



# Capitol Region Watershed District

## Education and Outreach Plan

February 23, 2009

### Capitol Region Watershed District



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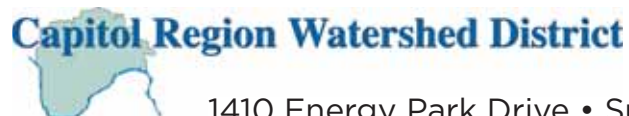


Appendix E - 1

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Prepared by:



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:: September 2009

I am pleased to present the CRWD Education and Outreach Plan.

Capitol Region Watershed District board and staff thank the many stakeholders for their assistance in completing the plan. At the outset of this process, staff from St. Paul Public Schools Service Learning Office, District Planning Councils 6 and 10, St. Paul Parks and Recreation, Eco Education, Friends of the Mississippi River, MMC Associates, and residents of CRWD participated in a January 2008 focus group. The group initiated the Education and Outreach Plan process by engaging in an exercise to identify target audiences for the District's water quality education and outreach. Group participants distinguished District homeowners who care for their own lawns and K-12 youth as their preferred target audiences. They also suggested taking advantage of existing community structures, e.g. the District Planning Council system and other community organizations, as primary means of distributing information.

CRWD then contracted with Westwood Professional Services to review CRWD's existing planning documents and collaborate with District Board and staff to create the plan. The District acknowledges Sarah Stai of Westwood for guiding board and staff through a series of strategic steps tailored to watershed education planning, and for writing the substantive portions of the Plan. The District would also like to thank staff from Eco Education, Minnesota Green Roofs Council, the city of St. Paul, and CRWD citizens who carefully read the plan and provided helpful suggestions for improvement.

Sincerely,

Elizabeth Beckman  
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Capitol Region Watershed District

enc: CRWD Education and Outreach Plan

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# Capitol Region Watershed District

CRWD covers 40 square miles and includes portions of Falcon Heights, Lauderdale, Maplewood, Roseville, and St. Paul. CRWD has a population of approximately 245,000 people and is located within Ramsey County. The Mississippi River is the predominant water resource to which the entire district drains. Como Lake, Crosby Lake, and Lake McCarrons are also located within the District. CRWD is guided by five managers appointed by Ramsey County.

## Introduction

Clean and available water is essential for human life and critical to our quality of life. Point sources of pollution that plagued our waters a few decades ago have been largely remedied through the implementation of the Clean Water Act, and through the separation of sanitary and stormwater discharges. Nonpoint source pollution, however, continues to impair water quality. The very nature of nonpoint pollution – that is, the cumulative effect of pollutant-generating activities occurring across the landscape – means that everyone who lives, works, and plays in that landscape is part of the solution.

Although nonpoint source pollution has become a more prominent issue in the last several years, there is still a lack of awareness by the general public about the role of stormwater runoff in water pollution. Because water quality is a function of how people go about their everyday activities, educating the general public about how to modify those activities is an important strategy for improving water quality. A watershed, with its natural boundaries dictating the flow and fate of water through the landscape, provides a logical context for educational efforts.

Watershed education has two crucial components. First, building awareness lays an important foundation. If people are not aware of stormwater runoff and its effects on water quality, for example, they cannot act to mitigate those effects. Information alone, however, is not enough to solve the problem. Numerous studies have shown that knowledge by itself does not suffice to change human behavior. The second vital part of public education is community-based social marketing. Social marketing is an effective way to achieve changes in behavior because it identifies barriers that

prevent behavior change and provides tools for overcoming those barriers. In effect, social marketing is about “selling” desirable behaviors, just as consumer marketing is used to sell products and services.

The Capitol Region Watershed District (CRWD or “District”) has developed this Education and Outreach Plan (“Plan”) in order to guide its efforts to increase awareness of watershed issues and to promote behaviors that will help solve water-related problems. The focus of the Plan is on water quality, because people can readily identify with the importance of clean water. The cleanliness and availability of water are inherently intertwined, however, and a better understanding of water quality will foster appreciation for water resources in general. This Plan is intended to guide an ongoing strategy rather than to exist as a stagnant document. To ensure success, the approach to watershed education will adapt through time to build on growing awareness and meet changing needs.

Development of the Plan was based on two key premises. First, by definition, community education relies on the involvement of multiple stakeholders. The Plan incorporates input from District Staff, its Board of Managers, and the Citizens Advisory Committee and addresses the need to gather feedback from the larger community as the Plan is implemented. Second, the Plan reflects a fundamental understanding of the need to prioritize efforts. Water quality is a complex problem, and the nature of the problem varies across the diverse landscape of the District. The District’s population is also large and diverse, and its resources are limited. Social marketing works not by striving to tackle every problem and reach every person. Instead, it focuses on specific problems and tailors the solu-

tions to carefully defined target audiences and their particular behavior patterns. Once the behavior of a “critical mass” in the population is changed, it spreads naturally through social diffusion, and each change paves the way for ongoing progress.

The Plan was developed by proceeding through a series of strategic steps tailored to watershed education planning. The approach was adapted from “Getting In Step: A Guide for Conducting Watershed Outreach Campaigns” by the U.S. Environmental Protection Agency. The steps are outlined at right in Figure 1. Although the steps are presented as a linear process, this approach is actually iterative in nature, with the results of implementation and evaluation informing the refinement of objectives on an ongoing basis.



Figure 1: Planning Steps (Process “Road Map”)

## Driving Forces

The first step in educational planning is to identify the driving forces. In other words, what are the overarching problems, requirements, or concerns that are motivating development of an outreach plan? The driving forces determine the scope of the plan and lay the foundation for all subsequent steps. There are three main factors driving the need for the District’s Education and Outreach Plan:

**I. Public Concern:** This factor has driven outreach since the very inception of CRWD, given the District’s early history with Como Lake. The public has continued to be aware of and concerned about certain watershed issues, whether or not they have a full understanding of watersheds in general or this watershed in particular.

**II. Regulatory Compliance:** Permit requirements, such as those in the Trout Brook SWPPP or what may be included in the Lake Pepin TMDL, contribute to the need for an outreach plan.

**III. Water Quality:** Water quality issues, as evidenced by the District’s monitoring data, are the most obvious driver for this Plan. The issues vary by water body and subwatershed, but in general the pollutants of most concern are phosphorus, sediment, metals (lead, copper), and bacteria. Many sites exceed state surface water quality standards (or averages, where standards are absent) for nutrients and metals during wet weather. The District produces more pollutants per acre than other tributaries to the Mississippi River.

## Goal

The goal for the District's Education and Outreach Plan flows directly from the driving forces. It answers the question of how the District will address public concern, meet regulatory requirements, and resolve water quality issues through outreach.

**The goal of this Plan is to increase awareness of stormwater runoff in the community and use education to promote changes in behavior that will help restore and protect water quality in the District.**

This goal statement helps to communicate three key features of the District's educational efforts:

- Outreach progresses from awareness through education to action and will occur through a social marketing approach.
- Both preservation and restoration of water quality need to occur, in different degrees depending on the subwatershed.
- The focus is on water quality, though other aspects of water resource education can still occur.

## Objectives

The goal of this Plan will be met by achieving several objectives. The objectives have been formulated to provide basic awareness about stormwater runoff and to address the existence of multiple water quality problems, the behaviors responsible for those problems, and the members of the community whose behaviors outreach is intended to modify. The objectives were developed through a collaborative process with District staff and Board. The process involved identification of three types of "building blocks" for the objectives: (a) pollutants; (b) pollutant-generating behaviors; and (c) the groups engaging in those behaviors. These building blocks and Board feedback are summarized in Appendix 1.

The first three objectives, as outlined below, need to be carried out sequentially:

**Objective 1:** Conduct a baseline survey to assess the existing level of knowledge regarding basic watershed and stormwater concepts, such as: Do you live in a watershed? When water enters a storm drain, where does it go? What is/are the main cause(s) of water pollution?

**Objective 2:** Increase understanding of basic watershed, stormwater, and water pollution concepts by

doing a District-wide media campaign and carrying out other programs that promote awareness of watersheds in general and the District in particular.

**Objective 3:** Conduct follow-up surveys annually to measure the increase in understanding of basic watershed, stormwater, and water pollution concepts, and adapt programming efforts as needed based on survey results.

The fourth objective does not need to occur in sequence with the first three, but its implementation will be most effective once the baseline survey data have been collected. The following objective will be the basis for much of the District's programming efforts for the next three years:

**Objective 4:** Educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.

The remaining objectives represent important educational needs, but their implementation will not be addressed in this Plan. As described above, the District's limited resources and the nature of social marketing require the prioritization of efforts. The following objectives were identified during formulation of this Plan but were tabled for consideration in future outreach planning:

- Educate business owners (i.e., commercial & institutional property owners) as well as private citizens that live, work, or travel through the District (i.e., residents, motorists, and pedestrians) about waste disposal practices that reduce metals and trash in runoff.
- Educate lake and river users and pet owners about recreational and pet care practices that reduce bacteria levels in runoff, lakes, and rivers.
- Educate lake and river users and pet owners about recreational and pet care practices that prevent the spread of invasive species.

**The next three sections – Audience Analysis, Messages, and Formats – focus on Objective 4 and the homeowner, municipal staff, and contractor audiences.** Although all objectives are best met by thinking through a series of planning steps, Objective 4 is the most complex and comprises the bulk of the District's programming for the near future. The final sections – Implementation and Evaluation – describe how all objectives will be carried out and assessed for effectiveness.

# Audience Analysis

Audience analysis is a critical step in designing outreach programs. Knowing the audience means that messages are more effective, efforts are better targeted, and resources are more wisely and efficiently used. The three steps to audience analysis are: (1) segmenting the audience; (2) characterizing the audience; and (3) identifying barriers that prevent the audience from engaging in preferred behaviors.

## Segmenting the Audience

To maximize message effectiveness, audiences are broken down into the smallest segments possible that still retain the characteristics of the audience. Various criteria, such as geographic location, demographics, occupation, and behavior pattern, can be used to segment audiences. These criteria act as “filters” to narrow in on the groups that merit the most focus.

Because achieving changes in behavior patterns is at the heart of this Plan, behavior patterns were the first “filter” applied to the audiences covered by Objective 4 (homeowners, municipal staff, and contractors). Many behaviors contribute to phosphorus, sediment, and runoff volume, but three categories of specific behaviors were determined to make the largest contribution and therefore justify the most attention. All three categories apply to all three audiences, though the specific behaviors vary by audience (Table 1).

Note that behavior patterns were considered throughout the planning process, in Audience Analysis as well as in Messages (see page 9). A behavior selection tool was used to narrow in on the behavior patterns of Table 1 even further, as described below in the Messages section.



**Table 1: Key Behavior Patterns for Objective 4**

Behavior Pattern Category	Homeowners	Municipal Staff	Contractors
Turf and Garden Care	<ul style="list-style-type: none"> <li>Fertilizing (product, frequency, method)</li> <li>Yard waste disposal (grass clippings and leaves)</li> <li>Predominant use of turf and non-native plants</li> <li>Irrigation/watering</li> </ul>	<ul style="list-style-type: none"> <li>Fertilizing (product, frequency, method)</li> <li>Organic waste disposal (grass clippings and leaves)</li> <li>Predominant use of turf and non-native plants</li> <li>Irrigation/watering</li> </ul>	<ul style="list-style-type: none"> <li>Fertilizing (product, frequency, method)</li> <li>Organic waste disposal (grass clippings and leaves)</li> <li>Predominant use of turf and non-native plants</li> <li>Irrigation/watering</li> </ul>
Impervious Surface Management	<ul style="list-style-type: none"> <li>Car washing on hard surfaces</li> <li>Driveway/patio washing</li> <li>Downspout discharges onto hard surfaces</li> </ul>	<ul style="list-style-type: none"> <li>Street and parking lot cleaning (timing, method, catch basins)</li> <li>Street and parking lot maintenance (sand, salt, snow removal/stockpiling)</li> </ul>	<ul style="list-style-type: none"> <li>Street and parking lot cleaning (timing, method, catch basins)</li> <li>Street and parking lot maintenance (sand, salt, snow removal/stockpiling)</li> </ul>
Erosion and Sediment Control	<ul style="list-style-type: none"> <li>Landscaping installation /maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Enforcement of regulations (i.e., local ordinances) on construction sites &lt;1 acre</li> </ul>	<ul style="list-style-type: none"> <li>Erosion control (temporary and permanent cover)</li> <li>Sediment control (BMP installation and maintenance)</li> <li>Volume control (sediment laden discharges)</li> </ul>

With these behavior patterns in mind, the homeowner audience was segmented according to two additional criteria, as summarized in Table 2a: (1) the subwatersheds where phosphorus, sediment, and/or runoff volume have been identified as a problem; and (2) the demographic characteristics that typify people who care for their own landscape (as opposed to hiring lawn care services, which involves a separate analysis geared toward landscape professionals; see Table 2c).

**Table 2a: Criteria for Targeting the Homeowner Audience**

Behavior Pattern Category	Subwatershed	Demographic Profile
Turf and Garden Care	Como Lake	Single-family detached homes
Impervious Surface Management	Trout Brook	Age < 55
Erosion and Sediment Control	East Kittsondale	Married with children at home
	Phalen Creek	Household income < \$70,000
	St. Anthony Park	

Similarly, the municipal staff audience was segmented according to two additional criteria: (1) the municipal departments that are primarily responsible for the behavior patterns in Table 1; and (2) the governmental units that have the most overlap with District boundaries (Table 2b). Note that while homeowners engage in behaviors in all three categories, municipal departments are specifically aligned with a certain behavior category. Within departments, staff at the supervisor level were selected as the primary targets for educational efforts because they can influence the training of workers and the practices used in the work, and the District's relationship with these staff is not as well established as with department heads and division managers. Relationship-building by CRWD with supervisors and inspectors will be critical to the success of the outreach efforts described in this Plan.

**Table 2b: Criteria for Targeting the Municipal Staff Audience**

Behavior Pattern Category	Department/Occupation	Governmental Unit
Turf and Garden Care	Parks/Maintenance Supervisors	City of St. Paul City of Roseville City of Falcon Heights
Impervious Surface Management	Public Works (Streets)/ Maintenance Supervisors	
Erosion and Sediment Control	Building Inspection/Inspectors	

The contractor audience was also segmented according to two criteria in addition to behavior pattern: (1) the type of business engaging in the behavior patterns from Table 1; and (2) the degree to which existing regulations address those behaviors (Table 2c). As with the municipal audience, certain types of contractors are aligned with certain behaviors, and the supervisor level represents the best target for educational efforts. Unlike the other two audiences, the Erosion and Sediment Control (ESC) behavior category is not represented in the table. It was determined that ESC behaviors by this group would not be targeted in the Plan because the National Pollutant Discharge Elimination System (NPDES) features so prominently in the work of construction contractors and developers. Although regulation alone is not enough to change behavior, NPDES permits do address the behavior patterns identified in Table 1 under the ESC category for contractors, and professional development is actively addressing those behaviors. By focusing on contractors not covered by NPDES permits, outreach efforts can fill a gap that is not being addressed through regulation.

**Table 2c: Criteria for Targeting the Contractor Audience**

Behavior Pattern Category	Business/Occupation	Regulatory Status
Turf and Garden Care	Landscape Maintenance & Installation/ Owner/Manager/Supervisor	Practices/businesses not covered by an NPDES permit (industrial, municipal, or construction)
Impervious Surface Management	Snow Removal/ Owner/Manager/Supervisor	

**Characterizing the Audience**

Tables 2a-2c provide a preliminary profile of the target audiences. Additional information is needed to characterize the audiences adequately and ensure message effectiveness. This information determines how the audiences receive and respond to educational messages. Basic questions that will need to be answered as the Plan is implemented include the following:

- What are the demographics of the audiences?
- What is the knowledge base of the audiences regarding watershed issues?
- How do the audiences receive information?
- How do members of the audiences communicate among themselves?
- Do the audiences think there is a problem?
- If so, who do they think is responsible?
- How do the audiences perceive CRWD?

Demographic data are readily available, but data collection geared toward the other questions outlined above is beyond the scope of this Plan. Watershed-specific data can be gathered as part of the surveys conducted for Objectives 1 and 3 or through other means such as focus groups.

### Identifying Barriers

Once target audiences have been defined, the barriers that prevent people from engaging in preferred behaviors are identified. Barriers can be physical, economic, social, psychological, or knowledge related. Examples of barriers include the health and safety risks of doing a beach clean-up (physical), the expense of a rain barrel or compost bin (economic), and neighborhood pressure to have a lush lawn (social). Whether the barrier is perceived or real is important only in terms of which educational tools are used to overcome it.

Identification of barriers to the preferred landscape practices covered by Objective 4 is necessarily based on some assumptions; like the audience analysis described above, a better understanding of barriers will evolve as more information is gathered through Plan implementation. Preliminarily, the most important barriers identified for target audiences are shown in Table 3.

Table 3 also shows barrier “busters,” which are techniques used to overcome barriers so that changes to behavior can occur. Although barrier busters may need to take different forms to address laypeople (i.e., homeowners) versus professional audiences (i.e., municipal staff and contractors), the techniques are fundamentally the same. A financial barrier might be overcome, for example, by using giveaways, discounts, or utility bill rebates. Knowledge barriers are typically addressed through workshops and demonstration projects. Rewards and recognition programs can be used to encourage new social norms, such as wildflower gardens in place of turf in urban neighborhoods. A before-and-after study could be used to show how adoption of certain practices by one neighborhood has a measurable effect on the amount of runoff and contamination generated by that neighborhood. Barrier busters acknowledge that even when people know what is the right thing to do, they need to be convinced that it saves them time, saves them money, or that “everybody’s doing it.”

**Table 3: Barriers and Barrier Busters for Target Audiences**

<b>Barrier</b>	<u>Physical/Economic</u> (perceived effort required to perform preferred behavior)	<u>Social/Economic</u> (no incentive for performing preferred behavior) <sup>1</sup>	<u>Knowledge</u> (lack of information needed to perform preferred behavior and to understand its beneficial impact)	
<b>Barrier Buster</b>	Show time & money savings	Provide reward & recognition	Provide training & demonstrations	Show cumulative effects

<sup>1</sup> A “lack of incentives” barrier encompasses what is generally described as “resistance to change.” Resistance to change can be individual, as is likely for some homeowners, or it can be institutional, which is more likely for municipal staff. Understanding whether resistance to change occurs on a personal level or an organizational level helps determine appropriate messages and formats for overcoming the barrier (see Tables 6-8).

# Messages

Effective messages are simple and straightforward. While all of the behaviors in Table 1 would be worthwhile to address, the time and expense of developing messages and programming for all of them would be prohibitive. A tool called a behavior selection matrix was used to identify the preferred behaviors that would give the District the highest return on the effort expended to create and deliver messages. The matrix works by ranking different behaviors according to how well they meet the following criteria:

- Potential to reduce pollution
- Potential for additional water quality benefits
- Ease of showing a link to the problem
- Sustainability over the long-term (i.e., behaviors that remove the problem versus behaviors that only minimize its impact)
- Affordability for the District to promote
- Affordability for the audience to adopt
- Potential for highest audience response (i.e., the level of motivation or enthusiasm a behavior change is likely to elicit)
- Smallest or fewest barriers to overcome

The highest-ranking behaviors for Objective 4 – that is, the behavior patterns from Table 1 that merit the most effort based on the anticipated return on investment – are shown in Table 4.

**Table 4: Top-Ranking Behavior Patterns**

Audience	Problem Behavior	Desired Behavior
Homeowners	Predominant use of turf and non-native plants	Low impact landscaping
	Downspout discharges onto hard surfaces	Downspout diversion
	Yard waste disposal	Proper yard waste disposal
Municipal Staff <sup>1</sup>	Grass clippings disposal <sup>2</sup>	Proper grass clippings disposal
	Lack of enforcement of local ordinances on construction sites <1 acre	Increased enforcement on construction sites <1 acre
Contractors	Fertilizing	Need-based fertilizer application
	Organic waste disposal	Proper organic waste disposal

<sup>1</sup>Fertilizing was ranked highest for municipal staff, but in reality the level of fertilizer application done by cities within the District is limited to golf courses and Como Park. Consequently, fertilizing behavior was excluded from educational efforts directed to this audience.

<sup>2</sup>The focus of organic waste disposal for municipal staff is on grass clippings, because leaf disposal on a city-wide scale is complicated by the logistics of leaf fall patterns.

Messages can be challenging to develop; they must be short and easily understood, while simultaneously informing the audience and suggesting appropriate behaviors. Messages will need to be tested on members of the target audience to ensure they communicate the intended information and clarify the preferred behavior. Examples of messages for homeowners for the highest-ranking behaviors in Objective 4 are shown in Table 5a; note that they all include a slogan to catch people’s attention and a tagline that identifies both the preferred behavior and its benefits. Outreach for municipal staff will be based more on relationship-building than traditional programming; separate messages have been crafted for this group but are geared toward professionals instead of lay-people (Table 5b). Similarly, messages for contractors need to be formulated for professionals and to recognize the business case for preferred behaviors (Table 5c).

**Table 5a: Sample Messages for Homeowners for Top Behavior Patterns**

<b>Problem Behavior</b>	Predominant use of turf and non-natives	Downspout discharges onto hard surfaces	Yard waste disposal
<b>Desired Behavior</b>	Low impact landscaping	Downspout diversion	Proper yard waste disposal
<b>Message</b>	<p><i>Go Native and Get More for Less</i></p> <p>Native plants add beauty and value to your landscaping. They also require less fertilizer and fewer pesticides to thrive, so there are fewer chemicals ending up in our lakes and rivers.</p>	<p><i>Keep Rain Where It Falls</i></p> <p>Rain that falls on rooftops travels from downspouts to driveways and runs off to the street. By aiming your downspout to a landscaped area or using a rain barrel, you keep polluted runoff out of our lakes and rivers.</p>	<p><i>Waste Not, Want Not: Mulch It!</i></p> <p>Turn grass clippings and leaves into free fertilizer for your yard instead of letting them end up in the street. You won't need as much store-bought fertilizer, and our lakes and rivers will be cleaner.</p>

**Table 5b: Sample Messages for Municipal Staff for Top Behavior Patterns**

<b>Problem Behavior</b>	Grass clippings disposal	Lack of enforcement of local ordinances on construction sites <1 acre
<b>Desired Behavior</b>	Proper grass clippings disposal	Increased enforcement on construction sites <1 acre
<b>Target Group</b>	Park Supervisors	Building Inspectors
<b>Message</b>	<p>Mulch grass clippings into free fertilizer for turf or sweep them up from streets and other paved areas. Turf growth will be enhanced, and your staff can set the example for citizens to keep our lakes and rivers cleaner.</p>	<p>Improved water quality depends on erosion and sediment control at all construction sites - even small ones; the impact may not be noticeable at any one site, but the benefits add up to be significant.</p>

**Table 5c: Sample Messages for Contractors for Top Behavior Patterns**

<b>Problem Behavior</b>	Fertilizing	Organic waste disposal
<b>Desired Behavior</b>	Need-based, efficient fertilizer application	Proper organic waste disposal
<b>Target Group</b>	Landscaping Supervisors	
<b>Message</b>	<p>Mulch grass clippings and leaves into free fertilizer for turf instead of letting them end up in the street. Reduced need for fertilizer will save your clients money, and you can show that your business contributes to keeping our lakes and rivers cleaner.<sup>1</sup></p>	

<sup>1</sup> The message for two problems - fertilizing and organic waste disposal - was combined here to make message delivery more efficient. The two problems are really two sides of the same coin; if grass clippings and leaves were properly mulched, the application frequency and/or the use of synthetic fertilizers could be reduced.



## Formats

Many formats are available for packaging and delivering messages. These formats include mass media, videos, printed materials, events, giveaways, mascots, and the Internet. As in selecting behaviors and creating messages, determining which formats are most appropriate is accomplished by weighing the costs and benefits of different options. The general pros, cons, and applications of different formats are provided in Appendix 2. The formats that will serve as the most effective “packages” for Objective 4 are summarized in Tables 6, 7, and 8. Formats have been selected based on their ability to reach the targeted audiences (as characterized above), to overcome barriers specific to those audiences, and to facilitate changes in the highest-ranked behaviors.



Table 6a: Programming about Low Impact Landscaping for Homeowners

Problem Behavior: PREDOMINANT USE OF TURF AND NON-NATIVES	Barrier	Physical/Economic (perceived effort required to perform preferred behavior)	Social/Economic (no incentive for performing preferred behavior)	Knowledge (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	Barrier Buster	Show time & money savings	Provide reward & recognition	Provide training & demonstrations
<p><b>Message:</b> <i>Native plants add beauty and value to your landscaping. They also require less fertilizer and fewer pesticides to thrive, so fewer chemicals end up in our lakes and rivers.</i></p>				
Desired Behavior: LOW IMPACT LANDSCAPING	Formats <sup>1</sup>	Events Grants/Technical Assistance	Grants/Technical Assistance Giveaways Printed Materials	Events/Workshops Grants/Technical Assistance  Printed Materials Mass Media
	Programs <sup>2</sup>	<ul style="list-style-type: none"> <li>• Rain garden Workshops</li> <li>• Stewardship Grants</li> <li>• Blue Thumb Speakers Bureau</li> </ul>	<ul style="list-style-type: none"> <li>• Stewardship Grants</li> <li>• Blue Thumb Guide to Rain gardens</li> <li>• Watershed Heroes</li> </ul>	<ul style="list-style-type: none"> <li>• Rain garden Workshops</li> <li>• Garden Center Kiosks</li> </ul> <ul style="list-style-type: none"> <li>• CRWD State of the Watershed report, or CRWD Monitoring Report</li> </ul>

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Rain garden Workshops:** A series of three workshops (Introductory, Design, and Installation) is used to educate homeowners about the benefits of low input gardening, including rain gardens.

**Stewardship Grants:** CRWD uses cost-share funds to assist residents with water quality projects such as rain gardens and rain barrels.

**Blue Thumb Speakers Bureau:** Blue Thumb-certified volunteers are available to offer technical assistance to CRWD residents.

**Watershed Heroes:** CRWD recognizes residents making significant efforts to promote watershed health.

**Garden Center Kiosks:** CRWD partners with local garden centers to display informational kiosks that include both visual exhibits and take-home materials. Interns staff kiosks during busiest times to engage visitors and answer questions.

**CRWD Reporting:** CRWD recognizes the contributions of homeowners and cumulative pollution reductions in annual reporting.

Table 6b: Programming about Downspout Diversion for Homeowners

Problem Behavior: DOWNSPOUT DISCHARGES ONTO HARD SURFACES	Barrier	Physical/Economic (perceived effort required to perform preferred behavior)	Social/Economic (no incentive for performing preferred behavior)	Knowledge (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	<b>Barrier Buster</b>	Show time & money savings	Provide reward & recognition	Provide training & demonstrations
<b>Message: Rain that falls on rooftops travels from downspouts to driveways and runs off to the street. By aiming your downspout to a landscaped area or using a rain barrel, you keep polluted runoff out of our lakes and rivers.</b>				
<b>Desired Behavior: DOWNSPOUT DIVERSION</b>	<b>Formats<sup>1</sup></b>	Experiential Learning Canvassing Printed Materials Research	Giveaways/Vouchers Printed Materials Events Mass Media	Experiential Learning Canvassing Printed Materials
	<b>Programs<sup>2</sup></b>	• Downspout Derby program	• Downspout Derby program	• Downspout Derby program

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Downspout Derby:**

- Interns survey two neighborhoods (one control, one experimental) for downspout status;
- interns canvass experimental neighborhood, offer printed materials and provide downspout diversion and rain barrel installation information, provide examples and retail vouchers for elbows and pipe extensions, and give timeline;
- interns re-survey both neighborhoods to assess results;
- impact is measured in storm drain before and after program;
- local retailers and homeowners are recognized at festivals, council meetings, etc., and through brochures, news coverage, etc., about their contribution to project; and
- results of study (participation rates, storm drain impacts) are written up and published to show effects at local level.

Table 6c: Programming about Proper Yard Waste Disposal for Homeowners

<b>Problem Behavior:</b> YARD WASTE DISPOSAL	<b>Barrier</b>	<u>Physical/Economic</u> (perceived effort required to perform preferred behavior)	<u>Social/Economic</u> (no incentive for performing preferred behavior)	<u>Knowledge</u> (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	<b>Barrier Buster</b>	Show time & money savings	Provide reward & recognition	Provide training & demonstrations Show cumulative effects
<b>Message:</b> <i>Turn grass clippings and leaves into free fertilizer for your yard instead of letting them end up in the street. You won't need as much store-bought fertilizer, and our lakes and rivers will be cleaner.</i>				
<b>Desired Behavior:</b> PROPER YARD WASTE DISPOSAL	<b>Formats<sup>1</sup></b>	Experiential Learning Canvassing Printed Materials Giveaways	Giveaways/Vouchers Printed Materials Events Mass Media	Research Events Printed Materials Mass Media
	<b>Programs<sup>2</sup></b>	• Como Leaf Corps program	• Como Leaf Corps program	• Como Leaf Corps program • CRWD Monitoring Report

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Como Leaf Corps program:**

- CRWD funds Leaf Corps through a stewardship grant to a local high school to provide leadership and natural resource training to students who perform leaf removal for area residents;
- interns canvass a focus neighborhood and provide education to homeowners about water quality benefits of reduced nutrients, and what to do with yard waste, primarily leaves;
- interns secure commitments to rake leaves out of gutter three times in fall;
- interns offer printed materials, give timeline, tout reward/recognition, and describe services of Leaf Corps;
- interns re-canvass to assess results and make visual assessment;
- CRWD measures impact in storm drain before and after program;
- homeowners are recognized at festivals, council meetings, etc., and through brochures, news coverage, etc., about their contribution to project; and
- results of study (participation rates, storm drain impacts) are written up and published to show effects at local level.

**CRWD Reporting:** CRWD recognizes the contributions of homeowners and cumulative pollution reductions in annual reporting.

Table 7a: Programming about Landscape Practices for Park Supervisors

Problem Behavior: GRASS CLIPPINGS DISPOSAL	Barrier	Physical/Economic (perceived effort required to perform preferred behavior)	Social/Economic (no incentive for performing preferred behavior)	Knowledge (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	Barrier Buster	Show time & money savings	Provide reward & recognition	Provide training & demonstrations Show cumulative effects
<p><b>Message:</b> <i>Mulch grass clippings into free fertilizer for turf or sweep them up from streets and other paved areas. Turf growth will be enhanced, and your staff can set the example for citizens to keep our lakes and rivers cleaner.</i></p>				
Desired Behavior: PROPER GRASS CLIPPINGS DISPOSAL	Formats <sup>1</sup>	Videos Field Trips/Workshops Program Support Relationship Building	Printed Materials Program Support Relationship Building	Videos Field Trips/Workshops Program Support Relationship Building
	Programs <sup>2</sup>	• Northland NEMO • St. Paul Water Comp Plan	• Employee Newsletters • Northland NEMO • St. Paul Water Comp Plan	• Northland NEMO • St. Paul Water Comp Plan • Staff Liaisons Employee Newsletters

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Northland NEMO:** CRWD support of Northland NEMO, a regional chapter of the national Nonpoint Education for Municipal Officials program, can enhance the reach of existing programs that serve to educate land use decision makers about the relationship between land use and water quality.

**St. Paul Water Comp Plan:** An internal working group has been formed across different city departments and will have an external partner collaboration component later in 2009, where the city will be looking for ways to implement parts of the Water Comp Plan.

**Staff Liaisons:** CRWD Staff identifies 3 key city staff and contacts them once per quarter in 2009.

**Employee Newsletters:** CRWD identifies newsletters or other communication tools utilized by city staff and contributes pieces that inform staff of the District's work and recognize accomplishments of partnering.

Table 7b: Programming about Ordinance Enforcement for Building Inspectors

Problem Behavior: LACK OF ENFORCE- MENT OF LOCAL ORDINANCES ON CONSTRUCTION SITES <1 ACRE	Barrier	Physical/Economic (perceived effort required to perform preferred behavior)	Social/Economic (no incentive for performing preferred behavior)	Knowledge (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	Barrier Buster	Show time & money savings	Provide reward & recognition	Provide training & demonstrations
<b>Message: Improved water quality depends on erosion and sediment control at all construction sites – even small ones; the impact may not be noticeable at any one site, but the benefits add up to be significant.</b>				
Desired Behavior: INCREASED ENFORCEMENT ON CONSTRUCTION SITES <1 ACRE	Formats <sup>1</sup>	Videos Field Trips/Workshops Program Support Relationship Building	Printed Materials Program Support Relationship Building	Videos Field Trips/Workshops Program Support Relationship Building
	Programs <sup>2</sup>	• Northland NEMO • St. Paul Water Comp Plan	• Employee Newsletters • Northland NEMO • St. Paul Water Comp Plan	• Northland NEMO • St. Paul Water Comp Plan • Ride-Alongs • Employee Newsletters

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Northland NEMO:** A regional chapter of the national Nonpoint Education for Municipal Officials program. CRWD support of NEMO can enhance the reach of existing programs that serve to educate land use decision makers about the relationship between land use and water quality.

**St. Paul Water Comp Plan:** An internal working group has been formed across different city departments and will have an external partner collaboration component later in 2009, where the city will be looking for ways to implement parts of the Water Comp Plan.

**Ride-Alongs:** CRWD staff goes on reciprocal Ride-Along outings with key city staff in order to observe challenges and opportunities of site inspection.  
**Employee Newsletters:** CRWD identifies newsletters or other communication tools utilized by city staff and contributes pieces that inform staff of the District's work and recognize accomplishments of partnering.

Table 8: Programming about Landscape Practices for Landscaping Supervisors

<b>Problem Behavior: FERTILIZING &amp; ORGANIC WASTE DISPOSAL</b>	<b>Barrier</b>	<u>Physical/Economic</u> (perceived effort required to perform preferred behavior)	<u>Social/Economic</u> (no incentive for performing preferred behavior)	<u>Knowledge</u> (lack of information needed to perform preferred behavior and to understand its beneficial impact)
	<b>Barrier Buster</b>	Show time & money savings	Provide reward & recognition	Provide training & demonstrations  Show cumulative effects
<b>Message: <i>Mulch grass clippings and leaves into free fertilizer for turf instead of letting them end up in the street. Reduced need for fertilizer will save your clients money, and you can show that your business contributes to keeping our lakes and rivers cleaner.</i></b>				
<b>Desired Behavior: NEED-BASED, EFFICIENT FERTILIZER APPLICATION &amp; PROPER ORGANIC WASTE DISPOSAL</b>	<b>Formats<sup>1</sup></b>	Videos Field Trips/Workshops Program Support	Printed Materials Program Support Giveaways	Videos Field Trips/Workshops Program Support
	<b>Programs<sup>2</sup></b>	• Certification Program	• Watershed Heroes • Multi-lingual Mailings	• Trade Shows • Certification Program • Multi-lingual Mailings

<sup>1</sup> Formats are matched to Barrier Busters. Some formats overcome multiple barriers, which results in some overlap between columns.

<sup>2</sup> Programs might be existing or proposed. They are included to illustrate different types of formats.

**Certification Program:** CRWD partners with cities (through business licensing), the Minnesota Department of Agriculture (through fertilizer and pesticide licensing), and trade organizations such as the Professional Landcare Network (through professional certification) to develop a program where companies who participate in a workshop, take a test, and/or sign an agreement can use a program logo (like “Lawn Care Leader” or “Pollution Prevention Partner”) in their marketing materials. CRWD might also work with companies to offer coupons to clients to create awareness of and demand for the certification.

**Watershed Heroes:** CRWD recognizes businesses making significant efforts to promote watershed health.

**Trade Shows:** CRWD participates in annual trade shows such as the Minnesota Green Expo (every January in Minneapolis), perhaps displaying water quality samples and/or promoting the certification program or Watershed Heroes.

**Multi-lingual Mailings:** CRWD produces posters for company bulletin boards, “door hangers” adapted for hanging on lawn mowers, or key chains promoting grass clipping clean-up.

# Implementation

Program implementation depends on optimal use of logistical considerations such as scheduling, budgeting, staffing needs, and partnerships. A series of tools has been developed for linking the strategic process (audiences, messages, and formats) to annual work plans and day-to-day operations.

A variety of programs was outlined in Tables 6-8 in order to illustrate how the Plan's objectives can be achieved. Because outreach is a dynamic process, programming is expected to evolve. Some programs shown in Tables 6-8 will be carried out, some may be replaced by others, and the opportunity for additional programs will arise. In order to facilitate decision-making as the Plan is implemented, a suitability tool was developed (Figure 2). The tool outlines several steps in the decision-making process and refers to schedule and budgeting considerations described in Table 9 (below). Use of the suitability tool helps to ensure that strategic objectives are met throughout implementation, and it highlights that there is often a trade-off between programming possibilities and available resources. Even when a program fulfills an objective and fits into sequence with other programs, for example, it may require expansion of the educational "infrastructure." Expanded infrastructure includes people resources such as volunteers and interns, through which available funds can often be leveraged most effectively.

Scheduling is a key consideration for Plan implementation. The length of time needed for development, implementation, and assessment varies by program. Some programs are tied to specific seasons, and some need to occur in a certain sequence with others. Table 9 shows programming resource allocation for 2009, and lists two programs to possibly be implemented in 2010.

Budgeting and the allocation of resources such as staff, volunteers, interns, and partners are also essential considerations for Plan implementation. Costs can be estimated to account for staff salaries, coordination time required for volunteers and interns, and in-kind contributions from partners, and listed in greater detail in a workplan for each program.

The selection of programs for Table 9 from the possible list of programs in Tables 6-8 was based on the steps listed in the suitability tool (Figure 2). The selected programs also met some basic feasibility criteria:

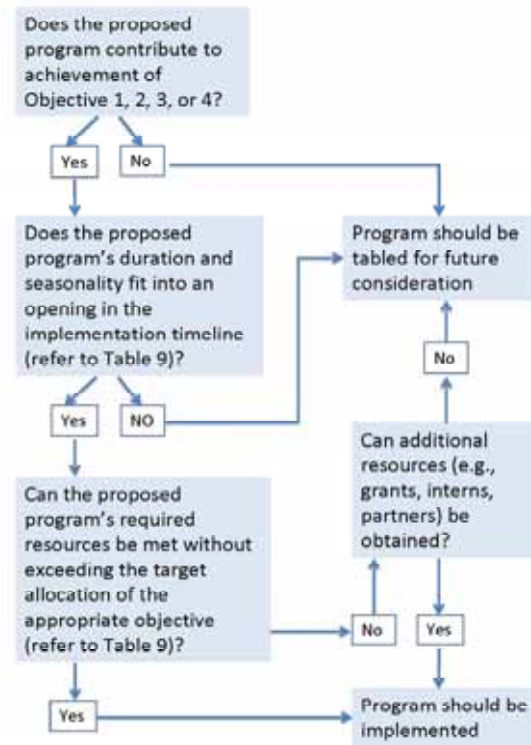


Figure 2: Program Suitability Tool

- Is this a program we are either currently doing, or a program we could readily implement?
- Does District staff currently possess the skills to implement this program in 2009?
- Are there limited unknowns to pursuing this program?
- Does the program advance objectives in the Education Plan, or objectives determined during the strategic planning process?

An overview of key resources, including a preliminary budget for 2009, is presented in Table 9 to help the District track whether resources are being allocated in a manner consistent with the objectives of the Plan. Table 9 demonstrates, for example, that the District has decided to emphasize basic watershed awareness (which is important for an outreach campaign in its early stages) and homeowner education (which recognizes the prominent role of everyday citizens in improving water quality in a large urban watershed). Table 9 can be expanded and used for operational purposes. Appendix 3 contains more details on work planning for 2009.

**Table 9: 2009 Resource Allocation**

Objective	Program	Resource	Individual/ Organization <sup>1</sup>	2009 FTE	2009 Budget
1. A) Baseline Knowledge Assessment	1. Initial Survey	Staff Lead	ES	0.1 FTE	\$20,000
		Volunteers/Interns	Yes		
		Partners	OC		
2. A) Watershed Awareness	1. Media Campaign	Staff Lead	ES	0.1 FTE	\$8,000
		Volunteers/Interns	No		
		Partners	WSP		
	2. Communica-tions	Staff Lead	ES, Intern	0.05 FTE	\$7,200
		Volunteers/Interns	Yes		
		Partners	PC		
	3. Classroom & Field Education	Staff Lead	ES	0.1 FTE	\$10,600
		Volunteers/Interns	Yes		
		Partners	PC, SPPS, Eco Ed, WHEP		
	4. Blue Thumb Speakers Bureau	Staff Lead	ES	0.05 FTE	\$3,000
		Volunteers/Interns	Yes		
		Partners	BT, MNMN		
3. A) Ongoing Knowledge Assessment	1. Annual Survey	Staff Lead	ES	0.0 FTE	2010
		Volunteers/Interns	Yes		
		Partners	OC		
4.A) Homeowner Education	1. Rain garden Workshops	Staff Lead	ES	0.05 FTE	\$6,800
		Volunteers/Interns	Yes		
		Partners	RCD, FMR, D16 PC		
	2. Leaf Corps	Staff Lead	ES	0.3 FTE	\$26,000
		Volunteers/Interns	Yes, Intern		
		Partners	OC, SPPS, PW, CRWD		
	3. Stewardship Grants	Staff Lead	ES (AE)	0.05 FTE (0.1 FTE)	\$3,000 (\$60,000)
		Volunteers/Interns	No		
		Partners	RCD, PC, Grantees		
	4. Watershed Heroes	Staff Lead	ES	0.05 FTE	\$3,500
		Volunteers/Interns	No		
		Partners	PC, City staff, CAC		
	5. Downspout Derby	Staff Lead	ES	0.0 FTE	2010
		Volunteers/Interns	Yes		
		Partners	OC, SPPS, PW, CRWD		

4. B) Municipal Education (St. Paul)	1. Water Resources Training Series	Staff Lead	Phil Belfiori	0.1 FTE	\$10,000	
		Volunteers/Interns	No			
		Partners	DSI, PW			
	2. Green Roof Educational Materials	Staff Lead	ES	0.1 FTE		
		Volunteers/Interns	No			
		Partners	DSI, SPFD			
	3. Green Roof Maintenance Training	Staff Lead	Phil Belfiori	0.1 FTE		
		Volunteers/Interns	No			
		Partners	DSI			
	4. Partner to implement new city policies and ordinance revi-	Staff Lead	Phil Belfiori	0.1 FTE		
		Volunteers/Interns	No			
		Partners	DSI, PW, Mayor's Office			
4.C) Contractor Education	1. Certification Program	Staff Lead	ES	0.2 FTE	\$18,000	
		Volunteers/Interns	Yes			
		Partners	Cities, MDA, PLANET			
				<b>TOTAL</b>	<b>1.45 FTE</b>	<b>\$116,100</b>

<sup>1</sup> Abbreviations:

BT = Blue Thumb

CAC = Citizens Advisory Committee

CRWD = CRWD Monitoring Staff

DSI = Department of Safety & Inspections

Eco Ed = Eco Education

FMR = Friends of the Mississippi River

MDA = Minnesota Department of Agriculture

MNMN = MN Master Naturalists

NEMO = Nonpoint Education for Municipal Officials

OC = Outside Contractor

PC = Planning Council (D# = District #)

PLANET = Professional Landcare Network

PW = Public Works

RCD = Ramsey Conservation District

SPPS = St. Paul Public Schools

WHEP = Wetland Health Evaluation Program

WSP = WaterShed Partners

1. A)

**1. Program: Watershed Assessment/Baseline Survey**

Objective 1: Watershed Assessment – *Conduct a baseline survey to assess the existing level of knowledge regarding basic watershed and stormwater concepts such as “Do you live in a watershed? When water enters a storm drain, where does it go? What is/are the main causes of water pollution?”*

The overall purpose of assessment effort is to:

- measure and track general watershed awareness attitudes among a segment of the watershed population; and
- measure and track willingness to change behaviors that protect water quality.

Assessment results from a focused area will be used to present insight on outreach, marketing or communication strategies that will give us reasonably reliable data on which to base resource allocation decisions.

Program	Start/End Date	Partners	2009 Budget
Assessment	Spring 09 – Summer 09	Outside Consultant, Volunteer Surveyors, Community Partner (dependent upon focus area)	\$20,500
<p>Spring 09 <b>CRWD Staff</b></p> <ul style="list-style-type: none"> <li>• Research vendors and hire outside consultant</li> </ul> <p>Summer 09</p> <ul style="list-style-type: none"> <li>• Work with consultant to identify focus area and design survey and nature of survey questioning: what water issues directly affect those surveyed? should we aim to glean relevant historical information related to water in the area where they live? (.1 FTE, \$3000)</li> </ul> <p>Summer 09 <b>Consultant</b> (\$17,000)</p> <ul style="list-style-type: none"> <li>• Assist in identifying demographics of focus area</li> <li>• Canvass, Internet, Phone, or Mail Survey Programming</li> <li>• Questionnaire design and sample management</li> <li>• Surveyor recruitment and training (use volunteer surveyors)</li> <li>• Data collection, preparation, and tabulation</li> <li>• Summary report and recommendations</li> </ul> <p><i>Surveyor stipends \$500</i></p>			

2. A)

**1. Program: Media Campaign**

Objective 2: Awareness – *Increase understanding of basic watershed, stormwater, and water pollution concepts by doing a District-wide media campaign and carrying out other programs that promote awareness of the watershed in general and the District in particular.*

This particular media campaign is funded annually. Building awareness, carrying out education programs, inspiring behavior change, and demonstrating environmental gain will require several years and various formats: enforcement, education, institutional change, collaborative watershed management, water quality monitoring and analysis, and sound engineering solutions. Pollution sources that must be mitigated are the result of individual choices made by community members. A strategy for CRWD, in cooperation with other partners and along with a broad media effort, is to provide good information and resources to residents, commerce, and industry that will support and encourage better and more informed choices that, when coupled with innovative infrastructure and policy solutions, will measurably improve water quality.

Program	Start/End Date	Partners	2009 Budget
Media Campaign	Spring 09 - Winter 10	WaterShed Partners Media Campaign	\$8,000
	<p>Spring 09 <b>CRWD Staff</b></p> <ul style="list-style-type: none"> <li>Participate in 2009 WaterShed Partners' <i>Minnesota Waters: Let's Keep It Clean</i> Media Campaign Workgroup (.1 FTE, \$3,000)</li> </ul> <p>Cash contribution to Media Campaign (\$5,000)</p> <p><i>Note: The watershed assessment will possibly be focused on one area of the watershed, and the media campaign as it currently functions is watershed-wide and/or metro wide. Hence, support of the media campaign will be reevaluated based on the results of a baseline survey (Objective 1).</i></p>		

2. A)

**2. Program: Communications**

Objective 2: Awareness - Increase understanding of basic watershed, stormwater, and water pollution concepts by doing a District-wide media campaign and carrying out other programs that promote awareness of the watershed in general and the District in particular.

Information is often received and assimilated by people who are already looking for it. Though we hope to reach residents beyond those who are already poised to change and seek only instructions and direction, we also want to serve that segment of the public by providing accurate and high quality printed information and visual pieces. Information will be provided on our new, attractive, easy-to-use Web site; through newsletters; and through printed and online CRWD reports.

A communications program will:

- help the District meet its goal of providing awareness of water quality pollution prevention concepts;
- make the community aware of CRWD events, meetings, and opportunities;
- create a meaningful historical, public record of District activities;
- provide a databank of monitoring information for members of the scientific community; and
- create print and online media pieces to explain the CRWD mission and goals.

Program	Start/End Date	Partners	2009 Budget
Communications	Spring 09 - Fall 09	Volunteers, Intern	\$7,200
	<p>Spring 09 CRWD Staff (.05 FTE - \$3,000)</p> <ul style="list-style-type: none"> <li>Coordinate printing of CRWD materials including Annual Report, Monitoring Report, newsletters, and other print or HTML pieces (\$1,200 design costs)</li> <li>Recruit and hire volunteer or intern to coordinate add'l communications products</li> </ul> <p>Summer 09 - Fall 09</p> <ul style="list-style-type: none"> <li>Support Communications Intern</li> </ul> <p>Spring-09 - Fall 09 Communications Intern (Stipend \$1,000)</p> <ul style="list-style-type: none"> <li>Create copy for variety of print sources including the CRWD Web site, newsletters</li> <li>Recruit and support residents to write local print and online media in support of water quality protection efforts</li> <li>Create CRWD Facebook page</li> </ul> <p><i>Printing and supplies \$2,000</i></p>		

Staffing Assumptions: CRWD staff will be the primary coordinator of communications material. A freelance design professional is on contract to provide efficient and consistent layout for print pieces. This also presents a good opportunity to use volunteer or intern staff who may recruit and train citizen writers to submit editorial letters and topics of interest articles for CRWD newsletter and print nondailies. A design and marketing skill set is essential for these interns/volunteers, and an interest in determining if our messages are working.

2. A)

**3. Program: Classroom and Field Education**

Objective 2: Awareness – Increase understanding of basic watershed, stormwater, and water pollution concepts by doing a District-wide media campaign and carrying out other programs that promote awareness of the watershed in general and the District in particular.

Program: Classroom and Field Education

Classroom education is an opportunity for partnership among some of St. Paul’s nearly 100 schools, and a handful of schools in Roseville and Falcon Heights. Partnerships such as these give us an audience with a reasonable representation of the watershed population: cross-sections of families at different economic levels, various cultural groups to whom water may have different meaning, and families who may have more than two generations present in the home. Thus, classrooms and other groups of young people are a means of bridging the gap between CRWD and the homes of watershed residents. We have the opportunity to get into the homes of many citizens when we engage students in the classroom who may carry messages home to their families at the end of each day. Classroom presentation activities can also give CRWD the chance to collaborate with community partner organizations, and invest in the long-term cultivation of watershed residents.

Experiential learning likewise gives us a large audience for a limited investment: Field trips expose students to the water quality protection activities of CRWD (Expo Elementary, AHUG), the streets to streams connection (storm drains and outfall trips), the role plants play in water quality (rain garden visits), and water quality indicators in surface waters (water quality testing). Often these field trips are made available to students who have transportation already paid for, so only staff is required.

Events expose a new and different audience to CRWD and its mission of water protection. Residents who would not attend an event for themselves may attend a kid’s outdoor environmental education event. Follow up with the adults attending these events is important.

Classroom and field education experiences will:

- help the District meet its goal of reaching out to a diverse audience with an awareness of the watershed concept;
- cultivate career opportunities for students;
- multiply the District’s outreach efforts while responding to a common request from constituents; and
- build leaders among watershed resident volunteers.

Program	Start/End Date	Partners	2009 Budget
Classroom, Field Ed & Events	Spring 09 – Fall 09	Volunteers, Public Schools	\$10,600
	Spring 09 <b>CRWD Staff</b> (.1 FTE-\$6,000) <ul style="list-style-type: none"> <li>• Recruit and train volunteer learning coordinator</li> <li>• Provide program/curriculum assistance and ongoing support</li> </ul> Spring 09 – Fall 09 <b>Volunteer Coordinator</b> (40 vol hrs/yr) <ul style="list-style-type: none"> <li>• Schedule classroom visits, support volunteer water quality educators</li> <li>• Assist with curriculum development and training</li> </ul> Spring 09 – Fall 09 <b>Volunteer Water Quality Educators</b> (25 vol hrs/yr) <ul style="list-style-type: none"> <li>• Present CRWD water quality protection curricula</li> <li>• Perform pre- and post-student assessment</li> </ul> Events Events are awareness-raising summer activities that can be coordinated and carried out as part of an internship. \$1000 stipend + \$400 supplies x 4 events  <i>Other supplies \$2,000</i>		

2. A)

4. Program: Blue Thumb Speaker’s Bureau

Objective 2: Awareness – Increase understanding of basic watershed, stormwater, and water pollution concepts by doing a District-wide media campaign and carrying out other programs that promote awareness of the watershed in general and the District in particular.

Program: Blue Thumb Speaker’s Bureau

Blue Thumb partners have created several community workshop templates complete with photos and notes about planting for clean water using native plants and rain gardens. Two CRWD volunteers have been trained to give the introductory presentation and are able to carry out presentations in the watershed with a consistent message for the general public.

Blue Thumb Speakers will:

- help the District meet its goal of reaching a diverse audience with an awareness of native plant gardening;
- multiply the District’s outreach efforts while responding to a common request from constituents; and
- build leadership and public speaking skills among watershed resident volunteers.

Program	Start/End Date	Partners	2009 Budget
Blue Thumb Speakers’ Bureau	Spring 09 – Fall 09	Volunteers, Community Orgs	\$3,000
	Spring 09 <b>CRWD Staff</b> (.05 FTE-\$3,000) <ul style="list-style-type: none"> <li>• Recruit and train volunteer speakers</li> <li>• Provide ongoing support and recognition</li> </ul> Spring 09 – Fall 09 <b>Volunteers</b> <ul style="list-style-type: none"> <li>• Complete training</li> <li>• Agree to 2-3 speaking engagements per year</li> <li>• Coordinate speaking engagements</li> <li>• Carry out engagements, provide pre- and post-assessment</li> </ul>		

3. A)

1. Program: Watershed Annual Survey 2010

Objective 1: Re-assessment – Conduct a follow-up of the baseline survey to assess the existing level of knowledge regarding basic watershed and stormwater concepts and re-program accordingly.

The overall purpose of the reassessment effort is to:

- measure and track general watershed awareness attitudes among a segment of the watershed population;
- measure and track willingness to change behaviors that protect water quality; and
- assess effectiveness of media and outreach efforts.

Program	Start/End Date	Partners	2010 Budget
Annual Survey	Spring – Summer 2010	Outside Consultant, Volunteer Surveyors, Community Partner (dependent upon focus area)	\$15,500
	Spring 10 <b>CRWD Staff</b> (.1 FTE \$3,000) <ul style="list-style-type: none"> <li>• Coordinate with outside consultant</li> </ul> Summer 10 <ul style="list-style-type: none"> <li>• Work with consultant to design re-survey</li> </ul> Summer – Summer 09 <b>Outside Consultant</b> (\$12,000) <ul style="list-style-type: none"> <li>• Revisit focus area</li> <li>• Canvass, internet, phone, or mail survey programming</li> <li>• Questionnaire design and sample management</li> <li>• Surveyor recruitment and training (use volunteer surveyors)</li> <li>• Data collection, preparation, and tabulation</li> <li>• Summary report and recommendations</li> </ul> Surveyor stipends \$500		

#### 4. A)

##### 1. Program: Leaf Corps

Objective 4a: *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

The Leaf Corps program will be a partnership of CRWD, a local middle or high school, a district planning council, an area business association, and the citizens in the project area. The model will involve identifying a target project area and assessing our ability to measure changes in stormwater pollution in that area; approaching a classroom interested in being a year-long project partner; and carrying out a classroom water quality education program to a specified grade level (8-12). Students will assist in initial information gathering in the target area and will secure commitments from homeowners to participate in the program and rake leaves from the street at least three times in the fall, or to hire the students to remove leaves. (Another model would be to give the school a grant to pay students and students agree to rake at no charge to the homeowners). An undergraduate intern, or a graduate-level researcher could serve to train and supervise students during the initial contact with homeowners. Students and homeowners carry out the raking portion of the project during fall, conduct a reminder mechanism, and make observations during the project. CRWD staff measure potential stormwater changes, and conduct a follow-up survey among participating citizens, who are recognized for their participation.

The resulting program will be a collaboration of several communities partners (watershed district, planning council, school staff, students, and citizens) working together to directly address a water quality problem. Because of the complexity of street sweeping logistics, the direct participation of citizens is essential to address yard waste in stormwater runoff. The Leaf Corps program will give CRWD a strong presence in a local school. Classrooms often effectively represent the population of our watershed, cross-sections of families at different economic levels, and various cultural groups to whom water may have different meaning. They are also a means of bridging the gap between CRWD and the homes of watershed residents. We may not have budget to create an advertising campaign, but we can get into the homes of as many citizens as we choose by engaging with classrooms whose students go home to families at the end of each day.

Notes: Perhaps students participate as a year-long service project. By interview only. Or perhaps instead of a classroom, we work with an extracurricular or club group.

The Leaf Corps program will:

- help the District meet its goal of reducing nutrient loads to a specified water body through information outreach;
- motivate citizens in a specified area;
- provide direct water quality protection education to students;
- help students build other capacities: community mobilization, service, measurement, leadership; and
- multiply the District's outreach efforts.

Program	Start/End Date	Partners	2009 Budget
Leaf Corps	Summer 09 – Winter 10	Program consultant, SPPS, Students, Planning Council, CRWD Monitoring Staff, SPPW Sewers	\$26,000
	<p>Spring 09 <b>CRWD Staff</b> (.3FTE/yr \$18,000)</p> <ul style="list-style-type: none"> <li>• Seek feedback from board, staff, and community partners to identify a focus area with a viable school partner located nearby</li> <li>• Identify and recruit school partner and classroom teacher</li> <li>• Identify intern or researcher to assist in identifying demographics of focus area and design a survey method or door-to-door outreach tool</li> </ul> <p>Late Summer 09 <b>Program Consultant</b> \$4,000 (- 60 hrs)</p> <ul style="list-style-type: none"> <li>• Carry out project orientation, classroom education component, and field training component with students</li> </ul> <p>Fall 09 <b>Intern</b> - \$1,000 stipend</p> <ul style="list-style-type: none"> <li>• Assist consultant with program</li> </ul> <p>Fall 09 <b>Students</b> - Students [30 hrs/semester, raking stipend of \$5/hr \$3000 (30 students raking 20 hrs per semester at \$5/hr)]</p> <ul style="list-style-type: none"> <li>• Participate in classroom presentations and training</li> <li>• Invite citizens door-to-door to participate and do initial knowledge assessment</li> <li>• Maintain communication with citizens through email or print reminders</li> <li>• Rake!</li> <li>• Assess results</li> <li>• Report results</li> </ul> <p><i>Additional supplies \$1000</i></p>		

Staffing Assumptions: CRWD is project lead. A program consultant will be hired to design outreach component. An intern will be used to coordinate training and supervision of students.  
Timeline: May 2009-November 2009

**4. A)**

**2. Program: Rain garden Workshops**

Objective 4a: Homeowners – *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

Rain garden Workshops program is a partnership of CRWD, Ramsey Conservation District technicians, various District planning councils, and where applicable, Friends of the Mississippi River.

The popularity of gardening as a hobby has been on the rise for the past several years. Some measurements show it as the most popular hobby in the U.S. Gardening inspires people, and motivates them to act. If someone already gardens, educators are one step closer to motivating that person to take water quality- and quantity-friendly actions in their gardens. Additionally, in looking for ways to minimize the duplication of our efforts, we look to support the programming of other organizations with similar goals. For instance, Ramsey Conservation District has the expert capability of Shawn Tracy and Ryan Johnson; planning councils and other community groups have constituents eager for guidance in managing stormwater in their home landscape; nonprofit organizations like Friends of the Mississippi River employ skilled event planners and have funding for stormwater education within CRWD; and CRWD has goals to educate citizens about stormwater runoff prevention and a Stewardship Grant program.

Note: See Stewardship Grants

The Rain garden program will:

- help the District meet its goal of educating homeowners about ways to reduce runoff in their home landscape,
- thus reducing stormwater pollution;
- multiply the district's outreach efforts and minimize duplication of efforts through strengthened partnerships; and
- respond to community requests from our constituents as expressed through the District planning councils.

Program	Start/End Date	Partners	2009 Budget
Rain garden Workshops	Spring 09 – Fall 09	RCD, District Planning Councils, Various Orgs	\$6,800
<p>Spring 09 <b>CRWD Staff</b> (.05 FTE, \$3,000)</p> <ul style="list-style-type: none"> <li>• Co-coordinate with RCD/FMR to connect players, set dates, select format, develop event content</li> <li>• Seek feedback from board, staff, and community partners to identify other focus areas for workshops</li> <li>• Assist in workshop promotion</li> <li>• Carry out workshops with CRWD contributing BT Guides (Guides \$1,000)</li> <li>• Conduct before/after evaluation of knowledge</li> <li>• Promote CRWD Stewardship Grants at workshop events</li> </ul> <p>Summer 09</p> <ul style="list-style-type: none"> <li>• Co-coordinate with RCD and FMR to connect key players, set dates, select format, develop event content. 10-15 RCD hours per workshop, 2-4 workshops per year</li> <li>• Seek feedback from board, staff, and community partners to identify other focus areas for workshops</li> <li>• Assist in workshop promotion</li> </ul> <p>Fall 09 <b>CRWD Staff</b></p> <ul style="list-style-type: none"> <li>• Carry out workshops with CRWD contributing BT Guides</li> <li>• Conduct before/after evaluation</li> <li>• Promote CRWD Stewardship Grants at workshop events</li> </ul> <p>Winter – Spring 09 <b>RCD Staff</b> (\$70/hr x 10 = \$700 per x 4 workshops = \$2,800)</p> <ul style="list-style-type: none"> <li>• Co-coordinate with CRWD/FMR to connect players, set dates, select format, develop event content. 10-15 RCD hours per workshop, 2-4 workshops per year.</li> <li>• Create workshop with some input from planning council</li> <li>• Conduct workshops</li> </ul> <p>Summer – Fall 09</p> <ul style="list-style-type: none"> <li>• Create workshop with input from planning council, adjust based on Spring feedback</li> <li>• Conduct workshops</li> </ul> <p>Winter – Spring 09 <b>Partner Org</b></p> <ul style="list-style-type: none"> <li>• Provide feedback to RCD staff re: workshop creation</li> <li>• Act as primary event promoter</li> <li>• Take registrations for event</li> <li>• Staff workshop</li> <li>• Cooperate in pre-assessment of participants</li> </ul> <p>Summer Fall 09</p> <ul style="list-style-type: none"> <li>• Provide feedback to RCD re: workshop creation</li> <li>• Act as primary event promoter</li> <li>• Take registrations</li> <li>• Staff workshop</li> <li>• Cooperate in pre-assessment of participants</li> </ul>			

Roles and Responsibilities:

Initiation of an event may come from CRWD or another group, but CRWD will pay for the technical hours from RCD staff. CRWD may provide minimal event promotion, but primary promotion and registrations will be taken by the host organization.

4. A)

3. Program: Stewardship Grants

Objective 4a: Homeowners – *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

Homeowner

Program: Stewardship Grants

The goal of the CRWD Stewardship Grant Program is to encourage a strong ethic of water resource stewardship among citizens. Objectives are to accomplish one or more of the following:

- improve water quality by decreasing stormwater runoff and increasing stormwater infiltration;
- preserve and protect plant and wildlife communities adjacent to lakes, rivers, and wetlands;
- develop and deliver water quality education programs; or
- develop initiatives that establish links between people and water resources.

Note: Stewardship grantees, past and future, also represent an untapped outreach group. As a means of more effectively “sharing” their grant, they could agree to an outreach commitment as one of the conditions of the grant. In addition to taking a before and after knowledge test, grantees could agree to: host a celebration on their lawn when their project is complete and invite at least five other citizens to whom they give a ten-minute talk on stormwater pollution prevention; distribute Stewardship Grant Fact Sheets to at least ten other residents with a short description of the “why” of grant projects; agree to host a Blue Thumb House Party where a CRWD volunteer water quality educator presents to guests in the grantee’s home; and/or agree to post signage with an educational message and CRWD Grants Program contact information.

Program	Start/End Date	Partners	2009 Budget
Stewardship Grants	Spring 09 - Fall 09	RCD, District Planning Councils	\$60,000
	Spring 09 <b>CRWD Staff</b> [CRWD Staff .1 FTE/yr - \$8,000; +.05 FTE/yr - \$3,000 (Partner & Education grants), \$32,000 Stewardship Grants budget] <ul style="list-style-type: none"> <li>• Promote CRWD Stewardship Grants via District planning councils and non-daily news</li> </ul> Spring, Summer, Fall 2009 <b>RCD Staff</b> (\$17,000) <ul style="list-style-type: none"> <li>• Maintain program using current on-demand framework</li> </ul> Spring - Fall 09 <b>RCD Staff</b> <ul style="list-style-type: none"> <li>• Respond to requests for site visits and develop plans for homeowners</li> <li>• Provide 2009 project summary</li> </ul>		

Roles and Responsibilities:

Staffing Assumption: Program is led by CRWD staff who utilize the services of RCD. Full-time staff to conduct site visits and develop plans for homeowners. RCD intern conducts annual site visits of past grant projects.

4. A)

**4. Program: Watershed Heroes**

Objective 4a: Homeowner – *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

Homeowner

Program: Watershed Heroes

Recognition of citizens working for water quality protection in the community can be used to make a statement about CRWD’s values. Aside from obvious benefits to individuals, recognition can also be used to reinforce desired behavior and serve to help make cultural shifts that will eventually effect social change. A recognition strategy should tie into CRWD’s strategic plan, and the selection process should be opened to other community members.

The Watershed Heroes Program will:

- recognize and sing the praises of citizens engaged in extraordinary efforts within the watershed to protect water quality, and educate citizens about the importance of water quality protection.

Program	Start/End Date	Partners	2009 Budget
Stewardship Grants	Spring 09 – Fall 09	CAC, District Planning Councils	\$3,500
	Summer 09 <b>CRWD Staff</b> (.05 FTE/yr - \$3,000) <ul style="list-style-type: none"> <li>• Promote Watershed Heroes program via District planning councils and non-daily news; solicit nominations</li> <li>• Establish recognition strategy</li> </ul> Fall 2009 <ul style="list-style-type: none"> <li>• Present award and publicize winner</li> </ul> <i>Printing and supplies \$500</i>		

Staffing Assumption: Program is led by CRWD staff.

4. A)

**5. Program: Downspout Derby 2010**

Objective 4a: *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

Homeowner

Program: Downspout Derby

The Downspout Derby program will be a partnership of CRWD, a District planning council, an area business association, citizens in the project area, and an outside consultant researcher and/or interns. The model will involve identifying a target project area, and assessing the potential to reduce downspout runoff onto impervious surfaces; doing a person-to-person canvass assessment and education campaign; and offering incentives and/or grants for downspout redirection. A graduate-level researcher could serve to train and supervise undergraduate interns during the initial contact with homeowners.

Incentives could be awarded to homeowners who complete an application and downspout redirection plan, or a plan to reduce impervious surface on their property.

The Downspout Derby program will:

- help the District meet its goal of reducing polluted runoff to a specified water body through information outreach;
- provide direct water quality protection education to citizens in the focus area; and
- multiply the district’s outreach efforts.

Program	Start/End Date	Partners	2010 Budget
Downspout Derby	2010	Program Consultant, Student Researcher, Planning Council, CRWD Monitoring Staff, Undergraduate Interns	\$20,000

**4. B)**

Programs: Draft list from City of St. Paul listed below

Objective 4b: Municipal – *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

The overall purpose of a municipal outreach effort is to:

Build potential for a clean water partnership between the District and municipal staff; and increase the use of education as a way of affecting decisions regarding land use planning.

- support St. Paul Water Resource Training Series;
- offer Green Roof Maintenance training;
- participate in Green Roof educational programming curriculum creation; and
- partner to implement new city policies and ordinance revisions.

**4. C)**

**1. Program: Contractor Outreach**

Objective 4b: Contractors – *To educate homeowners, municipal staff, and contractors about landscape practices (turf and garden care, impervious surface management, and erosion and sediment control) that reduce phosphorus and sediment in runoff as well as runoff volume.*

The overall purpose of contractor outreach effort is to:

- explore education methods and possible enforcement measures to increase licensing among unlicensed individuals, such as maintenance gardeners who apply fertilizer and create grass clippings;
- promote education of consumers about the need to hire only licensed professionals to apply pesticides in their homes and landscapes; and
- establish a voluntary certification program for landscape professionals out of reach of the MDA.

The Minnesota Department of Agriculture keeps a detailed listing of lawn care professionals in the state who apply fertilizer. Fertilizer and pesticide/herbicide applicators must pass an annual exam to be certified to work in this field, so we can assume they are getting basic information about proper application methods as it concerns water quality protection. Our task is to reach maintenance gardeners who are unlicensed, gain an understanding of the current sector climate, motivate them to seek certification or change practices, and monitor our success in reaching this audience.

One means of doing this would be to take a community organizing approach where, using GIS mapping, we identify an area, and in spring or summer tour the area on foot, looking for folks having yard work done or using maintenance gardeners. This would give us important information about how to proceed.

Being onsite offers the advantage of viewing what products are actually there, and what are common practices. A questionnaire could also provide information. Setting up a survey station where businesses purchase products (e.g. Home Depot, a lawn and garden wholesaler). Maintenance gardeners also often flyer in spring as a means of promotion. Some research suggests the problem is ultimately the HOMEOWNER who does not demand water quality protective practice from the outfits they hire, or do not monitor the use of unnecessary noxious products. Homeowner education is necessary so they can demand different practices, or use only businesses certified to perform such work. In summary, this information gathering process is nuanced, thus it will require a multi-faceted approach.

Program	Start/End Date	Partners	2009 Budget
Contractor Outreach	Summer 09 – Fall 09	Minnesota Department of Agriculture, Outside Consultant	\$18,000
	Spring 09 – Fall 09 <b>CRWD Staff</b> (.02 FTE/yr - \$12,000) <ul style="list-style-type: none"> <li>• Hire and co-develop program with program development consultant or researcher Consultant, initial program parameter development (\$4,000)</li> </ul> <i>Additional stipends and supplies \$2,000</i>		

Staffing Assumption: Program is led by CRWD staff with the assistance of an outside program or research consultant. This project would be a likely match for a researcher.

# Evaluation

Effective outreach requires measurement of what has been implemented, so it's clear whether the planning process has worked and objectives have been achieved. Evaluation allows a conclusion to be drawn about specific outreach efforts, whether it pronounces "mission accomplished" or suggests next steps. There are different types of indicators involved in program evaluation; the two most useful are:

- process indicators, which relate to execution of the program (e.g., how many events were held, or how many people attended an event); and
- impact indicators, which consider achievement of the goal or objective (e.g., is there a water quality improvement where outreach efforts have been targeted?).

At different stages of Plan implementation, the planning steps themselves will be evaluated. This type of evaluation provides a helpful "progress check" to guide ongoing planning. Examples of indicators that will be used to evaluate the planning process are shown in Table 10a.

**Table 10a: Planning Process Evaluation**

Planning Step	Example Indicator	Indicator Type	When to Use
Goal/Objective	Changes in phosphorus, sediment, and runoff volume observed in monitoring data in targeted subwatersheds compared to other subwatersheds	Impact	After specific programs or annually
Message	Response of test groups to draft messages	Process	During message development
Implementation	Adherence of programs to anticipated timeline, budget, and staffing needs	Process	Annually



Most of the evaluation effort will be focused on assessing the effectiveness of specific programs. Program evaluation brings the planning process full circle, by measuring outcomes and helping to determine whether behavior changes – and hence objectives – have been achieved. Table 10b gives examples of indicators that are appropriate for program evaluation. The actual mix of evaluation tools will depend on timing and resources, though as Table 10b shows, evaluation indicators are typically an inherent part of program execution and do not require significant extra effort.

**Table 10b: Programming Evaluation**

Program	Examples of Process Indicators	Examples of Impact Indicators
Initial Survey	survey response rate	identification of audience characteristics and barriers
Media Campaign	number of PSAs aired or print ads distributed	number of Web site hits or hot line calls after airing
Communications	number of newsletters prepared	number of fact sheets downloaded from Web site
Classroom & Field Education	number of classroom visits or field trips	student performance on pre- and post-event tests
Blue Thumb Speakers Bureau	number of speaker requests filled	attendee performance on pre- and post-workshop tests
Annual Survey	survey response rate	increase in familiarity with concept or message
Rain garden Workshops	number of attendees	number of native plantings installed by participants
Leaf Corps	number of homes canvassed	before/after measurement of leaf content in storm drain
Watershed Heroes	number of people recognized	number of nominations received from private citizens
Stewardship Grants	number or dollar value of grants awarded	number of outreach commitments from grantees
Downspout Derby	number of homes canvassed	before/after measurement of runoff volume in storm drain
Water Resource Training Series	number of attendees	changes in practices over time
Green Roof Educational Materials	number of visitors to GR	greater number of roofs installed
Green Roof Maintenance Training	number of trainees	attendee performance on pre- and post-workshop tests
Certification Program	number of certifications	number of coupon downloads by consumers



Appendix 1

Board Rank	Problem/Issue	Behavior/Practice Contributing to Problem	Group Engaging in Behavior/Practice	Board Rank	Adj. Rank*
1	Phosphorus, Sediment, & Runoff Volume	Landscape**	Homeowners	1	1
1	Phosphorus, Sediment, & Runoff Volume	Landscaping/Maintenance (streets etc.)	City (incl. Parks & Rec, Public Works) & Agency Staff	2	2
1	Phosphorus, Sediment, & Runoff Volume	Erosion & Sediment Control	Construction Contractors	2	3a
1	Phosphorus, Sediment, & Runoff Volume	Landscaping (installation + maintenance)	Landscaping Contractors	2	3b
2	Metals & Trash	Waste Disposal, etc.	Residents, Motorists, & Pedestrians	6	?
2	Metals & Trash	Waste Disposal, etc.	Commercial & Institutional Property Owners	2	4
3	Bacteria	Swimming & Feeding Wildlife	Lake/River Users	5	6
3	Bacteria	Dog Waste Pick-up	Pet Owners	4	5
4	Invasive Species	Recreation	Lake Users	5	8
4	Invasive Species	Exotic Plant/Animal Release	Pet Owners	4	7

\*Board ranking of groups was adjusted to give priority to the ranking of problems/issues.

\*\*Landscape practices refer generally to all outdoor practices on homeowner properties - lawn care, car care, and impervious surfaces.

Appendix 2

Format	Pros	Cons	Uses
<p><b>Mass Media</b> (news coverage, advertising {including billboards and PSAs})</p>	<ul style="list-style-type: none"> <li>• Can get free publicity via popular medium through which most people get their information</li> <li>• Can reach large audience with high-impact visual information</li> </ul>	<ul style="list-style-type: none"> <li>• Can be time- and energy-intensive to establish relationships with reporters</li> <li>• Can be costly to develop ads or PSAs</li> <li>• May have little control of news content or PSA air time</li> <li>• Message is short, passive, and can get lost in shuffle</li> </ul>	<ul style="list-style-type: none"> <li>• Build awareness</li> <li>• Publicize events</li> <li>• Educate about controversial issues</li> </ul>
<p><b>Videos</b></p>	<ul style="list-style-type: none"> <li>• Provide control over content</li> <li>• Allow for in-depth message</li> <li>• Can use high-impact visual information</li> </ul>	<ul style="list-style-type: none"> <li>• Can be costly</li> <li>• Need a way to distribute</li> <li>• Message is passive</li> </ul>	<ul style="list-style-type: none"> <li>• Workshops</li> <li>• Public education</li> <li>• Schools</li> </ul>
<p><b>Print Materials</b> (brochures, flyers, posters, displays, utility bill inserts)</p>	<ul style="list-style-type: none"> <li>• Can reach large audience</li> <li>• Easily adapted for different groups</li> <li>• Can provide both technical detail and visual aids</li> <li>• Gives people time to absorb content</li> <li>• Can be low-cost (in volume)</li> </ul>	<ul style="list-style-type: none"> <li>• May involve printing and mailing costs</li> <li>• Effectiveness depends on mailing list or placement location</li> <li>• Audience must take the first step to read or view</li> <li>• Materials can become dated</li> <li>• Message is passive</li> </ul>	<ul style="list-style-type: none"> <li>• Build awareness</li> <li>• Publicize events</li> <li>• Summarize findings or accomplishments</li> <li>• Workshops</li> <li>• Follow-up to other formats</li> </ul>
<p><b>Events</b> (fairs/festivals, field trips, open houses, public hearings/meetings, workshops)</p>	<ul style="list-style-type: none"> <li>• Persuasive and personal</li> <li>• Participatory</li> <li>• Can model positive behavior to different-sized audiences</li> </ul>	<ul style="list-style-type: none"> <li>• Can be time-consuming and costly to plan and conduct</li> <li>• Need effective publicity and appropriate content to maximize attendance</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• One-on-one, interactive modeling of behavior</li> </ul>

Appendix 2

Format	Pros	Cons	Uses
<b>Giveaways/Vouchers</b>	<ul style="list-style-type: none"> <li>• Provide behavior prompts</li> <li>• Can be low-cost and easy to produce</li> </ul>	<ul style="list-style-type: none"> <li>• Message is short and passive</li> <li>• Can contradict message (e.g., promoting trash)</li> </ul>	<ul style="list-style-type: none"> <li>• Build awareness</li> <li>• Distribute at events</li> <li>• Incentives and reminders</li> </ul>
<b>Mascots</b>	<ul style="list-style-type: none"> <li>• Can reach younger audience</li> <li>• Can help to brand message</li> </ul>	<ul style="list-style-type: none"> <li>• Requires ongoing effort to maintain exposure</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• Represent District at events</li> </ul>
<b>Internet</b> (Web site, listservers)	<ul style="list-style-type: none"> <li>• Can reach large (Web site) or discrete (listserver) audience</li> <li>• Inexpensive, easily maintained and updated</li> </ul>	<ul style="list-style-type: none"> <li>• Limited to audiences with a certain demographic profile</li> <li>• Can be a long-term investment</li> <li>• Need to draw people to it</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• Information source/ongoing communication</li> </ul>
<b>Experiential Learning</b> (internships, research assistantships, mentoring/career shadowing programs, service learning projects, volunteer programs)	<ul style="list-style-type: none"> <li>• Persuasive and personal</li> <li>• Participatory</li> <li>• Contributes to program implementation</li> <li>• Can be low-cost</li> </ul>	<ul style="list-style-type: none"> <li>• Very small and limited audience</li> <li>• Time-intensive for staff</li> </ul>	<ul style="list-style-type: none"> <li>• Data collection</li> <li>• Enhance communications with public</li> </ul>
<b>Canvassing and Relationship Building</b>	<ul style="list-style-type: none"> <li>• Persuasive and personal</li> <li>• Participatory</li> <li>• Can model positive behavior</li> <li>• Can be low-cost</li> </ul>	<ul style="list-style-type: none"> <li>• Somewhat limited audience</li> <li>• Can be time-consuming</li> <li>• For canvassing, potential for resistance to answer door</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• One-on-one, interactive modeling of behavior</li> <li>• Peer education</li> </ul>
<b>Research, Grants, and Technical Assistance</b> (pilot projects, demonstrations)	<ul style="list-style-type: none"> <li>• Persuasive and personal</li> <li>• Participatory</li> <li>• Can provide technical detail</li> <li>• Can overcome knowledge and economic barriers</li> </ul>	<ul style="list-style-type: none"> <li>• Somewhat limited audience</li> <li>• Can be costly and time consuming</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• Workshops</li> <li>• Demonstration and pilot projects</li> </ul>
<b>Program Support</b>	<ul style="list-style-type: none"> <li>• Can leverage financial resources without large time or staff commitments</li> </ul>	<ul style="list-style-type: none"> <li>• Limited control over program content</li> </ul>	<ul style="list-style-type: none"> <li>• Public education</li> <li>• Peer education</li> </ul>