Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

April 9, 2007

Eric Blischke
Chip Humphrey
Project Managers
U.S. Environmental Protection Agency
811 SW Sixth Avenue, Third Floor
Portland, OR 97204

Re: **Yakama Nation's Submittal of Comments** *for the Portland Harbor Superfund Site Remedial Investigation / Feasibility Study Comprehensive Round 2 Site Characterization Summary & Data Gaps Analysis Report (R2 Data Report)*

Dear Chip and Eric:

I understand EPA is establishing an initial list of data gaps to begin substantive discussions with the Lower Willamette Group (LWG) during the April 11th Project Managers meeting. For your review and consideration, I have attached a memo regarding data gaps specific to the Human Health Risk Assessment portion of the R2 Data Report. Additional comments regarding the LWG's procedures for evaluating and analyzing data are being developed and will be submitted in a separate memo later this week.

If you have questions please call me at 509-865-4565 x6365 or feel free to contact Sheila Fleming, with RIDOLFI Inc, at 206-682-7294.

Thank you for your consideration of our comments.

Sincerely,

Rose Longoria
Superfund Projects Manager

Yakama Nation
Department of Natural Resources
Fisheries Resource Management Program

cc: Dana Davoli, EPA

DNR FRMP Superfund Projects/rml

MEMORANDUM

DATE: April 9, 2007

TO: Rose Longoria, Yakama Nation Fisheries

FROM: Kristin Cunningham, RIDOLFI Inc.

SUBJECT: **R2 Data Report HHRA Data Gaps**

After reviewing the Human Health Risk Assessment (HHRA) portion of the Comprehensive Round 2 (R2) Site Characterization Summary and Data Gaps Analysis Report, we are providing the following initial comments regarding potential data gaps. We are still reviewing the HHRA and discussing certain issues with Dana Davoli, and plan to submit additional comments regarding LWG's assumptions, evaluations, and analyses in a separate memo.

Potential Data Gaps

1. **Fish:** Additional biota samples are needed to enhance the understanding of site-specific contamination, validate the food web model, and determine background concentrations. We agree with EPA that background fish tissue samples should be collected from further upstream, above downtown (and any potential PCB sources) as well as above the Willamette Falls.

   In addition to the need to collect additional resident species, the consumption of which contributes significantly to human health risk, we question whether the four whole-body adult lamprey samples collected from Willamette Falls and evaluated in the HHRA were adequate. Since lamprey are an important part of the Native American diet (cited by CRITFC as 7% of the total fish diet, which may be a suppressed rate due to the decreasing lamprey population), and whole-body adult fish are consumed (not ammocoetes), it is recommended that additional whole-body adult lamprey be collected from the Study Area and upstream for use in the risk evaluation.

2. **Shellfish:** The Native American scenario currently does not include shellfish consumption because it is assumed that it would not influence the overall risk level, and LWG does not believe that freshwater clams specifically would be consumed in any scenario; however, these points do not take into account potential future use.

   Despite the fact that *Corbicula* are invasive species that are illegal to harvest, fishers will collect and consume them if available. LWG states that consumption at the highest shellfish ingestion rate (18 g/d) would deplete the current biomass. However, high reproductive rates should be considered. Approximately 320 (fall) and 387 (spring) larvae are released daily per clam, with larval density reported as high as 1,000/ml (Hall, 1984; Sinclair, 1971). Although these freshwater clams are prey to fish and crayfish, the biomass available for harvest and consumption has the potential to increase over time, particularly if habitat becomes more suitable to their survival and reproduction.

3. **Ground water seeps:** Linking uplands sources to river contamination may be a data gap beyond the scope of this RI/FS; however, additional investigation of groundwater seeps that directly influence potential exposure within the river system is warranted. Only three seeps have been identified, and only one of those (Outfall 22) was evaluated in the R2 HHRA. Considering the potential for human use areas to vary in the future (e.g., areas becoming unrestricted), we recommend that at a minimum, the seeps identified at Willbridge and Willamette Cove be considered a potential pathway and evaluated for any scenario with potential exposure to beach sediments.

References

Hall, J.J. 1984. Production Of Immature Corbicula Fluminea (Bivalvia:Corbiculidae), In Lake Norman, North Carolina. The Nautilus 98(4):153-159. Sited on Corbicula fluminea (Muller, 1774) Fact Sheet (web site: http://nis.gsmfc.org/nis_factsheet.php?toc_id=128).

Kennedy/Jenks. 2006. Portland Harbor RI/FS, Technical Memorandum for Human Health Risk Assessment: Exposure Point Concentration Calculation Approach and Summary of Exposure Factors. April 21.

Sinclair, R. M. 1971. Corbicula variation and Dreissena parallels. Biologist 53(3):153-159. Sited on Corbicula fluminea (Muller, 1774) Fact Sheet (web site: http://nis.gsmfc.org/nis_factsheet.php?toc_id=128).