

Stormwater Management in Your Backyard

RAIN GARDEN OUTREACH MANUAL



RUTGERS

New Jersey Agricultural
Experiment Station



Cornell University
Cooperative Extension
Ulster County



VirginiaTech

This material is based upon work supported by the National Institute of Food and Agriculture, United States Department of Agriculture,
under agreement number 2007-51130-03878.



Contributing Authors and Reviewers

Rutgers, New Jersey Agricultural Experiment Station – Cooperative Extension

Madeline Flahive DiNardo, County Agricultural Agent, Associate Professor

Amy Boyajian, Program Associate, Water Resources Program

Gregory Rusciano, Former County Environmental and Resource Management Agent, Assistant Professor

Christopher C. Obropta, Ph.D., P.E., Extension Specialist in Water Resources, Associate Professor

Cornell Cooperative Extension of Ulster County

Teresa Rusinek, County Agricultural Agent

Dona Crawford, Master Gardener Coordinator

Virginia Polytechnic Institute and State University - Cooperative Extension

Brian Benham, Extension Specialist, Associate Professor, Department of Biological Systems Engineering

Lynn Hoffman, Master Gardener Volunteer

James Lawrence, Volunteer, Environmental Consultant

History of the *Stormwater Management in Your Backyard* Program

The *Stormwater Management in Your Backyard* program started in New Jersey in 2003. The Rutgers Cooperative Extension Water Resources Program presented it to various target audiences to inform stakeholders about stormwater issues and to empower them to take action on their own property and in their communities. The lectures were of particular interest to Master Gardener volunteers in ten of New Jersey's counties and have led to the design, construction, and maintenance of over 40 demonstration rain garden sites. The New Jersey demonstration rain garden sites are designed to intercept, treat, and infiltrate over 1 million gallons of stormwater runoff per year.

In 2007, Rutgers teamed up with Cornell and Virginia Tech to expand the program into New York and Virginia. *The Stormwater Management in Your Backyard: An Extension Education Initiative for New Jersey, New York, and Virginia* project has trained volunteers in these three states. They have been integral in the creation of community demonstration rain gardens and educating their communities.

© 2010 Rutgers, The State University of New Jersey. All rights reserved.

For a comprehensive list of our publications visit www.njaes.rutgers.edu

October 2010

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.



Rutgers, The State University of New Jersey
88 Lipman Drive, New Brunswick, NJ 08901-8525
Phone: 732.932.5000

Table of Contents

Introduction.....	1
Children's Program	
"How Are We Going to Clean Up Messy Town?".....	2
Before Program.....	2
Day of Program.....	3
After Program.....	3
Adult Program	
"How to Install a Rain Garden at Your Home"	4
Before Program.....	4
Day of Program.....	5
After Program.....	5
Web Resources.....	6
Appendix A - Children's Education Program Templates	
Appendix A-1: "How Are We Going to Clean Up Messy Town?" Lesson Plan	7
Appendix A-2: Entrance/Exit Ticket	11
Appendix A-3: Program Evaluation Template.....	15
Appendix A-4: Press Release Template.....	16
Appendix A-5: Flyer Template.....	17
Appendix A-6: Sign-in Sheet Template	18
Appendix A-7: Letter to Parent/Guardian Template.....	19
Appendix A-8: Follow-up Program Evaluation Template	20
Appendix A-9: USDA NIFA Rain Garden Video.....	21
Appendix B - Adult Education Program Templates	
Appendix B-1: Press Release Template	22
Appendix B-2: Flyer Template.....	23
Appendix B-3: "How to Install a Rain Garden at Your Home" PowerPoint Presentation	24
Appendix B-4: Sign-in Sheet Template	25
Appendix B-5: Soils Information.....	26
Appendix B-6: Program Evaluation Template.....	28
Appendix B-7: Follow-up Program Evaluation Template	30
Appendix B-8: USDA NIFA Rain Garden Video.....	31
Appendix C - Demonstration Rain Garden Templates	
Appendix C-1: Demonstration Rain Garden Fact Sheet Template	32
Appendix C-2: Demonstration Rain Garden Website Template.....	34
Appendix C-3: Demonstration Rain Garden Plant List Template for Children.....	36
Appendix C-4: Demonstration Rain Garden Plant List Template for Adults.....	38

Introduction

Welcome to the *Stormwater Management in Your Backyard* team!

The goal of the *Stormwater Management in Your Backyard* program is to empower volunteers to educate their communities about the benefits of rain gardens. This manual was designed to provide volunteers with tools they can use to deliver educational programs to youth and adults. This project is funded by a grant from the United States Department of Agriculture National Institute of Food and Agriculture National Water Program.

The purpose of this Rain Garden Outreach Manual is to provide volunteers, such as Master Gardeners, Environmental Stewards, Master Naturalists, and community environmental groups, with the materials needed to provide community level outreach. This manual focuses on the “How Are We Going to Clean Up Messy Town?” and “How to Install a Rain Garden at Your Home” programs for children and adults, respectively.

Volunteers using this manual should have a basic understanding of nonpoint source pollution, stormwater management, and rain gardens. Using their knowledge of gardening and the environment, volunteers have the capability to effectively communicate to their communities the importance of stormwater management.

This manual and the accompanying CD-ROM is designed so that you can customize the information for your target audience. For example, you can use the publicity flyer templates and fill in your program’s location, date, and time.

The children’s program (Appendix A) section contains two lesson plans – one for grades 1 through 3 and the other for grades 4 through 8. It includes publicity, parent/guardian letters, and program evaluations that can be adapted for your program needs. The Demonstration Garden Templates (Appendix C) include a Demonstration Rain Garden fact sheet, website template, and native plant lists for children and adults. Additionally, the USDA NIFA Rain Garden video, which is provided on the Rain Garden Manual CD-ROM, can be incorporated into the lessons. The adult program can be used for high school students (grades 9 through 12).

The adult program section (Appendix B) contains publicity, soil testing instructions, and program evaluations. The accompanying CD-ROM has a scripted Microsoft PowerPoint™ Presentation “How to Install a Rain Garden at Your Home” that can be presented to community groups. The presentation also includes the USDA NIFA Rain Garden video.

The Demonstration Rain Garden Templates (Appendix C) include a demonstration rain garden fact sheet, website template, and native plant lists for children and adults.

We hope that volunteers who use this manual find the information provided to be practical and easy to follow.

Enjoy!

Children's Program

"How Are We Going to Clean Up Messy Town?"

The *Stormwater Management in Your Backyard* children's program "How are we going to clean up Messy Town?" provides children with a situation of a fictional town, Messy Town, which has a multitude of water problems. There is a "How are we going to clean up Messy Town?" lesson plan provided in Appendix A for grades 4 through 7. This lesson can be adapted for grades 1 through 3 using the script provided. These lessons provide students with a worst case scenario of water pollution that a community may have and gets them thinking about solutions to solve Messy Town's water pollution problems. Encourage the students to think about installing rain gardens, reducing pesticide use, performing soil tests, curbing pets, maintaining automobiles, and picking up litter.

Before Program

The following list details the items you should accomplish before the day of the program:

1. Determine a program location by contacting an agency that offers children's programs (i.e., school, library), preferably at a location near your demonstration rain garden.
2. Work with facility administrator to determine a date and time.
3. Determine length of program (approximately 30 minutes to 1 hour).
4. Send press release to newspapers, newsletters, magazines, websites, local TV stations, etc. (see Appendix A for template).
5. Distribute flyers to program location, local nurseries, and public locations throughout the community that children frequently visit (see Appendix A for template).
6. Gather supplies for the "How are we going to clean up Messy Town?" lesson (see Appendix A for lesson plan). The USDA NIFA Rain Garden video is provided on the Rain Garden Manual CD-ROM and can be incorporated into the lesson.
7. Prepare materials for program:
 - a. Sign-in sheet for parent/guardian including names (adult and child), mailing address, phone number, and e-mail address (see Appendix A for template)
 - b. Pens or pencils
 - c. If you plan to take photographs of the program participants, it may be necessary to obtain a photo release form.
 - d. Folder with the following program materials:
 - i. Letter to Parent/Guardian (see Appendix A for template)
 - ii. Rutgers Cooperative Extension Rain Garden Fact Sheet (FS513, <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS513>)
 - iii. Demonstration Rain Garden Fact Sheet (see Appendix A for template)
 - iv. Demonstration Rain Garden Native Plant List (see Appendix A for template)
 - v. Other rain garden related materials from your state Cooperative Extension
 - e. Program Evaluation (see Appendix A for template)
 - f. Signage for native plants including scientific and common names
8. Optional: If you would like to create a webpage for the demonstration rain garden, a template is provided in Appendix C. Some possible host sites would be the county Extension office website and/or the rain garden's location's website (i.e., school, library, community center). If you plan to post photographs of people on the webpage, you may need photo release forms.
9. Prepare demonstration rain garden by weeding, adding mulch, pruning plant materials, and installing signage (i.e., plant labels and/or display demonstration rain garden display sign).

10. Invite the press media to the program.

Day of Program

The following list details the items you should accomplish the day of the program:

1. Prepare sign-in table with pen/and or pencil, sign-in sheet, and distribute folders.
2. Teach lesson to the participating children in the audience. The USDA NIFA Rain Garden video is provided on the CD-ROM and can be incorporated into the lesson.
3. Host a tour of demonstration rain garden (this can be done either before or after the lesson).
4. Administer and collect program evaluations.

After Program

The following list details the items you should accomplish after the program:

1. Input audience's contact information from sign-in sheet to electronic sign-in sheet.
2. Turn in sign-in sheets (paper and electronic) and program evaluations to your County Master Gardener Coordinator.
3. Assist Master Gardener Coordinator with follow-up program evaluation (see Appendix A for template).
4. Maintain demonstration rain garden.
5. Look forward to having another program at the demonstration rain garden!



Adult Program

“How to Install a Rain Garden at Your Home”

The *Stormwater Management in Your Backyard* adult program “How to Install a Rain Garden at Your Home” provides adult homeowners with easy-to-follow steps on how to prepare, install, and maintain a rain garden on their own property as well as providing answers to some of the frequently asked questions that rain garden owners may encounter. If you choose to conduct the program at a demonstration rain garden location, a tour of the rain garden is a great way to introduce the audience to a rain garden.

Before Program

The following list details the items you should accomplish before the day of the program:

1. Determine a program location by contacting an agency that offers adult programs (i.e. library), preferably a location at or near the demonstration rain garden.
2. Work with facility administrator to determine a date and time (preferably in the evening or on a weekend).
3. Determine length of program (approximately 45 minutes to 1 and a half hours for adults).
4. Send press release to newspapers, newsletters, magazines, websites, local TV stations, etc. (see Appendix B for template).
5. Distribute flyers to program location, local nurseries, and public locations throughout the community that adults frequently visit (see Appendix B for template).
6. Review and practice the Microsoft PowerPoint™ presentation. The presentation is available on Appendix B the *Stormwater Management in Your Backyard* Rain Garden Outreach Manual CD-ROM. The presentation includes the USDA NIFA Rain Garden Video.
7. Prepare materials for program:
 - a. Sign-in sheet including name, mailing address, phone number, and e-mail address (see Appendix B for template)
 - b. Pens or pencils
 - c. If you plan to take photographs of the program participants, it may be necessary to obtain a photo release form.
 - d. Folder with the following program materials:
 - i. Rutgers Cooperative Extension Rain Garden Fact Sheet (FS513, <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS513>)
 - ii. Demonstration Rain Garden Fact Sheet (see Appendix B for template)
 - iii. Demonstration Rain Garden Native Plant List (see Appendix B for template)
 - iv. Soils Information (see Appendix B)
 - v. Other rain garden related materials from your state Cooperative Extension
 - e. Program Evaluation (see Appendix B for template)
 - f. Optional: Raffle tickets and items for raffle (i.e. Native plant identification or rain garden book, native plants, soil testing kits, etc.)
11. Optional: If you would like to create a webpage for the demonstration rain garden, a template is provided in Appendix C. Some possible host sites would be the county extension office website and/or the rain garden’s location’s website (i.e. school, library, community center). If you plan to post photographs of people on the webpage, you may need photo release forms.
12. Prepare demonstration rain garden by weeding, adding mulch, pruning plant materials, and installing signage (i.e., plant labels and/or demonstration rain garden sign).

Day of Program

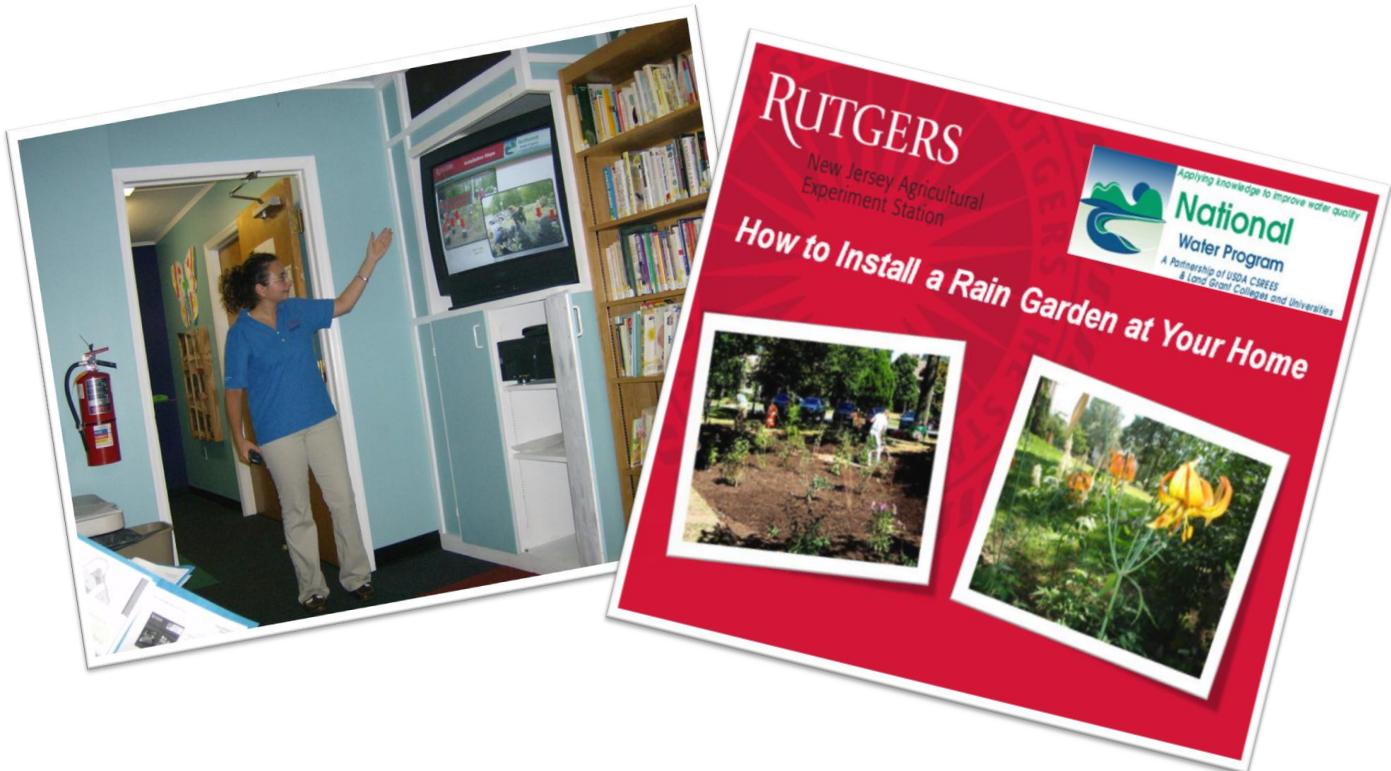
The following list details the items you should accomplish the day of the program:

1. Prepare sign-in table with pen/and or pencil, sign-in sheet, and distribute folders.
2. Give Microsoft PowerPoint™ presentation which includes the USDA NIFA Rain Garden Video.
3. Host a tour of demonstration rain garden (this can be done either before or after the program presentation).
4. Administer and collect program evaluations.

After Program

The following list details the items you should accomplish after the program:

1. Input audience's contact information from sign-in sheet to electronic sign-in sheet.
2. Turn in sign-in sheets (paper and electronic) and program evaluations to your County Master Gardener Coordinator.
3. Assist Master Gardener Coordinator with follow-up program evaluation (see Appendix B for template).
4. Maintain demonstration rain garden.
5. Look forward to having another program at the demonstration rain garden!



Web Resources

- Rutgers Cooperative Extension Water Resources Program Rain Garden Website
http://water.rutgers.edu/Rain_Gardens/RGWebsite/raingardens.html

Rutgers Cooperative Extension Water Resources Program's Rain Garden website consists of the Rain Garden Information Center and Demonstration Rain Garden webpages. The Information Center includes fact sheets, articles, and presentations from Rutgers Cooperative Extension and additional fact sheets, manuals, and rain garden websites from reputable sources across the country. The Demonstration Rain Garden webpage provides an interactive map and information about most of the demonstration rain gardens that Rutgers Cooperative Extension helped to install.

- Cornell Cooperative Extension of Ulster County
<http://counties.cce.cornell.edu/ulster/index.htm>

Cornell Cooperative Extension of Ulster County's website consists of information about each of their many programs and the resources available from Cornell University.

- Virginia Cooperative Extension of Frederick County
<http://offices.ext.vt.edu/frederick/index.html>

Virginia Cooperative Extension of Frederick County's website consists of information about each of their many programs and the resources available from Virginia Polytechnic Institute and State University.

- United States Department of Agriculture National Institute of Food and Agriculture National Water Program
<http://www.usawaterquality.org/>

United States Department of Agriculture National Institute of Food and Agriculture National Water Program's website is designed for scientists, instructors, and extension educators to learn about successful water quality improvement programs across the nation by linking to Regional Water Coordination Programs or browsing through content of the national topical themes, accomplishments, and success stories.

- New Jersey Native Plant Society Rain Garden Manual
http://www.npsnj.org/rain_garden_home.htm

New Jersey Native Plant Society Rain Garden Manual is free of charge and contains additional educational lessons and information on rain garden planning, installation, and maintenance.

Appendix A-1: “How Are We Going to Clean Up Messy Town?” Lesson Plan

GRADE LEVEL: 1 – 3

BACKGROUND:

This activity is designed to demonstrate to students what an average storm drain collects during a rainfall event and how the water from storm drains can impact the water quality and aquatic environments of local streams, rivers, and bays.

NATIONAL SCIENCE EDUCATION STANDARDS:

- Chapter 6 (Science Content Standards), Life Science (Content Standard C, grades K-4), 3. Organisms and environments, 4. Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms.
- Chapter 6 (Science Content Standards), Science in Personal and Social Perspectives (Content Standard F, grades K-4), 4. Changes in environments, 2. Changes in environments can be natural or influenced by humans. Some changes are good, some are bad, and some are neither good nor bad. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.

For your state’s curriculum standards, refer to your state’s education department website by visiting <http://www.educationworld.com/standards/state/toc/index.shtml>.

OBJECTIVES:

- Students will identify two to three sources of nonpoint source pollution.
- Students will identify two to three ways to prevent nonpoint source pollution.

TIME:

30 minutes

MATERIALS NEEDED:

Evaluation Tools:

Entrance/exit ticket (see Appendix A)
Program evaluation (see Appendix A)

“Messy Town Storm Drain”:

Aquarium or clear plastic container (15 to 20 quart size) to be used as the “storm drain”
Watering can or spray bottle
Water to fill the aquarium or clear plastic container and the watering can or spray bottle
Rectangular box (storm drain grate)

“Pollutants”:

6 containers with lids (for “pollutants”) listed below
Food coloring (represents pesticides)
Rainbow sprinkles (represents lawn fertilizer)
Chocolate syrup (represents motor oil)
Soil/sand/pebbles (represents erosion)
Chocolate sprinkles (represents pet waste)
Trash (represents litter)

PREPARATION:

Fill the aquarium half-way with water and place it on an accessible area where it can be easily viewed by the students. Cut a couple holes in the bottom of the box and place the box on top of the aquarium. The box represents the storm drain grate and the aquarium represents the waterway that the stormwater mixes into after entering the storm drain. Leave the sides of the aquarium uncovered so that the students can view its contents.

PROCEDURE:

1. Distribute the “entrance ticket” to students. Read the question on the card to them (What is water pollution?). Ask them to write their name and answer to the question on the side of the card with the picture of a rain drop on it.
2. Use the script below to narrate this activity while performing the actions described in parentheses.

SCRIPT:

This aquarium is one of Messy Town’s storm drains. Anything that goes down this storm drain goes into the Messy Town Lake. Mr. Homeowner found a bug on his lawn. So, he put insect killer pesticides on his lawn (squirt food coloring onto the storm drain grate). Mrs. Homeowner did not like the weeds on her lawn. So, she applied weed killer pesticides on her lawn (squirt food coloring onto the storm drain grate). Their neighbor did not think that his lawn was green enough. So, he put down a whole bag of fertilizer on his lawn (sprinkle rainbow sprinkles onto the storm drain grate). Joe Speedway was too busy to keep his race car tuned up. His race car was leaking motor oil in the street (squirt chocolate syrup onto the storm drain grate). The trees in Messy Town’s forest were cut down to build a new shopping mall. The builder forgot to put up silt fences to keep the soil from running off (put soil/sand/pebbles onto the storm drain grate). The kids in Messy Town did not pick up after their pet dogs (sprinkle chocolate sprinkles onto the storm drain grate). People in Messy Town were too lazy to put their trash into the garbage, so their litter ended up in the storm drains (put trash onto the storm drain grate). One day a big storm came and washed everything that was on Messy Town’s lawns, roads, parking lots, and sidewalks into the storm drains (spray water using watering can/spray bottle on storm drain grate). A day later, the people of Messy Town were complaining that could not go swimming and fishing in the Messy Town Lake. How are we going to clean up Messy Town? (end of script)

Encourage the students to talk about:

- Rain gardens
- Reducing pesticide use
- Testing soil
- Curbing pets
- Maintaining automobiles
- Picking up litter

3. Have the students turn over their “entrance ticket.” It is now their “exit ticket.” Read the question on the card to them. Ask them to write their name and answer to the question on the side of the card with the picture of a flower on it. Collect the “tickets.”
4. For the instructor’s evaluation of the lesson, compare the “entrance ticket” answers to the “exit ticket” answers.
5. Have the students complete the program evaluation (see Appendix A).

Based on the “Non-Point Source Pollution” Environmental Education lesson developed by United States Environmental Protection Agency, Office of Water 4601, EPA 810-F-98-004, June 1998.

Rain Garden Outreach Manual

Appendix A-1: “How Are We Going to Clean Up Messy Town?” Lesson Plan

GRADE LEVEL: 4 – 8

BACKGROUND:

This activity is designed to demonstrate to students what an average storm drain collects during a rainfall event and how the water from storm drains can impact the water quality and aquatic environments of local streams, rivers, and bays.

NATIONAL SCIENCE EDUCATION STANDARDS:

- Chapter 6 (Science Content Standards), Life Science (Content Standard C, grades K-4), 3. Organisms and environments, 4. Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms.
- Chapter 6 (Science Content Standards), Science in Personal and Social Perspectives (Content Standard F, grades K-4), 4. Changes in environments, 2. Changes in environments can be natural or influenced by humans. Some changes are good, some are bad, and some are neither good nor bad. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.
- Chapter 6 (Science Content Standards), Science in Personal and Social Perspectives (Content Standard F, grades 5-8), 3. Natural hazards, 2. Human activities also can induce hazards through resource acquisition, urban growth, land-use decisions, and waste disposal. Such activities can accelerate many natural changes.

For your state’s curriculum standards, refer to your state’s education department website by visiting <http://www.educationworld.com/standards/state/toc/index.shtml>.

OBJECTIVES:

- Students will identify four to six sources of nonpoint source pollution.
- Students will identify four to six ways to prevent nonpoint source pollution.

TIME:

- 30 minutes

MATERIALS NEEDED:

Evaluation Tools:

Entrance/exit ticket (see Appendix A)

Program evaluation (see Appendix A)

“Messy Town Storm Drain”:

Aquarium or clear plastic container (15 to 20 quart size) to be used as the “storm drain”
Watering can or spray bottle

Water to fill the aquarium or clear plastic container and the watering can or spray bottle
Rectangular box (storm drain grate)

“Pollutants”:

6 containers with lids (for “pollutants”), listed below

Food coloring (represents pesticides)

Rainbow sprinkles (represents lawn fertilizer)

Chocolate syrup (represents motor oil)

Soil/sand/pebbles (represents erosion)
Chocolate sprinkles (represents pet waste)
Trash (represents litter)

PREPARATION:

Fill the aquarium half-way with water and place it on an accessible area where it can be easily viewed by the students. Cut a hole in the bottom of the box and place the box on top of the aquarium. The box represents the storm drain and the aquarium represents the waterway that the storm water mixes into after entering the storm drain. Leave the sides of the aquarium uncovered so that the students can view its contents.

PROCEDURE:

1. Distribute the “entrance ticket” to students. Read the question on the card to them (What is nonpoint source pollution? How can you prevent nonpoint source pollution?). Ask them to write their name and answer to the question on the side of the card with the picture of a rain drop on it.
2. Introduce this activity with a discussion of storm drains and storm drain systems and their purposes. Discuss where the water and objects that float down into a storm drain go. Have students list all of the things that they can think of that might enter a storm drain during a rain storm.
3. Assign a group of students to each pollutant. Discuss each pollutant, including its use or origin and how it could enter the storm drain.
4. Have each group of students place their pollutant into the storm drain. Use the watering can to create rain to wash the pollutant into the waterway. While washing each pollutant into the waterway, review the pollutant and its use or origin. Discuss the following questions: How does the pollutant damage the environment? Do the people who are responsible for the pollutant want to damage the environment? Why did they do what they did? How can this type of pollution be stopped?
5. After adding all of the pollutants, examine the contents of the waterway. Discuss how the waterway has changed and how viewing this change makes the students feel.
6. Ask the students these follow-up questions:
 - What types of the pollution are natural?
 - What types of pollution are added by people living in the local communities?
 - How can we remove the pollution from the water?
 - What could be done to stop pollutants from entering storm drains? (Introduce and discuss rain gardens)
7. Have the students turn over their “entrance ticket.” It is now their “exit ticket.” Read the question on the card to them. Ask them to write their name and answer to the question on the side of the card with the picture of a flower on it. Collect the “tickets.”
8. For the instructor’s evaluation of the lesson, compare the “entrance ticket” answers to the “exit ticket” answers.
9. Have the students complete the program evaluation (see Appendix A).

VARIATIONS (IF EXTRA TIME REMAINS):

Have the groups of students responsible for the pollution think of ways to remove the pollution from the aquarium. Try some of the removal methods. Which pollutants were easy to remove? Which were difficult to remove?

Based on the “Non-Point Source Pollution” Environmental Education lesson developed by United States Environmental Protection Agency, Office of Water 4601, EPA 810-F-98-004, June 1998.

Appendix A-2: Entrance/Exit Ticket

GRADE LEVEL: 1 – 3

ENTRANCE TICKET



Name: _____

What is water pollution?

How can we stop water pollution?

ENTRANCE TICKET



Name: _____

What is water pollution?

How can we stop water pollution?

Appendix A-2: Entrance/Exit Ticket

GRADE LEVEL: 1 – 3



EXIT TICKET

Name: _____

What is water pollution?

How can we stop water pollution?



EXIT TICKET

Name: _____

What is water pollution?

How can we stop water pollution?

Appendix A-2: Entrance/Exit Ticket

GRADE LEVEL: 4 – 8

<p>ENTRANCE TICKET</p> <p>Name: _____</p> <p>What is nonpoint source pollution?</p> <hr/> <hr/> <hr/> <p>How can you prevent nonpoint source pollution?</p> <hr/> <hr/> <hr/>	<p>ENTRANCE TICKET</p> <p>Name: _____</p> <p>What is nonpoint source pollution?</p> <hr/> <hr/> <hr/> <p>How can you prevent nonpoint source pollution?</p> <hr/> <hr/> <hr/>
<p>ENTRANCE TICKET</p> <p>Name: _____</p> <p>What is nonpoint source pollution?</p> <hr/> <hr/> <hr/> <p>How can you prevent nonpoint source pollution?</p> <hr/> <hr/> <hr/>	<p>ENTRANCE TICKET</p> <p>Name: _____</p> <p>What is nonpoint source pollution?</p> <hr/> <hr/> <hr/> <p>How can you prevent nonpoint source pollution?</p> <hr/> <hr/> <hr/>

Appendix A-2: Entrance/Exit Ticket

GRADE LEVEL: 4 – 8

 EXIT TICKET	 EXIT TICKET
Name: _____	Name: _____
What is nonpoint source pollution? _____ _____ _____	What is nonpoint source pollution? _____ _____ _____
How can you prevent nonpoint source pollution? _____ _____ _____	How can you prevent nonpoint source pollution? _____ _____ _____
 EXIT TICKET	 EXIT TICKET
Name: _____	Name: _____
What is nonpoint source pollution? _____ _____ _____	What is nonpoint source pollution? _____ _____ _____
How can you prevent nonpoint source pollution? _____ _____ _____	How can you prevent nonpoint source pollution? _____ _____ _____

Appendix A-3: Program Evaluation Template

How are we going to clean up Messy Town?

Location of Program

Date of Program

**Stormwater Management in Your Backyard:
an Extension Initiative for NJ, NY & VA**

Program Evaluation

Circle the faces that show how you feel about today's program.



1. I learned about water pollution



Some



A Lot



2. I learned how to protect water



Some



A Lot



3. I learned about rain gardens



Some



A Lot

Circle your answer.

4. Do you want to learn more about this subject? Yes No

5. Will you tell someone what you learned? Yes No

Write your answer.

6. My favorite part of the program was... _____

7. Draw a picture (on back of page) of one thing you learned today.

Appendix A-4: Press Release Template

First and Last Name

Name of Organization

Phone Number

IMMEDIATE RELEASE ALL ZONES

NAME OF ORGANIZATION

"HOW ARE WE GOING TO CLEAN UP MESSY TOWN?"

EDUCATIONAL PROGRAM AT THE

NAME OF MEETING PLACE

City of Meeting Place – Have fun learning about water pollution and how a rain garden is beneficial for the environment! A rain garden is a landscaped shallow depression planted with native plants created to collect stormwater and recharge the groundwater supply. Rain gardens make neighborhoods more attractive while enhancing ecological health. In Month Year, a rain garden was constructed at the Name of Demonstration Rain Garden Site. The goal is to have the Name of Demonstration Rain Garden Sites rain garden serve as a model for county residents who are interested in controlling polluted runoff and help recharge the groundwater.

Name of Organization invites children to attend their Water Pollution and Rain Garden program for grade levels 1 to 3 entitled “How are we going to clean up Messy Town?”. This hands-on presentation and outdoor tour of the Name of Demonstration Rain Garden Site rain garden will begin at Time on Day, Date outdoors of the Name of Demonstration Rain Garden Site, located on Address in City, State.

Please call Name of Organization at Phone Number to register or for more information. Information is also available on the Name of Organization’s website at address of website or by calling phone number.

Note: If this event is sponsored by Cooperative Extension in your state, the following statement must be incorporated into the press release: Cooperative Extension educational programs are offered to all without regard to race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity and expression, disability, atypical hereditary cellular or blood trait, marital status, civil union status, domestic partnership status, military service, veteran status, and any other category protected by law.

How are we going to clean up

MessyTown?

Come and learn about water pollution and rain gardens!

There will be a children's activity and a tour of the NAME OF DEMONSTRATION SITE rain garden!!



Day, Date

Time

**Location
Address, City**



Please call **NAME OF COUNTY** Cooperative Extension at **PHONE #** to register and for more information.



*Insert Your Cooperative
Extension or
Organization's Logo Here*

Appendix A-6: Sign-in Sheet Template

How are we going to clean up Messy Town?						
Name of Location, Day, Date Time						
NAMES (ADULT & CHILD)	ADDRESS				PHONE NUMBER	E-MAIL ADDRESS
	Street	City	State	Zip		
ADULT:						
CHILD:						
ADULT:						
CHILD:						
ADULT:						
CHILD:						
ADULT:						
CHILD:						
ADULT:						
CHILD:						

Appendix A-7: Letter to Parent/Guardian Template

First and Last Name
Volunteer of Name of County County
State Cooperative Extension of Name of County
Address
City, State Zip Code

Dear Parents and/or Guardians:

Your child's level of grade grade class/book club/scout troop/etc. at Name of Site participated in an educational program entitled "How are we going to clean up Messy Town?" today, which was funded by the United States Department of Agriculture (USDA) National Water Program. In this educational program, the students learned about water quality through use of a storm drain model followed by a tour of the Name of Site demonstration rain garden.

Before starting the program, the students were asked what they could do to prevent water pollution. To help explain nonpoint source water pollution to the students, a model of a storm drain was used. This model uses candy to represent nonpoint source water pollution and a spray bottle to represent rain into a storm drain that was caused by the people living in "Messy Town." Preventative measures to water pollution were discussed with the students, such as rain gardens. Following the storm drain model activity, the students were given a tour of the Name of Site demonstration rain garden. The students were shown the parts of the rain garden as well as a few of the plants that grow in the rain garden. The teachers were asked to distribute an evaluation worksheet for the students following the program, asking the students what they enjoyed best regarding the "How are we going to clean up Messy Town?" program.

Enclosed in this folder, you will find a variety of educational materials regarding water quality and rain gardens. The Name of Site Rain Garden Native Plant List provides students with a list of native plants found in the rain garden and some fun facts regarding each plant. You are encouraged to visit the Name of Site Rain Garden to discover these and many other native plants. For you to learn more about rain gardens, a "Rain Gardens" fact sheet developed by Rutgers Cooperative Extension is provided. In addition to the fact sheet, you are invited to learn more about rain gardens by visiting the Rutgers Cooperative Extension Water Resources Program Rain Garden website at http://water.rutgers.edu/Rain_Gardens/RGWebsite/raingardens.html. Other educational resources are available at your state's Cooperative Extension website (fill in your state's Cooperative Extension website address here).

Please feel free to contact me with any questions.

Sincerely,

First and Last Name
Volunteer of Name of County County

Appendix A-8: Follow-up Program Evaluation Template

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Hello! Thank you for your participating in the rain garden program at the **Name of Demonstration Site** this past **season!** **Please fill out and send back this post card.**

Sincerely,

Name of Volunteer

Volunteer Title

Please check off your answer.

Yes	No	Question
		Did you plant a rain garden?
		Did you take a soil test?
		Did you tell others about rain gardens?
		Do you not litter?
		If you have a dog, do you clean up after it?

Appendix A-9: USDA NIFA Rain Garden Video

This CD contains a Rain Garden video produced by the USDA National Institute of Food and Agriculture. The filename of the video is “Rain Gardens.wmv”. It is a Windows Media Video file with a runtime of 4:28. The file is located in the folder named Appendix A.

Appendix B-1: Press Release Template

First and Last Name
Name of Organization
Phone Number

IMMEDIATE RELEASE ALL ZONES
NAME OF ORGANIZATION
“HOW TO INSTALL A RAIN GARDEN AT YOUR HOME”
EDUCATIONAL PROGRAM AT THE
NAME OF MEETING PLACE

City of Meeting Place – Name of Organization want to teach homeowners how to install rain gardens at their homes! At this free educational program, homeowners will learn the basics of rain garden installation and will leave with information to help them get started with their very own rain garden projects. ***Name of Organization’s*** rain garden experts will teach homeowners what they need to know to get started with their own rain garden projects, from the site selection to the choice of plants. Rain gardens are beautiful, inexpensive, and low-maintenance gardens designed to intercept, treat, and infiltrate storm water at the source, such as a rooftop or driveway, before it becomes runoff. The plants are native to the region and help retain contaminants that could otherwise harm nearby waterways.

Name of Organization invites all interested adults to attend their “How to Install a Rain Garden at Your Home” program.

This informative presentation and ***outdoor tour*** of the ***Name of Meeting Place’s*** rain garden will begin at ***Time*** on ***Date*** in the ***Name of Meeting Place***, located on ***Address of Meeting Place*** in ***City of Meeting Place***, New Jersey. This location is ***not handicapped accessible, but alternate arrangements can be made to provide the information.***

Please call ***Name of Organization*** at ***Organization’s Phone Number*** to register and for more information. The program information is also available on ***the Name of Organization’s website at Organization’s Website Address*** or by calling the ***Name of Organization*** at ***Organization’s Phone Number***.

Note: If this event is sponsored by Cooperative Extension in your state, the following statement must be incorporated into the press release: Cooperative Extension educational programs are offered to all without regard to race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity and expression, disability, atypical hereditary cellular or blood trait, marital status, civil union status, domestic partnership status, military service, veteran status, and any other category protected by law.

Appendix B-2: Flyer Template



Name of Organization

presents...

How to Install a Rain Garden at Your Home



At this free educational program, homeowners will learn the basics of rain garden installation and will leave with information to help them get started with their very own rain garden projects.

Name of Meeting Location

Address, City, State

Day, Date

Time

NOTE: The Name of Meeting Location is not handicapped accessible, but alternate arrangements can be made to provide the information.

Directions are on the back of this flyer.

Please call Name of Organization at phone #
to register and for more information.



Applying knowledge to improve water quality
National
Water Program
A Partnership of USDA NIFA
& Land Grant Colleges and Universities

Insert Your Cooperative Extension or Organization's Logo Here

Appendix B-3: “How to Install a Rain Garden at Your Home” PowerPoint Presentation

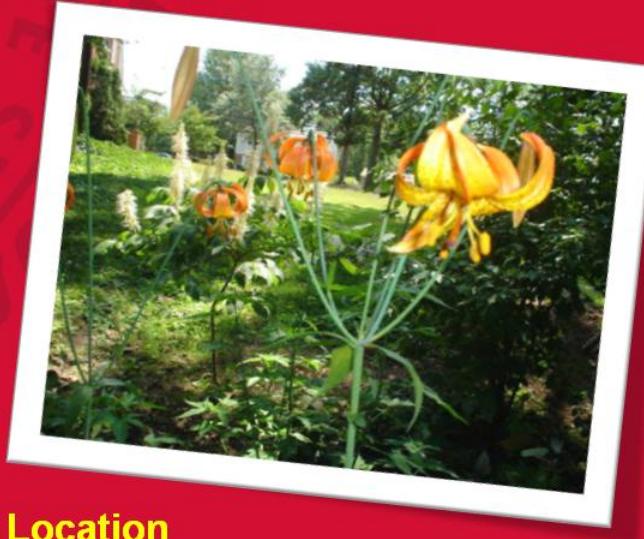


RUTGERS
New Jersey Agricultural
Experiment Station



National
Water Program
A Partnership of USDA NIFA
& Land Grant Colleges and Universities

How to Install a Rain Garden at Your Home



Name of Location
Date

NOTE: Please see the Rain Garden Outreach Manual CD-ROM for the Microsoft PowerPoint™ presentation.

Appendix B-4: Sign-in Sheet Template

How to Install a Rain Garden at Your Home						
Name of Location, Day, Date Time						
NAME	ADDRESS				PHONE NUMBER	E-MAIL ADDRESS
	Street	City	State	Zip		

Appendix B-5: Soils Information

Soil Infiltration Test

An infiltration test can be used to check the drainage of the soil in a potential rain garden site. This test is helpful in determining what, if any, soil amendments are needed for your rain garden.

The steps are as follows:

1. Dig a hole 12" deep by 6" in diameter.
2. Fill hole with water and let stand until all the water has drained into the ground.
3. Refill the empty hole with water again. Measure the depth of the water with a ruler.
4. Check the depth of water with a ruler every hour for at least 4 hours.
5. Calculate how many inches of water drained per hour.

About 1.5 inches of water draining per hour is an indication of good drainage rate for a rain garden. If the drainage rate is less than 1.5 inches per hour, or the water does not drain within 24 hours, the site needs soil amendments, such as coarse sand, topsoil, and/or compost.

Sometimes an infiltration test gives you a false reading of the soil conditions of a site. For example, if an infiltration test is done during drought conditions, the water in the soil may drain very quickly. A rainy season may later reveal that the soil is very clayey and that the water will not percolate through. This situation can be corrected by auguring holes in the garden and filling the holes with coarse sand to help with infiltration.

Soil Testing

A soil test is helpful in determining the pH, nutrient levels, and soil texture of the potential rain garden site. Many land grant universities offer soil testing services for a fee. Private laboratories also offer these services.

Sample the soil as directed on the soil testing kit and send it to the soil laboratory for pH and nutrient analysis and fertilization recommendations. A soil texture analysis is helpful for determining the amount of coarse sand or organic material you may need to add to the site.

Ribbon Test

Another way to test the soil is by conducting a ribbon test. The ribbon test involves rolling the soil into a ball and observing how it forms. If it is a hard ball, it is typically an indication of clay/ silt soil. If it is a soft ball, it is typically an indication of loamy soil. If there is no ball, it is an indication of sandy soil.

Loamy soil is the best soil for your rain garden, in that they are able to hold water for the native plants to absorb as well as infiltrate the water into the groundwater supply. Other soil types are okay for a rain garden, but you will need to amend the soil with either coarse sand (to increase pore space and infiltration) or an organic material, such as compost (to increase porosity over time).

Clay Soils

Clay soils can be a challenge to work with. To improve drainage in areas where there is a high percentage of clay, increase the surface area of your rain garden and decrease the depth. This technique will allow the water entering the rain garden to spread over a larger shallower area, providing more exposure to sunlight for evaporation. The larger surface area requires more mulch and plants. The mulch provides absorption of the water. Established plants uptake water and their roots create more space for the water to infiltrate to groundwater.

Appendix B-6: Program Evaluation Template

How to Install a Rain Garden at Your Home Program

Location of Program

Date of Program

**Stormwater Management in Your Backyard:
an Extension Initiative for NJ, NY & VA**

Program Evaluation

Thank you for attending today's program. Please help us plan future programs by completing this program evaluation.

1. Please rate your knowledge about rain gardens. To the left, rate your knowledge **before** attending the program. To the right, rate your knowledge **after** attending the program. Please circle your response. 1 = low knowledge, 5 = high knowledge

Knowledge Before Program Low High	Topic	Knowledge After Program Low High
1 2 3 4 5	How to select a rain garden site	1 2 3 4 5
1 2 3 4 5	How to determine the depth of a rain garden	1 2 3 4 5
1 2 3 4 5	How to conduct a percolation test	1 2 3 4 5
1 2 3 4 5	How to install a rain garden	1 2 3 4 5
1 2 3 4 5	How to maintain a rain garden	1 2 3 4 5

2. What were the three most important things you learned from the program?

3. How will you use the information that you learned at this program?

OVER →

4. Please rate your agreement with the following statements.

1 = strongly disagree, 2 =disagree, 3 = neutral, 4 = agree, 5 = strongly agree, NA = does not apply.

Circle your response.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Does Not Apply
I plan to install a rain garden on my property.	1	2	3	4	5	NA
I will become involved with promoting the use of rain gardens in my community.	1	2	3	4	5	NA
I will test soil for pH and nutrient levels prior to using fertilizers.	1	2	3	4	5	NA
I will call for utility mark-outs prior to any job that requires digging, excavation, or demolition.	1	2	3	4	5	NA
I will use native plants materials in my landscape designs.	1	2	3	4	5	NA
I know how to choose a proper site for a rain garden.	1	2	3	4	5	NA
I know how to prepare a rain garden site.	1	2	3	4	5	NA
I know how to maintain a rain garden.	1	2	3	4	5	NA

Do you have any other comments or suggestions?

OPTIONAL QUESTIONS: DEMOGRAPHIC INFORMATION

Please check your response.

What is your highest level of education completed?

High School diploma

Vocational Technical School diploma

Associates Degree

Bachelors Degree

Masters Degree

Doctorate Degree

Other : _____

What is your gender? Male

Female

Thank you for completing this program evaluation!

Appendix B-7: Follow-up Program Evaluation Template

State Cooperative Extension of Name of County
Address
City, State Zip Code

Date

Dear Program Participant,

Thank you for attending the “How to Install a Rain Garden at Your Home” program at the Program Location on Day, Date. We are in the process of enhancing this program for future audiences. We would greatly appreciate your input in evaluating the “How to Install a Rain Garden at Your Home” program. Please fill out the enclosed program evaluation and mail it back to our office in the pre-paid envelope. Thank you.

Sincerely,

First and Last Name
Volunteer of Name of County County

1. Have you installed a rain garden? (Please circle) Yes No

2. If yes:
What is the size of the rain garden? _____ square feet
_____ inches deep

Where does the rain garden capture stormwater runoff from? (Please circle all that apply)

Rooftop Driveway Sidewalk Parking Lot Other: _____

What is the size of this area? _____ square feet

3. If no:
Why did you not install a rain garden? (Please circle all that apply)

Did not find a suitable site Cost
Access to equipment Labor
Other: _____

4. Contact Information (Optional):

Name: _____

Mailing Address: _____

E-mail Address: _____

Appendix B-8: USDA NIFA Rain Garden Video

This CD contains a Rain Garden video produced by the USDA National Institute of Food and Agriculture. The filename of the video is “Rain Gardens.wmv”. It is a Windows Media Video file with a runtime of 4:28. The file is located in the folder named Appendix B.

Demonstration Rain Garden Fact Sheet

Name of Site Rain Garden

Name of Author/Organization

Insert Photograph Here

What is a Rain Garden?

A rain garden is a landscaped, shallow depression that allows precipitation to be collected and infiltrated naturally into the ground. This helps recharge groundwater supply and prevents a water quality problem called polluted runoff (nonpoint source pollution). Rain gardens are an important way to make cities and neighborhoods more attractive places to live while enhancing ecological health.

History

The Name of Site demonstration rain garden was installed in Month Year. This rain garden was installed as part of Name of Educational Program/Grant/Etc. that targeted the Name of Organization/Group/School/Etc.

Type of Runoff Managed

This approximately Number of Square Feet square foot rain garden manages stormwater from the Name of Building/Area/Etc. type of impervious surface (i.e. parking lot, road, roof, etc.), which is located in name of state. Since approximately 90 percent of rainfall events in name of state are less than 1.25 inches and name of state has approximately 44 inches of rain per year, there is approximately 3.3 feet of rain in name of state per year (0.90×44 inches = 40 inches of rain in name of state per year = 3.3 feet of rain in name of state per year). Since the rain garden is approximately Number of Square Feet square feet, the amount of rain it collects in a year is approximately Number of Gallons Per Year cubic feet per year ($\text{Number of Square Feet} \times 3.3$ feet of rain in name of state per year = Number of Cubic Feet Per Year cubic feet year of rain that the rain garden collects in a year = Number of Cubic Feet Per Year cubic feet $\times 1$ US gallon/0.13368 cubic feet = Number of Gallons Per Year gallons of rain that the rain garden collects in a year). Therefore, this rain garden intercepts, treats, and infiltrates approximately Number of Gallons Per Year gallons of rain per year before it becomes runoff.

Installation

Approximately Number Type of Volunteers were present for the installation of this rain garden in Month Year, which was approved by Governing Body/School/Business/Organization. Sand and compost were amended to the native soil during the rain garden installation. Other donations for this rain garden include Additional Donations by Governing Body/School/Business/Organization. The rain garden installation was also featured in the Name of Newspaper/ Magazine/Website.

Plant Layout

The native plants that were installed in this rain garden were donated by Governing Body/ School/ Business/ Organization. Native hardy perennial species were selected since their well-established root systems survive well in both dry and wet conditions in name of state. Native plants do not require substantial fertilization, absorb water more efficiently than turf-style lawns, and are much easier to

maintain than exotic species. The native plants selected for this rain garden were selected based upon differing heights, shapes, textures, and blooming schedule for aesthetic appeal.

The native plants used in this rain garden are provided in the table on the following pages.

Name of Site Demonstration Rain Garden Plant List								
Common Name	Scientific Name	Picture	Flowering Period	Flower Color	Height	Preferable Exposure to Sunlight	Preferable Soil Type	National Wetland Indicator
Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here

National Wetland Indicator Key:

Obligate Wetland (OBL) – plants that nearly always (more than 99% of the time) occur in wetlands under natural conditions

Facultative Wetland (FACW) – plants that usually occur in wetlands (from 67 to 99% of the time), but are occasionally found in non-wetlands

Facultative (FAC) – plants that are equally likely to occur in wetlands and non-wetlands and are found in wetlands from 34 to 66% of the time

Facultative Upland (FACU) – plants that usually occur in non-wetlands (from 67 to 99% of the time), but are occasionally found in wetlands (from 1 to 33% of the time)

Upland (UPL) – plants that almost always (more than 99% of the time) occur in non-wetlands under natural conditions

Maintenance

This rain garden is being maintained by the Name of Organization/Group/School/Etc.

Photographs

Before Installation	Insert Photograph(s) Here
During Installation	Insert Photograph(s) Here
After Installation	Insert Photograph(s) Here

This fact sheet is funded by a United States Department of Agriculture National Institute of Food and Agriculture National Water Quality Program Grant, under Agreement Number 2007-51130-03878.



Appendix C-2: Demonstration Rain Garden Website Template

Name of Site Rain Garden
Name of Author/Organization
Insert Photograph Here

What is a Rain Garden?

A rain garden is a landscaped, shallow depression that allows precipitation to be collected and infiltrated naturally into the ground. This helps recharge groundwater supply and prevents a water quality problem called polluted runoff (nonpoint source pollution). Rain gardens are an important way to make cities and neighborhoods more attractive places to live while enhancing ecological health.

History

The Name of Site demonstration rain garden was installed in Month Year. This rain garden was installed as part of Name of Educational Program/Grant/Etc. that targeted the Name of Organization/Group/School/Etc.

Type of Runoff Managed

This approximately Number of Square Feet square foot rain garden manages stormwater from the Name of Building/Area/Etc. type of impervious surface (i.e. parking lot, road, roof, etc.), which is located in name of state. Since approximately 90 percent of rainfall events in name of state are less than 1.25 inches and name of state has approximately 44 inches of rain per year, there is approximately 3.3 feet of rain in name of state per year (0.90×44 inches = 40 inches of rain in name of state per year = 3.3 feet of rain in name of state per year). Since the rain garden is approximately Number of Square Feet square feet, the amount of rain it collects in a year is approximately Number of Gallons Per Year cubic feet per year (Number of Square Feet * 3.3 feet of rain in name of state per year = Number of Cubic Feet Per Year cubic feet year of rain that the rain garden collects in a year = Number of Cubic Feet Per Year cubic feet * 1 US gallon/0.13368 cubic feet = Number of Gallons Per Year gallons of rain that the rain garden collects in a year). Therefore, this rain garden intercepts, treats, and infiltrates approximately Number of Gallons Per Year gallons of rain per year before it becomes runoff.

Installation

Approximately Number Type of Volunteers were present for the installation of this rain garden in Month Year, which was approved by Governing Body/School/Business/Organization. Sand and compost were amended to the native soil during the rain garden installation. Other donations for this rain garden include Additional Donations by Governing Body/School/Business/Organization.

The rain garden installation was also featured in the Name of Newspaper/ Magazine/Website.

Plant Layout

The native plants that were installed in this rain garden were donated by Governing Body/ School/ Business/ Organization. Native hardy perennial species were selected since their well-established root systems survive well in both dry and wet conditions in name of state. Native plants do not require substantial fertilization, absorb water more efficiently than turf-style lawns, and are much easier to

maintain than exotic species. The native plants selected for this rain garden were selected based upon differing heights, shapes, textures, and blooming schedule for aesthetic appeal.

The native plants used in this rain garden are provided in the table below.

Name of Site Demonstration Rain Garden Plant List								
Common Name	Scientific Name	Picture	Flowering Period	Flower Color	Height	Preferable Exposure to Sunlight	Preferable Soil Type	National Wetland Indicator
Insert Information Here	Insert Information Here	Insert Information on Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information on Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information on Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here
Insert Information Here	Insert Information Here	Insert Information on Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here	Insert Information Here

National Wetland Indicator Key:

Obligate Wetland (OBL) – plants that nearly always (more than 99% of the time) occur in wetlands under natural conditions

Facultative Wetland (FACW) – plants that usually occur in wetlands (from 67 to 99% of the time), but are occasionally found in non-wetlands

Facultative (FAC) – plants that are equally likely to occur in wetlands and non-wetlands and are found in wetlands from 34 to 66% of the time

Facultative Upland (FACU) – plants that usually occur in non-wetlands (from 67 to 99% of the time), but are occasionally found in wetlands (from 1 to 33% of the time)

Upland (UPL) – plants that almost always (more than 99% of the time) occur in non-wetlands under natural conditions

Maintenance

This rain garden is being maintained by the Name of Organization/Group/School/Etc.

Photographs

Before Installation	Insert Photograph(s) Here
During Installation	Insert Photograph(s) Here
After Installation	Insert Photograph(s) Here

This Website is funded by a United States Department of Agriculture National Institute of Food and Agriculture National Water Quality Program Grant, under Agreement Number 2007-51130-03878.



Appendix C-3: Demonstration Rain Garden Native Plant List Template for Children

Name of Demonstration Site Rain Garden Native Plant List

INSERT PHOTOGRAPH OF DEMONSTRATION SITE

INSERT APPROXIMATELY 7 NATIVE PLANTS FOUND AT THE DEMONSTRATION SITE

**FILL IN COMMON NAME, SCIENTIFIC NAME, FUN FACT, AND ORIGINAL
PHOTOGRAPH**

Common Name	Scientific Name	Fun Fact	Photograph
Bald Cypress	<i>Taxodium distichum</i>	The bald cypress is different than other evergreen trees – it turns a brown color in the fall. The bald cypress is usually a nesting site of birds. 	
Bee Balm	<i>Monarda didyma</i>	The name of bee balm resulted from the attraction of bees by the plant's fragrance. The bee balm attracts bees, hummingbirds and butterflies. 	
Cardinal Flower	<i>Lobelia cardinalis</i>	The cardinal flower attracts butterflies and hummingbirds. 	
False Blue Indigo	<i>Baptisia australis</i>	The parts of the false blue indigo plant can be used as a dye for dying clothing. 	

Common Name	Scientific Name	Fun Fact	Photograph
Joe-Pye Weed	<i>Eupatorium purpureum</i>	Folklore says that a Native American, “Joe Pye,” used this plant to cure fevers. Joe-Pye Weed attracts butterflies. 	
Purple Coneflower	<i>Echinacea purpurea</i>	<i>Echinacea</i> , is derived from a Greek term for hedgehog, which refers to the scales of the receptacles, which are prickly. A receptacle is a part of the plant. The purple coneflower attracts butterflies. 	
Rose Mallow/ Swamp Rose	<i>Hibiscus moscheutos</i>	The swamp rose grows well in wet areas such as swamps and marshes, and it attracts butterflies and hummingbirds. 	

This Plant List is funded by a United States Department of Agriculture National Institute of Food and Agriculture National Water Quality Program Grant, under Agreement Number 2007-51130-03878.



Appendix C-4: Demonstration Rain Garden Plant List Template for Adults

Name of Demonstration Site Rain Garden Plant List								
Common Name	Scientific Name	Picture	Flowering Period	Flower Color	Height	Exposure	Soil Type	National Wetland Indicator
Astilbe	<i>Astilbe simplicifolia</i>	 <small>Photo by Ron Smythe</small>	May-June	Pale Pink	1-1.5 feet	Full sun to partial shade	Well-drained	FACU
Bald Cypress	<i>Taxodium distichum</i>		N/A, deciduous conifer	New growth is a very light green turning to a softer but darker green in summer, fall color is a rich brown	50-70 feet	No sites in which this tree couldn't grow well except for high pH soils	Moist, well-drained	OBL
Bee Balm	<i>Monarda didyma</i>		July-August	Vibrant red, white, purple, and lavender	up to 4 feet	Full sun to partial shade	Sandy loam, moist, well-drained	UPL

Blackhaw Viburnum	<i>Viburnum prunifolium</i>		August-November	Creamy-white	Up to 10 feet	Full sun to full shade	Moist, well-drained soil but easily adapts to poor soils	FACU
Blue Flag Iris	<i>Iris versicolor</i>		Late spring - Early summer	All but Orange	Up to 4 feet	Full sun to partial shade	Sandy loam, moist, well drained	OBL
Cardinal Flower	<i>Lobelia cardinalis</i>		July-September	Red	2-4 feet	Full sun to partial shade, grows best in filtered light	Clay to sandy loams	FACW
False Blue Indigo	<i>Baptisia australis</i>		April-June	Blue	3-5 feet	Full sun	Well-drained, tolerates poor and sandy	FACU

Garden Phlox	<i>Phlox paniculata</i>		July-September	White, Purple, Red, and Lavendar	up to 6 feet	Full sun to partial shade	Sandy loam, moist, well drained	FACU
Highbush Cranberry	<i>Viburnum trilobum</i>	 <small>Photo by Tim McDowell</small>	March-May	White	10-12 feet	Full sun to full shade	Rich soil with ample moisture	FAC
Joe Pye Weed	<i>Eupatorium purpureum</i>		July-September	Pink	2-12 feet	Full sun to partial shade	Moist, well-drained	FAC
Marsh Marigold	<i>Caltha palustris</i>		May-June	Yellow	8-24 inches	Full sun to partial shade	Moist	OBL

Obedient Plant	<i>Physostegia virginiana</i>		June-August	Pink	1-4 feet	Full sun to partial shade	Rich, moist, acidic soil	FAC
Shasta Daisy	<i>Leucanthemum x superbum</i>		June-July	White	1-3 feet	Full sun to partial shade	Moist, well-drained	FAC
Shrubby Cinquefoil	<i>Potentilla fruticosa</i>		June-November	Yellow	1-4 feet	Sunny area which receives light shade in the hottest part of the day to prevent the flower color from fading	Well-drained, prefers deep and rich, tolerates poor and sandy	FACW
Sneezeweed	<i>Helenium autumnale</i>		August-November	Yellow	2-6 feet	Full sun	Moist, sandy loam	FACW

Spicebush	<i>Lindera benzoin</i>	 <small>Photo by Ginger Webb</small>	March	Bright Red Drupes	6-12 feet	Full sun to partial shade	Well-drained	FACW
Turk's Cap Lily	<i>Lilium superbum</i>		July-September	Orange and yellow with darker spots sometimes reddish and white, with a green star in the center	Up to 10 feet	Shaded areas	Moist	FACW
Virginia Bluebells	<i>Mertensia virginica</i>	 <small>Photo by Brent Smith</small>	March-May	Pink	8-30 inches	Full sun to partial shade	Moist	FACW
White Snakeroot	<i>Eupatorium rugosum</i>	 <small>Photo by Paul Elliott</small>	July-October	White	4-6 feet	Shaded areas	All conditions	FAC

Wild Columbine	<i>Aquilegia canadensis</i>	 Photo by M. Aspaker	May-July	Red	1-3 feet	Full sun to partial shade	All conditions	FACW
----------------	-----------------------------	--	----------	-----	----------	---------------------------	----------------	------

National Wetland Indicator Key:

Obligate Wetland (OBL) – plants that nearly always (more than 99% of the time) occur in wetlands under natural conditions

Facultative Wetland (FACW) – plants that usually occur in wetlands (from 67 to 99% of the time), but are occasionally found in non-wetlands

Facultative (FAC) – plants that are equally likely to occur in wetlands and non-wetlands and are found in wetlands from 34 to 66% of the time

Facultative Upland (FACU) – plants that usually occur in non-wetlands (from 67 to 99% of the time), but are occasionally found in wetlands (from 1 to 33% of the time)

Upland (UPL) – plants that almost always (more than 99% of the time) occur in non-wetlands under natural conditions

For additional information, please contact your Name of County County Cooperative Extension office at Phone Number.

This Plant List is funded by a United States Department of Agriculture National Institute of Food and Agriculture National Water Quality Program Grant, under Agreement Number 2007-51130-03878.

