### Tool Kit for Suburban Lakes, Ponds and Reservoirs

A Public Outreach & Education Model Based On The Moswansicut Reservoir Phosphorus Project



Developed, Compiled, and Implemented by Northern Rhode Island Conservation District in Partnership with Providence Water and URI Cooperative Extension With Funding From the New England Interstate Water Pollution Control Commission and the Narragansett Bay Estuary Program

#### This Page Left Intentionally Blank

## **Table of Contents**

	Section Title	Page	
	Origin of the Project		3
	The Scituate Reservoir Watershed		4
	Explaining Trophic States		5
	How To Use This Tool Kit		6
Step 1	Understanding Your Watershed		7
Step 2	Identify Partners and Develop Steering Committee		9
Step 3	Secure Project Funding		11
Step 4	Plan and Organize Outreach Strategies		13
Step 4a	Adult Outreach Materials		15
Step 4b	School Outreach Programs		16
Step 4c	Planning a Workshop		17
Step 4d	Planning Tours and Public Events		18
Step 5	Assemble and Organize Volunteers		19
Step 6	Collect Citizen Science Data		21
Step 7	Synthesize Results and Evaluate Your Program		23

#### Funding Source

This project was funded by an agreement (CE96184201) awarded by the Environmental Protection Agency to the New England Interstate Water Pollution Control Commission on behalf of the Narragansett Bay Estuary Program. Although the information in this document has been funded wholly or in part by the United States Environmental Protection Agency under agreement CE96184201 to NEIWPCC, it has not undergone the Agency's publications review process and therefore, may not necessarily reflect the views of the Agency and no official endorsement should be inferred. The viewpoints expressed here do not necessarily represent those of the NBEP, NEIWPCC, or U.S. EPA nor does mention of trade names, commercial products, or causes constitute endorsement or recommendation for us.

#### Origin of the Project

Since 1993, the Northern Rhode Island Conservation District has worked in close partnership with Providence Water to implement the Scituate Reservoir Watershed Education Program (SRWEP), an effort to protect water quality in the Scituate Reservoir, which provides 60% of Rhode Islanders with drinking water, by using outreach and education efforts. By convincing watershed residents, from students to adults, to take small steps such as properly managing pet and animal waste, using minimal or phosphorus-free fertilizers, and properly caring for their septic systems, the program has helped Providence Water to keep source waters clean and minimize the need for the types of expensive water treatment solutions in use in other parts of the state. Additionally, the landholdings that Providence Water owns around Scituate Reservoir and its sub-reservoirs have remained an important wildlife habitat, hosting species such as bald eagles that have rebounded in population in recent years.

In the 2010s, Providence Water began commissioning limnological assessments of the various sub-reservoirs of the Scituate Reservoir: Regulating, Moswansicut, Westconnaug, Barden, and Ponagansett. Results of these assessments, which were conducted by ESS Group, Inc. of Providence, RI, showed that both Moswansicut and Regulating Reservoirs were at risk of eutrophication, or high amounts of nutrients that enter and change the character of a waterbody. Both of these sub-reservoirs are in suburban portions of the watershed, which are likely to become even more developed in future years.

Moswansicut Reservoir, in particular, has a very small watershed with under 700 total households. This made it a great target for a cohesive outreach program that would utilize a variety of strategies, in a small area, over the course of 1.5 years to reach as many residents as possible. This Toolkit summarizes the process used to develop this outreach program, the various elements that were included, and how it can be replicated by other small conservation or watershed organizations, including those with limited budgets. It is our hope that these strategies will be beneficial to other organizations around Southern New England who seek to use proven outreach strategies to minimize nutrient loading to their waterbodies.

# Background: The Scituate Reservoir Watershed

The Scituate Reservoir watershed is located primarily within the towns of Scituate, Foster, Glocester, and Johnston in Northwestern Rhode Island. Providence Water owns or manages the majority of the

Scituate Reservoir Watershed

LEGEND
— State Roads
Reservoirs & Ponds
Providence Water Property
Private and Other Public Land
Watershed Boundary

Reservoir, but over 65% of the watershed, including most sensitive headwater streams, is privately owned. This makes cooperation with private residents absolutely essential to protecting water quality in the Reservoir system.

land surrounding the

The Moswansicut
Reservoir watershed is
approximately 3
square miles in size.
Located close to
Providence, on the
watershed's Western
edge, it is densely
populated and
includes farms, single-

family residences, and businesses. ESS Group (2013) predicts that Moswansicut will become eutrophic within 25 years even if no further buildout is to occur; however, they also predict that outreach and education could lead to a 5% reduction in phosphorus loading to the waterbody. Other phosphorus reduction actions they suggest include in-water phosphorus inactivation, resident Canada Goose abatement, and water quality monitoring.

### Background: Explaining Trophic States

A challenge faced by all groups involved in educating the public about nutrient reduction to waterbodies is explaining the concept of the **trophic state**, or trophic status, of a waterbody. In this case, teaching constituents the relevant vocabulary is far less important than teaching them to understand the concept that when too much of a given nutrient enters a waterbody, it will change the characteristics of the waterbody and make it less suitable for drinking water, swimming, fishing, or recreation.

Many members of the general public, from children to adults, are most familiar with nutrients in the context of food or garden fertilizer. In both of these situations, more nutrients is a good thing! However, both of these contexts can also be easily used to help explain the context of eutrophication. Sets of language messaging that have worked well for NRICD in the past include:

- Target Audience: Elementary Children-Fertilizer, or plant food, is something many gardeners use to help plants grow. If gardeners use too much, however, the extra can wash into the Reservoir during a rainstorm. Just like you can only eat so much food, your plants can only use so much plant food. When it gets there, instead of fertilizing garden plants, it will fertilize algae. If it happens too much, this could make the Reservoir start to look green and mucky. Some types of algae could even make the water less safe to drink.
- Target Audience: Adult Homeowners-If you chose to use a fertilizer on your lawn or garden, it is important to get your soil tested to make sure you don't use more than you need. Fertilizer that is not absorbed by your plants can wash away in runoff after it rains and end up stimulating the growth of algae in the Reservoir. Phosphorus, especially, is bad for water quality since in fresh water, it is the "limiting nutrient"; this means algae will continue to grow until all available phosphorus has been used. Nitrogen can also stimulate algae growth, however, so it is important to be smart with your fertilizer use.

Language choice is important in education and outreach; use of technical words, or "jargon," without appropriate explanations can easily turn off audiences and make them less interested in learning more. Some words, can even have unintended meanings. To learn more about carefully crafting your messages, we recommend you visit Water Works That Work at <a href="waterwordsthatwork.com">waterwordsthatwork.com</a>. This consulting firm offers personalized message crafting services, but also makes many excellent resources available for free on its website.

#### How To Use This Tool Kit

This publication is based on the successful model piloted by Northern Rhode Island Conservation District's *Tool Kit for Urban Rivers*, which was created by former NRICD Outreach and Education Coordinator Kate Bousquet and is still downloaded frequently from around the world. The toolkit will walk you through the steps used to develop an outreach and education campaign, using the Moswansicut Reservoir Phosphorus Project as an example and model. Since the Moswansicut Reservoir Phosphorus Project involved the heavy use of citizen science and community volunteers, this tool kit will also cover the important issues involved with creating, organizing, and managing an effective volunteer force and designing a monitoring program.

Although these specific steps worked well for the Moswansicut Reservoir Phosphorus Project, the steps that will work best for your target watershed may be slightly different. We hope you will use this Tool Kit as inspiration for developing a program that will best meet your needs. Space for you to jot down notes relevant to your program can be found throughout the workbook. Additionally, the attached CD-Rom has educational resources that you are welcome to print and use for your campaign. These are presented in Microsoft Word or Publisher formats so that you may add your own logo; we ask that you leave the "fine print" as required by our project's funders.

Best of luck with your outreach and education campaign!

1.	Outreach and Education Campaign Development Steps: Understand your target watershed
2.	Identify partners and develop a steering committee
3.	Secure Project Funding
4.	Plan and organize outreach strategies
5.	Assemble and organize volunteers
6.	Collect citizen science data
7.	Synthesize results and evaluate program

### Step 1: Understanding Your Watershed



The Moswansicut Reservoir Phosphorus

Project was born out of a limnological, or lake science, assessment conducted by consultants from ESS Group, Inc (2013). This assessment analyzed the health of the Moswansicut Reservoir, identified phosphorus loading as a cause for concern, and made specific recommendations to address the issue. Their first recommendation, to investigate in-water phosphorus inactivation techniques, was beyond the scope of the work NRICD is able to do. Many of their other specific recommendations, however, built on the existing skills of NRICD as an organization: outreach and education, resident Canada Goose management, and water quality monitoring are all areas in which NRICD or its partners have specific expertise. In addition, the ESS Group assessment used modeling techniques to illustrate that small changes to the amounts of phosphorus entering

Moswansicut Reservoir have a potential to make a big difference for water quality. ESS Group projected that outreach strategies could lead to a 5% reduction in phosphorus loading.

In terms of its current status, ESS Group classified Moswansicut **mesotrophic**, but on target to become **eutrophic** within 25 years in any buildout scenario. In addition, ESS Group staff observed a blue-green algae bloom on one of their monitoring visits. Since blue-green algae, or cyanobacteria, has the potential to release toxins with serious health affects, this is an extremely concerning observation for a drinking water supply.

Moswansicut's approximately 3 square mile watershed contains a mixture of land uses, including farms (livestock and vegetable), forest parcels, a state-numbered road, a shopping center, and numerous single family houses. Parcel data for the watershed was assembled by Providence Water staff and suggested approximately 650 active addresses in the watershed. The watershed includes parts of three towns: Scituate, Glocester, and Johnston.

#### Appendix A: Moswansicut Reservoir watershed maps

### Gathering Your Own Information

Even if a study has never been conducted on your waterbody, lots of great background information is likely as close as your internet browser. Work through the following questions to try to assemble thorough information about what your waterbody's needs are.

- Find a map of your waterbody's watershed. What towns are in the watershed? Does it cross any state boundaries? Is it a sub-watershed of any other well-known watersheds? For example, the Moswansicut Reservoir watershed is also part of the Scituate Reservoir watershed and the Narragansett Bay watershed. This information is important for identifying funding opportunities! Ours was specific to the Narragansett Bay watershed.
- 2. What types of **land use** exist in your watershed? Is it mostly residential neighborhoods? Farms? Forest land? A densely-settled commercial area? **Google Maps** is a great way to obtain this information.

#### ArcGIS For Personal Use: A Low-Cost Tool

If your organization has staff, they may be using ArcGIS to create maps for your project. If you do not have access to this software, you may be interested in using ArcGIS for personal use, an affordable mapping tool, to create maps of your watershed. This program can create maps using data from sources like RIGIS and MassGIS, which cannot be opened in common computer programs such as the Microsoft Office suite. These data can show land use in your watershed, water quality data, and more! Visit http:// www.esri.com/software/arcgis/arcgis-forpersonal-use to learn more and access tutorials.

- 3. What streams or rivers flow into your waterbody? These are its **tributaries**.
- 4. Every state is mandated by the Clean Water Act to maintain a **303(d)** list of impaired waterbodies. Is your waterbody, or any of its tributaries, on this list? If so, for which contaminants?
- 5. What **community groups** are already active in your watershed? Are there schools, a grange, a rod and gun club, or churches? What types of recreation are popular?
- 6. Are any groups, such as URI Watershed Watch in Rhode Island, your state government, or a watershed council, already collecting and posting data about your waterbody?

### Step 2: Identify Partners and Develop a Steering Committee

Though NRICD and Providence Water were in an existing partnership when project development began, increasing partnerships was key to ensuring a successful project. At the grant proposal stage, partners were solicited to provide letters of support and in-kind match for our grant proposal. Since water quality monitoring was so heavily recommended in the ESS Group report, URI Watershed Watch, a large, scientifically-proven citizen science water quality program, was approached as the next partner. Another URI representative, the Home-A-Syst Private Well Program, was asked to sign a letter of support and provide a workshop as part of the project. Eastern Rhode Island Conservation District, who had resident Canada Goose abatement experience, also joined as a partner at the grant proposal stage.

Later in project development, potential members were invited to join the steering committee. Once representatives from NRICD, Providence Water, and URI Watershed Watch were identified, a wider net was cast to bring in members of the community who could share their expertise as community members and keep local issues at the forefront. Groups and individuals approached included:

#### The Scituate Conservation Commission

Did contribute a member

#### The Glocester Water Resources Board

oard

Did not contribute a member, but assisted with workshop development

#### The Northwest Rhode Island Supporters of Open Space

Did not contribute a member, but provided volunteers for many events and helped with event publicity extensively

#### · Private landowners in the watershed

One joined as a member

In all cases, even when attempts at recruiting a steering committee member were unsuccessful, they did result in a new partnership that added to the success of the project.

#### What Does A Steering Committee Do?

- Meets periodically throughout the project period
- Shares ideas for projects
- Reviews materials and strategies
- Holds any staff accountable for deadlines and quality of work
- Stays in regular phone or email contact with any staff
- Members may come and go in involvement throughout the projectthat's okay!

#### **Building The Perfect Partnerships**

The follow questions will lead you to a list of potential partners to contact for a meeting. For the best chance of success, have a clear idea of what you are asking for before setting up a meeting with potential partners. Cast a wide net and feel free to include groups or individuals that are new to your established networks! It will only strengthen your project.

Is your group able to fiscally administer grant funding? Do you have 501(c)(3) status? Do you
have active administrative support? If not, seek a nonprofit group with similar goals to help. In
many cases, nonprofits can administer grant funding more easily than government organizations
due to having fewer requirements.

#### Partnership Tip!

Some partners, such as nonprofit organizations, will need funding for staff time to participate in your effort. Learn more about funding in Step 3.

- 2.Does your group have experience with public speaking, coordinating volunteers, and desktop publishing? If not, potential partners that could help include university extension offices, university internship programs, or other nonprofits.
- 3.Are there any active conservation commissions, land trusts, or friends' groups active in your watershed? These groups often have experienced, dedicated volunteers and can be very helpful with creating publicity or building social capital.
- Do you have the technical knowledge needed to conduct any planned monitoring activities? If not, reach out to your local university extension office or volunteer water quality monitoring program.
- 5. Do you have **legal authorization** for the activities you'd like to conduct in your watershed? If not, contact **state agencies**, **towns**, **and private landowners**. Cooperation from Town Manager/Councils will add authority to your project.
- 6. Are you planning school outreach activities? Reach out to schools **early** to ensure their participation. Facilitated introductions have the best chance for success!

Potential Partners	Potential Steering Committee Members

#### **Step 3: Secure Project Funding**

Although some funding was already available for outreach in this area under the Scituate Reservoir Watershed Education Program, Providence Water is limited by both city and state policies in the amount of funding they are able to provide each year. An appropriate grant opportunity, through Southeast New England Estuary Program, was identified in the summer of 2014. This program was funded by federal money from the U.S. Environmental Protection Agency administered by another organization, the New England Interstate Water Pollution Control Commission.

At least 25% **nonfederal match**, or goods and services not paid for by federal funds, was required by the grant opportunity. We were able to meet this requirement using a combination of money from the Scituate Reservoir Watershed Education Program, where some existing activities were augmented to support project goals, **in-kind match**, or work time, provided by Providence Water staff and NRICD volunteers, and services provided by URI Cooperative Extension.

#### Sustainable Funding Sources

The sustainability of funding for this project, or the ability to continue ongoing work in the Moswansicut Reservoir watershed after the completion of the grant funding period, was important to

both the project partners and funders. We had the unique ability to create a sustainable project due to the presence of an existing five-year agreement to fund the Scituate Reservoir Watershed Education Program. Having sustainable funding from Providence Water, and flexibility to continue especially successful parts of the project using SRWEP funding, was a huge advantage on our grant proposal and allowed us to leverage this project into future watershed outreach and monitoring actions.

Where to Find Funding
Opportunities?
Grant requests for proposal
(RFP's) are often distributed
through professional channels. Let
your partner organizations know
that you'd like to be alerted when
RFP's for outreach and education
cross their inboxes!

Finding a sustainable funding source has also allowed the project partners to develop **social capital** 

in

the watershed community. Many community members in Scituate, Foster, Glocester, and Johnston were already familiar with the project partners, and were therefore more likely to trust and be interested in the partners when initially approached about participation.

### Finding Your Perfect Funding Sources

There are two ways to proceed with project development: (1) Developing a program and then finding an appropriate funding source, (2) Finding a funding source and then developing a program to fit. Although NRICD and Providence Water used (2) when developing the Moswansicut Reservoir Phosphorus Project, many other groups have found that (1) is more likely to lead to a cohesive

project.

Match Tip:
Always have your volunteers sign in! Volunteer time is valuable match, and it may not be counted by your funder if you do not keep appropriate records.

You may decide to pursue grant funding as your initial funding source. Most grants are **project-based**, which means that you will be reimbursed for completing certain **tasks** over the course of a project period. Many grants can be used to pay for staff time, travel, materials for programs, and a wide array of other costs. Common sources of grant funding include **state agencies** (i.e. RI Department of Environmental Management or Mass

Department of Conservation and Recreation), **federal agencies** (i.e. the Environmental Protection Agency or National Oceanic and Atmospheric Administration), **nonprofit or quasi-public agencies that administer federal funds** (i.e. Audubon or the Narragansett Bay Estuary Program), or **for-profit companies** (i.e. TD Bank or Toyota).

Most, but not all, grant opportunities will require that you pledge **match** to your grant award. This means that you will provide some of the cost of the project to supplement the amount given by your funders. Match requirements vary by grant, but 25% of the total project cost is very common. Keep in mind that paid employees' time can count as match, as well as volunteers' time, which is often valued at over \$20 per hour! Donations, materials and supplies purchased by other sources, and mileage costs paid for by other sources can also count as match, depending on your grant's requirements. If the source of your grant money is federal, your match must almost always come from non-federal sources, such as a town, state, or private organization.

Once your project is successfully underway using your initial funding source, it is important to start thinking **early** about a sustainable source of funding for your program. Our programs are sustainable due to our partnership with Providence Water, who has agreed to fund the programs in 5-year cycles Other groups have found successful sustainable funding sources by partnering with towns or private foundations. It is important to show potential funders proven results, such as numbers of workshop attendees, numbers of students reached, or area of forest restored, when approaching them about sustainable funding opportunities.

### Step 4: Plan and Organize Outreach Strategies

Well designed and easy to understand materials are the cornerstone of an outreach and education campaign. For the Moswansicut Reservoir Phosphorus Project, the majority of materials were developed by an NRICD Outreach and Education Coordinator with training in both watershed science and education. The project was designed to target two main audiences: home and landowners in the Moswansicut Reservoir watershed and 3rd and 4th grade students at area elementary schools. Although watershed residents were specifically targeted, residents of other watersheds were always welcome at our events and were also welcome to receive any of our educational materials by request. Transferability of our program throughout the greater Narraganset Bay watershed was an important goal of our funders, so we encouraged interest from outside the immediate watershed area.

A variety of strategies were used to bring our message to the community:

- 2 targeted mailings to all Moswansicut Reservoir watershed residents. Over 600 issues of each mailing were sent, with some mailings funded in conjunction with SRWEP's Neighbor to Neighbor program.
- Annual educational visits to all public elementary schools serving the watershed (3 per year). This
  age group was chosen due to existing relationships with supportive teachers, ease of correlating
  curriculum to state standards, and a high interest level among students.
- 2 volunteer programs designed to increase community engagement and interest in the Reservoir: a volunteer tributary monitoring program was conducted in partnership with URI Watershed Watch in 2015, and community volunteers planting a vegetated buffer to discourage Canada Geese from congregating along the Reservoir.
- \* 7 public events designed provide homeowners with practical knowledge that they could use to minimize phosphorus loading to Moswansicut Reservoir. 6 were initially planned in the grant proposal, but a seventh was added after early Project tasks were completed under-budget.

Additionally, early in the Project, funding from SRWEP was used to send a questionnaire to area residents to learn what topics related to phosphorus abatement they were most interested in learning more about. This questionnaire ultimately showed a strong interest in learning more about proper septic system maintenance, an insight that led to the most successful public event of the project.

### Beginning to Plan Your Outreach Activities

The first step in assembling appropriate outreach materials and planning outreach activities is deciding on the audience(s) you would like to reach with your programming. Large projects with many staff and volunteers may want to reach several audience, or if it is your organization's first outreach and education project you may prefer to focus on just one while you establish your group's capacity. Use the space below to jot down what audience(s) you will target with your initial outreach, and what methods you would like to use to reach them. Be sure to take into account the information you gathered in Step 1, as well as the skills and knowledge base of your partners and steering committee.

Target Audiences  May include: elementary children, middle/ high school children, adult homeowners, agricultural producers, local business owners, etc.	Outreach Methods  May include: school visits, volunteer engagement, workshops, direct mailings, social media outreach, local advertisements, subsidized purchases (such as rain barrels or compost), tables at local events, watershed tours, etc.

#### 4a. Developing or Assembling Adult Outreach Materials

Adult outreach materials were distributed primarily through targeted mailings. For this project, a database of all mailing addresses within the Moswansicut Reservoir watershed had already been assembled by Providence Water. Many towns now put property ownership data online in geographic databases; if the towns in your watershed do not, approach your tax assessor for assistance with finding this information. Property data is considered a matter of public record, and

many assessors will be glad to help you, and may even want to use your informational mailing as match for a grant that they are working on. If you wish to reach only new residents, property transfer records are often published in your local newspaper.

If your organization plans to send many targeted mailings, you may save money by applying for a **nonprofit bulk mailing permit**. Learn more about this process at <u>pe.usps.com</u>.

### Best Computer Programs For Designing Outreach Materials:

- Microsoft Publisher
- Apple Pages
- Microsoft Word
- Adobe Acrobat/Photoshop

If creating your own outreach materials, there are several important points to keep in mind:

No Time To Design Your Own Flyer?
In addition to the attached materials, many nonprofits will allow you to use their existing materials with appropriate credit and notification given. Visit <a href="http://www.yuckyducky.com/pet-waste/there-is-no-poopfairy/">http://www.yuckyducky.com/pet-waste/there-is-no-poopfairy/</a> for one great example!

\*Focus on what your audience needs to know. Resist the urge to explain the science behind every recommendation.

\*Focus on practical recommendations. Many homeowners may be willing to reduce fertilizer usage, while far fewer will be interested in replacing their yard with a wildflower garden.

•Resist the urge to use scientific language

instead of plain language. Visit the consulting firm <u>waterwordsthatwork.com</u> for some simple, easy to follow recommendations.

- Resist the urge to fill all available space with text and pictures. Sometimes, blank space can help the eye to settle and make materials more readable.
- Consider printing costs, which can be quite expensive, when planning your project or applying for funding. Printing in black and white is significantly cheaper than printing in color. You can print on colorful paper to increase visual impact while using black and white ink.

#### Appendix B: Adult Outreach Materials

### 4b. Planning A School Outreach Program

A well-planned school outreach program works at many levels. Students can become aware and excited about preventing stormwater pollution at home, and by using send-home materials parents can learn new tools that will capitalize on students' excitement. However, teachers are facing increasing pressures and challenges in their limited instructional time, so approaching them only after a well crafted outreach program has been created and making sure your program supports state instructional standards is very important to developing a lasting partnership.

#### Steps to Creating A School Outreach Program:

- 1. Decide what age range you would like to work with. Who will be the presenter? Do they feel more comfortable with elementary, middle, or high school students?
- Consult your state's curriculum guidelines and figure out which grade, within your chosen age
  range, has a prescribed curriculum that aligns well with your message. In Rhode Island, for
  example, stormwater education pairs well with the "Water and Climate" unit taught at the third
  grade level.
- 3. Chose a targeted message. What is the one thing you would like the students to remember after your visit?
- 4. Combine a background presentation with a hands-on activity. At the third grade level, we combine a 45 minute, age-appropriate PowerPoint presentation with the Enviroscape (c) Watershed Model. This hands-on tool can be adapted for all age levels.
- 5. Participate in your state's criminal background check (such as the Rhode Island BCI) before visiting any schools. Make it your policy to never be alone, one-on-one, with a child under 18.
- 6. Contact teachers. We recommend casting a wide net and reaching out to classroom teachers, principles, department heads, and superintendents. Most teachers are very busy and have limited email time, so snail-mailing information to their schools can be especially helpful.
- 7. Send scheduling forms to teachers that have agreed to participate. Confirm each booking one week in advance of your visit. Always allow plenty of time to sign in at the front office, and expect to be asked for ID.
- 8. If your program involves a field trip, offer to pay for bussing. The expense of bussing is the #1 problem teachers often cite about participating in environmental education programs.
- 9. Create send-home folders that include information for both students and parents.

#### Appendix C: Teacher Outreach Materials

#### Appendix D: Parent Send-Home Materials

### 4c. Planning A Workshop

Free workshops are a great way to reach adult homeowner audiences. The following chart outlines the steps and approximate timeline for planning a workshop.

Time (Relative to Event)	Action	Description
3-4 months out	Finalize Workshop Topic	Topics used in the Moswansicut Reservoir Phosphorus Project were, in order of popularity: Septic System Maintenance, Private Well Water Protection, Low-Input Gardening, Soil Health and Composting, and Low Impact Development.
2-3 months out	Secure speakers (if necessary)	We used guest speakers for some events, and NRICD staff for others. Speakers' fees (usually \$200) were offered to all speakers, but declined by most.
2-3 months out	Schedule Event	We had the best turnout for weeknight events beginning at 5:30 or 6:00. Occasional Saturday events may be helpful to brining in new attendees, however.
2-3 months out, or earlier	Secure workshop space	We used various free community spaces in Scituate, RI. Make sure your chosen venue has restrooms, chairs, plugs needed for a projector, a projector screen, and sufficient parking. Reserve your space for one hour before and after the workshop
1-1.5 months out	Advertise Event	Our events were all advertised by direct mail, in local shoppers guides, on Facebook, and by emailing event information to other conservation groups statewide. Ask attendees to register, even for free events.
1 week out	Confirm speaker and event space	Be sure to have cell phone numbers for both the speaker and the person opening the building for you, and inquire as to the speaker's technology needs. Many libraries can rent a projector if you do not have one.
Day of event	Set up event	Arrive at least one hour early to set up chairs and test your projector. Bring a sandwich platter for presenters who may be working through dinner. Set up a sign in sheet and be sure to include a "How Did Your Hear About Us" section to guide future advertising. Attendee snacks are optional but useful for dinnertime events.
1 week after	Thank presenter and venue	Write thank you notes to your presenter and venue

#### Appendix E: Sample workshop sign-in sheet

#### Appendix F: Sample workshop advertising

### 4d. Planning Tours and Public Events

Two additional public events were held as part of the Moswansicut Reservoir Phosphorus Project: A kick off event, held in connection with NRICD's existing Seedling Sale, where residents could play games, get information, and receive a free seedling, and a public field tour of Providence Water's land around the Moswansicut, which is not otherwise open to the public. The field tour was very well attended, while the project kickoff event was somewhere hampered by very bad weather. Both, however, played to known interests in the watershed community: a desire to visit Providence Water land and an interest in trees and planting.

Another outreach option, which was not used in the Moswansicut Reservoir phosphorous project but has been frequently used by NRICD in other projects, is setting up an informational table at events open to the general public. Events such as flower shows, county fairs, PTA events, and church festivals will often offer free or low-cost table space to groups that provide educational or public service information, and they are a great way to extend your reach beyond the "usual suspects." If attending an event of this type, consider your audience and plan accordingly. If you are attending a plant sale, bring lots of information about water-friendly lawn care and native seed packets to distribute. If children will be present, allowing them to play with the Enviroscape (c) is a great way to go.

Use the space below to brainstorm events that you could throw or attend, their intended audience, and activities or information to bring.

Event Host or Attend? Intended Items to Bring
Audience

### Step 5: Assemble and Organize Volunteers

Volunteer engagement was a key goal of the Moswansicut Reservoir Phosphorus Project. The general public is not allowed access to Providence Water's beautiful, secluded holdings around Moswansicut Reservoir, so volunteer projects were planned as a potential way to both leverage our



ability to conduct projects that will protect the Reservoir and increase community "ownership" of the waterbody.

The first volunteer project planned was a buffer planting along Moswansicut Dam to discourage resident Canada Geese, whose waste is very high in phosphorus, from congregating. This planting, which used native grasses, was conducted in two stages in May and October of 2015. Each stage was advertised at events, in mailings, and in local shoppers' guides, and attracted 2-4 volunteers. These groups were small but dedicated, and included participants who were new to NRICD and Providence Water events but asked to be added to our list for future opportunities. The planting plan was

designed by Canada Goose experts from Eastern RI Conservation District and the USDA Natural Resources Conservation Service (NRCS).

The second volunteer project was monthly monitoring of several of Moswansicut Reservoir's tributaries, which was conducted in partnership with URI Watershed Watch, a state-licensed volunteer monitoring and water quality laboratory at the University of Rhode Island. We had 8 enthusiastic volunteers respond to our ad in a local shopper's guide, 7 of whom collected monthly samples and stream observations throughout the entire monitoring season, May-November 2016. Though Providence Water already conducts some tributary monitoring, engaging volunteers allowed us to collect information from a larger number of sights, and many volunteers took seriously the responsibility to take care of their "spot," collecting trash and alerting us immediately if something seemed off. It is difficult to draw conclusions about phosphorus loading to the Reservoir with just one year's worth of data, but it is our hope to use our sustainable funding sources to continue volunteer monitoring and continue to reap its important community engagement benefits. Two volunteers were members of a local conservation commission, and therefore leaders in the local community who may be able to help us to continue to enact behavioral change.

#### Appendix G: Volunteer Advertisements

#### **Organizing Your Volunteer Force**

To give your volunteers the best possible experience, it is important to go through some basic planning steps before engaging them. Work through the following questions as you begin to plan your volunteer program(s).

- Talk to your liability insurance provider to make sure you are covered for working with volunteers. Are you covered on your organization's property? On someone else's property?
- Assemble release forms that you will want your volunteers to sign. Have reviewed by an attorney if required by your Board.
- How will you advertise your volunteer opportunity. The newspaper? Email? A community organization? Newspaper ads were most effective for us.
- What project would you like your volunteers to complete or assist with? Is this an ongoing project or a one-time event or work day?
- What age of volunteers is your project appropriate for? Do you need skilled adults, or ablebodied teenagers? Is your project appropriate for young children, the elderly, or disabled adults?
- How will your provide your volunteers with recognition? A free lunch, a certificate, or a token such as a hat or t-shirt all go a long way toward making volunteers feel valued.
- Will your project utilize your volunteers to their greatest potential? Projects that are "too easy" for the volunteer can cause them to lose interest.
- If your volunteers are working independently, who can they call if they need help or have a problem while on the project?
- How will your train your volunteers? Who will create training materials?

#### Step 6: Collect Citizen Science Data

Partnering with URI Watershed Watch to collect citizen science water quality data allowed this project to both increase community engagement and to create a scientifically-valid data set. As required by the New England Interstate Water Pollution Control Commission, a Quality Assurance Project Plan (QAPP) was created for the project and approved by the U.S. EPA. Since a QAPP is a relatively technical document for an outreach-oriented organization to prepare, we relied heavily on guidance from the NEIWPCC QAPP Guide available at <a href="neiwpcc.org">neiwpcc.org</a>, as well as URI Watershed Watch's existing QAPP, which has already been approved by the U.S. EPA. The process of preparing the QAPP allowed the project partners to refine and streamline the monitoring process, making it simple for volunteers and staff to administer.

The URI Watershed Watch laboratory has sophisticated technical equipment that allowed us to receive very accurate data about each tributary monitoring spot. Initially, 7 spots were monitored; 2



additional spots were added later in the project at the request of Providence Water. Volunteers attended a training session in early May, and each volunteer was accompanied by NRICD staff on one monitoring visit to ensure quality control. Volunteers collected water samples in specially prepared bottles from URI Watershed Watch, and the samples were tested at the Watershed Watch lab on an analytical instrument called an autoanalyzer. Although only total phosphorus and dissolved phosphorus testing was planned, URI Watershed Watch provided nitrate and nitrite testing as well, free of charge. Additionally, the monitoring project allowed us to collect data on which tributaries dry during the summer, which can have a large impact on nutrient loading to waterbodies.

The summer/fall of 2015 was exceptionally dry, so it is difficult to draw lasting conclusions about phosphorus

sources simply from one year's worth of monitoring data. It is our goal to use sustainable funding sources to continue water quality monitoring until there is multi-year dataset available to help us communicate sources of phosphorus loading to the general community.

### Developing Your Monitoring Program

Citizen science is a great way to collect water quality data, but citizen science programs can also be used to monitor plants, shoreline erosion, wildlife, and more. Nonprofit organizations can use citizen science data to create reports, communicate environment problems to the general public, or even lobby politicians to take action about an environmental problem. It is important to design a program that will produce scientifically valid data. If nobody in your organization is trained in scientific research, you may be able to recruit a skilled volunteer to help design a program that will create valid data.

- 1. What data do you want your volunteers to collect? If you are concerned about water quality, will they collect phosphorus information, secchi disc readings, dissolved oxygen, chloride, or ph? Or some combination?
- 2. Will you partner with a laboratory to produce your test results from volunteer-collected samples, or have volunteers produce data using test kits in the field? Willing laboratories can be found at universities or drinking water testing labs.

Companies That Sell Water
Testing Kits:
Hach Chemical (<u>hach.com</u>)
CHEMetrics, Inc. )
(<u>chemetrics.com</u>)
LaMotte Chemical
(<u>lamotte.com</u>)

- 3. How will your volunteers report their data to you? Options include bringing you a data sheet, online entry systems (such as SurveyMonkey.com), and prepaid postcards.
- 4. How will you assure the quality of your volunteers' results? It is recommended that randomly assigned volunteers collected **duplicate samples** each month, and that, if using test kits, volunteers complete each test twice to assure consistent results.
- 5. What will happen if a volunteer neglects to collect a sample? Can a staff member take their place?
- 6. What will you do with your results? A greater degree of accuracy is required if you will be making

For more volunteer monitoring information and resources, visit the Extension Volunteer Water Quality Monitoring Network at http://www.usawaterquality.org/volunteer/

management decisions with your data than if you are using the data for general information and educational purposes.

7.Is there an established volunteer organization, such as URI Watershed Watch, that you can partner with on your program?

# Step 8: Synthesize Results and Evaluate Program

Program evaluation is an important part of making sure outreach efforts are effective. For the Moswansicut Reservoir Phosphorus Project, our funders required quarterly reports that documented that our deliverables were being produced according to our timeline. Timelines are often flexible, but these reports provided an excellent opportunity to communicate changes to funders and ensure that any missed deadlines have a corresponding plan to meet project goals.

To evaluate the success of the program, several metrics were used:

- The number of people who attended each event
- Successful participation of volunteers in a full water quality monitoring season
- The ability to provide the Steering Committee with recommendations for further action to reduce phosphorus loading to Moswansicut Reservoir
- The successful creation of one year of data regarding phosphorus levels in Moswansicut Reservoir's tributaries
- Completion of all tasks as presented in our Memorandum of Understanding with our funders

The program was considered successful in that it generated high levels of community engagement and several recommendations to the technical steering committee that can be maintained with our ongoing funding sources. The primary recommendations to the Steering Committee were:

- Additional Septic System workshops, since the topic has both high public interest and high potential to reduce phosphorus loading
- Spreading information about the Community Septic System Loan Program, which provides lowinterest
- Additional public workshops about gardening for nutrient reduction
- Allocating SRWEP funding for the continuation of the volunteer water quality monitoring program at, at minimum, a subset of project sites
- Utilizing the updated address database for continued semi-annual educational mailings in postcard form
- Continued maintenance of Phase 1 of the Canada Goose buffer planting, which seems to have reduced Canada Goose presence on the North side of Moswansicut Dam, and the addition of portable Canada Goose fencing on the South side of the dam, where evidence of Canada Geese continues to be visible.

### **Evaluating Your Program**

How will you evaluate your program? Many, though not all, grant funding opportunities request that you use **measurable metrics**, such as the number of acres preserved or the number of phosphorus-reduction pledges signed, to evaluate your program. In addition to any metrics required by your funder, you will also want to evaluate your program at a quantitive level to make good choices about which techniques you will continue to pursue with sustainable funding sources.

When choosing evaluation metrics, it helps to have the "big picture" in mind. What is your big picture goal for your outreach program? What would success look like, in one sentence? As an example, our big picture goal was "Reduce phosphorus inputs to Moswansicut Reservoir through outreach and education."

		~ •	
	Big Pic	ture Goal:	

#### **Quantitive Metrics**

i.e. number of attendees, number of data points collected, number of mailings sent, feet of buffer zone planted, etc.

#### Qualitative Methods

What worked well? What would you like to repeat? What would you have done differently? What new ideas did you gain?