

Bradford Island Community Involvement Program

Community Involvement Committee (CIC) Meeting

July 17, 2006
Cascade Locks City Hall
6:30 - 8:00 PM

Questions Asked:

Why didn't the toxicity tests done on crayfish trigger a public health warning?

Oregon has issued a shellfish advisory that is still in effect.

Oregon:

www.healthoregon.org/fishadv/index.cfm and

<http://www.oregon.gov/DHS/ph/envtox/0301esc.shtml>

Washington has prohibited the harvesting of all freshwater shellfish

<http://apps.leg.wa.gov/WAC/default.aspx?cite=220-56-129>

What does the toxicity data show?

We had a relatively low number of co-located sediment, clam and crayfish tissue samples, so the data are not conclusive. The limited data showed little relationship between sediment and tissue PCB concentrations. The highest PCB concentration was so high that we wonder if the sample was somehow corrupted. If it is correct, we believe that the only explanation is that the crayfish had droplets of oil on its exoskeleton (the entire crayfish was liquefied for analysis) and that the results do not reflect concentrations in living tissue.

Why is the Corps still spending money on studies? Why not use that money for clean-up?

The main reason that the cleanup is not already complete is that, during the investigation, five other sites were discovered in the same general location. Each time a new site was confirmed, the Corps needed to step back and determine the "nature and extent" of the contamination. The "in river" site was significant enough that virtually all work was stopped on all of the upland sites for several years as resources were concentrated on this location.

What is the current extent / status of contamination?

We now know that the “in-river” contamination is concentrated on the north side of Bradford Island and has been spread, by currents above the dam, throughout the Bonneville forebay. However, concentrations drop very quickly as one moves away from the source area. Upland areas of contamination are very localized and it is believed do not pose a threat to adjacent areas. The Bradford Island-wide Remedial Investigation will determine the nature and extent of the contamination and what will require cleanup.

Has there been a study on the sturgeon in the upper pool?

The Corps agreed to collect sturgeon, bass and walleye in the pool to inform a potential fish advisory. But, after 200 man-hours of fishing in the pool, no walleye or sturgeon have been caught and very few bass (the Bass that have been caught were well upstream of the primary target area around Bradford Island). The Corps is not planning any additional fish collection efforts at the present time, however, we do expect some fish collections to be necessary to inform the overall Remedial Investigation (RI) study.

Are the fish safe to eat? What are the risks?

The purpose of the RI is to determine whether risks to the environment and/or human health are present at this site. Therefore, a determination of risk is not possible at this time.

However, risk factors can be discussed. Knowledge of these will help each person frame the risk question for themselves and put it into some perspective. The following focuses on factors affecting human health:

To affect human health, a person must be exposed to a contaminant. There are 3 potential exposure routes associated with Bradford Island. They are as follows:

- a. Direct contact (touching contaminated material)
- b. Inhalation (Breathing dust that is contaminated)
- c. Ingestion (Consuming contaminated soils, sediments or tissue that is contaminated)

Direct contact – The upland sites at Bradford Island are off limits to workers and the general public. Only authorized personnel are allowed in the area. The in-river area is located within the Boat Restricted Zone (BRZ). Again, only authorized personnel are allowed in the area. Exposure by direct contact, associated with activities such as swimming, fishing, and other shoreline recreation activities is unlikely.

Inhalation – The Corps has done some modeling for windblown dust at the site and plans to do more for solvents in the groundwater. These models will determine whether contaminants could be available to inhalation by workers or members of the public. The results to date are negative.

Ingestion (direct) – Human exposure resulting from ingestion of contaminated soils or sediments is again unlikely. Exposure to site soils is limited to on site workers. See Direct Contact, above.

Ingestion (indirect) – Human exposure resulting from ingestion of clams, crayfish or fish that, in turn, have been contaminated has the greatest potential for risk. However, this type of exposure is influenced by many different factors:

- a. Availability of organism as a food source – Clams and crayfish have a very small home range (they don't travel far). Access to the area is restricted and we are not aware of anyone collecting clams or crayfish in the area. Higher trophic level organisms (bass, walleye, etc.) seem to be relatively scarce in the Bradford Island area.) We have attempted to catch sturgeon at the site but have been unsuccessful so far.
- b. Residence Time – Anadromous fish such as salmon who pass the area on their journey downstream or upstream would have little to no exposure, as opposed to resident fish who stay all year long.
- c. Home Range of Resident Fish – This would apply to the sturgeon or bass that is a predator of the crayfish or clams. A sturgeon may have a home range of 50 miles or more. A bass may have a home range of 30 to 50 acres.
- d. Percent of Diet – The most “at risk” people will be those who regularly eat fish caught in the vicinity of the site. A person who eats fifty meals each year would be at greater risk than a person who eats one meal per year.
- e. The amount of contamination that is biologically available in the sediments - Bioavailability of PCBs is dependent on the amount of organic carbon in sediments. This factor will be used in the modeling proposed for the Bradford Island food web model.

What is the projected timeline for mitigation? What is the plan/timeline for clean-up?

Dredging of the most contaminated sediments is planned as an early action in October 2007. Other sites could also be addressed as early actions, although none is planned at this time. The RI study will be complete in 2008. Final cleanup would likely take place over the following 2-3 years (2009-1011).

How much will it cost for clean-up?

It is impossible to say at this time since the scope is unknown. The total cost of the project to this point is approximately \$7,000,000.

How much influence did cost have in choosing the alternatives? What is the cost / benefit analysis?

Corps and EPA guidance requires that cost be one of the factors considered in choosing an alternative for the interim action proposed in sediments. The other factors include whether the alternative is effective in reducing risk both during and after the cleanup, and whether the action is constructible and acceptable to the public. These are described in the Engineering Evaluation and Cost Analysis (EE/CA) for the non-time critical dredging work on our website. A review of that document would give the reviewer an opportunity to see how these factors were utilized in making a selection.

The final remedy for all contamination at the site will be evaluated during the Feasibility Study using similar criteria, and cost is one of nine criteria. The Corps recommendation will be reviewed by the public, EPA, the states and the other stakeholder agencies prior to making a final selection.