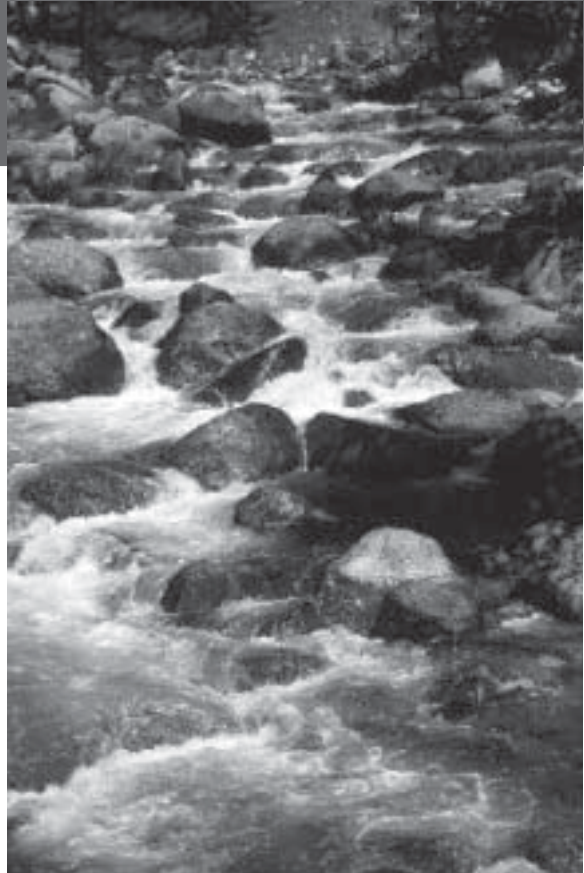


Assessment of
Community Watershed Organizations
in Rural Pennsylvania



The Center for

Rural Pennsylvania

A Legislative Agency of the Pennsylvania General Assembly



Assessment of Community Watershed Organizations in Rural Pennsylvania

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The Center for Rural Pennsylvania is a bipartisan, bicameral legislative agency that serves as a resource for rural policy within the Pennsylvania General Assembly. It was created in 1987 under Act 16, the Rural Revitalization Act, to promote and sustain the vitality of Pennsylvania's rural and small communities.

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INTRODUCTION

Pennsylvania has over 80,000 miles of streams and rivers – more than any other state in the continental United States – and 104 watersheds. A watershed is a region or area from which water drains toward a common watercourse in a natural basin. Pennsylvania's waterways face numerous threats, including excess nutrient loading, sedimentation, decreased flow, chemical pollutants, invasive species, access, and recreational conflict. In the last decade, there was a rapid expansion of community watershed organizations (CWOs) aimed at solving local watershed issues across the commonwealth and the nation. The development of local, volunteer-led watershed organizations seems to represent a paradigm shift to a community-based approach for generating long-term solutions to local watershed problems (Griffin, 1999).

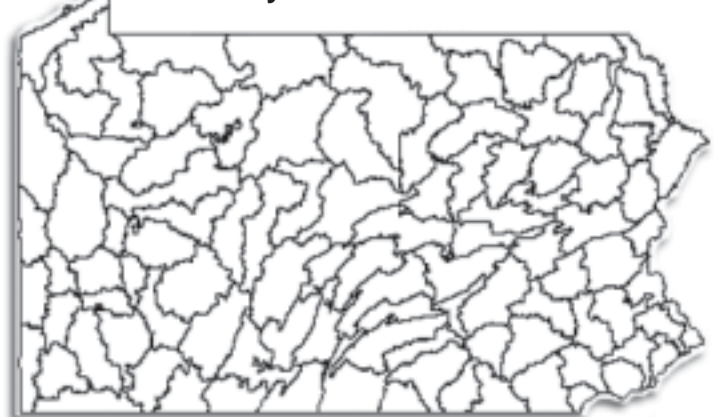
The Pennsylvania Department of Environmental Protection (DEP) has recognized the key role played by CWOs in protecting water resources across the state. Specifically, in recent years, DEP has provided numerous small grants to local governments and non-profit groups to carry out remediation projects through the Growing Greener Program¹. These locally directed projects have resulted in over 188 miles of stream buffers planted, 4,200 acres of wetlands restored, over 2,000 acres of abandoned mines reclaimed, and 770 abandoned oil and gas wells plugged. These projects also have supported the assessment of 153 watersheds and helped to create more than 100 new watershed organizations (DEP, 2001). The rapid increase in the number of CWOs and their prominence in state environmental programs highlight the extent of the problems facing local water resources and the degree to which local people are interested in solving these problems in their own communities.

This research report explores the organizational characteristics of local watershed organizations in Pennsylvania and discusses how these local groups are contributing to the development of local leadership, community capacity, and environmental policy in rural communities. Research efforts

focused on the genesis of local watershed organizations in rural areas and how these groups develop relationships both within and outside their local communities. The relationships and interconnections between CWOs, elected officials, government agencies and national-level environmental organizations were also explored.

Two key questions drove the research – how do CWOs develop internal organizational capacity and what techniques or strategies do they use to influence environmental protection efforts and policy-making in the community? The main methods used to explore these issues were a mail questionnaire and a series of interviews, both with a broad sample of Pennsylvania CWOs.

Pennsylvania Watersheds



Watershed management and community watershed organizations

Watershed management is not a new phenomenon in the United States. As early as 1890, John Wesley Powell suggested to Congress that the new states in the west should be delineated and governed by their watersheds rather than political boundaries. In fact, the complex philosophy of terrestrial and aquatic stewardship can be traced back to indigenous peoples and tribal societies and their place-oriented lifestyles (Powell, 1890 and Stegner, 1953). But Powell's ideas were not

¹ The Growing Greener Program, enacted in 1999, provided funding to preserve farmland and protect open space; eliminate the maintenance backlog in state parks; clean up abandoned mines and restore watersheds; and provide new and upgraded water and sewer systems across the commonwealth.

adopted, and top-down regulation and directives, implemented according to political boundaries, became the norm of environmental policy at the state and federal levels.

There is logic to environmental protections being mandated by federal rather than local authorities. Large pollution sources rarely affect only local residents, and solutions to sizable pollution prob-



lems are most often beyond the political and financial scope of local government authorities (Swanson, 2001). Over the last half century, environmental legislation at the state and national levels has tended to view natural resources through an economic lens (Woolley and McGinnis, 1999).

Watershed organizations are as diverse as the watersheds they are intended to protect. For this reason, there is no “one-size-fits-all” solution to cure all problems in a diverse collection of watershed communities (Mullen and Allison, 1999). A diversity of opinion and interest among local residents and agency staff can translate into a more flexible and effective organizational framework needed to secure the cooperation and financial support of related local, state, and/or federal agencies (Cline and Collins, 2002). A CWO’s success, therefore, depends on its stated goals. If the primary quest is to improve relations or at least reduce conflict among watershed stakeholders, the CWO’s effectiveness may lie in the process, or how it gets things done. If the organization is created to address specific local environmental issues, the primary measure of success may be increased environmental quality measured by pH levels or the number of macro-invertebrate species (Griffin, 1999).

The standard goal of a CWO is to manage the natural resources of a geographic versus political region (Griffin, 1999). CWO projects and policies involve the influence of individuals and groups extending beyond the physical boundaries of the watershed itself. CWOs are challenged to manage entire ecosystems while negotiating between different levels of government and various public and private environmental agencies and interpreting a blend of scientific facts and cultural values.

Collaborative decision-making is increasingly recognized as a key part of successful organizational relationships, and in rural areas, where neighbors are likely to know each other, collaborative decision making and stakeholder partnerships are proving the most effective way to foster good, long-term relationships. Watershed stakeholder partnerships typically consist of local residents, private interest groups (developers or business owners, for instance), local public agencies and state and federal agency representatives (Leach et al., 2002).

Successful collaborative decision making at the watershed level requires reliable scientific information, effective leadership and conflict resolution, and a meaningful way to measure progress and organizational effectiveness (McGinnis, Woolley, and Gamman, 1999). Outside experts cannot accurately assess regional connections and interdependencies as well as can local community members (Woolley and McGinnis, 1999). Indeed, one of the criticisms of the early, top-down environmental policies is that local environmental problems often have outside causes, and local community input is critical if these issues are going to be addressed by state and federal environmental agencies.

Local stakeholder partnerships need to be broad-based and contain a diverse representation of community interests. Stakeholder diversity, in terms of interests and opinion, has important implications and advantages in the policy-making process. In Pennsylvania and other eastern states, where the management task is often to mitigate environmental challenges posed by development and non-point source pollution from farming or other extraction industries, the stakeholders tend to be citizen groups, public agencies and private corporations. Strong federal agency involvement is much more common in western states because a vast majority of water use issues occur on publicly owned land (Griffin, 1999).

But community partnerships also have potential weaknesses. While representation of a community’s priorities and values is only possible through a broad representation of perspectives, stakeholders with radically different views can frequently bog down the policy-making process (Griffin, 1999).

And there are a number of other challenges to implementing institutional and grassroots approaches to environmental policy-making. For example, federal and state environmental agencies

have historically seen public input to policy-making as problematic. It was not until the late 1960s that laws were enacted that forced federal agencies to involve the citizenry in natural resource management issues. As a result of this historical bias, many early environmental interest groups adopted adversarial rather than collaborative stances (Griffin, 1999).

The benefits and challenges of stakeholder partnerships are two sides of the same coin. In the end, all decision-making is value-based, and inviting all interested parties to discuss local watershed issues (or any issue) can get complicated very quickly. If the opinions are too diverse, a consensus approach to problems and solutions may not be possible. On the other hand, opinions that are too

similar may not allow the CWO to address the thornier issues facing their watershed and its ecosystem (Griffin, 1999).

It is also important to note that few strong advocacy groups for rural interests currently exist at the state or federal levels (Swanson, 2001). While stakeholder partnerships may represent a power shift from centralized bureaucracies, state and federal agency staff can still strongly influence the

Watershed organizations are as diverse as the watersheds they are intended to protect.

decision-making process through project funding, political clout, and overall project

authority (Duram and Brown, 1998). From this bureaucratic standpoint, the collaboration process may appear to be a series of unnecessary hoops and, for some powerful partners, it might create more problems than it solves.

METHODOLOGY

The three main research goals were to:

- understand how and why watershed organizations form;
- understand the roles watershed groups play in developing and implementing rural and environmental policy; and
- develop typologies of organizations and assess the relative effectiveness of these organizational types.

It is important to understand the relationships of CWOs with other local groups, their participation in policy-making, and their role in fostering rural leadership capacity. Special emphasis was placed on understanding how relationships with organizations that provide financial, technical, and information resources to group leaders influence the CWO formation process. The relationships of watershed groups are pivotal to their involvement in certain types of activities and their ability to accomplish organizational goals.

The first research step was to assess the form and function of Pennsylvania CWOs. Twenty-seven key informants from a variety of governmental and non-governmental support and funding organizations and officers and directors of CWOs were identified and interviewed. Once the interview data were

transcribed, they were entered into a qualitative data analysis software package and scanned for relevant patterns. Key informants were also asked to provide any available documents related to the group's formation, mission statement, network ties, goals, and participation in policy-making. These documents were used to supplement the information gathered in the interviews.

The interview results provided background for developing a questionnaire, which was distributed in 2002. The survey asked for operational information from 2001.

The questionnaire was mailed to the 580 CWOs that fit the following definition: a non-governmental, non-profit, voluntary organization with or without paid staff, that works in a watershed at least partially in Pennsylvania with water-related issues as a theme or mission. The population was identified through several public listings of CWOs. The survey results were analyzed to determine key relationships between organizational structure, durability, inclusiveness, resource accumulation, and effectiveness.

The mail survey generated usable data from 172 organizations, for a response rate of 30 percent. For a more qualitative analysis, the researchers drew

from the 172 responses a stratified, random sample of 28 local watershed organizations located in eight major watersheds around the state. The sub-group consisted of organizations based primarily or exclusively in rural areas². The eight watersheds included were those identified by DEP in their statewide water-monitoring program. Given the variation in geographical size of each watershed,

the number of organizations selected as part of the sample ranged from two to six per watershed. More importantly, an “interaction” variable helped to select organizations that represented high, medium, and low levels of partnership activity. Within each watershed, CWOs were randomly selected to represent the entire range of partnership richness. The interviews were conducted in 2003.

RESULTS

This section reviews findings on the events and issues surrounding the formation of watershed organizations in rural communities; an understanding of the various roles that watershed organizations play in developing and implementing rural and environmental policy; a general typology of watershed organizations and an assessment of their effectiveness; and a baseline profile of CWOs in rural Pennsylvania.

Organizational Issues

Age of organization

Analysis of the survey data revealed a relatively wide range of organization ages. Although Pennsylvania watershed groups are relatively recent phenomena (44 percent have been established since 1995), nearly one-fourth were established prior to 1980. This fact shows that the formation of CWOs began long before the initiation of Growing Greener funds and similar programs.

The groups interviewed exhibited a similar range of variation as those in the survey. So, it is fair to say that community watershed organizations are hardly brand new, but that something happened since 1995 that provided impetus for the formation of additional groups.

Reasons for forming

In the survey, responding organizations were to check all issues they felt influenced their organization to originally form.

Nearly all of these groups, 80 percent, saw water quality as an important issue, and many also recognized related in-stream processes, such as aquatic habitat and water quantity. A strong minority (39 percent) of responding

groups also recognized recreation. Other listed issues can be characterized as threats to the maintenance of water quality and related in-stream characteristics. Among the factors that influence water quality, land use planning was a formation impetus for 36 percent of groups and open space preservation for 30 percent. Concentrated Animal Feeding Operations (CAFOs) (5 percent), landfills (8 percent), and logging (10 percent) were less influential.

Thirteen percent of respondents noted urbanization as an issue leading to formation, speaking to the observation that some CWOs visualize the link

| Year of Formation | Percent |
|-------------------|---------|
| Pre-1970 | 9% |
| 1970-1979 | 15% |
| 1980-1989 | 15% |
| 1990-1994 | 16% |
| 1995-1999 | 24% |
| 2000 or later | 20% |

| Issue Leading To Formation | Percent |
|---------------------------------------|---------|
| Water Quality | 80% |
| Environmental Education | 47% |
| Aquatic Habitat | 43% |
| Recreation | 39% |
| Land use Planning | 36% |
| Open Space Planning/Preservation | 30% |
| Water Quantity | 29% |
| Mining Impacts | 27% |
| Agricultural Concerns | 21% |
| Acid Deposition | 18% |
| Urbanization | 13% |
| Logging | 10% |
| Land Fill | 8% |
| Concentrated Animal Feeding Operation | 5% |

² At the time of this research, the Center for Rural Pennsylvania defined as rural those counties whose population was more than 50 percent rural, according to the 1990 Census.

| Mission Statement | Percent |
|---|---------|
| Protection, sound management, enhancement of rivers and watersheds | 35% |
| Understand, protect and restore rivers and their watersheds | 13% |
| Conservation, protection, restoration of North America's trout and salmon fisheries and their watersheds | 10% |
| Conserve land by undertaking or assisting direct land transactions | 10% |
| Promote voluntary land conservation by providing leadership, information, skills and resources | 4% |
| Build, promote and utilize the environmental ethic, expertise, and commitment of older persons to expand citizen involvement in protecting and caring for our environment | 2% |
| Alliance of district organizations for the purpose of joint action | 1% |
| No defined mission | 2% |
| Other (don't fit into one of these predefined categories) | 24% |

between water quality and other community development and human capital issues.

The analysis also examined whether groups formed around a single issue or a broader spectrum of topics. Thirteen percent mentioned a single issue that led to formation, 32 percent cited two to three issues, 27 percent listed four to five issues, 21 percent listed six to nine issues, and 7 percent listed 10 or more issues.

A series of simple correlations revealed that groups that identify more issues leading to formation tend to be larger in total membership; but there is no relationship between the number of issues and the year of formation, nor on whether they have received a private or government grant.

Mission statements

Conceptually, mission statements represent a blend of formation and goals. The survey asked groups to select which listed statement the group's mission statement most closely represented.

Protection, sound management, and enhancement of rivers and watersheds reflected the mission of more than one-third of survey respondents. Nearly one-quarter had missions that did not match that of any of the major state or national watershed-related organizations.

Funding and partnership resources

The survey revealed interesting patterns regarding the use of private and government financial and partnership resources.

In general, private foundations were not highly used as resources for watershed organizations. Many respondents were unfamiliar with these resources, and very few CWOs had applied for funding from many of them. But five sources, the League of Women Voters, Canaan Valley Institute, Heinz Foundation, Western Pennsylvania Watershed

Protection Program, and Western Pennsylvania Coalition for Abandoned Mine Reclamation were familiar to 75 percent or more of respondents and used as sources of funding by more than 10 percent of respondents. With a few exceptions, these private resources rarely came up in interviews.

In contrast, government resources were far more common as funding sources.

Growing Greener funds stand out dramatically from all other government resources: only about 2 percent of watershed associations had not heard of this source of funds, and 64 percent had applied to Growing Greener for funding (52 percent of all groups had *received* funding from Growing Greener). Three other resources were widely used, having been applied to by at least 10 percent of the organizations: the Department of Conservation and Natural Resources (DCNR) Rivers Conservation Program, and DEP's environmental education and GIS software grants. The Growing Greener program emerged in the interviews as a spontaneous topic in nearly every group and appears to be a crosscutting resource.

The importance of specific funding programs to the formation, goals, and organizational structure of CWOs cannot be overstated. Growing Greener funds clearly have been important financial resources for groups. However, in the interviews it became apparent that this is potentially a double-edged sword: groups that emerged in response to, and remain at least somewhat dependent on, such funds may face great difficulties if and when these resources decrease or vanish. "What will we do next?" was a common concern among the interviewed groups.

Sensitive to this possibility, the survey posed the statement: "if Growing Greener funding were abolished, our organization would cease to exist." Although over two-thirds of respondents disagreed

with this statement, 15 percent agreed, and another 11 percent were neutral. So clearly, there is some concern among a sizable minority of groups about the potential loss of this resource. Groups with a history that predates Growing Greener were more likely to disagree with this statement, as were those with large memberships. Large, established groups are less dependent on this type of grant program and are less vulnerable to its potential loss.

Based on the interviews, groups concerned about a loss of Growing Greener funds formed in response to a combination of the possibility of securing a Growing Greener grant and interactions with other local fledgling groups. It is likely that groups for which these were important formation factors may have lacked compelling local environmental quality problems, or at least these problems may not have engendered widespread concern, but rather the CWOs jumped on the bandwagon of group formation.

This vulnerability to specific funding program loss may be mitigated by several factors. At the most obvious level is the existence of a workable local environmental problem in need of attention. Problems that are too big in scope, have complex causality, or have no ready solutions can lead to group apathy. Problems that are too small are either

| Membership Category | Median # | Mean # |
|-----------------------|----------|--------|
| Core Members | 12 | 28 |
| "Active" Members | 25 | 59 |
| Total Membership List | 75 | 290 |

so trivial that no one cares enough or are easily fixed so that the need for the group vanishes.

Membership

Several aspects of membership affect CWO structure and how the organization may evolve post-formation. One issue that emerged repeatedly involved concerns about a high proportion of people who are nominally members but contribute little to the group besides membership fees. What appears to be crucial is the number of core members that a group can mobilize around an activity. The survey asked groups to list the number of members in different categories: core members, active members, and members "in name only." Groups were to use their own criteria in determining how many members fit into each category.

The median and mean both show a big difference between the number on a membership list and those who can be counted on as day-to-day participants. The interview data suggests fewer core members, from five to 10 people, can really be counted on.

| Private Foundations/Corporate Resources | Used or Applied for Funding | Hadn't Heard of |
|---|-----------------------------|-----------------|
| League of Woman Voters (WREN Grant) | 22% | 11% |
| Canaan Valley Institute | 17% | 23% |
| Heinz Endowment | 14% | 22% |
| Western Pennsylvania Watershed Protection Program | 12% | 21% |
| Western Pennsylvania Coalition for Abandoned Mine Reclamation | 11% | 18% |
| Eastern Pennsylvania Coalition for Abandoned Mine Reclamation | 7% | 20% |
| The William Penn Foundation | 7% | 35% |
| Chesapeake Bay Small Watershed Grants Program | 5% | 22% |
| Eight other organizations | Each < 3% | Each >30% |

| Government Resources | Used or Applied for Funding | Hadn't Heard of |
|--|-----------------------------|-----------------|
| Growing Greener Grant | 64% | 2% |
| DCNR Rivers Conservation Program | 18% | 13% |
| DEP Technical Assistance Grant (TAG) | 14% | 16% |
| DEP Geographic Information System Software Grant Program | 11% | 19% |
| DEP Environmental Education Grants Program | 10% | 16% |
| Dirt and Gravel Road Maintenance | 9% | 21% |
| Keystone Grant Programs | 8% | 18% |
| Keystone Acquisition and Development Grant Programs | 5% | 24% |
| Thirteen other programs | Each <5% | 15-44% |

The interviews also suggested that the total number of members was not as relevant a factor in overall effectiveness as the number of people who can be mobilized into activities. Maintenance of the size of this core group is seen as a great challenge to the sustainability of these organizations.

The role of leadership is also important. An understanding of the role of strong leadership in the community requires in-depth understanding of the specific operations of each group. Most groups that survive and prosper tend to have a charismatic leader, or at least have had one at crucial points in the history of the group. According to those interviewed, these leaders are not necessarily identifiable as a specific type: they differ by age, gender, and standing in community. What they have in common is a singular level of drive and energy to devote to the formation and maintenance of their watershed association and its issues. This energy is often associated with having time to pursue these issues: many leaders were relatively recent retirees or people who were undergoing other life changes.

These leaders inevitably suffer high rates of burnout if several things do not occur. Nearly all interviewed groups were concerned about leader burnout. The savvy leader makes grooming his/her replacement a high priority: many mentioned concern about this, some going so far as to target individuals within the organization and send them to special training in hopes of enhancing their capacity to eventually become the leaders of the organization.

Structure-related activities

Although new members are crucial to the maintenance of group structure, the survey shows that less than half of groups (40 percent) have a formal plan for recruiting new members. Formal actions to retain members are undertaken by even fewer groups. This can be taken as further evidence that many of these groups have limited capacity to engage in formal activities and prefer to concentrate their work on in-stream processes.

Other structure-related activities that are more commonly engaged in are primarily financial. Roughly two-thirds or more of groups mentioned bank accounts, financial reports, and reserve funds for operating expenses. Nonprofit [501(c)(3)] status was also achieved by a strong majority of groups,

| Structure Related Activity | Percent with |
|---|--------------|
| Bank Account | 86% |
| Annual Financial Report | 66% |
| Reserve Funds for Operating Expenses | 66% |
| 501(c)(3) Organization | 62% |
| Organizational Strategic Plan | 61% |
| General Liability Insurance Policy | 54% |
| Fund Raising Plan | 44% |
| Membership Recruitment Plan | 40% |
| Affiliate with a 501(c)(3) | 32% |
| Directors & Officers Liability Insurance Policy | 29% |
| Membership Retention Plan | 27% |
| Others Forms of Insurance | 25% |
| Endowment or Stewardship Fund(s) | 23% |

as were strategic plans. But the extent to which these plans address issues, such as membership, is not known.

Environmental Policy and Community Development

The local effects of CWOs are broad ranging, depending on the specific goals of the groups, their talents and resources, and the characteristics of their local communities. For many CWOs in the study, the main avenue of environmental activism is to affect change through local politics and to change behaviors through educating others and modeling appropriate actions. In addition, many of these groups change their local communities by bringing groups together, facilitating public discussion, and creating better relationships and a sense of community capacity.

Environmental outreach

In the interviews, groups ranged fairly dramatically in the breadth of water quality and related issues addressed. One group considered their in-stream work to be their only “real work.” Other groups were more interested in exploring the links between in-stream processes and the drivers of these processes, such as land use practices that might be having detrimental impacts.

Typically, CWOs felt that solutions to threats to water quality lie at the level of the individual, leading to a goal of changing peoples’ attitudes. Further, many saw that public education was not only consistent with their in-stream work, but in some ways far more important and far reaching. Several groups were quite active in particular with the education of youth, producing coloring books about the importance of clean water, making pre-

sentations and arranging field trips for elementary and secondary school children. It was interesting to observe in both the survey and interviews that groups tended to articulate their capacity to influence social change more in the manner of education of local citizenry rather than through political action. These groups take a fairly conservative approach, reflected more in seeking attitude change and voluntary conservation practices than through regulation or policy change.

CWO leaders recognize that local politics is the place where local decisions and policies can be influenced most readily. Since many rural CWO communities are relatively small, there is often informal contact between CWO leaders and local officials. This contact offers opportunities to raise awareness and discuss issues of importance to the groups. To foster opportunities to network and educate, some CWOs have formal municipal memberships, which allow local government representatives a seat on CWO boards.

CWOs' formal involvement in local politics represents a continuum. At one end are the groups that have very minimal involvement, in which the participation was described as individual members attending specific meetings of interest, either as citizens or as CWO representatives. They advocate for environmental quality by serving as citizen environmental representatives on local, regional, and state government boards, committees, and advisory groups. In doing so, they may provide information and education to local officials by making specific comments either at a hearing or directly to local officials in private.

Other groups have higher levels of involvement by providing formal comments on local policies and decisions. This gives them some influence over local conditions. Other examples of local political involvement mentioned in the interviews include providing comments and testimony on county comprehensive plans, stormwater management, land use and zoning, permits for coal mining and local sewer authorities, and greenway and open space funding. These contacts were generally described as non-confrontational, but persistent.

Another method of outreach is to generate publicity about an issue that CWO members care about by

organizing letter-writing and phone campaigns, writing letters to permitting organizations or newspapers, arranging interviews with local media, providing educational material during local elections, and holding public events and meetings. While only two groups mentioned using litigation, it is a tool that is available should they choose to use it and provided they have the resources to dedicate to the process.

However, because of the negative connotations

associated with environmentalism, a few groups explicitly avoid politics, preferring to be seen as apolitical. Their neutrality allows them to work with multiple groups and individuals in the commu-

nity and gives them legitimacy to facilitate meetings, discussions, and work teams involving very diverse groups. Some groups interviewed mentioned the need for environmental activists. While CWOs may not actively support these individuals and groups, they recognize a need for this type of action.

Instead of being pegged as environmental activists, many CWOs see themselves as "active environmentalists" getting things done in the community and improving their local environmental quality.

CWOs frequently develop close working relationships with local, regional, and state agencies to identify problems and find solutions. In some cases, they report problems to regulatory agencies, which have the authority to prosecute offenders.

While there are varying degrees of activism among the organizations, in general CWOs believe strongly that collaboration and cooperation will result in more environmental action than other methods, such as protesting or litigation. CWOs instead tend to use their networks and relationships to facilitate discussion of local and regional problems. They may draw on their local reputation to act as a mediator between opposing groups, such as between coal companies and landowners or between local agencies and farmers. By laying partnership groundwork, CWOs facilitate the formation of groups that can identify, prioritize, and seek funding for projects that cover multiple administrative jurisdictions, municipalities, and watersheds. And by discussing plans in advance with all stakeholders, groups can write more competitive grant

Educator is probably one of the most visible and oft-cited roles for CWOs in their local communities.

proposals in addition to being more effective when implementing projects.

Environmental education

Educator is probably one of the most visible and oft-cited roles for CWOs in their local communities. CWOs educate about watersheds and their biophysical and social importance. By focusing on watersheds, they offer a holistic vision of environmental quality affected by individual action.

Frequently, an explicit goal of CWOs is to change the way residents think about their environment and, through this, the way they treat it.

The methods of educating within local communities vary greatly, from holding events and building facilities, such as nature centers or narrated hiking trails, to developing videos, bulletin boards, displays, and other materials specific to their watershed and distributing them to local media outlets, schools, and libraries.

Survey results show that 58 percent of CWOs gave at least one presentation to other community groups, such as Lions Clubs or scout troops, in 2001. These community group meetings provide an opportunity for non-CWO members to be exposed to information and to ask questions and for the development of partnerships for future projects.

Forty-four percent gave at least one presentation to school classes in 2001. Of these, 29 percent gave 10 or more presentations. Further, 56 percent of all CWOs list educational institutions among their partners, while a few additional groups indicated a strong interest in working with their local schools, but as of yet were not able to develop those projects. Some of the groups working with local school districts report developing and implementing environmental curricula that satisfy the state requirements. They try to tailor the programs to the local watershed and include some field trips or other hands-on learning experiences.

Of the 27 rural CWOs interviewed, 15 mentioned working with schools to develop environmental curricula, making presentations on the local ecosystem, developing watershed projects, conducting field trips or educational tours, or holding specific

environmental events. As a result of these experiences, children who participated in the projects have gone on to win science awards and to develop interest in careers in environmental fields.

Often, CWOs fill a niche in the community that local schools and agencies don't have the resources or the inclination to fill. These CWOs extend the reach of local agencies by providing volunteer hours and expertise to educate local citizens and children about their environment. As

a result, CWOs see themselves as community leaders and resources for environmental issues.

Community development

In addition to individual behavioral changes, CWOs create energy and momentum around environmental issues and community activism in general. By working with local citizens and local governments, they demonstrate that the community has the capacity and the power to enact changes. CWOs and their successes provide models and incentives for other groups to form and work on their own projects, in environmental and other arenas. For example, several groups have become involved in efforts related to public health and public recreation space. These effects tend to be far-reaching, felt by a broad variety of people within a community.

Usually, the community development effects of CWOs are long-term and may not be felt for several years. However, based on this research, CWOs have impact beyond environmental quality by encouraging positive community interaction, developing individual leadership, and creating an environment in which community members can address problems and work toward solutions tailored to local needs and priorities.

Partnerships and coalitions

Data analysis revealed the importance of partnerships between fledgling CWOs and other organizations in rural communities. The partnering process has been fostered in many ways by federal, state, and regional organizations seeking to increase local involvement in environmental protection efforts. For example, the federal Environmental Protection

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Agency (EPA) has an extensive website with sections that focus on community-based environmental monitoring and clean-up efforts. In the same way, DEP and other environmental organizations encourage collaboration through their various grant application processes. Applicants that demonstrate strong links with state, local, and regional environmental organizations are more likely to receive support for their proposed activities.

Respondents spoke about the many efforts underway to bring local and regional environmental groups together to work as coalitions. Watershed coordinators, hired through county conservation district³ offices were sometimes leading efforts to bring local environmental stakeholders together.

Local government

There was a wide range of views on the role of local government in the protection of local watershed resources. Generally speaking, municipal officials were seen as unaware of the extent of the problems facing local watersheds or thought that there was no clear role for local government in the process.

However, in several cases, local officials did play important roles in the organization of CWOs—as founding members of local boards or by providing important logistical resources for projects. Usually, local CWO members worked to raise the awareness of local officials through attendance at local township meetings.

Other environmental or community groups

One of the central players involved in watershed protection and environmental education in rural communities was the county conservation district. CWOs also reach out to a wide range of community groups to gain support, recruit volunteers, and partner on funding applications. An example is bringing in a local Boy Scout troop to assist during a stream bank restoration or cleanup. CWO leadership tends to manage the planning process in collaboration with a state or county partner and then reach out for community support after the goals and objectives have been established. In many respects, this is less a matter of control and more related to

the need to craft projects that meet the programmatic and technical requirements of sponsors and agency partners. According to the respondents, most CWOs are working hard to raise local awareness and increase their visibility in the community. In this regard, an invitation to join with a planned conservation project creates a positive impression regardless of whether local community groups can participate.

Individual partners

Many of the committee or board members in local CWO groups are also members of another local, state, or national organization. These cross-memberships are often in affiliated environmental organizations.

There is some evidence that CWO leaders have been strategically joining other local and state organizations once they realize the importance of building their personal networks in conservation and watershed protection.

In many instances, CWOs have a local champion who helps to pull together the necessary interest and funding to launch an organization. Local conservation district staff and volunteers often fill this role by drawing together local citizens with a vision to protect their watershed. The watershed coordinators, staff in a county conservation district office funded through DEP, are best able to bring specific knowledge and training to bear on the problems and issues facing these fledgling groups. They act as organizational coaches and help move newly formed groups ahead. They also help forge new partnerships at the local and state level. The level of interest and involvement by the county conservation district is a good indicator of the level of CWO activity within the county.

Networks of association

In many communities, there are clearly overlapping memberships between CWOs and other local environmental organizations. PA Cleanways, for example, often shares membership with CWOs. There appears to be a strong link between individuals interested in conservation, hunting, and fishing. CWO members often cited their involvement in a local fishing or hunting club. The rationale for overlap in membership between sportsmen and conservationists appears to be rooted firmly in the relationship between game species and wildlife habitat.

³ County conservation districts, established in every county by the General Assembly in 1945 to promote the value of conserving soil and water to farmers, now provide expertise on soil, water, wildlife, trees and other plants, and other areas of natural resource conservation.

| Partnership Score | DEP as Strongest Link (% of total) | Conservation District as Strongest Link (% of total) | Total |
|-------------------|------------------------------------|--|-------|
| Low | 11% | 19% | 30% |
| Medium | 22% | 15% | 37% |
| High | 30% | 4% | 33% |
| Total | 63% | 37% | 100% |

Strength of partnerships

CWOs appear to have their strongest relationships with other local groups and county agencies.

Exceptions are groups that are essentially chapters of state and national organizations. For example, PA Cleanways and Trout Unlimited have local groups throughout rural Pennsylvania, and these local groups often perform many of the same functions as CWOs. Some of these local chapters look to their state and national sponsors for assistance in organizational development, funding, and project planning. Many grassroots CWOs have some link with civic organizations, municipal governments, and environmental groups, but are strongly linked to at least one state (DEP) or county-level (conservation district) sponsor.

To evaluate partnership interaction, the researchers counted how many times interview respondents mentioned DEP, DCNR, or county conservation districts. This calculation was referred to as a partnership score. Three categories were used to group the CWOs according to partnership score: low (1-15 discussion points); medium (16-22 discussion points) and high (more than 23 discussion points). Of those interviewed, 30 percent scored low; 37 percent scored medium; and 33 percent scored high. These partnership scores were then compared against the tendency for the CWO to have a strong or weak tie with either DEP or county conservation, the two main agency partners identified in the study.

Conflict issues

The research found that, among the CWOs studied, conflict was not often used to affect environmental change. There were many examples of organizations that had openly shunned the use of litigation or protest. Instead, CWO leaders pursued active environmentalism aimed at drawing in local support through demonstrating positive results.

There were some organizations that used the threat of litigation or letter writing campaigns to influence a decision, but in most cases, CWO

members are very concerned that their fledgling organizations not be viewed as fringe elements in the community. Alliances with local conservation districts help the image of being a locally sanctioned non-profit organization working for the greater good of the environment. Having a key local agency working with a CWO keeps that group in the mainstream and forestalls potential problems with other groups in the community.

Funding issues

There are uncertainties regarding the financial sustainability of CWOs across the state. The most important sources of funding for CWOs in Pennsylvania are grants and membership dues from community residents. Grants are by far the most substantial source of funding for organizational development and remediation projects. More than two-thirds (68 percent) of CWOs reported receiving Growing Greener funds through DEP in the first five years of their existence. These funds are often secured through key partnerships with a local institution like the conservation district or with political support from a member of the state legislature. Regional environmental organizations were also significant sources of grants and start-up funds.

In some cases, CWOs are reporting steadily increasing or stable membership dues. With a solid base of local support, these organizations are able to remain players in the hunt for funding and creative solutions to watershed protection. At the same time, there are some organizations that have not seen significant levels of local support in terms of new volunteers and membership dues.

While many CWOs have been able to use grants from state and regional sources to raise awareness and motivate other organizations to take a more active role in watershed protection, without continued support from their membership base in the community, it is unclear how long they will remain active in protecting their local watersheds.

Effectiveness of Watershed Organizations

Defining and measuring effectiveness

Defining effectiveness for this type of nonprofit group is difficult, as there are several different ways in which organizations can have an impact on their membership, their communities, and the environment. Further, as many of the goals and projects of

these groups are long-term in nature, the impact of CWOs may not be felt for many years.

Therefore, it is essential to use multiple measures of effectiveness. Included are the following measures developed through the survey project: the CWOs' self-reported perceptions of effectiveness in attaining their 2001 objectives; local awareness and support for their organization; and reports of their activities and accomplishments in 2001. Also presented are the ways in which the CWOs define success and effectiveness based on the interview data. Below is an overview of the nine effectiveness indicators.

Priorities: CWOs were asked in the survey to describe their three highest priority goals for 2001 and indicate their level of progress from 1 (no progress) to 5 (exceeded objective) on each goal. For each group, an average progress score is calculated across all goals listed, with higher values indicating greater progress.

Awareness: Awareness was measured by the responses on a five-point scale (strongly disagree to strongly agree) to a series of four statements: "Our organization has solved watershed problems"; "Our organization has an influence in decisions affecting the watershed"; "As a result of our organization, the stakeholders are more aware of the watershed issues"; and "The stakeholders of our watershed are well organized for action related to watershed issues." These responses were summed to form an additive index of local watershed awareness.

Support: Similarly used are respondents' reactions (strongly disagree to strongly agree) to a series of four statements related to local support for the organization: "Most residents in our area have heard of our organization"; "In general, residents

are in support of our organization's efforts"; "In general, town/borough officials are in support of our organization's efforts"; and "In general, county officials are in support of our organization's efforts." Again, respondents' answers are summed to form an index of local support.

Survey respondents were asked to list the number of activities they took part in during 2001 and the number of projects they accomplished in 2001. For both activities and accomplishments, three measures are calculated: total number, number of different types (variety), and the relative diversity of projects. Relative diversity is a summed index calculated by adding together the number of activities, weighted by how rare the activity is. So, common organizational activities may carry heavier weights than more episodic and/or rare events⁴.

Activities: Activity types include organizational meetings; events such as picnics, sojourns, fundraisers, and clean-up days; water quality sampling; and outreach efforts such as newsletters, presentations, and press releases.

Accomplishments: Accomplishments focused on environmental actions, such as trees planted, storm drains labeled, stream gauges installed, and stream banks fenced.

Of the 22 groups for which there is both survey and interview data, there are only five groups that did not score in the top 25 percent of at least one effectiveness indicator. Conversely, no CWO scored in the top 25 percent of more than six of the indicators. This suggests that the measures tap into different aspects of organizational effectiveness, and each group can be effective in its own way.

| Indicator of Effectiveness | Range of Answers | Median Answer | Groups in Top 25% | Definition of Top 25% |
|---------------------------------------|------------------|---------------|-------------------|-----------------------|
| Priorities | 2-5 | 3.7 | 8 | Score of 4 or more |
| Awareness | 8-20 | 16 | 7 | Score of 17 or more |
| Support | 11-20 | 16 | 6 | Score of 18 or more |
| Number of Activities | 2 - 2,153 | 79 | 5 | 131 or more |
| Variety of Activities | 0 - 15 | 11 | 5 | 14 or more types |
| Relative Diversity of Activities | 0 - 2.4 | 1.9 | 5 | Score of 2.08 or more |
| Number of Accomplishments | 0 - 2,029 | 9 | 5 | 49 or more |
| Variety of Accomplishments | 0 - 8 | 2 | 6 | 4 or more types |
| Relative Diversity of Accomplishments | 0 - 1.9 | 0.2 | 4 | Score of 0.95 or more |

⁴ For more detail on this measure, see Lee (2003).

Comparison of organizational characteristics by effectiveness

This section describes organizational characteristics of more and less effective CWOs, focusing specifically on interview discussions of leadership, structure, and partnerships. The selection of these three areas as organizational components was based on their being fundamental to accomplishing specific activities and long-term organizational goals and missions.⁵ The final portion discusses the ways the CWO leaders characterized their own organizations during the interviews.

Using the nine effectiveness indicators described above, subsets of more and less effective rural CWOs were identified in the interview sample. The five groups that did not score in the top 25 percent of at least one indicator are categorized as “less effective,” and the six groups that scored in the top 25 percent of four or more effectiveness indicators are called “more effective.” It is important to note, however, that even the “less effective” organizations have significant accomplishments in their communities that may not have been measured but should not be overlooked. This comparison is meant to identify areas in which organizations have developed specific skills and/or organizational competencies that lead to greater effectiveness.

The six CWOs identified as “more effective” share a few commonalities that provide insight into their level of effectiveness.

- They all pay very close attention to organizational issues. All six groups made a conscious effort to develop their advisory boards early in the life of the organization. These boards are comprised of representatives of local environmental agencies, businesses, community groups, sportsmen’s groups, other local and regional environmental groups, county and municipal officials, representatives of local educational institutions, and landowners. Leaders of these

The emphasis on organizational development is key among the “more effective” organizations. These groups explicitly discuss the need to form broad partnerships within their communities and rely on these partnerships to help draw in the resources, networks, and knowledge needed to accomplish projects and long-term goals.

groups discussed the importance of inviting a broad mix of board members so that multiple sets of resources, information, and perspectives may be brought to bear on their discussions and plans. Further, it has been a conscious effort to nurture these relationships over the life of the organizations.

- None of the six formed in response to a single triggering event. In general, they formed as a small group of one to five individuals who were aware of local environmental conditions. The specific stimuli for starting the organizations included grants from regional or state groups and attending public presentations by other environmental groups.
- Five of the six had a sponsoring organization that provided significant technical, financial, and organizational resources.

The emphasis on organizational development is key among the “more effective” organizations. These groups explicitly discuss the need to form broad partnerships within their communities and rely on these partnerships to help draw in the resources, networks, and knowledge needed to accomplish projects and long-term goals. They also recognize the importance of organizational activities, such as relationship building, membership recruitment, leadership development, and strategic planning to their long-term success. The recognition of these needs allows them to develop the foundation upon which their specific environmental objectives can be built and sustained.

The five “less effective” CWOs had few commonalities, so the expectation that effectiveness might be linked to characteristics of organizational structure and leadership was not substantiated. They varied by organizational leadership patterns, number and type of partnerships, and organizational structure, although they all report having a “loose” organization, which could be interpreted as an informal style of interacting and running meetings.

⁵ Lee found, using the survey data only, that the only consistent predictor of effectiveness is the number and abundance of partnerships. Other organizational characteristics (age, size of membership, age of organization, etc.) did not predict effectiveness as measured in this project.

The main local issues driving CWO activities are concerns over water quality, environmental education, habitat protection, and recreation.

- One commonality is that four of the five organizations started because of a single triggering event. However, other groups that form in response to a single event have been quite successful. It is not clear from this project why these four are not “effective.”

- Another commonality of three of the groups is their organizational emphasis on facilitation of community dialogue, participation in local politics, and development of local environmental decision-making capacity, instead of more visible, on-the-ground activities. This fact suggests that measures of effectiveness need to include these less tangible activities and to understand how these activities fit into overall organizational effectiveness.

That there are relatively few commonalities among the “less effective” CWOs suggests that any number of issues may prevent an organization from achieving its goals and from completing multiple and/or diverse types of projects.

Based on the organizations in the “less effective” category, the measures of effectiveness used in this study do not tap all the ways in which organizations can have an impact on the local community and environment. CWOs can have impacts that are not easily quantified or measured, but which are still important for their local communities.

Definitions of success from CWOs: The interviews contained a component to allow the CWO leaders to describe their definitions of success. In the case of the five “less effective” organizations, success was described in a variety of ways but tended to focus on individual members’ knowledge gain, specific project completion, and increases in local environmental awareness. This is in contrast to the “more effective” groups where four of the six described some component of their organizational life as part of their definition of success. This included developing strong local community partnerships, attracting good staff and leaders, and simply continuing to exist to do their work. Their definitions of success also focused on increasing local awareness of environ-

mental issues and providing local residents with education to make more environmentally sustainable choices. These CWO leaders explicitly recognize the link between their organizational activities, like partnership-building and leadership recruitment, and the success of their on-the-ground activities.

Lessons learned

▷ There seems to be no direct relationship between organizational characteristics and effectiveness. However, consistent attention paid to organizational qualities and structure does pay off for these groups.

▷ A definition of organizational effectiveness should be multi-faceted and will depend largely on the goals of each individual group. It is therefore important for groups to identify their broad goals from the outset, develop individual projects to help them achieve those goals, and track their progress. Self-assessment and evaluation, in terms of their goals and the resources they use to achieve their goals, is more important than an external assessment. It is essential that CWOs include an organizational component to this evaluation process.

▷ Less tangible local impacts, such as community facilitation, political impact, and individual skill development, are important and need to be highlighted by groups. These are all consequences of their activities and should not be overlooked.

▷ Recognition of organizational capacity and related issues needs to be part of the daily workings of a CWO. This is particularly true for the development of partnerships and nurturing relationships within the local community and region.

▷ CWOs need to be aware of some of the hurdles and limitations imposed if they form over a specific triggering event or in opposition to some issue. It takes extra attention, which may be difficult to garner, to organizational issues if the group is to be sustainable for the future. In particular, they may need to focus on developing a broad base of supporters and partners, defining their organizational direction, and recruiting leadership that will be interested in moving the organization forward following issue resolution.

▷ Sponsoring organizations can play a key role in the long-term effectiveness of CWOs. The

support received by these groups must go beyond transfer of funds for specific projects, but should focus on helping the CWO to develop partners, networks, technical knowledge, and organizational strength and should continue to support them beyond initial establishment.

A Profile of Pennsylvania Watershed Organizations

Each community watershed organization is unique, but the results of this research can be synthesized to profile the typical CWO as follows.

Issues

- The most common missions of CWOs focus on the protection, management, and enhancement of the watershed and on environmental education.
- The main local issues driving CWO activities are concerns over water quality, environmental education, habitat protection, and recreation. Second-tier issues include land use planning, non-point pollution sources, open space, mining impacts, and urbanization.
- Most CWOs are focused on problems in a specific body of water within an established watershed and appear to be quite successful in marshalling volunteer interest and political support among a wide range of state and local agencies to solve localized watershed problems.
- There seems to be a natural progression of interest and effort among CWOs from localized problems to regional water quality issues. This progression is fueled by increased interaction among groups that leads to increased awareness of the potential for multiple groups to work together on mutually beneficial solutions.

Organization

- The typical rural Pennsylvania CWO is a volunteer-run organization that has been operational for 10 years or less. More than a quarter of these organizations have been in operation for less than two years.
- There tends to be a core group of 10 to 12 people who help manage the organization, and fewer than 50 members who regularly volunteer for sponsored activities. These organizations typically have a dues-paying membership that ranges from 20 to 300 members, with a median of 100.

- CWOs are typically run by a nine to 11 member volunteer board of directors who manage the organization without paid staff and rely on three or more committees to carry out organizational objectives. Board members contribute between 50 and 500 hours of volunteer labor to their CWO each year. Volunteers, interns, consultants, and paid staff members contribute over 400,000 hours to Pennsylvania CWOs.

- Most CWOs established a board of directors, published their first newsletter, completed an “on-the-ground” project, received a grant, and achieved nonprofit [501(c)(3)] status within the first five years of operation. On the other hand, it typically takes a decade or more for CWOs to hire their first staff member, purchase property, or hold conservation easements.

Operation

- Most CWOs have an organizational bank account, annual financial reports, reserve funds for operating expenses, nonprofit status, and general liability insurance for volunteers. More importantly, over 60 percent have an organiza-

CWOs used a wide range of federal, state, and local sources for technical assistance in carrying out their activities.

tional strategic plan to guide their activities.

- Membership dues are a small but important source of baseline funding for many organizations. More than half have received grant funds through DEP. Regional environmental nonprofits have been instrumental in helping many CWOs get started with technical support and small grants. Other sources of funding are private/corporate. While most organizations were successful in securing at least one grant from a public or private source, many CWOs do not know about a wide range of public and private funding sources for watershed protection activities.

Local partnerships

- The majority of CWOs have between three and nine organizational partnerships, with a median of six. More than 10 percent of CWOs reported

one or no partnerships, while another 20 percent reported 10 or more.

- These partnerships were most commonly with state agencies, local governments, community organizations, colleges and universities, and other local/regional environmental groups. CWOs did not have extensive links to federal agencies, business groups, or school districts.

Leadership recruitment is emerging as a key issue for many CWOs.

Resources

- CWOs used a wide range of federal, state, and local sources for technical assistance in carrying out their activities. Most CWOs used about five different sources, with county conservation districts being the most widely tapped local resource used by more than two-thirds of CWOs. Other significant sources of technical assistance included DEP, the Pennsylvania Fish and Boat Commission, POWR, and the Canaan Valley Institute.
- CWOs frequently use small grants from DEP or a regional nonprofit organization to get their organization off the ground. As the organizations move ahead on new projects and their initial operational funding runs out, it will become increasingly important for CWOs to find ways to generate operational and project funding.
- Leadership recruitment is emerging as a key issue for many CWOs. The original leaders are burning out in some cases, and the groups are looking for ways to attract new leaders to move their organizations forward.

Activities and accomplishments

- Most CWOs have a wide range of activities including meetings, newsletters, picnics, float trips, festivals, fund raising events, and clean-up days. They also use presentations, attendance at public meetings, and press releases to communicate with others in the community.
- CWO accomplishments include tree plantings, storm drain labeling, installation of fish habitat structures, and the restoration of stream reaches or sections. Many organizations focus their attention on acid mine drainage mitigation or various water monitoring activities.

- This research revealed evidence that community watershed organizations are moving from “environmental activism” toward “active environmentalism.” CWOs still use advocacy techniques to raise awareness and mobilize decision-makers, but there is a shift in strategic thinking among CWO leaders. CWO leaders are more interested in linking education and action to show positive environmental outcomes and energize their membership base.

Role in state and local policy-making

- Most organizations reported a moderate amount of support given by local residents, municipal officials, and county officials for their activities.
- CWOs often partner with state and local agencies with regulatory and enforcement powers. They also have close working relationships with conservation district offices and often have conservation district staff on their boards to provide vital technical assistance on major projects. Recent DEP-sponsored watershed specialists in local conservation districts have often provided critical leadership in the formation and funding of local CWOs. Most CWOs report interaction with DEP and/or DCNR.
- Many CWOs are becoming focal points in the community for people concerned about environmental problems, and many are clearinghouses for contacts and referrals on issues related to watershed protection. CWOs have provided technical information to interested citizens to help solve local environmental problems. They often work as liaisons between stakeholders.

Coalition building efforts

- There appears to be a two-tiered approach to developing networks. First, CWOs are showing greater sophistication in placing their members on instrumental local boards, such as those for planning and conservation districts. The second approach is recruiting existing members of these local boards to join the CWO as both members and board members.

Summary

Though relatively small in terms of membership and financial resources, CWOs are emerging as major organizational players in the management of watershed resources in Pennsylvania communities. CWOs generally consist of a small group of com-

mitted local people that use limited grant funding and membership dues to finance targeted projects of local importance. These small, community-based organizations leverage their meager resources by forming multiple partnerships with state and local agencies charged with the enforcement of environmental policy at the community level. More impor-

tantly, CWOs appear to be helping to build strong environmental coalitions at the county and regional levels that are focused on improving water quality, delivering environmental education to local residents, and raising public awareness of watershed issues, while generally not taking a confrontational approach.

CONCLUSIONS

Empower Local Residents: The level of collaboration between DEP, county conservation districts, and local watershed groups shows that it is possible to mobilize and empower rural residents to take more initiative in protecting vital natural resources.

Strength in Diversity of Organizations: Pennsylvania CWOs are very diverse in terms of their issues of concern, projects, goals, organizational structures, strategies, leaders, partners, and effectiveness. This diversity can be a strength in that CWOs reflect the needs and concerns of local residents and the specific environmental conditions within a local area. Their emphasis on local concerns allows for more significant community support. Further, the local level is where people can influence social and political conditions most readily, and CWOs offer them the opportunity and the means to do this.

Pennsylvania CWOs are very diverse in terms of their issues of concern, projects, goals, organizational structures, strategies, leaders, partners, and effectiveness.

Use a Variety of Tools to Achieve Objectives: CWOs use a wide range of tools to achieve their objectives including public awareness and education campaigns, water monitoring programs, regional alliances, and collaborative strategies with local and national environmental organizations.

CWOs tend to use non-confrontational strategies and rely more on collaboration and intense bargaining with public and private actors at the state and local levels.

CWOs tend to use non-confrontational strategies and rely more on collaboration and intense bargaining with public and private actors at the state and local levels. Watershed groups generally use consensus strategies to solve problems and avoid coercion, conflict, or litigation to achieve results, although a small number do use these tools as well.

Increase Influence through Data Collection and Use: Watershed groups are able to increase their status and influence in the community through the collection and dissemination of data and information on their local environment. This information has led to increased understanding of environmental standards to help plan for and mitigate problems in the watershed.

Develop Local Leaders: Watershed groups are helping to develop local leadership on environmental issues and providing residents an opportunity to speak on complex environmental problems facing their communities.

Provide Examples of Successful Community Organizations: CWOs are providing examples of successful community organizations, which may have effects beyond environmental concerns. Their activities and their partnerships create networks of people who are interested in being active in their communities. By being active in such groups,

individuals develop skills and knowledge that can be translated into other community efforts.

Compliment Other State/Local Programs: Watershed groups are working in ways that compliment rather than compete with DEP and county conservation district programs. As watchdogs, CWOs are helping to instill more self-regulation among potential rural polluters. Further, they extend the reach of government agencies by providing labor on specific projects and education about environmental issues.

Promote Awareness of Environmental Issues: CWOs are a viable vehicle for emergent environmental attitudes that have been fostered by years of public policy and environmental law. Local residents learn about their watershed and become more aware of current legisla-

tion through the activities of CWOs. Watershed groups may be the leading edge of a wholesale shift in environmental attitudes among rural Pennsylvanians. CWO members are more focused on protecting valued natural resources for themselves and for their children's future.

Achieving Results: Watershed groups are achieving results using tools, such as information sharing, public/private partnerships, fundraising, and water monitoring programs. These groups are collaborating with conservation district and DEP staff to assemble the necessary funding and technical expertise to protect their watersheds.

Play Essential Role in Promoting the Environment: Local "watershed champions," often a watershed coordinator working in the local conservation district with DEP support, are playing essential roles in promoting a common set of environmental values, a deeper understanding of watershed issues among rural residents, and an awareness of actions they can take to preserve their local resources.

Create Creative Partnerships: Watershed groups have demonstrated that they can creatively partner with other organizations, assemble key resources, and take primary responsibility for protecting local watersheds.

Act as Environmental Advocates: Watershed groups can play the role of environmental advocate in many rural communities. In some cases, they are the only local group pushing local elected officials to pay closer attention to watershed issues and problems. These groups are helping create a new environmental ethic in some rural communities.

Work with State/County Agencies: The willingness of watershed groups to work closely with state and county agencies has probably deflected some of the more strident environmental activists from becoming actively engaged in their activities.

Do Not Compete with Other Groups: There appears to be limited evidence that local watershed groups are competing with each other or national environmental organiza-

tions for volunteer time and donations. In many cases, national organizations have provided essential assistance to local groups.

Flat Organizational Structures: Watershed groups have flatter organizational structures that allow them to assemble the necessary resources for small-scale projects in more flexible ways than their state agency partners could achieve. This may be one of the most important features of the emerging alliance between DEP, county conservation districts, and local watershed groups.

Educate Residents: CWOs are actively using water-monitoring programs to educate and mobilize rural residents with limited education and formal training. Once local volunteers become aware of DEP water standards and water quality monitoring procedures, they can take lead roles in identifying sources of non-point pollution.

Use State as Key Resource: Granting agencies, including DEP, have been key resource for local watershed groups, allowing them to establish their organizations and leverage funding from other grant sources.

Watershed groups are working in ways that compliment rather than compete with DEP and county conservation district programs.

Effectiveness Related to Organizational Capacity: CWO effectiveness is intimately related to the organizational capacity an organization builds. In particular, developing strategic plans and visions for the future, nurturing relationships with local and regional organizations, and recruiting and developing leaders are elements that can lead to greater effectiveness of CWOs.

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