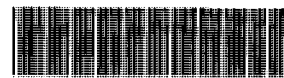


US EPA ARCHIVE DOCUMENT



SDMS DocID 000204622

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Tool Kit for Urban Rivers

Public Outreach & Education

*A Model Based on
Rhode Island's Woonasquatucket River
"Do's & Don'ts" Education Program*

Strategies and Programs



Developed, Implemented and Compiled by
*Northern Rhode Island Conservation District,
RI Urban Rivers Team—Health & Education Subcommittee,
U.S. Environmental Protection Agency*

Table of Contents

	Section Title	Page
	Why Use this project as a Model? / Timeframe of Events for the Woonasquatucket River	ii-iii
	“Do’s & Don’ts” Background / Using this Tool Kit	iv-v
Step 1	Understand the Target Watershed	2-3
Step 2	Identify the Administrative Agency	4-5
Step 3	Develop a Steering Committee	6-7
Step 4	Identify Key Messages	8-9
Step 5	Identify Target Audiences	10-11
Steps	Program Ideas for Various Audiences	(12-15)
5A	Step 5A: Signage & Brochures	12
5B	Step 5B: Adult Audiences	13
5C	Step 5C: Child Audiences	14
5D	Step 5D: Facilitating Community Involvement	15
Step 6	Develop a Program for Implementation	16-17
Step 7	Finding Sustainable Funding Sources	18-19
Step 8	Program Evaluation	20-21
	Appendices & Template Location	22-23
	Evaluation of the Tool Kit	Post- Appendices

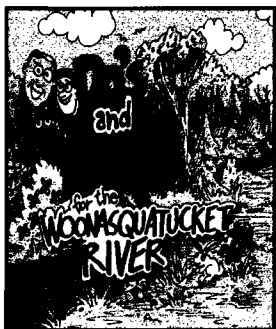
Acknowledgments:

This publication was made possible by the efforts of dedicated individuals.
We would like to thank them for all of their input, time, and expertise.

- ♦ US EPA—Urban Environmental Program
- ♦ Northern RI Conservation District
- ♦ Audubon Society of RI
- ♦ RI Department of Health (HEALTH)
- ♦ RI Department of Environmental Management (RIDEM)
- ♦ Woonasquatucket River Watershed Council and the Greenway Project
- ♦ Club Neopolsi Creations
- ♦ Socio-Economic Development Center for Southeast Asians
- ♦ Olneyville Housing Corporation
- ♦ The City of Providence
- ♦ Narragansett Bay Commission
- ♦ Save the Bay
- ♦ Environmental Diversity Education Forum
- ♦ Urban League of RI
- ♦ International Language Bank

This publication was designed and compiled by Kate J. Bousquet.

Why use this project as a Model?



The Woonasquatucket River “Do’s & Don’ts” Education Program

Picture this...*hundreds of panicked people coming to town meetings on a Saturday. Setting up a 24-hour Help EPA Hotline for issues in your local area solely due to the river that runs through your community.* Panic best described the mentality of residents in North Providence when news of pollution from dioxins, PCB’s and mercury hit the media (please see Appendix I for more information on the health risks associated with dioxins). This suburban, middle-class town was filled with parents and tax-payers who wanted to know what was going on, what this contamination meant, and what was going to immediately be done to protect them and their families.

The Woonasquatucket River is now one of several well-known urban rivers in the State of Rhode Island. The Woonasquatucket, a mere 18 miles long, has received a great deal of attention in the last few years. Rural towns surround the origin of the Woonasquatucket, with increasing population density following the flow of the river into the downtown capital city of Providence. The river begins in the rural areas of Smithfield and runs into suburbia in Johnston and North Providence. Within a short distance, it runs past urban communities in Providence and then empties into Narragansett Bay after leaving Water Place Park.

In 1996, testing the tissue of fish from the Woonasquatucket at a Providence site showed dangerous levels of dioxins, PCB’s, and mercury. Although this was limited data, it provided reason for community health concerns. Remediation of a superfund site on the river began in 1997. In 1998, the Woonasquatucket River was designated an American Heritage River, along with the Blackstone River. This provided financial and technical resources to address multiple problems and realize its potential as a valuable urban natural resource. With this increased attention, residents and organizations who had a vested interest in the watershed were able to focus on the diverse, encompassing watershed. Woonasquatucket River watershed diversity is seen geographically, economically, and in population demographics.

In looking at the population demographics for the city, the Southeast Asian population (Hmong, Cambodian, Laotian, & Vietnamese) and other ethnic groups were recognized as high consumers of fish, eels, and turtles from local waterways, including the Woonasquatucket River. Realizing that even good media coverage would not reach majority populations of non-English speakers/readers in Providence, a new plan was devised to include a public outreach campaign.

The “Woonasquatucket River Do’s & Don’ts” Education & Outreach Campaign evolved as the vision for reaching the most people in the shortest amount of time in the most effective method—empowering them with information about dioxins, PCB’s, mercury and subsequent health risks associated with the Woonasquatucket River. Signs were put up along the river (in English, as well as other languages including Spanish, Portuguese and the above mentioned Asian languages). These signs warned people not to eat the fish and not to perform certain activities like swimming or wading in the water due to dangerous levels of pollution. Workshops and informational sessions were held in all 4 towns to educate landowners regarding the pollution, the effects it would have on their families, and what the “remediation plan” would be. A program was developed for elementary schools to educate children on issues of pollution, the history of the Woonasquatucket River, what a watershed is, and the specific “Do’s & Don’ts” associated with the river in their community.



Since 1999, the Woonasquatucket River “Do’s & Don’ts” Education Program has successfully diffused the community panic, educated, and empowered over 4000 individuals. The “Do’s & Don’ts” are well-known throughout the watershed and are serving to help keep families healthy while living in the watershed of a polluted urban river.

Urban rivers in all areas of the nation suffer from some of the same symptoms: high levels of contamination, very little data to prove contamination levels, few places for people to access and enjoy their river resource, language barriers, etc. That is why the “Do’s & Don’ts for the Woonasquatucket River” can serve as an effective model to various organizations. Knowledge brings empowerment. Reaching out to the community of urban rivers should be a priority that is fortified with a plan. Often, the questions begin with ‘how to envision a plan’. This Tool Kit will give you some direction for beginning your pursuits.

Timeframe of Events



Events that led up to and spurred the Public Education Outreach in the Woonasquatucket River Watershed...

The dos and don'ts of life by the Woonasquatucket

The Providence Journal

Dec. 9, 1998

1996:

- US Environmental Protection Agency

(US EPA) tested fish in the Woonasquatucket River and found them to contain PCB's, mercury & dioxin. Concern grew regarding fish consumption, primarily prevalent in the Southeast Asian community. RI Department of Health then issued a ban on fishing from the Woonasquatucket River. The source of contamination was yet unknown.

1997:

- US EPA tested sediment from the Woonasquatucket River for dioxin and found unsafe levels. (EPA systematically takes action when dioxin levels result at greater than 1 part per billion.)

1998:

- After being selected as one of the top 22 rivers nominated from across the nation to receive "American Heritage River" status and rallying behind intense lobbying, the Blackstone-Woonasquatucket River was named an American Heritage River by a presidentially-appointed advisory panel. Having American Heritage River status allowed for the appointment of a "river navigator" to help communities find federal financing for conservation & development.
- The 1998 process also allowed for an edge when applying for federal funds, as well as the development of an inter-agency "Urban Rivers Team" to focus on water quality and community issues.

1999:

- News of high levels of dioxin contamination trapped behind river dams in North Providence reached local community residents. US EPA conducted testing and investigations. Results showed high levels of dioxin in river sediment near homes and a local Little League Ball Field. EPA began door-to-door warnings, put up fences in high risk areas, and began developing a cleanup plan. EPA also met extensively with town officials and staffed a telephone hotline. Twenty additional sites were tested.
- Recommendations to the public included: no swimming or wading in the river and no eating of fish from the river.
- Five hundred (500) local residents came to a public information meeting held on a Saturday in North Providence regarding the Woonasquatucket River.
- Community members from North Providence and Johnston (where a majority of soil testing had been conducted) were asked by US EPA to help identify additional sites that may require testing.
- The inter-agency team, the "Urban Rivers Team", began showing slide shows informing residents of dangers, and placed warning signs about fish consumption in English and Spanish along the river (photo at top). The Urban Rivers Team developed a subcommittee to continue public outreach through brochures to school children and parents. In October of 1999, one 3rd Grade classroom at William D'Abate Elementary School piloted the Woonasquatucket River "Do's & Don'ts" Education Program's Classroom Presentation.

Dioxin alert jolts town residents

The Providence Journal January 14, 1999

2000:

- Soil Capping began on high-danger sites along the Woonasquatucket in North Providence & Johnston.
- "Do's & Don'ts" Classroom Presentations were given to all 3rd grade classes in North Providence & Johnston. Over 1000 watershed residents were educated through "Do's & Don'ts" Presentations in schools and Town Halls. 5000 multi-lingual "Do's & Don'ts" brochures were produced and distributed as appropriate.
- Organized, community riverside cleanups began on a regular basis.

2001:

- Remediation of sites along the river continued.
- Elementary School classroom presentations expanded into Providence and Smithfield, while continuing in North Providence & Johnston. Over 1000 elementary school students were reached through these presentations. Workshops and informational sessions continued to be offered to community groups.

2002:

- In February, final repair to the breached Allendale Dam of Johnston was completed.
- Outreach continued to elementary schools in above-stated watershed towns. Thousands of residents received multi-lingual information.

2003:

- Outreach to watershed schools continued. Development of a model Tool Kit ensued.

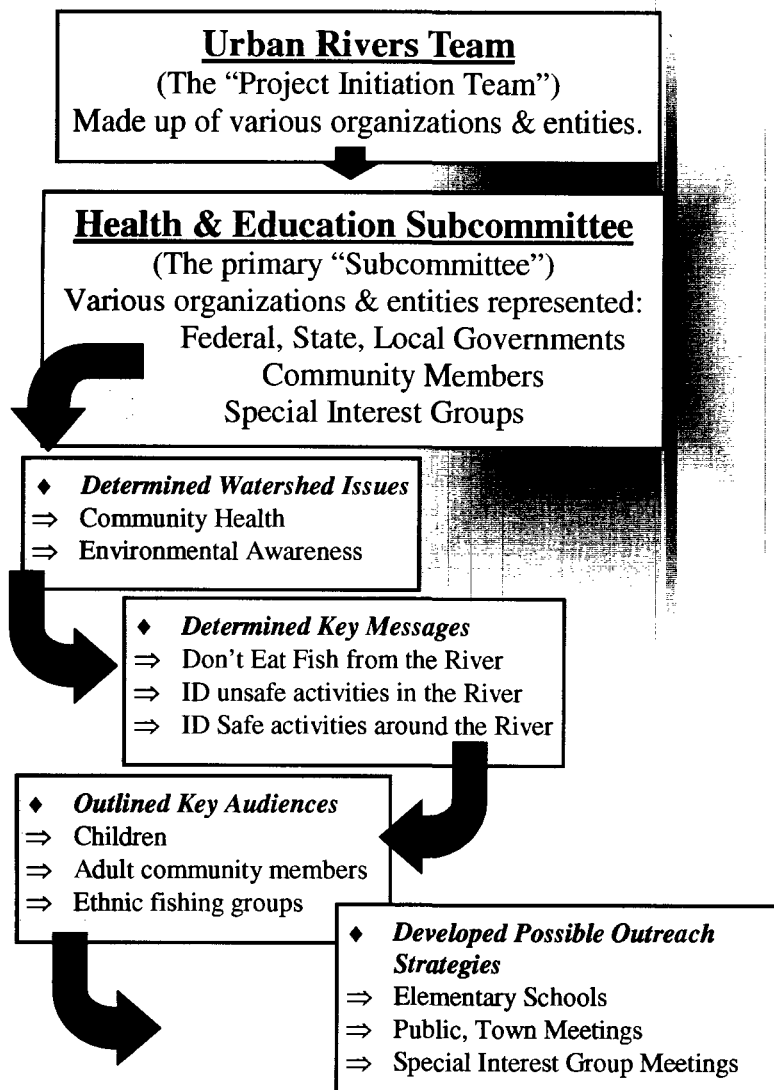
"Do's & Don'ts" Background

How did the "Do's & Don'ts" project come to be?

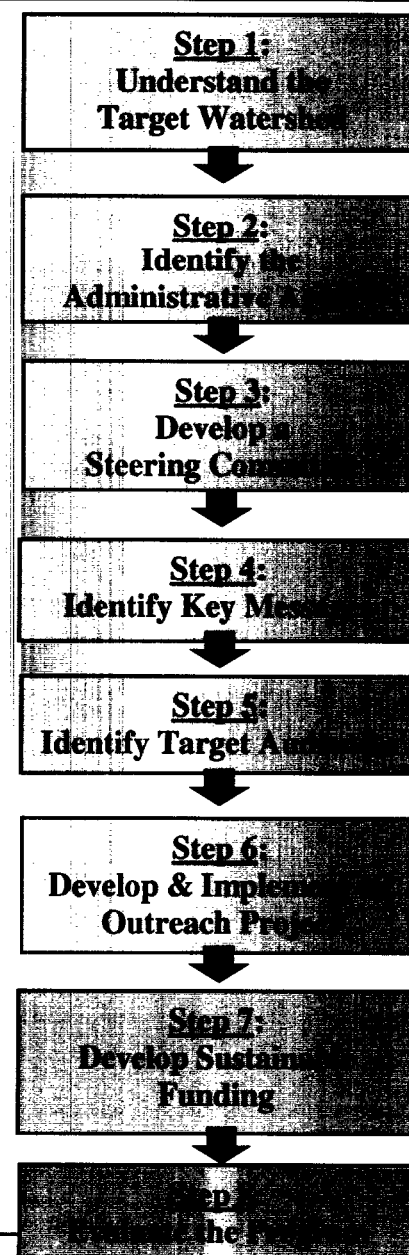
Flow Chart illustrating the process for the
 "Woonasquatucket River Do's & Don'ts" Campaign...

Please note that although the process shown on the left was accomplished in the Woonasquatucket River Watershed, YOUR process (steps shown on the right) *may and should* look uniquely different.

Flow of the Woonasquatucket River Outreach



YOUR PROCESS



Using this Tool Kit

This publication is to be used as a *tool* by you and your organization. The groups and organizations that developed, implemented, revised, & use the *Woonasquatucket River Do's & Don'ts Program* want to share their experience with you and provide a menu of basic and concise steps, templates for printing and producing outreach materials, and avenues for further developing your original ideas. We hope this tool kit provides you with essentials for several different program levels that will increase public knowledge about and safe use of urban rivers and watersheds.

Please realize that the steps outlined in this tool kit, along with the details given for each step, are the processes that have paved the way for the Woonasquatucket River Watershed's successful outreach program. Please take what is relevant, tailor it to fit the needs of your watershed,

and pass the information along. Developing a clear vision of purpose behind your project and understanding the issues relevant to your watershed community will enable you to develop an effective educational outreach campaign!

The developers of the *Woonasquatucket River Do's & Don'ts Education Program* wish you the best of luck in your outreach pursuits and look forward to hearing about effective urban watershed education throughout the nation.

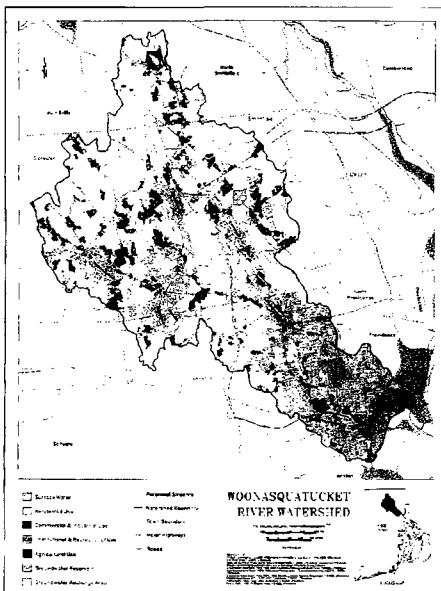
This publication is intended to be used as both a guide and a workbook. The left side of each 2-page spread gives you an overview of the process for the Woonasquatucket Program. The right side will primarily provide room for you to jot down your ideas and strategies.

Good luck and best wishes!

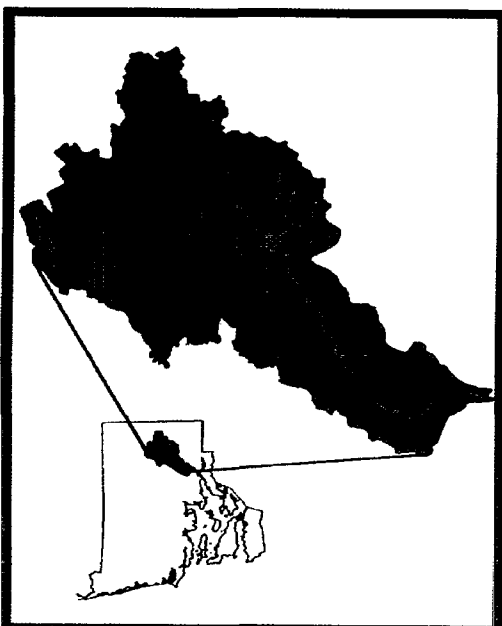
The Steps your new campaign will take using this Tool Kit...

1. Understand the Target Watershed
2. Identify an Administrative Agency
3. Develop a Steering Committee
4. Identify Key Messages
5. Identify Target Audiences
6. Develop and Implement an Outreach Project
7. Develop/Identify a Sustainable Funding Source
8. Evaluate the Program

Step 1:



The 18-mile Woonasquatucket River and its watershed epitomize ecological and social diversity.



A watershed is defined as, "the land that water flows across or under on its way to a stream, river, or lake." It is created by hills and valleys, with a particular water body acting as the catch basin.

A Case Study of the Woonasquatucket River Watershed

The Woonasquatucket River and its watershed have always been valuable in the state of Rhode Island (RI). Native Americans named the river "Woonasquatucket" because the river met the bay and began the ocean.

Later, during the Industrial Revolution, the Woonasquatucket produced enough water power to run tool-making and fabric mills. Early mills utilized water wheels to turn machinery and converted the power into electricity. The 18-mile river was an important hub of production in RI.

Today, the Woonasquatucket River continues to be used for many different activities. The ecological diversity between the river's headwaters in northern RI and its confluence with Narragansett Bay in Providence offers a plethora of possible ways to enjoy the river resource.

The upper reaches of the watershed area are classified as rural to suburban with mainly a white, middle-class population. The water is clean and is suitable for fishing and recreation.

Lower portions of the river are urbanized, with a mixture of middle-class to poverty-level, multi-ethnic populations. The water is not suitable for most recreational activities and the fish are not suitable for eating.

With this qualitative information and not much hard data, local, state and federal agencies began to consider the needs of the river quality, as well as the surrounding community.

Initial steps were taken to obtain a map illustrating watershed boundaries, population densities, and water resources associated with the Woonasquatucket. Limited results from testing tissue from five fish samples energized and sparked the interest of multiple agencies; initiating a focused effort on improving the quality of life in the Woonasquatucket River Watershed.

Understand the Target Watershed

Begin to understand your urban watershed by considering the following questions.

1. What is the target water body you are concerned with? Why?
2. What are the boundaries of the watershed surrounding the target water body?
3. What streams, ponds, or other water bodies feed into the target water body? How does the quality of the water change as it flows through the watershed?

4. What type of community constitutes your watershed? Socially:

- What are the recreational habits, community centers, ethnic/social clubs, religious organizations, fishing clubs, etc. of the watershed community?
- What is the average age of the community, i.e. is it a retirement community or community with very young children?
- What is the availability of community swimming pools?
- Who are the primary care-takers of children?
- How will information best reach the public? What are the reading skills in the community? What languages are used in homes?

Culturally:

- Does any part of the community regularly gather or consume fish, vegetation, waterfowl or other river life?
- Are there language barriers that need to be taken into account in your outreach strategy?

Economically:

- Are there single-family or multi-family homes?
- Will economic need cause sustenance fishing?
- In what activities can community members afford to invest their time?

5. Is there any historical information available that will help to better understand the present condition of the watershed?

Possible Sources of Information:

.....
Rhode Island contacts are listed below in black. Please see Appendix Y for guidance on identifying your state's resources.

♦ State Dept. of Environmental Management
RI DEM
(401) 222-2771
www.state.ri.us/dem/

♦ Local Watershed Councils
Woonasquatucket River Watershed Council
(401) 861-9046
www.woonasquatucket.org

♦ State Dept. of Health
HEALTH (RI)
(401) 222-2231
www.health.state.ri.us/

♦ Local Conservation Districts
Northern RI Conserv. District
(401) 949-1480
www.nacdnet.org

♦ US EPA
New England Region
(888) 372-7341
(617) 918-1111
www.epa.gov/region01/

♦ Audubon Societies
Audubon Society of RI
(401) 949-5454
www.asri.org

♦ US Geological Survey
RI Water Resource Division
(401) 331-9050
www.usgs.gov

♦ Historical Register
RI Historical Society
(401) 331-8575
www.rihs.org

♦ "Local" Historians
Ask for first-hand info from
Town Historians,
Museums,
Libraries,
And local residents

Step 2:

The Pool of Knowledge in the Woonasquatucket River Watershed

1. The Project Initiating Team: Urban Rivers Team (URT)

(From the 1998 Urban Rivers Team Action Agenda)

"The Urban Rivers Team is a collaboration of state, federal and non-profit organizations who have come together to share resources to improve the environmental conditions of the urban rivers in Rhode Island..."

2. The Steering Committee was formed: Partners from the URT volunteered to be part of the Health & Education Subcommittee (HES)...

The following entities were involved in various capacities throughout the project's development phase. All major interests were represented through these organizations, including health, environment, socio-cultural, and art. This cross section was imperative to the success of the project! (Note that the Health & Education Subcommittee is discussed in further detail on Page 6.)

- ◆ US Environmental Protection Agency—Urban Environmental Initiative (US EPA)
- ◆ RI Department of Environmental Management (RI DEM)
- ◆ Woonasquatucket River Watershed Council
- ◆ Northern RI Conservation District (NRICD)
- ◆ Audubon Society of RI
- ◆ RI Department of Health (HEALTH)
- ◆ Woonasquatucket River Greenway Project
- ◆ Club Neopolsi Creations
- ◆ Narragansett Bay Commission (NBC)
- ◆ Socio-Economic Development Center for Southeast Asians
- ◆ Olneyville Housing Corporation
- ◆ The City of Providence
- ◆ The Providence Plan
- ◆ Save the Bay
- ◆ Environmental Diversity Education Forum
- ◆ Urban League of RI

3. The Administrative Agency

The Northern RI Conservation District was chosen as the *Administrative Agency* for the "Do's & Don'ts for the Woonasquatucket River" Education Program. Please review the right column on page 5 to see why NRICD was chosen.

Identify the Administrative Agency

The Administrative Agency

The Administrative Agency can be defined as the organization, or group, who ensures the *development* and *implementation* of the project.

TASKS for the Administrative Agency:

Serve as the Funding Administrator, with oversight/leadership in the following areas.

- ♦ Fund Development
- ♦ Reporting Agent
- ♦ Distribute payments to parties for project dealings
- ♦ Primary Contact for the project
- ♦ Defines the roles & relationships of project partners
- ♦ Responsible for all tasks associated with the implementation of the program and all of their associated requirements.
- ♦ Seek funding sources as necessary.

Objective:

Consider potential agencies who could properly administer the outreach campaign. Evaluate their strengths and weaknesses, contact them, and move into developing your steering committee.

- ♦ What agencies have potential for administering your program?
- ♦ What are their strengths and weaknesses?
- ♦ Is there a person at that organization who has expressed interest in this type of project?
- ♦ How can you contact them?



NRICD was chosen because of its ability to easily receive and distribute funds. NRICD holds a 10 year track record of developing and implementing community outreach and education programs, focusing on water quality issues. The Conservation District also has a 50-year history of serving the target community, therefore providing a solid base on which to establish a new program like the Do's & Don'ts Education Program.

Step 3:

The Health & Education Subcommittee

The Steering Committee for the Woonasquatucket River “Do’s & Don’ts” Campaign was unique. Due to national focus on the Woonasquatucket River as an American Heritage River, many agencies working within the state of RI were poised to begin specific measures to improve the river and surrounding watershed. Those agencies were from all levels of the community: local, state, and federal.

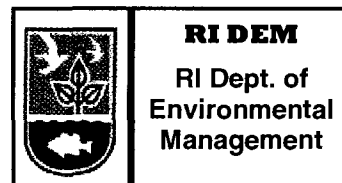
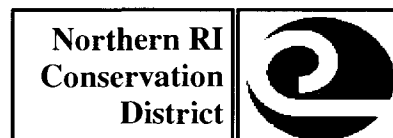
Health & Education Subcommittee

Initially coming together as the Urban Rivers Team, these agencies became partners to conserve, preserve and bring prosperity to the American Heritage River. After several meetings, a new focal facet became evident—public safety and effective communication to the watershed communities. Out of this focus came the vision for a subcommittee that would serve to steer the direction of the public outreach campaign. This new, smaller group of partners be-

came known as the “Health & Education Subcommittee” (HES). This subcommittee again represented the various levels of community; from local community center and housing authorities to local non-governmental organizations, the state department of environmental management (RI DEM) to the federal environmental agency, US EPA.

♦ Local, non-governmental agencies on the HES:

Northern RI Conservation District
Audubon Society of RI
Woonasquatucket River Watershed Council
Woonasquatucket River Greenway Project
Save the Bay
Club Neopolsi Creations
Providence Plan
Socio-Economic Development Center for Southeast
Asians
Providence Housing Authority
Olneyville Housing Corporation
Environmental Diversity Education Forum
Urban League of RI



♦ State & City agencies involved in the HES:

The City of Providence
RI Department of Environmental Management (RI DEM)
HEALTHri (RI Department of Health)



♦ Federal agencies involved in the HES:

US Environmental Protection Agency (US EPA)



Develop a Steering Committee

The Steering Committee

The Steering Committee will develop a common vision for the project, utilizing the information gathered about the target watershed. The committee will work to identify key messages & target audiences, as well as develop an effective outreach campaign that involves and values public input.

Who Should be on the Steering Committee?

Things to Consider in Choosing a Committee:

- ♦ The Steering Committee should represent the diversity of the target watershed—population diversity, economic diversity, governmental diversity, etc.
- ♦ Strive to bring a large number of people to the table initially, as multiple layers of input are imperative in the first stages of program development!

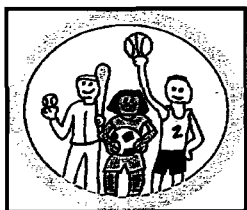
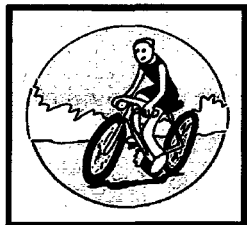
What will be the TASKS of the Steering Committee?

1. Establish campaign goals/vision for the project
2. Arrange meetings during times that would allow for public input
3. Expect and adhere to regular correspondences and meetings
4. Continuously revise & improve methods of outreach
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Step 4:

Deciding on Key Messages For the Woonasquatucket River Watershed Outreach

The segments below have been taken from a *draft* presentation (11/18/98) of the "Do's & Don'ts for the Woonasquatucket River"



What We Know

Although the river is cleaner and fish and wildlife are returning, there is still contamination in the Woonasquatucket River.

- **Sewage & Bacteria:**

There are high levels of bacteria and sewage in the Woonasquatucket River after heavy rains—a lot of this is from combined sewer overflows (CSO's)

This problem is being addressed by the RI DEM, Narragansett Bay Commission & EPA.

- **Dioxins & PCB's:**

EPA testing found chemical pollutants (dioxin, PCBs) and heavy metals in fish, eels and in the sediment behind dams on the Woonasquatucket River.

- **Trash, Waste:**

There is a lot of waste, trash, and tires illegally dumped in the river.

What We Don't Know

- The source of the contamination.
- If flooding has spread dioxins and PCBs to the yards along the river.
- If any contamination has spread to the river banks.
- If other urban rivers in Providence, like the Moshassuck River and the Blackstone River, have the same types of contamination.

What you can do to be Safe

- The greatest immediate public health concern is from the high sewage levels found in the Woonasquatucket River after heavy rainfall.
- **Be Cautious!!!** Because there is still a lot of information that we don't know, it is best to be cautious to make sure you and your family are safe.
- If you or your family comes in contact with the water in the Woonasquatucket River—**wash with soap and water!**

Artwork is located in *Appendices D-H* and on the CD included with the Tool Kit.

Please note that all of the artwork shown on these pages is part of the "Do's & Don'ts" Campaign and is to be used for urban river outreaches ONLY. The artwork was created by Brent Alan Bachelder of *Club Neopolsi Creations*.

Identify Key Messages

Objective: Develop key messages based on the following...

1. Campaign goals
2. Available Data and Information

What do you Know?

Does a local university, state agency or federal program have data for your watershed or the water body of interest?

What Don't You Know?



What Can your Community do
to be Safe?

To make unique changes to any of the artwork pieces for your urban river outreach, you can contact Brent Bachelder at Club Neopolsi Creations. Phone: (401) 467-5277. Email: Neopolsi13@aol.com



"Do's & Don'ts"
Brochures were published and distributed in 7 different languages:
English,
Spanish,
Cambodian,
Laotian,
Vietnamese,
Hmong &
Portuguese.

Step 5:

Target Audiences in the Woonasquatucket River Watershed

Evolution through evaluation best describes how the target audiences for the Woonasquatucket River Watershed Outreach Campaign changed over the past four years. The project focus evolved through phases of visually informing the public via signs to verbally informing via presentations to community action, involvement and ownership.

Program advancements came about due to changes in media coverage and "hot" topics, as well as through significant evaluation of the program methods and feedback received. Initially, the net was cast widely into the watershed community—capturing the attention of adults, as well as children in the towns of Johnston and North Providence. Warning signs were posted in prominent areas along the river. Adult workshops and community meetings were successful the first year because dioxins and PCB's were discovered and made media headlines. Many local groups were interested in having presentations to learn more.

During the second year, catching the attention of adult audiences became more difficult, although significant efforts were made to do so. As media coverage decreased, organizations stopped directly calling to make requests for presentations, although the dangers still existed. The Elementary School *In-Class* Presentations floated to the top of the interest agenda because students were a set audience and teachers were interested in protecting their students. Third grade was chosen as the target grade level for the "Do's & Don'ts" because of the tendencies of young children to be attracted to playing and fishing in rivers. Water quality issues also fit into the Board of Education standards for the third grade curriculum. (There may be reasons to target students in other grade levels in your community.)

More people were informed through multi-lingual "Do's & Don'ts" brochures. Through research of census data for the watershed area and discussions with local cultural centers (like the Socio-Economic Development Center for Southeast Asians) about the likelihood of sustenance fishing, multiple languages were selected as a high priority for signs and brochures.

Community action and intensified ownership have also been an important pursuit. As a community-based organization, the Woonasquatucket River Watershed Council and Greenway Project have been consistently promoting river clean-ups and safe, active use of the river. The take-home folder provided through the classroom presentations also promotes pro-active partnership of community members.

Below are three levels of the community that were pursued during one point or another of the Woonasquatucket River "Do's & Don'ts" Campaign.

TIER ONE:

- 1. Elementary Schools**
59 Elementary Schools in Smithfield, Johnston, North Providence and Providence.
- 2. Community Centers & Clubs**
15 Centers & Clubs in North Providence and Providence.
- 3. Churches & Religious Centers**
42 Religious Institutions in North Providence, Johnston, Providence, and parts of Smithfield.

TIER TWO:

- 1. Local Businesses**
9 businesses in North Providence and Johnston.
- 2. Housing & Retirement Complexes**
9 housing complexes in North Providence.

TIER THREE:

- 1. Local Government Offices**
The 5 offices for local government in North Providence, Johnston, Providence, East Providence and Smithfield were contacted and provided information, including slide show presentations, workshops & brochures.

Identify Target Audiences

Who do you want to reach?

Deciding on Target Audiences, based on the information gathered about your watershed and identified key messages, will help to further focus your outreach campaign. It is important to consider various factors about audiences: what is intimately pertinent to their lives? Where would you best catch their attention and their time? Who needs to know what information? How will they best learn? What languages do they speak? What is the cultural hierarchy of the community? Who are the influential people in the watershed?

Using the information gathered about your watershed community, what groups constitute the target audiences?

- A.
- B.
- C.
- D.



The Enviroscope® Watershed Model is regularly utilized to demonstrate movement of water and non-point source pollution within a watershed area, like the Woonasquatucket River Watershed.

How will you best reach each group?

- A.
- B.
- C.
- D.



Residents of Smithfield learned how a watershed works at a public meeting, using an Enviroscope® Watershed Model.

What special aspects of each group should be taken into account?

- A.
- B.
- C.
- D.

Note that information is provided in Steps 5A, B, C & D outlining steps taken to reach student audiences & adult audiences, and to develop signage and multi-lingual brochures.

Step 5A: Steps for developing signage and brochures

Below are specific steps that were taken to develop an effective outreach strategy for informing the Woonasquatucket River Watershed Community with signs (both warning signs and informational signs) along the river and multi-lingual brochures.

Do's & Don'ts RIVERSIDE SIGNAGE:



Goals, Objectives & Deliverables for Community Information via riverside signage:

◆ Goals:

1. Provide information to the community for the safety of family health.
2. Provide accurate warnings in an understandable, visual form.
3. Provide visual information in universal language.

◆ Objectives:

1. Protect the watershed community residents using signs along the river and in local parks.

◆ Methods:

1. Develop eye-catching signs that will convey important warnings/information regarding the Woonasquatucket River's condition.
2. Use universal symbols and multiple languages to convey basic warnings
3. Prioritize areas for signage.

Do's & Don'ts MULTI-LINGUAL BROCHURES:

Goals, Objectives & Deliverables for Community Information via brochures:

◆ Goals:

1. Provide information to the community for the safety of family health.
2. Provide accurate warnings in a quick, understandable, visual form.
3. Provide accurate visual information in multiple languages (those identified by US Census as majority populations within the towns/cities of the watershed).

◆ Objectives:

1. Provide valuable information to the watershed community residents in a published format
2. Provide valuable information to the community residents in native languages.

◆ Methods:

1. Develop brochures that are eye-catching and convey important warnings/information regarding the Woonasquatucket River's condition.
2. Use universal symbols and multiple languages to convey basic warnings.
3. Develop individual brochures in English, Spanish, Portuguese, Cambodian, Laotian, Vietnamese, & Hmong. (The *International Language Bank* provided translations in the six non-English languages. See *Appendix Z* for more info.)
4. Provide brochures at key locations and during all outreach events.

For YOUR Program, consider:

- | | |
|---|--|
| <ul style="list-style-type: none"> ◆ Would signs be a good first defense for your urban river? ◆ What quick messages can your signs illustrate? ◆ Where should signs be established? How will you prioritize sites? ◆ Who will put up and maintain the signs? ◆ Who can develop the sign layout? | <ul style="list-style-type: none"> ◆ For a brochure, what languages would benefit your community? ◆ How can you quickly convey key messages? ◆ What pictures best convey your messages? ◆ What locations provide optimal distribution of brochures? ◆ How many will you need? |
|---|--|

Step 5B: Ideas for Adult Audiences

Below are specific steps that were taken to develop an effective outreach strategy for adult audiences in the Woonasquatucket River Watershed “Do’s & Don’ts” Campaign.

Adult Audiences included:

Town Councils, Special Interest Groups (Fishing Clubs, Garden Clubs, etc.),
Adult Education Institutions, Diversity Classes at RI College, local PTA’s

Goals, Objectives & Deliverables for Reaching Audiences primarily composed of adults:

♦ Goals:

1. Provide information to adult community members for the safety of their family’s health.
2. Provide information to adults in order to generate community involvement in river enhancement.
3. Provide information to adults that provide them with framework of environmental consciousness.

♦ Objectives:

Empower adults with an understanding of:

1. Where the Woonasquatucket River is in relation to their homes and neighborhoods
2. What pollution is and possible sources of pollution (point source & non-point source)
3. Discuss their watershed address and the way a watershed works
4. Discuss how to safely enjoy the Woonasquatucket River—express “Do’s”
5. Discuss what activities are dangerous in and around the river—express “Don’ts”

♦ Methods:

1. Provide valuable information that will answer questions in 7 different languages.
2. Develop and utilize a 20-minute slide show that accurately illustrates the value of the river, sources of pollution to the river, effects of the pollution, and resulting safety precautions. (Originally, an “adult” version of the slide show was developed for adult audiences. However, after some inquiry, we found that adults actually enjoyed the “child” version of the slide show more because of its interactive nature and fun comic illustrations.)
3. Utilize an Enviroscope® Watershed Model to clearly illustrate the function of a watershed and how pollution moves over land towards water bodies.
4. Provide phone numbers and web addresses for more information.

For YOUR Program, consider:

♦ **What groups of adults are most important to reach? Why?**

Options: Town Officials, Community Members
Special Interest Groups/Clubs
Various ethnic groups (i.e. Asian, Hispanic)
Local colleges & universities
Retirement Communities

♦ **Where will you go to reach the adults?**

Options: Piggy-Back on regularly held meetings, asking
for a 20-minute time slot
Piggy-Back at annual festivals or gatherings
Door-to-Door

♦ **How will you engage the adults and maintain their interest?**

Look at: Answer the question of why it’s important for them to hear your program
Language-usage, Models/Props, Recognizable Pictures/Local Shots

Consider reviewing a
Home*A*Syst Book
for ideas on
workshops, litera-
ture, etc. for adult
community members.

Rhode Island
Home*A*Syst Program
URI Cooperative
Extension
www.uri.edu/ce/wq
(401) 874-5398

Home*A*Syst programs are
located in most states. Call URI
to find your local chapter.

Step 5C: Ideas for Child Audiences

The Health & Education Subcommittee's process for developing the slide presentation for 3rd graders:

1. Gathered local pictures/shots of locations and buildings along the Woonasquatucket River.
2. Contemplated key messages.
3. Diligently worked to present technical information in simple, easy-to-understand language.
4. Used pictures to tell the story.
5. Took into account each subcommittee member's vested interest.
6. Kept the slide show to 20-minutes due to attention spans.

For YOUR Program, Consider the following:

- ◆ What aged children do you want to reach? Why? Does the Department of Education have existing standards that encompass your key messages?
- ◆ Where will you go to reach the children?
Options: Schools, Community Centers, Boy Scouts & Girl Scouts, Annual community festivals
- ◆ How will you engage the children and maintain their interest?
Look at: Language-usage, Models, Recognizable Pictures/Local Shots, Reinforcement Activities

Below are specific steps that were taken to develop an effective outreach strategy for child audiences in the Woonasquatucket River Watershed "Do's & Don'ts" Campaign.

3rd Graders were chosen as the target child audience because:

1. RI Standards for Curriculum at the 3rd grade level include concepts of water.
2. The HES felt 3rd grade was the youngest age at which children are most likely to investigate and play around the river without adult supervision.

Goals, Objectives & Deliverables for reaching audiences primarily composed of children:

◆ Goals:

1. Provide information to children at an age-appropriate level and in an age-appropriate manner, using the philosophy that investing in children means investing in the future.
2. Provide information to children in order to encourage them to be teachers in their communities.

◆ Objectives:

Empower children with an understanding of:

1. Where the Woonasquatucket River is in relation to their schools and neighborhoods.
2. What pollution is and possible sources of pollution (point source & non-point source).
3. Discuss their watershed address and the way a watershed works.
4. Discuss how to safely enjoy the Woonasquatucket River—express "Do's".
5. Discuss what activities are dangerous in and around the river—express "Don'ts".

◆ Methods:

1. Create and provide a Take-Home Folder for each child; including a "Do's & Don'ts" brochure in English and their native language (if appropriate), activities for the children, and information for their parents.
2. Develop and utilize a slide show that takes children on a simulated riverboat ride from the Woonasquatucket's headwaters to Providence, using local pictures and recognizable locations. (This gives people a more distinct relationship to the issues at hand.) *20 minute timeframe.*
3. Utilize an Enviroscape® Watershed Model to clearly illustrate the function of a watershed and how pollution moves over land towards water bodies.
4. Practice "Catch & Release" using plastic fish and fishing poles; emphasizing the safety of sport fishing, but danger of eating fish or other river life.
5. Use paper sailor hats and hand sanitizer during the slide show to reinforce concepts. Encourage student participation by having students repeat the "Do's & Don'ts".
6. Reinforce main objectives using a multiple choice classroom quiz.

Step 5D: Steps for facilitating community involvement & ownership

Developing a community sense of ownership and involvement is important to the sustainability of an outreach program. Throughout the “Do’s & Don’ts” Campaign, NRICD has worked with the Woonasquatucket River Watershed Council and Greenway Project to fostering strong community partnerships.

Goals, Objectives & Deliverables for Community Involvement & Ownership:

♦ Goals:

1. Provide ample opportunities for community members to partner with organizations to improve the quality of life and improve water quality in the Woonasquatucket River Watershed.
2. Foster a sense of ownership and responsibility towards improved river health in the Woonasquatucket.

♦ Objectives:

1. Involve watershed residents in the augmentation of water quality in the river, watershed health, public health, and safe use of the river resource.

♦ Methods:

1. Arrange regular community clean-ups of watershed parks and riverside areas.
2. Involve high school students in summer programs where they are entrusted with conveying the “Do’s & Don’ts” to local community centers. (This group of students was called *the River Rangers*)
3. Partner with watershed towns in local events along the Woonasquatucket River. Provide information, as well as safe access to the river.
4. Employ relationships with local after-school programs to disseminate information.
5. Partner with other organizations to provide special projects, like water quality testing in various areas along the river.
6. Plant vegetative buffers along the river with assistance from the RI Tree Council.

Community Ownership



**Merino Park, Providence
May, 2002**

Community Clean-Ups take place on a regular basis in parks throughout the Woonasquatucket River Watershed.

Community Involvement



Community members of all ages are invited to participate in riverside and park clean-ups.

For YOUR Program, consider:

- ♦ How can your community members best be involved?
- ♦ What results would “successful ownership” include?
- ♦ What community organizations would be interested in partnering with you?
- ♦ What community activities do you wish to establish?
- ♦ What events are already established that you could support and be involved in?

Step 6:



Woonasquatucket River Education Program

Development and Evolution

1999

Year 1 *Goals, Objectives & Deliverables:*

- ◆ **Goal:** Develop key messages and an effective outreach campaign for the Woonasquatucket River Watershed.
- ◆ **Objective:** Accurately inform people of the risks associated with the polluted Woonasquatucket River, while highlighting the many safe uses of the urban river resource.
- ◆ **Methods:** Produce and install "Enjoy" and "Warning" signs for locations along the river. Design and produce a "Do's & Don'ts" Brochure in multiple languages (English, Spanish, Cambodian, Laotian, Hmong, Vietnamese & Portuguese). Hold multiple public/community meetings. Secure media ads. Develop a presentation and appropriate materials for school outreach in Johnston & North Providence.

2000

Year 2 *Goals, Objectives & Deliverables:*

- ◆ **Goal:** Effectively inform and educate local residents living within the Woonasquatucket River Watershed of public health issues and environmental concerns associated with the river.
- ◆ **Objective:** Mold the outreach campaign into an effective and sustainable part of the Woonasquatucket River Watershed—including continued outreach to Johnston and North Providence, and initial outreach to Providence and Smithfield schools.
- ◆ **Methods:** *In-Class* Presentations to elementary school students in Johnston, North Providence, Smithfield & Providence. Continue offering workshops and information to adult groups within the watershed.

2001

Year 3 *Goals, Objectives & Deliverables:*

- ◆ **Goal:** Effectively inform and educate local residents living within the Woonasquatucket River Watershed of public health issues and environmental concerns associated with the river.
- ◆ **Objective:** Continue to mold the outreach campaign into an effective and sustainable part of the Woonasquatucket River Watershed in Smithfield, Johnston, North Providence & Providence.
- ◆ **Methods:** Included *In-Class* Presentations to elementary school students in the above 4 watershed towns; along with a poster contest, culminating in a special *field day* for 2 winning classrooms.

2002

Year 4 *Goals, Objectives & Deliverables:*

- ◆ **Goal:** Effectively inform and educate local residents living within the Woonasquatucket River Watershed of public health issues and environmental concerns associated with the river.
- ◆ **Objective:** Continue to mold the outreach campaign into an effective and sustainable part of the Woonasquatucket River Watershed while encapsulating the program into a model Tool Kit that will be utilized in other urban watersheds. Create a Tool Kit that will be easy to utilize and will be useful for envisioning and mapping out an urban outreach campaign.
- ◆ **Methods:** *In-Class* Presentations to elementary school students in Providence, North Providence, Johnston & North Providence. Development of a *Tool Kit* that will model the "Do's & Don'ts" Program for other urban watersheds, using the Blackstone River Watershed as a pilot project.

2003

Evolution of the Woonasquatucket River "Do's & Don'ts" Education Program

As the above timeline illustrates, the main goals and objectives of the Do's & Don'ts Program NEVER changed or faltered. The *methods* used to accomplish the goals and the target audiences changed from year to year due to adherence to feedback from program participants and new visions by the steering committee or administrative agency. The evolution of the program has ultimately brought the Woonasquatucket River "Do's & Don'ts" Education Program closer and closer to a sustainable point, as well as the mode of most efficient and effective outreach.

Develop a Program for Implementation

This is where EVERY IDEA in this *Tool Kit* comes together! As you have worked through understanding your watershed—the issues, the community make-up, key messages and target audiences—you may be surprised at the progression of your thoughts. Putting all of your ideas on paper should be fun and fulfilling. Use this page as a *brainstorming* page. Don't discard ANY ideas or visions at first glance; write them down and evaluate later!

Considerations:

What are your initial...

GOALS?

What's the purpose behind the vision?

A *goal* is defined by Webster's Dictionary as, "the objective toward which an endeavor is directed".

- ◆
- ◆
- ◆
- ◆

OBJECTIVES?

What will the project *actually* accomplish in real-world terms?

An *objective* is defined by Webster's Dictionary as, "of or pertaining to a material object as distinguished from a mental concept".

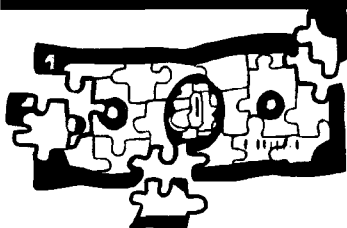
- ◆
- ◆
- ◆
- ◆

METHOD IDEAS?

How are you going to accomplish the project objectives?

A *method* is defined by Webster's Dictionary as, "a manner or means of procedure, especially a systematic and regular way of accomplishing a given task".

Step 7:



Funding and the pursuit of a sustainable funding source are two more pieces of the puzzle in successful Urban River Watershed Outreach.

FUNDING for the Woonasquatucket River Watershed “Do’s & Don’ts” Education Program...

Throughout the life of the “Do’s & Don’ts” Education Program, the main source of funding came from the US Environmental Protection Agency’s, New England Region I, *Urban Environmental Program*. Grant proposals were written each year. First, the grant proposal was submitted to EPA by the Health & Education Subcommittee. The grantee progressed from the HES to the Northern RI Conservation District, on behalf of the HES, and then a distinct partnership between the Northern RI Conservation District, Woonasquatucket River Watershed Council and the Blackstone River Watershed Council.

Please note that on special portions of each granting period, like the Poster Contest during the 2001-2002 Grant, various partners from the Health & Education Subcommittee (i.e. the Woonasquatucket River Watershed Council, RI DEM, Save the Bay, Audubon etc.) monetarily supported the program in extremely valuable ways.

SUSTAINABILITY of the Woonasquatucket River Watershed “Do’s & Don’ts” Education Program...

Finding and securing a sustainable funding source for the “Woonasquatucket Do’s & Don’ts” Outreach has been a slow moving process. As the grants have successfully come from EPA each year, the program has sustained year to year under the care of the Northern RI Conservation District. During the 2nd year of the program, a new group emerged in the Woonasquatucket River community—the Woonasquatucket River Watershed Council. This Council is locally led and focused on the issues of the entire watershed while being intimately involved in the life of the community.

As the Northern RI Conservation District began looking to solicit businesses, local cities & towns, and other profitable enterprises for sustained funding, it became evident that the Woonasquatucket River Watershed Council may be a more direct link to the watershed community. Therefore the “Do’s & Don’ts for the Woonasquatucket River” Program is being transferred to the oversight and implementation of the Watershed Council, with visions of sustained funding from local watershed businesses and/or other enterprises well-known to the Council.

Important to note are discussions by the Health & Education Subcommittee regarding school curriculum:

It has become apparent that one sustainable avenue for continuing the program would be to develop curriculum for the “Woonasquatucket Do’s & Don’ts” that fits multiple standards at multiple grade levels in the public school system. Curriculum would need to be based on RI Department of Education *Standards* and be easily used in one week of lessons. Teachers would individually use this curriculum in their classrooms. (To view current standards, see the RI Department of Education website: www.ridoe.net/)

The moral of the story is that sustainability is imperative to the longevity and ultimate success of any urban river outreach.

Sustainable Funding of the Project

Sustainable Funding Sources

Without money, no program will be able to move forward. Therefore, finding a funding source that matches the vision and purpose of the project that you've devised is imperative. It will be important for you and the steering committee to discuss and decide upon the priority of two options: one is developing your program according to the vision and then finding a funding source that matches your program purpose. The second option is to find a funding source and then develop a program based on the criteria of the grant proposal. Please note that with either option, you should consider sustainable funding sources early in the process.

The Health & Education Subcommittee, with the Northern RI Conservation District as the Administrative Agency, decided from the project onset that developing a program and then finding a funding source was their priority and preference.

What is the difference between an initial funding source and a sustained funding source?

- What funding options will you pursue for your urban river outreach?
- What agencies or organizations have direct links (either through responsibility for polluting or a significant need) to the target water body?
- How will you approach those agencies?

Potential Funding Sources for the Woonasquatucket River Program

1. Businesses:

- ♦ Banks & Financial Institutions
- ♦ Electric Utilities
- ♦ Local Manufacturers
- ♦ Any key stakeholders

One option may be to have an "Adopt-A-School" Program, where local businesses support programs to the school nearest them.

2. RI DEM

(the state environmental agency)

3. HEALTHri

(the state Department of Health)

4. RI State Legislative Funding

This option requires identifying key people who will stand behind the vision with monies.

5. Local cities & towns

6. Foundations & Grants

A few possible foundations and grants to help begin the fundraising process:

Environmental Grantmaking Foundation: www.environmentalgrants.com/order.htm

The Foundation Center: www.fdncenter.org

Step 8

Evaluation is an
IMPERATIVE part of
any public outreach
campaign!



Is your project conveying
the intended messages?
Are you effectively reaching
your target audience?

Evaluation is defined as “examining carefully” (Webster’s Dictionary).
i.e weighing the pros & cons...seeing what’s working and what’s not work-
ing...looking at your initial objectives and seeing if your methods are working
properly to support those objectives. If not, deciding how to adjust your methods
to improve the quality and effectiveness of your pro-
gram.

Evaluation Questions

- What was the original purpose of the project?
- What did you intend to accomplish?
- Did the scope of the project change? How?
- What were the accomplishments of the project—objective by objective?
- What were the specific outcomes/results of the project, using quantities of people affected, items produced, areas involved or improved?
- What were the challenges faced during the project?
- What have you learned, both positively and negatively?
- What were the evaluation methods?
- How can the evaluation data help to strengthen your project?
- Is there value in continuing this type of work? Why?
- How will you continue the work of the project?

Questions were adapted from EPA Grant
Final Report Outline.

Evaluation has been a key part in the success of the Woonasquatucket River “Do’s & Don’ts” Education Program.

Evaluation was an on-going process in the Woonasquatucket River
“Do’s & Don’ts” Education Program. Evaluations happened on a daily,
quarterly (every 3 months) and annual basis.

Each classroom presentation was evaluated by the classroom teacher
(and aides). These evaluations were highly effective in helping to
evolve the classroom program into a presentation that was even more
age-specific and educationally sound than it was in the beginning.
These evaluations allowed the presenter to gain feedback from a variety
of educators—both positive feedback and constructive criticism. The
critiques of the program, as well as the presentation style, were imme-
diately taken into account and the program was adjusted appropriately.
Most evaluations exuded praise and expressed the value of an outside
presentation coming into the classroom.

Every 3 months, a report was sent to the funder, providing a pro-
gress update. This means of evaluation was valuable to the program
because it allowed NRICD to determine if we were on track with the
objectives, methods, and timeline proposed at the beginning of the fis-
cal year. It provided an avenue for accountability amongst the staff at
NRICD, as well as between the NRICD and the funder.

Annually, the program was evaluated with a final report that allowed
NRICD to compare the actual results of the year’s work with the pro-
jected goals and objectives. Evaluating the program after a year helped
to realign the focus of the program with the original goals and sharpen
methods of public outreach.

Evaluating Your Program

Every public outreach campaign encompasses the goal of reaching people for a specific purpose.

The beauty of a sustainable project and a project with sustained funding is that progress is inevitable!

Good projects may start out shaky. Your target audiences may change during the course of the project. The issues within your watershed may drastically shift, thus changing the goals and objectives of your project. Your staff people may change.

There are a million and one variables that will affect the actual outcome of your project, so be ready for them. Learn from mistakes. Improve your project methods through your mistakes. Encourage feedback from project participants because if reaching them is your goal, you need to make sure that you are reaching them in a way that is actually affecting them.

Evaluations are imperative in a public outreach campaign. Without them, how would you know what is going well or what is failing? How would your project grow and improve? How would your project stay on track with your original goals and objectives?

**Examine
Carefully...**



**Learn from
Mistakes.**

1. What are the initial goals of your project? What's the main purpose?

- A.
- B.
- C.

2. How will the program be evaluated?

- A.
- B.
- C.
- D.
- E.

3. How often will you evaluate the project?

- A.
- B.
- C.
- D.

4. Who will keep track of the evaluations?

- A.
- B.
- C.

Table of Contents for APPENDICES

If any of your ideas involve adult workshops, signage, elementary school presentations, or brochures, please feel free to look at the templates established through the ever-evolving Woonasquatucket River "Do's & Don'ts" Education Program. The following is a listing of where to find a hard copy template in the appendices. **Most templates are also on the CD located on the back cover.** Files are listed as they are seen on the CD.

Please note that all of the files included as hard copies or as files on the CD are meant to be used as templates for your own program. For ease of use with most computers, all of the files have been saved as Microsoft Word files. Some of the picture-only files are jpeg files. All can be opened up for manipulation and/or copying.

CD Folder Location	Identifier	Appendix Location	File Type
Adult Outreach	Adult & Student Combo Program Description	A & on CD	word
	Adult Outreach Letter	B & on CD	word
	Letter to Community Organizations	C & on CD	word
Artwork/Images	Boat Ride	On CD Only	jpeg
	Catch Fish	On CD Only	jpeg
	Changing Car Oil	On CD Only	jpeg
	Clean Water	On CD Only	jpeg
	Cover Picture	On CD Only	jpeg
	Dirty Water	On CD Only	jpeg
	Do Bike	On CD Only	jpeg
	Do Canoe	On CD Only	jpeg
	Do Picnic	On CD Only	jpeg
	Do Play Sports	On CD Only	jpeg
	Do Run	On CD Only	jpeg
	Do Walk	On CD Only	jpeg
	Dog & Fire Hydrant	On CD Only	jpeg
	Don't Eat Fish	On CD Only	jpeg
	Don't Litter	On CD Only	jpeg
	Don't Swim or Wade	On CD Only	jpeg
	Don'ts as Image	D & on CD	word
	Do's as Image	E & on CD	word
	Fish Sign	On CD Only	jpeg
	Good-Bye Boat	On CD Only	jpeg
	Images To Use	F & on CD	word
	Pipes & Pollution	On CD Only	jpeg
	Release Fish	On CD Only	jpeg

Table of Contents for APPENDICES continued

CD Folder Location	Identifier	Appendix Location	File Type
Artwork/Images (cont'd)	Sick Boy	On CD Only	jpeg
↓	Side1 Do's & Don'ts Brochure	G & on CD	word
	Side2 Do's & Don'ts Brochure	H & on CD	word
	Side1 Do's & Don'ts ENGLISH	On CD Only	jpeg
	Side1 Do's & Don'ts ENGLISH.tiff	On CD Only	tiff
	Side2 Do's & Don'ts ENGLISH	On CD Only	jpeg
	Side2 Do's & Don'ts ENGLISH.tiff	On CD Only	tiff
	USS Woonasquatucket	On CD Only	jpeg
	Wash Hands	On CD Only	jpeg
	Water Testing	On CD Only	jpeg
	Watershed Graphic	On CD Only	jpeg
Media	Dioxin Fact Sheet	I & on CD	word
	Example Press Release	J & on CD	word
Student Outreach	Classroom Confirmations	K & on CD	word
↓	Classroom Prgm Description	L & on CD	word
	Classroom Quiz	M & on CD	word
	Classroom Statistics Sheet	N & on CD	word
	Letter to Principals	O & on CD	word
	Letter to Superintendents	P & on CD	word
	Letter to Teachers	Q & on CD	word
	Scheduling Sheet	R & on CD	word
	Slide Show Script	S & on CD	word
	Take-Home Folder Letter to Parents	T & on CD	word
	Teacher Evaluation	U & on CD	word
	Vocabulary List	V & on CD	word
Hard Copy Only	Brochures in 7 Languages	W	Not on CD
Hard Copy Only	Take-Home Folder	X	Not on CD
Resources	Book Mark: Identify Your Local Resources	Y & on CD	word
↓	URL Listings (October 2003)	Z & on CD	word

Note: Please see page 25 of Tool Kit for:

- ♦ Directions for using files from the CD.
- ♦ Information on where to get/purchase some contents of the Take-Home Folder

Appendices

Hard Copies

of the Correspondence Templates

that coincide with the CD.

Directions for manipulating files located on the CD...

Manipulating the templates on the CD should be simple. Therefore, the directions below are written in the most simple terms so that even the computer illiterate will be able to use them. Files are saved as either Microsoft Word files or as picture files. The picture files should be able to be accessed through whatever "artistic" programs you have on your computer.

Directions From the CD:

1. Open *Windows Explorer* on your computer
2. Double-Click on the CD Drive
3. Double-Click on the file that you are interested in manipulating
4. In Word, you will be able to reword and rewrite all portions of the file by highlighting text and backspacing or simply typing what you want, cutting and/or pasting.
5. If you want to use some of the artwork that is included in the files, click on the single frame of artwork, go to *Edit* (in Word, top menu), click *Copy*. Then go to your new file and click *Edit*, then *Paste*.

Where to get or purchase some of the Take-Home Folder Contents...

Water in Your Hands Comic Book (Available in English & Spanish):

Soil and Water Conservation Society

Environmental Adventure Series

7515 NE Ankeny Road

2003 Price: \$1.00 each

Ankeny, Iowa 50021-9764

(515) 289-2331 x10 or

1-800-THE-SOIL (843-7654)

www.swcs.org or email: pubs@swcs.org

What is a Watershed Leaflet and/or The Water Cycle Poster:

USDA Natural Resources Conservation Service

Check website for current cost.

www.nrcs.usda.gov/new/pub/

The Northern RI Conservation District, on behalf of the Health & Education Subcommittee, hopes that you have found this *Tool Kit* useful in modeling and developing your own unique program. Please do not hesitate to give us your feedback or contact us with questions at—

Phone: (401) 949-1480

Address: 17 Smith Avenue Greenville, RI 02828

Email: gina-demarco@ri.nacdnet.org

Best wishes!

Woonasquatucket River "Do's & Don'ts" Education Program

Program Summary



Who:

Presentations will be given by Kate Bousquet, per invitation from teachers or organization leaders in the watershed communities of Johnston, Smithfield, North Providence, and Providence. Presentations vary with audience age and are geared towards children, youth, or adults.

This program has been developed and refurbished by the Health and Education Subcommittee of the Urban Rivers Team. This is the second year that this grant has been provided for the Northern RI Conservation District from the US EPA.

What:

The "Do's & Don'ts for the Woonasquatucket River" Program informs and educates residents of the Woonasquatucket River Watershed of the health & environmental risks, and safety measures associated with the contamination that has been found.

This presentation consists of an hour and a half (**1.5 hours**) with predominately child audiences. For the kids, we incorporate valuable safety and watershed education in a slideshow that takes viewers on a virtual boat ride down the river. Following the slideshow, concepts are reinforced through a fishing "**catch and release**" activity and a **non-point source pollution model** that enable students to see the effects of pollution on water bodies.

For more mature audiences (i.e. adults) the presentation is shortened to a **20-minute** slide presentation, followed by the opportunity for questions. Written information is also available for display at your facility.

When:

Presentations to kids or youth are available weekdays...early morning through mid-afternoon. Presentations to adults are available at association meeting times (evenings or days).

Where:

Presentations will be offered to teachers, community centers, local governmental organizations, PTA's, church groups, and neighborhood associations that are located within the Woonasquatucket River Watershed. Presentations will occur at audience's facilities. Kate Bousquet will be the one traveling!

Why:

The goal of this program is to empower residents of the watershed, with basic knowledge to discern which activities (near the river) are safe for them to be participating in, and those, which are unsafe. We feel it is important to teach people who live near the Woonasquatucket River how to keep themselves, their families and friends safe from the contamination of the river, plus what things they can do to help minimize the non-point source pollution that reaches the river through improved environmental awareness.

Woonasquatucket River "Do's & Don'ts" Education Program



Person Name, Adult Education Director

The Genesis Center

Address 1

Address 2

Date

Name,

My name is Kate Bousquet and I am the Education & Outreach Coordinator for the Northern RI Conservation District. We are a non-profit organization interested in educating and empowering our communities through environmental and watershed education. One of our main efforts is to learn valuable information concerning issues that affect our communities, and subsequently, pass that information along to people who may find it most valuable, i.e. community organizations, town councils, housing complexes, churches, etc. The Woonasquatucket River, and its recent environmental issues, is one such situation where we have information that will greatly impact and influence the lives of community members.

The Northern RI Conservation District has worked as part of the Urban Rivers Health & Education Subcommittee to develop presentable information that will effectively educate citizens of the Woonasquatucket River Watershed's numerous communities. This information extends from written information (i.e. brochures in various languages & fact sheets) to a 20-minute slide presentation, which pictorially provides an accurate perspective of the present condition and the health hazards of the Woonasquatucket River.

The main purpose of this effort is to provide practical advice to families as to how to keep themselves, their children, and their friends safe, while still enjoying this valuable natural resource. The presentation is entitled, "*Do's & Don'ts for the Woonasquatucket River*"...simple and practical.

My purpose in writing to you is to offer my services to your organization. I would be thrilled to be invited to an existing meeting, presenting the 20-minute presentation and entertaining any questions. I am available for presentations during the daytime, as well as several evenings during the week, from now through August. Enclosed you will find some information to acquaint you with this program, as well as information pertinent to the Woonasquatucket River situation.

Please consider this opportunity and contact me with possible meeting dates. I will also be following up with a phone call to your organization in the next few weeks.

Thank you for your attention to this opportunity,

Kate Bousquet

Education & Outreach Coordinator

Northern RI Conservation District

(401) 949-1480

Kate_nricd@yahoo.com

Appendix B – 1 page

Do's and Don'ts for the Woonasquatucket River



Northern RI Conservation District, 17 Smith Avenue, Greenville, RI 02828
(401) 949-1480

This Program was specially designed for residents of:

- ☺ Smithfield
- ☺ North Providence
- ☺ Johnston
- ☺ Providence

January 30, 2001

Kids are naturally attracted to streams, rivers, ponds and lakes. It's a cool place to be on a hot summer day and provides entertainment in the form of frog hunting, fishing and other creative uses of time and energy.

Many people consider it an asset to have access to our natural waterways. However, there are times when some caution is needed. That is the purpose of my writing you. You may be aware that the Woonasquatucket River flows through your city/town. While the river provides natural beauty and recreational value, it has recently been discovered that there are dioxins, PCB's and mercury in the fish and sediment of the river.

We want residents to safely enjoy the river, so we are offering a 15 minute presentation called the "Do's and Don'ts of the Woonasquatucket River". Most of the third grade students in your community have been given the opportunity to receive this information in their classrooms.

I would like to invite your group to view a slide show and receive literature to help families and individuals make wise decisions regarding the use of the river.

Do you have an upcoming meeting planned where we could be given a 15 minutes spot on the agenda? It would be helpful if you could provide us with 2 or 3 possible dates and times when we could present our program. We would be happy to work with you to accommodate your group. Please call me at 401-949-1480.

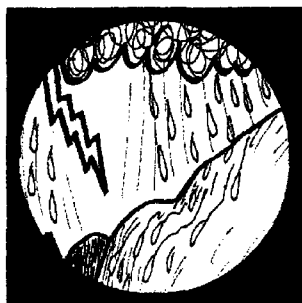
Sincerely,

Gina DeMarco
District Manager

DONT'S

FOR THE WOONASQUATUCKET RIVER

Heavy rains cause high levels of bacteria and fecal coliform in the river.
This can cause nausea and diarrhea.



- EPA found dioxins, PCBs and mercury in the soil of the Woonasquatucket River.
- Dioxins are a group of waste chemicals produced by manufacturing.
- The highest concentrations are near the Allendale and Lymanville Dams.



NO SWIMMING, BATHING OR WADING!!!



DON'T EAT FISH, EELS, ANIMALS OR ANY PLANTS THAT YOU FIND IN THE RIVER!!!



- Contaminated Fish may look smell or taste fine but they will harm anyone who eats them.
- Cooking does not get rid of the contaminants.
- Fishing along the river is OK for fun, but you must throw back whatever you catch or find.
- This will make sure that you and your family will not get sick!!!

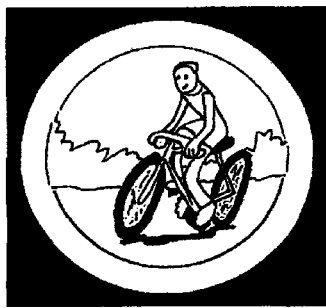
DO'S

FOR THE WOONASQUATUCKET RIVER

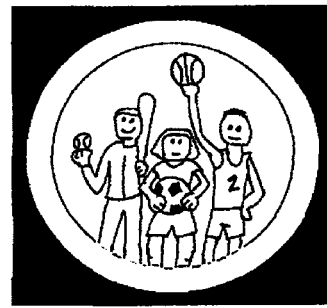
The Woonasquatucket River is a valuable resource that offers many fun opportunities for recreation. Until the day comes that the water is safe to swim, wade and play in, there are lots of fun things you and your family can do that will not risk your health.



WALKING



BIKING



SPORTS



RUNNING



CATCH



RELEASE



CANOE

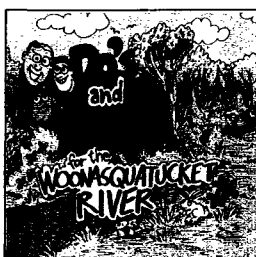
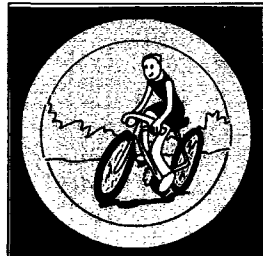
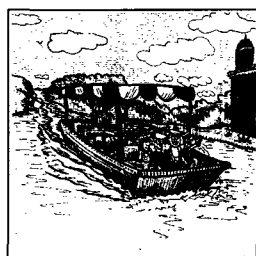


WASH UP!!!



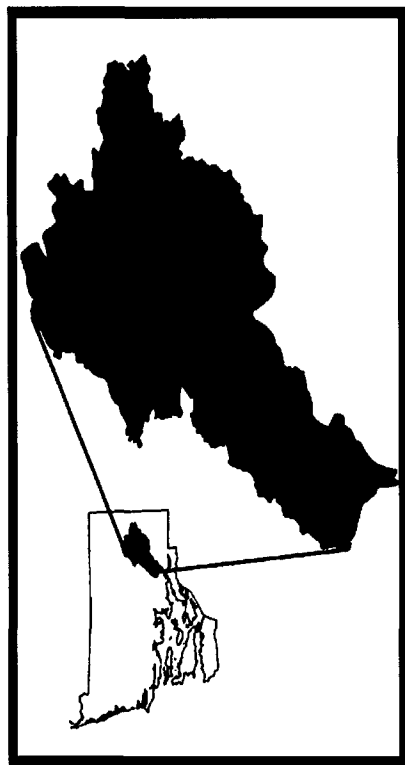
PICNIC

**TO REDUCE RISKS TO YOU AND YOUR FAMILY AND BE SAFE,
EVERYONE MUST WASH WITH SOAP AND WATER AFTER TOUCHING THE RIVER.**



WHY IS OUR AMERICAN HERITAGE RIVER CONTAMINATED?

Historically, the Woonasquatucket River was used by mills and the textile industry for power, fresh water and for dumping byproducts from manufacturing. It has also suffered from illegal dumping of trash like tires and shopping carts.



**WOONASQUATUCKET RIVER
WATERSHED**

WHAT ARE PEOPLE DOING TO CLEAN UP THE RIVER?

People are concerned about the quality of water in our urban rivers - especially the Woonasquatucket River. Organizations are working with the public to clean up the river and help citizens understand immediate environment and public health risks.

WARNING SIGNS



Multilingual signs are posted along the river warning residents not to eat fish or animals from the river and not to swim, wade or bathe in the water.

CLEAN UP PROGRAMS



Many environmental groups, citizens and Federal, state and local officials have hosted and participated in litter cleanups and trash removal in and along the banks of the river. More cleanups are scheduled for this year!!

TESTING

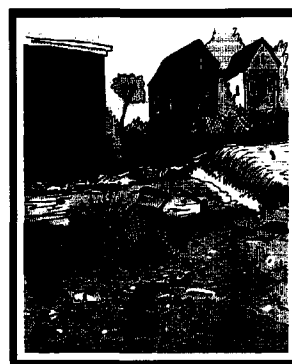


Narragansett Bay Commission and other state and local agencies are conducting more testing to understand the health and environmental risks to you and your family.

WHAT CAN YOU DO TO HELP?

Despite the contamination that exists, the Woonasquatucket River is cleaner today than it was 5 years ago. The Woonasquatucket River needs your help to keep litter, tires, trash and garbage off the banks and out of the water. Together we can make our American Heritage River safe for swimming, wading and fishing in the future. Until then, follow this brochure's DO's and DON'Ts and safely enjoy the river. Call the Greenway Project at (401) 455-8880 and find out how to get involved.

TODAY



TOMORROW



QUESTIONS?

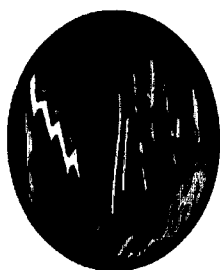
If you have any questions or concerns, please call RI Dept. of Health at (401) 422-4948 or EPA New England toll free at (888) 372-PEGI for more information.



From:
EPA New England's Urban Environmental Initiative,
RI Department of Environmental Management, RI Department
of Health, Narragansett Bay Commission, The Providence Plan,
Save the Bay, Environmental Diversity Education Forum,
Audubon Society of RI, Socio-Economic Development Center for
Southeast Asians and The Northern RI Conservation District

DON'TS

Heavy rains cause high levels of bacteria and fecal coliform in the river.
This can cause nausea and diarrhea.



- EPA found dioxins, PCBs and mercury in the soil of the Woonasquatucket River.
- Dioxins are a group of waste chemicals produced by manufacturing.
- The highest concentrations are near the Allendale and Lymansville Dams.



NO SWIMMING, BATHING OR WADING!!!



DON'T EAT FISH, EELS, ANIMALS OR ANY PLANTS THAT YOU FIND IN THE RIVER!!!



- Contaminated fish, eels, animals and plants may look, smell or taste fine but they will make you sick.
- Cooking does not get rid of the contaminants.
- Fishing along the river is OK for fun, but you must throw back whatever you catch or find.
- This will make sure that you and your family will not get sick!!!

DO'S

The Woonasquatucket River is a valuable resource that offers many fun opportunities for recreation. Until the day comes that the water is safe to swim, wade and play in, there are lots of fun things you and your family can do that will not risk your health.



WALKING



BIKING



SPORTS



RUNNING



CATCH



RELEASE



CANOE



WASH UP!!!



PICNIC

**TO REDUCE RISKS TO YOU AND YOUR FAMILY AND BE SAFE,
EVERYONE MUST WASH WITH SOAP AND WATER AFTER TOUCHING THE RIVER.**

Dioxins

Answers to Frequently Asked Health Questions

This fact sheet provides answers to questions often asked about a group of chemicals known as dioxins. It does not provide all available technical information. More information is available by calling the Agency for Toxic Substances and Disease Registry (ATSDR) at 1-888-42-ATSDR (1-888-422-8737). This is a toll-free number.

What are dioxins?

"Dioxin" is a generic name used to describe a single chemical or mixture of chemicals known as polychlorinated dibenzodioxins. The most toxic form of dioxin is 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

Where are dioxins found in the environment?

Dioxins are present in the environment primarily due to the burning of fuels, wood and waste. They are also found at low levels in cigarette smoke. 2,3,7,8-TCDD, is found mostly in wastes from factories making chlorinated phenols and as a byproduct of the chlorine bleaching process used at pulp and paper mills. In the environment, dioxins are usually found in contaminated ash or soil. They can also be found in the air, and in the sediment of industrial run-off water.

When dioxins are released into the environment, they do not easily breakdown and generally stick tightly to soils and sediments where they can stay for long periods of time. Dioxins do not quickly evaporate nor do they easily dissolve in water. Because of these characteristics, dioxins will attach strongly to soil and when released into water will sink to the bottom. When fish and other aquatic life eat the small plant and animal life at the bottom of rivers and lakes containing dioxin, they also eat small amounts of dioxin-contaminated sediment. Over time, these fish and other aquatic life will build up dioxin in their bodies because it is not easily broken down and eliminated by the body. Larger fish and animals who feed upon these smaller fish and animals will also build up dioxin in their bodies. Fruits and vegetables take up only small amounts of dioxins through their roots. However, dioxin-contaminated soil can stick to the surfaces of plants.

How might I be exposed to dioxins?

Because the sources of dioxins are so common, most people are exposed to very low levels. Chemicals such as dioxins do not cause health problems unless they are taken into the body. This can happen by:

Primary Route

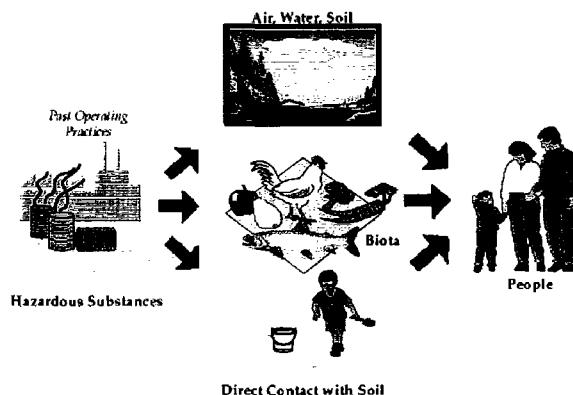
- **Ingestion** - Eating or drinking something with dioxin in or on it.

Alternate Routes

- **Inhalation** - Breathing air that has dioxin in it.
- **Skin/Dermal Contact** - Touching something that has dioxin on it.

The primary route of exposure to dioxins is through eating dioxin-contaminated foods. Foods most likely to contain low levels of dioxins are fish, meats, and dairy products. Dioxins may also be found on the surfaces of plants, fruits, and vegetables, if they are not properly washed before eating. Children and adults may also swallow small amounts of soil through contact with the mouth by their hands, which may have soil on them.

Exposure Pathways



If I am exposed to dioxins will I get sick?

Most people who are exposed to dioxins do not get sick. Several factors determine whether you will get sick from dioxin exposure. These factors are:

- **Type of Dioxin** - 2,3,7,8-TCDD is the most toxic dioxin
- **Dose** - How much dioxin you were exposed to
- **Duration** - How long you were exposed
- **Frequency** - How often you were exposed.

Health effects from dioxin exposure are usually seen only in individuals with higher level exposures such as those that might occur in the workplace. How damaging the effects of

exposure to dioxins may be different for each person depending on general health, family background, and lifestyle factors such as smoking and diet. It also depends on the way dioxin entered your body (ingestion, inhalation, dermal). Some people may be more affected by lower levels of dioxin than others.

How can dioxins affect my health?

The health effects from exposure to dioxin are not well known. In the human body, dioxin is usually stored in body fat, blood, and the liver. Low levels of dioxin are present in almost everyone. Research studies are being done to determine how different levels of dioxin affect the human body.

Exposure to dioxin in the workplace: Most of the health information on dioxins comes from studies of people who work in industries with this chemical. The levels to which a worker is potentially exposed are much greater than the potential exposures to dioxins in the environment by the general public.

Exposure to dioxin at high levels for short periods of time has resulted in a health effect called chloracne. Chloracne is similar to the acne that occurs in some teenagers. It usually affects the face, arms, and neck, but can be found anywhere on the human body. Most cases clear up over a few weeks or months although in severe cases, the effects can last longer. High level exposure can also cause a temporary increase in some liver enzymes. Neither of these conditions is considered life-threatening. Several other health effects such as cancer, endocrine system effects, or immune system effects are reported in some studies. However, due to problems of determining the amount of dioxin exposure and the possibility of exposure to other chemicals not all research studies reached the same conclusions.

Exposure to dioxin in the environment: Health effects are not likely to occur among the general public because the levels of dioxins found in the environment, in air, water, and soil are normally low.

Will exposure to dioxin cause cancer?

Environmental and public health agencies worldwide classify chemicals such as dioxins as a possible, probable or known human carcinogen. Some dioxins are considered probable human carcinogens. However, the risk of developing cancer from environmental exposure alone is very low.

Cancer is not a single disease; it is a group of more than 100 different diseases. Cancer is uncontrolled growth and spread of abnormal cells in the body. Different types of cancer have differing rates of occurrence, causes, and chances for survival.

Cancer can develop in individuals of all ages, but is most commonly found in people who are older than 60 years of age. Because people are living longer, the risk of developing cancer is increasing.

Since cancer is not a single disease, it does not have a single cause. There are a variety of factors (better known as "risk factors") which indicate the likelihood that cancer develops. These factors act, either alone or together, over many years to increase an individual's chance of developing cancer.

The amount of toxic chemicals found in food, air, and drinking water are typically much lower than in the work environment. Therefore, cancer risk from environmental exposures is thought to be very low compared to the risk in the workplace. In fact, the cancer risk from environmental exposures is so low that it is difficult to measure.

How can dioxins leave my body?

If dioxins are present in a person's body, small amounts will be eliminated in the stool or urine. The time it takes to eliminate one-half of the amount of dioxin in the human body is called a half-life. Based upon research studies, dioxin's half-life is from 7 to 10 years.

Is there a way to find out if I was exposed to dioxins?

Yes, there are specific tests available that measure levels of dioxin in samples of body fat, blood, and a mother's breast milk. However, these tests are not routinely available at a doctor's office because of the specialized equipment and highly skilled staff needed. Also, these tests are very expensive. These tests do not determine how dioxin entered the body.

A medical evaluation that includes a careful history of past and present symptoms will provide a basis for future health exams. See your health care provider if you have any symptoms that you think might be related to dioxin exposure.

Where can I get more information?

Contact: **David Hewitt, MD**

Agency for Toxic Substances and Disease Registry
1600 Clifton Road, NE (E-32)

Atlanta, Georgia 30333

Phone: Toll-Free - 1-888-42-ATSDR (1-888-422-8737)

Internet: <http://www.atsdr.cdc.gov/>

[Space for Letterhead]

Press Release

FOR IMMEDIATE RELEASE

April 27, 2000

Contact: Gina DeMarco

(401) 949-1480 (Office)

Woonasquatucket River Education Program Launched

McGuire School in North Providence hosted the first in a series of presentations targeting North Providence and Johnston elementary school students today. "The Do's and Don'ts of the Woonasquatucket River" presentation was developed by Rhode Island's Health and Education Subcommittee of the Urban Rivers Team to help residents and children be safe while enjoying the recreational value of the Woonasquatucket River.

This education campaign targeting 3rd and 4th grade children is a critical part of EPA New England's effort to ensure that children can safely enjoy their environment and natural resources, especially in urban areas throughout New England," said Regional Administrator Mindy Lubber. "The Urban Environmental Initiative's work with the members of the community to conduct these classroom presentations will educate and empower children, parents, and families in North Providence and Johnston to safely use and enjoy the Woonasquatucket River and protect public health."

The Woonasquatucket River flows 18 miles from North Smithfield through the communities of Johnston, Smithfield, North Providence, and Providence to the Narragansett Bay. After years of neglect during and after the Industrial Revolution, the river is now being targeted for cleanup activities and a "greenway." In August 1998, the river received national recognition and a distinction when it was recognized as an American Heritage River. However, the urban portion of the river below the Smithfield line has been polluted with sewage and industrial waste for more than a century.

The upper section of the Woonasquatucket is relatively pristine and rural. However, the urban section of the river from lower Smithfield into Providence was used by mills and the textile industry for power, fresh water and dumping byproducts and waste from manufacturing. The river has also suffered from illegal dumping of trash and waste.

The Smithfield sewage treatment plant discharges into the river and heavy rains cause high levels of bacterial and fecal coliform in the river from other combined sewage overflows. This can cause nausea and diarrhea and can make you and your family sick if ingested.

The Northern Rhode Island Conservation District through a grant from EPA-New England's Urban Environmental Initiative is bringing a message to the communities of Johnston and North Providence. The most critical message is that if you or your family comes in contact with the river water – don't panic! Wash hands with soap and water as soon as possible. This will keep families and children safe from the bacteria contamination.

They are teaching kids to stay out of unsafe areas. The US Environmental Protection Agency also found dioxin, mercury, and PCB's in the sediment (soil beneath the river) in high concentrations from Esmond Dam in Smithfield to the Allendale Dam. Dioxins are a group of waste chemicals produced by manufacturing. Long term exposure to dioxin can cause cancer.

The students are being warned not to eat any plants or animals they find in the river. The animals and plants in the Woonasquatucket River are not safe to eat. EPA found dioxin and PCBs in fish and eel samples taken from the Woonasquatucket River. Contaminated fish, eels, and other animals or plants may look, smell or taste fine but they will harm anyone who eats them. Fishing along the banks of the Woonasquatucket River is OK for fun – but you MUST throw back whatever you catch or find. The Urban Rivers Team gets this point across to kids by using toy fish and fishing poles demonstrating the catch and release policy. This “catch and release” policy has been in effect since the fall of 1996.

This interactive classroom presentation empowers students with information and provides an opportunity to participate in cleaning up and protecting the river that flows through their neighborhoods. They learn to dispose of oil and automobile fluids correctly, and recycle when possible. They are given information about proper pet waste disposal, pesticide and fertilizer use and other practices that will help clean up the river. The students also learn how to safely enjoy the river as a valuable natural resource in their community.

The Urban Environmental Initiative (UEI) is a pilot program launched in 1995 in EPA New England to address environmental and public health problems in the urban cities of Boston, MA; Hartford, CT; and Providence, RI. The UEI takes an active role in listening to community needs and concerns, identifying projects, and providing resources to implement projects that make measurable improvements in public health and quality of the urban environment.

If you would like more information on this outreach program or would like to schedule a presentation for your community group, please call the Northern Rhode Island Conservation District at 949-1480.

###

Woonasquatucket River "Do's & Don'ts" Education Program



Confirmation for Classroom Presentation

Teacher A & Teacher B,

Thanks for scheduling visits from the Woonasquatucket River "Do's & Don'ts" Education Program for your students! Below are the dates and times that I will be coming to your classrooms to give the presentation. Please call the Northern District Office (949-1480) or email me (kate-bousquet@ri.nacdnet.org) with any questions or changes that may need to be made.

Cordially,

Kate Bousquet
Education & Outreach Coordinator
Northern RI Conservation District

CONFIRMATION FOR:

1. Teacher A
2. Teacher B

SCHOOL NAME:

Named Elementary School

DATE CLASSES ARE SCHEDULED:

Wednesday, April 9, 2003

TIME CLASSES ARE SCHEDULED:

1. 10:00-11:30 a.m.
2. 12:30-2:00 p.m.

NUMBER OF STUDENTS TO PREPARE FOR:

23 students in each class

(I will arrive 15 minutes early to set up my equipment. Please call to rearrange the schedule if needed!)

Appendix K – 1 page

Woonasquatucket River "Do's & Don'ts" Education Program

Program Summary 2001-2002

Who:

Presentations are given by Kate Bousquet to **third grade classes** as a *free* service, per invitation from teachers in Elementary Schools within the watershed area in Smithfield, Johnston, North Providence & Providence. (A watershed area describes the land from which water sheds or flows on its way into a water body—here that water body is the Woonasquatucket River!)

This program is funded through an Environmental Education & Environmental Justice Grant, provided by the U.S. EPA. The "Do's & Don'ts" Education Program has been developed and refurbished by the Health and Education Subcommittee of the Urban Rivers Team. This is the third year that this grant has been entrusted to the Northern RI Conservation District from the US EPA.

What:

The "Do's & Don'ts for the Woonasquatucket River" Program informs and educates residents of the Woonasquatucket River Watershed of the health & environmental risks, and safety measures associated with the contamination that has been found in the Woonasquatucket River.

The Classroom Educational Program consists of an hour and a half (**1.5 hours**) with each classroom. We incorporate valuable safety and watershed education in a slideshow that takes students on a virtual boat ride down the river. Following the slideshow, concepts are reinforced through a fishing "**catch and release**" activity, map discussion, and a **non-point source pollution model** that enable students to see the effects of pollution on water bodies.

When:

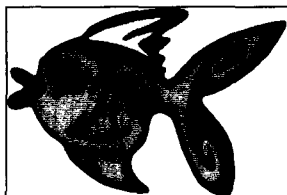
Classroom presentations will be available on specific dates, 8:00 a.m. until 3:00 p.m., from now until the end of May.

Where:

Presentations are offered to teachers whose schools are located within the Woonasquatucket River Watershed. Presentations will occur in the school classroom. Kate Bousquet will be the one traveling—not the schools!

Why:

The goal of this program is to empower students with basic knowledge about water pollution and the effects pollution may have on human health. Students will gain discernment for which activities (near the river) are safe for them to be participating in, and those, which are unsafe; as well as what activities result in water pollution. The program enhances the existing water curriculum and natural resource science. We feel it is important to teach kids who live near the Woonasquatucket River how to keep themselves, their families and friends safe from the contamination of the river, plus what things they can do to help minimize the non-point source pollution that reaches the river through improved environmental awareness.



Woonasquatucket River
"Do's & Don'ts"
Education Program 2001-2002

Presented by:
Northern RI Conservation District
Funded by: US EPA

17 Smith Ave. Greenville, RI 02828
(401) 949-1480
Kate_nricd@yahoo.com

SHOW WHAT YOU KNOW!

Please circle the correct answer to each question.

1. We just went on a boat ride down the _____ River.
Blackstone Pawcatuck
Woonasquatucket Pocasset
2. The Woonasquatucket River is _____ miles long, from Smithfield to Providence.
2 18
100 25
3. We live in the Woonasquatucket River _____, or the area of land that has water draining from it into the Woonasquatucket River.
Basin Canoe
Watershed Town
4. When I take my dog for a walk, I should use a _____ to keep his stuff off the ground and out of the water.
Pooper-Scooper Spoon
Pencil My hands
5. We need to wash our _____ after we're done playing around the Woonasquatucket River.
Hands Dog
Face Big Toes
6. It is _____ to eat fish from the Woonasquatucket River.
safe NOT safe
7. It is _____ to catch fish and release them back into the Woonasquatucket River.
safe NOT safe
8. Contamination, or pollution, in the Woonasquatucket River can make us _____ if we get water into our mouths & stomachs.
happy sick
laugh cry
9. During the Industrial Revolution, production waste from the _____ made the river change colors!
horses cars
mills schools
10. Leaking oil from cars, overflowing sewage, litter, & animal waste can all go into the Woonasquatucket River and cause _____.
pollution fish
frogs growth

Appendix M – 1 page

**Woonasquatucket River Watershed "Do's & Don'ts" Program
Statistical Report Form**

Teacher Name: _____ Date: _____

School & Address: _____

Grade: _____ Number of Students: _____

Collection of participant gender and racial/ethnic data is a requirement by the US Justice Department for all agencies receiving federal funding. All information is kept strictly confidential. Racial/ethnic designations do not denote scientific definitions of anthropological origins. A program participant may be included in the group which she/he is regarded or appears to belong, or identifies with.

Student Gender -- Race/Ethnic Breakdown

Gender:	# of Males _____	# of Females _____
Racial/Ethnic:	African American	_____
	Alaskan Native	_____
	American Indian	_____
	Asian or Pacific Islander	_____
	Hispanic	_____
	White	_____
	Other (please describe)	_____
	<i>Total</i>	_____

Teacher Gender -- Race/Ethnic Breakdown

Gender: Male _____ Female _____

Racial/Ethnic: _____

[Space for Letterhead]

Name, Principal
Name of School
Address 1
Address 2

Date

Principal Someone,

My name is Kate Bousquet and I am the Education & Outreach Coordinator for the Northern RI Conservation District. We are a non-profit organization invested in educating and empowering our communities through environmental and watershed education. One main focus of our efforts is on reaching students, because they are the future and any changes that are made will be accomplished through them and their enthusiasm.

We are excited to inform you that we have received a grant from the US Environmental Protection Agency (US EPA) that will allow us to bring our established "Do's & Don'ts for the Woonasquatucket River" Program into your 3rd grade classrooms at Pleasant View School. The purpose of the "Do's & Don'ts" Program is to inform and educate Woonasquatucket River Watershed residents of health risks, environmental risks, and safety measures associated with any contamination in, around, or near the Woonasquatucket River. Pleasant View School is located in the Woonasquatucket River Watershed, and therefore, this program is valuable and pertinent to your 3rd graders.

This program lasts for an hour and a half (1½), in which time your students will virtually travel down the 18-mile river from North Smithfield to Water Place Park in Providence via slideshow. During this portion of the presentation the kids will become riverboat sailors and learn about important watershed concepts, sources of non-point and point source pollution, as well as preventative measures that they can practice to improve the quality of the water in their community. Following the slideshow, the students and I will pollute a plastic watershed model with non-toxic substances (like hot chocolate) as we visualize what happens to our water sources due to daily human carelessness. Finally, we practice catching and releasing plastic Woonasquatucket River fish, reinforcing safety around the river.

We were able to offer this program in Johnston and North Providence last spring, and received great reviews from the teachers involved. I have received written approval from the Superintendent of Providence Schools' office to offer this program to you and your third grade teachers. I am in the process of sending scheduling letters to 3rd grade teachers in Johnston, North Providence and Smithfield, and am hoping for the same opportunity in Providence schools. I will be following this letter with a phone call to your office in the next few days. If this opportunity is acceptable to you, please be ready to provide me with the names of your third grade teachers. I will then send them individual letters that explain the program a bit more, as well as scheduling sheets that they will send back to me. At that point, I can schedule their classes into my calendar. I will be offering dates from now until May.

Enclosed you will find a short program summary and our "Do's & Don'ts" Brochure. I look forward to hearing from you and am excited about the opportunity to share in this educational effort.

Cordially,

Kate Bousquet
Education & Outreach Coordinator
Northern RI Conservation District

Appendix O – 1 page

[Space for Letterhead]

Name

Superintendent of _____ Schools

Address 1

Address 2

Date

Name,

The Northern RI Conservation District is excited to inform you that we have received a grant from the US Environmental Protection Agency (US EPA) that will allow us to bring our established "Do's & Don'ts for the Woonasquatucket River" Program into your school system. The "Do's & Don'ts" Program was established last year and was implemented into Johnston and North Providence schools located within the Woonasquatucket River Watershed.

The purpose of the program is to inform and educate Woonasquatucket River Watershed residents of health risks, environmental risks, and safety measures associated with any contamination in, around, or near the Woonasquatucket River. We would like to offer our classroom program to each *third* (3rd) grade teacher whose school lies within the watershed boundary. To the best of my knowledge, those schools in the Providence system would include (but not be limited to): Webster Ave. School, Asa Messer School, William D'Abate School, Laurel Hill Avenue, Pleasant View School, West Broadway School, Dr. Martin Luther King Jr. School, George J. West School, Fox Point School, Carl L. Memorial, Flynn Annex, John Street School

The classroom program is an hour and a half (1½) of information, interaction, and collaboration. The kids are taken on a virtual, 18-mile riverboat tour that takes them from North Smithfield all the way to Water Place Park via slideshow. In the past, kids have really enjoyed becoming sailors and sporting their "sailor hats". We are able to convey important watershed concepts, specific and unspecific to the Woonasquatucket River Watershed, as well as sources of non-point and point source pollution and preventative measures that everyone can practice. Following the slideshow, the students are engaged in a visual learning activity in which they pollute our watershed model and then consider what actions could have prevented the degradation in water quality. The students are also able to go "fishing" for plastic fish, and then practice the important method of releasing those fish.

Through these activities, we hope to empower students with basic knowledge about safe and continued use of this polluted river resource. We encourage students to be stewards of their urban natural resources by asking question that require them to listen and think for themselves. We also provide a folder filled with information and fun activities that the students take home and share—further disseminating the education!

We are encouraged by the response we had from students in Johnston and North Providence, and hope for the same from your students! Please consider this opportunity and let me know (in writing) if we may go ahead and contact those schools in your district in order to schedule classroom visits. Please contact me at the Northern RI Conservation District by phone or mail with any questions you may have concerning this program. If there is someone or some office more appropriate to make aware of this program, please let me know as soon as possible, in order to expedite the process.

I look forward to hearing from you and am excited about the opportunity to share in this educational effort.

Thank you for your help,

Kate Bousquet
Education & Outreach Coordinator
Northern RI Conservation District

Appendix P – 1 page



Woonasquatucket River
"Do's & Don'ts"
Education Program 2002-2003

Presented by:
Northern RI Conservation District
Funded by: US EPA

17 Smith Ave. Greenville, RI 02828
(401) 949-1480
Kate-bousquet@ri.nacdnet.org

Teacher Name

School Name

Address 1

Address 2

Date

Teacher Name,

The "Do's & Don'ts for the Woonasquatucket River" Program has existed since 1998, when the Health & Education Subcommittee of the Urban Rivers Team developed this outreach to *third grades* in Smithfield, Johnston, North Providence and Providence. The Program was then entrusted to the Northern RI Conservation District (NRICD). This school year is the third that NRICD is able to offer this *free* presentation to these school communities...and we are thrilled to have the opportunity! The value of this 1.5-hour program rests in the connection between this local river, its pollution problems, and the location of your school. Students living in the watershed (the land area around the Woonasquatucket) benefit from understanding what problems exist in the Woonasquatucket River, how humans create *and* affect these problems, how these problems can adversely affect humans, and what people who live around the river need to do to remain healthy.

This year, the Program team will consist of Kate Bousquet, the Education & Outreach Coordinator for the Northern RI Conservation District and a new member of our staff, Laura Costa, who will be traveling to schools in the northern part of RI, giving presentations on local environmental issues.

The "Do's & Don'ts" Classroom Program is one of our favorites, and uses a variety of teaching methods to engage students in learning. Last year, participating teachers commented that this program was consistent with school science and personal health curriculum and served as an effective addition to their lessons. Third-graders immensely enjoyed the various activities, as well. I have spent some time revising and altering a few aspects of the Classroom Program, as well as planning a Poster Contest component that is offered to each third grade in your school. Please review the enclosed Summary of the Program to get the full picture.

I am available to come to your classrooms on **Mondays and Fridays**, between December 2, 2002 and June 6, 2003 (excluding holidays). I am flexible with my workday hours. An ideal day (for me) would include one class per session, with 2 classes per day in the same school, starting the first session at 9:30 am (or later) and ending the second by 2:30 pm. The Program itself lasts 1.5 hours, but I need 15 minutes on either end to set up and take down my equipment, so please plan on 2 hours.

Please review the enclosed scheduling sheet and decide on 3 possible dates, discuss those dates with at least one other teacher, and fill out and send back the scheduling sheet (plus preferred time slots) in the envelope provided. Please contact us with any clarifying questions or comments you may have (phone 949-1480 or email kate-bousquet@ri.nacdnet.org). We look forward to hearing from you.

Cordially,

Kate J. Bousquet
Education & Outreach Coordinator
Northern RI Conservation District

Appendix Q – 1 page

Woonasquatucket River "Do's & Don'ts"

Scheduling Sheet (2000-01)

We look forward to coming into your classroom! Please consider the available dates below, decide on times between **8:30 a.m.** and **12:30 p.m.**, collaborate with your fellow teachers, and select your top three choices accordingly. We will do our best to accommodate your preferences. Please feel free to call with any questions you may have (949-1480).

Please return this page ASAP to Kate Bousquet, NRICD 17 Smith Ave. Greenville, RI 02828

Please use this key to fill out your preferences...

Key: #1 = First preference,
#2 = Second preference,

Teacher's Name:

School Name:

Number of students in your classroom:

Number of Spanish-speaking students in class:

<i>Monday</i>	<i>Wednesday</i>	<i>Monday</i>	<i>Wednesday</i>	<i>Monday</i>	<i>Wednesday</i>
4	6	8	10	5	7
11	13	Holiday	17	12	14
18	20	22	24	Holiday	21
		29	31		
<i>Monday</i>	<i>Wednesday</i>	<i>Monday</i>	<i>Wednesday</i>	<i>Monday</i>	<i>Wednesday</i>
5	7	2	4	7	9
12	14	9	11	14	16
19	21	16	18	21	23
26	28	23	25	28	30

Woonasquatucket River "Do's & Don'ts" Education Program

Slide Script

Do's & Don'ts	This is the Do's & Don'ts for the Woonasquatucket River Education Program. We are going to take an imaginary boat ride down this river so we can find out where the river is, what's wrong with water and how the river affects our lives.
River	The Woonasquatucket River is an important river in RI—and all of you go to school near it—some may live near it. Throughout this boat ride, I want you to understand what things are safe to do around the river and what things are unsafe.
Waterfire	We use the Woonasquatucket River for things like waterfire in Downtown Providence,
Canoe	Canoeing, kayaking, and sport fishing,
Duck in the Rain	How many of you have ever stood out in the rain like this duck? And after the water lands on you and rolls off, where does it go?... Right, into ground.
Water bodies with ducks	The water seeps into the ground, continues running downhill and collects in water bodies, like streams, rivers, lakes and the ocean.
Watershed graphic	The reason water moves like this is because the land is hilly and gravity pulls the water from high places to lower places. Rain and snow fall onto the ground and keep running downward until they get to the river. That's what a watershed is. No matter where you live you are in a watershed. [Point out hills.]
Red Area in State	This is the state of RI. You live in the Woonasquatucket River Watershed. This red area shows how big the watershed is for the Woonasquatucket River and where it's located in the state of RI.
Watershed Area	Are any of you familiar with this? All of the land in that red area contains water, streams, and lakes that flow into the Woonasquatucket River. Can someone volunteer to go up and point to the Woonasquatucket River for me?
Apt.	All of the places I'm going to show you now are in the Woonasquatucket River Watershed. Your homes...
Row houses	...
Single family home	
School	Your school...

Mural	And your neighborhoods are all part of that red area, or watershed, of the Woonasquatucket River.
Oil Rainbow	When the rain or melted snow on the ground starts moving, and takes with it anything that's on the ground. Does anyone know what that rainbow colored stuff is?...Right, oil from someone's car. So when rain falls on the roads, it takes the oil and other trash with it...
Drain	And pulls it into drains that empty into the Woonasquatucket River. Other things like Dunkin Donuts cups, Burger King bags, cigarettes, and other pieces of trash are also swept into the drains.
Bay	Eventually, the water and all of these pollutants get into Narragansett Bay and then into the ocean.
Slacks Reservoir	The Woonasquatucket River is 18 miles long—and has 4 major water bodies that feed it water. The first is Slack's Reservoir.
Johnston Sign	It is in Johnston.
Newport Creamery	And flows into Smithfield near that Newport Creamery.
Waterman's reservoir	Waterman's Reservoir in Glocester also feeds water into the Woonasquatucket River.
Primrose Pond with snow	So does Primrose Pond in North Smithfield
N. Smithfield High School	Near the high school.
Stillwater Reservoir	This is Stillwater Reservoir or Stump Pond. When ____ put her/his finger on the map to show where the Woonasquatucket River begins, this is where her/his finger was.
Smithfield sign	It's here in Smithfield that we'll get on our boat for our ride down the Woonasquatucket River.
Boat	So, let's put on our life jackets and begin our tour down the Woonasquatucket!
Boat Gone	Here we go!
Georgiaville Pond	The first thing we see is the Georgiaville Pond. Does anyone know where it is? (Smithfield)
Hands in graphic	The water is CLEAN here in Georgiaville Pond. We can do all sorts of things here safely.

Picnic	We see people on the Georgiaville Pond Beach having a picnic. How many of you have been there?
Swimming	We even see people swimming here because the water is clean and safe here.
Esmond Park	As we continue down the river, we get to Esmond Park in the lower part of Smithfield.
Mill	Here we begin to see mills or factories that are built along the river.
Mill	These mills were built during a time in our history called the Industrial Revolution so that machinery could be run by electricity produced by the flowing water of the river.
Mill	Mills did good things like make cloth and jewelry, but mills also did bad things like pollute the river. When we get to the mills on our tour, we start to see that the water in the river is getting dirtier.
Mill workers	So the mills were good because they made things and gave people jobs. Some of your grandparents may have worked in these mills.
Mill	But, the mills were also bad because they dumped waste and pollution directly into the river.
Water under mill	And so today, some of the problems with the river are a result of these mills dumping waste directly into the river.
Colored River Graphic	The Woonasquatucket River used to change colors from day to day, depending on what color dye the mills were using. Dye is a chemical that's used to make something a different color. What color dye is in her shirt?...When clothing is made, not all of the dye stays in it and the extra (or waste) used to run into the river. The mill on the left was making red socks that day, and the mill on the right was making yellow lace – so what color was the river? ORANGE.
N. Smithfield Sewage Treatment	Dye isn't the only pollution in the river. Just before N. Providence, treated sewage gets into the river. So as we get to Johnston on our boatripe, there are major problems with overflowing sewage. Where does sewage come from?...HOUSES. Sewage is the dirty water that goes into the sewer when you flush the toilet, or take a shower, or wash dishes. So a lot of dirty water comes from our houses and goes into the sewers.
Puddle	When it rains very hard, the sewers fill and overflow into the streets like this.

Kid on bike	And all the dirty water that was headed to the sewers ends up in puddles in the streets. Do you think it is a good or bad idea to play in this water?...BAD. This dirty water has bacteria and other germs that can make you sick.
Green Man	If this dirty water gets into your stomach, you could get very sick. So don't play in puddles after it rains. [Especially here in Johnston, you shouldn't play in puddles in the streets. Okay?]
Dirty River Graphic	If you do get wet from this dirty water from these big puddles in the streets, you need to wash up.
River	As we continue down the river...
N. Providence sign	If we look to the left we see N. Providence
Johnston sign	And if we look to the right, we see Johnston because the river separates the two towns.
Mill	In Johnston, we see more mills.
Centerdale Manor	And we see places like Centerdale Manor, which is a place where a lot of grandparents live.
Fencing around Manor	Scientists have done testing of the soil around Centerdale Manor and found dangerous chemicals. These chemicals are called PCBs and dioxins. They came from the mills dumping their wastes into the river. There is fencing around Centerdale Manor that keeps people out of the Woonasquatucket River because of the dangerous chemicals.
White Sign	We see signs that warn people not to eat fish from the river because these chemicals can make people very sick.
Yellow Danger sign	Let's read this sign together...[READ ALOUD] The reason we shouldn't eat the fish is because the fish live in the water coming from the mills, and the water contains dioxins and other chemicals that can cause cancer and other illnesses in people.
Catch fish	How many of you like to go fishing? Do you think there is any way to still enjoy catching fish without eating them?
Release fish	Yes! Just throw the fish back. This is called Catch & Release. Since the fish live in the polluted water, what do you think we should do to our hands after we've gone fishing?... Wash them!

Goose by river	So, we should never eat fish from the Woonasquatucket River. And we shouldn't eat any other plants or animals that we find around this river.
Lymansville Dam	We shouldn't play in dirt on the banks or at the bottom of the river either because it also has a lot of those dangerous chemicals in it.
Providence sign	As we continue on our boat ride, we enter the city of Providence.
Skyline	As we get closer to Downtown Providence...
Buttonhole	We see Buttonhole Golf Course...
Merino Park	Merino Park...
Atlantic Mills	And Atlantic Mills (Big Top flea market)
Olneyville sign	In Olneyville...
Price Rite	We see Price Rite...
Coke Co.	Burger King & the Coca-Cola company...
Prov Place Mall	Here we see the Providence Place Mall.
Waterplace park	We arrive at Waterplace Park. This is where the Woonasquatucket River ends.
Rivers joining	The Woonasquatucket River joins another river and gets a new name just after we leave Waterplace Park. The Woonasquatucket joins with the Masshasuck River—and when their waters mix, the bigger river is called the Providence River.
End of Tour	This is the end of our boat ride.
Wash hands	We need to remember that whenever we're around the Woonasquatucket River, we need to wash our hands afterwards. This makes sure that no bacteria or chemicals from the river get into our stomachs- because that's how we can get sick. Does anyone know what this is?... HAND SANITIZER. Let's all wash our hands now, just like you would do if you were around the Woonasquatucket River.
Dog walk graphic	For example, when our dogs go to the bathroom on the ground and we don't pick up after them, their poop will get washed into the river when it rains.
Oil leaking	If our cars are leaking oil or other fluids onto the roads, the rain will take it into the drains and to the river.

No dumping sign	Anything that gets dumped or put on the ground will eventually get down the drains in the roads or wash directly into the river...
Drain into river	Where it adds more pollution to the river.
Do's & Don'ts Words	Because of all the chemicals, bacteria and other pollution in the W. River, there are Do's & Don'ts for people who live in this watershed. When we look at the pictures, I'm going to start the sentence and you can finish it by looking at the picture and saying what it is. When you're around the Woonasquatucket River, it's safe for you and your friends to...
Canoe	Go canoeing and kayaking on the river. What are these people missing?...LIFE JACKETS. It's important that you go with an adult. If you accidentally tip over, you should get out of the water quickly and go home and take a shower. So it's ok to go canoeing, but you need to be careful.
Walking	It's ok to walk along the river.
Run	It's ok to jog around the river.
Play Sports	It's ok to play sports around the river.
Bike	It's ok to bike along the river.
Picnic	It's ok to have picnics along the river. BUT to keep you and your families safe, you should NOT...
Swim	Go swimming or wading in the Woonasquatucket River. Wading is taking off your shoes and socks and walking in the water. Another reason, other than the dangerous chemicals that are in the water, is that there are broken bottles and rusty cans in the river that you could step on.
Eat Fish	Do NOT eat fish or other animals or plants from the Woonasquatucket River.
Litter	And do not litter!
Kids by river	You each play an important role in cleaning up the river, as well as teaching other people how to keep themselves safe and healthy.
Words	You can help to build a cleaner, safer future for our river.
Car	You can ask whoever you live with to check the car for leaking oil or antifreeze. And if there are leaks, ask them to get the leaks fixed.

Oil igloo	Cars need oil to run and it sometimes has to be changed. The old oil has to come out and new oil has to go in. If your parents change the oil in the car instead of taking it to a mechanic, you can help your parents remember to take the old oil to an oil igloo to be recycled, instead of pouring it onto the ground or down the drains. Recycled oil is made into asphalt for new roads and new car tires.
Pooper scooper sign	Another thing you can do is use a pooper scooper when you walk your dog or pick it up with a bag.
Litter	And instead of throwing litter out the window of the car,
Garbage	You can recycle it or put it in the recycle in or trashcan.
Girls cleaning	All of these things will help improve the water in the Woonasquatucket River. You can also get involved with groups who are
Woman	Cleaning up...
Woon. Sign	Neighborhoods around the river.
Mural	You could help do paintings...
Planting	And plantings to improve watershed communities.
Game	You can celebrate the Woonasquatucket River with other people,
Duck	Because today the Woonasquatucket River is cleaner than it was only 6 years ago. When you were in kindergarten, the river was so dirty that fish and birds couldn't live in it! But since people have been cleaning it up and polluting it less, the water is clean enough that fish and birds can live in it again.
Flowers	By the time that some of you have children, the Woonasquatucket River
Canoes	Will be a swimmable, fishable river.

WOONASQUATUCKET RIVER
“DO’S & DON’TS” EDUCATION PROGRAM
17 Smith Avenue, Greenville, RI 02828
(401) 949-1480

Dear Parent or Guardian,

Your child listened to a presentation on the “Do’s & Don’ts for the Woonasquatucket River” today in class.

The purpose of the program is to educate you and your family on how to use and enjoy the Woonasquatucket River safely and how your family can serve as caretakers of the watershed.

You are encouraged to ask your child what he/she learned about today and to review the folder of information that was sent home with your child. Reference material on safety steps, health effects from different types of contamination and contact information are included.

The problems facing the Woonasquatucket River are large and we consider this outreach the first step of a long term effort to revitalize the Woonasquatucket River.

This program has been provided through the **Health and Education Subcommittee of the Urban Rivers Team**, a joint effort of:

Audubon Society of RI, City of Providence, Environmental Diversity Education Forum, Environmental Protection Agency New England, Narragansett Bay Commission, Northern RI Conservation District, North Providence Conservation Commission, The Providence Plan, RI Department of Environmental Management, RI Department of Health, Save the Bay, Socio Economic Development Center for South East Asians, and the Urban League.

Thank you for your interest. For more information contact the Northern Rhode Island Conservation District office at (401) 949-1480.

Sincerely,

Kristi Rea
Urban Environmental Initiative (EPA)

Gina DeMarco
Northern RI Conservation District

Woonasquatucket River Watershed "Do's & Don'ts" Program
Classroom Presentation Evaluation

The purpose of the Woonasquatucket River Watershed "Do's & Don'ts" Program is to educate the residents of the Woonasquatucket River Watershed as to how they can protect their health while enjoying the natural resources provided by the river. We also aspire to express the value of the river and ways that each student affects the water quality in the Woonasquatucket River.



Please help us evaluate the classroom presentation given to your students by answering the following questions. We take your comments seriously and will use them to improve our program.

1. What is your impression of the *effectiveness* of the classroom presentation in achieving the stated purpose above?

☐ NOT effective ☐ Somewhat effective ☐ Very effective

2. Were the educational concepts presented to your students *appropriate* to their grade level?

☐ NOT appropriate ☐ Somewhat appropriate ☐ Very appropriate

3. How *effective* were the educational methods and materials used (i.e. lecture, water flow model, slide show, etc.) ?

☐ NOT effective ☐ Somewhat effective ☐ Very effective

4. Was the amount of time allotted (one class period) *adequate* to cover the information?

☐ NOT adequate ☐ Somewhat adequate ☐ Very adequate

5. Would you recommend this program to other teachers?

6. How could future classroom presentations be improved? (please be specific)

7. Do you plan to conduct additional water quality & conservation education activities with your class?

We would appreciate any and all additional comments you may have.

Woonasquatucket River "Do's & Don'ts" Education Program
(2000-2001)

Vocabulary List



Bacteria = One-celled, microscopic organisms that occur in many forms and live everywhere. They are often capable of causing diseases.

Boundary = A border, edge, or rim. Furthest extreme. Highest points on a landscape often indicate the border of a watershed. A line on a map may also express a boundary.

Topography = The relative positions and elevations of natural or man-made features of an area. Topography describes the highs and lows (relief and form) of the land surface.

Dioxins & PCB's = A group of man-made chemicals produced by industries. These chemicals are extremely dangerous because they can produce long-term health problems, including cancer, in humans with prolonged exposure.

Community = An area in which a group of people live.

Industrial Revolution = A time of social and economic change in the late 18th and early 19th century when the invention of machinery created a shift from the home-production of goods to large-scale factory production. Machinery sped the process of producing a good or service.

Sediment = The solid material that has settled at the bottom of a water body, such as a river or pond. Because sediment does not move, it stores a large amount of chemicals (when there are pollutants in the water).

Watershed = An area of land in which all the water from that area flows to a common, low point (usually a stream, river, or lake).

Surface Water = All water whose surface is exposed to the atmosphere...i.e. water that you can see.

Groundwater = Water beneath the Earth's surface. It flows underground, similarly to surface water. *FYI: Groundwater constitutes 21% of all the world's fresh water and 97% of all the unfrozen fresh water on earth.* (From Water in Environmental Planning. Dunne & Leopold. Pg 192. Fifteenth printing, 1998.)

Water Table = The upper surface of the groundwater. Below this level, the soil is saturated with water. Water tables fluctuate with seasons and precipitation.

Water cycle = Also called the Hydrologic Cycle. It describes the way that water moves around the earth, from the atmosphere to the land, returning to the atmosphere. Processes include precipitation, interception, evaporation, transpiration, infiltration, run-off, over-land flow, groundwater discharge, and percolation.

Dissolve = To cause to pass into solution. When solids breakdown and become part of a liquid.

Sewage = Liquid and solid waste material that is carried off with water in sewers and drains...it comes from toilets, sinks, washing machines, dish washers, etc.

Pollution = Contamination of water, air, or soil by the discharge of harmful substances. The verb, **POLLUTE**, means to make unfit for, or harmful to living things, especially by the addition of waste matter.

Point Sources of Pollution = A stationary pollution source, such as a smoke stack or discharge pipe. These are places that you can *point* to and say with confidence that that single source is creating pollution.

Non-point Sources of Pollution = Pollution in which the source is not easily identifiable. Pollution may be coming from a variety of places, in small amounts, but when they combine, they create a significant source of pollution.

Sources for Non-Point Source Pollution include:

Soil erosion,	Storm-water runoff,
Household & automotive care,	Construction sites,
Agriculture,	The food chain

- **Soil Erosion** = The detachment and movement of soil from the land surface due to wind or water.
- **Storm-water Runoff** = Rainwater flowing over paved or unpaved surfaces; picking up road salt, loose soil, lawn and garden chemicals, and animal wastes as it travels via the street to storm drains to nearby rivers, lakes and estuaries.
- **Household and Automotive Care** = Oil, grease, gasoline, paints and other household chemicals that are carelessly dumped onto streets and into storm drains, which ultimately end up finding their way into surface waters. These pollutants harm aquatic life and degrade human drinking water sources.
- **Construction** = Tons of soil, chemicals and trash wash from construction sites get washed into streams and storm drains. Frequently, aquatic habitats & recreational areas, streams, lakes, rivers and bays are blanketed with layers of unproductive mud.
- **The Food Chain** = The natural cycle of bigger animals eating smaller animals, which eat smaller animals and so forth. Pollutants that reach water can accumulate through the food chain, harming aquatic life and terrestrial life. In severe cases of water contamination, human consumption of fish may be banned in order to protect public health.
- **Agriculture** = Excess fertilizers & pesticides can drain into streams, rivers, lakes and bays, which will cause abnormally increased growth of algae and underwater weeds. By accumulating through the food chain, pesticides can have long-term effects on wildlife and human health.



Land Use = Description of how or what the land is used for, i.e. crops, forest, residential, livestock.

Steward of the Land = Title given to people who manage and care for their environment. These people are concerned with the condition of the earth for the next generation, other people, and other living things.

Recycling = A resource recovery method involving the collection and treatment of a waste product for use as a raw material when manufacturing the same or similar products. An example is ground glass being used to make new glass, or recycled oil used to make asphalt for paving roads.

Natural Resource = A material source of wealth, such as timber, fresh water, or a mineral deposit. Some natural resources are renewable, while others have a limited supply and therefore need to be utilized wisely.





Woonasquatucket
River "Do's & Don'ts"
Education Program
BOOK MARK

RI Sources of Information:

♦ State Dept. of Environmental Management
RI DEM
(401) 222-2771
www.state.ri.us/dem/

♦ Local Watershed Councils
Woonasquatucket River
Watershed Council
(401) 861-9046
www.woonasquatucket.org

♦ State Department of Health
HEALTH (RI)
(401) 222-2231
www.health.state.ri.us/

♦ Local Conservation Districts
Northern RI Conservation District
(401) 949-1480
www.nacdnet.org

♦ US EPA
New England Region
(888) 372-7341
(617) 918-1111
www.epa.gov/region01/

♦ Audubon Societies
Audubon Society of RI
(401) 949-5454
www.asri.org

♦ US Geological Survey
RI Water Resource Division
(401) 331-9050
www.usgs.gov

♦ Historical Register
RI Historical Society
(401) 331-8575
www.rihs.org

♦ "Local" Historians
Ask for first-hand info from
Town Historians, Museums,
Libraries,
And local residents

(Side 1)



Local Urban River
Outreach Campaign
Fill in the blanks
with your local
resources.

For Local Sources of Information, look in the phone book.

♦ State Dept. of Environmental Management
Name: _____
Phone: _____
Web Address: _____

♦ My Local Watershed Council(s)
Name: _____
Phone: _____
Web Address: _____

♦ State Department of Health
Name: _____
Phone: _____
Web Address: _____

♦ Local Conservation Districts
Name: _____
Phone: _____
Web Address: _____

♦ US EPA
Name: _____
Phone: _____
Web Address: _____

♦ Audubon Societies
Name: _____
Phone: _____
Web Address: _____

♦ US Geological Survey
Name: _____
Phone: _____
Web Address: _____

♦ Historical Register
Name: _____
Phone: _____
Web Address: _____

♦ "Local" Historians
Names: _____
Phone: _____
Web Address: _____

(Side 2)

URL Listings

(October 2003)

Listed in Alphabetical Order

Local Resources:

♦ Audubon Society of RI
(401) 949-5454
www.asri.org

♦ Blackstone River Watershed Council
(401) 742-2200
Tammy Gilpatrick, Council Coordinator
bvtourism@aol.com

♦ Club Neopolsi Creations
(Do's & Don'ts Brochure Artwork)
(401) 467-5277
Brent Alan Bachelder
Neopolsi13@aol.com

♦ International Language Bank
(Brochure Translations)
(401) 274-8811

♦ Narragansett Bay Commission
(401) 222-6680
www.narrabay.com

♦ Northern RI Conservation District
(401) 949-1480
Gina DeMarco, District Manager
Gina-DeMarco@ri.nacdnet.org
www.nacdnet.org

♦ RI Department of Education
(401) 331-8575
www.rido.net

♦ RI Historical Society
(401) 331-8575
www.rihs.org

♦ Rhode Island Home*A*Syst Program
URI Cooperative Extension
(401) 874-5398
www.uri.edu/ce/wq

♦ Rhode Island Rivers Council
(401) 874-6522
www.planning.state.ri.us/rivers/default.htm

♦ Save the Bay
(401) 272-3540
www.savebay.org

♦ Woonasquatucket River Watershed Council
(401) 861-9046
Jenny Pereira, Council Coordinator
jpereira@woonasquatucket.org
www.woonasquatucket.org

State Government Resources:

♦ RI Department of Environmental Management
(401) 222-2771
www.state.ri.us/dem/

♦ HEALTHri (RI Department of Health)
(401) 222-2231
www.health.state.ri.us/

National Resources:

♦ US Environmental Protection Agency—
New England Region
(888) 372-7341
(617) 918-1111
www.epa.gov/region01/

♦ US Geological Survey
RI Water Resource Division
(401) 331-9050
www.usgs.gov

♦ USDA Natural Resource Conservation Service
RI Office
(401) 822-1300
www.ri.nrcs.usda.gov

Resource Publications:

♦ *Water in Your Hands* Comic Book
Soil & Water Conservation Society
1-800-THE-SOIL
pubs@swcs.org
www.swcs.org

♦ *What is a Watershed* Leaflet
www.nrcs.usda.gov/new/pub/

♦ *The Water Cycle* Poster
www.nrcs.usda.gov/new/pub/

Evaluation Of the Tool Kit as a Model for Urban River Public Outreach Strategies.

Northern RI Conservation District would like your feedback as to the usefulness and accessibility of this TOOL KIT. We will use your feedback to improve upon the model workbook.

Please fill out the following evaluation and return to:

**Northern RI Conservation District
Re: TOOL KIT Evaluation
17 Smith Avenue
Greenville, RI 02828
or fax to (401) 949-1480**

- What is your organization's name, location & mission?
- What was your overall reaction to the TOOL KIT?
- Was it useful in developing a public outreach campaign? Why or why not?
- Were there steps or workbook sections that were hard to understand, incomplete, or otherwise unusable? Which one(s) and why?
- How could the TOOL KIT be created to better suit your needs?
- Other comments:



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