

# DISCUSSION GROUP PROCEEDINGS OF THE NATIONAL WATERSHED FORUM

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## OVERVIEW

The National Watershed Forum (Forum) was held June 27 – 1, 2001 in Arlington, Virginia. It was an unprecedented event in which 480 community leaders and senior decision makers from around the country gathered together to give voice to the future of our nation’s watersheds. The Forum was the culmination of more than two years of effort by thirteen Regional Watershed Roundtables. The Roundtables were organized to stimulate dialogue and interaction among diverse watershed interests, identify barriers to watershed protection, and begin developing solutions for overcoming the barriers. Their work was summarized in the “*Summary of the Regional Watershed Roundtables*”, which served as a “launching pad” for the Forum discussions.

The agenda for the Forum was organized in large part around nineteen issue-specific discussion groups within seven “tracks”, as follows:

### Track One: - Resources

- Funding and Technical Support (Two Discussion Groups)

### Track Two – Watershed Partnership Effectiveness

- Structure and Function of Watershed Groups (Two Discussion Groups)

- Participation and Partnerships (Two Discussion Groups)

- Education and Outreach (Two Discussion Groups)

- Leadership and Facilitation

### Track Three – Water Management

- Source Water

- Instream Flows

### Track Four – Information and Research

- Data Collection and Monitoring, Research Needs, and Information Management

### Track Five – Planning and Evaluation

- Watershed Planning and Evaluation (Two Discussion Groups)

- Smart Growth

### Track Six – Ecosystem Management

- Habitat

- Endangered Species

### Track Seven – Policy and Program Implementation

- Jurisdiction and Coordination

- Total Maximum Daily Load

Delegates participated in facilitated dialogues within each discussion group to develop recommendations for local, state, regional, tribal, and federal policies and actions to address issues of concern relative to their group’s topic. The delegates focused on collaborative approaches – getting industry and environmentalists; local, state, tribal, and federal agencies; scientists; and local citizens to work together to identify and solve the problems facing our nation’s watersheds. However, the recommendations they developed do NOT necessarily represent a consensus of all the delegates who participated in the Forum or in any particular discussion group.

These proceedings represent a summary of all the discussion group deliberations. Recordors and facilitators were present in each group and attempted to document important points and recommendations. Every effort was made to capture the essence of the discussions, but it is inevitable that some information was lost or inaccurately captured. The Forum Final Report contains a shorter, synthesized version of these proceedings, with the recommendations organized by target audience. The Meridian Institute assumes responsibility for any mistakes in these documents.

The recommendations in each discussion group section are categorized as “key recommendations” and “additional recommendations”. The selection of which recommendations to call “key” was based in part on each discussion group’s choice of recommendations to be highlighted in a presentation to a diverse panel, comprised of leaders from the private sector, non-governmental organizations and government agencies, on the second afternoon of the Forum. Beyond that, the “key recommendation” designation was based on the Meridian Institute staff’s interpretation of which recommendations seemed to be most “cross cutting” and/or to receive support from numerous discussion groups and/or to be applicable to numerous jurisdictions. The “additional recommendations” are all important as well!

## TRACK ONE: RESOURCES

### Discussion Group A – 1 Funding and Technical Support

#### Resolution for Action

This Funding Group felt very strongly that it was important to capture the momentum and energy of the National Watershed Forum while people were still present and engaged. To assist in accomplishing this goal, they drafted the following resolution that was presented to the plenary group for people to “sign on” and support:

"The delegates to the National Watershed Forum have identified watershed planning, management, protection, and restoration as essential building blocks of our quality of life, public health and welfare, and regional heritage.

We delegates recognize the need for a collaborative effort among local community members, tribes, foundations, businesses, and multiple government agencies in order to be effective.

We request that the U.S. Environmental Protection Agency (EPA), the U.S. Department of Agriculture (USDA), and the U.S. Department of the Interior (DOI) start a National Watershed Roundtable comprised of local watershed representatives within the next three months to:

- develop a national watershed framework,
- address problems within existing funding programs,
- explore the creation of a Watershed Trust Fund, and
- report back recommendations within a year."

Submitted and ratified by those present in Arlington, Virginia on June 30, 2001

## KEY RECOMMENDATIONS

**RECOMMENDATION # 1: DEVELOP A FLEXIBLE, INTEGRATED AND DIVERSIFIED NATIONAL WATERSHED STRATEGY/DELIVER SYSTEM. THIS IS CRITICAL TO CATALYZE FUNDING.**

#### IMPLEMENTATION STRATEGY

- Define a national goal.
- Document what money is needed and for what areas.
- Build on local efforts/plans.
- Provide technical support and guidance.
- Define research priorities.
- Promote education/public awareness.

- Target education for foundations, the private sector, individuals, and government agencies (federal, state, and local).

#### **ACTION ITEMS**

EPA should take the lead on strategic development (building on local support). They should put together an advisory committee reflecting the diversity of this movement, and get buy in and political support/participation of key legislators. Specific steps should include drafting a letter for watershed groups to send to the Hill and drafting a “Dear Colleague” letter to be circulated among Members of Congress.

### **RECOMMENDATION # 2: ADDRESS PROBLEMS WITH EXISTING FUNDING PROGRAMS.**

#### **IMPLEMENTATION STRATEGY**

- Provide up-front money.
- Increase flexibility.
- Cover administrative costs that are not project-related.
- Pay for services provided.

#### **ACTION ITEMS**

- Make the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) funds more accessible and easier to obtain by watersheds. Currently the process in many states makes the effort to obtain these funds too time-consuming and onerous.
- Congress should appropriate Abandoned Mine Land (AML) funds to states. (Note: this legislation is up for renewal in 2004.)
- Provide upfront money and allow more states to use Section 319 of the Clean Water Act (Section 319) funds for administrative costs.
- Address problems associated with obtaining Army Corps of Engineers funds. The 65/35 match is a problem that needs to be addressed.

### **RECOMMENDATION # 3: CREATE A QUASI-PUBLIC (NON-FEDERAL) WATERSHED TRUST FUND/ENDOWMENT TO BE USED FOR: RESTORATION, PROTECTION, ADVOCACY, EDUCATION, MANAGEMENT, FACILITATING LOCAL NEEDS, RESEARCH, AND OTHER NEEDS.**

#### **ACTION ITEM**

A feasibility assessment of this concept should be conducted and supported by private foundations and/or government and the private sector. Consider possible funding from a variety of sources, e.g., fines/penalties, corporations, bequests/individuals, permit/impact fees, the Highway Trust Fund, etc.

## **ADDITIONAL RECOMMENDATIONS**

### ***Overarching***

1. Education and communication strategies need to be incorporated into the fundraising process. Only in this way will potential funding sources understand the very important role played by watershed initiatives. Create and utilize opportunities to celebrate rivers, watersheds, etc., (e.g., National Watershed Day). Education should be broad-based for the more general public, as well as targeted to specific audiences. There needs to be different messages for each, but both are very important and hard to find funding for.
2. Watersheds should seek opportunities to collaborate on funding strategies and approaches whenever feasible.
3. It is critical that watershed organizations have access to seed and start-up funding.
4. Funding is needed for ongoing management, maintenance of programs and projects, and monitoring of progress. “Gap funding” is also often needed to assist in maintaining progress that has been made between more major funding cycles/opportunities.
5. Watershed groups should receive financial support when they are asked to perform services for units of government. Examples include being requested to comment on regulations or provide guidance or participation in projects. These types of activities involve both direct expenditures by groups as well as opportunity costs.
6. Watershed groups also are in need of funding to support their involvement in state and local level policy making processes related to implementation of the Clean Water Act (CWA) and other priorities.
7. It is very difficult to secure funding that can be used to support administrative or overhead functions. This makes it extremely difficult to sustain efforts over the long-term and to bring on paid staff. There is a need to explore avenues where this type of core funding can be obtained more readily.
8. Funding should be made available to support watershed coordinators who, among other responsibilities, would provide expertise and information regarding funding sources and strategies.
9. Develop Best Management Practices for funding of watershed programs. This type of information would be extremely valuable for all involved.
10. There is a need to address timing issues. It can be very difficult to coordinate matching funds from private and public sources due to the time lag associated with federal/state funds. There is a specific need to address the lag-time issue due to cash flow considerations. Reimbursement based grants/contracts can create problems if there is no opportunity to receive some portion of the cash upfront.

### ***State/Federal***

NOTE: While the group recommended a number of ways of increasing federal/state support of watershed activities, it should also be stressed that they were concerned that such initiatives not add another layer of bureaucracy to the system.

1. Create a new national watershed program that would provide guidelines for coordinated funding and information in support of watershed processes. This

program would bring new attention and focus to watershed activities and provide leverage and synergy for funding from both public and private sources. It would also decrease duplication of efforts and ensure validity of organizations. A stamp program could be developed to provide visibility and funding.

2. Establish a Restoration Trust Fund – similar to Superfund. This is especially timely now with the need for Total Maximum Daily Loads (TMDLs) to be addressed. In addition, National Pollutant Discharge Elimination System (NPDES) permits should have additional fees to fund nonpoint source programs.
3. States could tap into license funds.
4. Find ways to use Federal Emergency Management Act (FEMA) funding. In many cases such funding is available at times of emergencies. It is important that watersheds understand the procedures associated with this funding so that it can be obtained when opportunities are presented.
5. Allocate a portion of construction funds to education/communication efforts.
6. Request that Congress allocate monies in the Abandoned Mine Land Reclamation Fund back to the states so that it can be used in support of watershed activities.
7. Simplify and make more accessible federal grant programs such as those at Office of Surface Mining (OSM). Assess how intimidating such programs are and change them in ways that will make more funds accessible to those watersheds that can qualify for them.
8. Allocate more money for research and management. Create a “Seagrant” type program that would focus research and management at land grant universities at the watershed level.
9. Develop ways to make federal funds more flexible and transferable between agencies and uses. It is currently very difficult to combine funds and consolidate funding requests.
10. Address the issue that at times it is too costly to utilize federal funds because of various requirements that come along with those funds.
11. State governments should consider implementing programs such as the Clean Water Management Trust Fund in North Carolina where a specific allocation of funds was made specifically targeted for watersheds.
12. A subsequent program of the Conservation and Reinvestment Act (CARA), known as CARA-Lite makes federal funds available to coastal states. Those areas that are eligible should explore this opportunity.
13. Utilize monies obtained through fines and penalties in support of watershed activities.
14. Assess the effectiveness of similar existing programs (e.g., Community Development Block Grants/Urban Development Action Grants, Housing and Urban Development (CDBG/UDAG, HUD)) to determine what has worked well and how those approaches might be adapted for watershed purposes.

### ***Watershed Groups***

1. Educate foundations as to the key role that watersheds play in community health and welfare.
2. Create opportunities to develop coordinated proposals to foundations that include a clear strategy for how the proposal will have a positive effect and will show the foundation that groups are collaborating rather than competing for limited funds.

3. Cultivate interest from wealthy individuals within our communities.
4. Target members to write bequests in support of watershed activities/organizations into their wills.

### ***Foundations***

1. Explore opportunities to fund organizations like River Network who can coordinate funding to smaller organizations, as well as provide training and technical support.

### ***Corporate/Private Sector***

1. There is a need to educate the private sector so they understand the economic significance of watersheds and why they should invest in these efforts. Currently these linkages are not well understood so watershed work is viewed as a charitable act rather than as an investment in the economic and environmental viability of the community. We need to increase the visibility of the watershed; we're competing with pandas.
2. Develop a national advertising campaign to reach a broader set of companies and private sector interests.
3. Provide incentives for the private sector to be involved. Communicate how the watershed approach ties into so many critical aspects of community and environmental health and well-being. "Guilt" them into giving money.
4. Target developers. Make providing support part of the permitting process, restoration work, etc.
  - Developers, in general, do not have a history of giving. We need to change that culture.
  - Solicit money for special events.
  - Get impact fees from 'sprawl development' due to impacts to streams from impervious surfaces.
  - Implement a "Green Contractor" program certificate. A model for this exists in North Carolina. Developers who meet the criteria get a decal to make visible that they are "green".
  - Approach national level developer organizations for partnerships. Their members listen to them.
  - Tax developers when they send in their Notice of Intent (NOIs).
5. Foundations and private sector partners could develop/provide a common, user-friendly software to provide funding-support and assistance for organizations.
6. Invite Fortune 500, private corporations to participate in conferences like the National Watershed Forum. This would present an opportunity to approach them with serious proposals on funding. They need to be at the table, not just the government.
7. Get leaders from the private sector to push for the cause.
8. Earth Shares does work like United Way – give small amount of paycheck every week to a cause, with corporations matching employee donations. Make corporate environmental donations more part of the culture.
9. Target electric/gas companies for funding.

### ***Local Government***

It is very important that local governmental officials understand the importance of watersheds and are supportive of the need for funding, both directly and indirectly.

## **Discussion Group A – 2 Funding and Technical Support**

### **KEY RECOMMENDATIONS**

#### **RECOMMENDATION #1: CONGRESS AND FUNDING AGENCIES SHOULD INCREASE FUNDING FLEXIBILITY FOR WATERSHED IMPROVEMENTS.**

##### **IMPLEMENTATION STRATEGY**

- Lower all funding matches to a minimum of 20% across the board.
- Encourage pre-proposal concept papers for requests for proposals (RFPs).
- Implement micro-grants.
- Allow 15-20% overhead in grants.

##### **ACTION ITEMS**

- Within the next six to twelve months, a federal and state interagency coordination group should perform a “match requirements review”, with issues addressed to include:
  - required local match (recommend 20% minimum);
  - value for labor and equipment (prevailing rates);
  - allowed overhead costs, and;
  - accounting for site-specific difference in costs.
- Within the next 12-24 months, the Office of Management and Budget (OMB) should institute a change that allows watershed federal dollars to be matched by federal dollars from different agencies or via states where the “color of money” remains federal.
- OMB should establish federal block grants and technical assistance grants to states and to federal field agencies like Soil Conservation and Water Districts (SCWD) for watershed work (assessments, prevention, restoration, organization) within the next 6-12 months.
- The White House, OMB and Senator R. Byrd (AML Appropriations) should restore \$3.6 billion from the Surface Mining Trust Fund and develop spending plans for funds to all watersheds within the next 12-18 months.
- OMB should allow 15-20% for overhead costs in federal grants to watersheds starting in the next 12-24 months.
- An interagency coordinating group should establish micro-grants programs for grassroots watershed groups within the next 6-12 months (up to \$10,000), with simplified application and reporting process with a limit of one per year per group. All relevant agencies should adopt a uniform program.

#### **RECOMMENDATION #2: CONGRESS AND FUNDING AGENCIES SHOULD FOCUS FUNDING ON WATERSHED PRESERVATION, PREVENTION, AND RESTORATION, AND ALSO FUNDING MECHANISMS FOR LONG-TERM MONITORING AND OPERATIONS AND MAINTENANCE.**

## **ACTION ITEMS**

Within six months:

- A cooperative letter should be produced by major agencies and National Watershed Forum leaders supporting prevention, preservation and restoration, and long-term monitoring, operation and maintenance of watershed efforts. (Example below:)

*In cooperation with the National Watershed Forum, the EPA, DOI, USDA and FEMA direct their respective agencies to focus their funding programs and watershed related projects and efforts on preservation and restoration. Long-term monitoring and operation and maintenance of projects are also to be considered by these programs and agencies.*

*Signed by Secretaries of EPA, DOI, USDA, and FEMA*

- A letter should be drafted to go from the National Watershed Forum Steering Committee to major foundations recommending that they support the goals in the letter above.
- Pass a “Good Samaritan” clause regarding mining.
- Provide funding in FY 2002 budgets targeting protection and restoration and long-term monitoring and operations and maintenance objectives.
- Fund a cost-benefit analysis of preservation versus restoration costs to be used by national and local watershed efforts to educate elected officials and the public to understand the economic savings of preservation and prevention. The study should be reviewed by the National Academy of Sciences (NAS).
- Fund a study on why long-term monitoring is needed in watershed efforts and evaluations, and why it needs to occur at the watershed scale. The study should be written as an educational tool for regional and local watershed efforts and groups. The study should be reviewed by the NAS.

**RECOMMENDATION #3: CONGRESS AND FUNDING AGENCIES SHOULD PROMOTE TECHNICALLY SOUND WATERSHED PRESERVATION AND RESTORATION BY FORMING AN INTERAGENCY EFFORT TO: A) PROVIDE ONE-STOP SHOPPING FOR TECHNICAL ASSISTANCE AND FUNDING, INFORMATION AND OTHER RELEVANT DATA; AND B) PROVIDE TECHNICAL ASSISTANCE GRANTS AND BLOCK GRANTS FOR WATERSHED GROUPS.**

## **ACTION ITEMS**

Within 6 months:

- The National Watershed Forum Steering Committee shall write or form a team to draft an Executive Order that establishes a holistic approach to the preservation and restoration of watersheds in all 50 states and Indian lands and territories.
- EPA, USDA, DOI, and FEMA should each appoint a federal coordinator to champion interagency coordination in watershed management.

- Federal agencies should also sponsor regional coordinators to promote roundtable discussions.
- Develop an interagency internet program and website designed as a one-stop resource for watershed groups. Suggestions for the site:
  - Coordinate multi-agency funding among: federal, regional, state, and local agencies
  - Training
  - Technical assistance
  - Innovative technologies
  - Watershed web

It is important that successful examples be made available in each category such as but not limited to business plans, grant applications, and fundraising techniques.

**RECOMMENDATION #4: WATERSHED GROUPS SHOULD IMPROVE THEIR FINANCIAL STABILITY.**

**IMPLEMENTATION STRATEGY**

- Create business and strategic plans.
- Collaborate with industry, foundations, agencies, non-governmental organizations (NGOs) and citizens.
- Include publicity, outreach and education for watershed issues and activities.
- Diversify sources of funding and technical support.
- Improve fundraising skills.

**ACTION ITEMS**

- Formalize groups/regions to be able to receive tax-deductible donations (e.g., 501c3, pass-thru from umbrella organizations).
- Watershed organizations should develop three to five year strategic plans and a one-year business plan to implement the mission and vision of the organization.
- The National Watershed Forum should create a webpage, which defines the need for, and what should be in, a strategic and business plan. Include examples for groups of different sizes.
- Invite all stakeholders to be part of a collaborative effort.
- Set meetings on different days and vary the times and locations to encourage participation.
- Develop newsletters, websites, and brochures to communicate your message.
- Define specific outreach and education efforts (who, what, where, when, etc.).
- Do not depend solely on government. Use other sources, such as local businesses/corporations, foundations, water-related utilities, major individual donors, and special events.
- In addition to government, seek technical assistance from other sources, such as: the Natural Resources Conservation Service (NRCS), state water agencies,

universities/colleges, retired professionals, consultants, and professional societies.

- Develop a fundraising plan. Bring in fundraising training to diversify and expand capabilities.
- Continue to build a national constituency around watershed needs to include:
  - Watershed groups
  - Land trusts
  - Non-industrial forest landowners
  - Smart growth groups
  - National environmental groups
  - Others
- Educate Congressional members and staff and agency staffs as to the needs of watershed groups. Work to get appropriate and adequate funding through the Farm Bill and adequate and appropriate incentives through tax reform.

## **TRACK TWO: WATERSHED PARTNERSHIP EFFECTIVENESS**

### **Discussion Groups C – 1 and C – 2: Structure and Function of Watershed Groups**

#### **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: WATERSHED GROUPS SHOULD INCREASE THEIR COMMUNICATION AND FACILITATION SKILLS IN ORDER TO PLAN AND CONDUCT MEETINGS IN WHICH MEANINGFUL DECISIONS ARE MADE.**

##### **IMPLEMENTATION STRATEGY**

- Use a circuit rider to provide training and assistance.
- Identify groups that are there to help.
- Access training to develop internal communication and facilitation skills.
- Invite other active established watershed groups to provide advice and assistance.

**RECOMMENDATION # 2: WATERSHED GROUPS SHOULD DEVELOP A VISION STATEMENT THAT REPRESENTS DIVERSE INTERESTS.**

##### **IMPLEMENTATION STRATEGY**

- Obtain skilled facilitators to manage the process.
- Define decision-making process upfront needed to reach agreement on a vision statement.
- Communicate the vision statement.

**RECOMMENDATION #3: WATERSHED GROUPS SHOULD ENCOURAGE ALL STAKEHOLDERS TO PARTICIPATE IN IDENTIFYING PROBLEMS, TAKING ACTIONS, AND MONITORING IMPACTS.**

##### **IMPLEMENTATION STRATEGY**

- Watershed groups should sponsor neutral public forums (such as town meetings) that allow for diverse people to come together and speak freely about local watershed issues and to develop mutual trust and respect.
- Include private citizens and city, county, state, federal, tribal and recreational interests.

**RECOMMENDATION #4: CREATE A FLOW CHART OF AUTHORITY AND FUNDING SOURCES.**

**RECOMMENDATION #5: WATERSHED GROUPS SHOULD DEVELOP NETWORKING CAPABILITIES TO BENEFIT FROM ONE ANOTHER’S EXPERIENCE AND TO HELP PROMOTE CREDIBLE PROCESSES, SHARE MODELS, FACILITATE INFORMATION EXCHANGE, INCREASE COMMUNICATION, SUPPORT CONSTITUENCY BUILDING, AND IMPROVE THEIR CAPACITY FOR ORGANIZATIONAL EFFECTIVENESS.**

**IMPLEMENTATION STRATEGY**

- Define network needs.
- Watershed coordinators should convene groups to develop networking strategies for target audience.
- Strategies may include fieldtrips, meetings, educational training, and website development.

**RECOMMENDATION # 6: WATERSHED GROUPS SHOULD DEVELOP PARTNERSHIPS WITH AND AMONG COMMUNITY DECISION-MAKERS AND PUBLIC AND PRIVATE ORGANIZATIONS WITHIN THE WATERSHED.**

**IMPLEMENTATION STRATEGY**

- Local watershed initiatives should create a list of a broad spectrum of decision-makers to invite to their next gathering.
- Send a personal invitation or make personal contact.
- Use public notification through media.

**RECOMMENDATION # 7: A WATERSHED “CIRCUIT RIDER” POSITION SHOULD BE CREATED AND SUPPORTED BY PUBLIC AND PRIVATE FUNDING SOURCES TO HELP BUILD THE STRUCTURE AND CAPACITY OF WATERSHED GROUPS.**

**IMPLEMENTATION STRATEGY**

- Look at areas where a circuit rider exists and use them as examples of success to fully implement a nation-wide effort.
- Develop pilots to demonstrate benefits of the concept – successes in funding, goals achievement, outcomes, impacts, etc.
- Conduct RFPs for pilots.
- Develop evaluation systems to measure performance and effectiveness.
- Emphasize communication via websites, databases, EPA, national watershed groups and databases, list serves, and regional round tables.
- Develop an evaluation system to measure effectiveness. Include watershed groups and funders in this process.
- Look towards foundations and/or non-profits to provide a national support mechanism to support training and capacity building of circuit rider.

## **Discussion Groups D – 1 and D - 2: Participation and Partnerships**

### **INTRODUCTION**

The discussion on participation and partnerships initially took place in two groups. The two groups eventually merged. They identified three key topics related to participation and partnerships that need to be addressed in order to make watershed initiatives successful. Issues and recommendations are categorized according to these three topics: Trust, Structure and Coordination of Activities, and Process.

### **ISSUES**

#### ***Trust***

Watershed groups, government agencies and other stakeholders and participating entities need to be accountable to each other. There should be a mutual fulfillment of shared responsibilities in order to build trust. The federal government has to trust citizen watershed groups and accept their assessment of what the needs of the community are in relation to watershed protection; and watershed groups must realize that they need to earn trust too, for example, by showing that they will spend money wisely, can achieve agreed upon goals, etc.

Trust can be built by putting a face on the agency or agencies. For instance, a River Navigator who is conversant in the programs and interests of the agencies that operate within the watershed can be that “face”. A River Navigator is not just a position; it is an individual in a position who develops relationships with the people in the watershed community.

Starting a relationship and building partnerships requires openness right from the start. Agencies can build trust by being open and responsive, for instance by providing the technical assistance watershed groups request and need.

There is a need for coordination of activities among agencies and between agencies and watershed groups (for instance when it comes to determining water quality monitoring locations). Coordination is necessary to prevent duplication of efforts and to make available resources more easily accessible to watershed groups. A position that coordinates agency activities within a watershed is helpful. A coordinator does not necessarily have to be funded by an agency. Watershed groups may be willing and able to fund a coordinator position.

#### ***Process***

- Watershed initiatives fail if key stakeholders are not participating. Related problems are:
  - How do you motivate people to participate? It is important to find out what people’s interests and concerns are and what would motivate them to participate.

- Preventing stakeholders from having to resort to alternatives to the collaborative process, for instance legal procedures or political influence, in order to secure their interests.
- Private industry, Native Americans, and minority groups are often underrepresented in watershed initiatives. However, they are critical to implementation of watershed management plans and activities.
- What is an appropriate role for government agencies? Participation and partnership problems relating to government involvement are associated with top-down government (rather than bottom-up issues development) and the lack of coordination among the overwhelming number of government programs that may be relevant to a watershed initiative. Government agencies need to support watershed initiatives and facilitate citizen participation by providing technical and financial support. Where government agencies are not a direct stakeholder (for instance a land owner), watershed initiatives are frequently more successful when initiated and directed by grass-roots efforts.
- Watershed initiatives may involve projects that go on for many years. People may drop out of processes that last this long, especially when persistent conflicts of interests exist.
- Public distrust in government is a key issue determining whether citizens participate in a watershed initiative. If a watershed initiative is driven by the community's needs and concerns, people will be more likely to participate and partnerships will be genuine.
- There is a need for watershed awareness/education, local capacity building, and technical assistance. How can technical people be encouraged to become and remain active in watershed groups?
- Watershed groups are working to create sound technical data with which to make informed environmental decisions. Opportunities are lost when these groups are not included in government decision-making processes.
- How do you organize all watershed groups and agencies so people can get information they need in a timely fashion? An example of a tool for environmental outreach and information dissemination can be found at: [www.stormcenter.com](http://www.stormcenter.com).
- With regard to the duration of projects and maintaining a high level of involvement, careful planning for a four to five-year timeframe for a watershed initiative is most crucial to retaining members as well as to implementing watershed plans and improvements.

## **KEY RECOMMENDATIONS**

**RECOMMENDATION #1: FEDERAL AGENCIES SHOULD MAKE TRAINING REGARDING AGENCY RESOURCES ACCESSIBLE AND AVAILABLE.**

### **IMPLEMENTATION STRATEGY**

This training can be funded locally or federally, by watershed organizations or an agency, but it is recommended that “fast-track” training be available to an individual who will be a watershed coordinator (a catalyst), whose role will be to:

- Identify and locate appropriate programs/information/technical assistance/funding/education; and
- Provide fast track access to agencies and key decision-makers.

The coordinator needs to be a place-based person, who adds continuity, is familiar with local people and places, and is flexible especially in relation to making time to attend community meetings. The coordinator needs to be aware of principles and processes of building partnerships.

**RECOMMENDATION #2: LEADERS OF WATERSHED INITIATIVES NEED TO BUILD TRUST, WHICH IS THE BASIS FOR ESTABLISHING AND MAINTAINING SUCCESSFUL WATERSHED PARTNERSHIPS.**

**IMPLEMENTATION STRATEGY**

All partnerships, when being established, should follow the following guiding principles:

- Transparency – participants need to reveal and define their interests, objectives, values, outcomes, and needs.
- Acknowledgement of all stakeholders’ interests, particularly opposing viewpoints. This includes: acknowledging existing conflicts of interest and identifying mutual interests or common ground.
- Representation – diversity of the community needs to be represented. Pay special attention to the stakeholders with key interests (possible “spark plugs”), and creating a critical mass to achieve buy-in.

**RECOMMENDATION #3: AGENCIES SHOULD CONTINUALLY FACILITATE THE INVOLVEMENT OF LOCAL, GRASSROOTS INITIATORS TO STIMULATE THE BOTTOM-UP PROCESS OF COMMUNITY ENGAGEMENT IN WATERSHED/COMMUNITY ISSUES.**

**IMPLEMENTATION STRATEGY**

Americorps and Vista National Service Programs (also the OSM Watershed Intern program) provide local “sparkplugs” to encourage community change but consistency and effective preparatory training are needed. Current Americorps preparation is not adequate. Give programs more to do than manual labor – the Direct Service Program is a good place to start. Currently, the program is funded by the federal Corporation for National Service (CNS) agency, and matured with local funding. Also, “Friends of” groups, such as Friends of the Chicago River, provide this type of grassroots orientation and leadership.

**ADDITIONAL RECOMMENDATIONS**

***Structure and Coordination***

1. Partnerships should define and make transparent their structure and processes, including their decision-making processes.
2. To encourage participation and develop successful partnerships, a process needs to be developed that is:
  - Goal-oriented

- Inclusive
  - Informed
  - Supplied with sound cross-regional water science from federal agencies whose data is internally compatible, broadly accessible, and widely disseminated (recommendation directed at local, state, regional and federal agencies)
  - Coordinated at all levels: federal, regional, state, municipal, and within watersheds (recommendation directed at all participants in a watershed initiative)
3. Most successful partnerships have a coordinator. This position may or may not be the River Navigator; some partnerships may wish to have both positions. To make partnerships effective, the coordinator should exhibit the following qualities:
    - Concern for natural and cultural resources
    - Excellent communication skills
    - “People person”
    - Motivator – can transform citizens into stakeholders
    - Honest, open
    - Non-regulatory orientation
    - Marketing skills
    - Knowledge of local businesses and economy
    - Can see the big picture
    - Good delegator, can “run the business”
    - Politically savvy
    - Lives in the watershed
    - Task oriented – sees the need and gets the job done
  4. The coordinator needs to undertake the following actions to stimulate participation and build partnerships:
    - Determine priority environmental issues to be remedied
    - Identify quality of life issues, and use campaigns to encourage people to take ownership of their watershed
    - Identify diverse participants and potential support groups
    - Sponsor stream teams in the watershed that monitor local conditions
    - Consider interests (“what is in it for them”) of the corporations that are intimately tied to the water
    - Sell successes – make sure people know about them, use media
    - Identify proper measurements of success

***Process***

1. Develop a process that meets the (changing) interests of all members over time. Meet with stakeholders individually to learn about their interests and changes in interests.
2. Manage and communicate expectations, absolve blame, and set ground rules and procedures early.
3. Show successes and accomplishments regularly to members, media and the community, illustrated in terminology they can understand.
4. Even if the initial impetus to become involved is perceived as negative (e.g., environmental degradation affecting streams and rivers), the goals of the watershed group need to be translated to goals that are positive and proactive.

5. Funding needs to be long-term (approximately two to five years) and not limited to individual projects.
6. Watershed group representatives need to have decision-making authority.
7. Watershed group members need to commit to specific terms and their participation needs to be consistent.
8. There needs to be delegation of authority
9. Memoranda of Understanding (MOU) can be used to better define roles and obligations.

### ***Agencies***

1. Move agency focus and resources to ongoing involvement in watershed efforts (instead of project-based focus). Agencies should make working with watershed groups a performance criterion for all staff.
2. Government agencies should play an enabling role in supporting stakeholders to “own” the watershed initiative. Actions: provide adequate information and make agency procedures and programs accessible to watershed groups.
3. Develop an effective delivery mechanism to ensure effective participation. Actions: develop funding and appropriate authority for a person who is familiar with agency programs and processes (similar to the River Navigator). This person may coordinate agency participation (he or she may even represent agencies in the watershed group).
4. Look at allowing the use of Section 319 funds (nonpoint source pollution remediation) or other grant funds to create such positions in addition to projects. This person can be from outside federal or state agencies. Stakeholders should contact their congressional delegations to make sure the development of such mechanisms gets attention from legislators.
5. Watershed groups and agencies must communicate – through a variety of means, such as forums, events, newsletters, and cable television - at a statewide as well as local level to encourage participation.

### ***NGOs/Private Sector***

1. Assess local situations to determine who needs to be brought to the table from the beginning, focus on finding out how they can be engaged and in what part of the process they would be most interested and could have the greatest impact.
2. Make sure you have a clear idea of what members of the watershed group want to accomplish.
3. Get local elected officials engaged in the process. In order to do so, watershed groups need to:
  - Show results within the official’s term in office
  - Create opportunities to increase visibility through the media
  - Address interests of their platform
  - Develop a sustained outreach strategy
4. Utilize local resources.
5. Organize private individuals.
6. Organize business input.

## **Discussion Groups E - 1 and E – 2: Education and Outreach**

### **INTRODUCTION**

Groups E – 1 and E – 2 worked independently of each other during most of the Forum but ended up combining their recommendations.

### **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: THE EPA SHOULD LEAD A MULTI-AGENCY EFFORT, WORKING WITH AN ADVISORY COMMITTEE FROM THE NATIONAL WATERSHED FORUM, TO FUND AND IMPLEMENT A NATIONAL MEDIA CAMPAIGN TO INCREASE AWARENESS AND UNDERSTANDING OF THE SIGNIFICANCE OF WATERSHEDS.**

#### **IMPLEMENTATION STRATEGY**

- This campaign should be guided by the Education and Outreach Discussion Group (E-1 and E-2), to be known as the Education and Outreach Steering Committee. This Committee will guide and assist with message development, strategy, and rollouts to regions, states, and locales.
- Hire a public relations/marketing firm to craft a message and design a campaign similar to “Got Milk?”, e.g., “Got Water?”. There are campaigns that deal with other water issues, e.g. “Down the Drain.” Professionals should determine whether to use “Watershed” or “Water related”.
- Designate May as Watershed Month.

#### **ACTION ITEMS**

- Barbara Morris will send out notes from June 28-30 meetings by July 2, 2001.
- Mary Ellen Wolfe and James Johnston will: 1. Maintain e-mail contacts of Education and Outreach Committee. 2. Send out electronic copy of joint EPA, DOI and USDA letter to the Education and Outreach Committee.
- By July 25, 2001, get suggestions about what to put in National Governors’ Association (NGA) letter to James Johnston.
- James Johnston will draft cover letter (or several variations) to NGA and send it out for review and comment by August 10, 2001.
- Education and Outreach Committee will forward recommendations proposing National Media Campaign and designating May as Watershed Month to Joel Hirschorn at NGA.
- Education and Outreach Committee will forward recommendation for National Media Campaign to ASWIPCA (Robbi Savage) and American Clean Water Foundation.
- Education and Outreach Committee will propose that the National Media Campaign on Water is tied into the 30th anniversary celebration of the Clean Water Act in coordination with American Clean Water Foundation.
- Julie Elfving will work through the Interagency Watershed Coordinating Team to take the Education and Outreach Committee recommendation to

Diane Regas, Bob Wayland, and other decision-makers at EPA and beyond by September 1, 2001.

- Julie Elfving will report back to the Education and Outreach Committee on response from EPA decision-makers.
- Delegates will work through their networks (e.g., regional roundtables, local watershed groups) to contact governors, congressmen, etc., asking that they endorse/support the National Media Campaign and designation of May as Watershed Month. The information package will include recommendations and the draft letter prepared by James Johnston.

### **Discussion Group F: Leadership and Facilitation**

#### **ISSUES**

- It is difficult to convene and sustain a watershed effort, especially in places without much money, where there are volunteer-based programs. It is important to cultivate continuing leadership through the involvement of young people, the next generation of leaders.
- Capacity to resolve problems is often lacking. There is a need to train facilitators and elected officials, make scholarships available for training, let groups know about training possibilities, and empower people to take the lead on projects.
- Lack of trust is apparent in many watershed initiatives, e.g., when there is a perception that the process is driven by outsiders and has a lack of credibility. One strategy for addressing trust issues is neutral facilitation by someone who has the ability to elicit input, draw everyone in, provide meeting structure, deliver time management, set ground rules, bring the information down to an appropriate level of understanding etc. Everyone needs a chance to speak, needs to feel safe to speak, and needs to feel respected.
- There is often not enough time for leaders/public officials to work on issues or build support.

#### **KEY RECOMMENDATIONS**

**RECOMMENDATION #1: BUILD SUSTAINABLE, LOCAL CAPACITY THROUGH ACCESSIBLE AND FUNDED TRAINING FOR LEADERSHIP AND FACILITATION.**

#### **PROBLEM STATEMENT**

Good facilitation is critical to the success of watershed groups. It is necessary for building trust, producing sustainable watershed protection efforts, and fostering collaboration, but many groups lack these skills and resources. Groups need to be able to have outside, neutral facilitators available to them. In addition, they need to be trained in facilitation skills themselves, but are often unaware of training possibilities and different types of facilitation. This type of training is expensive and many groups cannot afford training sessions, cannot take the time to attend long training sessions, and cannot travel to trainings. There is a need to cultivate the next generation of watershed initiative leaders.

### **IMPLEMENTATION STRATEGY**

- Make training in facilitation skills available to all watershed groups and to all people involved in these groups, not just elected or appointed leaders.
- Localize training needs to meet unique needs and cultures; groups should be able to choose what skills and background they need in a facilitator.
- Establish a toolbox that provides methods, techniques, materials, approaches, etc., for developing and delivering facilitation skills and training.
- Develop funding mechanisms to deliver facilitation training.
- Develop leadership training for watershed advocates.
- Provide training for local officials and staff in the areas of watershed management, leadership and facilitation.
- Agency mandated conflict resolution people should work on watershed issues.
- Cross agency Integrated Pest Management (IPM) (e.g., EPA Region 10 Extension) can improve collaboration.
- Facilitation training needs to be an allowable expense in applications for federal grants.
- Establish collaborative education programs tied to watershed issues and coordinated with universities. (The Bureau of Land Management (BLM) might be an appropriate agency for this initiative).
- Universities should instruct students in facilitation training and skills and should promote or require internship programs.

### **ACTION ITEMS**

- Create a web-based list of names and resources for facilitation.
- EPA and others should provide funding for facilitation, leadership and mentoring training, and organizational development and management targeted to watershed partnerships within the 2003-04 budget cycle.
- Create competitive grants from the government with the purpose of providing facilitation resources. Land grant and sea grant agencies could be eligible to apply for the grants.
- The Corporation for National Service (CNS) should establish a watershed initiative with VISTA and AmeriCorps (e.g. California Watershed Stewards Programs (AmeriCorps) and the OSM VISTA Watershed Initiative). This will cultivate the next generation of leaders.
- Establish EPA sponsored internships for students to work in watershed efforts.
- USDA, the U.S. Department of Commerce (DOC) and the National Oceanic & Atmospheric Administration (NOAA) should establish a lead person in every local office (e.g. Extensions – land grant and sea grant, Resource Conservation and Development Council (RC&D), conservation districts, etc., responsible for working with watershed groups).
- Watershed groups should coordinate with other groups in their area to have facilitation training together. Extension is a possible vehicle for training.
- Train people from watershed groups to train other members of their group.

- The ombudsperson on watersheds at the Council on Environmental Quality (CEQ) should be involved on working with private foundations and other agencies on funding issues.

**RECOMMENDATION #2: EMPOWER AGENCY REPRESENTATIVES TO WATERSHED GROUPS TO MAKE DECISIONS AND COMMITMENTS AND TO CLARIFY WHAT DECISIONS THEY CAN AND CANNOT MAKE.**

**ACTION ITEM**

- Issue a presidential Executive Order directing that agency representatives to watershed partnership efforts be empowered to make binding decisions and commitments on behalf of their agencies, and to achieve consensus.

**RECOMMENDATION #3: CONTINUE ADMINISTRATION ENDORSEMENT E.G., FUNDING AND DIRECTION TO CONTINUE THE ROUNDTABLE/NATIONAL WATERSHED FORUM PROCESS.**

Given that the decentralized watershed organization at the local level is one way the EPA can meet their clean water responsibilities, funding should continue to be directed towards this approach, including the roundtable forum process.

**ACTION ITEMS**

- CEQ should establish an ombudsman to work with foundations, agencies and tribal governments on watershed issues.
- The National Watershed Forum Steering Committee should evaluate ways to continue the momentum created by the roundtables and the Forum.

## **TRACK THREE: WATER MANAGEMENT**

### **Discussion Group G: Source Water**

#### **ISSUES**

- Communities on the local level need to capitalize on the opportunities presented by the Safe Drinking Water Act (SDWA) Source Water Assessments to make decisions on appropriate actions to protect drinking water sources.
- Assessments are mandatory; protection is voluntary. There is no mechanism included in the SDWA for developing and implementing local drinking water source area protection plans.
- The process states have developed to complete assessments varies from state to state. The quality, completeness, and accessibility of the assessments vary.
- Communities generally have a difficult time initiating drinking water source protection actions and sustaining them.

#### **KEY RECOMMENDATIONS**

##### **RECOMMENDATION #1: DEVELOP AND IMPLEMENT EDUCATION APPROACHES TARGETED TO MOTIVATE BEHAVIOR CHANGE RELATED TO DRINKING WATER SOURCE PROTECTION FOR TARGETED POPULATIONS.**

#### **PROBLEM STATEMENT**

- Individuals, groups, organizations, and governments are all motivated to get involved in drinking water source protection efforts for different reasons. The challenge is to educate a specific population about drinking water source assessment and protection in a way that motivates them to get involved and support, promote, and sustain drinking water source protection efforts in their community.
- The SDWA intends for drinking water source assessments to lead to the development of local drinking water source protection strategies. The challenge is to educate and engage local decision-makers in a way that motivates them to support drinking water source area protection.
- Without an educated population, decision-making and drinking water source protection must vie for limited attention and funding at all levels (local, regional, state and federal). The challenge is to develop leadership willingness to act in this area of concern.
- Decision-makers definitely need to be educated about actual and potential threats to drinking water sources. Local decision-makers especially may be more willing to act if they have a clear understanding of the threat(s) to their local drinking water sources. The challenge is to clearly describe to decision-makers what the actual and potential threats to drinking water sources are.

## **IMPLEMENTATION STRATEGY**

Conduct assessments for all community and non-community drinking water sources (except for private wells) by 2003. A significant investment in human resources is needed to deliver education to targeted populations. The target audience includes: government at all levels, citizens, business and agricultural interests, educators at all levels, advocates, politicians at all levels, agency professional staff, the medical community, land owners, children, etc.

Targeted education efforts will:

- Generate more awareness about the need for drinking water source protection. (At this time 99% of the population is unaware of the importance of watersheds.)
- Help the public understand that the amount of water available on the earth is fixed (although the supply available in any one place may vary). The finite nature of water availability has an impact on water quality and quantity and points to the need for widespread protection and conservation (the amount of water is fixed, yet the amount of pollution sources are not).
- Generate more knowledge about local hydrology and the origin of local drinking water sources.

Targeted education efforts:

- Need staff to deliver them.
- Need to be conducted continuously, since the content and characteristics of populations continuously change.
- Are generally not a quick solution (i.e. the impacts of educational efforts may not be immediate).

## **ACTION ITEMS**

Focus on the delivery of education rather than the development of educational tools (enough tools exist already):

- Educate targeted audiences to the benefits of drinking water source protection activities, (e.g. protecting and restoring riparian buffers and wetlands). Education and awareness should further include the importance of water; characterize how degradation occurs and the negative effects of using poor quality water sources and how watersheds function, basic hydrology; etc.
- Identify funding sources to enable technical staff and educators to gather existing education resources that will assist them as they educate targeted audiences about their local drinking water sources. The desired outcome is to help the various audiences mentioned understand their local drinking water source area and threats related to that source in a way that leads to a change in behavior.

**RECOMMENDATION #2: INTEGRATE DRINKING WATER SOURCE ASSESSMENT AND PROTECTION WITH OTHER WATER QUALITY AND WATERSHED PROTECTION AND RESTORATION EFFORTS.**

### **PROBLEM STATEMENT**

- How may drinking water source assessment and protection issues currently being addressed by the SWDA be incorporated into existing watershed groups and efforts generally being carried out pursuant to the CWA?
- Watersheds or drinking water source areas (particularly related to groundwater sources) cross many jurisdictional, sometimes international, boundaries. Where cross-jurisdictional cooperation does not currently exist, how does cooperation get started and drinking water source protection get incorporated into other protection efforts?
- How do we engage the public in drinking water source assessments and protection strategy identification?

### **IMPLEMENTATION STRATEGY**

There are a range of governmental entities, private organizations and businesses currently involved in water quality and watershed planning and restoration. Based on their area of expertise, these government entities and private groups may use a range of local and regional planning and management approaches to protect watersheds and drinking water source protection areas. All those currently involved in drinking water source assessment and protection under SWDA and water quality and watershed protection and restoration under CWA authorities comprise the target audience for this recommendation. Integration should take place in conjunction with current and future drinking water source protection area planning and water quality and watershed protection and restoration efforts. Those government entities that are potentially responsible include: BLM, Army Corps of Engineers, EPA, U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), National Park Service, NRCS and their state and local equivalents. Other local, state and regional governments, private organizations and associations, and businesses may include: local utilities, nonprofit organizations such as River Network, governors (perhaps the National Governor's Association), local government natural resources departments, and foresters.

Integrating drinking water source assessment and protection with other water quality and watershed protection and restoration efforts will:

- Get government entities and groups that may be involved in CWA programs, but may not currently be involved in assessing and protecting drinking water sources, to become involved in local, state, regional, and federal efforts for source water protection.
- Increase the likelihood that drinking water source assessments will be more complete and accurate, incorporating data and information from other efforts, especially those carried out under the CWA to establish state water quality standards and TMDLs.
- Increase the likelihood that drinking water source protection plans will be developed that both protect the drinking water source area and improve water quality and overall watershed health.

- Increase the likelihood that clean water protection programs under CWA, such as setting water quality standards, determining TMDLs, permitting industrial and agricultural facilities, and controlling nonpoint sources of pollution, will also protect sources of drinking water.
- Increase the likelihood that issues related to cross-jurisdictional boundaries will be addressed.

However, there are challenges with this approach because integration will rely on government entities and groups that may not currently be involved in assessing and protecting drinking water sources to expand or modify their efforts to include drinking water source assessment and protection. These government entities and groups may not have the time, money, or interest in expanding or modifying their efforts. Also, drinking water source areas may not easily correspond to watershed restoration and protection areas, especially with groundwater sources. Therefore, it may be more difficult to integrate drinking water source assessment and protection with other water quality and watershed protection and restoration efforts.

#### **ACTION ITEMS**

- Organizations and agencies that are involved in drinking water source assessment and protection and water quality and watershed restoration and protection must talk to each other and find ways their programs and efforts compliment one another or may be modified and expanded to compliment one another.
- In setting or revising standards for surface waters, states should incorporate source water assessment data and ensure that their water quality standards and criteria will protect current and future sources of drinking water.
- Capitalize on the public's concern for clean, safe drinking water to get them involved in water quality and watershed restoration and protection efforts AND capitalize on the public's concern for the natural environment to get them involved in drinking water source protection efforts.
- Develop greater understanding of the difference between nonpoint source pollution and point source pollution and how each is addressed by various protection strategies.
- In establishing TMDLs and waste load allocations, EPA and the states should incorporate source water assessment data and should ensure protection of current and future sources of drinking water.
- If laws are passed to force an exchange between organizations and agencies that are involved in drinking water source assessment and protection and water quality and watershed restoration and protection (this has been the case in some locations, especially those that cross national boundaries), a mechanism to facilitate this exchange must also be provided.

**RECOMMENDATION #3: PROVIDE INCENTIVES FOR SOURCE WATER PROTECTION.**

### **PROBLEM STATEMENT**

- The benefits of drinking water source protection are somewhat difficult to measure, as compared to the costs of protection.
- There is a perceived lack of money to implement drinking water source protection programs.
- Generally there is not an understanding of the value of water. Ratepayers are charged for the cost of purification and delivery of drinking water, but not for the water itself.
- There is a need to balance private landowner rights with the need to protect the public, e.g. public drinking water source areas that are privately owned. For example, should private landowners be expected to “do the right thing” voluntarily or be compensated for any change they make in land use that benefits the quality of the drinking water source.
- Incentives for drinking water source protection are tangible and intangible. Often it is difficult to measure or quantify the intangible incentives for drinking water source protection.

### **IMPLEMENTATION STRATEGY**

- A range of incentives should be considered including “carrots” like funding and “sticks” like regulations.
- Promote the notion that an ounce of prevention is worth a pound of cure, i.e., preserve or restore a drinking water source area and avoid future water treatment costs.
- Encourage water suppliers to get involved and protect and conserve drinking water source areas.
- Incentives for drinking water source protection must be clearly identified.

### **ACTION ITEMS**

- Encourage water suppliers to protect and conserve drinking water source areas.
- Establish and fund more programs that collect groundwater data.
- Encourage funding program flexibility to give locals room to maneuver in fulfilling drinking water source area protection priorities or locales. Programs include but are not limited to: Community Development Block Grants, Appalachian Regional Commission’s (ARC) Revolving Loan Fund (RLF), Conservation Reserve Program, Economic Development Administration (EDA), Department of Transportation programs, etc.
- Utilize tax incentive for landowners to protect public drinking water source areas, e.g., land trusts, inheritance tax, etc.
- Educate local people on the value of various zoning tools and allow flexibility as appropriate, e.g., cluster development, transfer of development rights, large lot developments, overlay districts, etc.
- Look at particular funding sources that could be modified or altered to encourage drinking water source area protection, e.g., state revolving funds for land acquisition could be 50% rather than 15%.

## **ADDITIONAL RECOMMENDATIONS**

Focus on the quality of the drinking water source assessments being prepared by the states:

- Make sure the assessments are prepared in a way that data and information are shared with the public in a useful format.
- Make sure understandable pictures of the drinking water source protection area are included.
- Make sure the assessments clearly identify the greatest threats to a system's drinking water source area so that communities may set realistic priorities and protection goals within their drinking water source protection area plans.

### **Discussion Group H: Instream Flows**

#### **INTRODUCTION**

Consideration of and protection of adequate instream flows to sustain biodiversity, water quality, recreation, aesthetics, navigation and related purposes can be one of the more contentious issues and challenges facing watershed initiatives. Regional Roundtables recognized that ecosystem health, water quantity, and water quality issues are among the most important elements that must be linked and addressed holistically. Protection and maintenance of adequate instream flows are integral to solving water quality problems. Some of the regional roundtable participants felt that antiquated water laws constrain options for resolving instream flow problems.

The delegates in the Instream Flow group were especially cognizant of the following:

- Instream flows are a critical priority throughout the United States at the national, state, tribal, and local levels; and
- Instream flow protection to maintain or restore water quality is not just linked to water quality issues, but is also associated with channel maintenance (including flooding), water resources management and sustainability, aquatic species protection, recreation, aesthetics, navigation, and other beneficial uses and socioeconomic benefits.

The Group also recognized that successful instream flow protection requires participation by a combination of federal, state, tribal, and local governments together with public and private stakeholders such as NGOs, agriculture, environmental, business, industrial, timber, and other stakeholder interests. The Instream Flow Group emphasized the need for the EPA, DOI, U.S. Department of Transportation (DOT), USGS, USBR, HUD, USDA, NOAA, Department of Environmental Quality (DEQ), U.S. Department of Energy (DOE), U.S. Department of Defense (DOD), the Council on Environmental Quality (CEQ) and all other federal agencies and organizations that have oversight or use water to form an inter-governmental group or caucus that would each have a point of contact and coordinate with one another to assist state, tribal, local government, private and other watershed interests to provide assistance for protecting instream flows and to insure the federal government has abided by existing laws and regulations associated with instream flow protection. This federal inter-governmental watershed group should be

formed within three to six months following the Forum. Federal agencies can look to the Oregon Watershed Enhancement Board, the Washington State Caucus of State Natural Resource Agencies, the Massachusetts Watershed Initiative, the Alaska Clean Water Action Program, and the Susquehanna River Compact for examples of how such an inter-governmental organization may be organized and operate.

## ISSUES

Instream flow is not considered as equal with other types of water uses. Legal and other limitations vary from state to state. There is no explicit federal mechanism to address instream flows. The Group suggests giving instream flows similar legal standing to other issues (e.g., in the western part of the U.S. instream flow has legal standing).

- There are inter-jurisdictional trans-boundary issues of guaranteed minimum flows of the amount of water necessary for uses (e.g., uses of/along the stream/downstream).
- There is a need to develop a clear definition of the characteristics/elements of instream flow (e.g., to address issues such as what is meant by “beneficial” use and where it applies?) There is a need for the definition to include a linkage between quality and quantity and to tie instream flow to the definition of “designated use”. The definition should be expanded to include instream flow.
- Saltwater incursion (intrusion) is replacing fresh water resources in some regions of the country.
- There is a need to develop extralegal mechanisms and tools to provide dedicated instream flows.
- Most rivers are over allocated in the lower 48 states.
- Laws and regulations need to be analyzed to see if there are deterrents to methods used to quantify how much water should remain in stream.
- There are not sufficient resources to adequately support the continued use of Instream Flow Incremental Methodology (IFIM). There are insufficient funds for training and for maintaining and upgrading the software, Physical HABitat SIMulation (PHABSIM), for IFIM instream flow methods.
- The loss of wetlands and riparian areas that recharge aquifers due to development and other land management practices (e.g., paving).
- The connection between permitting and growth as they affect instream flow is not made. There is an urgent need to make a stronger connection between water resources and resource management and instream flows, above and below ground.
- Because of the interconnection between surface and groundwater, permitting should be linked (e.g. as in Washington State).
- There is a lack of understanding of what is meant by “natural flow”.
- Methods are needed for extrapolating gauge data to ungauged rivers and streams.
- Recognize instream flow issues are not just low flow. Flow must be in equilibrium with the channel of origin.
- It is not just a question of instream flow restoration, but also one of prevention.
- There is no clear way to address instream flow/water quantity issues between states.
- Education on many water issues including inter and intra state water quantity issues is lacking in many watershed initiatives.

- Economic factors up and down stream are deterrents to effective watershed management. There are limitations to the government’s ability to effectively manage water quantity issues.
- There is no consistency in watershed management across the U.S.
- Most states do not evaluate water needs as part of their management process.
- Some states do not have permitting authority to help mitigate challenges with instream flow. While there is a need to make mitigation a priority, there is also a need to insure that the term “mitigation” is not miss-applied or miss-used.
- The National Environmental Policy Act (NEPA) is not working because of a lack of effective checks and balances. The effectiveness of NEPA is enhanced through external controls applied by non-governmental organizations.
- There is a lack of baseline data on stream flow to evaluate and address instream flow issues.
- There is insufficient research on methods to establish viable instream flow where flow data are lacking.
- Watershed plans are not usually comprehensive and do not take enough into account across state boundaries.
- There is often very little communication and coordination among agencies with water quality and quantity authority.

## **KEY RECOMMENDATIONS**

### **RECOMMENDATION # 1: DEVELOP MECHANISMS FOR EXAMINING HOW STATE AND FEDERAL LAWS TO MANAGE WATER FLOW ARE CRAFTED AND IMPLEMENTED.**

#### **PROBLEM STATEMENT**

There are no effective tools to address inter/intrastate trans-boundary issues related to water quantity in down stream locations. Far too many water bodies within the U.S. are over-allocated/over-appropriated or at risk of over-allocation/over-appropriation. Natural flow regimes have been negatively altered, as have rates and timing or stage variability of lakes. There is no mechanism to systematically manage and protect adequate instream flow to maintain biodiversity and other instream flow uses. This has resulted in significant inconsistencies and gaps in achieving desired instream flow protection throughout the United States. These problems result from:

- Existing agreements;
- Existing constitutional provisions (state and federal);
- Existing federal, state, tribal, and local legislation and regulations;
- Existing federal, state, tribal, and local administrative policies;
- Historical over-allocations and over-appropriation;
- Lack of clear state and tribal law and policies connecting water quantity and quality, and;
- Lack of clear state policy connecting surface and subsurface waters, and lack of sufficient resources to manage and protect instream flow.

## **IMPLEMENTATION STRATEGY**

Federal, state, tribal and local agencies should conduct a review and analysis of implementation and application of existing state, federal, tribal, local, and international instream flow protection laws, regulations and policies to identify inconsistencies and gaps.

Watershed groups with an interest in instream flow protection should participate in these assessments. Possible mechanisms to accomplish this objective may include independent programmatic audits at the federal, state, tribal, and local levels by the appropriate auditing authority. Participants identified the General Accounting Office or General Services Administration as examples of federal agencies that could be charged with this function for a federal government review of instream protection laws and implementation. State, tribal, and local equivalents or independent contractors could perform reviews for those government entities.

## **ACTION ITEMS**

- The results of these analyses should be used to develop and implement mechanisms to enforce effective implementation of existing laws, regulations, and policies. If needed, new legal, extra-legal or regulatory mechanisms should be developed and executed to fill the gaps and correct inconsistencies. Watershed organizations and interests should support implementation of these actions.
- The federal government should play a leadership role and set an example for states, tribal, and local governments by:
  - initiating and performing a self-evaluation of all of their national and international responsibilities and obligations to identify gaps and inconsistencies in application of obligations to protect instream flows, and
  - developing and implementing a plan with a timetable and resources to address and correct these gaps and inconsistencies. This process should be repeated at least once every five years.
- Congress or the federal government should provide adequate funding sources to states to accomplish recommendations 1 and 2 above for water bodies subject to state and other waters of interest.
- Congress or the federal government should provide adequate funding sources to tribal and other native entities to accomplish recommendations one and two above for jurisdictional waters and other waters of interest.
- Congress or the federal government should provide adequate funding sources to watershed organizations promoting instream flow protection to allow for participation in accomplishing recommendations one and two above for federal, state, and tribal waters of interest.

**RECOMMENDATION # 2: FRAGMENTED INSTREAM FLOW PROTECTION APPROACHES SHOULD BE CORRECTED BY ENABLING THE DEVELOPMENT OF HOLISTIC WATERSHED PLANS BY, FOR EXAMPLE: A) EMPOWERING WATERSHED COUNCILS WITH FEDERAL, STATE, TRIBAL, LOCAL, PRIVATE OR CORPORATE FUNDING AND LEGISLATION, B) AUTHORIZING FEDERAL, STATE, TRIBAL AND LOCAL AGENCY DEVELOPED, MULTI-ISSUE PLANS WORKING WITH OTHER FEDERAL AGENCIES, STATES, TRIBAL ENTITIES AND STAKEHOLDERS AS NECESSARY, AND C) HONORING THE CREDIBILITY OF GRASS ROOTS ORGANIZATIONS AND INCLUDING THEM IN LARGER SCALE EFFORTS.**

#### **PROBLEM STATEMENT**

Far too many water bodies within the U.S. suffer from fragmented and ineffective management of instream flows, water resources, water quality and other natural resources.

#### **IMPLEMENTATION STRATEGY**

- Develop (on a regional basis) a mechanism to improve public, private and government understanding of the relationships between land use, water use, flow and ecosystem function and health by:
  - Creating an outreach strategy.
  - Identifying sources of funding for education.
  - Maximizing use of existing tools.
  - Defining the target audiences and associated message formats.
  - Developing an incentive-based program to award water conservation and environmental efficiency.
- All states should include flow criteria that protect biological resources in their water quality standards. In order to encourage such action, regional conferences should be held on instream flow protection, science and policy to educate and improve regulatory policy.
- Instream flow protection action plans to maintain healthy ecosystems and biodiversity should include:
  - Multidisciplinary science-based assessment and planning;
  - Objectives to prevent or minimize degradation of instream flows in addition to focusing on flow restoration;
  - Objectives to quantify and protect dynamic flow regimes that are in equilibrium with channel geomorphology;
  - Accessibility of information and development of a toolbox to protect adequate instream flows, address water resource management and related land use issues;
  - Sufficient funding to quantify, acquire, protect, monitor, and enforce instream flow regimes and lake volumes;
  - Identification of and development of coalitions among agencies, watershed groups, professional organizations, and NGOs and other watershed stakeholders who share the objective of protecting instream flows.
- Promote instream flow protection values and education to the Western Governors Association, International Association of Fish and Wildlife

Agencies, Interstate Water Council, Western States Water Council, Interstate Council on Water Policy, Association of Western State Water Engineers, in addition to traditional conservation NGOs.

## **ADDITIONAL RECOMMENDATIONS**

1. Educate decision-makers on the need for instream flow allocation permits for low-flow and dried-up river sections by taking them to visit these sites.
2. Encourage water suppliers to show individual month-by-month use on water bills.
3. Develop widespread consensus on a definition of stream flow that includes magnitude, duration, and frequency.
4. Encourage annual awards for towns or individuals for their reduced water use or for recycling.
5. Incorporate stream flow aquatic biology monitoring into funding under EPA/state performance partnerships.
6. Fund research and pilot projects on the interconnectedness of inflow streams and surrounding habitats and build on current midwest interagency efforts toward this goal.
7. Review historic water uses and the grandfathering of water use when allocations are renewed.
8. Increase water pricing so that all users pay all the costs.
9. Consider tribal precedents for water rights.
10. Develop and support educational programs on water issues. Educational programs should include: a) definitions of key terms including watershed and instream flow; b) water quantity issues, including the correlation between water quantity and quality, the message that “water quantity is as important as water quality”, the linkage between groundwater and surface water, challenges with different geographic scales; and c) laws affecting water management.
11. Develop tools to address inter and intra state, and other trans-boundary issues (between towns, counties, states and countries).
12. Each state should evaluate how they are implementing their water protection programs under the CWA. This may require closer scrutiny by EPA. Possibly states could look at how other states are considering water quantity.
13. Find ways to integrate quantity into water quality considerations.
14. Develop systems that foster economic incentives (e.g., the Oregon model – coupling economic gain with responsible water management which preserves or improves water quantity and quality).
15. Have a federal group talk with states on inter state water quantity legal issues and precedents (reference the Supreme Court decision).
16. Coordinate water users on shared waterways to consider each other’s needs and interests and work together to apply available tools in ways that are beneficial to all.
17. Watershed plans should be comprehensive and extend across state boundaries.
18. Understand and make good use of all applicable state and federal laws and requirements when addressing water issues through land management alternatives. Many agencies are doing things that affect water, and there is not always much communication among them.

19. Establish more stream flow stations to monitor and define baseline flow.
20. Develop a watershed authority that includes citizens to discuss water quality and quantity issues.
21. To address inter/intrastate trans-boundary issues related to water quantity in downstream locations, utilize extralegal mechanisms that would insure dedicated instream flows.
22. Make mitigation a priority.
25. NPDES permitting should include flow.
26. Develop ways to insure instream flows by creating extra legal or management practices that require consistent water rights.
27. Evaluate existing environmental laws and those agencies responsible for them to see how they address instream flow.
28. Recognize the responsibility of individual watersheds in their watershed management.
29. Encourage local watershed groups to become involved in local ordinances that recognize instream flow as a water quality issue.
30. Many issues can be dealt with in a watershed framework with an educational component requiring that instream flow be considered as a water quality issue.
31. Treat groundwater and surface water as an interconnected resource.
32. Develop a toolbox to address water systems that are over-appropriated or at risk of being over-appropriated.

In addition, contributors to the instream flow group proposed three general Forum recommendations:

1. Distribute the final report to federal, state, tribal, and local agency administrators, U.S. Senators and Congressman, state governors and legislators, professional and citizen water resources organizations, and NGOs.
2. Hold follow-up annual watershed meetings with a subset of representatives from each of the watershed forum tracks to assess implementation progress, and repeat the comprehensive forum once every five years.
3. Email and other forms of networking should be promoted to all 2001 Forum participants as another tool to maintain momentum and insure progress is made on all Forum recommendations.

## **TRACK FOUR: INFORMATION AND RESEARCH**

### **Discussion Groups I, J, and K: Data Collection and Monitoring, Research Needs, and Information Management**

#### **ISSUES**

##### ***Data Collection and Monitoring***

- Need to collect physical, chemical, biological data for TMDL's.
- Need reproducible rapid bioassessments, and how they relate to other monitoring.
- Lack of access – finding out what is there, and what it means to individuals and to elected officials.
- Volunteer monitoring – acceptance by state and federal agencies is a problem. Look at existing models, such as California's system relating to mortality rates in forest trees with volunteers trained by scientists.
- Legal issues.
- Payment for data collection, especially long-term monitoring.
- Quality of data and making sure all necessary data, such as flow, are collected at the same time.
- Need to clarify why data is being collected (e.g., for state enforcement or local needs).
- Problems with the chain of custody of data, including identification of who has data.
- Funding for a multitude of users – how is the data synthesized to be usable for multiple users?
- Need more guidance and science-based training regarding EPA Section 319 grants. States should provide training and technical support.
- Suspicion about what the federal agencies would do if they know what is happening on individual farms and ranches.
- Data quality and completeness.
- Data synthesis.
- Resistance to and fear of monitoring.
- The sometimes-overlooked importance of biological monitoring, including toxicity data.

##### ***Research Needs***

- Reference conditions for a healthy watershed (e.g., how much forest is enough to make a healthy watershed?). There are few habitat and stream process criteria. Old parameters may not be as useful as once thought. More consideration needs to be given to using a landscape approach to indicate the health of watersheds (e.g., by assessing changes in the landscape over time - we focus too much just on the water).
- There is a need for modeling to fill in gaps in monitoring data that can be used to estimate conditions in similar watersheds (recognizing that modeling is only as good as the data that goes into the model). Partnering with universities can help to get some of this work done. The Mid Atlantic Highlands assessment report from EPA

describes a role for citizen groups. The SPARROW model from USGS provides another resource.

- There is a need for greater emphasize on pathogen/microbial data.
- Long-term data needs, e.g., trends to indicate whether conditions are getting better or worse.
- Need to look at a larger suite of data, hydrological processes, meteorological data, etc. A watershed council may not address these issues directly but can look outside their organization for information.
- Emerging contaminants – new chemicals, pharmaceuticals, toxicity studies, etc. Correlating human and fauna studies can help answer some questions.
- Human practices – e.g., nutrient management plans for farming, with careful consideration about dissemination of proprietary information. Need to engage human behavior researchers in the general area of human practices.
- Meta-analysis of what we already know.

### ***Information Management***

- Geographic Information System (GIS) training for local groups. (ESRI may provide grants to local groups for training. The Society for Conservation GIS ([www.scgis.org/](http://www.scgis.org/) is one resource.)
- Need for one-stop shopping for all these resources, formatted for easy access by the public.
- Need for a clearinghouse for data gaps, tools, projects underway, etc. It could be operated by EPA, USDA, or the USGS Watershed Information Network (WIN). There are a number of sites with some information in place. The National Service Learning clearinghouse is an example and WIN may represent a start.
- Need to modify STORET to make it friendlier, with no volunteer monitoring. It needs to be more flexible so, for example, it can work in two different databases at once.
- Confidentiality is an important consideration in information management.
- Difficulty obtaining non-published information from academia.
- Need to seek a diversity of partners – universities, councils, etc.

## **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: PROMOTE DIALOGUE AND RESEARCH TO ANSWER THE QUESTION, “WHAT IS A HEALTHY WATERSHED?” ENCOMPASSING CHEMICAL, BIOLOGICAL, PHYSICAL, HYDROLOGICAL, SOCIAL, METEOROLOGICAL, ELEMENTS, ETC. CONSIDER THE INTERRELATIONSHIPS BETWEEN ALL ELEMENTS.**

### **IMPLEMENTATION STRATEGY**

Define what is a healthy watershed. The following are possible approaches/elements, recognizing that there are multiple levels to addressing health and that the definition should be in plain language.

- Regional roundtables could come up with a definition. Bring to the next watershed forum.

- State and federal agencies ask the question “What is a healthy watershed?” and allow a comment period for stakeholders.
- Draw upon the hundreds of publications about watersheds. We probably need to begin to define healthy water in the context of watersheds. We might look for certain things, not definite criteria because of the variety of watershed in the country.
- American Association for the Advancement of Science (AAAS) could define “healthy watershed”.
- Review the National Water Quality Assessment (NAWQA) Program’s definitions, and support them.
- Hold a dialogue to help scientists determine research needs and to involve locals in defining watershed health.
- Get landowners involved.
- A website could be used to continue discussion on this issue.

**RECOMMENDATION # 2: WATERSHED GROUPS AND AGENCIES CLEARLY DEFINE THE PURPOSE(S) OF DATA COLLECTION AND MONITORING AND CORRELATE WITH DECISION-MAKING SYSTEM(S). CONSIDER A SPECTRUM OF PURPOSES FROM AWARENESS TO LEGAL WITH EACH POINT ALONG THE SPECTRUM CORRELATING WITH DIFFERENT DATA COLLECTION AND MONITORING APPROACHES.**

**RECOMMENDATION # 3: ENCOURAGE THE DEVELOPMENT AND IMPLEMENTATION OF PERFORMANCE-BASED METHODS FOR DATA COLLECTION.**

**IMPLEMENTATION STRATEGY**

- Provide flexibility in methods for regional variation.
- Establish standards for modeling. Phosphorus data is an example for testing a model against a standard.
- Consider using NAWQA Program methods.

**RECOMMENDATION # 4: ADDRESS THE MYRIAD OF ISSUES ASSOCIATED WITH VOLUNTEER | CITIZEN DATA COLLECTION AND MONITORING, INCLUDING ACCEPTABILITY AND CREDIBILITY OF DATA.**

**IMPLEMENTATION STRATEGY**

- Use circuit riders to train volunteers at the local level. Partnerships are stressed, but we need to reach out and cooperate more, avoiding the “us-against-them” mentality.
- Local watershed groups should be contacted when federal or state agencies go in to sample in their area. (Note: federal agencies often do make efforts to get in touch with local groups and NAWQA Program folks have liaison committees).
- Encourage EPA and/or other agencies to identify a staff person to be an active “part of the team” at the regional or state level to provide support and guidance and to advocate for citizen stewardship.

### **ACTION ITEMS**

- Develop state-specific handbooks and guidelines that address issues such as protocols, data elements (more than chemical monitoring), and the role of traditional ecological knowledge. The national field manual for data collection from USGS is a model. We need to ensure the scientific basis for these state handbooks. Include a mix of what you can measure vs. what you need to know, e.g., turbidity vs. sediments. State standards need to be looked at too - they should be defensible. Look to federal agencies for resources, not opinions.
- Develop watershed technical support and information centers to assist volunteer monitoring efforts in producing quality data that states can use. Utilize universities and colleges in this effort. The Adopt-a-Stream train the trainer program is a model.
- Utilize universities and colleges in each state to assist volunteers with data collection and monitoring. Diversify partnerships in data collection to include landowners, e.g. agriculture and business. Provide incentives for schools, looking for support, to become involved in processes that improve citizens' monitoring.
- Increase resources available for volunteer data collection and monitoring. Start-up costs are high for equipment – funding is needed for this.
- States need to create a system for evaluating data so that data collected by volunteers is not automatically discarded. EPA and the state of Virginia both have matrices for looking at data.

### **RECOMMENDATION # 5: PURSUE AN AGENDA THAT ADDRESSES RESEARCH NEEDS AT MULTIPLE LEVELS:**

- **DATA CONSOLIDATION – “LITERATURE REVIEW”**
- **APPLIED RESEARCH – E.G., EFFECTIVENESS OF REMEDIATION TECHNIQUES.**
- **BASIC RESEARCH – E.G., MICROBIAL PATHOGENS (SOURCES, FATE, ETC)**

### **IMPLEMENTATION STRATEGY**

- In a literature search, identify who is actually doing the work already.
- For Federal agencies and states: Contact and communicate with local groups.

This recommendation is directed to the federal family (identify lead such as NRCS, USGS, Advisory Committee on Water Information), watershed groups, and colleges and universities.

### **RECOMMENDATION # 6: CREATE AN ON-LINE CLEARINGHOUSE THAT LINKS TOGETHER DATA FROM VARIOUS SOURCES PROVIDING AN OPPORTUNITY TO SHARE DATA. TRAINING MUST ACCOMPANY THE CLEARINGHOUSE TO HELP PEOPLE ACCESS AND SHARE DATA.**

## **IMPLEMENTATION STRATEGY**

- Include an internet bulletin board for researchers to share techniques and ideas.
- Provide one-stop shopping for grants, circuit riders, etc.
- Post all water quality data in one place. Include: STORET, map data, National Atlas including toxic release information, Superfund sites, proposed common set of metadata, and water quality data.
- Post lists of watershed organizations and contact information on-line.
- Set up email list on the webpage: "Contact \_\_\_ in the watershed, if you are doing work there".
- Recognize that tribes have rights to data from their lands.
- Post proposed research plans in a clearinghouse to avoid duplication and to share ideas.

## **ACTION ITEMS**

- Get ideas from existing models, such as:
  - National Service Learning Clearinghouse
  - Coastal America
  - Watershed Information Network
  - Surf
  - Science in Your Watershed
  - Know Your Watershed
  - National Association of Conservation Districts
  - Index of Watershed Indicators - WIN - is a good structure for the beginning of a clearinghouse
- Collect lists of watershed organizations from states, River Network, EPA and others.
- Establish a procedure for registering watershed organizations on a national website.

## **TRACK 5: PLANNING AND EVALUATION**

### **Discussion Group L – 1: Watershed Planning and Evaluation**

#### **INTRODUCTION**

The discussion group felt strongly that watershed planning needs to occur at the local level and involve a diverse set of stakeholders. However, they felt just as strongly that federal officials and Congress have a role in assisting this planning through funding, enacting watershed oriented legislation and regulations, providing technical assistance and guidance, and facilitating the coordination of efforts between agencies.

The group identified that the planning process needs to include:

- an understanding of the purpose of the planning
- a visioning element
- an understanding of the scale of the effort (e.g. watershed, region, state, etc.)
- monitoring and evaluation
- adaptive management and implementation
- identification of resources
- consideration of economics

#### **ISSUES**

- Involving all significant stakeholders in the planning process so that the final result incorporates consideration of their special knowledge and concerns.
- Integrating principles of sustainability into planning and evaluation efforts.
- Acquiring and utilizing sound science and data.
- Obtaining adequate funding from federal, state and regional levels.
- Integrating watershed planning with other planning processes (environmental and non-environmental).
- Integrating growth management tools into planning and evaluation efforts.
- Increasing watershed education.
- Identifying motivations and promoting incentives for watershed planning.
- Identifying methods and tools for guiding the planning process.
- Clarifying the role of federal agencies in watershed planning.

#### **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: THE FEDERAL GOVERNMENT AND CONGRESS SHOULD ENABLE WATERSHED PLANNING BY PROVIDING FUNDING, TECHNICAL ASSISTANCE AND GUIDANCE; ENACTING WATERSHED ORIENTED LEGISLATION AND REGULATIONS; AND COORDINATING EFFORTS BETWEEN AGENCIES RELATED TO WATERSHEDS.**

## **IMPLEMENTATION STRATEGY**

- The federal government should support local citizens, industry, and grassroots organizations in their efforts to create informed cooperative visions of watersheds as they affect quality of life.
- The federal government should work within existing processes and government structures to integrate watershed management into regulatory and planning processes.
- Federal agencies should coordinate their efforts with state and local agencies to achieve consistent standards and regulations.
- Federal government employees need to better understand local priorities to provide more helpful input in watershed planning.
- Federal agencies should provide guidance on watershed planning that includes other perspective besides water quality, e.g., flood management.
- Funding should be made available for monitoring and data gathering.
- Federal agencies should provide leadership to define at a national level the term watershed and provide education.
- Federal agencies should produce integrated planning and resource guidance including information on social and economic aspects of watershed planning and information on who to contact for help. This recommendation is directed at EPA in conjunction with the Regional Watershed Roundtables. It should be implemented within a year, and is estimated to need one full-time employee (FTE) and contract dollars.
- Federal agencies in partnerships with states and locals should provide planning guidance by articulating the questions that need to be asked at different scales (i.e., federal agencies can provide the template.)
- Federal agencies should provide financial incentives for states to do watershed planning.

## **ACTION ITEMS**

- Provide a federal coordinator as a point of contact for watershed planning (like the River Navigators for the American Heritage Rivers initiative provided to local communities).
- EPA, NOAA and USGS should empower and build the capacity of federal, state, local and grassroots organizations that provide education on watershed management by providing funding.
- Provide more money through existing federal mechanisms to support community empowerment in watershed planning.
- Develop accountability by providing checklists, indicators, parameters and other mechanisms in order to empower local decision-makers for implementation.
- Federal agencies in partnership with states and locals should provide funding and logistical support for a state watershed coordinator and a state watershed organization with five responsibilities: a) develop state guidelines for a watershed plan framework; b) identify resources and disseminate data; c) help prioritize problems/resources at the state level; d) make policy

recommendations; and, e) provide coordination. There should be a close connection to the TMDL process where possible.

- Who? Federal and state governments should make this happen where it does not yet exist. Ideally, use federal funding, specifically for this purpose - do not take away from current funding for other water programs - and require a state match of 30%.
- When? Start now, but if additional funds are going to be in needed to complete this in 50 states, then make sure it is reflected in the 2003 budget request for EPA, NRCS, DOI and others.
- Cost? 35 FTEs and 2.5 million per year.
- Congress should provide increased Section 319 funds for planning and evaluation (e.g., post project assessment).
  - Who? Federal authorities with relevant programs: (e.g., EPA-Section 319, Brownfields; Park Service; USDA-Rural Development Program, Public Law 566; Army Corps of Engineers, Water Resources Development Act (WRDA); Bureau of Reclamations Irrigation Program).
- Provide funding for programs that are helpful to providing assistance to local watershed groups such as the Center for Watershed Protection and continued and expanded support for EPA's Watershed Assistance Grants (WAGs).
- Utilize the National Estuary program for watershed planning and utilize community involvement from that process in watershed planning.
- Congress should use the commission structure to empower (politically) watershed organizations to do NEPA at the local level (e.g., International Joint Commission (IJC), Appalachian Commission, Ohio River Basin Commission).

**RECOMMENDATION # 2: THE FEDERAL GOVERNMENT SHOULD IMPROVE GIS INFORMATION AND MAKE IT AVAILABLE TO LOCAL WATERSHED ORGANIZATIONS AND ALSO IMPROVE COMMUNICATION AND BASIC WATERSHED INFORMATION EFFORTS.**

**IMPLEMENTATION STRATEGY**

- Federal agencies (EPA, NOAA, and USGS) should develop a GIS website that watershed groups and local communities can access. Local, state and federal levels should then work together to fill in gaps.
- The federal government should enhance communication between federal agencies and locals on emerging issues in watershed management (information, trends, interpretation, access, outreach). Federal agencies should be more proactive in this regard.

**RECOMMENDATION # 3: THE FEDERAL GOVERNMENT SHOULD EXPAND THE USE OF THE BROWNFIELDS PROGRAM FOR CONTAMINATED WATERSHEDS, EXPAND THE USE OF AMERICORPS VOLUNTEERS IN WATERSHED PLANNING AND CONTINUE TO CONTRIBUTE TO THE CENTER FOR WATERSHED PROTECTION AND WATERSHED ASSISTANCE GRANTS.**

## **Discussion Group L – 2: Watershed Planning and Evaluation**

### **INTRODUCTION**

The scope of this Group’s discussion included planning and evaluation at all levels: federal, state, and local/grassroots. The Group noted that planning process, plan contents, and plan implementation are equally important and that growth management policies and tools are integrated in watershed plans (or vice-versa!).

### **ISSUES**

There are a number of important issues relative to evaluation, including:

- Short-term evaluation is difficult due to timeframes for change.
- Establishing a baseline can be difficult.
- Accountability - if goals are not achieved then why did you miss the mark?
- Cost of evaluation.
- Challenges associated with measuring impacts from multiple stressors.
- Quality control:
  - Standardization so that results are transferable
  - We don’t know how to evaluate

### **KEY RECOMMENDATIONS**

#### **RECOMMENDATION # 1: USE/CREATE A TEMPLATE FOR A MODEL WATERSHED ACTION PLAN.**

##### **IMPLEMENTATION STRATEGY**

- Regional Roundtables could assist local watershed efforts.
- Include the following elements to make a successful plan:
  - Clear, realistic, common goals (consider existing laws).
  - Definition of boundaries for the physical watershed.
  - Identification of stakeholders (interested parties, those necessary for implementation, regional as well as local concerns, and diverse perspectives).
  - Identification of what the motivation is for stakeholder involvement.
  - The cost of implementation plan elements and clarification about who will pay.
  - A clear stakeholder process (recognizing the need to get buy-in through ground rules and acknowledgement of “power relationships”).
  - Use of science to develop goals and plans.
  - Agreement on standards and data sources.
  - All relevant components included (i.e., ensure that there are no “sacred cows” in the planning process – such as municipal sewage treatment facilities).
  - Technical assessment of the watershed.
  - Achievable, measurable milestones (short and long-term).
  - Adequate capacity and resources.

- Resources matched with each solution and definition of implementation strategy.
- Mechanisms for updating the plan and attention to long-term sustainability.

#### **ACTION ITEMS**

- EPA or Regional Watershed Roundtable coordinators should collect existing models for watershed planning within the next 90 days. Delegates listed below can be contacted for specific models mentioned:
  - Watershed Restoration Action Strategy Model – Marjan Peltier,
  - National Estuary Program (NEP) – Pat Glass
  - Non-point Education for Municipal Officials (NEMO) – Leslie Kane
  - California Water Resources Planning Act – William Cunningham
- Distribute two to three of the best models to the Regional Watershed Roundtables for evaluation and distribution to their local watershed organization members for comment.
- Based on evaluation of models and comments from local watershed efforts, select the model to be recommended for use or pull the best elements from all plans to develop a new model. This could be done either at the regional level or nationally.
- Provide technical assistance for local groups for planning.
- Communicate what is already available in terms of resources for planning.

**RECOMMENDATION # 2: PLANNING NEEDS TO BEGIN AT THE LOCAL LEVEL, BUT PLANS MUST BE LINKED AND COORDINATED ON ALL LEVELS - LOCAL, STATE AND FEDERAL – BOTH VERTICALLY AND HORIZONTALLY (WITHIN AGENCIES AND ORGANIZATIONS AND ACROSS THEM).**

#### **PROBLEM STATEMENT**

Plans from different jurisdictions and agencies have conflicting goals but are impacted by each other.

#### **IMPLEMENTATION STRATEGY**

- Establish a structure to ensure this happens. The Water Resource Planning Act of the 1980s helped to link plans through river basin compacts (interstate compacts between state and federal government). If used, this model would need to be reevaluated to cover water quality in addition to quantity. Coordinated Resource Management is another example that is currently working well in California to coordinate plans on different levels. NEP is yet another model. Take the best from these three models and apply on a national scope. (Ensure that the model used clearly states what is mandated and what is voluntary.)
- States and regions need to coordinate on water quality standards (regarding TMDL's).
- Make coordination mandatory.
- Establish federal incentives to coordinate.

- Tie funding mechanisms to these coordination models.
- Appoint a government ombudsman to coordinate outside inquiries.
- Recognize that it will be difficult to standardize across the country.
- It is essential that efforts to coordinate plans do not stifle local efforts; flexibility must be preserved.

#### **ACTION ITEMS**

- USDA, EPA and DOI should identify one number to call or person to contact to facilitate watershed issues.
- Communicate this number or system to all delegates who attended the National Watershed Forum and all Regional Watershed Roundtable coordinators within one year from the Forum.
- Regional Roundtables should put together an inventory of agency people by the date of their next meeting and report back to local watershed coordinators with a user's guide.

### **RECOMMENDATION # 3: INTEGRATE EVALUATION INTO WATERSHED PLANS.**

#### **PROBLEM STATEMENT**

Plans often do not provide clear evaluation. Groups generally do not know how to evaluate their efforts and it is difficult to quantify what has been accomplished in the short-term.

#### **IMPLEMENTATION STRATEGY**

- Develop and market successful evaluation methods. (Look at successful examples such as the United Nations.)
- Watershed partnerships should build in an evaluation process from the beginning.
- Measure process results as well as outcome results.
- Allow flexibility for mid-course corrections.
- Get feedback from stakeholders to evaluate process (through interviews, surveys, discussion groups, etc.).
- Evaluate if the plan process was followed; if not, explain why not.
- Determine if plan recommendations were accomplished.

#### **ACTION ITEMS**

- Build in evaluation from the beginning of the effort.
- Include measurable goals in the watershed plan.
- Include funding for evaluation in plans.
- EPA collect models of successful evaluation process from universities, NEMO, NRCS, etc.
- Using existing, successful models, EPA/Regional Roundtables conduct trainings/workshops in evaluation. Pilot course should be taught in FY 2003 – members of the Watershed Planning and Evaluation Discussion Group L-2

from the 2001 National Watershed Forum request that the pilot course be taught in their local area so that they can provide feedback.

- Communicate the results of the evaluation process to the public.
- Recognize that change can take time and that evaluation will be incremental. Evaluation of the process should take place in the short-term and more precise metrics (water quality parameters) should be included in longer-term evaluation. Ask funders to reflect this in their funding cycles.

**RECOMMENDATION # 4: WATERSHED EFFORTS NEED TO POOL RESOURCES (IN THE FORM OF AN ADVISORY GROUP/MULTIDISCIPLINARY RESOURCE TEAM) FROM STATE AND LOCAL AGENCIES TO ENSURE QUALITY CONTROL. MAKE STATE, FEDERAL, ACADEMIC, ETC., ADVISORY GROUPS MORE AVAILABLE TO LOCAL GROUPS.**

#### **IMPLEMENTATION STRATEGY**

- Develop certification of professionals providing watershed related services.
- Federal and state agencies make their resources available to groups to call upon (while acknowledging that because of budget cuts, government officials are not as available as before and watershed groups may need to hire consultants).

### **Discussion Group M: Smart Growth:**

#### **ISSUES**

- Existing development, in some watersheds, has caused significant damage. New development alone cannot reverse this trend, but new development should be done with watershed protection techniques built into site designs.
- The challenges are tremendous in terms of overcoming resistance: social trends, innovative site design, and local ordinances.
- Smart growth is closely related to the preservation of agricultural lands since much sprawl leads to the conversion of prime agricultural land.
- Changing individual behavior is a challenge. We are all used to doing things a certain way.
- Smart growth tools and innovative techniques are available, but not widely known across the country.
- We need a wider ability to link growth and water quality. Natural resource planning is often missing from smart growth – maybe we are talking about smarter growth by incorporating watershed planning.
- Smart growth and watershed management really are about sustainability. They capture the three legs of the stool – economic, social and environmental.
- A big challenge is that there is so much variety among localities and states regarding how growth and development are handled.
- There is a need for politicians and other decision-makers to be made aware of the link between changing land use within local watersheds and the potential adverse effect on the health of lakes and rivers, and a need for a more open dialogue between the

decision-makers and those within the community who feel that sprawl is adversely affecting watershed health.

- The contribution of transportation development to growth patterns is unclear and seems to vary by local regulations.

## **KEY RECOMMENDATIONS**

### **RECOMMENDATION # 1: RAISE AWARENESS/AVAILABILITY OF EXISTING SMART GROWTH TOOLS, IDENTIFY GAPS, AND WORK TO FILL THOSE GAPS.**

#### **IMPLEMENTATION STRATEGY**

- Make tools and training concerning smart growth more widely available to the watershed community. These tools need to assist in integrating smart growth and watershed planning and implementation. Involve the following in this effort: Association of Homebuilders, EPA, NACO, American Planning Association (APA) Center for Watershed Protection, Urban Land Institute, state transportation associations and large organizations such as KMART, etc.
- Increase awareness of smart growth tools among planners and local government/elected officials.
- Use local watershed groups as sources for education.
- Change attitudes about adopting smart growth strategies by providing information concerning the benefits of smart growth.
- Take a critical look at the relationship of sprawl to problems in watersheds. Answer the question: “if we control sprawl, is our watershed healthy?”
- Determine logical connections between transportation planning and smart growth that can be built upon.

#### **ACTION ITEMS**

- Develop web pages and links to existing pages of smart growth tools.
- Put together a compendium of tools: 3-D visual tools, models for doing cost benefit analysis of smart growth techniques, success stories, and a presentation that could be used by local officials. Austin, Texas is an example of a community that employed innovative outreach and future scenario planning. TV stations were involved, 60,000 people downloaded a questionnaire, and people voted on various scenarios for their community. (Three dimensional visual tools are an effective public involvement tool but very costly currently.)
- Develop a handbook for local officials on natural resource valuation, highlighting trade-offs. Utilize or develop cost-benefit tools that truly reflect the costs of the actions we take.
- Create public service announcements for television and radio to increase public awareness of smart growth tools.
- Develop a summary of environmental issues appropriately handled at the watershed scale that can be used to assist planners in understanding the connections.

- Host bus tours of innovative site designs for local officials and the public.
- Track models so that developers have a good idea of what the maintenance costs are.
- Pay attention to terminology. Open design is a more acceptable term for cluster development. Many people are turned off when they hear cluster development.

## **RECOMMENDATION # 2: PROMOTE ECONOMIC INCENTIVES FOR SMART GROWTH.**

### **IMPLEMENTATION STRATEGY**

- Educate policy makers and the public.
- Streamline permitting for projects which support smart growth.
- Provide funding/fiscal assistance for use of watershed preservation techniques.

### **ACTION ITEMS**

- Federal agencies should assist in educating the public about the value of conservation easements and the economic and water quality benefits of these easements.
- Update codes to accommodate smart growth. If clustering regulations are written appropriately, the incentive is built in because the developer makes more per acre.
- Streamline approval process for smart growth projects.
- Use Transferable Development Rights (TDRs), storm water fees, and rainwater recapture credit to encourage smart growth.
- Encourage the use of private conservation easements as a mechanism for watershed protection.
- Cost share with Section 319 to help out with upfront costs for alternative design principles (working with engineers). We have a history of working with the farming community. We need something comparable with developers.
- Compile a database of grant programs, including infrastructure dollars linked to smart growth.

## **RECOMMENDATION # 3: PROMOTE INTEGRATED DECISION-MAKING PROCESSES THROUGH WATERSHED STAKEHOLDER EFFORTS.**

### **IMPLEMENTATION STRATEGY**

- Integrate social, economic and environmental baseline information necessary to make smart growth decisions at multiple scales and make that information available to local decision-makers. Ensure that there is a connection between whatever local planning model is used and the watershed/resource-based efforts. The intent is not to make these the same but to ensure that resource concerns that are appropriate for smart growth are incorporated into government planning decisions. This integration should be locally driven and supported by the federal government.

- Utilize processes that are open, inclusive, coordinated, political, participatory, and engaging.
- Utilize and monitor benchmarks/baseline and community demographics.
- Develop a flow-chart of the decision-making process, including how and when scientific, ecological and socioeconomic data and decisions are incorporated.
- Make use of integrated multi-scale information systems, e.g., Florida GIS systems are web accessible.
- Use/develop predictive models that help decision-makers see more clearly the long-term consequences of long-term development. Consider trends and “what ifs”. For example, if you develop 30% of the watershed, you can expect these types of loadings and this kind of impact of water quality.
- Clarify data and level of detail needed to support smart growth decisions.
- Make sure that watershed goals are considered in the vision process and in growth management plans overall.

### **ADDITIONAL RECOMMENDATIONS**

1. Include flood potential in all local zoning ordinances and permitting procedures.
2. Put a dollar value on a clean stream, a functioning wetland, etc.
3. Look beyond the obvious consequences and evaluate the secondary tertiary consequences of actions on the land and water.
4. Ensure an appropriate role for the general public to participate in the decision-making processes regarding land use decisions and protected lands.
5. Build consensus to institutionalize long-term changes.

## **TRACK SIX: ECOSYSTEM MANAGEMENT**

### **Discussion Group O: Habitat**

#### **INTRODUCTION**

While many techniques exist to protect and/or restore habitats, there are three primary aspects, which prevent or hinder habitat protection as part of ecosystem management. Recommendations were developed with these themes in mind. These three themes are: regulatory and institutional barriers; lack of information and understanding; and, communication.

#### ***Regulatory and Institutional Barriers***

Integration of habitat protection and restoration within watershed management can be facilitated by removing regulatory and institutional barriers (e.g. conflicting statutes) by providing training in ecosystem management, revising policies to remove barriers and providing incentives for restoration. The Clean Water Act should also be amended to place greater emphasis on habitat standards and funding and technical support for states to implement habitat goals and standards.

#### ***Lack of Information***

Common habitat indicators to enable stakeholders at all levels to measure, assess and share information to understand habitat ecosystem functions should be created through cataloging of existing indicators and development and dissemination of guidance.

#### ***Understanding and Communication***

We should be proactive in identifying and protecting existing habitat functions first, while understanding that ‘after-the-fact’ restoration is not the sole solution to ecosystem management. People should be educated about the cost incentives for maintaining existing functions.

#### **Issues**

- Habitats encompass ecological communities made up of plants, animals, fish, birds, insects, and micro-flora. Humans both impact and depend upon the habitat in which they live as well as habitats far beyond their immediate environs. Therefore, the impacts and interactions of people on the environment must be incorporated in any ecosystem management approaches.
- There are severe habitat problems caused by excessive soil erosion from land disturbance activities, storm flows that erode stream bank soils, and dumping and filling of wetlands. Other associated water quality problems from excessive soil erosion also affect habitat when soils suspended in the water column block light to aquatic plants, and soils deposited on stream bottoms increase embeddedness and smother fish spawning beds. Canalizing streams and replacement of natural stream habitats with concrete and/or removal of native vegetation are also problems, which continue to harm riparian habitats. The following recommendations are designed to address these and other problems by providing better incentives for protection,

restoration and more informed decision-making based on better and easier-to-understand data about the health of our riparian and aquatic habitats.

## **KEY RECOMMENDATIONS**

### **RECOMMENDATION # 1: INTEGRATION OF HABITAT PROTECTION AND RESTORATION OBJECTIVES CAN BE FACILITATED BY REMOVING REGULATORY AND INSTITUTIONAL BARRIERS.**

#### **PROBLEMS**

- Agencies often focus on single species management and protection versus ecosystem management that provides for both ecological communities and naturally occurring species. This may lead to management decisions that help a single species to the detriment of other species and ecological communities.
- Regulatory disincentives (e.g. multiple permits required for habitat projects) cause projects to be too expensive and delay or prevent successful implementation of habitat protection and/or restoration projects.
- Conflicting statutes, laws and regulations (e.g. laws with conflicting requirements) may require implementation of regulations that result in habitat or species loss.
- Lack of coordination between agencies and tribes may cause opportunities for ecosystem restoration to be overlooked or resources to not be effectively shared.

#### **IMPLEMENTATION STRATEGY**

- To avoid single species management, regulators, natural resource managers and others should receive training in ecosystem management principles to provide skills in determining management objectives, habitat evaluation and other related tools so that increased understanding can lead to better decision-making.
- Regulatory disincentives to habitat protection and restoration projects can be assisted by providing ‘one-stop-permit shopping’ through development of a clearinghouse for permit processing while avoiding one-size-fits all approaches. This is not designed to result in less permits but rather a central coordination body where permits can be sent and review can be processed efficiently. This has been done in several U.S. regions among federal agencies for certain projects but this approach should be institutionalized.
- Conflicting statutes, laws and regulations could be overcome by commissioning of a study which should be convened by an objective, non-federal entity to review existing laws and regulations which deal with habitat and evaluate where conflicts exist. The study should include input by those charged with administering and implementing projects at the regional, state and local levels. Next, recommendations should be developed for amending statutes to solve existing conflicts and conflicting purposes in statutes.
- Federal natural resource agencies and tribes should work collaboratively to develop a process to achieve coordination through inter-regional and

interagency teams to address ecosystem problems that extend beyond ecosystem boundaries and agency jurisdictions. The Tribal Watershed Forum is one way to begin this process, which should also be extended to the local and regional level.

**RECOMMENDATION # 2: STATE, FEDERAL AND TRIBAL GOVERNMENTS THAT ADMINISTER THE CLEAN WATER ACT SHOULD INCLUDE RIPARIAN PLANT, ANIMAL HABITATS AND PHYSICAL CONDITIONS OF STREAM CHANNELS AS IMPORTANT COMPONENTS OF WATER QUALITY.**

**PROBLEM STATEMENT**

The Clean Water Act does not require agencies at the federal and state level to include the physical conditions of stream channels and riparian areas in their standards.

**ACTION ITEMS**

- Within a one to three year timeframe, Congress and EPA should revise the Clean Water Act to require integration of physical habitat health into state standards under Section 305(B) and states must work to comply with revised standards for measuring and reporting habitat conditions. EPA will need to regain authority to enforce habitat protection by modification to the Clean Water Act (e.g. to avoid the ruling under the National Wildlands v. Browner case).
- Allocate funds to EPA's Office of Wetlands, Oceans and Watersheds to develop guidance and to provide dollars to the states for training and implementation.
- Water quality standards and funding priorities should recognize that human induced channel modification can and in many cases should be restored to more natural conditions.

**RECOMMENDATION #3: STAKEHOLDERS AT ALL LEVELS (PUBLIC, LANDOWNERS, AGENCIES, PRACTITIONERS, AND SCIENTISTS) SHALL DEVELOP CRITERIA AND INDICATORS TO PROVIDE FOR A COMMON LANGUAGE TO MEASURE HABITAT AND ECOSYSTEM FUNCTIONS, WHICH INCORPORATE THE NATURAL RANGE OF CONDITIONS FOR THE REGION AND LOCALITY.**

**PROBLEM STATEMENT**

The lack of a common set of habitat indicators makes it difficult to share and coordinate information about habitat conditions among agencies, practitioners, and scientists. This also makes it difficult to communicate habitat condition to the public and other decision-makers.

**IMPLEMENTATION STRATEGY**

- A common set of habitat indicators could be used at the watershed, state, regional and national level, provided they incorporate and characterize the full range of natural conditions for that region or locality.

- Model the effort to develop habitat indicators after the current efforts to measure and report on criteria and indicators for sustainable forest management led by the U.S. Forest Service (USFS) and the national Roundtable on Sustainable Forests.
- Conduct research to develop and implement a ‘criteria and indicators’ approach for measuring riparian and wetland habitats that incorporate the full range of natural conditions for that region or locality.
- Watershed organizations (state, local and federal agencies, tribes) are the target audience for this approach.

**ACTION ITEM**

Form a task force to create a national repository of information which is scale dependent (states have a large repository) along with DOI, the USDA, the EPA, NOAA, the Army Corps of Engineers and the DOT, etc. Storage and dissemination of information locally should be achieved through existing regional repositories (e.g. the eastern Coal Region Repository at Canaan Valley Institute).

**RECOMMENDATION #4: CATALOG RECORDS OF HABITAT-MONITORING EFFORTS AND COLLABORATIVE EFFORTS (LOCAL, REGIONAL, NATIONAL) TO MEASURE HABITAT.**

**PROBLEM STATEMENT**

There is not a good understanding of data available concerning current habitat monitoring efforts. While individual agencies have created repositories and case studies, there is no unified, comprehensive database of such efforts and methodologies.

**IMPLEMENTATION STRATEGY**

Design a national database template with public input by user groups of habitat monitoring methods in use by federal, state and local governments and private organizations. The federal government natural resource management agencies should initiate this with the EPA or the NAWQA Program under the USGS as the lead along with private entity partners engaged in monitoring habitats.

**RECOMMENDATION #5: BECOME MORE PROACTIVE IN IDENTIFYING AND PROTECTING EXISTING HABITAT FUNCTIONS THAT FALL WITHIN THE RANGE OF NATURAL CONDITIONS FOR THAT LANDSCAPE.**

**PROBLEM STATEMENT**

It has not been widely recognized that it is more cost and ecologically effective to protect habitats first. Oftentimes, people think they can restore habitats later but original conditions and functions may have already be lost. In addition, people are often not aware of the need to protect critical habitats.

**ACTION ITEMS**

- Broad scale ecosystem assessments that identify what needs to be represented under protection goals should be conducted by national, local and regional

agencies and organizations, the development community, community groups and others.

- Recognize how habitats are linked to quality of life by linking effects of lack of protection or management planning (e.g. increased flooding due to wetlands loss) to decrease in life quality.
- Create a study to catalog and characterize cost savings of habitat protection e.g. less costs to repair flood damages.
- Provide incentives for people to protect habitats, such as financial incentives (e.g. the new Farm Bill, and local, state and federal tax incentives).

#### **DISSENTING OPINION**

Several participants were concerned that the term ‘protection’ may imply putting certain habitats ‘off limits’ under a preservation strategy while other participants maintained that protection of ‘habitat functions’ meant that areas might still be used and that ‘protection’ did not necessitate a ‘preservation’ strategy.

#### **ADDITIONAL RECOMMENDATIONS**

1. Encourage watershed groups and agencies to develop partnerships with other groups, such as anglers, birders, commercial fishermen, hunters and other habitat conservation organizations to expand public interest in habitat (e.g. by offering regular field trips for the public and promoting general hands-on involvement in watershed issues through programs such as ‘Adopt-A-Stream’).
2. Develop effective strategies to promote community involvement with watershed restoration, recognizing that communities and volunteers may play an integral role in the success of a restoration program.
3. Develop restoration projects with a ‘holistic’ approach to avoid the common problem of narrowly defining the benefits.
4. Promote and encourage restoration that utilizes native species and communities and identifies and focuses efforts to control invasive species.
5. Couple effective outreach with restoration activities to ensure that informative messages are provided to the public.
6. Define restoration needs on a watershed or sub-watershed level to promote effective implementation and reduce overall costs in order to hasten implementation of specific projects. At the same time, ensure that the scale of the project addresses the needs of the ecosystem and its dependent species as well as the impacts to the resource. For example, if the scope of area to be addressed is too small, normal ecosystem disturbance processes and ecological patterns may be missed.
7. Promote team problem-solving in order to reduce the dangers of leaping to the identification of solutions that, for some restoration projects, may not always address the true causes of the problems or may not incorporate the ecological needs of the broader landscape.
8. Missions, jurisdictions and regional boundaries for agencies should be modified to match ecological boundaries (e.g., Bailey’s ecoregions), which may also cross watershed boundaries.

## **Discussion Group P: Endangered Species**

### **ISSUES**

- Endangered species protection is often seen as a barrier to individual rights, property rights, and economic gain. The approach to endangered species protection must include effective incentives and address obstacles to species protection, management, and restoration.
- Federal, state and local authorities and funding mechanisms are structured in ways that promote effective and efficient use of the funds to accomplish on the ground restoration and protection.
- The Endangered Species Act (ESA) needs to be made more effective by addressing some of the following concerns:
  - Conservation and recovery options are often limited by the time species are listed.
  - The current single species listing approach is not comprehensive. It does not address multiple species, ecosystem health, or working proactively with private landowners. Implementation of the ESA needs to be manageable, economically feasible, and must balance species, habitat, ecosystem and human needs.
  - ESA conservation actions need to be better coordinated among government entities at all levels and with other stakeholders.
- Biological Opinions are often incomplete. Analyses often do not correctly predict key long-term and cumulative impacts or accurately reflect costs. Science is sometimes given too much emphasis, resulting in inappropriate uses of data and analytical tools leading to delayed decisions or actions.
- Balancing resource use and achieving sustainability is a challenge; however, long-term human and resource interests are intertwined. The challenge is to take the Native American seventh generation perspective and instill those long-term interest-based values in society.

### **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: THE PROTECTION OF THREATENED AND ENDANGERED SPECIES NEEDS TO BE MADE MORE PROACTIVE AND INTEGRATED IN THE MANAGEMENT AND PROTECTION OF SPECIES HABITATS AND ECOSYSTEMS AND INVOLVE MULTIPLE STAKEHOLDERS.**

#### **IMPLEMENTATION STRATEGY**

The congress, executive branch, interested stakeholders, local and state governments, watershed councils, landowners, and NGOs should work together to:

- Integrate and leverage ESA related inventory, assessment, monitoring, and planning into appropriate, comprehensive, watershed-wide assessments and/or evaluations of overall ecosystem functionality. This should happen around the country on a regional or local ecosystem/landscape basis.
- Emphasize the “non-hammer” sections of the ESA.

- Encourage and empower locally led proactive planning on a regional or watershed level, focusing on species conservation.
- Joint use of funding and authority and a systematic and comprehensive approach would be worthwhile; however, it would be time consuming and heavily front-loaded. The legal issues related to authorities and funding sources and would require much work to sort out.

#### **ACTION ITEMS**

- Use Memoranda of Understanding and Memoranda of Agreement to facilitate pooling of funds and cooperative use of authorities for a host of sources (federal, state, local, and organizations).
- Investigate the use of authorities such as the Wyden Amendment and individual agency authorities at the federal, state, and local level.
- Seek additional generic or project specific implementation/action authorities legislatively.
- Modify the tone of the ESA debate to the proactive parts of the Act.
- Train federal employees on the proactive parts of the ESA.
- Implement a public education program for ALL of the ESA.
- Modify best practices to include proactive elements.
- Do case studies and publicize them.
- USFWS and National Marine Fisheries Service (NMFS) personnel should not just react to laws, but should be proactive in species conservation.
- Use the Coordinated Resource Management Plan (CRMP) process to focus on species conservation.
- Develop statewide conservation plans.
- Implement multi-state ecosystem planning such as that done in the Southern Appalachians, Great Basin, Colorado, etc.
- Federal and state agencies must be enabled to share technical resources with locally led groups.

#### **DISSENTING OPINIONS**

- The USFWS and NMFS lack capacity.
- The ESA should be the job of the Federal government.
- A proactive approach is too much of a compromise for those who use the Act as a “hammer”.

**RECOMMENDATION # 2: AGENCIES NEED TO CONDUCT COMPREHENSIVE BIOLOGICAL ASSESSMENTS LEADING TO BIOLOGICAL OPINIONS INDEPENDENT OF LIMITING POLITICAL AND ECONOMIC INFLUENCES.**

#### **PROBLEM STATEMENT**

Biological Opinions are often incomplete. Analyses often do not correctly predict key long-term and cumulative impacts or accurately reflect costs. Science is given too much emphasis resulting in inappropriate uses of data and analytical tools leading to delayed decisions or actions.

### **IMPLEMENTATION STRATEGY**

The USFWS and NMFS and other appropriate agencies should modify existing process for developing Biological Assessments and developing and implementing Biological Opinions on national, regional, and local levels. The advantage to this strategy would be more comprehensive and timely decision-making with public involvement. It is, however, important to note that there exists a general reluctance to diverge from the status quo and that this approach would be time consuming and controversial.

- Educate the public on the limitations of the use of scientific data for decision-making
- Recognize that cost and time for data gathering is often limited and institute a process to move ahead expeditiously with decision-making when scientific data is lacking or is in dispute.
- Begin immediately, for administrative changes, and within the next year begin legislative and regulatory initiatives.

### **ACTION ITEMS**

- Ensure that Biological Assessments include information derived from local expertise and experience based culture and traditional knowledge in addition to scientific data.
- Ensure that Biological Assessments include long-term and cumulative effects in so much as they can be reasonably determined both spatially and temporally.
- Modify the Biological Opinion process to include public input and an appeal process when agencies or the public feel the unsupported conclusions have been included in the Biological Opinion.
- Include peer review of scientific data when there are differences in interpretation of scientific data used in decision-making.
- Institute requirements that Biological Opinions include binding commitments for follow-up monitoring and subsequent adjustments and corrective actions.
- Develop guidelines to ensure that actions are taken with adequate, but possibly incomplete information.
- Develop educational materials to convey the limits of interpretation of scientific data as a basis for decision-making.

**RECOMMENDATION # 3: ADOPT EFFECTIVE INCENTIVES FOR LOCAL AND STATE GOVERNMENTS AND PRIVATE LANDOWNERS TO PROTECT AND MANAGE ENDANGERED SPECIES ON A WATERSHED BASIS.**

### **PROBLEM STATEMENT**

Endangered species protection is often seen as a barrier to individual rights, property rights, and economic gain.

### **IMPLEMENTATION STRATEGY**

A coordination committee comprised of lead federal agencies, local government, and landowners should launch a comprehensive watershed approach to offering incentives, technical expertise, and education to further protect and manage species. All levels of local government, private landowners, state and federal officials must be involved in education and incentives. Decision-makers must also be inspired and educated to affect change. It is estimated that this effort would take approximately six months.

### **ACTION ITEMS**

- Establish a binding agreement among stakeholders to ensure a comprehensive approach to successful watershed management.
- Address economic impacts for regulatory actions for species protection and management.
- Launch a comprehensive conservation educational program.
- Develop partnerships between local/state/federal government to provide additional incentives for landowners to protect/manage species in watersheds within the next one to two years (time needed to go through the legislative process).
- Develop partnerships between local/state/federal government to expedite/increase funding for incentive-based programs over the next two to five years.

## **TRACK SEVEN: POLICY AND PROGRAM IMPLEMENTATION**

### **Discussion Group R: Jurisdiction and Coordination**

#### **ISSUES**

- There is a lack of funding at the national level for coordination of watershed efforts, particularly coordination of trans-boundary efforts. Federal, and some state budgets are mostly program-oriented, not people-oriented. Cuts impact individuals who maintain liaisons and do field work with jurisdictional contacts. William Penn Foundation (PA) is an example of a state-level foundation that will fund watershed efforts with simple MOUs as agreements for state and county-level efforts. Also, most federal funding is remedially oriented, not prevention-oriented. Alaska is an example of a state that gets very little federal funding, since remedial needs are extremely low compared to the needs of prevention programs.
- There is a need for more thinking outside the box – e.g., getting staff to consider needs/requirements/responsibilities of other programs and agencies (state and federal) that impact local watershed programs. An example is that tribal concerns, communication and coordination issues are largely ignored by most states.
- Dealing with control-oriented (e.g., regulatory) agencies – getting them to be participants in watershed cooperative efforts instead of having them drive the process and therefore, potentially predetermine outcomes. Federal Advisory Committee Act (FACA) requirements can pose a problem.
- It is sometimes difficult to engage private landowners in the watershed protection process. It would be helpful to see and discuss case studies that demonstrate successful involvement of private interests in the process.
- Permitting requirements at the federal and state level are often driven simply by the bureaucracy. Relatively few are based on pure constitutional mandates as opposed to “constructs” issued to cover “loose ends” in the law perceived by agencies. Many levels (e.g., forest; stream) of state water-related disciplines must be satisfied first; then local level mechanisms kick in. It is really a jurisdictional issue between stakeholders and landowners – who may not be the same.
- There is a lot of mistrust across agencies at the state and local levels – especially permitting and licensing issues. Personnel time spent on the ground in working to establish and maintain this trust is considerable.
- There is a need for information about local examples for dealing with TMDLs (e.g., how jurisdictions decide who works negotiates nutrient levels for a particular watershed or section of watershed).
- Involving agencies like the NRCS and Forest Service who can be (and have been) very helpful to local watershed protection efforts. They need to be invited to “play” in the process.
- Access to data and information (e.g., STORET). There is also a concern about potential liability of individuals based on potentially adverse data routinely collected in pursuit of normal watershed efforts.

- “Mega” programs (e.g., Chesapeake Bay Program) can absorb funding and efforts for secondary and tertiary priority watersheds (e.g., urban watersheds). There is a need for states, the Army Corps of Engineers, etc., to consider the importance of these smaller efforts in budget planning for overall watershed protection efforts.
- Tribal organizations such as the Bureau of Indian Affairs are not as involved as they should be.
- Watershed groups often do not have power and are devalued.
- There is legislation under development that could be molded to encourage federal and local agencies to work together.
- States are in a unique position to influence local watershed planning and management.
- State and federal mandates do always come together; priority-setting processes are often conflicted.

## **KEY RECOMMENDATIONS**

### **RECOMMENDATION # 1: FIND A WAY TO HELP TRIBES ADOPT WATER QUALITY STANDARDS (WQS).**

#### **PROBLEM STATEMENT**

Of 525 federally recognized tribes, only 18 currently have federally approved WQSs.

### **RECOMMENDATION # 2: FIND WAYS OF FUNDING TECHNICAL ASSISTANCE FOR WATERSHED PROJECT PLANNING GRANTS.**

#### **PROBLEM STATEMENT**

Section 319 of the CWA funding is sometimes tied only to TMDL development.

#### **IMPLEMENTATION STRATEGY**

Federal agencies need to get away from process-driven mandates – let locals determine how to meet responsibilities under the CWA mandate. Then shift the existing paradigm of locals matching federal funds – get locals to establish funding levels and then let federal agencies match it. The Ohio Department of Natural Resources Water Resources project is a good example. When locals establish funding levels, the state matches it. The southeast section of the U.S. offers other examples (there are others nationwide).

### **RECOMMENDATION # 3: EMPOWER LOCALS TO MAKE DECISIONS FOR WATERSHED PROTECTION AND ACCEPT RESPONSIBILITY FOR COMPLETING BASELINE EFFORTS. FOSTER THE “JOINT VENTURE” APPROACH USED IN BUSINESS TO INITIATE LOCAL PROTECTION EFFORTS.**

## **PROBLEM STATEMENT**

Federal agencies and state governments run into trouble when dealing with locals – they want local buy-in, but are not skilled in developing trust with local people to initiate action.

## **RECOMMENDATION # 4: CREATE AND SUPPORT FLEXIBLE AND INCLUSIVE MECHANISMS FOR LOCALLY LED WATERSHED PLANNING AND MANAGEMENT PROGRAMS.**

### **IMPLEMENTATION STRATEGY**

Facilitate and encourage federal, interstate, state, local, and tribal governments, other organizations, and the public to work collaboratively within and across political boundaries in a watershed. River basin commissions such as the Delaware River Basin Commission, the Susquehanna River Basin Commission, and the Interstate Commission for the Potomac River Basin are existing models for basin-wide planning, coordination, and regulation. Have local level organization or local government lead watershed collaborative process with state and federal support. Landowners have great distrust of state/federal regulatory programs. The Resource Conservation District can be a good starting place to begin watershed planning. Federal agencies encourage local planning, facilitate and fund incorporation of local watershed plans into basin/macro watershed efforts, and then provide money for restoration and protection.

### **ACTION ITEMS**

- Change laws, policies, and procedures that are barriers to collaboration. Examples: allow expenditure of federal money on private lands to benefit the entire watershed.
- Set overall watershed goals, but be flexible in process and timelines to achieve desired watershed outcomes.
- Identify and disseminate successful techniques for collaboration already in use.
- Create a training curriculum for interaction with tribes and disseminate to all federal agencies.
- Reaffirm tribal policies (all federal agencies).
- Empower local decision-making.
- Hold a national tribal watershed forum on how federal/state/local governments can work together with tribes. Develop education program approach.
- Develop a political strategy for your region/locale.
- Identify power structure/brokers for the watershed area.
- Identify and engage existing political officials (elected and administrative). Then identify their interests and figure out who is supportive of watershed efforts. Present your case, educate them, and gain their support.
- Educate and unify your community to work as a united front with political officials.
- Form teams comprised of citizens, local government officials, NGOs, etc.

**RECOMMENDATION # 5: PROVIDE FUNDING AND OTHER RESOURCES TO SUPPORT ALL PHASES OF CROSS-JURISDICTIONAL WATERSHED MANAGEMENT AND PROTECTION— FROM GRASSROOTS ORGANIZING AND SCIENTIFIC ASSESSMENT TO COMMUNITY PLANNING AND PROJECT IMPLEMENTATION.**

**IMPLEMENTATION STRATEGY**

- Permit/promote increased use of federal (USFS and BLM) funds on private/non-government lands for watershed planning and management.
- Federal grant programs should define the objective/end point but not prescribe how to get the work done.
- Provide grants by federal agencies for funding for basin wide/macro watershed plans to facilitate inter-jurisdictional cooperation/coordination, then integrate small watershed local plans into macro plans (e.g. Galloway Report Interagency Task Force in the Mississippi River Flooding plan).

**ACTION ITEMS**

- Make matching funds requirements more flexible and/or decreased.
- Provide funding for capacity building for watershed organizations.
- Provide flexibility and streamlining on how federal dollars flow through state agencies to support local watershed efforts (e.g., federal agencies need to change requirements for Section 319 funding to support local watershed priorities).
- Fully fund/promote existing mechanisms such as Public Law 566, local NRCS, watershed and river basin assessments that could be funded by the Corps of Engineers through the WRDA 1986/2000 Section 729 authority, Army Corps of Engineers aquatic restoration, etc.
- Increase Corps of Engineer funding for “continuing authority programs”.
- Require collaboration as a condition of government grants for watershed work.

**RECOMMENDATION # 6: RECOGNIZE THE ROLE OF PRIVATE LANDOWNERS AS A LEGITIMATE AND VALUED DECISION-MAKER IN WATERSHED PLANNING AND IMPLEMENTATION**

**IMPLEMENTATION STRATEGY**

- Provide education of landowners and the public to promote responsible land stewardship. (Target schools and adult education.)
- Provide funding for community education to promote watershed planning.
- Provide incentives to landowners to implement conservation management practices that have public benefit.
- Recognize and reward good land stewards, e.g., the Chesapeake Bay Clean Bay award for farmers.

**ACTION ITEMS**

- Watershed organizations need to promote open communication and dialogue with landowner groups (e.g., associations, farm organizations, developers,

timber, etc.) to explain and educate on the benefits of good landowner stewardship, find out their concerns with the watershed approach, encourage them to participate in watershed planning, and to ask them about what types of incentives would work for them.

- Inform landowners about the Conservation Security Act of 2001 introduced by Senator Harkin (S. 932), the Working Lands Stewardship Act of 2001 (H.R. 2375), and/or Farm Bill reauthorization of conservation programs more generally, billions of dollars of voluntary, incentive-based conservation assistance to private landowners are at stake in the debate taking place this fall.
- Coordinated Resource Planning funds are too low to be useful because they are based on low rental rates. Change the way this program calculates how much money someone can receive.
- There is a need to find ways to protect and preserve landowners rights after they sell buffer or development rights (e.g., landowners may fear that selling a riparian corridor will result in recreational users lobbying for more land because they are offended by the sight of logging, farming practices, etc.). They also fear voluntary programs becoming mandatory.

#### **ADDITIONAL RECOMMENDATIONS**

1. State and local governments must respect the uniqueness and independence of local watershed groups composed of those who live, work and play in the watershed. Develop teams based on state boundaries instead of federal or regional boundaries. Encourage states and local governments to develop basin/watershed advisory committees as a vehicle for convening those who live work and play in the watershed, where such groups do not already exist.
2. Interpret water resource policy and regulations in a manner that balances the need for consistency and certainty with the need for responsiveness and flexibility (e.g., the EPA Region 8 NPDES permit process and USFS stewardship contracts, which provide opportunities for local watershed groups).
3. Federal and state governments should encourage and support policy dialogues for urban and rural communities to jointly discuss how to protect watersheds.

#### **Discussion Group S: Total Maximum Daily Loads**

##### **INTRODUCTION**

This discussion group identified the following general audiences that need to be targeted for recommendations: The Regions (via the Regional Watershed Roundtables), EPA, states, tribes, local watersheds, and Congress. Additionally, the group identified the effort to develop EPA's "*Draft 2002 Consolidated Listing Guidance*" as an important and unique near-term audience that would potentially have long-term and far-reaching impacts. Members of the discussion group felt that the "package" for recommendations was also important. Mechanisms for communicating the recommendations need to be developed for them to have an effective impact. For example, a) an EPA White Paper, b) the recommendations to recommendations panel at the Forum and, c) the Final Report from the Forum were identified as three important vehicles that should be taken into

consideration. The Group identified four categories for the recommendations they developed: funding; data (and the information used to determine water quality or impairment); process - collaborative problem-solving; and, technical support.

The Group felt that education and outreach was an important need with respect to TMDLs, however they felt that it should be kept separate as a category of its own, rather than be integrated into all of the categories, which may undermine the significance of such activities. Within each category, the Group felt that recommendations should be identified for all of the target audiences.

The Group developed three major recommendations for presentation to the Recommendations Roundtable at the Forum. These do not necessarily represent the most popular or most important recommendations, rather the Group felt that they were the most important three messages they wanted to pass on to the specific individuals participating on the panel:

- Look for ways to refine and improve the TMDL process – tweak it rather than recommend a major overhaul. Recognize success of the Clean Water Act to date, particularly with respect to point sources. Recommendations for improvement needed to focus on nonpoint sources.
- The standard steps in the TMDL process should include: 1) problem identification; 2) source identification; 3) alternative resolutions (costs, local acceptance); and 4) evaluation.
- Carefully consider the National Academy of Science’s report on TMDL effectiveness and look for opportunities for improvements there also.

## **ISSUES**

- The schedule and framework for developing and implementing TMDLs does not foster collaborative problem solving.
- Opportunities for developing lasting solutions may be missed.
- Large inconsistencies exist in the kinds of data and models being used.
- Lack of accountability in implementation.
- Lack of adequate staff creates inconsistencies.
- Relationship between smart growth and TMDLs.
- Use of TMDLs for nonpoint source control different than for point sources.
- People are disconnected from natural resources in urban watersheds.
- People do not understand the various interests associated with implementing TMDL’s (especially nonpoint sources).
- Lack of understanding by farmers, etc., of what TMDLs are.
- Time constraints for TMDL development may limit the ability to develop TMDLs on a watershed basis.
- TMDL for selenium (and others) that are not technically sound.
- Need to make allowance for places like Puerto Rico where the technical issues are different (e.g., tropical).
- Need to improve public involvement in the development of TMDLs.
- Big learning curve for stakeholders and others to explain the whole process.

- Economic and social affects of implementing TMDLs.
- Awareness of TMDLs as the law – these are not optional.
- Ambiguity of state vs. EPA responsibilities.
- Quality of TMDLs – affected by science, data available, staff resources, cost of developing/implementing TMDLs (average TMDL costs \$70,000-80,000).
- Effectiveness of TMDLs (e.g., implementation issues).
  - Stakeholders need to be involved to assure effective implementation.
  - Point source vs. nonpoint source is very significant in implementation. Non-point sources are much more complicated than point sources.
- Scale of TMDLs is a problem (segment by segment instead of on a watershed basis).
- Consistency as a goal for standards even though “one size does not fit all” and there is wide variability in data quality.

## **KEY RECOMMENDATIONS**

**RECOMMENDATION # 1: STATES SHOULD INCORPORATE TMDL PROCESSES INTO AN OVERALL WATERSHED MANAGEMENT APPROACH. FOCUS ON STRATEGICALLY ADDRESSING WATER QUALITY PROBLEMS BEFORE A TMDL IS NEEDED.**

### **IMPLEMENTATION STRATEGY**

- It is more valuable to develop a TMDL in tandem with watershed planning instead of separately.
- Integrate the TMDL process into existing programs (farm plans, monitoring, etc.)
- Start at the watershed level (implementation of TMDLs may be at lower scale or segment, depending on the nature of problem).
- Use collaborative partnership approaches from the outset to improve the outcome.
- Look for opportunities for third-party TMDLs.
- Provide early warning systems to identify water-bodies that are deteriorating so that preventative actions can be taken prior to listing.
- Make the entire process transparent to the public.
- Recognize and require positive partnership contributions of all stakeholders (from landowners to agencies) when awarding funding and grants.
- Encourage and do not disrupt or ignore existing collaborative efforts.
- States should coordinate watershed management activities using a rotating watershed approach.
- Emphasize adaptive management approaches.

**RECOMMENDATION # 2: EPA/STATES SHOULD DEVELOP A SOUND, SCIENTIFIC APPROACH TO LIST, DE-LIST AND PRIORITIZE IMPAIRED WATERS (DRAFT 2002 CONSOLIDATED LISTING GUIDANCE).**

### **IMPLEMENTATION STRATEGY**

EPA should work with stakeholders to develop the “Draft 2002 Consolidated

Listing Guidance” to improve the process of listing impaired water-bodies.

#### **ACTION ITEMS**

- Explicitly consider the recommendations included in the June, 2001 National Academy of Sciences report: “*Assessing the TMDL Approach to Water Quality Management*”.
- Develop criteria, protocols and methodologies to create a consistent/compatible scientific approach to listing and de-listing among states.
- Establish minimum levels of information needed to list and de-list impaired water-bodies.
- Include explicit plans for obtaining data for watersheds without sufficient information.
- Provide training to help outside groups understand and use methodologies.
- Market criteria and methodologies as the basis for court decisions and out-of-court settlements.

**RECOMMENDATION # 3: CONGRESS, FEDERAL AGENCIES, STATES, PRIVATE INDUSTRY AND OTHERS SHOULD ALLOCATE FUNDS TO PROVIDE TECHNICAL RESOURCES (UNIVERSITIES, NATURAL RESOURCE CONSERVATION SERVICE, SOIL AND WATER CONSERVATION DISTRICTS, AND OTHER NON-REGULATORY AGENCIES) VIA THE STATES TO HELP TARGETED NONPOINT SOURCE AUDIENCES (LANDOWNERS, MUNICIPALITIES, ETC.) TO IMPLEMENT STATE WATERSHED MEASURES, INCLUDING TMDLS.**

#### **IMPLEMENTATION STRATEGY**

The group recognizes the great success of the Clean Water Act to date. Much of that success in the past has been related to point source pollution control. Now, more attention needs to be given to nonpoint source issues. Create additional resources in the form of funding, in-kind technical expertise and other resources for non-regulatory organizations to help target nonpoint sources of water quality contamination in watersheds.

#### **ACTION ITEMS**

- Support technical coordinators to help collect information from diverse sources and organize and interpret data.
- Designate or assign technical support to parties required to implement best management practices (e.g., a “case manager” or technical assistance team.)
- Establish and train local groups and citizens to do water quality monitoring.
- Encourage joint monitoring and other data-gathering.
- Invest in systems for sharing data and increasing compatibility of data.

**RECOMMENDATION # 4: DEVELOP ALTERNATIVES TO TMDLS AND DEVELOP PILOT PROJECTS FOR THIRD-PARTY TMDLS.**

### **IMPLEMENTATION STRATEGY**

States should develop strong nonpoint source and watershed management programs to proactively address impaired water-bodies before they are listed. There may be alternative processes that could be implemented in order to prevent the impairment of a water-body. The Group discussed the opportunities and risks associated with Third-Party TMDLs. Factors to consider:

- A third-party TMDL is when the TMDL is done by anyone other than a state, tribe or EPA.
- BLM developed a temperature TMDL (third-party) which was a Water Quality Restoration Plan for the South Steens, Oregon.
- Vermont and New Mexico have conducted third-party TMDLs.

The following benefits to third-party TMDLs were identified. They:

- May save states from having to hire staff.
- Potentially expedite the accomplishment of water quality goals.
- May create more opportunity for local involvement in watershed planning.
- Are more likely to be implemented if locals involved.

The following concerns over third-party TMDLs were discussed:

- Questions exist about whether they will stand up in court.
- They could create a situation where “the fox is guarding the chickens”.
- There is no guarantee that it will be accepted by EPA (e.g., South Steen, OR BLM third-party TMDL).
- They may not meet state credible data laws.
- The state has less control and accountability.
- Consistency and/or quality may be compromised.
- There is an assumption of local involvement but it is not guaranteed.
- It may create more of a tendency to end up as another plan on the shelf.

### **ACTION ITEMS**

- Look for creative funding mechanisms.
- Encourage partnerships among diverse interest groups, e.g., landowners and technical experts.
- Emphasize transferability of learning (especially to EPA and the states).
- Integrate regulatory agencies (so they don’t block the effort after the fact).
- Use pilots as an opportunity to educate and transfer learning.
- Complete within three to five years.

## **RECOMMENDATION # 5: STATES AND FEDERAL AGENCIES NEED TO STRENGTHEN WATER QUALITY STANDARDS (WQS) TO SUPPORT TMDL DEVELOPMENT.**

### **PROBLEM STATEMENT**

Currently, the water quality standards are inconsistent and there are questions about the standard setting processes among states. The Group discussed the need to evaluate and improve WQS setting quality as a factor in problems with TMDL

process. Standardizing the processes among states may be problematic because of schedule inconsistencies and the potential to create significant delays. One may delay the other if they are linked.

## **ADDITIONAL RECOMMENDATIONS**

### ***Funding***

1. Develop funds for hiring TMDL staff and implementing nonpoint source controls, and simplify the application process.
2. Develop funds for states and tribes to use to hire dedicated TMDL staff.
3. Simplify/combine application process for securing Section 319 and state funds, etc.
4. Develop funds for states and tribes to use to hire dedicated TMDL staff to adequately develop and fully implement TMDLs.
5. Secure more funds from the legislature to implement nonpoint source controls needed to meet load allocations developed by the TMDL process.
6. Provide more funding for states and local level initiatives.
7. Provide more funding for federal land management agencies (e.g., BLM and Forest Service).
8. Look at how Section 319 funding was used in Vermont to develop a TMDL via third-parties.
9. Promote third-party TMDL development through flexible funding mechanisms.
10. Allow flexibility to involve stakeholders in the process.

### ***Data and Listing of Impaired Waterways***

1. Provide flexibility to states to implement TMDLs on a watershed scale.
2. Do monitoring, permitting, and standard setting on a watershed basis.
3. Focus load limits on the mainstream with implementation/load allocation applying to the entire watershed.
4. Use NGO data to improve data quality (address skepticism from agencies about non-agency data).
5. Develop Quality Assurance/Quality Control (QA/QC) agreements.
6. States need to establish methodology and protocols for listing/sampling/de-listing, etc.
7. Encourage states to get involved with the National Water Quality Monitoring Council.
8. Address Credible Data laws that restrict use of NGO/volunteer data (and address the sub-issue of lower quality data).
9. Create disincentives to over-list water-bodies.
10. Address incentives to under-monitor.
11. Encourage locals to use state certified methodologies.
12. Better prioritize the listed impaired water-bodies.
13. Help to prioritize 40,000 water-bodies.
14. Prioritize the use of science and data.
15. Make sure that the water-bodies on the list need TMDLs.
16. Develop consensus around criteria for prioritizing water-bodies to include on national 303(d) lists.

17. Influence guidance on lists – focus message to impact near term action.
18. Integrate more monitoring into problem identification and source identification and integrate monitoring into watershed planning during allocation.
19. Recognize the time element of recovery for watershed/water quality (need for monitoring/evaluation).

### ***Technical Support***

1. Validate effectiveness of Best Management Practices at the state level (allowing for a range of effectiveness and establishing effectiveness on water quality). The NRCS could help identify geographic variations.
2. Increase/restore “NRCS” field office staff for technical support and also provide additional sources of technical support.
3. Address conflicts among technical experts. Recognize that technical experts do not necessarily have to fix the problem.
4. Streamline permit processes.

### **Process of TMDL Development and Implementation**

1. Develop alternatives to lawsuits.
2. Endorse a rotating basin approach versus a shotgun approach.
3. Integrate water quality standard setting with TMDLs.
4. Give notice to the public early that a TMDL will be developed and provide opportunities for public involvement throughout the process.
5. Require notice (pre-TMDL development) to all impacted/affected interests.
6. Develop alternatives to TMDLs (such as proactive measures to avoid listing).
7. Evaluate at what stages collaboration is valuable.
8. Integrate TMDLs into state program level activities so they are not done on their own.
9. Integrate TMDLs within watershed management.
10. Consider allowing places doing watershed management to be exempt from TMDLs.
11. Increase awareness of the TMDL process, especially locally.
12. Maximize and encourage multi-interest collaboration as part of the process.
13. Recognize that the TMDL process is just a small part of the watershed process and it all needs to be integrated.
14. Keep implementation plans out of the jurisdiction of federal agencies (implementation plans are not required by law now).
15. Encourage collaborative and creative TMDL partnership approaches to restoring impaired waters as alternatives to TMDL lawsuits.
16. Implement a collaborative team approach by federal/state/local agencies that coordinates TMDL development and implementation.
17. Provide training to those agencies responsible for TMDL development and implementation on how to engage the public and diverse stakeholders in a coordinated and collaborative process for TMDL development and implementation.
18. Require agencies to actively seek local stakeholder input early and often in the TMDL development and implementation process (not just at the end of the process).
19. Do not rush states or scientists to develop TMDLs because the results could be compromised and valuable time, money, and effort could be wasted.
20. Expand the TMDL process to develop goals and targets for the entire watershed,

rather than just pollutant targets for a stream segment, and utilize Watershed Restoration Act strategies to meet these goals and targets for the watershed.

21. Provide widespread education and training to local governments, landowners, and other stakeholders on TMDL regulations and TMDL development and implementation, and stakeholder opportunities and responsibilities in TMDL development and implementation.
22. When communicating to the general public, communicate the issue of “clean water” and the role TMDLs play in clean water. Many people are confused about TMDLs, their purpose and their role in restoring impaired waters. The public, however, understands “clean water.”
23. Provide a clearinghouse and communications network for stakeholders interested in information relevant to TMDL development and implementation.
24. Agencies need to collaborate to develop agreements and methods to deliver a unified (one source) message to the public, grass roots watershed groups, and landowners regarding TMDLs.

## APPENDIX

### ACRONYM LIST

AAAS - American Association for the Advancement of Science  
AML - Abandoned Mine Lands  
APA - American Planning Association  
ARC - Appalachian Regional Commission  
BLM - U.S. Bureau of Land Management  
BuRec – U.S. Bureau of Reclamation  
CARA - Conservation and Reinvestment Act  
CDBG - Community Development Block Grants  
CEQ - Council on Environmental Quality  
CNS - Corporation for National Service  
CWA - Clean Water Act  
CRMP - Coordinated Resource Management Plan  
DOC - U.S. Department of Commerce  
DOD - U.S. Department of Defense  
DOE - U.S. Department of Energy  
DOI – U.S. Department of the Interior  
DOT - U.S. Department of Transportation  
DEQ – Department of Environmental Quality  
EDA - Economic Development Administration  
EPA – U.S. Environmental Protection Agency  
ESA – Endangered Species Act  
ESRI – Environmental Systems Research Institute  
FACA - Federal Advisory Committee Act  
FEMA - Federal Emergency Management Act  
FTE – Full-time employee  
GIS – Geographic Information Systems  
HUD - U.S. Department of Housing and Urban Development  
IFIM - Instream Flow Incremental Methodology  
IJC - International Joint Commission  
IPM - Integrated Pest Management  
MOU – Memorandum of Understanding  
NACO - National Association of Counties  
NAS - National Academy of Sciences  
NAWQA –National Water-Quality Assessment Program  
NEMO – Non-Point Education for Municipal Officials  
NEPA - National Environmental Policy Act  
NEP - National Estuary Program  
NGA – National Governor’s Association  
NGO – Non-Governmental Organization  
NOAA - National Oceanic & Atmospheric Administration  
NOI - Notice of Intent  
NPDES - National Pollutant Discharge Elimination System

NRCS – Natural Resources Conservation Service  
OMB - Office of Management and Budget  
OSM – Office of Surface Mining  
PHABSIM – Physical HABitat SIMulation  
QA – Quality Assurance  
QC – Quality Control  
RC&D - Resource Conservation and Development Council  
RFP – Request for Proposals  
RLF - Revolving Loan Fund  
SCWD - Soil Conservation and Water Districts  
SDWA – Safe Drinking Water Act  
SPARROW - SPATIally Referenced Regressions On Watershed Attributes (USGS)  
STORET - Short for STORage and RETrieval. A repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, etc.  
TDR - Transferable Development Rights  
TEA-21 - Transportation Equity Act for the 21<sup>st</sup> Century  
TMDL – Total Maximum Daily Load  
UDAG - Urban Development Action Grants  
USFWS - U.S. Fish & Wildlife Service  
USDA - U.S. Department of Agriculture  
USFS – U.S. Forest Service  
USGS – U.S. Geological Survey  
WAG – Watershed Assistance Grants  
WIN - Watershed Information Network  
WQS - Water Quality Standards  
WRDA – Water Resources Development Act