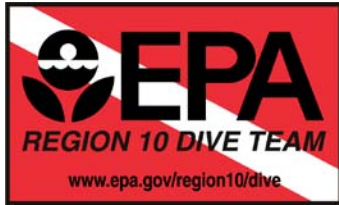


US EPA ARCHIVE DOCUMENT



## [EPA Region 10 Dive Team](http://www.epa.gov/region10/dive)

### **Lake Union and Duwamish River Diver Assisted Uptake Survey - ORD and Texas A&M, 2002-2007**

**What:** The EPA Region 10 Dive Team assisted Texas A&M, an EPA Office of Research and Development grantee, with placement and retrieval of salmon and crayfish cages on the bottom of Lake Union and the Duwamish River to study uptake in these species of contaminants off the bottom.

**Why:** The study is designed to determine the level of uptake of contamination emanating from Gasworks Park for both territorial and transitory life. Shifts in DNA metabolism were detected in Coho fingerlings; methods development for chronic toxicity testing are in progress. Study design for the Duwamish River concerns the impacts of PCBs on territorial and transitory fish.

**Where:** Lake Union, just off of Gasworks Park and the Duwamish River, near the 16th Avenue South bridge (between river miles 3.3. and 3.6).

**When:** Samples were collected in March/August, 2002 and March/July 2004 in Lake Union. Samples were collected July 2005, 2006, and 2007 in the Duwamish.

**How:** Divers assisted in placement of the cages to ensure the correct exposure location was obtained for the crayfish and salmon (Lake Union) and sculpin and salmon (Duwamish River). Cages were retrieved approximately one week later. Due to the presence of sediment and water column contamination, diver decontamination was undertaken. For more information on diver decon and polluted water scientific diving, see the [safety / sop](#) page.

**Equipment Used:** Support vessel with GPS; down lines.

**Results:** Samples were successfully collected.

**More Details:**

<http://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish>

[Barbee G.C., J. Barich, B. Duncan, J.W. Bickham, C.W. Matson, C.J. Hintze, R.L. Autenrieth, G-D Zhou, T.J. McDonald, L. Cizmas, D. Norton and K.C. Donnelly. 2008. \*In situ\* biomonitoring of PAH-contaminated sediments using juvenile coho salmon \(\*Oncorhynchus kisutch\*\). \*Ecotoxicology and Environmental Safety\* 71\(2\):454-64.](#)

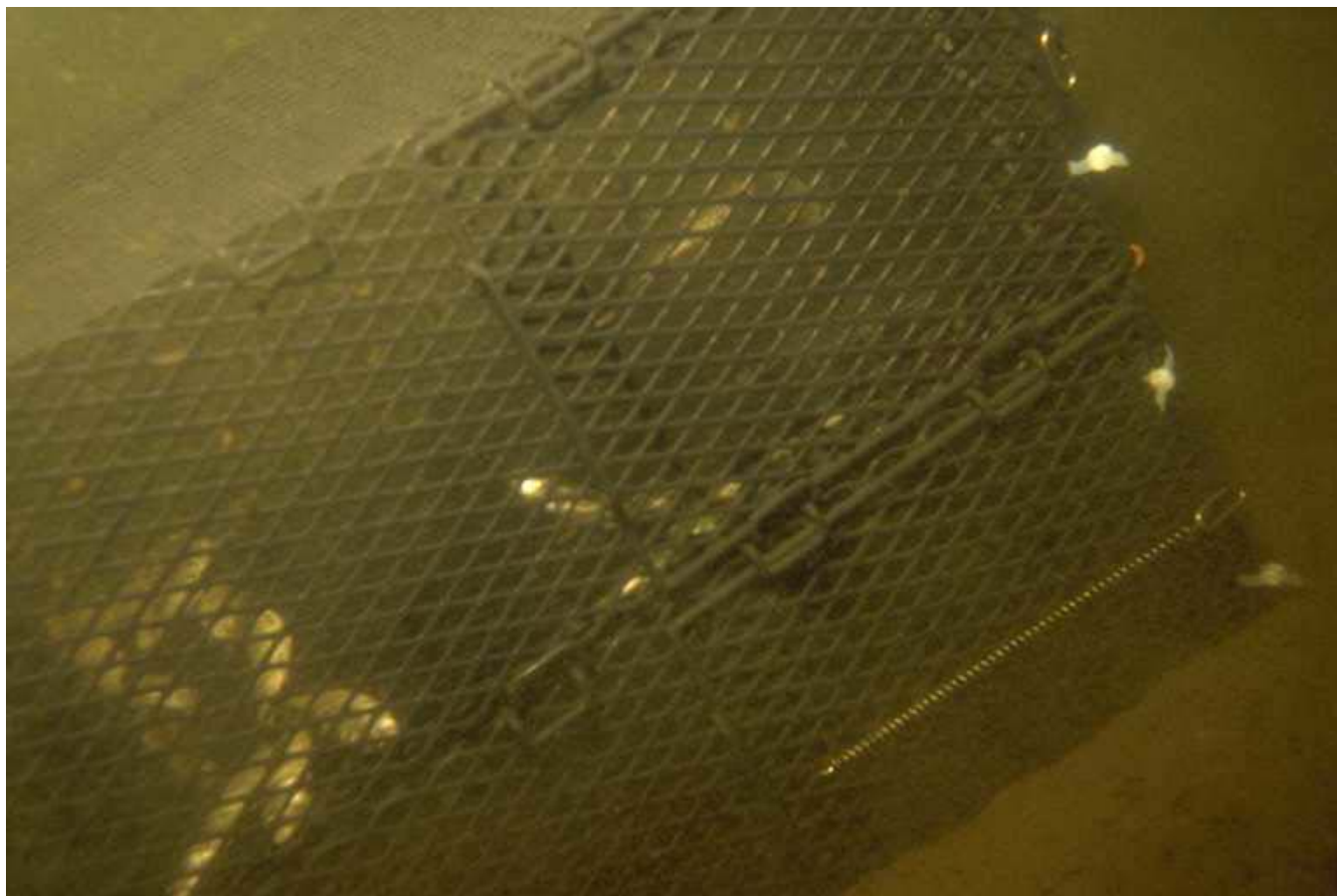
[Superfund Research Brief 171, An Integrated Approach to Assess Sediment Toxicity](#)

**Contact:** Rob Pedersen; [pedersen.rob@epa.gov](mailto:pedersen.rob@epa.gov)

Photos:



TAMU grad student herding salmon fry into net for loading into cages.



Salmon and crayfish in cage on the bottom.





Divers getting ready to descend, verify cage placement, and prepare submerged buoy marker.



Sculpin being loaded into cages.

Return to [EPA Region 10 Dive Team](#) homepage.