



## WATERSHED SERVICES

P.O. Box 249, Forest Grove, Oregon 97116 Phone: (503) 359-7525 Fax: (503) 359-8875

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ABR's Fisheries and Aquatic Sciences Program provides research and consulting services to assess watershed conditions and aid in the restoration of impaired watershed functions. Our program aims to help those working to manage or restore aquatic habitat, water quality, and fisheries resources.

Building on ABR's two decades of experience in environmental research, our fisheries and aquatic sciences program has been developed to provide the technical and scientific know-how needed to **conduct watershed assessments**, develop **action plans**, implement on-the-ground **restoration activities**, and **monitor** improvement in watershed conditions. We can also design and conduct **specific research projects** needed to better understand watershed function and condition.

We also are experienced at writing **grant proposals** to both state and federal funding sources for such work – and have secured funding from these sources for watershed projects. If the council has not yet secured funding for such needs, we can assist with proposal development.



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### ABR WATERSHED PROJECT SCIENTISTS

<b>Mike Cole, Ph.D.</b>	Fisheries Biology, Biomonitoring, Watershed Restoration
<b>Robert Burgess, M.S.</b>	Biomonitoring, Aquatic Pollution
<b>Janet Kidd, M.S.</b>	Wetland Science and Ecology
<b>Torre Jorgenson, M.S.</b>	Geomorphology, Hydrology, GIS
<b>Todd Mabee, M.S.</b>	Terrestrial Ecology, Design and Analysis of Experiments

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### WATERSHED ASSESSMENT

- **Assessment Methods** - ABR's biologists are familiar with state and federal watershed assessment protocols used in the Northwest. We will design the assessment to the council's needs and will prioritize assessment issues based in part on the council's concerns.
- **ABR staff expertise** - ABR's biologists are trained and experienced in all aspects of watershed assessment, including fisheries biology, physical habitat assessment and restoration, water quality, geomorphology, hydrology, and wetland science. We can also conduct uplands assessments and socio-economic analyses, if the council so desires. If the

council is not yet sure of what its priority issues are, we can identify and prioritize these issues.

- **ABR support staff** - ABR's scientists are supported by a staff of biological technicians and GIS personnel. GIS, or geographic information systems, is increasingly becoming the preferred format in which watershed information is being recorded, analyzed, and interpreted. We can produce GIS products using *ArcView* or *ArcInfo*.
- **Post-Assessment Needs** - Because watershed assessments often identify sizable information gaps, ABR can collect needed field data to better characterize watershed conditions. Types of data often needed include fish community composition and distribution, physical habitat, water chemistry, and hydrologic information.

## WATERSHED RESTORATION

- ABR's scientists can assist in identifying and prioritizing restoration needs following the completion of a watershed assessment. We can help design and implement restoration projects to ensure their execution.

## WATERSHED MONITORING

- **Why Monitor?** - Monitoring of instream and watershed conditions is often overlooked, but is critical to the success of restoration efforts. Only through well-designed and executed monitoring programs can we precisely know what effects restoration efforts are having on the watershed.



- **Biomonitoring** - Stream insects and other invertebrates inhabiting the bottoms of rivers and streams have become widely used as indicators of instream and watershed conditions. Changes in a macroinvertebrate community at a site, or differences among sites within a watershed, allow the biological condition within a watershed to be well characterized and understood – both over time and among locations. ABR's biologists are experienced in designing and conducting biomonitoring programs using macroinvertebrates. We have used well-established collection, processing, identification, and data analysis protocols used by state and federal agencies.

- **Monitoring Programs** - Monitoring programs can be designed to assess overall watershed conditions, or to more intensively evaluate local conditions such as improvements in biological conditions that may result from specific restoration projects or implementation of BMPs.

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For more information, please contact Dr. Mike Cole, ABR's Fisheries and Aquatic Sciences Program Leader, at (503) 359-7525 or [mikebcole@aol.com](mailto:mikebcole@aol.com).