

# 2017 NH Water & Watersheds Conference

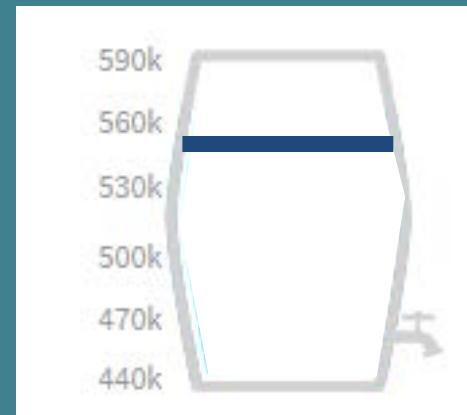


Successes, Lessons Learned, and What's Next

Barbara McMillan & Lisa Loosigian,  
NH Department of Environmental Services



Goal of soaking up 550,000 gallons  
of stormwater by the end of 2016!





# Why does it matter?

Stormwater runoff  
causes or contributes to over  
? %  
of NH's water pollution problems.



# Two Issues

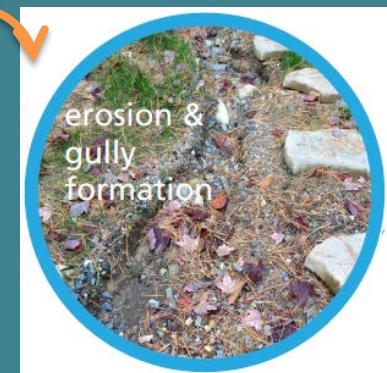
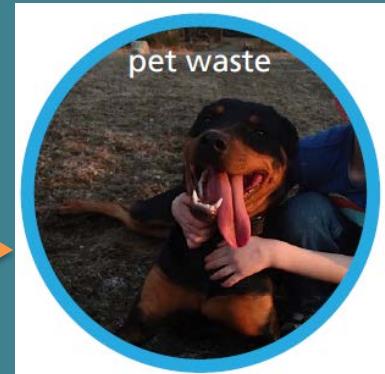
POLLUTANT  
TRANSPORT



EXCESS  
RUNOFF



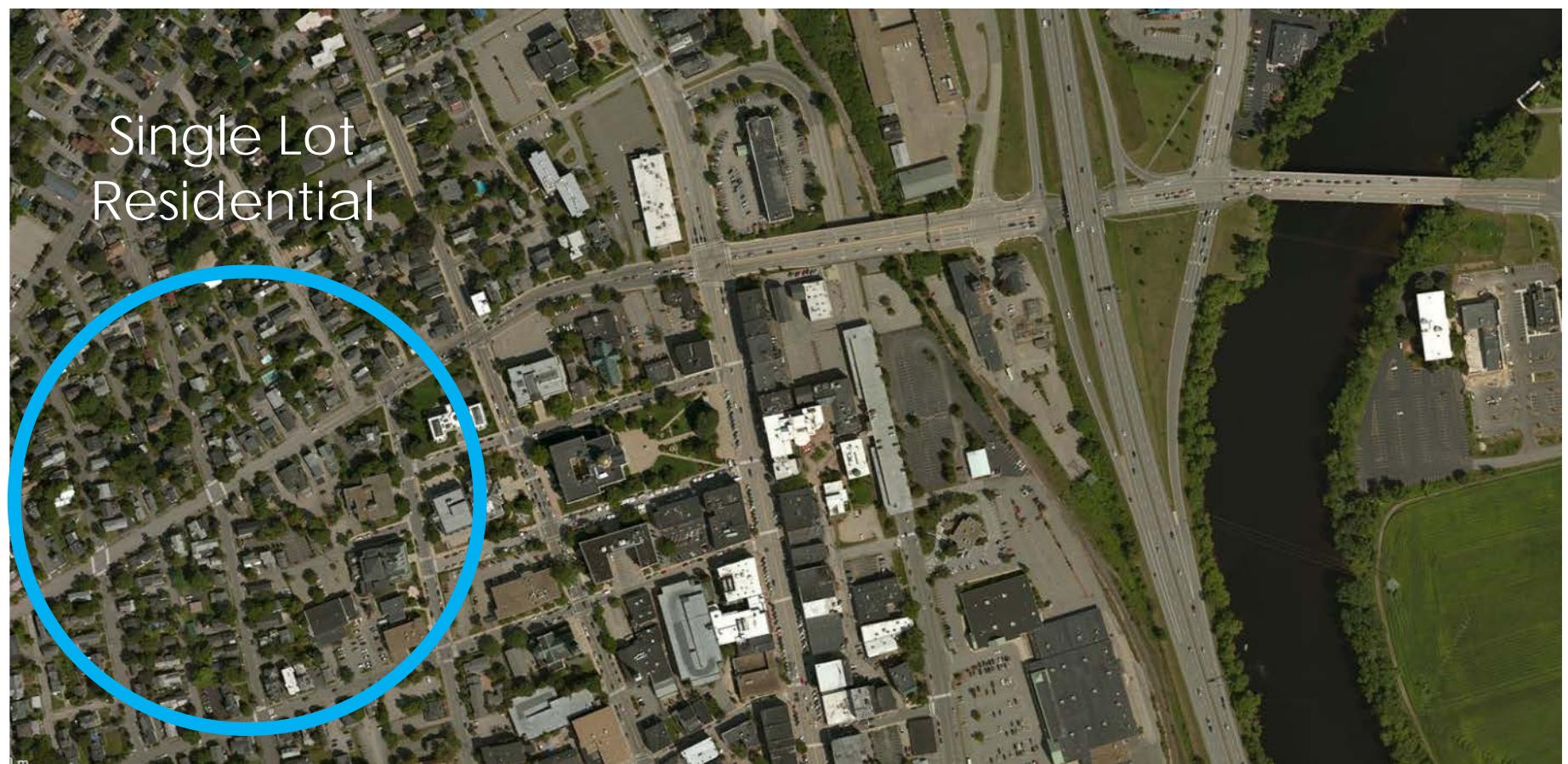
# Stormwater Footprint



# Managing Sources



# Managing Sources



# Managing Sources



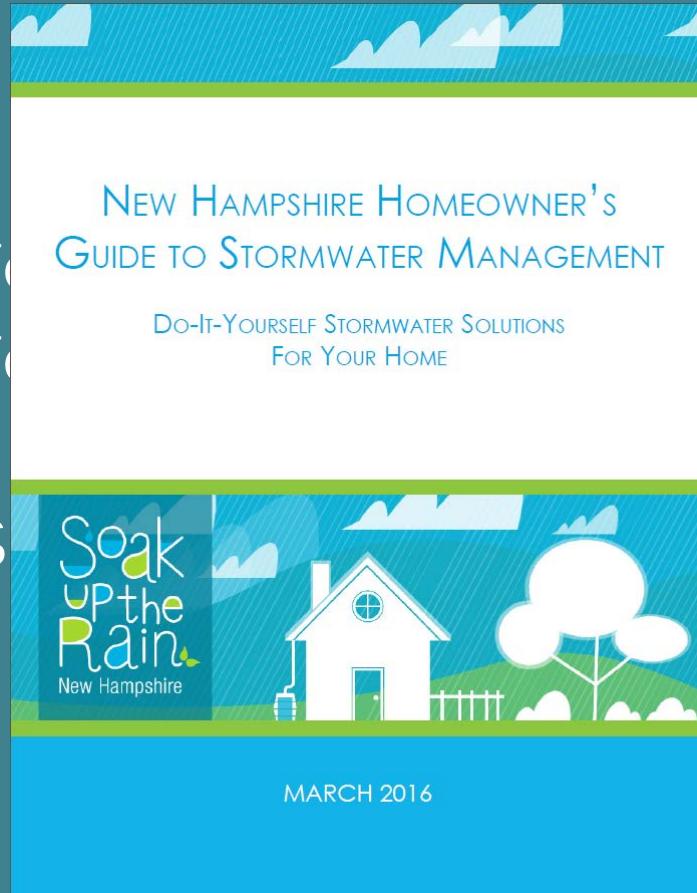
# Managing Sources



# Opportunities



# NH Homeowner's Guide





# Partnerships

Everything  
in Between

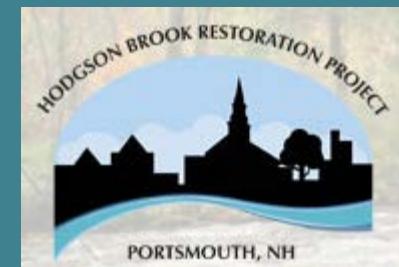
Outreach &  
Education  
Only

Full Scale  
Assessment  
& BMP  
Installation  
Program





# Local Partners



Silver Lake Land Trust  
Harrisville and Nelson, NH



University of New Hampshire  
Cooperative Extension



# Partner Benefits

- Classroom and field training
- Project design and results
- Installations



YOU can use any of the resources at [www.soaknh.org](http://www.soaknh.org).

# Web Presence

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## Resources

- DIY Fact Sheets
- Publications
- Rain Garden Planning

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destuaries. Explore

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Soak NH added Rubber Razors - August 23 - 

Installed 08/16/2016



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Published by robert.livingston@des.nh.gov [?] - March 9 at 9:36am · 

Patiently waiting for spring about the same as Rocko for a treat



172 people reached

Boost Unavailable

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# LESSONS LEARNED

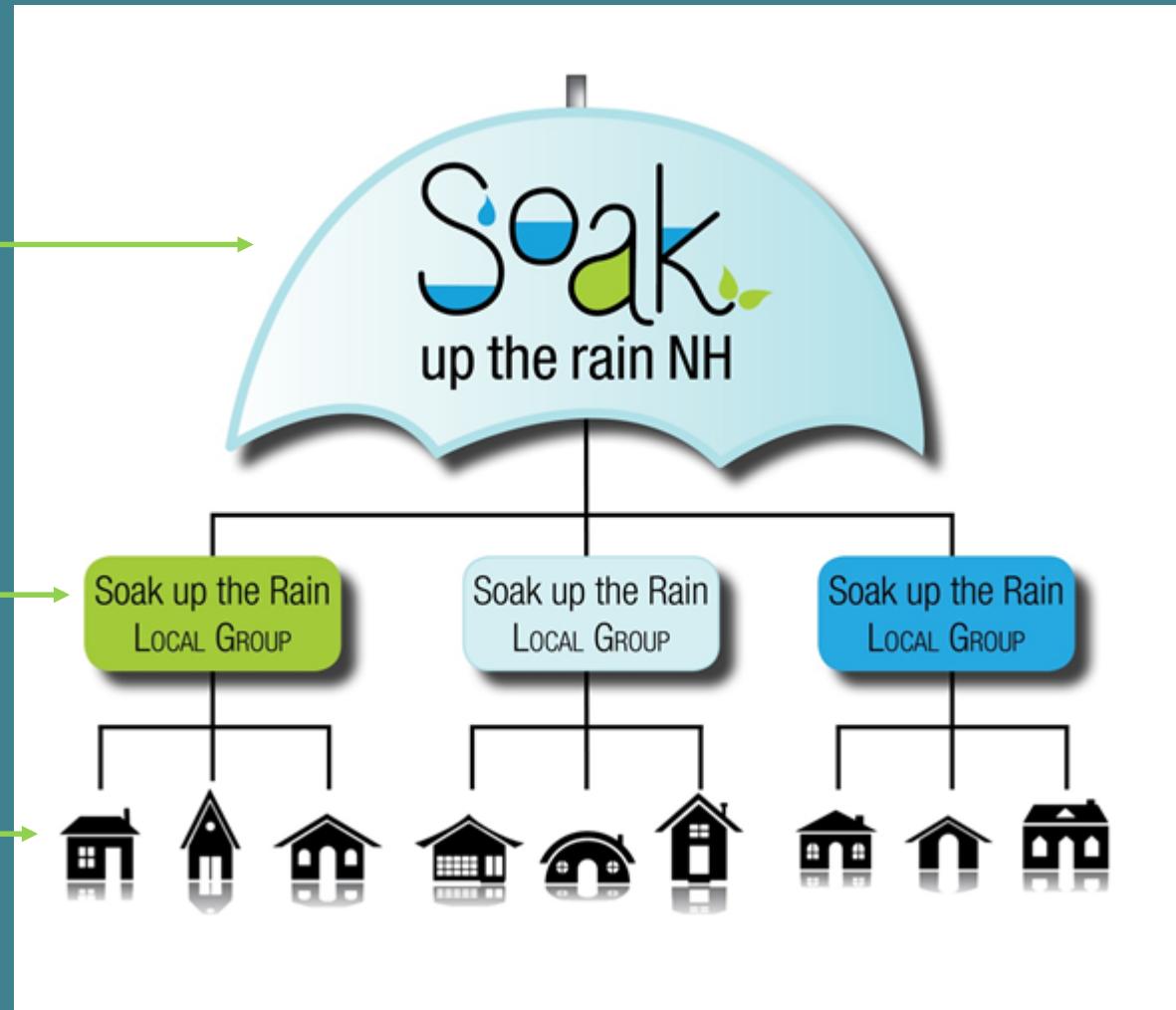
## Partners

# Program Structure

NH DES

Local  
Partners

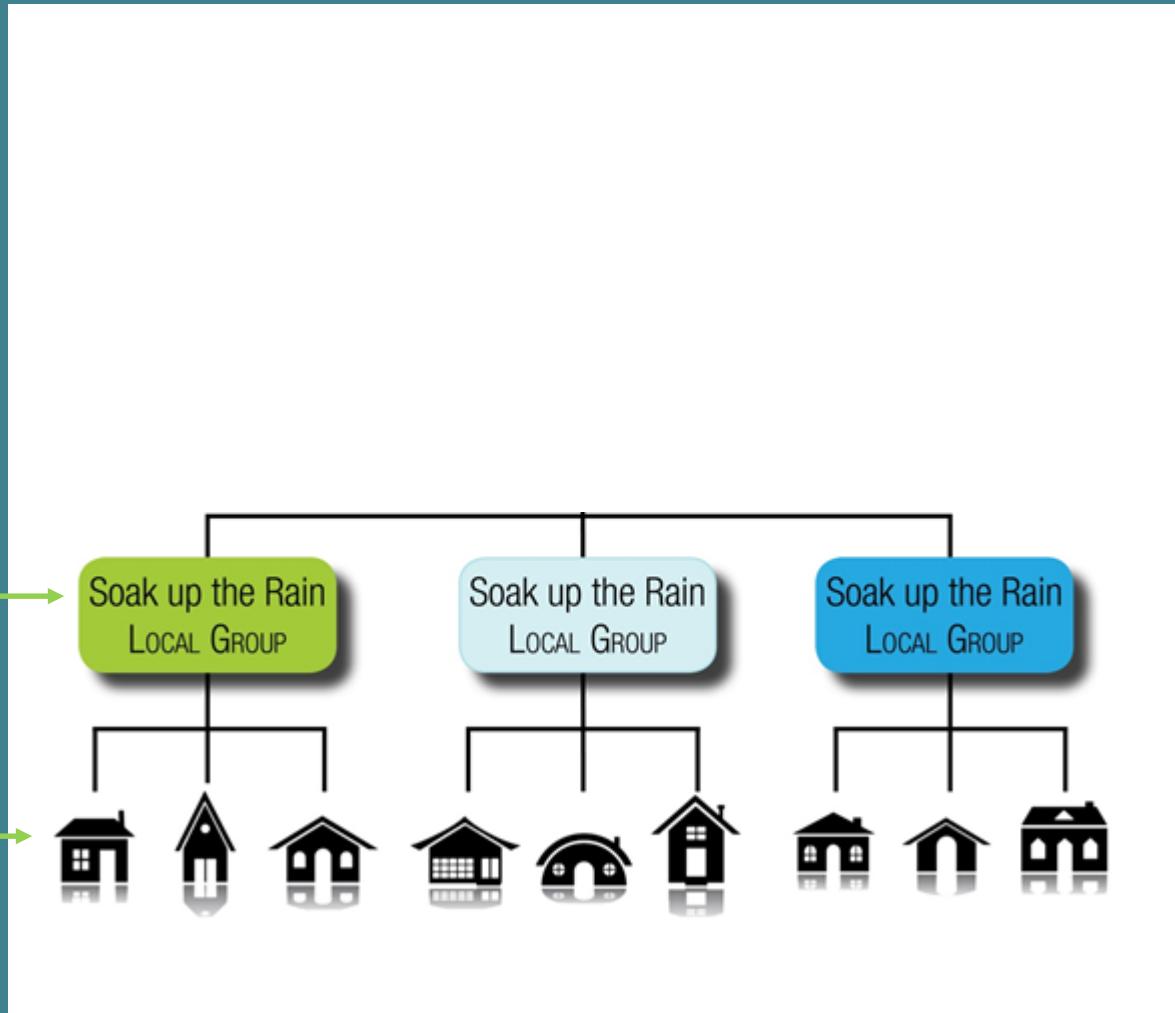
Home  
Owners



# Program Structure

Local  
Partners

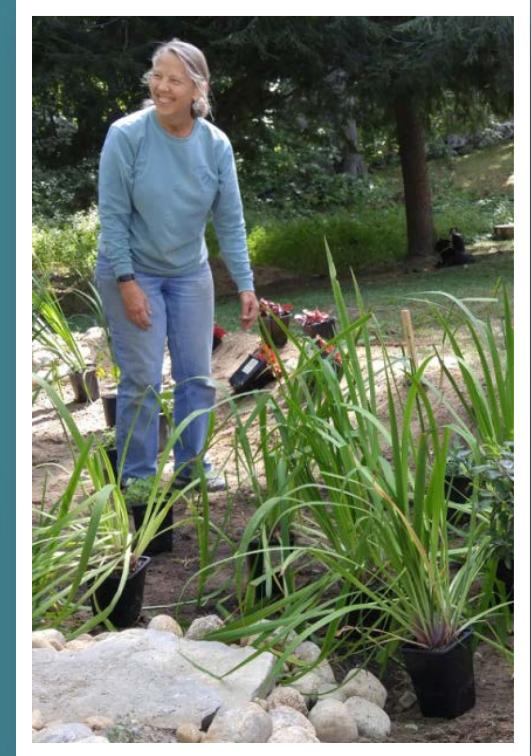
Home  
Owners



# Lessons Learned

1. A successful program needs an energetic, local champion.

## Recommendations



# Lessons Learned

2. Build a diverse volunteer network.

## Revolving volunteer challenges



# Lessons Learned

3. Tap in to local partners to locate project sites.

## Recommendations



# Lessons Learned

## 4. Be Realistic.

### Recreations



# Lessons Learned

5. Plan for maintenance.

## Replantings



# LESSONS LEARNED

## Projects

# SOAK Projects



# SOAK Projects

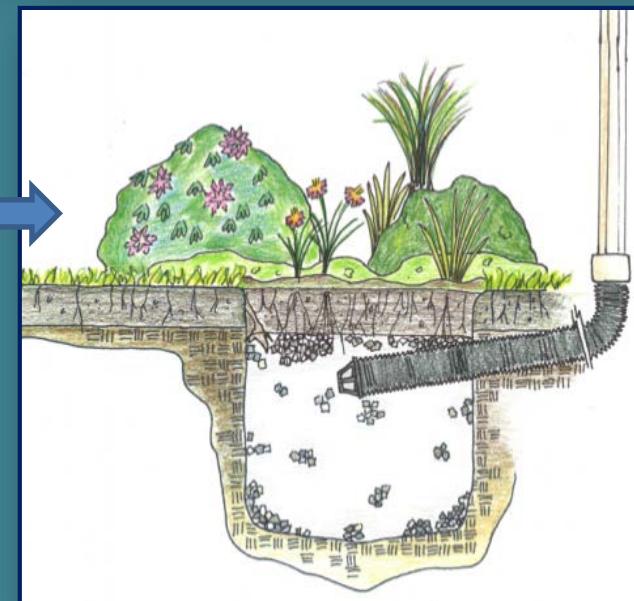
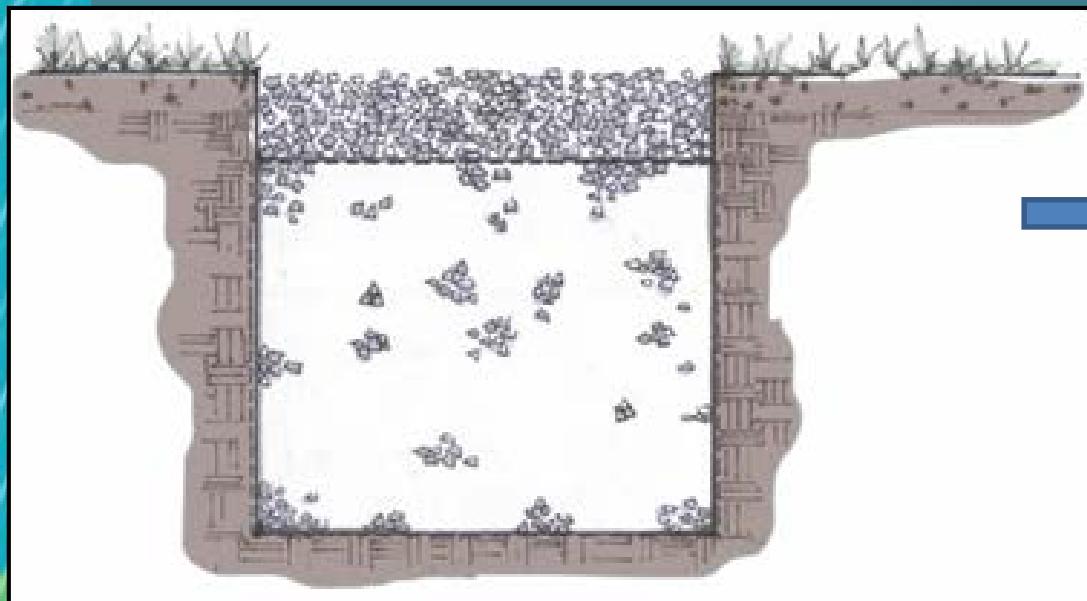
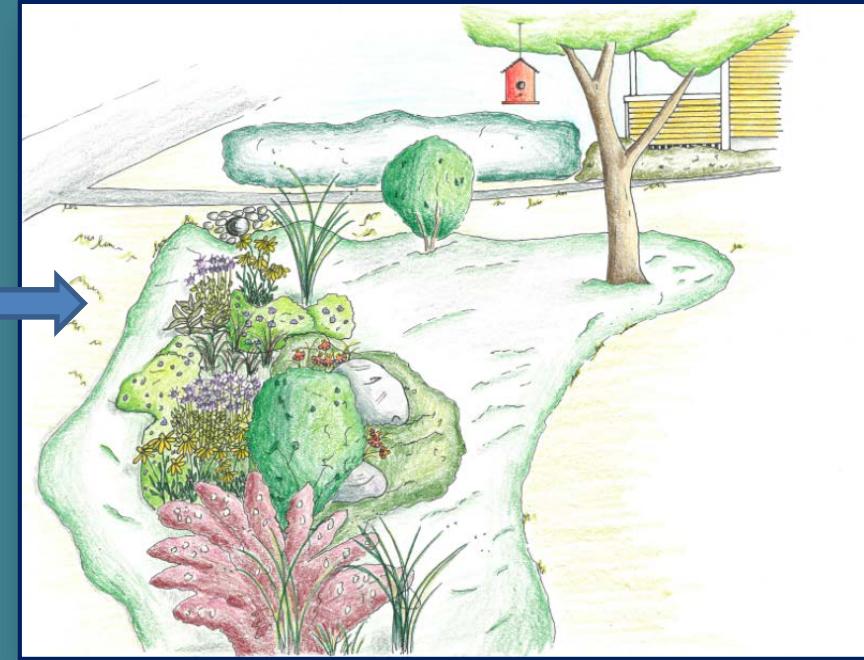


# UPDATES

# Rain garden plants

## Native Plants for New England Rain Gardens

Scientific Name Common Name	Rain Garden Zone			Soil Moisture	Light Exposure	Bloom Period & Color						Mature Size		USDA Hardiness Zone	Attractive to:	Plant Notes	
	Base	Slope	Berm			May	June	July	Aug	Sept	Oct	Height (feet)	Spread (feet)				
<strong>PERENNIALS</strong>																	
 <small>Cathy Head UNH Cooperative Extension</small>	<i>Eutrochium</i> (formerly <i>Eupatorium</i> ) <i>purpureum</i> Sweet Joe Pye weed	•			•	•	•	•	•	•	3-6'	3'	3-8	 	Popular cultivars include 'Gateway' (6' tall) and 'Little Joe' (3' tall). Other <i>Eutrochium</i> species are also suitable.		
 <small>Cathy Head UNH Cooperative Extension</small>	<i>Gentiana clausa</i> Closed gentian or Meadow bottle gentian	•			•	•	•	•	•	•	1-3'	1-2'	3-8		True blue flowers never fully open. Good understory plants.		
 <small>Ricardo</small>	<i>Geranium maculatum</i> Spotted crane's bill	•		•	•	•	•	•	•	•	1'	1-1.5'	4-8	 	Geraniums come in many species and cultivars. 'Spessart' is a popular cultivar with pink early summer bloom. 'Rozanne' is a blue, late summer bloom.		
 <small>Author Unknown, New England Wildflower Society</small>	<i>Helenium autumnale</i> Common sneezeweed	•			•	•	•	•	•	•	2-5'	3'	3-8	 	Orange and red-colored cultivars available.		
 <small>Cathy Head UNH Cooperative Extension</small>	<i>Iris versicolor</i> Blue iris or Blue flag	•			•	•	•	•	•	•	2-3'	2-3'	2-7	 	Sturdy plant with thick rhizomes. Great choice for placing near the rain garden inlet and outlet.		
 <small>Cathy Head UNH Cooperative Extension</small>	<i>Lobelia cardinalis</i> Cardinal flower	•			•	•	•	•	•	•	2-4'	2'	3-8	  	Lobelia will often reseed itself and migrate in the garden.		



# New Approach

 handprintparties

HAND PRINT  
Action Towards  
Sustainability



# New Video!

## Install a Rain Garden

Learn the steps involved in installing a residential rain garden.



Find us on [f](#)

## Hey New Hampshire!



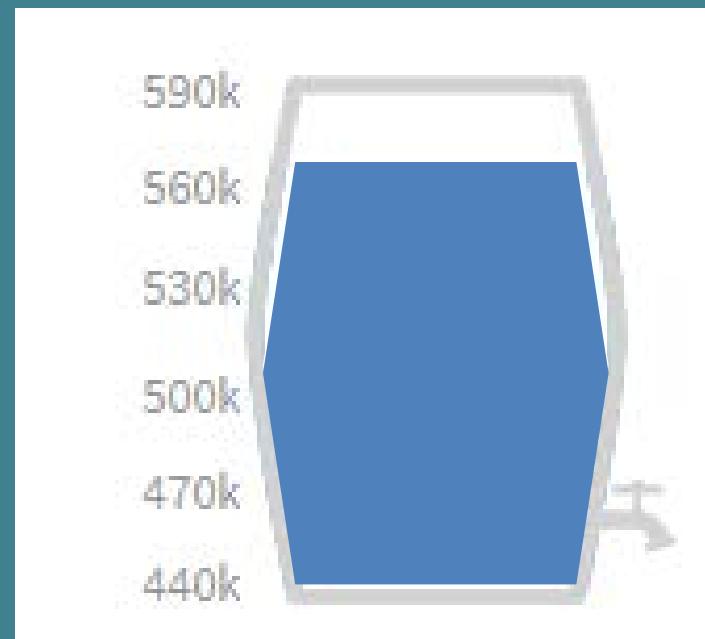
A collage of images. On the left, there are vertical strips with the words 'SALT', 'Oil', and 'moo'. In the center, a large image shows a rain garden with water droplets falling on it, with the text 'These practices capture rain and runoff'. To the right, a large image shows a house with a rain garden in front, with the text 'If this sounds good to you'. The overall background is a light blue.

check out the **SOAK NH** website!

[soaknh.org](http://soaknh.org)

# Congratulations!

We exceeded our goal of soaking up 550,000 gallons of stormwater by the end of 2016



Dear Past,  
thank you for  
all the lessons.

Dear Future,  
I am ready!!!



The word cloud illustrates the key themes and concepts of the BMP Outreach Program. The most prominent words are 'volunteers', 'outreach', 'BMP', 'SOAK', 'capacity', 'Stewards', 'property', 'program', 'installations', 'assessments', 'recommendations', 'identification', and 'considerations'. A blue oval highlights the words 'BMP' and 'outreach', which are central to the program's focus on Best Management Practices and community engagement.

# Program Goal

Residential stormwater management becomes as commonplace as recycling



# Help Us Meet That Goal!

- Use our resources
- Invite us to your venue
- Become a SOAK partner



NEW HAMPSHIRE HOMEOWNER'S GUIDE TO STORMWATER MANAGEMENT Do-It-Yourself Stormwater Solutions

## INFILTRATION STEPS

Infiltation steps slow down and infiltrate runoff on moderate slopes to reduce erosion and define walking paths. They are well-suited for storefront properties.



## SIZING AND DESIGN

**STEP 1. Measure the slope.** Measure the overall rise and run of the area in inches (Figure 1).



**STEP 2. Determine the number of steps needed.** Divide the rise of the slope (measured in Step 1) by the height of the timber (4") unless you are using different sized timbers and round to the nearest whole number. This is the number of steps you will need.

**RISE ÷ TIMBER HEIGHT = NUMBER OF STEPS**

**STEP 3. Determine step depth (tread).** Divide the run of the slope by the number of steps (figured in Step 2). The depth of the step tread is flexible, but should be at least 15" to be comfortable to walk up and down.

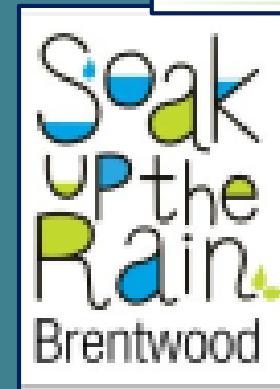
**RUN ÷ NUMBER OF STEPS = DEPTH OF STEP TREAD**

**STEP 4. Determine the width of the steps.** A comfortable width is usually 4 feet, but depending on the topography, trees, or other site conditions, a wider or narrower step may be desired.

**STEP 5. Determine materials needed.** Once you know the number of steps that you need, their width and tread depth, you can determine the length of timber and the amount of steel rebar that you will need.

### EQUIPMENT & MATERIALS

- Measuring tape
- Shovel
- Sledge hammer
- 4 Wooden stakes
- String or spray paint
- 1/2" crushed stone or pea stone
- Non-woven geotextile fabric
- 6" x 6" pressure treated timbers (or similar sized material such as granite or logs)
- 18" long pieces of 1/2" diameter steel rebar
- Level
- Power drill with 1/2" drill bit
- 12" galvanized spikes



# Questions or Comments?

Have questions?  
Want to get involved?

Lisa Loosigian & Barbara McMillan, NHDES  
Watershed Assistance Section

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