

A Physical Habitat Index Focusing on Salmonids in the Pacific Northwest

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Biographical Sketches of Authors

Ed Chadd is the co-manager, along with Hannah Merrill, of Streamkeepers of Clallam County, a volunteer watershed monitoring and public involvement program of local government. Among other accomplishments, Streamkeepers has helped to create a unique set of volunteer-friendly physical-habitat monitoring protocols which complement biological and chemical monitoring (see <http://www.clallam.net/streamkeepers>). He helped to create the program in 1999, after serving as a volunteer in a predecessor program for the prior two years. He has a long history with volunteer and civic organizations (Peace Corps, Student Conservation Association, League of Women Voters), as well as with education (public schools, adult education, Outward Bound, community college). His current mission is as an applied scientist/educator, dedicated to bringing science to the people in a way that can enhance their lives and the planet.

Erin Clancy is a Valle Scholar working on her M.S.E. degree in Civil and Environmental Engineering at the University of Washington. In 2003, she received a B.S. with Distinction in Mathematical Biology from Harvey Mudd College, one of the Claremont Colleges of California. Her current research focus is on water resources and systems engineering, with a particular emphasis on mathematical modeling. She is currently working on the Tualatin Basin (OR) Climate Change Impacts Project, projecting impacts on hydrology, water supply, and stream temperature. Erin did the initial research and drafting of this paper, first as a volunteer and then as a contractor. She is a native of Port Angeles, Streamkeepers' home base.

Jon Mowe is the Environmental/Natural Resources Vocational Teacher at the North Olympic Peninsula Skills Center, a regional training consortium of local school districts, governments, businesses, and Peninsula College. He has created field-based Environmental Science programs both in his current job and a prior job with the Sequim (WA) School District, in both cases collaborating with Streamkeepers to provide a more meaningful experience for his students. He holds an M.Ed. from Eastern Washington University and a B.S. in Fisheries Biology/Management from the University of Washington. He has a long history as a field and laboratory biological technician going back to the 1970s. Jon worked on this paper as a contractor, helping to do further research, analysis, and drafting.

Abstract

Streamkeepers of Clallam County, a volunteer stream monitoring program of local government on the Olympic Peninsula in Washington State, is developing a multimetric Physical Habitat for Salmonids Index (PHI) based on physical-habitat parameters we have been monitoring at several dozen sites since 1999. Such an index would complement indices we already use to characterize biological integrity (B-IBI) and water quality (WQI). In our mostly-rural county undergoing rapid development, with salmon runs ranging from relatively healthy to extinct, we have an opportunity to track environmental impacts while ecosystems are relatively intact, and potentially to forestall further impacts through land-management decisions. This presentation will cover the rationale, development, and further applications of our PHI. We faced the challenge of developing our index with an already-existing data set, in a field where reference-standards are hard to come by. We will discuss some of the challenges we faced and approaches we took to overcome them. We consider our PHI a work-in-progress and have come to the National Water Quality Monitoring Council conference seeking feedback from the scientific community.