadian border, along the

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Upper Columbia River Valley (see green area on the map on p.3). The first, conducted in 2010, evaluated surface soils in non-residential timberland areas within 2 miles of the U.S.-Canadian border.

Sampling covered 15 to 20 square miles and included about 120 soil samples. These were tested for heavy metals including lead, arsenic, zinc, cadmium, and mercury.

The second study, completed in 2012, investigated metal concentrations in sediments at 10 lakes and wetlands along the Upper Columbia River Valley. These sediment samples were also analyzed for heavy metals as well as organic carbon. Both studies found elevated levels of metals (lead, arsenic, and cadmium) in surface soil and lake sediment.

Property owners in the study area were contacted through letters and those volunteering for sampling were visited by EPA representatives to determine the best areas to sample, with concentration on areas near homes and gardens where family members might be exposed to contaminants. Eighty-four properties will be sampled.



To date, 32 properties have been sampled by one of two sampling crews, collecting 176 discrete samples. Sampling should be completed by October 12.

For further information about the DOE studies, please view the DOE's Upper Columbia River Lake Roosevelt Website at <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=12125>. Mindy Smith, MD, MS; CCC secretary

### **Upland Soil Study**

This study is one of the final studies to be completed as part of the Remedial Investigation Feasibility Study. This study, to be conducted by Teck, will examine soil for contaminants from air emissions, historic flooding, or windblown dust from contaminated sediment. The area of interest for air emissions is approximately 99 square miles (see red area on the map on p.3), with a 23 square mile area along the Upper Columbia River downstream of the border designated for more intensive sampling (see orange area on the map). The sampling area for flood effects will be from 5 relict floodplain areas. The windblown dust areas include near-shore areas near Marcus Flats and Seven Bays.

The EPA has recently approved Teck's study plans; some permissions from property owners are pending and unfortunately some property owners have refused to participate. Sampling began in September but will likely continue into summer, 2015.

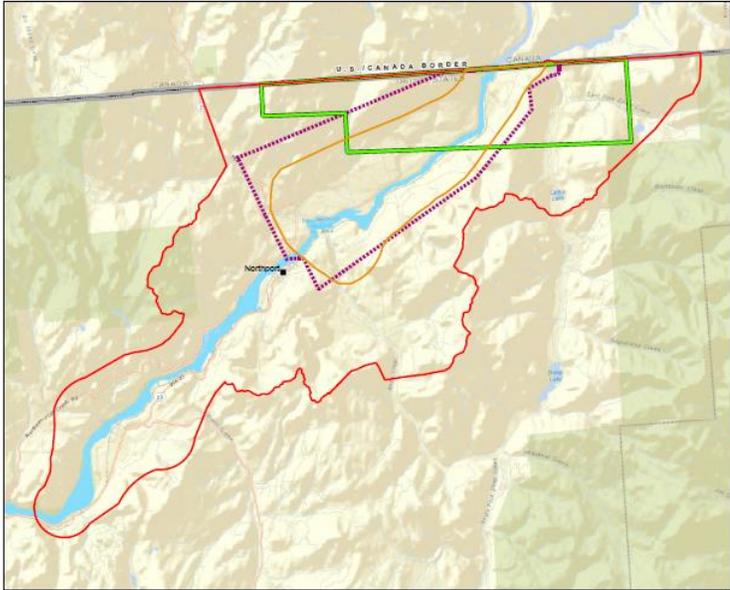
The contractor, Arcadis, has over 40 people involved in this sampling event. They have 4 sampling crews with 6 people in each one.

The crews did some additional training on field equipment and began the actual sampling on

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Monday, September 8 under EPA monitoring. To date they have collected 42 or 109 samples planned.

### Sampling areas map



Green: DOE study area  
 Purple: residential soil study area  
 Orange: upland soil intensive study area  
 Red: upland soil study area

Mindy Smith, MD, MS; CCC secretary

### **LRF Bus Tour October First**

The Lake Roosevelt Forum is inviting community members to join elected officials, natural resource managers and others on a bus tour of upper Lake Roosevelt. The tour includes EPA and Teck updates on the RI/FS, plans to study salmon migrating passed Grand Coulee, Bureau of Reclamation lake operations and National Park Service lake management information, fishery updates from the Spokane and Colville tribes, and more. This is a great opportunity to network with managers concerned with the health and well-being of Lake Roosevelt. The tour will begin and end in Colville on:

Date: October 1<sup>st</sup>

Time: 8:00 – 4:00 p.m.

Cost: No Charge

Space is limited, so RSVP quickly. You can e-mail

[info@spokaneriver.net](mailto:info@spokaneriver.net), or call 509-535-7084.

Information can also be found on the Forum’s web site at [www.lrf.org/conf](http://www.lrf.org/conf).

Also plan on attending the next conference in April, 2015.

Mindy Smith, MD, MS; CCC secretary

### **Technical Advisor Report**

Joe Wichmann, PhD; CCC Technical Advisor

My efforts over the past six months have focused on the Residential Soil and Upland Soil Study Quality Assurance Project Plans (QAPPs), the Bossburg Flat Beach QAPP, and the reanalysis of beach sediment samples. CCC used my reviews as the basis for their comments to EPA on these reports. I also observed property owner interviews and sampling for the residential soil study.

Portions of the final drafts of the residential soil QAPP and field sampling plan (FSP) were prepared by two separate EPA contractors. Communication issues between the contractors resulted in conflicting statements in different sections of both the QAPP and FSP. CCC’s comments on the final QAPP and FSP focused on reconciling statements in different sections of the documents and suggested that rural descriptions of property areas and uses be included.

I observed several field interviews with property owners in late April and early May. The interview teams did not appear to have a clear idea of the

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intent of roof drip line sampling on the first day of property owner interviews. Following discussions with EPA and representatives from both contractors, it was decided that drip line soil samples would only be obtained within six feet of the primary residence on shed roof sides. This would provide a sample for evaluating the possibility of concentrating airborne contaminants when they are washed off the roof onto the drip line. Houses with lead paint would be sampled on all sides to evaluate risks from degraded paint.

A property owner's request to have their adjacent property sampled was originally denied, but was eventually accepted after a series of phone calls and emails with EPA. Overall, the property owner interviews that I observed went well. The interview teams had excellent maps of the proposed sampling areas and generally attempted to include owners' requests.

The final FSP contained sampling area description errors for three of the six properties at which I observed interviews. I also observed the first day of sampling at one property. The sampling teams used the first day to familiarize themselves with the locating and sampling equipment. The property owner told me it took three days to sample his property and that he found the crew obtaining samples in an area that was not to be sampled. CCC continues to have concerns about correct sampling areas. CCC is obtaining four soil samples from each of two properties. These samples will be analyzed for metals at a different laboratory than is being used by EPA. A third party is funding most of this project.

The second draft of the Upland Soil QAPP was released in April 2014. Most of CCC's major concerns with the first draft were addressed in this draft. The main continuing concern was the selection of the

windblown sediment areas. Historical wind direction data do not support the selection of the Marcus Flats sampling site; however, no other suitable areas are available in the upper reaches of the study area. The final QAPP was approved by EPA on August 21, 2014, and field activities started on September 2, 2014.

Three major companies with land holdings in the study area have not consented to sampling. The study is going forward with approximately 50 percent of the originally proposed sampling areas. Soil sampling on sites with consent agreements is expected to be completed by the end of September. Additional sampling may occur in 2015 if access agreements can be reached with the two major land holding companies.

Results from the additional beach sediment sample analysis study agreed to by EPA, TAI, CCC and me in August 2013 were released in February 2014. I provided a comparison of the original 2011 data to the 2013 reanalysis data to CCC in June. CCC forwarded my comparison to EPA. My main concern was that the reanalysis data for lead appeared to be biased low for the five samples originally completely analyzed in 2011. The relative percent difference (RPD) for lead reanalysis values ranged from -16.7 to -45.9 and averaged -33.9. The arsenic data appeared to be consistent with the originally reported data. The RPD for arsenic reanalysis values ranged from 10.4 to -19.5 and averaged -6.1. I suggested that lead values from the reanalysis study not be used to evaluate the original extrapolation procedure and that two sampling areas at Evans Campground Beach that had been removed from sampling in the Bossburg Flat Beach QAPP based on the reanalysis lead data be reinstated in the study. EPA responded "...In conclusion, as you recommended, the two DUs at Evan's Campground Beach, DUs 6 and 7, will be retained for sampling during the spring 2015

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sampling event. We do recognize that the trend of the lead data from the 2013 reanalysis is consistently below that of the 2011 data set. That said, all the data is of a usable quality..." This issue may be readdressed during final beach human health risk assessment.

Two drafts of the Bossburg Flat Beach QAPP were issued this year. CCC had several main concerns with these drafts. The QAPP states that portable x-ray fluorescence (XRF) analysis for lead is to be used as a confirmative tool only within the proposed sampling areas. The National Park Service (NPS) noted that there were two cable ferry landings on the west side of the Columbia River but the exact locations are not known. NPS believes that the landings are within proposed sampling areas on the west side of the river. CCC would like XRF to be used to locate these landings prior to establishing the sampling areas and to determine the extent of contamination with adjustment of proposed sampling areas if lead levels indicate the need.

The latest draft of the QAPP eliminated two sampling areas from the Evans Campground Beach based on the beach sediment reanalysis study (see above). CCC requested that these sampling areas be reinstated. EPA provided TAI with formal comments on the latest draft of the QAPP on August 26, 2014. A final QAPP is expected from TAI in late September. Soil sampling for the study may yet begin this fall. Beach sediment sampling will be performed in 2015.

Sampling for the sediment toxicity study finished in October 2013. All samples have been analyzed for metals concentrations and the short-term toxicity studies have been completed. Long-term toxicity studies and slag determination using backscatter electron microscopy has not yet begun. It is hoped that data from this study will be released in 2015.

The final sampling and analysis plans for the residential soil study and the upland soil study are available on Teck's website at <http://www.ucr-rifs.com/documents-plans/>.

## **Spill News and Teck PLUME**

- No additional spills have been reported since the last newsletter.
- The Teck Trail Operations groundwater remediation plan, including a series of wells to trap and treat contaminated groundwater, was accepted by Environment Canada in 2013. It is estimated that it will take 5 years to complete. Studies are underway to confirm the final pumping and treatment rates to guide remediation system design and to examine potential impact on smaller, localized areas outside of the main groundwater area including Lower Stoney Creek, Indian Eddy, and areas near downtown Trail, BC. For further information see [www.teck.com](http://www.teck.com) under Trail Groundwater Remediation Plan.

## **Want to be More Involved?**

CCC welcomes new members; you can join on our website ([www.cleancolumbia.org](http://www.cleancolumbia.org)). You can also find meeting minutes and links to other organizations involved in protecting the environment.

Our next General Member Meeting will be in the fall likely in Colville or Kettle Falls. We will post updated information on the website. Please join us.

You can also write to our EPA project managers Laura Buelow ([buelow.laura@epa.gov](mailto:buelow.laura@epa.gov)), Matt Wilkening ([wilkening.matt@epa.gov](mailto:wilkening.matt@epa.gov)) or the EPA region 10 administrator Dennis McLerran ([McLerran.Dennis@epa.gov](mailto:McLerran.Dennis@epa.gov)).