




**RAIN GARDEN INITIATIVE OF
TOLEDO-LUCAS COUNTY**



Promoting the use of rain gardens and
green infrastructure as tools for stormwater
management

www.raingardeninitiative.org





Welcome and Introductions



Rain Garden Initiative of Toledo-Lucas County

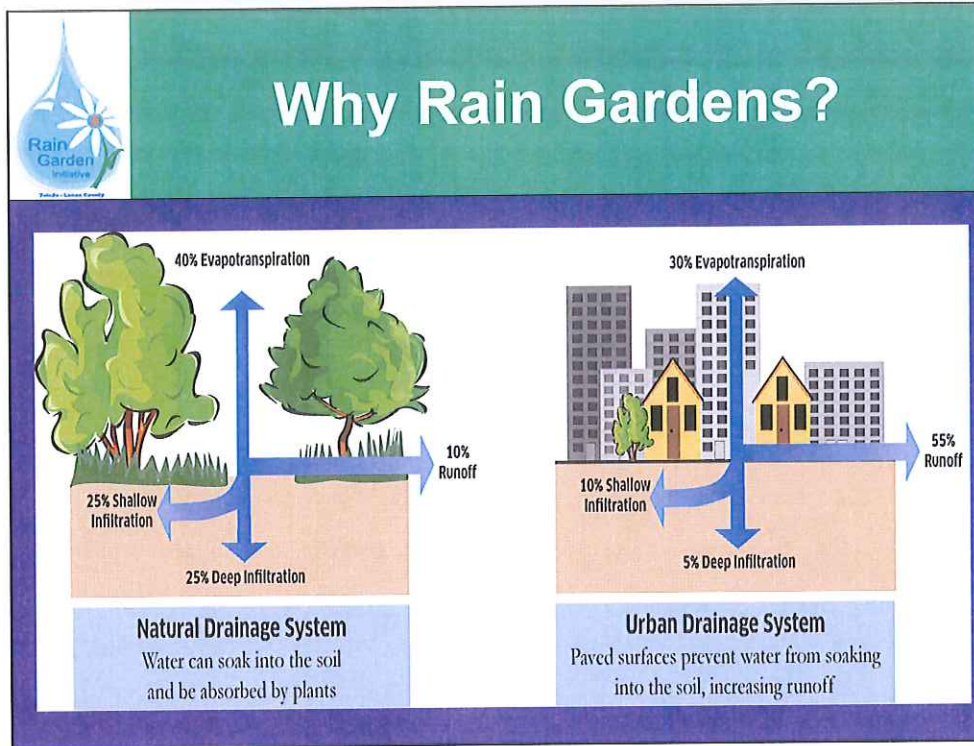
Assist Citizens Interested in Constructing Rain Gardens:

- Demonstration projects
- Technical assistance and training
- Public information and involvement

The purpose of the Rain Garden Initiative of Toledo-Lucas County (RGI) is to assist citizens, including homeowners, organizations, educational institutions, agencies, businesses and developers, interested in constructing rain gardens in the following ways:


- Constructing demonstration gardens in a variety of locations and contexts.
- Assisting citizens who are installing gardens with questions regarding site selection, construction techniques, plant selection and available resources and providing “hands-on” technical workshops for a variety of audiences, including homeowners and landscape and engineering professionals.
- Informing the public about rain gardens and stormwater management through a variety of media, including presentations, brochures, displays, web site, and soliciting involvement in community projects.



The need for rain gardens is apparent in the way that development has altered nature's way of managing stormwater.

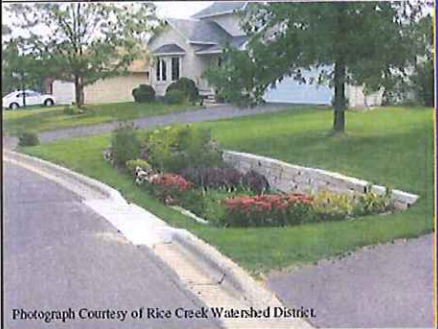
- In a natural drainage system, water can soak into the soil and be absorbed by plants. Approximately 40% of the rainfall evaporates, 50% infiltrates and 10% runs off.

- In an urban drainage system, paved and other impervious surfaces prevent water from soaking into the soil, increasing runoff. Approximately 30% of the rainfall evaporates, 15% is absorbed and 55% runs off.




What Is A Rain Garden?

- A garden in a low spot
- Catching runoff from downspouts, driveways, parking lots, roads, etc.



Photograph Courtesy of Rice Creek Watershed District.

- Constructed with deep-rooted plants
- Can be designed in all shapes and sizes



A rain garden is a garden installed into a natural or constructed depression.

A rain garden is located to collect runoff from downspouts, driveways, parking lots, roads or other impervious surfaces.

With the help of deep-rooted plants, rain gardens catch and slow stormwater, allowing it to soak into the soil.

Rain gardens can be constructed in a variety of shapes of and sizes.



Educator Resources

- University of Wisconsin-Madison Arboretum Earth Partnership for Schools' Rain Garden Curricular Sampler with Loan Box
- Online Lesson Plans at www.raingardeninitiative.org - click on For Educators - and www.kidsgardening.org
- Teacher Workshops –Project WET and Project WILD (Aquatic WILD and Science & Civics), WOW! The Wonders of Wetlands

Curriculum resources that we have located and share are listed on your handout.



Project WILD is....

- An interdisciplinary conservation and environmental education program focused on wildlife which strives to:
 - Engage students in hands-on learning
 - Teach students how to think, not what to think
 - Assist students of any age to develop awareness, knowledge, skills and commitment resulting in informed decisions, responsible behavior and constructive actions regarding the environment

Since 1983 it has reached over 900,000 K-12 teachers and 48 million students.



Science & Civics is...

- Designed in response to a recognized need for curriculum to...
 - Incorporate content area and real-life learning experiences
 - Involve a service component
 - Include typically underserved audiences
 - Be consistent with educational trends
 - Expose students to a variety of careers

Science and Civics was designed in response to a recognized need for curriculum to...

- Incorporate content area and real-life learning experiences
- Involve a service component
- Include typically underserved audiences
- Be consistent with educational trends
- Expose students to a variety of careers




Program Administration

- Project WILD is developed by and administered on a national level by the Council for Environmental Education (CEE) with co-sponsorship by the International Association of Fish & Wildlife Agencies
- Science & Civics is administered on a national and regional level by the National Wildlife Federation (NWF).
- Both are administered on the local level by the ODNR Division of Wildlife.

The NWF is America's largest member supported conservation group. The NWF strives to assist persons of diverse cultures to conserve natural resources and protect the environment for a more "peaceful, equitable and sustainable future."

Although Science & Civics is no longer supported at the national level, it is still supported by the ODNR Division of Wildlife in Ohio and is available for download in the Project WILD store. Cost is \$10 (see your agenda for the link).




Goals of Science & Civics

- Involve students in environmental action projects aimed at benefiting wildlife (or other natural resources) in their community
- Involve young adults in decisions affecting people in their community
- Integrate the concept of responsible action into all projects
- Effectively increase reach to underserved audiences
- Create partnerships in the development and implementation of new programs
- Move students from awareness to understanding to responsible behavior & conservation action

The goals of Science & Civics are as follows:

- Involve students in environmental action projects aimed at benefiting wildlife (or other natural resources) in their community
- Involve young adults in decisions affecting people in their community
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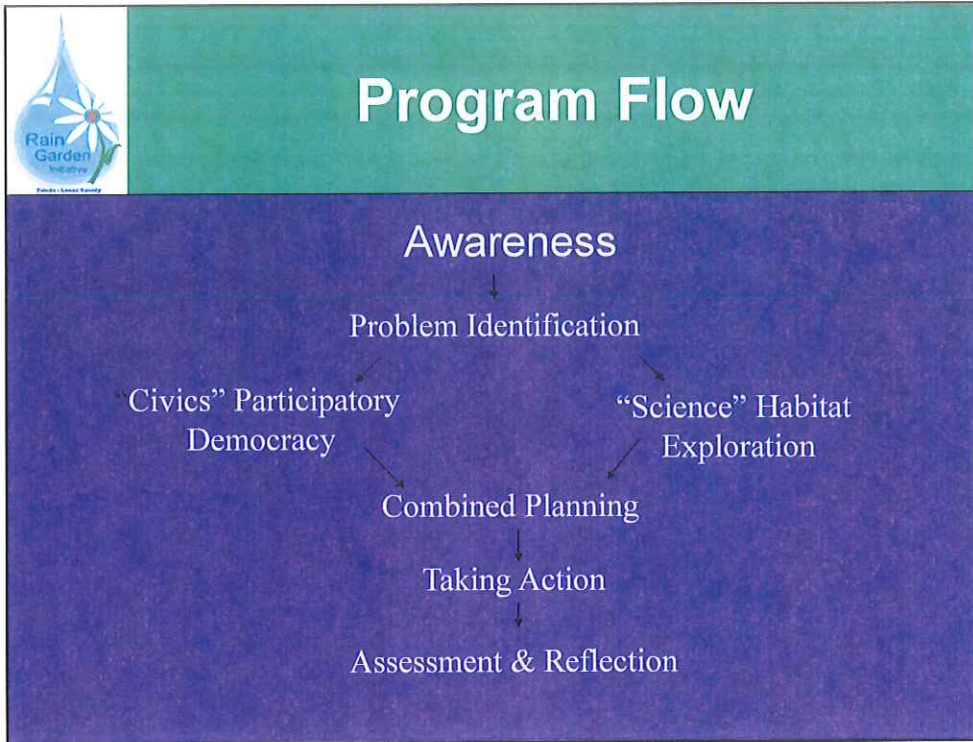


4 Components of Science & Civics

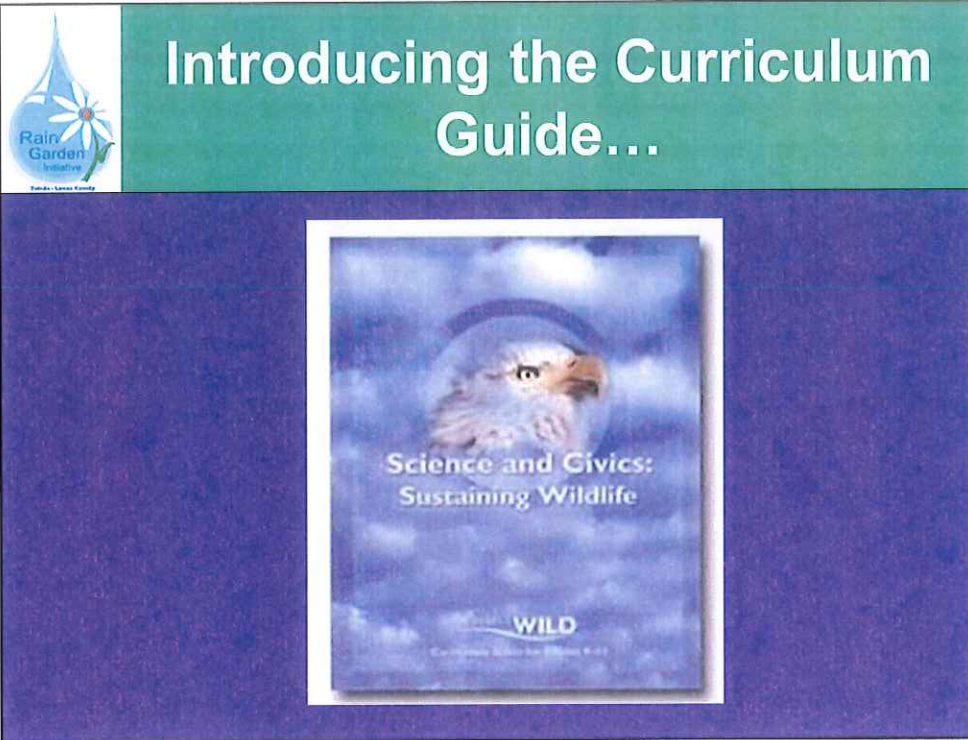
- Awareness
- Participatory Democracy
- Habitat Exploration
- Taking Action

The 4 components of Science and Civics are as follows:

- Awareness
- Participatory Democracy
- Habitat Exploration
- Taking Action



Action Project is a culminating activity that demonstrates student synthesis and application of subject matter, knowledge and skills.



With a partner, complete the Walk Through the Guide handout to orient yourself to the contents of the Curriculum Guide.



Start High School Urban Watershed Habitat Project

Rain Garden Highlights

- Designed by Honors Biology Students
- Constructed by Natural Resources and Landscaping Students
- Provides Service Learning and Research Opportunities
- Used for Lessons on Human Activity and the Water Cycle, Population Studies, Native vs. Invasive Species



The first outreach project that involved curriculum was a OEEF-funded project at a local high school.

Start High School Biology Teacher Wendy Wilson applied for monies to enhance the habitat of the grounds surrounding the new high school as well as stormwater retention features on the grounds and in the adjacent Bowman Park.

A Project WILD Science & Civics Workshop was conducted to provide curriculum support for the project.



During 2010-2011, additional schools installed rain gardens as part of an outdoor learning laboratory, including

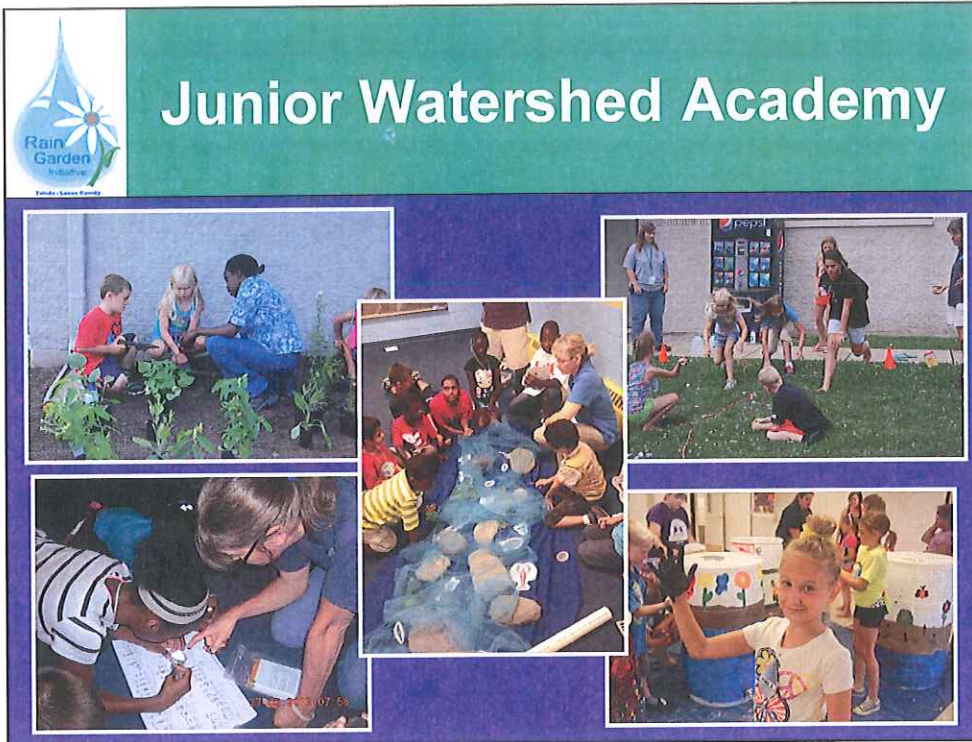
Bowsher High School of TPS

Hawkins Elementary School of TPS

Gesu School of TDS

Wildwood Environmental Academy, a charter school

RGI developed loan boxes based on the Rain Garden Curricular Sampler to provide additional support.



RGI's latest outreach programs have focused on the development of a Junior Watershed Academy, which is aimed at supporting teachers outside the classroom by targeting afterschool and summer programs. Activities from the loan boxes are included in the 10 stand-alone lessons, two each on water, soil, plants, animals and human impacts, and programs are encouraged to take on an action project to provide an even more meaningful hands-on experience. The Junior Watershed Academy with older students teaching younger students might work well as an Action Project.



Where Can We Learn More About Rain Gardens?

www.raingardeninitiative.org

City of Toledo Environmental Services
(419) 936-3015

Lucas Soil & Water Conservation District
(419) 893-1966

OSU Extension Horticulture Hotline
(419) 578-6783

mghotline@cfaes.osu.edu

Hotline hours: Mondays, Wednesdays and Fridays
10 am to 1 pm

To learn more about rain gardens and the Rain Garden Initiative of Toledo-Lucas County, visit our web site at www.raingardeninitiative.org.

To request technical assistance, inquire about public education opportunities and access available print media, contact the Chair of the Rain Garden Initiative, Cheryl Rice, at (419) 893-1966.

To inquire about plants or gardening in general, contact the OSU Extension Horticultural Hotline at (419) 578-6783, Mondays, Wednesdays and Fridays from 10 a.m. to 1 p.m.



Other Taking Action Options



Clean Your Streams /
Get the Lead Out



Storm Drain
Stenciling



Ohio Water
Sentinel Program

Other on-going water quality projects available in our community include Clean Your Streams (annual event and 365), Get the Lead Out and Storm Drain Stenciling sponsored by Partners for Clean Streams and the Ohio Water Sentinel Program and Water Alert Reporting Network (WARN) sponsored by Sierra Club.