



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

National Operations Center
Denver Federal Center, Building 50
P.O. Box 25047
Denver, Colorado 80225-0047
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EMS TRANSMISSION: 05/04/2011
Instruction Memorandum No. OC-2011-044
Expires: 9/30/2012

To: All Washington Office and Field Officials

From: Director, National Operations Center

Subject: Standardization of Macroinvertebrate Collection Methodologies for Monitoring
Biological Integrity of Freshwater Resources

Program Area: Fisheries, Riparian, Threatened and Endangered Species, and Soil, Water, and Air Management.

Purpose: To standardize field methodologies for collection and submission of aquatic macroinvertebrate samples to the Bureau of Land Management (BLM) National Aquatic Monitoring Center (NAMC).

Policy: The BLM field offices seeking to have aquatic macroinvertebrate processing costs covered by the National Operations Center (NOC) and Utah State University (USU) NAMC assistance agreement are required to follow the sampling methodologies described in the Instruction Memorandum (IM). Field offices using non-authorized methodologies are subject to normal processing costs (\$225/sample).

Action: All aquatic macroinvertebrate samples collected by BLM personnel are required to follow the sampling methodologies outlined by the NAMC website (Attachment 1).

<http://www.usu.edu/buglab/Monitoring/monitoringProtocols.cfm>

The NAMC protocol was designed to generate data sufficient to characterize the status and trend of aquatic macroinvertebrate assemblages, including quantifying the effects of anthropogenic disturbances and/or restoration actions. The protocol should only be applied to wadeable, perennial streams; individuals seeking to sample intermittent, wetland, spring, or other systems should consult with the NAMC Director. This protocol is compatible with most aquatic macroinvertebrate monitoring programs targeting wadeable streams throughout the United States (e.g., State environmental quality programs [OR, WA, UT, CO], U.S. Department of Agriculture Forest Service Aquatic and Riparian Effectiveness Monitoring Program, and U.S. Environmental Protection Agency Environmental Monitoring and Assessment Program); slight variations to the quantitative protocol are permissible.

Timeframe: Effective April 1, 2011

Budget Impact: Minimal

Background: Aquatic macroinvertebrates are ubiquitously used by State and Federal agencies to assess the status and trend of freshwater resources, riparian areas, and overall watershed condition. Specific to the BLM, the NAMC has processed over 9,000 BLM macroinvertebrate samples representing over 2,300 unique locations throughout the United States. Despite this wealth of information, only 60 percent of the samples have been collected using standardized monitoring protocols of sufficient rigor to inform local management decisions and facilitate comparisons within and among sites.

The BLM is increasingly tasked with assessing the status of regional conditions and their responses to land management efforts. For example, the BLM has national initiatives seeking to assess the impacts of climate change; document the establishment, spread, and deleterious effects of invasive species; and the prioritization of conservation and restoration efforts (i.e., Rapid Ecoregional Assessments). Aquatic macroinvertebrates represent an invaluable monitoring tool to assist with the BLM's regional initiatives, as well as reach-based assessments to guide and assess management actions; for this reason, the adoption and implementation of standardized monitoring protocols is imperative. The protocol outlined in this IM is quantitative, repeatable, and compatible with other State and Federal monitoring programs. Consequently, its implementation will greatly improve data utilization by allowing users to share data, express their data in terms of standardized bioassessment measures, and directly compare their results with other parties.

Manual/Handbook Sections Affected: None

Coordination: This IM was coordinated with Fish, Wildlife, and Plant Conservation (WO 230), the NOC, and the NAMC.

Contact: Scott Miller, Director of the National Aquatic Monitoring Center,
435-797-2612, scott.miller@usu.edu .

Signed by:
Lynda B. Stelzer
Director, National Operations Center

Authenticated by:
William J. Mills
Records Manager

Attachment
[1 – NAMC Macroinvertebrate Protocol \(5pp\)](#)

Distribution:
OC-110, William Mills