

New Jersey Water Monitoring Coordinating Council Meeting 1/31/07

NWQMC and MDCB Updates for
National Monitoring Network,
Methods Board Highlights, and
2008 Conference Notes

Presented by: Eric Vowinkel, USGS



NATIONAL WATER QUALITY MONITORING COUNCIL

Working Together for Clean Water

The National Water Quality Monitoring Network for U.S. Coastal Waters and their Tributaries

ACWI

January 17, 2007

<http://acwi.gov/monitoring/network/index.html>



Structure of the Design

- Nine resource compartments
- Fixed station and probabilistic designs
- Core variables and sampling frequencies specified
- Provisions for data comparability, management & access

A continuum of Observations

- Estuaries
- Nearshore
- Offshore and EEZ
- Great Lakes
- Coastal Beaches (BEACH Act)
- Wetlands

With Flow and Flux from

- Rivers
- Atmosphere
- Groundwater



Network Implementation: Overall Process

- Phase 1: Network design (completed)
- Phase 2: Develop and carry out 2 or more pilot studies (calendar year 2007)
- Phase 3: Demonstration projects
- Phase 4: Nation-wide implementation



Pilot studies & Demonstration projects

- **Pilot Studies**
 - Conduct inventory of on-going monitoring
 - Refine Network design
 - Identify gaps
 - Investigate data comparability and data sharing issues
 - Undertake with existing resources in 2007
- **Demonstration projects**
 - New instrumentation and field work to fill gaps
 - New resources required
 - Calendar year 2008 and beyond



Pilot Study Selection Criteria

- Identify and commit resources, including in-kind contributions
- Agree to complete Pilot Study and prepare draft report by January, 2008
- Ability to leverage on-going Federal efforts and cooperative efforts in study area



Potential Partners

- Eleven Regional IOOS Associations
- Three EPA Great Waters Programs
 - CBP, GL, Mississippi RB
- National Estuary Program Sites
- National Estuarine Research Reserves
- Marine Sanctuaries
- River Basin Commissions
- States
- Professional organizations

ACWI Meeting

Update

January 17, 2007

Herndon, VA

Highlights 2006

- **New EPA Co-Chair (Steve Wendelken)**
- **Revamped Methods Board webpage (Dan Sullivan)**
- **San Jose Conference in May 2006**
 - Booth (all) and Session on WQDE (LeAnne Astin)
- **Two face to face meetings**
 - Tucson, AZ
 - Cincinnati, OH
- **NMN Chapter 4 on Importance of Data Comparability (Ed Johnson, Jerry Diamond, Eric Vowinkel)**
- **NEMI (Dan Sullivan)**
 - Green Methods (Larry Keith and Jennifer Young)
 - CRADA
- **WQDE Publication (LeAnne Astin)**
- **Bioassessment comparability guidance/pilots (Jerry Diamond and Laura Gabanski)**

Future Directions

- **Concentrate on things we do well (higher priority)**
 - NEMI and NEMI/CBR
 - WQDE—Physical habitat
 - Support NMN comparability issues where appropriate
 - Support NWQMC/WIS work group where needed
- **New topics (lower priority)**
 - Event monitoring
 - Stormwater monitoring
 - Continuous and real-time monitoring
 - New technologies
 - Data storage issues
 - Data interpretation
 - Volunteer monitoring validation techniques
- **Contingent on funding requests**

Methods and Data Comparability Board

Current Projects

NEMI

Data Elements

Bioassessment
Comparability

Data Comparability
(National Monitoring Network)

Products & Publications

NEMI

Data Elements

Publications

About the Board

Background & Strategy

Members

Workgroups

Welcome to the Methods Board

The Methods and Data Comparability Board is a partnership of water-quality experts from federal agencies, states, local governments, volunteer monitoring groups, and private organizations who all share a commitment to developing water-quality monitoring approaches that facilitate collaboration and comparability amongst all data-gathering organizations.

Water Quality Data Elements News:

The [Water Quality Data Elements User Guide](#) is now available in PDF format to download and print.

[download](#)

The [Data Elements workgroup](#) of the Methods and Data Comparability Board and the [National Water-Quality Monitoring Council](#) are preparing lists of what are believed to be the necessary or "core metadata" to allow comparability assessments. The proposed lists are not a set of required information but are recommended to help data collectors and data managers more effectively characterize their data and thereby facilitate and promote the use of those data by others. The [Water Quality Data Elements User Guide](#) was written to help facilitate the use of data elements by monitoring groups in their monitoring programs.

NEWS AND EVENTS

UPCOMING MEETINGS

Across the Board
latest issue



CONTACTS:

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[Dan Sullivan](#), Exec. Secretary
U.S. Geological Survey
Wisconsin Water Science Center
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Water Quality Data Elements

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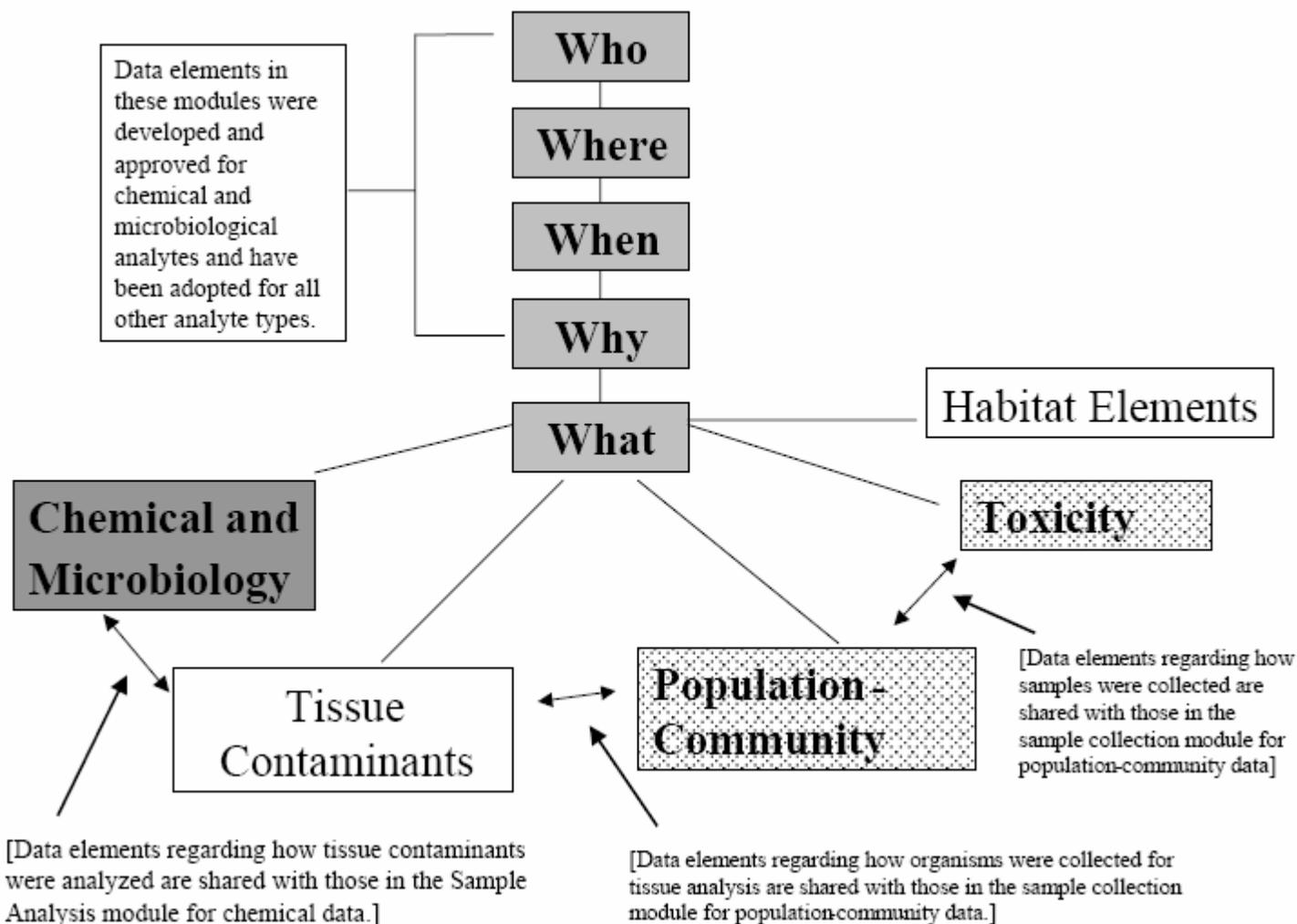
[download](#)

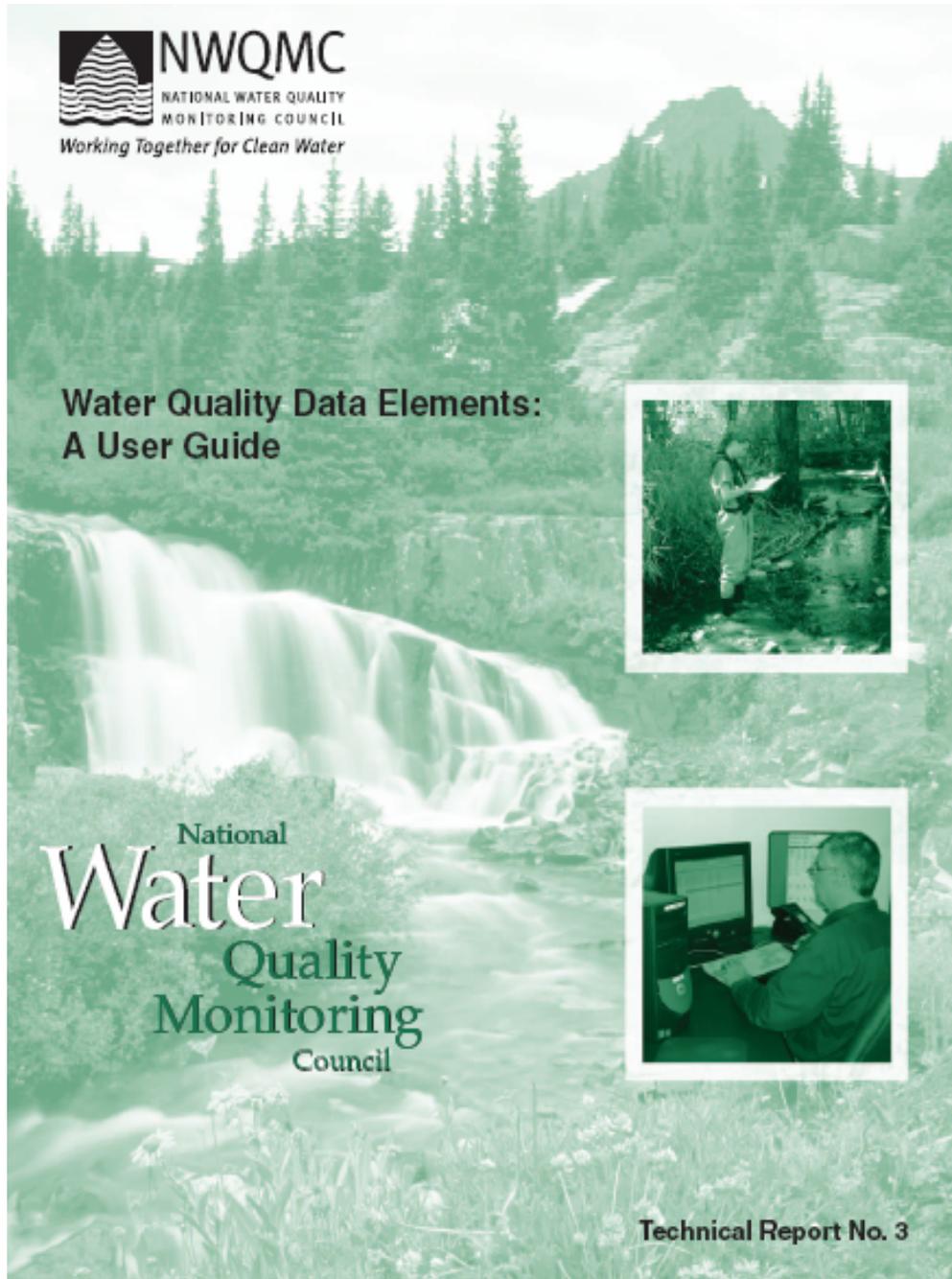
Many different entities collect water quality monitoring data using different data reporting templates. However, drawing comparisons and discerning trends in water quality are difficult due not only to large natural variations in conditions but also to widely disparate assessment methodologies, data system incompatibilities, and inconsistent data documentation standards. These problems are found in both surface water and ground water studies. These barriers impede coordination of data collection efforts and the productive exchange of water quality data among monitoring entities. Recent reports by federal, state, and non-governmental organizations including the U.S. General Accounting Office, the Association of State and Interstate Water Pollution Control Administrators, and the Environmental Integrity Project, have highlighted these problems.

Water Quality Data Element Lists

1. **Chemistry, Microbiology**
2. **Population /Community Biological Assessments**
3. **Toxicological Analytes**
4. **Physical Habitat** (Draft list begun Oct. 2006)
5. Tissue
6. Sediment
7. Biomarkers

Water Quality Data Elements





WQDE

Who?

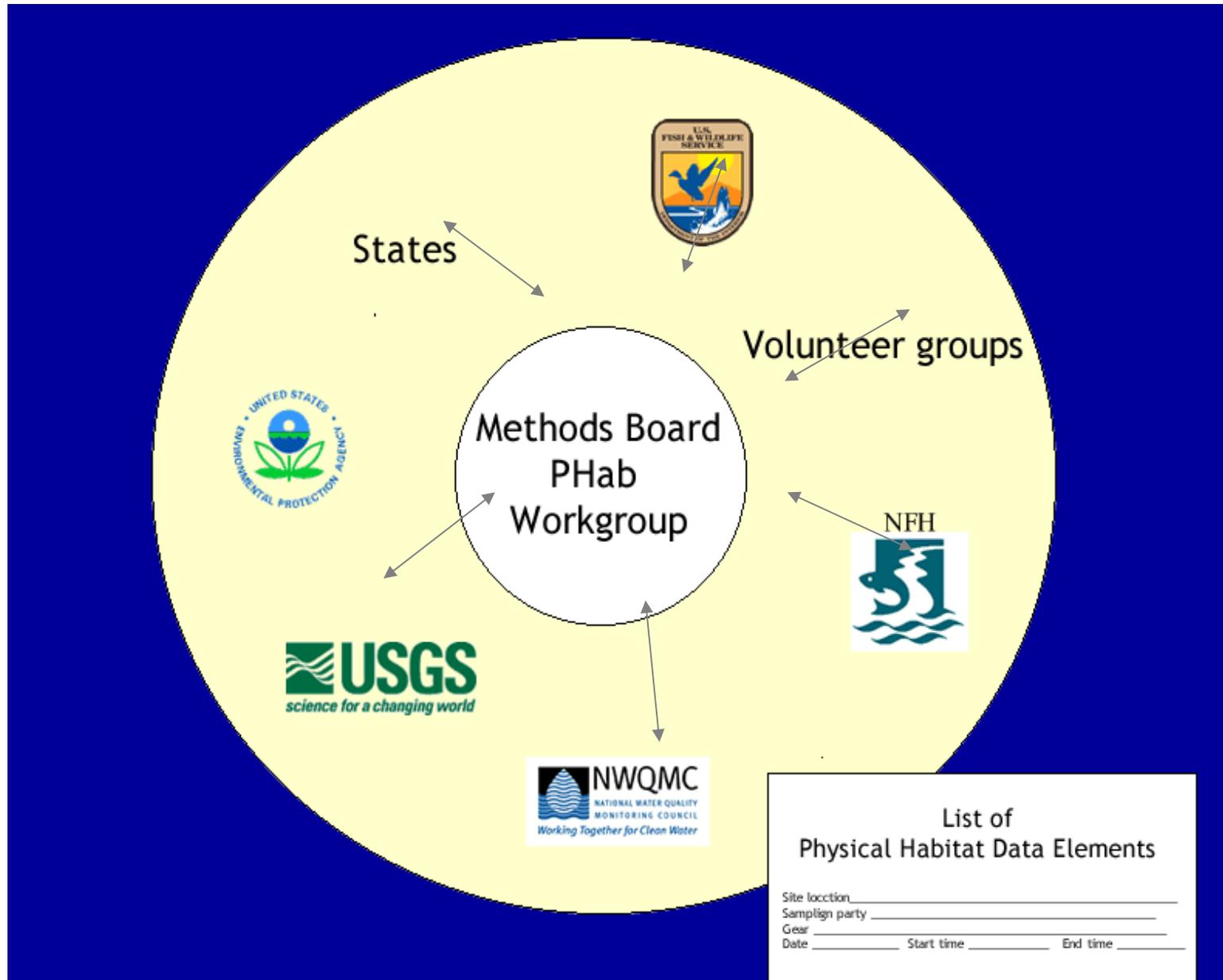
What?

Why?

When?

Where?

Physical Habitat Workgroup Interactions



List of Physical Habitat Data Elements

Site location _____
 Sampling party _____
 Gear _____
 Date _____ Start time _____ End time _____

Physical Habitat Workgroup Members/Liaisons

State/Interstate/University

LeAnne Astin, ICPRB

Revital Katznelson, UC-Berkeley Ext

Mike Henebry, State of IL

Mike Miller, State of WI

Nonprofit/Volunteer

Eric Russell, Surfrider Foundation

Federal

Faith Fitzpatrick, USGS

Eli Greenbaum, ORNL

Chuck Spooner, EPA

Eric Vowinkel, USGS

Dan Sullivan, USGS



Tom Busiahn, DC



Doug Beard

USGS-BRD, Reston



ESAR / WQX

Phil Kaufmann



BioData/
BioShare



???

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NEMI: National Environmental Methods Index

Since 2002, NEMI (<http://www.nemi.gov/>) has helped the scientific community find the environmental methods they need with an easy-to-use, searchable online database of both regulatory and non-regulatory methods.

"Greener" Methods Profiles

A project that aims to define, identify, and promote analytical chemistry methods that use fewer harmful solvents, use safer chemicals, and minimize waste has been initiated by the American Chemical Society's Green Chemistry Institute. Working with the Board GCI is attempting to define metrics and rules and apply these to the methods in NEMI.

Help NEMI Grow

The USGS and the EPA are partnering with private organizations that would like to help NEMI continue to grow.

Through a Cooperative Research and Development Agreement (CRADA), potential partners are being identified to provide funding and assistance for the following activities:

- support the search for, and entry into the database of, new methods that can be included in NEMI
- suggest new types of regulatory information to include
- determine outreach approaches and prepare materials to broadcast the usefulness of NEMI in professional journals, newsletters, and on the Web

Cooperative partners will benefit by:

<http://acwi.gov/methods/nemi/>

- gain visibility through public recognition of their involvement
- interact strategically with other leaders in the industry

To learn more, please see the Opportunity Brief on the NEMI Web site.



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2008 NWQMC Conference Planning

- NWQMC Communications and Outreach Work Group plans conference (Co-Chairs: Dave Tucker and Jeff Schloss)
- Conference Co-Chairs:
 - Chuck Spooner (USEPA)
 - Jawed Hameedi (NOAA)
 - Eric Vowinkel (USGS)
- MOA with Water Environment Federation (WEF) to facilitate conference

<http://acwi.gov/monitoring/>



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2008 NWQMC Conference

- **Where:** Pennsylvania Conference Center (PACC)
- **When:** Sunday (5/18) – Thursday (5/22/2008)
- **Who:** Many organizations are on board to host/sponsor a National Conference in Philadelphia
- **What:** Perfect combination of water-quality/quantity issues in watersheds, estuaries, and coasts in the Delaware Basin (urban/agr)



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Conference Theme and Possible Tracts

Monitoring: Keystone to knowing our waters

- Connecting water quality monitoring among hydrologic compartments
- Monitoring effects of water quality on ecological and human health
- Effects of climate change on water quality/quantity at different scales
- Connecting monitoring and modeling
- Event monitoring
- Water security
- New technologies
- Monitoring in the Mid-Atlantic Region