

Puget Sound Stream Monitor – Number 4, May 2013

News about biological monitoring and reporting from around Puget Sound

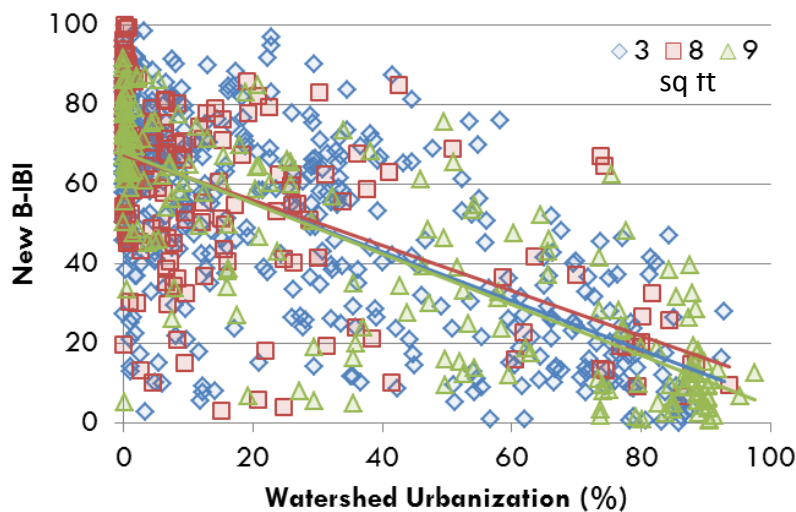
Work continues at King County and with our partners to update the benthic index of biotic integrity (B-IBI) and standardize reporting of biological condition of Puget Sound streams.

In this newsletter:

- Recalibration of B-IBI,
- New Zealand mud snails,
- Ecology’s 2012 water quality assessment,
- Results and data available for download, and
- Other news including PNAMP’s standard taxonomic effort and a data-entry push for the PSSB

Recalibration of B-IBI

Our work continues to refine the B-IBI. We recently completed testing whether scoring adjustments were needed to individual metrics to correct for natural physical features of the watersheds. B-IBI is most highly correlated with urban development, but once that influence is accounted for, B-IBI does not show a significant association with stream gradient, elevation, watershed size or geological soil type. For sampling methods, B-IBI values were highly correlated whether 3, 8, or 9 ft² substrate area was sampled (see figure).



Level of taxonomic identification influenced B-IBI, particularly whether chironomids are identified to genus or family level. Some metrics (e.g., taxonomic richness and % dominance) must be scored differently depending on identification level so that the B-IBI values are comparable. All of these changes will be incorporated into the newly recalibrated B-IBI which will include the original 10 metrics, but overall B-IBI score will range from 0-100. The recalibrated B-IBI will be added to the PSSB when it is finished.

New Zealand Mud Snails

New Zealand mud snails (*Potamopyrgus antipodarum*) have the potential to become a serious economic and ecological problem for the Puget Sound region. Mud snails are hardy, highly invasive, adaptable animals that can easily be transported to new areas by people, pets, wildlife, and equipment. We don't know how big a problem they will become in Puget Sound, but we do know that once they show up, it is impossible to get rid of them without seriously harming native species.



New Zealand mud snails have been confirmed in: Thornton Creek, the mouth of Lake Washington near Thornton; Kelsey and Valley Creeks, and in a maintenance yard in the Kelsey/Mercer Slough subbasin. The City of Bellevue has developed a mobile [mapping application](#) for the most up to date location information.

PLEASE be diligent in decontaminating any gear or equipment that touches the water or moist sediment by doing the following at *all* aquatic sampling locations:

- Don't wear felt sole wading gear,
- Move from least to most likely contaminated areas if visiting multiple sites in a day,
- Inspect & clean, drain, rinse all gear at each sampling location before moving to a new site.
- In areas of known New Zealand mud snail infestations conduct **one** of the following secondary decontamination methods in addition to clean, drain, rinse:
 - Use only dedicated equipment
 - Freeze: 14°F / -10°C for 8 hours
 - Hot water: 140°F / 60°C soak for 5 min
 - Virkon Aquatic: Soak in 2% solution for 20 min
 - Dry: Must be *completely* dry for >48 hours, in sunlight best

Please report possible sightings to WDFW online at <http://wdfw.wa.gov/ais/reporting/> and in King County please contact Sally Abella (Sally.Abella@kingcounty.gov).

Results and Data Available for Download

Technical memos, presentations, and newsletters from this project are available on the [PSSB](#). This includes two new technical memos: (1) Using natural history attributes of stream invertebrates to measure stream health and (2) Watershed delineation and land cover calculations for Puget Sound Stream Basins. In addition, shapefiles and land cover

data are available for all sampling sites that were in the PSSB as of spring 2011 and we hope these are useful to many partners.

Ecology's 2012 Water Quality Assessment

Five agencies (Ecology, Clallam, Clark, King, and Snohomish County) submitted data from 494 stream segments to the 2012 Water Quality Assessment; in 2006, 2 agencies submitted data from 46 streams. The Western Washington biological assessment component has been completed. The draft is undergoing review and will be open for public comment this summer before Ecology's Water Quality Program submits a final draft to EPA.

Impairment was defined using thresholds for both RIVPACS and B-IBI models (see table). A site had to have two years of data within the last 5 year period to make a determination.

	Category 1 Not known to be impaired	Category 2 Waters of Concern	Category 5 Impaired 303(d) list
RIVPACS Score	>0.86	0.73-0.86	<0.73
B-IBI Score	≥38	28-37	≤27

Other News

- The Pacific Northwest Aquatic Monitoring Partnership (PNAMP) is coordinating an effort to develop a [Northwest Standard Taxonomic Effort](#) (STE). Draft taxa lists are being circulated for EPT taxa and they are looking for volunteers to coordinate the effort for other taxa groups. Contact Amy Puls (apuls@usgs.gov) for more information.
- We are making a one-time push to add more Puget Sound benthic macroinvertebrate data to the PSSB. Let us know if you have data we should know about!
- We continue to present results of our work at various conferences and meetings:
 - ✓ EPA Region 10 brownbag (April 2013)
 - ✓ Society for Freshwater Science (May 2013)

Contact Us/Stay Involved

A key goal of the EPA grant is to promote communication and collaboration across the region. How are you using benthic data to protect and restore streams? Is there something you'd like to see in the next newsletter? Please let us know. Contact Deb Lester at Deborah.Lester@kingcounty.gov and we will include your news in our next issue.