



NWQMC

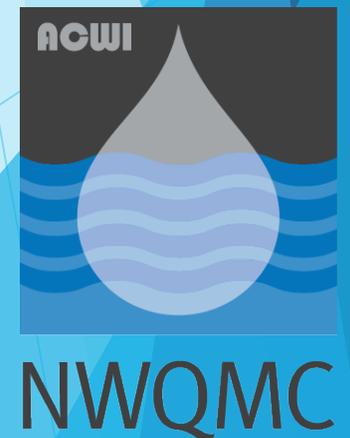
Methods & Data Comparability Board

Dan Sullivan, Chair

USGS Upper Midwest Water Science Center

Methods & Data Comparability Board

- ▶ Promoting the value of data comparability in water-quality monitoring
 - ▶ Accreditation
 - ▶ Biology
 - ▶ National Environmental Methods Index (www.nemi.gov)
 - ▶ Performance-based systems
 - ▶ Water Quality Data Elements
 - ▶ Aquatic sensors





Methods and Data Comparability Board

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Publications of the Methods and Data Comparability Board

Accreditation

- [Accreditation of Laboratory and Field Activities for Water Quality Monitoring](#) (Fact sheet, MDCB 2003)
- [Determining and Documenting the Suitability of Analytical Procedures Used for Analysis of Environmental Samples](#): NWQMC National Monitoring Conference 2000, Austin, TX (Parr, J., 2000)
- [The Value of Uniform Accreditation: a white paper developed by the Methods and Data Comparability Board](#)

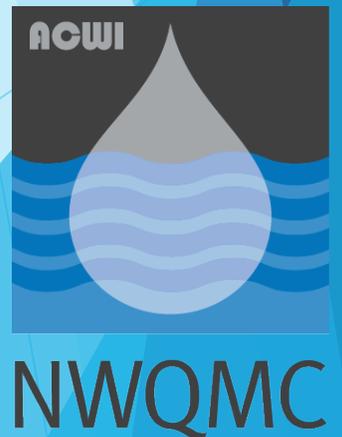
Biology

- [An approach for determining bioassessment performance and comparability](#) (2012) -- applies the approach to evaluating comparability of biological monitoring and assessment programs in the USEPA Region 4 states
- [Biological Monitoring Quality Control](#) (2011) -- book chapter that describes the logic and provides a more comprehensive structure for analysis of biological assessment comparability
- [Field Sampling Precision](#) (2008) -- field sampling precision for stream indicators used by Montana DEQ
- [Taxonomic Precision](#) (2008) -- precision of taxonomic indentifications used by the USEPA National Aquatic Resource Survey
- [Determining the Comparability of Bio-assessment methods and their results](#): NWQMC National Monitoring Conference 1998, Reno, NV. (Diamond, J.M., J.B. Stribling, and Yoder, C., 1998)
- [Characterizing and comparing bioassessment approaches and their results: A perspective](#): J. North American Benthological Society 15:713-727. (Diamond, J.M., J.B. Stribling, and M.T. Barbour, 1996)

General Overview

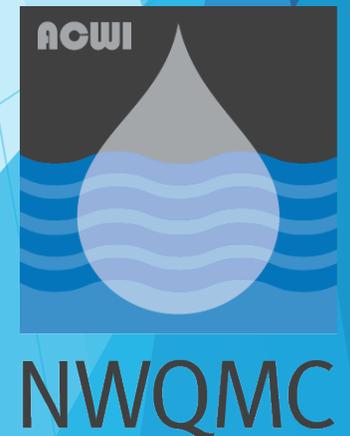
Current Workgroup Efforts

- ▶ Biological Assessment & Comparability
 - ▶ NEMI
- ▶ Sensors Uncertainty



Biological Assessment & Comparability Workgroup

- ▶ Step 1: Define fields necessary to provide baseline information on method comparability (complete)
- ▶ Step 1b: Why are doing this?
 - ▶ Methods repository (general)
 - ▶ Methods registry (Water Quality Portal)
- ▶ Step 2: Update bio methods in NEMI (partially complete)
- ▶ Step 3: Modify NEMI db and enter additional metadata (FY18)

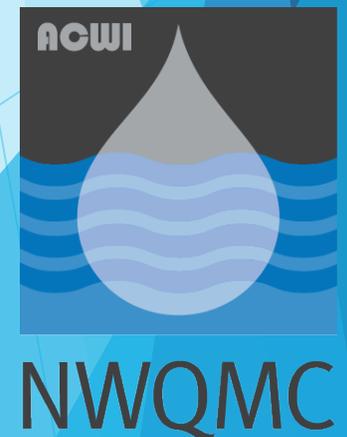




Biological Assessment - 2019 Conference

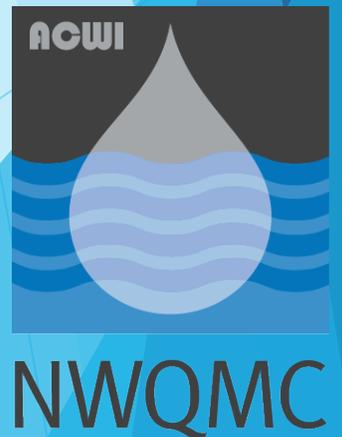
▶ Championed session

- ▶ “history” of bioassessment comparability - Mike Miller, WI DNR
- ▶ Data Quality Documentation for Bioassessments - Sam Stribling, TetraTech
- ▶ Case Study - assembling large fish dataset - Ben Jessup, TetraTech
- ▶ Biological Monitoring Metadata of the Water Quality Portal to Support Data Reuse - Pete Ruhl USGS and Dwane Young EPA



Bioassessment - 2019 Conference

- ▶ Facilitated Round Table
- ▶ “Comparability and defensibility of decisions based on bioassessment data”
- ▶ Objectives: Review state of metadata related to bioassessment data and methods
- ▶ Outcomes: Leave session with recommended enhancements to existing national databases



Sensors – 2019 Conference Workshop

- ▶ 1.5 hour workshop
- ▶ Series of brief presentations followed by discussion between users and manufacturers
 - ▶ Sources of uncertainty - In-situ rep
 - ▶ Signal processing - YSI rep (not confirmed yet)
 - ▶ Examples of uncertainty and when it matters - JohnFranco Saraceno, State of CA
- ▶ Dialogue between users and manufacturers on steps that can be taken to produce standardized testing and reporting of sensors performance data. Recommendations on next steps.

