Appendix

Appendix is a transcript of meeting and workgroup notes.

Additional Recommendations (Action Steps)

Network: Rather than pilot, we could gather information on existing successful citizen monitoring experiences. Document past successes, then pilot a new process/system.

1. DNR: Send notice to potential stakeholders, including:
    1. results of this workshop
    2. proposed monitoring action plan (or at least the vision statement)
    3. meeting date and time for the annual statewide (starting point) meeting, possibly including electing the executive committee

2. DNR: Understand who all the stakeholders are, e.g. involve IPAW in implementation of actions.

3. NCOs and Steering Committee: Talk to legislators who are friendly toward science, application of technology and citizen action.

4. Natural Resource Foundation, TNC or WI Wildlife Federation: Develop a letter that groups/organizations can sign on to in support of the citizen monitoring concepts put forward.

5. Citizen Monitoring Groups participation in conference: Identify what we can do with existing funding, mandate and groups.

6. EIM (coordinator): Set up a steering or executive committee to agree to specific actions representing stakeholders and scientists. Nominees could come from citizen monitoring groups, contact people for groups that collect or use the data.

7. Network: Hold an annual meeting for citizen monitoring groups statewide and periodic regional meetings.

8. Steering Committee, DNR, UW Extension: Establish a paid director position with staff (reallocate, new budget or endowment)

9. NatureMapping/ATRI: Create a data exchange warehouse and re-useable web input tools. Bring common data together. (EPA, NSF are examples)

10. Executive/Steering Committee: Build the case for involving UW System, technical colleges and small colleges. Take advantage of current push at UW to engage in community service.

11. New UW President, Steering Committee, DNR staff: Gain support of management level at DNR. Discuss with UW.

12. EIM: Bring together groups currently doing monitoring. Further develop specific goals.

13. NCOs, citizens, business and industry: Advocate for consistent long term monitoring from outside the DNR.

14. Conference participants: Report citizen monitoring information back to your groups and your legislature – advocacy at the county, state and local level.

15. Network, DNR: Form an advisory committee like the watershed Watch Network Advisory Council.

16. Network: Develop a tiered approach to the level of monitoring involvement: A. Environmental education. B. Stewardship C. Community and watershed assessment. D. Indicators and regulatory response.

17. DNR and partners: call for legislation to create base funding for some of this work.

18. DNR, network: ID key environmental parameters or organisms to be monitored.

19. DNR, network: ID key use of data – appropriate, targeted reporting to decision-makers and other stakeholders., targeted report to media, e.g. success stories.

20. DNR: Provision of training: scientific, media relations, volunteer recruiting management, advocacy.

21. DNR: needs to provide recognition of citizen collected data as valued and reputable.

22. DNR/EIM: ID current state of affairs in monitoring.

23. Network website: Provide appropriate ways to visualize info., links from data to umbrella organization at the national level, interpretation at the local level.

24. DNR, conference participants: Develop and effective communications network to build awareness and recruit, akin to stewardship network.

25. DNR, network: Identify and eliminate barriers to the acceptance of the data.

26. DNR, network: Get a sense of what's happening in the monitoring world.

27. Conference participants: Advocate for funding to leverage govt. spending for training, coordination, systems,

28. Network: Communicate an understanding of the resources and the things that affect them.

29. DNR, network: Establish a clearinghouse of all data information, compatible.

30. Advisory committee, DNR: Identify network stakeholders.

31. NGOs: Seek out foundation to fund stakeholder group to write a plan to give to the legislature.

32. DNR: Find funding to hire a coordinator for this effort, e.g. cross currents model.

Role of citizen monitoring

1. Education should serve as a significant goal.

2. Guide legislation funding of resource protection and policy.

3. Keep current on new protocols, protocol adjustments, issues and action options.

4. Increase the resolution of our information and knowledge

5. Citizens can serve as knowledgeable local eyes and ears for Wisconsin's natural resources.

6. The network should be a trusted source of quality information that is:
    -Useable for planning and decision making (at least higher tier information)
    -Accomplished through standards certification and guides
    -Volunteer responsibility and QA/AC and volunteer follow-up

7. Increase awareness of habitat restoration and land use planning

8. Should serve as the basis for a State of the Environment Report

9. Serve as an early warning system

10. Help pull together historic data and make it useable, e.g. digitize

11. Citizen involvement is crucial/influential in the legislative process

12. It takes ordinary citizens to do extraordinary things

13. There are ample opportunities for WI citizens to get involved

14. Citizen lake monitoring provides quality testing info.

15. Citizen monitoring decreases costs and wold and increases the efficiency of the agency

16. Water quality is a key component in landuse planing

17. There is so much diversity help is needed to cover all bases.

18. Determine whom the most credible interpreter will based on the issue

19. Advocacy for use of data, e.g. water quantity legislation bringing together shared interests.

20. Role of monitors will be to collect, disseminate/utilize/value data, educate and protect

21. With partners; establish goals, set standards, provide training, gather, interpret, disseminate information, advise legislators and decision-makers to provide education and protect and restore resources.

22. Network should include the following elements: Development of protocols, and standards, Data entry and use by citizens, Networking, Training, Organizational structure, purpose is understood

Obstacles

1. Rules are narrowly focused, instead of dealing with ecosystem health.

2. Difficulty getting citizen data into information systems.

3. Difficulty getting DNR to accept data.

4. There are fewer state resources – must do more with less

5. Multiple grant programs – DNR administrative workload issue.

6. Stereotypes of volunteer-collected data, e.g. collectors have hidden agendas and they are not "scientists"

7. Groups not knowing what others are doing

8. Need for quality assurance

9. Training needs

10. Trying to do too many things – need for focus

11. Considerations if data is used for regulation/enforcement: Impact of property access, increased sampling cost and procedures, technical procedures, reluctant volunteers

12. Data that is not interpreted or shared.

13. Difference in data collection methods between agency staff and volunteer programs.

14. Volunteer groups that don't continue for the long term.

15. Need a common data system: entry of volunteer data, data systems that don't talk to each other, data management/exchange.

16. Wisconsin values volunteer time at minimum wage. Need to properly value in-kind support.

17. Complexity of STORET database.

18. Getting people out at times needed, e.g. storm events, different times of day

19. Data mis-interpreted or mis-used.

20. Availability of experts to ID a plant, animal etc. – need strong connections with institutions.

Issues to address/ needs for success

1. Be clear about application of the Public Trust Doctrine

2. Enhance data management sitemaps

3. Better apply information in basin reports for the regulatory process, e.g. 303d list.

4. Enhanced broad based system for collecting comprehensive data and coordination of data collected by all for broader use.

5. Use those out there all the time, e.g. trappers, hunters, students to collect info in a systematic way.

6. Have a comprehensive “people’s” annual report on state of the environment trying people loose to collect the data.

7. Understanding of connections between actions/behaviors and the quality or health of the ecosystem.

8. Establish goodwill ambassadors (symbolic people and critters) for the public to connect with.

9. Knowledge of how individuals work in monitoring contribute to health of the ecosystem. Monitors know about the health of their environments.

10. Need to reach people’s heart as well as their heads. Use art, poetry, creativity.

11. Coordinate and tie together data sets. Identify what you can do with existing resources/data. Identify the questions we need answers to.

12. Include and coordinate with county land and conservation departments.

13. Properly trained volunteers

14. Show data users that some notions are myths i.e. debunk the myths concerning quality of the data.

15. Volunteers need to know purpose for monitoring intended, data use and intended data users.

16. Need quality assurance criteria for each tier.

17. Communication between users and collectors of data so collected and stored in ways that are useable and useful

18. Training for volunteers in protocols for various types of monitoring (but with quality assurance office/person present to certify training).

19. Focus: don’t try to do too much

20. Establish reputation based solely on the quality of data.

21. Data users must accept/believe data. Thus engage them in design, training, quality assurance.

22. Focus on volunteers who will follow through and do monitoring.

23. Volunteer retention in critical. Frequent communication is key to this.

24. Establish long term funding.

25. Data considered secondary by others and by users unless get buy-in from beginning, including protocol design.

26. Look at different parameters in lakes versus rivers due to differences in the two systems.

27. Bad data is worse than no data.

28. Who enters and keeps data? How is it stored? Is the format/system workable? Friendly?

29. Recognize high value of volunteers in calculations for in-kind donations (not minimum wage)

30. Identify purpose for sampling.

31. Who has access to which data? What data if any should not be public?

32. Identify ways to find and recruit and train volunteers. How to attract volunteers?

33. Experts/expertise available to volunteer monitors as resource, e.g. identifying unknown plants or critters.

34. Knowing what are the questions we're trying to answer and setting up quality assurance so data are solid no matter who collects it.

35. Use comparable methods to get high quality data no matter who collects it.

36. Increase capacity to support monitors: training, work planning, processing samples, equipment.

37. Clear guidelines/policies on how to approach solving problems using citizens

38. Citizen group diligence and flexibility to fit agencies' framework and needs.

39. Help presenting data so more useful and friendly.

Good Ideas That Have Worked in Other States or Programs

1. Establish quality assurance criteria for each tier
2. Have program specific training support
3. Good communication
4. Tiers that are a living document, revised as needed
5. A Service Provider Network, training, certifying training.
6. Individual attention to groups that want to move up a tier
7. Tiered data entry system.
8. Do one thing to the best of your ability
9. Engage data users in program development
10. Be rigidly flexible or flexibly rigid
11. Bring friends and foes to the table
12. Data can be used for enforcement and regulation
13. Gear the program to meet abilities and needs of target constituencies
14. Quality, not quantity in numbers of volunteers
15. Establish a concise model of the program's relationship with its constituency
16. Establish a governing board with representation from key groups, meet regularly
17. Pilot programs
18. Make science the basis for what you do
19. Communicate frequently with volunteers, e.g. web page
20. Web-based data management system (input access and retrieval by anyone)
21. Different parameters used for different systems.
22. Community-based conservation movement
23. 2200 lake monitoring volunteers advocate for water quality
24. Coordinate citizen-monitoring data with satellite imagery
25. Coordinate citizen monitor training with colleges and tech schools
26. Use volunteer monitoring to bridge data gaps (e.g. data in basin reports)

27. The greatest water quality improvement can come from data that can be used for regulation and enforcement.

28. Find the people to fit the monitoring protocols.

29. Make connections between basin report, land legacy report and forestry plans.

30. Look at other states' programs, e.g. Ohio, South Carolina, IL and Kentucky

31. Volunteers can get involved beyond data collection, e.g. lobbying, advocacy to make something happen.

32. Develop statewide monitoring objectives

33. Hunters, trappers and anglers are an untapped resource.

34. Get access to data that is being collected, e.g. by biology teachers. Make it part of the statewide picture. University instructors repeated class projects. Woodland owners, Plum Creek foresters

35. Trappers know their territory very well, know what's on it and sped many days a year out there.

36. DNR can set protocol requirements, but others need to take responsibility for the overall citizen monitoring system.

37. CARA program could fund activities.

38. Data submitted by applicants (e.g. ATC) could be combined with citizen monitoring data. Collaborative approach: ID common data collection goals, common data quality standards.

39. DNR could cite other data, not used to make a decision and let others decide what they think about it.

40. Lower tier (data quality) data can be used for a lot of management decisions.

41. Take advantage of stable institutions e.g. K-12 schools, water and sewer districts, university system

42. Gather regulatory quality data when we need the polluter to pay for clean-up