



October 7, 2011

Ted Sturdevant, Director [tstu461@ecy.wa.gov]
Jim Pendowski, Toxics Cleanup Program Manager [jpen461@ecy.wa.gov]
PO Box 47600
Olympia, WA 98504-7600

Regarding: Dioxin Contamination and Cleanup in Washington

Dear Mr. Sturdevant and Mr. Pendowski:

As a coalition of environmental organizations concerned with dioxin contamination, we have written this letter to share our joint concerns with you and to begin a productive conversation on dioxin cleanup issues.

As you well know, dioxin is a potent carcinogen and toxin with multiple endpoints, including cancer, birth defects, endocrine system disruption, and immune toxicity. USEPA, in its attempt to find a suitable number to regulate dioxin, has found that a safe level of dioxin is often below background levels of dioxin. (EPA, 2009)

Dioxin is found at levels of concern in soils and sediments throughout the state. Upland cleanup sites are often located in low income areas where residents already do not have adequate health care and nutrition. Sediment sites contribute dioxin loads to our fish and shellfish, which are declining in population, and to the fishers who consume them. Subsistence fishers, who often cannot afford a high standard of living, are again unduly burdened by the dioxin load.

We acknowledge that the Department of Ecology (Ecology) is striving to address priority bays in Puget Sound. We appreciate the significant resources Ecology has committed to bay-wide sediment characterization studies and the increase in staff efforts dedicated to moving cleanups forward.

Concern: regional background and sediment cleanup

We understand that Ecology is considering a regional background approach to set sediment cleanup standards. This approach where “regional background” levels of contaminants are used to set standards basically means that the standard for key contaminants will be more relaxed in urban areas. This is not adequate to protect human health or the environment, nor will it enable meaningful progress toward meeting overall cleanup goals. On a practical level, we believe that there are not sufficient data for this to be a viable approach. In a broader context, we do not believe that using “regional background” will meet the goals of providing equal cleanups, a healthy environment, equity and justice for all citizens.

We think that the regional background approach is incorrect, and especially problematic for dioxin. Currently Ecology has postulated “natural background” sound-wide in sediments as 2 ng/kg Toxic Equivalency Quotient (TEQ) dry weight, or 2 parts per trillion (ppt), based on the 95% upper confidence limit of dioxin concentration in the OSV Bold Study (EPA, 2010). In other places, however, natural background may be even lower. In Fidalgo Bay, for example, background is considered to be 0.9 -1.4 ppt, depending on the assumptions used in the calculation. **We request that Ecology use the most stringent background values to set the sediment cleanup standard for dioxin, being that of either natural Puget Sound-wide background (2 ng/kg Toxic Equivalency Quotient dry weight) or that of local background.**

Soil Standards

At present, Ecology’s standard is 11 ppt for soil contaminated sites. As more information comes to light, illustrating the potency of dioxin, this number may need to be revised downward, possibly to the soil’s natural background level of 5.2 ppt TEQ (Bradley, 2010).

Site characterization

One shortcoming of Ecology’s soil cleanup process is that sites are not completely characterized at the outset of sampling. **We request that sites be completely characterized, by sampling on a lateral and vertical basis until the extent of contamination is delineated by the detection of clean sediments at the limits of the contaminated area.** Without complete characterization, incomplete and inefficient cleanups occur. While limited sampling is cheaper in the short run, ultimately, it is less expensive to take and analyze a single, complete set of samples instead of several sets of samples. This is because less mobilization of sampling crews is needed with one set and laboratory discounts are often available for larger number of samples analyses. **We recommend that source characterization and fingerprinting be used to ensure that**

all contributing sources of dioxin pollution be identified so that they can then be controlled.

Consumption rate:

Consumption rates of contaminated fish are also of concern. While consumption rates do not apply only to cleanups at dioxin contaminated sites, they are important and relevant at these as well as other sites where fish consumption is a pathway of exposure to wildlife and people. Assumed consumption rates at different cleanup sites have been varied and usually biased low for those who are subsistence or tribal fishers. One exception to this trend has been the consumption rate recently agreed upon by Ecology and the Lower Elwha Klallam Tribe (LEKT) of 583 g/ day of seafood for the Rayonier cleanup.

We believe it is vital that the end-result of cleanups be the protection of high-rate seafood consumers.. **To this end, we ask that a reassessment of subsistence fishers be conducted to ascertain a consumption rate protective of high-rate consumers.** In reviewing the literature and in speaking with members of subsistence and indigenous groups, we believe the seafood consumption rate should be set close to 300 g/day, if not higher. The setting of a subsistence rate for non-tribal peoples should be in no way construed as a substitute for individual tribal consumption rates. The LEKT rate is appropriate for LEKT, as other tribal rates, as determined through consultation with the tribes themselves will be appropriate for them. Because non-tribal subsistence fishers often obtain seafood in the Usual and Accustomed Areas (U&A) of tribal members, **consumption rates protective of high-rate subsistence fishers should be considered the minimum consumption rate throughout Puget Sound.** In respecting treaty rights, we recognize that indigenous tribes and nations will negotiate fish consumption appropriate for their U&A's.

Source Control:

As more contaminated sites are cleaned up, we are disturbed to see that source tracing and source control have not kept pace; recontamination of cleaned sites, such as in the Thea Foss Waterway and Lower Duwamish River, is occurring. It is essential that source control is made an integral part of cleanup at each site. **We request that a source tracing and control assessment be made at the beginning of cleanup, that source control be a component of cleanup, and that source control monitoring take place at frequent intervals so that any ongoing recontamination can be corrected immediately.** Further, it is not clear that Ecology and potentially liable parties (PLP's) who are discharging dioxin through stormwater systems are uniformly meeting the requirements of the Clean Water Act in a timely manner. If a site is known to be a point source discharge of dioxin to waters of the state, the discharge should either be eliminated or the site/facility should be put under a pollution discharge permit using All Known, Available, And Reasonable Methods of Treatment (AKART). Currently, there is a preference to look at this issue late in the cleanup process, which can result in additional years, if not a decade, of uncontrolled, unpermitted discharge of dioxin without best management practices or AKART being applied.

Air contribution:

One often neglected source of ongoing (and past) pollution is that which is airborne and subsequently settles onto the soil, sediments, and water. Contamination from smokestacks has been documented to cause widespread and dangerous levels of pollutants at the Asarco Smelter and Rayonier Mill. It is likely that air pollution from other industrial smokestacks and incinerators has been and/or continues to deposit dioxin and other pollutants at unacceptable levels. **We request that characterization of plumes from existing and historical industrial smokestacks and incinerators be conducted with the aim of protecting water and sediment quality, and as a result human health and wildlife.** This Environmental Coalition would support an effort by Ecology to obtain funding from EPA or another source for this project.

Disposal Methods:

In regard to disposal of contaminated sediments and soils, we find that some inadequate methods are being approved, and that not enough newer protective technologies are being adopted. Inadequate methods include thin layer capping (Custom Plywood in Fidalgo Bay), confined aquatic disposal (Whatcom Waterway), shoreline landfills (Cornwall Landfill in Bellingham), biosolids and beneficial reuse (Cornwall Landfill). These methods are inadequate because they place dioxin contamination in locations where re-entry of dioxin into the food chain is more likely than in other methods. There are also multiple incidents of high levels of dioxin in contaminated soils being sent to uncontrolled, general use landfills, such as from the Lora Lake Apartment site in Burien, and the Marine Terminal site at the Port of Olympia.

We recommend the use of more protective technologies, which include the use of AquaBlok and activated charcoal (Duwamish River) and the use of enclosed dredging (Duwamish River). These methods are superior because they effectively limit the exposure of people and wildlife to dioxin. Other technologies which may be promising and which merit further evaluation are: soil and sediment washing, bioremediation, and the use of plasma generators. **As a coalition, we ask that Ecology ensure that cleanup methods which protect people and wildlife to the greatest extent possible be used at all sites.** For example, using AquaBlok technology in Fidalgo Bay instead of the proposed thin layer capping would fulfill this recommendation.

Dredged Material Management Program (DMMP) sites:

The dioxin standard at DMMP sites, with a regulatory dioxin average of 4 ppt sitewide and 11 ppt as a maximum allowable contribution may be appropriate for sites which are considered to contain the dredge material, but not at sites which are considered to disperse it. Contained sites and dispersive sites should have 2 different standards, with dispersive sites having a more stringent standard because, by their very nature, they disperse dioxins to other locations. **We suggest that the standard for dispersive sites be 2ppt, in accord with “natural background.”** If releases of dioxin are greater than 2 ppt, we question whether the DMMP site will meet water quality standards.

The information available to define “containment” and “dispersive” sites also needs greater refinement. **We support conducting additional studies to determine where sediments are dispersed to from containment sites, and delineation of the areal distribution extent at the three dispersion sites near Port Angeles, Protection Island, and in Rosario Strait.** Our information indicates that dispersion at these sites may not be as predicted; Larry Dunn of the LEKT, for example, has pointed out that the source of elevated dioxin in Discovery Bay may be from two nearby dispersive sites (Wagner 2010).

Interim Action:

Interim actions that conduct piecemeal economically advantageous cleanups of sites contaminated with dioxins and other chemicals are occurring far too often. Allowing the use of interim cleanups results in only partially cleaned sites, and prejudices the cleanup methodology of the final cleanup. Interim cleanups should be used only in cases where contamination problems will become worse without the proposed action. For example, at the Custom Plywood site (Anacortes), an interim cleanup of the uplands to stem erosion of contaminated soils was warranted, but the planned in-water cleanup to an interim standard of 10 ppt dioxin is not warranted. The latter will only ensure that a final cleanup to appropriate more stringent standards is delayed, and may never happen. **The regulations pertaining to interim cleanups need to be re-written such that interim measures are used to protect human health and the environment, not to service economic opportunity or put off complete cleanup. As a coalition, we would like to be involved in the re-writing of these rules.**

Institutional Controls:

The use of institutional controls is warranted in some places and not in others. In many locations, we opposed institutional controls because they were being proposed by the PLP’s as a way to reduce their cleanup obligation. We are seeing these controls further escalate the environmental justice problems associated with site clean ups (namely, the Duwamish River). For institutional controls to be effective in those locations where they are warranted, they should be enforceable and monitored. Many of the institutional controls are not enforceable; they rely on the awareness and good will of citizen and long-term institutional memory and accurate record-keeping. For any institutional control to be implemented, we believe that the following should be required: adequacy of recording the control over the long-term, an educational plan for those who have the ability to impact the control, implementation of the educational plan, monitoring of the sediments or soils where the control is implemented, an action plan in the case where monitoring shows the control has failed, delegated performance accountability (to ensure that liability for failure is allocated), and a surety to undertake each of the above actions. **As a coalition, we believe that the use of institutional controls needs to be further codified so that these controls function as intended.**

Additional testing:

In a broader context, we believe that Ecology should be more inclusive in defining contaminated sites and pollution. **Additional testing for chemicals should be a**

component of site delineation, and Ecology should work to develop and/or adopt human health standards for other toxic chemicals, including carcinogens and endocrine disruptors. In addition, there needs to be a way to account for the synergistic and cumulative impact of combinations of chemicals.

In closing, we recognize that Ecology is faced with a myriad of responsibilities and a shrinking budget with which to address them. While we believe that Ecology staff is doing an excellent job in administering the Model Toxics Control Act (MTCA), we do not believe that MTCA should be a jobs program in perpetuity. Contaminated sites should be cleaned up, and future contamination prevented by the meticulous regulation of industries that currently generate pollutants. The MTCA program might be administered as a cost-saving arrangement, if it can be ensured that contaminated sites are in fact completely cleaned up the first time. Ecology, PLP's, and the public incur significant costs for recontamination and incomplete interim actions; these costs are unnecessary and should be eliminated. They essentially serve as a subsidy for polluters and should be abolished. Efficient cleanups would protect human health and natural resources, and reduce impacts of toxics in the environment and costs to Washington.

We will contact you within the month for further discussion.

Sincerely,

Harry Branch, Olympia
Peter L. deFur, ESC, LLC
Llyn Doremus, Sierra Club
James Rasmussen, Coordinator, Duwamish River Cleanup Coalition
Darlene Schanfald, Olympic Environmental Council Coalition
Wendy Steffensen, Lead Scientist, RE Sources
Heather Trim, Urban Bays and Toxics Program Manager, People for Puget Sound
Greg Wingard, Executive Director, Waste Action Project
Chris Wilke, Puget Soundkeeper and Executive Director, Puget Soundkeeper Alliance

Cc: Chance Asher
Dave Bradley
Martha Hankins
Pete Kmet
Craig McCormack

REFERENCES:

Bradley, Dave, Manager, Information and Policy Section , Toxics Cleanup Program, Department of Ecology. August 9, 2010. Natural Background for Dioxins/Furans in WA Soils, Technical Memorandum #8. [<http://www.ecy.wa.gov/pubs/1009053.pdf>]

Environmental Protection Agency, 2010. Draft Final Feasibility Study, Lower Duwamish Waterway. [http://www.ldwg.org/assets/fs/final_2010-10-15/FS_2010-10-15_Sec.1-7.pdf]

Environmental Protection Agency, 2009. Draft recommended interim preliminary remediation goals for dioxin in soil at CERCLA and RCRA sites. [http://www.epa.gov/superfund/policy/remedy/pdfs/Interim_Soil_Dioxin_PRG_Guidance_12-30-09.pdf]

Wagner, Wayne, Chief Technical Support Branch, Operations Division, Army Corps of Engineers. November 5, 2010. Letter to Larry Dunn, Environmental Cleanup Manager, Lower Elwha Klallam Tribe, regarding response to comments on “Proposed Changes to the Interim Guidelines for Dioxin.”