Strategies for Preserving and Restoring Small Puget Sound Drainages
King County Water and Land Resources Division
C1300210

June 15, 2013 – June 30, 2015
Final Total Project Cost: $135,469
Final Ecology Grant Contribution: $135,469

Project Description

Many streams that drain into Puget Sound are threatened from pollutant runoff, habitat degradation, and altered flow regimes. Such threats may result in extinction of aquatic species, declines in biodiversity, and water quality degradation that negatively affect recreational opportunities and fish use in these valued resources. Two of the Puget Sound Partnership's (PSP) Ecosystem Recovery Targets are based on freshwater benthic macroinvertebrates: (1) preserve all Puget Sound drainages with "excellent" benthic index of biotic integrity (B-IBI) scores and (2) restore 30 drainages from "fair" to "good" B-IBI scores. Benthic macroinvertebrates play a crucial role in stream ecosystems and are good indicators of overall basin health. This project prioritized and mapped candidate restoration and protection watersheds, developed strategies for restoring or protecting B-IBI scores in these watersheds, and identified relative costs of these actions. If B-IBI scores can be increased or maintained, it will also likely mean that among other benefits there are improvements to water quality, stream habitat conditions, and instream flow conditions.

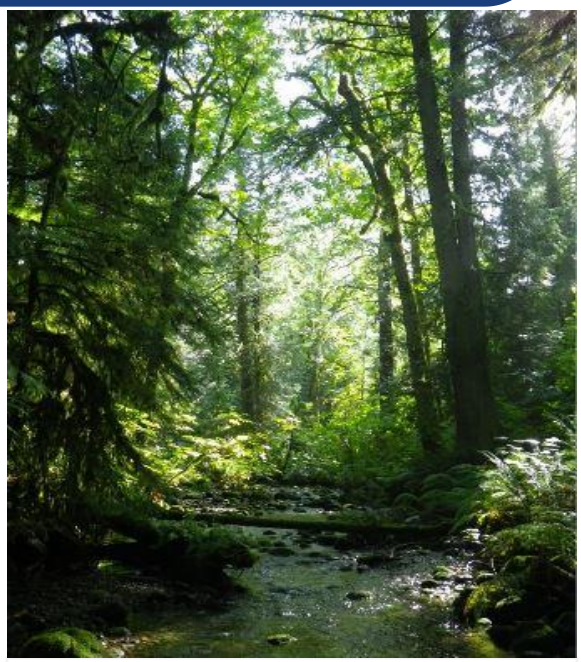
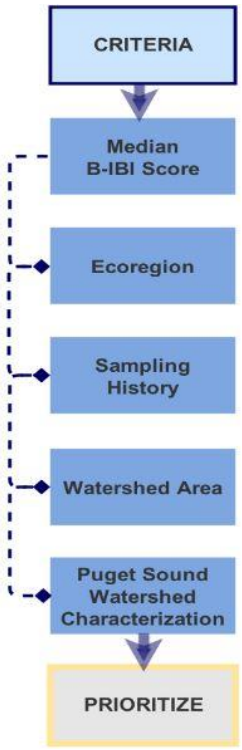


Photo of a sampling location in need of ongoing protection to maintain high B-IBI scores.



Flow chart highlighting the 5 key factors in the restoration decision framework.

Project Accomplishments

- Developed a restoration decision framework based on widely available landscape data and simple calculations intended to be simple, transparent, and updatable to rank and prioritize watersheds for restoration.
- Recommended management, restoration, and conservation actions for 54 "fair" and 101 "excellent" B-IBI watersheds to improve or maintain B-IBI scores and ecosystem health.
- Researched and documented relative costs for potential restoration and protection actions.
- Engaged regional stakeholders through 2 workshops and more than 10 small group outreach meetings to solicit feedback on the restoration decision framework, restoration and protection strategies, and basin-specific limiting factors and considerations.
- Produced GIS products including basin delineations and land use land cover attributes.
- Communicated results through three technical reports and numerous presentations available on the project web page:

pugetsoundstreambenthos.org/Projects/Restoration-Priorities-2014.aspx

Expected Environmental Outcomes

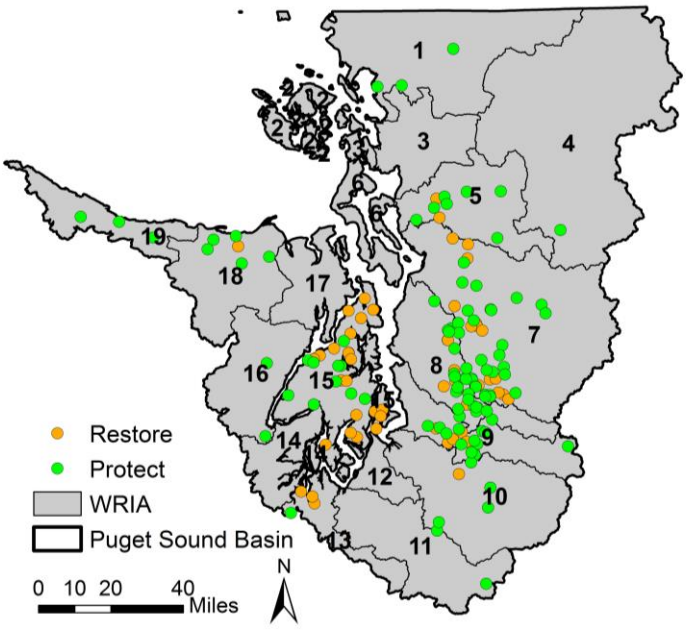
If the restoration and protection actions recommended by this project are funded and implemented, it will likely mean improvements to water quality, stream habitat conditions and instream flow conditions and by extension healthier biological communities including both fish and macroinvertebrates. Overall stream health will be improved contributing to a healthier Puget Sound ecosystem. Lessons learned from initial projects will help improve regional knowledge on how to implement successful restoration so that limited resources can be utilized to maximize results.

Examples of proposed restoration actions from left to right: stormwater management, riparian buffer plantings, instream habitat enhancement.

The Next Step for Continued Success

This project was just the beginning of what will ultimately have to be a multi-phased project with broad buy-in and engagement to meet PSP's restoration and protection targets for B-IBI. While this project provided a launching point and a strong foundation, much remains to be done and next steps for continued success include:

- Complete a full B-IBI implementation strategy with broad regional input and support
- Conduct site visits and assemble additional information necessary to develop detailed restoration and protection plans that include more detailed basin-specific cost estimates
- Implement a set of restoration and protection projects that can be monitored closely to identify what works and doesn't work in this region to restore B-IBI and improve overall watershed health
- Identify funding sources and secure funding for project planning, implementation, and effectiveness monitoring
- Continue outreach to regional stakeholders to ensure local interest and buy-in



Project map (left): Outline of Puget Sound basin and location of B-IBI sampling locations for 54 restoration and 101 protection basins.

Recipient Contact Information

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