

Letter Health Consultation

**Percival Landing Rebuild
Olympia, Thurston County, Washington**

October 12, 2010

Prepared by

**The Washington State Department of Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry**



DOH 334-260 October 2010



STATE OF WASHINGTON
DEPARTMENT OF HEALTH

Division of Environmental Health

Office of Environmental Health, Safety and Toxicology

234 Israel Road S.E. Town Center 3 PO Box 47846 Olympia, Washington 98504-7846

Tel: 360.236.3184 Toll Free: 1.877.485.7316 FAX: 360.236.2251

TDD Relay Service: 1.800.833.6388

October 12, 2010

Gerald L. Tousley
Thurston County Public Health and Social Services Department
412 Lilly Road NE
Olympia, Washington 98506

Dear Mr. Tousley:

RE: Percival Landing Rebuild

On May 25, 2010, you contacted the Washington State Department of Health (DOH), Agency for Toxic Substances and Disease Registry (ATSDR) Cooperative Agreement Program regarding potential human health effects from dioxin in sediment during the demolition and rebuilding of the Percival Landing boardwalk. DOH has completed a review of sediment dioxin data from Budd Inlet. This is a follow-up letter to our earlier e-mail RE: Percival Landing Rebuild dated June 3, 2010.

Background

The Percival Landing boardwalk is located in the West Bay of Budd Inlet. The boardwalk runs along the eastern shoreline of West Bay for about 0.9 miles, from the Fourth Avenue Bridge to Thurston Avenue. The City of Olympia plans to conduct a reconstruction project (August 2010 to July 2011) that includes replacing a portion of the boardwalk and restoring shoreline habitat. The rebuilding of the boardwalk consists of removing wooden pilings and replacing them with concrete pilings. During this time, excavating and/or dredging sediments will occur. The sediment in Budd Inlet has been shown to contain dioxin [1].

Results and Discussion

DOH reviewed sediment data in the West Bay area adjacent to Percival Landing from the Washington State Department of Ecology's Budd Inlet sediment characterization study [1]. Levels of dioxins in surface sediments adjacent to Percival Landing ranged from 5.21 parts per trillion (ppt) – 32.51 ppt, and subsurface sediments ranged from 0.18 ppt – 50.41 ppt. DOH also reviewed samples in the East Bay of Budd Inlet for a comprehensive bay-wide look at sediments in Budd Inlet. Levels of dioxins in East Bay surface sediments ranged from 15.75 ppt – 60.29 ppt. Subsurface sediments from the East Bay of Budd Inlet ranged 0.14 ppt – 1.65 ppt.

The highest level of dioxins found in Budd Inlet (4,212 ppt) was found in subsurface sediments, at six to seven feet, near the Port of Olympia's shipping berths in West Bay. This area is outside of Percival Landing and would not be disturbed during the rebuilding process. With the exception of

the Port of Olympia's shipping berths, the bay-wide average dioxin level was 19.9 ppt. The data show that as subsurface sampling depth increases, the level of dioxin decreases in samples adjacent to Percival Landing. For example, the highest subsurface sample in the West Bay area adjacent to Percival Landing (50.41 ppt) was found at 1 to 2 feet; however, by the 2 to 3 foot sampling depth, the dioxin level decreased to 0.35 ppt.

Completed exposure pathways exist when there is a strong likelihood that people have come into contact with contaminants. Potential exposure exists when there is a possibility that people would come into contact with contaminants. For this evaluation, dioxin exposure to a trespasser, a visitor, or a worker can potentially occur from accidentally eating, touching, or inhaling sediment during the demolition and rebuilding of the boardwalk (scheduled for August 2010 to February 2011). This would be considered an intermediate exposure (more than 14 days and less than 365 days).

DOH selected the ATSDR soil or sediment (note: there is no sediment standard for dioxin) health comparison value (Environmental Media Evaluation Guide (EMEG)) for intermediate exposure to dioxin under this scenario (10,000 ppt for an adult). Similarly, a child's exposure (a trespasser or a visitor) from accidentally eating, touching, or inhaling soil or sediment during the rebuilding would be considered an intermediate exposure, and DOH selected the ATSDR health comparison value (EMEG) for dioxin (1,000 ppt for a child). All data samples from the West Bay area adjacent to Percival Landing are well below comparison values. Therefore, health effects would not be expected from exposure to dioxin in sediment at the Percival Landing area.

Summary of dioxin (ppt) evaluation

- ATSDR's health comparison value for an adult's intermediate exposure is 10,000 ppt.
- ATSDR's health comparison value for a child's intermediate exposure is 1,000 ppt.
- Maximum dioxin level found in West Bay, adjacent to Percival Landing was 50.41 ppt.
- ATSDR's dioxin screening level for residential soil is 50 ppt. This screening value was not used because this is not a residential area.

Conclusion

Based on the available Budd Inlet dioxin data, the risks associated with accidentally eating, touching, or inhaling sediment during the demolition and rebuilding of the Percival Landing boardwalk would not be expected to harm people's health.

Recommendations

DOH does not have public health recommendations at this time.

Public Health Action Plan

No public health actions are needed related to Percival Landing sediments or the demolition and rebuilding of the boardwalk.

If you have any questions regarding this letter please feel free to contact me at 360-236-3376 or 1-877-485-7316 or by email at Lenford.O'Garro@doh.wa.gov.

Sincerely,

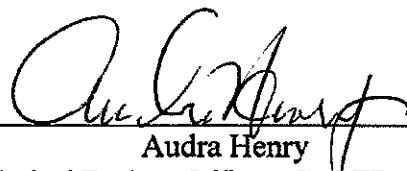
Lenford O'Garro
Toxicologist
Site Assessment and Toxicology Section

References

1. Washington State Department of Ecology: Sediment characterization study Budd Inlet, Final Data Report. March 2008. Prepared for the Washington State Department of Ecology, Lacey, Washington. Prepared by Science Applications International Corporation, Bothell, WA

Certification

The Washington State Department of Health prepared this Letter Health Consultation under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It was completed in accordance with approved methodology and procedures existing at the time the health consultation was initiated. Editorial review was completed by the Cooperative Agreement partner.



Audra Henry
Technical Project Officer, CAPEB, DHAC
Agency for Toxic Substances & Disease Registry

The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.



Alan W. Yarbrough
Team Lead, CAPEB, DHAC
Agency for Toxic Substances & Disease Registry