Why Implement a Local Watershed Health Monitoring Program?

Renee Scherndik, Mauro Heine, Mindy Fohn, Dr. Christopher W. May
Kitsap County Public Works - Stormwater Division

**Program Goal**

Inform whether local stormwater management actions are protecting or improving local watershed health.

**Kitsap’s Watershed Health Monitoring Program**

- **Stream Flow**
  - Partner: Kitsap Public Utility District
  - Data maintained by KPUD; data/metrics accessible online: [www.kpud.org](http://www.kpud.org)
  - Data collection restarted in 2010, some historical data

- **Stream Benthic Macroinvertebrates**
  - Partner: Kitsap County, local volunteers
  - KBS sample size since 1995
  - Sampling methodology consistent with Puget Sound Region
  - Benthic Index of Biotic Integrity (B-IBI): 0-100 scale
  - Data accessible online: [www.ecoindex.org](http://www.ecoindex.org)

- **Periphyton**
  - Consultant developed an adaptive management approach
  - Provides ability to detect change
  - Provides the ability to monitor effectiveness of management actions

- **Stream Habitat**
  - New parameter for Kitsap
  - Kitsap is still evaluating the applicability of a target site selection system for this metric

- **Marine Nearshore Mussels**
  - Partner: WDFW
  - Purpose: to evaluate how stormwater influences the nearshore areas over time

**Metrics Selected**

- Kitsap B-IBI scores, B-IBI trends, and sites (Exploring B-IBI)

**Regional Program Permit (RSMP) Pay-In Option**

- Site Selection: Probabilistic design
- Purpose: Inform at a regional scale the status and trends of receiving waters of the greater Puget Sound region.
- Benefits: Assesses urban vs. rural (UGA vs. non-UGA) land use

**Local Monitoring Program (Kitsap)**

- Site Selection: Targeted-fixed station design
- Purpose: Infoms whether local stormwater management actions are protecting or improving local watershed health.
- Benefits: Census of the major small stream basins

**Sampling Biotic Integrity (B-IBI) vs. Water Chemistry**

Biotic Integrity (B-IBI) monitoring provides a more cost effective measure of water quality and flow impacts on small streams over stream water chemistry. B-IBI also offers a standardized metric whereas small stream water chemistry data is more challenging to interpret.