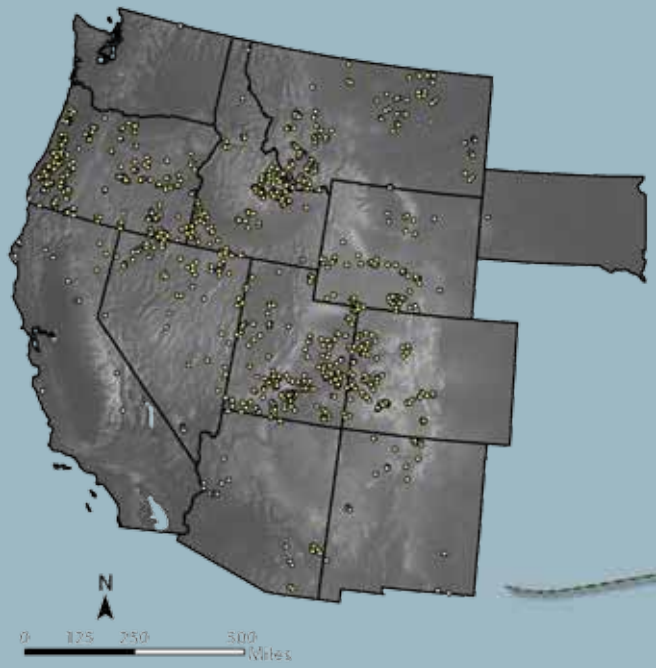
TRAININGS

NAMC offers macroinvertebrate bioassessment trainings to BLM field offices in macroinvertebrate ecology, study design, statistical analysis, and data management.

COLLABORATIVE EFFORTS

Currently, NAMC is conducting collaborative research projects with the U.S. Forest Service, National Park Service, Bureau of Reclamation, Utah State University, and a variety of other state and federal agencies. Research efforts fall into three broad categories: 1) the effects of contemporary water management on freshwater biodiversity, 2) grazing impacts on riparian and aquatic ecosystems, and 3) the development and evaluation of bioassessment methodologies for large-scale assessments.

CURRENT NAMC SITES on WESTERN BLM LANDS

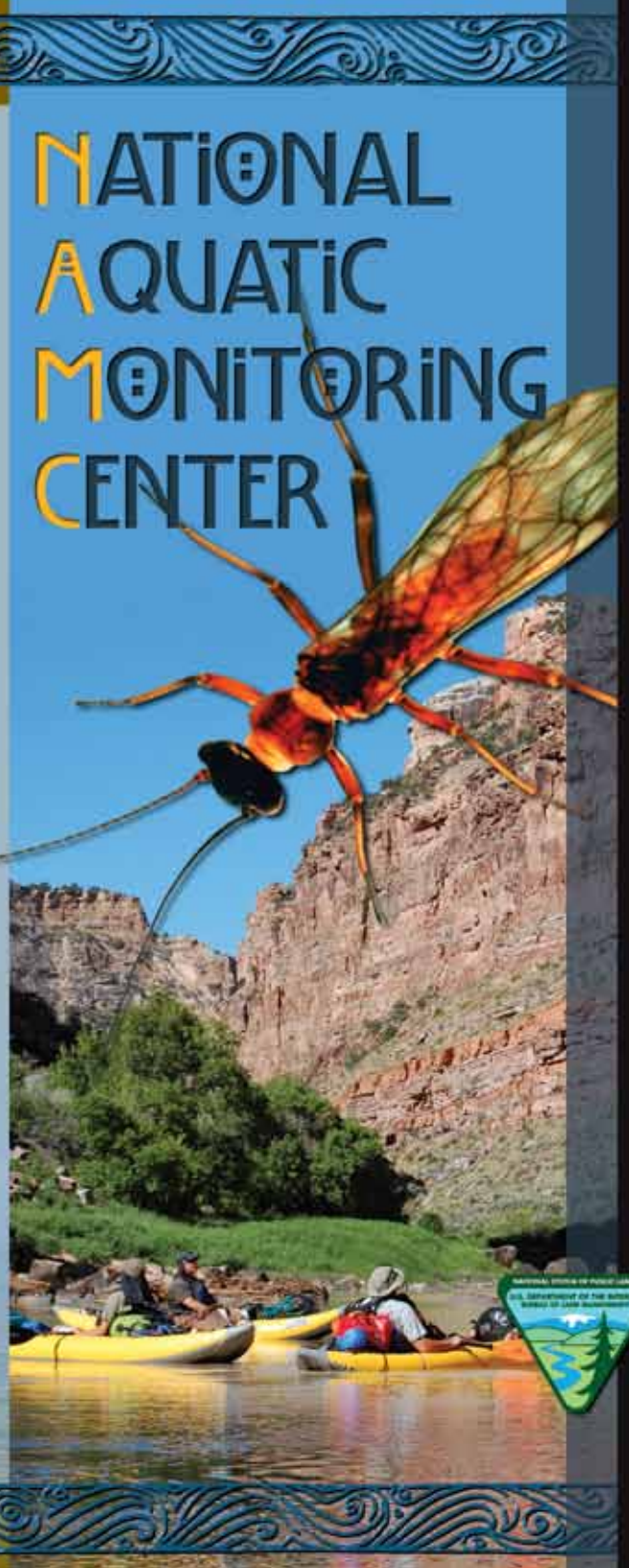


For more information, visit
www.usu.edu/buglab/

NAMC Director
BLM National Operations Center
Utah State University
Scott Miller
(720) 545-8367
swmiller@blm.gov

P-463
BLM/OC/GI-11/002+6500

NATIONAL AQUATIC MONITORING CENTER



BLM

OVERVIEW

Stream and riparian areas managed by the Bureau of Land Management (BLM) are among the most productive and diverse ecosystems in the United States. They support a myriad of aquatic species and ecosystem services such as fish, amphibians, drinking water, and flood attenuation. The maintenance of freshwater biodiversity and ecosystem services under the BLM's multiple-use mandate requires accurate monitoring information to quantify the status and trend of freshwater resources and inform management decisions. One partnership the Bureau uses to achieve this goal is with the National Aquatic Monitoring Center (NAMC), also known as the BugLab.

MISSION

The NAMC is a cooperative agreement between the BLM and Utah State University which seeks to encourage and foster scientifically sound watershed monitoring programs on public lands. NAMC's primary focus is the use of aquatic macroinvertebrates as bioindicators of freshwater biological integrity. NAMC, housed at Utah State University in Logan, provides five fundamental services to BLM field offices and other state and federal agencies:

1. Processing aquatic macroinvertebrate samples
2. Database development and maintenance for more than 50,000 macroinvertebrate samples
3. Freshwater bioassessment trainings
4. Assistance with the design, implementation, and interpretation of aquatic biomonitoring programs
5. Research to address watershed management issues and advance the science and practice of aquatic biomonitoring

BIOASSESSMENT

Freshwater monitoring is increasingly conducted with aquatic macroinvertebrates, with all 50 states using them in biomonitoring programs. Aquatic macroinvertebrates are animals that do not have a backbone, can be seen with the naked eye, and spend at least part of their lives in water. They are effective bioindicators because they: 1) are relatively long-lived and thus integrate conditions through time, 2) are ubiquitously found in perennial streams, 3) exhibit a variety of life history strategies (e.g., modes of respiration, reproduction, and feeding) which can be used to discriminate among stressors, and 4) can be sampled and identified in an efficient and cost-effective manner.

SAMPLE PROCESSING

Since 1992, NAMC taxonomists have identified more than 13 million macroinvertebrates from greater than 34,000 samples collected at over 14,000 sites throughout the U.S. and from BLM Eastern States offices. Numerous online query tools are available or are being developed to access this information on NAMC's Web site. Macroinvertebrate samples collected by BLM field offices are processed at no cost under the assistance agreement.

BLM FIELD OFFICE ASSISTANCE

NAMC is currently working on several projects to design and implement aquatic monitoring programs from the field office scale to national initiatives. Some projects include the quantification of prey resource availability for migratory shorebirds in Colorado's Lara wetlands; monitoring to detect impacts of gas development throughout the Roan Plateau in Colorado; the design and implementation of probabilistic surveys to determine the status and trend of BLM freshwater resource throughout ecoregions of the Intermountain West; and the development of biological condition scores for more than 800 stations to be used in rapid ecoregional assessments.

FACILITATING INTERPRETATION through MODELING

NAMC is developing models for use throughout the West to simplify the interpretation and application of macroinvertebrate data. These are important tools to help land managers determine freshwater biological integrity.