

## **RURAL WATERSHED PARTNERSHIPS: LESSONS FROM WEST VIRGINIA**

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**Abstract:** The goal of this study is to examine the efforts by one state government (West Virginia) to facilitate collaborative, watershed-based planning. This paper provides an overview of the state watershed planning process and includes a summary of a baseline study of rural watershed partnerships operating within West Virginia. Implication of the study for state policies and programs, community-based support, and future research are presented. Three main lessons learned from experience with the WVWAP include: (1) the need to assist local communities with the principles of inclusiveness and conflict resolution in development of watershed associations; (2) the importance of local leadership; and (3) the emphasis of process over plan.

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### **Introduction**

Over the last two decades, water quality improvement has become a national priority. There is growing recognition that the unintended, dispersed, and cumulative impacts on watersheds--affecting water quality, fisheries, soil loss, and agricultural productivity-- may be the single most limiting factor to economic health and well-being in the next century (Myers 1993). Historically, the protection of water quality has been addressed by command-and-control regulation authorized by federal and state laws. While progress has been made in controlling point source pollution, nonpoint source pollution continues to be a major problem (Brown et al. 1993).

Historically, efforts to restore the integrity of Appalachian watersheds have relied on an overlapping set of federal and state laws regulating land use. Federal efforts to improve water quality stem from the 1972, 1977, and 1987 amendments to the federal Water Pollution Control Act (Haines et al. 1988). Section 319 of the 1987 Amendment requires each state to prepare detailed water quality plans for watersheds affected by pollution, identify sources, and develop control mechanisms (Hawkes et al. 1993). Many observers have noted the inherent limitations of a strictly

regulatory approach to watershed revitalization. Marsh and Lallas (1995), in a review of federal and state water quality regulations, concluded that reliance on command-and-control regulations have led to a confusing, fragmented set of laws that are increasingly expensive for states to apply and for landowners to comply with. There is a growing backlash among landowners who feel they are being asked to shoulder an unfair share of the cost of restoring watersheds (Marsh and Lallas 1995).

There is a growing consensus that local solutions are needed to supplement regulatory approaches to watershed restoration. The emergence of local watershed partnerships initiated to resolve conflicts, problem solve, coordinate, build coalitions, and leverage resources illustrate the growing interest of communities, state and federal government, and academics in this subject. However, successful rural watershed partnerships are unlikely to occur unless all relevant actors and organizations possess the capacity to work together for the common good. New ways of organizing are needed to mobilize the human, technical, and financial resources needed to effectively restore watersheds degraded by a century of neglect. Partnerships require new types of leadership, purposes, agreements, and organizational structures in order to be successful. The ability to network people and money becomes increasingly important.

State governments can play pivotal roles in supporting of collaborative, watershed-based planning. Many states have implemented statewide watershed management frameworks (Clements et al. 1996). In addition, the states of Oregon and Washington have encouraged formation of cooperative partnerships at the watershed level by enacting legislation and providing funding (Horton et al. 1996; Pinkerton 1991). The goal of this study is to examine the efforts by one state government (West Virginia) to facilitate collaborative, watershed-based planning. We believe that the West Virginia initiative is unique because it involves direct facilitation of a network of inclusive watershed associations engaged in collaborative planning. This paper provides an overview of the state watershed planning process and includes a summary of a baseline study of rural watershed partnerships operating within West Virginia. Implication of the study for state policies and programs, community-based support, and future research are presented.

### **West Virginia Watershed Assessment Program**

Initially established in 1993, the WVWAP was developed to address interagency concern about the ability of any one state agency to protect water quality in the state. The first step in this program was to develop a comprehensive statewide plan. An interagency task force obtained input from 90 statewide stakeholder groups representing the complete spectrum of political interests. This planning process exposed individuals and organizations around the state to thinking about water quality on a watershed basis. Eighty-four percent of responding stakeholder representatives found the statewide plan to be generally acceptable. Working in consultation with these

stakeholders, two strategies from this plan were elevated for implementation: (1) Using geographical information systems (GIS), assess the ecological health of West Virginia's watersheds; and (2) assist local people in restoring their streams through the work of watershed associations. The practical reasons for assigning high priority to watershed associations included: (1) recognizing that some local people know more about their local streams than government regulators; (2) a dwindling state government budget combined with expectations of improved water quality could be reconciled only through the creation of partnerships between state and local interests; and (3) realizing that collaborative efforts might yield better, more widely accepted solutions than conventional top-down management.

In 1994, the WVWAP began to facilitate the birth and growth of local watershed associations. Initially, someone or organization must contact the program director expressing an interest in developing a watershed association. This invitation indicates some local leadership and avoids the impression of Abig government@ intrusiveness. Public knowledge about the existence of the WVWAP was created through the media, public presentations, and the initial statewide planning process. To date, about 25 inquires have been made, with some contacts coming from pre-existing river conservation groups.

Based on these initial contacts, the program director has been invited to meetings of nuclear stakeholders in about 20 watersheds. Nuclear groups are typically four to six people in size. The focus of these meetings has been: Do the people of this watershed want to participate in an inclusive, consensus-building watershed association? If there is an expression of interest, then a larger exploratory meeting is held where the nuclear group members have invited all major stakeholders which use the river resource or whose activities may impact water quality. These exploratory meetings have averaged about ten people in attendance with a range from three to twenty. At this exploratory meeting, the program director gives a presentation on the WVWAP. Facilitation services being offered are outlined, literature is provided, and some preliminary discussion of water issues is encouraged. Again, the program director leaves attendees with a question: Do the people of this watershed want to participate in the WVWAP by forming a watershed association?

A positive response to the above question starts WVWAP facilitation to develop a watershed association. However, a negative response does not imply that no organization forms in this watershed, some groups have chosen to form outside of the WVWAP. Since 1994, a total of nine watershed associations have developed under WVWAP facilitation. Facilitation services have included identifying stakeholders, maintaining membership lists, mailing organizational materials, arranging meetings, and assistance in conflict resolution and strategic planning.

Watershed associations formed under WVWAP facilitation are encouraged to practice transactional planning by employing inclusiveness of stakeholders, conflict resolution among parties involved with water issues, and consensus building. These principles are followed to enhance the credibility of an association to address water issues and to maximize acceptance of strategies developed by association. In order to solve problems associated with surface water and watersheds, all of the watershed's stakeholders should be represented during the planning process. Given past experiences among stakeholders, however, they often need assistance from an independent facilitator to grapple with the principles of inclusiveness and consensus building. To encourage inclusiveness, all stakeholders are: invited to attend meetings; sent minutes from meetings; and provided opportunities to comment on plans drafted by the association. These practices allow for a continuous flow of information between watershed associations and those parties affected by their plans.

Once association officers and a board of directors have been selected, the program director typically leads the association through a strategic planning process conducted over a series of meetings where all the stakeholders identified earlier are invited to participate. This process includes the following steps:

- In a brainstorming session, attendees are invited to provide a vision for the watershed 50 years into the future. A group consensus is developed for this vision.
- A creative thinking exercise is conducted where problems and opportunities associated with the river and its watershed are listed.
- These problems and opportunities are consolidated into a manageable list of issues. The group then reaches a consensus on the top priority issue.
- Another creative thinking exercise is conducted to solicit strategies to deal with these issues.
- These strategies are consolidated and prioritized.
- The single most important strategy is identified and agreed upon by consensus. Consensus may be pure (zero dissent) or simply a substantial majority (i.e., at least 75-80% agreement).
- The identified strategy may be large (e.g. construct a sewage treatment plant) so that the program director focuses the association on breaking up a large strategy into "bite-size" projects which incrementally contribute to accomplishing the larger strategy. These small projects are prioritized and one doable project is them implemented. Initial success, regardless of size, is crucial for community visibility of the association.
- After the initial project is completed, the entire strategic planning process is repeated to assess changing perspectives and priorities.

The program director conducts "process checks" periodically throughout the strategic planning process. Participants are asked to fill out surveys about the process

and the facilitation. Participation by diverse stakeholders is critical. The WVWAP will not facilitate the work of groups intent on becoming single-position advocacy groups. As a rule of thumb, at least 75% of the stakeholder categories should be represented during the process to maintain the principle of inclusiveness. Depending upon the degree of local leadership available, the program director may or may not conduct the meetings during the strategic planning process, although he attends most meetings.

Many of the doable projects conducted so far have involved on-the-ground activities. Examples include litter cleanups, stabilization of failing streambanks, or creation of recreational access to streams. Association strategic plans also have involved education to encourage voluntary changes in landowner behavior. Most stakeholders reflect the prevailing attitude that enough government regulation exists already. However, stronger enforcement of current laws (e.g., litter) has been sought by several watershed associations.

The ultimate goal of the WVWAP is to create inclusive, sustainable, and consensus-building watershed associations. A strategic planning process is emphasized where: (1) diverse interests are represented; (2) strategies are identified by consensus and action taken; and (3) the organization continues to exist after developing a watershed plan. The following section profiles watershed associations now operating within West Virginia.

### **A Survey of Rural Watershed Partnerships in West Virginia**

During the summer of 1996, a mail survey was conducted to profile and to assess the needs of watershed associations in West Virginia. A sample population of 67 river, community, watershed, and related environmental organizations was developed. A total of 40 responses were obtained for a response rate of 59 percent, of which 17 organizations were identified as watershed associations who had received assistance from the WVWAP. We define watershed association as an organization whose membership is voluntary and whose primary focus is water issues related to a specific area as determined by the group.

Those watershed associations receiving assistance included those which developed under the WVWAP as well as associations which developed outside the WVWAP yet received assistance from the program director. The mail-out questionnaire probed a number of specific issues related to watershed association planning and management including: purpose, composition, participation in state program, watershed problems, activities, barriers, and technical assistance needs.

Survey respondents were asked to identify serious water problems in their watershed (Table 1). Non-point sources of pollution were the most commonly identified problems. If possible, non-point responses were categorized as agriculture (e.g., logging, poultry industry) and non agriculture (e.g., abandoned coal mines, residential

development). Non-point pollution from non agricultural sources and sewage were pollution sources of greatest concern. Many rural areas of West Virginia continue to lack proper wastewater treatment facilities. Water flow problems consisted of flooding and stream blockage while the AOther@ category included mainly land use and management issues which impact water quality.

Many of the watershed associations surveyed are young, 11 of the 17 associations have been formed since 1994. The average membership size of watershed associations was 35 with a range of 8 to 250. Most groups had representatives from local government, businesses and industry, landowners, environmental groups, and recreational groups. Federal government and agricultural organizations were represented in only about half of the watershed associations.

The mission(s) of these watershed associations were categorized into: general cleanup or improvement of surface water resource (53%); watershed level planning (35%); promotion of tourism (18%); public education (12%); habitat protection (12%); and flood control (6%). The activities undertaken by the 17 watershed associations to fulfill these missions are listed Table 2. Over half of the associations were involved in an initial study of the problems of their watershed. These studies included water quality sampling and monitoring of pollution sources. As the associations tended to be young organizations, almost half were engaged in organizational development activities such as strategic planning and fund raising. The remaining activities primarily were action projects of: clean-ups of river litter; public education programs (float trips, holding river festivals, newsletters, arranging meetings with landowners, etc.); public meetings; buying land for river access; restoring wetlands (listed under AOther@ category in Table 2); and training volunteers for stream quality monitoring.

When respondents were asked to rate how effective their organization has been in fulfilling its mission, 62% thought their organization was very to somewhat effective, 30% were neutral, and 8% thought somewhat ineffective. Respondents then were asked their opinion on barriers to organizational effectiveness. As expected, manpower and financial resources were the most important barriers (Table 3). Other top barriers included internal problems of inadequate planning for meetings, a failure to define the group's focus, and working across multiple government jurisdictions. As about one-half of the associations were engaged in watershed studies, knowledge of the watershed resource was identified by only half the respondents as being a barrier, yet was regarded as moderately important by those respondents who identified it as a barrier. Existence of biases, distrust among members, and unwillingness to compromise were not viewed, for the most part, as barriers by respondents.

### **Results**

Table 1 outlines the general missions of the watershed associations participating in the study. While considerable

diversity of missions is evident, watershed associations could be grouped into those whose focus is foremost economic development and those associations whose primary focus was habitat protection. Most groups, however, indicated that both economic development and habitat protection are important objectives of their organization.

Table 1. Mission of Participating Watershed Associations

Mission Statement	%
Tourism	23
General Cleanup	20
Planning	14
Education	11
Safety	11
Habitat Protection	9

Many of the watershed associations surveyed are young; 27 or 73% of associations have been formed since 1994. Most indicated they were currently in the process of developing their organization. The average membership size of watershed associations was 35 with a range of 8 to 250. Table 2 provides an overview of the sectors represented in participating watershed associations. Most groups had representatives from local government, businesses and industry, landowners, environmental groups, and recreational groups. Federal government and agricultural organizations were represented in only about half of the watershed associations. The high level of business sector involvement reflects the economic development mission of many associations as well as the willingness of businesses to participate in local environmental initiatives.

Table 2. Sectors Represented by Association Members

Sectors Represented	%
Business	94.1
Local Govt.	87.9
Landowners	86.5
Civic Organizations	76.5
Recreation Groups	74.2
Environmental Groups	72.7
State Govt.	71.0
Agri Organizations	50.0
Fed Govt.	41.9

Overall, 17 or 42.5% of participating watershed associations had received some level of assistance from the West Virginia Watershed Assessment Program. Some groups pre-dated the state program while others either chose not to participate or were unaware of the watershed program. Types of assistance received included having a facilitator attend startup meetings, grant application assistance, and provision of watershed data. A number of watershed associations have been recipients of Stream Partner Grants, administered by the West Virginia Department of Environmental Protection, which has supported watershed-based projects.

Survey respondents were asked to identify serious water problems in their watershed (Table 3). Non-point sources of pollution were the most commonly identified problems. If possible, non-point responses were categorized as

agriculture (e.g., logging, poultry industry) and non agriculture (e.g., abandoned coal mines, residential development). Non-point pollution from non agricultural sources and sewage were pollution sources of greatest concern. Many rural areas of West Virginia continue to lack proper wastewater treatment facilities. Water flow problems consisted of flooding and stream blockage which still plagues many rural part of West Virginia. Finally, the Aother@ category included mainly land use and management issues which impact water quality.

Table 3. Watershed Problems Identified

Watershed Problems Identified	%
Non-point Pollution	52.9
Sewage	23.5
Water Flow	17.6
Other Land Management	5.9

Table 4 outlines the wide range of activities undertaken by watershed associations participating in this study. Because of the young age of most associations, many were engaged in organizational development activities such as fund-raising and strategic planning. The remaining activities primarily were action projects such as: clean-ups of river litter; public education programs (float trips, holding river festivals, newsletters, arranging meetings with landowners, etc.); public meetings; buying land for river access; restoring wetlands; and training volunteers for stream quality monitoring. Watershed associations facilitated by the West Virginia Watershed Assessment Program were encouraged to develop Abite-sized projects@ to encourage early success and foster volunteer recruitment efforts.

Table 4. Activities of Participating Watershed Associations

Activities	%
River Cleanups	17.6
Education	14.7
Fund-raising	11.8
Organizing Activities	11.8
Strategic Planning	8.8
Monitoring	5.9

Respondents were also asked what factors acted as barriers to organizational effectiveness. These responses are summarized in Table 5. As expected, organizational development issues such as the lack of financial and human resources were identified as major barriers by many associations. To a lesser extent, respondents mentioned problems such as the lack of and enforcement of regulations governing water quality in West Virginia.

Table 5. Barriers to Organizational Effectiveness

Barriers	*Mean
Lack of Financial Resources	3.8
Lack of Manpower	3.6
Enforcement of Existing Regulations	2.6
Lack of State Regulations	2.5
Inadequate Info on Watersheds	2.2

\*On a 1 (not at all important) to 5 (extremely important) scale

Finally, Table 6 presents some of the technical assistance needs identified by respondents. Assistance with on-the-ground-projects such as habitat restoration was identified as the top technical assistance need. A majority of respondents requested help in identifying sources of assistance for watershed restoration projects. Other needs identified included: legal help, volunteer recruitment, and resource identification and mapping.

Table 6. Technical Assistance Needs

Technical Assistance Need	%
Habitat Restoration	64.7
Resources Available	61.8
Legal Issues	55.9
Volunteer Recruitment	50.0
Resource Identification and Mapping	41.2

### Lessons and Future Directions

Three main lessons learned from experience with the WVWAP include: (1) the need to assist local communities with the principles of inclusiveness and conflict resolution in development of watershed associations; (2) the importance of local leadership; and (3) the emphasis of process over plan. Some stakeholders tend to be well represented within watershed associations (e.g. environmental and recreation groups, downstream and riparian landowners) while others are less likely to participate (e.g. agricultural organizations, headwater and upland landowners). Also, inclusiveness is difficult in highly polarized communities. For example, serious flooding problems have resulted in tremendous conflict within one West Virginia watershed over flood control alternatives. Thus, facilitation efforts must stress the potential benefits of inclusive watershed partnerships. Potential benefits include the involvement of more organizations from which resources can be obtained to accomplish the association's mission, validation of the association within the community, and enhanced credibility among legislators and regulatory agencies for association requests.

The second lesson emphasizes the importance of organizing the association and preventing any impression that state agency facilitation equates to control of the association. As an example, a well organized association will often possess a single good leader with a vision, who follows through with projects, and possesses good organizing skills.

The third lesson emphasizes process over plans because a sustainable watershed association must be responsive to changing conditions over the long term. Associations must be able to respond to changes in watershed conditions as projects are completed and as time passes. This responsive ability depends upon an association being able to revise its priorities rather than simple following a written planning document.

Given its brief existence, it is premature to assess the water quality impacts of the WVWAP. Significant improvements in water quality may take a decade or more

to achieve. However, these community-based partnerships provides a forum for cooperation between state and federal agencies through association meetings and partnership opportunities. The associations also have involved local people in designing more effective stream monitoring by the WV Division of Environmental Protection by identifying pollution hot spots in their watershed.

One result of the WVWAP has been the development of two additional statewide institutions designed to assist watershed associations. First, the state legislature enacted, by an unanimous vote, the West Virginia Stream Partners Act of 1996. This law authorizes state agencies to collaborate in overseeing the Stream Partners Program. The main purpose of this program is to provide up to twenty, \$5,000 grants to watershed associations. These competitive grants are awarded on the bases of an association's commitment to developing a watershed strategic plan; merit of a proposed water quality improvement project; and the group's commitment to the principles of inclusiveness, conflict resolution, and consensus building. During the initial round (1996) of funding, 19 grants were awards from a total of 66 applicants. Financial assistance was provided for projects such as restoring riparian corridors, improving trout habitat, public education, and a workshop on conservation easements.

The second institution is the West Virginia Watershed Network. This network is a collaboration by various groups (West Virginia Rivers Coalition, River Network, and Canaan Valley Institute) and the WV Division of Environmental Protection that support local watershed associations. The network was initially formed to avoid duplication of effort among these groups. In addition to coordination, the network has provided training for watershed association leaders through workshops and newsletters.

The WVWAP is unique in its objective of developing local capacity of watershed communities to resolve longstanding watershed problems. This program recognizes the limits of government regulation to solve the ecological problems of West Virginia watersheds. In an era of fiscal uncertainty and government downsizing, the WVWAP appears to be an appropriate response to enhance watershed planning and management. Research has begun at West Virginia University to identify and to analyze those social, economic, political, and environmental factors which explain local watershed participation in the WVWAP program. Future questions to be explored include: (1) what factors explain the degree of inclusiveness in watershed organizations; and (2) how effective in resource acquisition (funds, volunteer labor and equipment, etc) are watershed associations developed under the WVWAP compared to other watershed organizations.

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