

NW BIOLOGICAL ASSESSMENT WORKGROUP
15TH ANNUAL MEETING - HOOD RIVER, OREGON

WEDNESDAY - November 3, 2004

Design Based Integrated Monitoring

Phil Larsen, EPA Office of Research and Development

Summary of Results on the Oregon Plan Assessment for Coastal Coho Recovery

Aaron Borisenko, Oregon DEQ

Distributional, Logistical, and ESA Considerations for Taxonomic Group use for Bioassessment in the PNW

Bob Danehy, Weyerhaeuser

Developing a National Classification Scheme for Lotic Fish and Macroinvertebrate Assemblages in the Conterminous United States

Alan Herlihy, Bob Hughes, Jean Sifneos, and Bill Gerth, OSU

Electrofishing Effort Needed to Estimate Fish Species Richness in Large Rivers of Southern Idaho

Terry Maret, USGS

Statistical Power Analysis of Alternative Sampling Designs to Evaluate the Influence of Snake River Hydroelectric Projects on Listed Snail Species

Leska S. Fore, Statistical Design

William H. Clark, Idaho Power Company

The Effects of Forest Harvest and Flow-duration on Summer and Fall Insect Emergence from Headwater Streams in the Oregon Coast Range

Janel Banks, Alan Herlihy, and Judy Li, OSU

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THURSDAY - November 4, 2004

Summary and Field Tests of the Fine Sediment Macroinvertebrate Index

Christina Relyea, ISU; Wayne Minshall, ISU; and Bob Danehy, Weyerhaeuser

The Need for Statistical Power in Biological Monitoring Programs and Bioassessment

Brett Marshall, EcoAnalysts

Disturbance Indicators and Biotic Assemblages in Least-Disturbed and Most - Disturbed Western Streams

Thom Whittier, Dynamac

Discussion of Results on the Grande Ronde Restoration Project

Larry Whitney, Oregon DEQ

Algal Issues in the Pacific Northwest: Examples from the Clackamas Basin, Oregon

Kurt Carpenter, USGS

Preliminary Analysis of 1st 2 years' WEMAP Periphyton Data

Nadia Slavchova, Portland State University

Comparison of Western EMAP Periphyton Data Generated from two Sampling Protocols

Christine Weilhoefer, Portland State University

Regional Assessment of Stressor Severity: A Relative Risk Approach

John Van Sickle, EPA- Office of Research and Development

Overview of the Human Disturbance Gradient (HDG)
Bob Hughes, Oregon State University

THURSDAY EVENING POSTER SESSION – 6:00pm until 8:00pm (or so)

Case Studies of Biological Monitoring in Washington State TMDL's

Chad D. Wiseman, Washington Department of Ecology

**Rethinking the Traditional Presentation of Monitoring and Identification
Manuals: Stream Bugs as Biomonitors CD-ROM**

Jeff Adams, Xerces Society

Simple programs can turn traditional, two dimensional books and manuals into interactive, multidimensional tools that can communicate the concepts, protocols, and processes of biomonitoring to a larger, more diverse audience, while providing valuable resources for those directly involved in the field. Alternative presentations of traditional materials are an important supplement, not a replacement, to the paper literature, and they are also easily updated, inexpensively replicated, and rich with graphics. The CD-ROM "Stream bugs as biomonitors" was created to be such a tool for macroinvertebrate monitoring in the Pacific Northwest, providing information from grade school games to genus/species guides. Despite its regional nature, the guide has been distributed all over the United States and to several countries on three other continents, testimony to the diversity of information and the innovation of format. What the guide provides would only be strengthened by increased collaboration with and contributions from specialists and regional experts, and provides a model for other regions of the country.

Potential for Water Quality Impacts Due to Cattle Grazing in Oregon

Peter Leinenbach, EPA Region 10

More than a Line in the Sand, a Method of Describing what Index Scores Mean, Using Probability

Bob Steed, Idaho Department of Environmental Quality

A Biopsy Procedure for Determining Total Hg Concentration in Fish Relative to Regional Stream Condition Assessment

Bob Hughes, OSU

ATtiLA (Analytical Tools Interface for Landscape Assessments) Demonstration

Peter Leinenbach, EPA Region 10

The Occurrence of the New Zealand Mudsail in Streams and Rivers as Part of the Idaho Statewide Water Quality Network.

Dorene E. MacCoy, U.S. Geological Survey

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FRIDAY - November 5, 2004

Biological Impacts in Mixing Zones of Receiving Waters

Rob Plotnikoff, Washington Dept. of Ecology

Development of Benthic Macroinvertebrate Data Analysis and Monitoring Programs for Assessment of Biological Condition of Streams in North Cascades National Park and Adjacent National Forest Lands

Reed Glesne, Ashley Rawhouser, and Amy Hill, North Cascades National Park, Sedro Woolley, WA.

Part 1. Development of a stream benthic macroinvertebrate multimetric index

Ashley Rawhouser, Aquatic Ecologist, NOCA

Part 2. Development and application of a stream benthic macroinvertebrate predictive model using observed taxa and those expected to occur under reference conditions (O/E)

Reed Glesne, Aquatic Ecologist, NOCA

Staff from North Cascades National Park Complex (NOCA) and the Mt. Baker Ranger District (MBRD) of the Mt. Baker-Snoqualmie National Forest have cooperated in the development of a wadeable stream biomonitoring program using benthic macroinvertebrates (BMI). BMI communities have been proven to be excellent indicators of variety of aquatic habitat perturbations and have been widely used by many state and federal agencies in the assessment of biological integrity of streams. Primary objectives of our pilot study efforts were to: 1) Develop the framework and standards necessary for implementation of BMI methods; and, 2) Evaluate and compare the sensitivity of both predictive/multivariate and multimetric approaches in detecting impairment. A total of 165 stream sites in NOCA and MBRD were sampled between 1995 and 2002. BMI samples and environmental attribute data were collected at unimpaired sites as well as along a gradient of human disturbance, ranging from light recreational use to catchments that have been heavily logged and/or subject to multiple stressors.

This presentation is divided into two parts. Part 1 discusses sample site selection, development of the disturbance rating system for sample reaches, sample collection methods, multimetric data analysis and Index of Biological Integrity (IBI) development and results. Part 2 discusses development of the Predictive model that compares observed BMI taxa at a test site with those taxa expected under reference conditions (O/E). In addition, comparisons between the predictive and multimetric approaches and future monitoring applications at NOCA and within the North Coast and Cascade Network (NCCN) will be discussed.

The Western Center for Monitoring and Assessment of Freshwater Ecosystems

Chuck Hawkins, Utah State University

Discussion of Final Statewide RIVPACs Model for Macroinvertebrates in Oregon

Doug Drake, Oregon DEQ

California Bioassessment

Jim Harrington, California DFG