

Rain Garden Tour

Friday November 1, 2013

1. Purpose of a rain garden

- a. Slow down the flow of rainwater and minimizes erosion
- b. Filter pollutants out of storm water
- c. Create habitat that attracts wildlife
- d. Keeps runoff out of storm drains

2. What's so important about wetlands?

- a. Improves water quality
- b. Filters fertilizer, manure, septic tank leakage
 - i. Absorbed by plants and microorganisms
- c. Floodwater storage
 - i. Functions like a sponge, slowly releases water
 - ii. One acre of wetland can store 1 to 1.5 million gallons of floodwater
- d. Creates habitat for fish and wildlife
 - i. Up to ½ of North American bird species nest or feed in wetlands

3. Causes of wetland loss

- a. Draining
- b. Development
- c. Pollution
- d. Hydrologic changes

4. Problems caused by loss of wetlands

- a. Increased flooding
- b. Extinction of species
 - i. Wetlands cover 5% of the land surface but are home to 31% of plant species
- c. Decline in water quality

5. Rain Garden Process

- a. Moving the water
 - i. Parking lot is pitched to direct water to a drain in corner of lot
 - ii. Runoff from the roof drops into a drainage system that surrounds the building
 - iii. Water runs through pipes underground and is deposited in the forebay

6. Filtering Process

- a. Runoff flows into forebay where it receives initial scrubbing as it percolates into rain garden
- b. Pollutants are captured in bioretention mixture (soil)
- c. Water percolates down through bioretention mixture in garden
- d. Water travels to wetlands through an outfall pipe
- e. Soil beneath rain garden is clay
- f. Nitrogen is absorbed by plants
- g. Large drainpipe is there in case of heavy flooding

7. Filtering materials in the rain garden

- a. Top layer of stone
- b. 18"-24" of sandy soil
 - i. 60% sand
 - ii. 20% compost
 - iii. 20% topsoil
- c. A bed of gravel beneath the garden
- d. Existing soil must be removed

8. Native plants in the rain garden

- a. Rhodora
- b. Male winterberry
- c. Joe Pyeweed
- d. Blue flag iris
- e. Green mountain sugar maple
- f. Ivory halo dogwood
- g. New York ironweed
- h. Lowbush blueberry
- i. Fern mix

9. Why use native plants?

- a. Generally don't require fertilizer
- b. Tolerant of local climate
 - i. Tolerant of wet/dry conditions
- c. Attracts local wildlife

Additional items

1. Cemetery

- a. Once part of Thompson Farm
- b. Family was removed in 1930s
- c. Field hands might still be interred
- d. Decided not to disturb it

2. The Milne Statue

- a. Honors Lorus and Margery Milne
- b. Naturalists and UNH professors
- c. Reviewed Rachel Carson's "Silent Spring" for the New York Times
- d. Bequeathed \$500,000 to the Durham Public Library