**Internship Study Announcement**

**The Evergreen State College, Masters of Environmental Studies**

**Washington Department of Ecology, Environmental Assessment Program**

**Mercury Mobilization in Reservoirs – Literature Review**

The Department of Ecology is offering a paid internship for the Spring Quarter 2017. The position is for 20 hours/week for 10 weeks, paid at $13/hour. The successful candidate is expected to work at the Ecology building in Lacey, WA. Alternative work arrangements are open to negotiation.

Interested students should submit a letter of interest and a resume to Debby Sargeant (dsar461@ecy.wa.gov) by Monday March 20, 2017. In the letter of interest the candidate should describe his or her qualifications and academic goals for participating in the internship. The intern will earn 4 credits through an Internship Learning Contract.

***Problem Statement***

Several flood retention reservoir designs have been proposed for the upper Chehalis River. One design envisions a permanent pool to allow for summer flow augmentation. Department of Ecology is currently working on a Programmatic Environmental Impact Statement for the Chehalis Basin Strategy, which includes the flood retention structure proposals. Funding has been proposed to the legislature for continued planning in the 2017-19 Biennium.

Emerging research suggests that reservoirs can create environmental conditions that can mobilize mercury (Hg) into forms, such as methylated mercury, that increase environment exposure and potential toxic effects in the food chain. This study would research this concern and explore how it might apply to the proposed Chehalis Basin dam.

***Study Concept***

Conduct a search for information on mercury in lakes and reservoirs, focused on the Pacific Northwest. This could include:

* Literature on mercury chemistry, and the sources and pathways for mercury mobilization into the food chain
* Existing journal articles or scientific reports on sources and mobilization of mercury in lakes and reservoirs
* Data from mercury sampling in the Pacific Northwest or other comparable temperate environments
* Literature on sampling methodology and data quality management.

The expected product from this study would be a technical memo that summarizes:

* The state of knowledge regarding mercury in the environment of lakes and reservoirs in the Pacific Northwest, including potential atmospheric and geologic sources.
* The sources, range of mercury values, and forms (including fish tissue) found in the lakes and reservoirs in the PNW
* How this information might inform decision-making for the proposed Chehalis flood retention structure, and what other information might be needed
* Recommended methodologies to collect additional information on mercury in western Washington reservoirs, and in particular the Skookumchuck and Wynoochee reservoirs, which could add to available information to inform the Chehalis Basin Strategy, if needed.

***Study logistics***

The ideal profile of a student researcher would include a background in environmental chemistry and an interest in the topic, as evidenced by past coursework or work experience.

Field supervision would be provided by Debby Sargeant of Ecology’s Environmental Assessment Program, with technical support from knowledgeable technical staff working on the Chehalis Basin Strategy.