2004 National Monitoring Conference

Discussion Session
Report-back
Presentations

Thursday, May 20, 2004

NATIONAL WATER QUALITY MONITORING COUNCIL
Working Together for Clean Water

NWQMC

Promoting Collaborative Efforts

PROMOTING COLLABORATIVE EFFORTS

1. Value of collaboration

- Resource sharing or complementary skills
- Decreased redundancy
- Greater credibility
- Only way to address multi-jurisdictional issues
- Could lead to actual implementation (not just data collection)
- Prevents reinvention of the wheel
- Reevaluate needs

PROMOTING COLLABORATIVE EFFORTS

1. Value of collaboration

- – Increases visibility
- – Initial involvement improves success
- – Increases energy
- – New ideas (view points)
- – Reevaluate needs
- – Increases energy

PROMOTING COLLABORATIVE EFFORTS

2. Barriers/challenges associated with moving forward

- – Not knowing what others are doing
- – Institutional thinking (politics)
- – REaction, not PROaction)
- – Time constraints
- – Lack of vision (crisis management)
- – Funding
- – Distance
- – Feds should lead by example
- – Need more success stories

PROMOTING COLLABORATIVE EFFORTS

2. Barriers/challenges associated with moving forward

- Lack of communication/trust
- Fear someone else will get credit
- Moving from ME to US
- Concerns about job loss
- Lack of long-term national goals to help direct prioritization

PROMOTING COLLABORATIVE EFFORTS

2. Barriers/challenges associated with moving forward

- Lack of urgency – need to be able to clearly show the value
- Must spend time and resources responding to lawsuits, regulatory requirements, etc. rather than priorities
  - "defensive management"
- Narrow agency focus

PROMOTING COLLABORATIVE EFFORTS

3. Tools/resources/guidance needed
- Better communication (open minds)
- Directory/database of skills
- Money
- Short course for states that can't travel
- Paid facilitators
- Statewide assessment of WQ goals (are goals being met?)
- State Council guidance (pitfalls, tips, fact sheets, WIFM, etc.)
- Condensed version of workshops to take with you

PROMOTING COLLABORATIVE EFFORTS

4. Council role in moving collaboration forward
- Keep conference going –maintain bi-yearly interval
- Include results from past conferences at the next conference – share accomplishments
- Continue to ID national trends & share info
- Act as conduit for success stories
- Lead by example
- Provide workshop/info on facilitation

PROMOTING COLLABORATIVE EFFORTS

4. Council role in moving collaboration forward

- – Reach out to non-Council member orgs – pull them into projects
- – Create a user-friendly guide to DQOs
- – States-helping-States monthly calls on different topics (ASIWPCA) – chat room?
- – Publicize Council meetings better
- – Make the case for value of collaboration (publicize success stories, etc.)

Working Together for Clean Water

NWQMC

Volunteer Monitoring

Barriers and Challenges

- Perception of data quality from VM programs
- State agencies having data overload already so hesitant to accept VM data
- Agencies concerned that they will be overwhelmed by citizen demands on staff
- Poor marketing of VM programs
- Involving underserved audiences

Food for Thought (Proving Validity of Volunteer Data)

- Publish in peer-reviewed journals
- Head to head comparisons
- Involve critics in training/planning
- Get new procedures listed on NEMI

Next Conference (needs)

- Provide exhibitor area for volunteer monitoring equipment, data sheets, website demos, etc…
- Relevant field trips
  - Techniques
  - Trainings
  - Volunteer monitor demos
- More on other types of monitoring (invasives, forest health, watershed assessment)

Next Conference (Cont'd)

- More sessions involving wetlands
- Example training workshops and "train the trainer" workshops
- Specific training sessions VM coordinators (i.e. data management, statistics, marketing programs, etc)
- More presentations on quantifying non-data benefits of vol. monitoring

Next Conference (cont'd 2)

- Conference structure to include time where no vol. monitoring sessions

Future Training Needs

- Analysis/interpretation of own data
- Training the trainer
- Making monitoring equipment

Next Steps for Monitoring Groups

- Discuss formation of national service provider network
- Professional association for volunteer monitors
- Initiate the formation of a state/regional monitoring council.

For Council Discussion

- Advocate for portion of 319,Farm Bill, and NOAA $ to go to VM
- Council success stories to include vol.monitoring examples (agency and other)
- Council website links to volunteer sites
- Ensuring representation of volunteers in regional/state monitoring council

Council Discussion (cont'd)

- Council to promote inclusion of VM on regional/state councils
- Provide better marketing assistance for monitoring program
- Advocate/support continued publication of The Volunteer Monitor

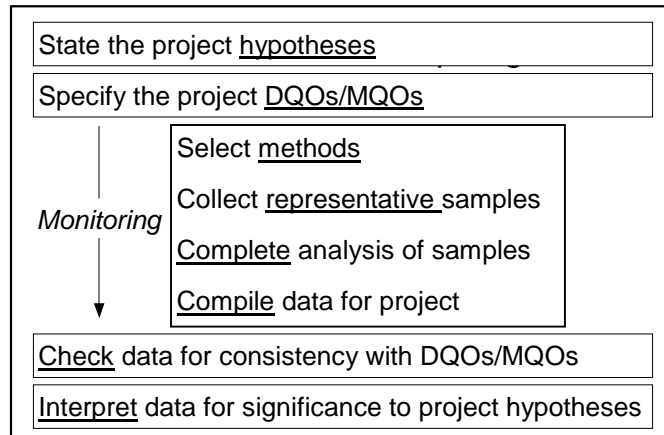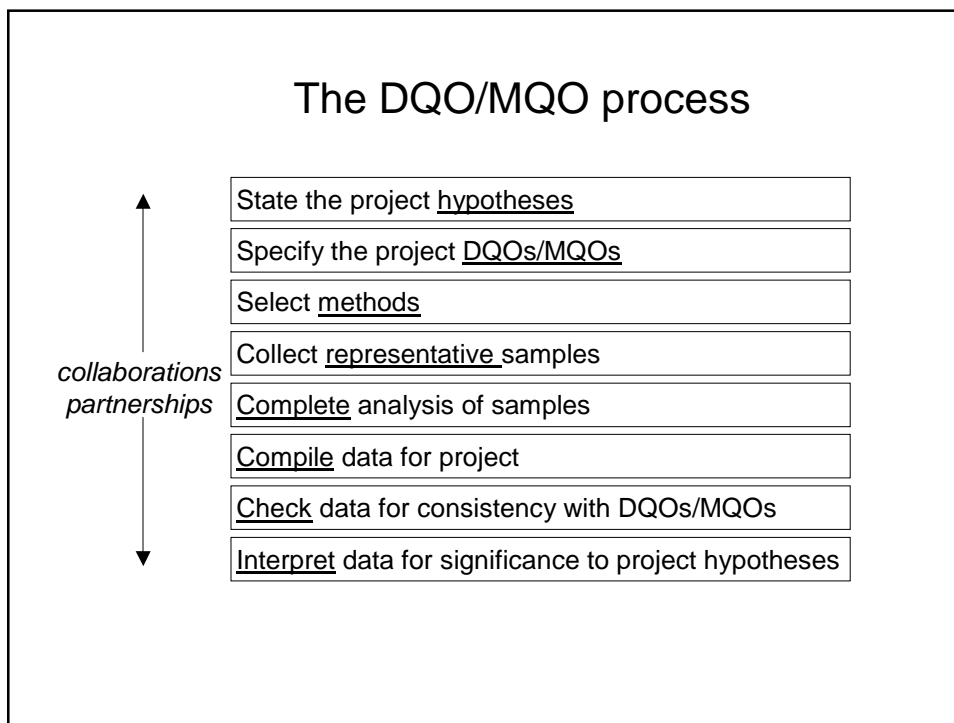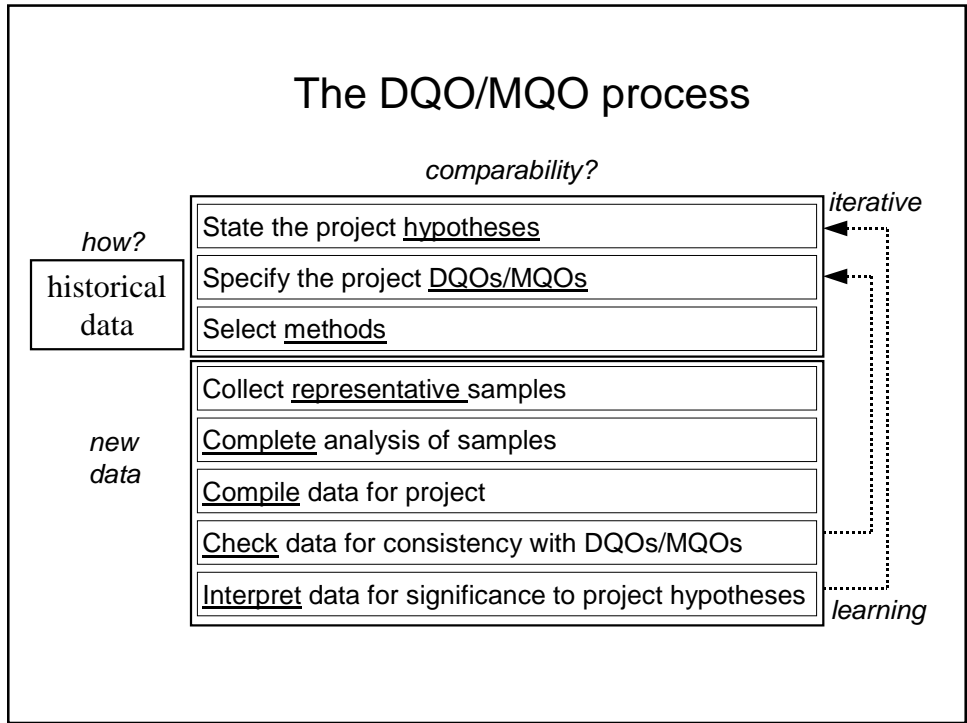# EPA's Volunteer Monitoring Website

- List professional journals that are open to vol. monitoring (i.e. <u>Journal of Lake Reservoir Management)</u>
- link to program pages of :
  - VM program w/ web-based materials
- Then announce above on list-serve

The DQO/MQO process

State the project <u>hypotheses</u>

Specify the project <u>DQOs/MQOs</u>

Monitoring

Select <u>methods</u>

Collect <u>representative</u> samples

<u>Complete</u> analysis of samples

<u>Compile</u> data for project

<u>Check</u> data for consistency with DQOs/MQOs

<u>Interpret</u> data for significance to project hypotheses

The DQO/MQO process

State the project <u>hypotheses</u>

Specify the project <u>DQOs/MQOs</u>

Select <u>methods</u>

Collect <u>representative</u> samples

<u>Complete</u> analysis of samples

<u>Compile</u> data for project

<u>Check</u> data for consistency with DQOs/MQOs

<u>Interpret</u> data for significance to project hypotheses

collaborations
partnerships

The DQO/MQO process

comparability?

iterative

how?	State the project <u>hypotheses</u>
historical data	Specify the project <u>DQOs/MQOs</u>
	Select <u>methods</u>

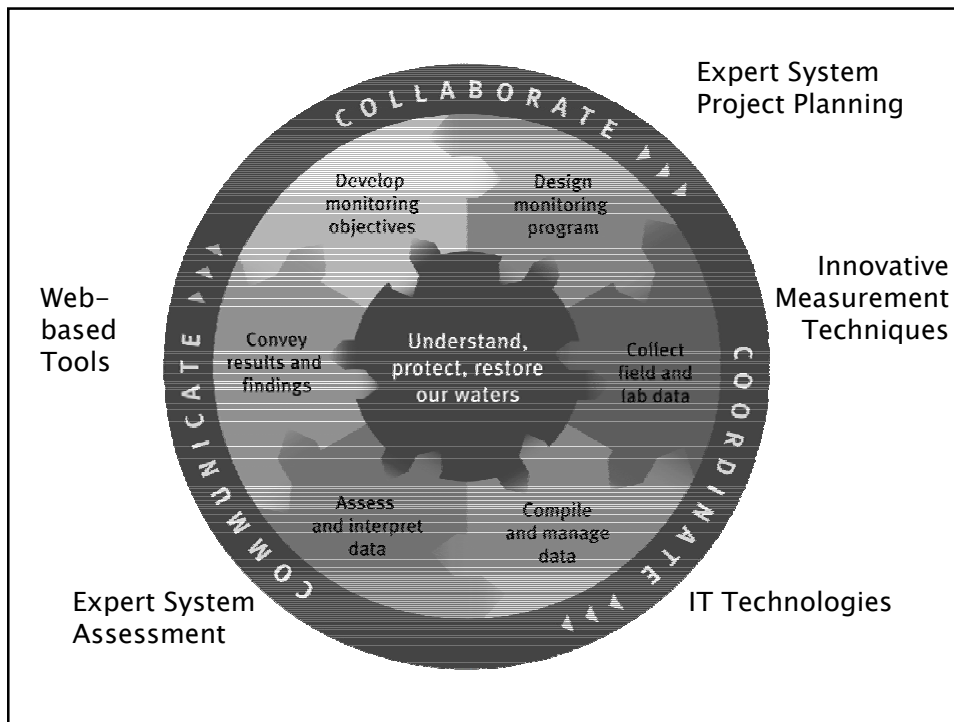| |
|---|
| Collect <u>representative</u> samples |
| <u>Complete</u> analysis of samples |
| <u>Compile</u> data for project |
| <u>Check</u> data for consistency with DQOs/MQOs |
| <u>Interpret</u> data for significance to project hypotheses |

new data

learning

NATIONAL WATER QUALITY MONITORING COUNCIL

Working Together for Clean Water

NWQMC

Exploring New & Emerging Methods & Technologies

Expert System Project Planning

Innovative Measurement Techniques

Web–based Tools

IT Technologies

Expert System Assessment

What is the Value of New/Emerging Technologies?

- Higher quality data to present a more realistic picture
- Can be faster, better, and cheaper
  - Speed can lead to additional information
  - Speed assists with turn around time in the field
  - Speed of analysis required for water security applications
  - Yields higher quality and/or different information
  - Lower cost is critical in some cases
- Better answer questions on different spatial scales
- Approved methods do not meet measurement requirements

What is the Value of New/Emerging Technologies?

- Real time data on the web provides much additional information
- New technologies can identify new concerns
- Management related issues
  - Increased program efficiencies
  - Better able to meet new project requirements
  - Better able to satisfy public concerns
  - Better able to communicate information to decision-makers and legislators

What are the Barriers/Challenges to Moving Forward?

- Acceptance of results by data users
- Varying performance characteristics – unknown false positive and negative rates
- Methods approval process
- Links must be established between monitoring needs and available new technologies
- High cost for developer

What are the Barriers/Challenges to Moving Forward?

- Current water quality standards can provide disincentives for new technologies – written in specific units, parameters, etc.
- Organizational culture – resistance to change
- Desire for consistency – status and trends
- Coordination/logistics

What is Needed to Move Forward?

- Build monetary incentives and requirements into monitoring programs for exploring new technologies
- Create more of a market-based demand for new technologies
- Top-down directive to develop new technology – e.g., perchlorate
- Communicate specific monitoring interests to partners for potential collaborations – e.g., perchlorate
- Consider using new technologies in their infancy in monitoring programs

What is Needed to Move Forward?

- Bring stakeholders to the table to mesh interests
- Regulatory acceptance
- Use of PBS
- Education – training courses, workshops for practitioners and program managers
- Use new technology to set policy
- Comparison of old and new methods – status and trends
- Pursue integration of web services and geographic info services with data elements

What are Success Stories, Lessons Learned, and Tools at Conference That You Can Apply?

- NEMI
- New technology in analysis of sediments
- Technologies related to water security
- Toxicity testing
- Microbial monitoring
- Remote sensing – added section to Standard Methods
- Chemical, microbiological, and biological water quality data elements
- Vendor info

What is Role of National Council and Stakeholders in Moving Theme Forward?

- Factsheet and professional publication on new technologies
- Highlight success stories
- Create Council newsletter
- Sponsor short courses
- Guidance on implementation of the Framework in context of new technologies

What is Role of National Council and Stakeholders in Moving Theme Forward?

- ACWI to provide recommendations on prioritization and use of new technologies
- Clearinghouse for information on new technologies

Changing Expectations of Monitoring

NATIONAL WATER QUALITY MONITORING COUNCIL
Working Together for Clean Water

NWQMC

Changing expectations

1. Increase number and diversity of stakeholders
2. Greater public access to data—web based
3. Increased sharing of data and use of data from diverse sources (volunteer monitoring, local government)
4. Use monitoring to evaluate and refine WQS
5. Chase the chemical du jour

6. Integrated Report...

- Sampling ALL waters vs. using probabilistic design
- Issues of scale...what is "a water"?
- How to relate ground water
- Doing more with less
  - focus on national or regional assessments
  - Regional consistency

7. Expect the data to do more

- Metadata
- Improved QA—higher burden of proof
- Expand types of data collected (bio, chemical, physical, habitat, landuse)
- Lower and lower detection limits

8. Increased use of bioassessment

- No early warning
- Cause and effect (multiple stressors, cumulative impacts)
- No TMDL for landuse impacts and habitat changes

Recommendations

1. Revisit/reconstitute old 305(b) workgroup…IR Consistency Workgroup

Recommendations

2. Increase availability of existing tools (ex-ecoregionalization, RBPs, tiered aquatic life use)
3. Need for additional research on biological effects (ex—toxicity, threshold values)
4. Use PBS to assure comparability of data (volmon, local government, etc)

Recommendations

5.GIVE US THE RESOURCES —
WE CAN DO ANYTHING!

NATIONAL WATER QUALITY MONITORING COUNCIL
Working Together for Clean Water

NWQMC

Ensuring Data & Information Comparability

What is the Value of "Comparability"?

· Saves money
· Reduces duplication
· Adds "value" to data, information & presentation
· Permits regional assessment/planning
· Responds to "credible data laws" & GPRA

What are the Barriers/Challenges to Improved Comparability?

- Some agencies still do not want to share data!!
- Different laws => different agencies => different mandates => different methods
- Costs money to document comparability
- Lack of distinction between monitoring for routine management information & measurements for addressing emerging concerns
- Lack of comparability in monitoring guidance
- Few political incentives to share data
- Lack of comparability training and education

What Do You Need to Move Forward?

- Templates of data elements
- Common vernacular
- Identification of where you need comparability and where you don't
- Incentives to make data comparable
- Specify up front levels of comparability, access, & ownership in contracts
- Addition of field methods to NEMI
- Tools to combine data from multiple sources

Success Stories/Lessons Learned

- Importance of metadata recognized
- Recognition of how far we've come:
  - Monitoring framework
  - NEMI
  - Data Elements
  - STORET/NWIS agreement
  - Data available on internet
- Many comparability studies available for synthesis
  - Maryland/Montgomery County study
  - Environment Canada Regional study
- National Monitoring conferences are timely & supportive of comparability efforts

Future Role for NWQMC?

- Place guidance examples, templates, comparability boiler plate for contracts, minimum data elements, and success stories on NWQMC web page
- Training program for sharing data
- Institute a comparability awards program
- Formal resolutions in support of data comparability efforts
- Expert system development for all cogs of monitoring framework

Future Role for NWQMC (cont.)?

· Reduce perception of duplication in monitoring
· Develop "Stamp of Approval" for comparability of data
· Use major national programs (NAWQA, EMAP, WSA) as focal point for comparability development
· Coordinate development of reporting template & indices
· Support sample exchange programs

Be An Active Member of the Water Monitoring Community and Support Comparability in All That You Do!