



**NWQMC**

NATIONAL WATER QUALITY  
MONITORING COUNCIL

*Working Together for Clean Water*

## **Methods and Data Comparability Board**

# **Accreditation of Laboratory and Field Activities for Water-Quality Monitoring**

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The National Water Quality Monitoring Council (NWQMC), and its predecessor, the Interagency Task Force on Monitoring, recognize that our ability to use environmental information effectively depends upon the quality (reliability and integrity) of the data. Data of known quality enhances our ability to make sound decisions, take appropriate remedial action, and protect human health and the environment. Data of poor or unknown data quality is not dependable, and reduces the ability of others to use the information appropriately.

The common notion is that “following the method” ensures data of known quality. However, a method is simply one key component of a water-quality monitoring program. Other important components of a monitoring program that may be evaluated by an independent party include (for example): instrumentation and equipment calibration, personnel performance and training, quality-assurance and quality-control procedures, record-keeping systems, data-review processes, and analytical or sampling methodologies. The evaluation would assess a laboratory or field program’s technical competence and quality systems.

The Methods and Data Comparability Board (Methods Board) of the NWQMC prepared a position paper, “Accreditation of Federal Laboratories for Water Quality Monitoring”, in recognition of the fact that the current accreditation process needs to be improved. The position paper proposed three major recommendations (next page) based on:

- a comprehensive evaluation of federal laboratory accreditation needs,
- the types of laboratory accreditation standards available and in use throughout North America, and
- the types of programs currently in use to accrediting laboratories for water-quality analyses.

All three recommendations were endorsed by the Advisory Committee on Water Information (ACWI) in April 2002. Based on the information evaluated, the National Environmental Laboratory Accreditation Program (NELAP) is recommended by ACWI as the preferred accreditation body for laboratories involved in water monitoring.

- ✓ Laboratory accreditation, using internationally accepted standards for a comprehensive array of environmental work, is an effective way of promoting uniform competence among laboratories.
- ✓ An independent accreditation can affirm that adequate quality systems are in place and that a laboratory meets established standards for competence.
- ✓ The use of uniform standards enhances our ability to make sound decisions, take appropriate remedial action, and protect human health and the environment.
- ✓ Implementation of standards may substantially reduce the costs associated with obtaining various accreditations.
- ✓ Rigorous, consistent accreditation standards can be a critical tool in providing resource agencies with comparable data that can be used in evaluating the performance of environmental programs.

## Recommendations endorsed by ACWI concerning Federal laboratory accreditation:

ACWI is the parent organization of the NWQMC and the Methods Board and is an inter-organizational group chartered under the Federal Advisory Committee Act (FACA) that represents all levels of the government and the private sector.

1. All federal agencies (and commercial laboratories employed by federal agencies) performing routine analytical water testing, as part of compliance or ambient monitoring programs, be accredited under a recognized program, in order to better establish comparability of data and to meet the data needs of specific federal agency programs. Each agency should evaluate the cost of implementing this recommendation as it applies to their individual situation.
2. The National Environmental Laboratory Accreditation Program (NELAP) is the Board's recommended program, because NELAP adequately meets (or is taking measures that meet) the broad needs of the majority of federal agencies performing water testing. Specifically, it is focused on uniform accreditation requirements across states, state reciprocity (and therefore, potentially reduces accreditation costs for labs operating in several states), and allows Federal as well as state accrediting authorities.

For NELAP to serve as a satisfactory accrediting program for federal laboratories, NELAP needs to continue its efforts to:

- Obtain more state participation and reciprocity
  - Address standards for ambient monitoring, field sample collection, and field measurements
  - Promote the development of Performance Based Methods System (PBMS) implementation
3. The MDCB (and its parent organization, the NWQMC) will periodically re-evaluate NELAP's suitability to serve as a national accreditation program in order to: (1) review the status of their progress in the aforementioned efforts, and (2) encourage state, federal, and private participation in NELAP.

Significant progress has been made in terms of NELAP's ability to address the needs of laboratory accreditation since these recommendations were endorsed by ACWI a year ago. The recent structural reorganization of NELAP, including the formation of a separate standards development body, the Institute for National Environmental Laboratory Accreditation (INELA), is viewed as a positive step towards achieving more consistent accreditation standards across a broader range of water quality monitoring methods. Additional states beyond the NELAP-accredited authorities will accept NELAP accreditation. This further promotes consistent laboratory accreditation standards throughout the United States.

Finally, NELAP is beginning to address many of the outstanding issues raised in the position paper's recommendations:

- Standards for field methods are being developed (Chapter 7 of the NELAC standards).
- Aspects of a performance-based systems approach have been incorporated in the revised standard for quality systems (Chapter 5 of the NELAC standards).

The Methods Board and its members are currently involved in activities to assure data of known quality through use of uniform accreditation practices:

- Assessment of the status of the Federal and Federal Contractor Laboratories accreditation
- Development of a position paper on the accreditation of state laboratories

Additionally, board members independently participate on the INELA work group for field method accreditation standards development.

For more information about Laboratory Accreditation and other Methods Board activities, see our website (<http://wi.water.usgs.gov/methods/>) or contact either Herb Brass ([brass.herb@epa.gov](mailto:brass.herb@epa.gov)) or Charlie Peters ([capeters@usgs.gov](mailto:capeters@usgs.gov)).

### ***The National Water Quality Monitoring Council***

The National Water Quality Monitoring Council (Council) provides a national forum to coordinate consistent and scientifically defensible methods and strategies for improving water quality monitoring, assessment, and reporting. The Council promotes partnerships that foster collaboration, advance the science, and improve management within all elements of the water quality monitoring community. A vital aspect of this role is fostering increased understanding and stewardship of our water resources.

The Council was created in 1997 as a vehicle for bringing together the diverse expertise, skills, and talents needed to develop collaborative, comparable, and cost-effective approaches to water quality monitoring. The Council's 35 members meet several times a year in locations throughout the country and represent federal, state, interstate, tribal, local, and municipal governments; watershed and environmental groups; the volunteer monitoring community; universities; and the private sector, including the regulated community. These members are organized into work groups whose activities and products advance the Council's goals. The current Council work groups are *Collaboration and Outreach*, *Water Information Strategies*, *Watershed Components Interactions*, and the *Methods and Data Comparability Board*.

The Council is co-chaired by the U.S. Geological Survey and U.S. Environmental Protection Agency and is chartered as a subgroup of the Advisory Committee on Water Information (ACWI) under the Federal Advisory Committee Act.