

A MODEL FOR EFFECTIVE STAKEHOLDER EDUCATION AND INVOLVEMENT IN SUPPORT OF WATER RESOURCES MANAGEMENT GOALS

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Abstract. Involving the public in critical water resources decisions affecting environmental health of a community is becoming a key component of a water resource manager's role. New regulations such as National Pollution Discharge Elimination System (NPDES) Phase II MS4 permit program require public participation and outreach. But, just as important is the stakeholder's effectiveness in assisting the manager in achieving the bottom-line – clean water. Numerous water resources management plans have been written and stored on shelves, remaining unimplemented for various reasons. Often the reasons are insufficient funds or insufficient political and community support. A comprehensive public outreach program can help overcome these barriers.

INTRODUCTION

Regulatory mandates such as the National Environmental Policy Act (NEPA), National Pollution Discharge Elimination System (NPDES), and the Clean Water Act (CWA) reflects the changing face of decision-makers in the struggle to reduce environmental pollution. The general public, represented by citizens, special interest groups, businesses, and others are demanding to be informed and volunteering their time to actively assist in this mission. These are "stakeholders," people affected by urbanization and polluted waterways, and protected by regulations enacted by policy-makers.

Local governments are facing more and more regulatory requirements with insufficient staff and program funding to meet the enforcement needs. "Smart Growth" planners are incorporating more environmentally-sensitive land-planning designs and water resource managers are producing voluminous watershed management plans. But, are the goals being met? Is the public seeing results of their tax dollars in cleaner water? All the watershed management plans are a "drop in the bucket" unless every stakeholder is

an active participant. *Each person is part of the solution in reducing water pollution.*

BACKGROUND

Only one percent of the Earth's freshwater is usable, or potable, and this amount is slowly being degraded. Non-point source pollution has been recognized as a major contributor of water resource degradation. A national water quality inventory conducted in 1994 indicated that 40 percent of the waters surveyed in the United States were considered too polluted for fishing, swimming, or other recreational uses (EPA, June 2000). Physical and chemical changes to our environment due to urbanization have resulted in negative impacts of our water bodies from hydrologic alterations, erosion, siltation of waterways, increased impervious surfaces, excess nutrients, heavy metals, hydrocarbons, and other toxins.

Many state, local, and federal agencies have recognized the value of public involvement with regard to successfully balancing the needs of a healthy environment, sustainable growth, and a growing economy. Many recommendations in local government water resource management plans cannot be implemented without public participation, education, and support. The recent NPDES Phase II MS4 permit program consists of two required measures out of six that focus on public education and public involvement (EPA, January 2000). Only through effective and continual partnerships can improved health of water resources be achieved.

PROGRAM COMPONENTS

I have designed a comprehensive public involvement and education program that has been successfully implemented in several areas over the past 12 years with proven tools for continual outreach and behavioral changes that will assist water resource managers in their efforts. This program consists of

four components: 1) Inform the stakeholders, 2) gather their input, 3) educate them on key issues, and 4) enlist their support.

Inform the Stakeholders

It is important to get citizens and interested parties involved early in the process. Dissemination of information about local government initiatives should be viewed as a first step after approval of the initiative. The community should be made aware of state, local, and federal agency efforts and water resource management issues. In general, large public meetings are not successful getting the message out. Other methods of information transfer have demonstrated more success such as focus groups, community advisory committees, and community meetings.

Some tools that were developed as part of several past management plans and for the recent NPDES Phase II MS4 program provide information on current programs, regulations, activities happening in their neighborhoods, etc. Examples of informational tools developed are:

- Doorhangers
- Webpage
- Newsletters
- Flyers
- Brochures
- Bill inserts
- Magnets
- Public Service Announcements



Stakeholders should be informed of programs and initiatives so that a) they are informed on how their tax dollars are spent, b) a comparison of their level of understanding of relevant issues can be made at a later date to measure success of the executed action plan, and c) they can respond to water resource managers more effectively.

Gather Input

Once preliminary information is disseminated to stakeholders, it is important, and under many circumstances, required to obtain their input. Stakeholders, including businesses, special interest groups, and elected officials, should be asked to share their knowledge and perceptions of their areas' water resources. This input can close some data gaps and highlight issues that need to be addressed. Examples of data gathering tools are:

- Interactive website

- Complaint logbook and tracking form
- Technical Advisory Committees
- Informal surveys
- Focus group workshops
- Homeowner Association meetings
- Presentations

In a recent project, stakeholders were provided a "Customer Concern" form to notify a local government of water-related problems. The concern was put into a GIS database to document the occurrence and a complaint tracking system so a staff member could perform a site visit and address the problem directly with the stakeholder. A focus group meeting was also held at which a presentation on the project results was given in a rotating table discussion format. A Best Management Practice (BMP) exercise was part of the presentation. The group was assigned the task of selecting and prioritizing BMPs according to various evaluation criteria and funding alternatives. The exercise was informative on preferences of the stakeholders and how much they were willing to spend on them.

Educate Stakeholders

Stakeholders should be educated on the relationship to their watershed and its encompassing ecosystem. This will lead to a better understanding of the resource and its limitations and how their actions impact it. A parallel effort should be initiated to educate elected and appointed officials, as well. Education is the most important step towards behavioral change and the transformation to good stewards of the water resources. It is particularly important in the field of water resources to teach the stakeholders about non-point source pollution. It is essential to target both the general populace and students.

There are numerous educational materials already prepared and available. The following tools are some that I have used or developed:

- Curriculum
- Posters
- In-school classes
- Festivals



- Board games
- Field games
- Teacher workshops
- Bookmarks
- Video
- “Enviroscape” model by Terrene Institute

I co-authored a curriculum entitled “Stormwater and YOU” for the purpose of reaching the next generation of water resource managers. The impetus was to allow the teacher to teach, to reduce barriers to teaching unfamiliar subjects, and to increase the desire to learn. Each page is inserted into a three ring binder for ease in producing handouts, overheads, and worksheets. The curriculum is designed to be a kinesthetic teaching tool with an experiential approach. The manual includes a scavenger hunt that can be used for fun or extra credit projects.

Enlist Stakeholder Support

Public acceptance can deter or accelerate water resource management implementation. Once educated, a permanent shift in behavior and practices can be achieved, and stakeholders will continue to be motivated to protect what is theirs. Sustainability will be met through ownership. Building trust and credibility can garner support in several ways. Stakeholders may volunteer for projects such as tree planting, water quality monitoring, or presenting initiatives at their homeowners association meetings. They will be more apt to support budgetary items and efforts to pass or revise ordinances. Elected and appointed officials will be better equipped to initiate legislative reforms or financial requests. An educated stakeholder base can be involved in setting target conditions for the management of water resources as in the recent Fulton County water resources program efforts.

Some examples of successful enlistment of



stakeholders are:

- Clean-up events
- Demonstration projects
- Volunteer monitoring and planting
- Community Advisory Groups
- Community enhancement projects
- Community presentations
- Drought-tolerant native planting
- Training and certification programs

I have managed and participated in a number of activities listed. The most important step in measuring success of the entire public involvement process is the point where, after teaching them to “fish,” they “fish” on their own. They understand their relationship to the environment and become part of the solution.

SUMMARY

People most affected by management decisions should have an opportunity to be involved in the decision-making process, and in some instances, it is required. Building partnerships is essential to bridging the gap between the management plan and implementation, or action plan. The water resources manager is a key player in initiating and continuing that partnership in order to achieve goals that are far too encompassing to accomplish within the confines of the local government office. The four-step process described here is a comprehensive public involvement and education program. Many efforts end with the first component, informing the stakeholder. Some expand into the other components: gathering input, educating stakeholders, and enlisting support. However, for long-term improvements, the comprehensive approach should be employed to assist the water resources manager in garnering the support and achieving the goals set.

LITERATURE CITED

- USEPA. Storm Water Phase II Final Rule, Small MS4 Storm Water Program Overview. EPA 833-F-00-002. January 2000.
- USEPA. Water Quality Conditions in the United States, A Profile from the 1998 National Water Quality Inventory Report to Congress. EPA841-f-00-006. June 2000.

Editor’s Note: Note that the purpose of the stakeholder involvement program described here is to enlist the stakeholder’s assistance in achieving the water resource manager’s goals.