



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Actively maintaining your rain garden and/or native planting area is critical to both its beauty and its function. For the first few years pay special attention to your plants. As a responsible owner of a rain garden and/or native planting area actively maintaining your rain garden, consider sticking the plant markers from the nursery or your own home-made markers at the base of your intended plantings. This will help you know what is an ‘unwanted visitor’ to your rain garden and/or native planting area. Since plants take some time to get established, your rain garden and/or native planting area is very susceptible to invasion of common weeds during this establishment period. To get to know weeds common to this area, see the weed diagram with pictures on page 5 of this document.

It is also important to maintain healthy plants and replace dead or diseased plants to avoid developing bare spots in the soil that can lead to erosion. During the initial establishment time frame (first 6 months) you may need to water your rain garden plants, depending on the amount of rain received. If this is necessary, water early in the morning if possible. If not early in the morning, then late in the evening is the second best time. Never water in the heat of the afternoon sun.

There is no need to fertilize a rain garden and/or native planting area; in fact, part of the benefit of a rain garden is to trap and treat common fertilizer run-off. Therefore, as rain water is directed toward your rain garden and/or native planting area, it will receive plenty of dissolved nutrients common in yard and roof runoff. If you do choose to fertilize your rain garden and/or native planting area, select an organic fertilizer with a very low (or zero) level of phosphorus. For more information on insecticide, herbicide, and fertilizer, visit www.indycleanstreams.org and search “A guide to insecticide, herbicide, and fertilizer use.”

★ SOIL STRUGGLES?

Rain gardens are designed to infiltrate water which often means an amended soil (special porous soil mix) or a well-tilled soil was used when the rain garden and/or native planting area was built. The

soil medium beneath your rain garden likely consists of a sandy porous mix of soil and typically a mulch cover. This combination plays an important role in the rain garden’s function. Therefore, it is important to replace the mulch cover every one to three years since the original mulch will decay. The mulch layer should be replaced at no more than 3 inches.

The porous nature of the soil beneath the rain garden and/or native planting area is important to maintain too. Avoid any activities within the rain garden and/or native planting area that could compact soils such as excessive walking or standing in the rain garden and/or native planting area. Also avoid directing run-off to the rain garden that could be carrying heavy sediment or particle loads. Make sure any areas under construction or being actively landscaped do not erode sediment to the rain garden and/or native planting area and as a result, clog rain garden soils. If you are directing roof run-off from a shingled roof to the rain garden, design/build a small maintenance area/basin where the downspout or pipe enters the rain garden. This small area will need to be dug out every one to three years depending on the amount of particles or sediment that accumulate. The goal is to not allow this material into the heart of your rain garden and/or native planting area to clog the soils and slow water infiltration.

★ EROSION EMERGENCIES?

If erosion occurs around the rain garden and/or native planting area berms or leading into the rain garden, soils need to be replaced and some rock or stronger landscape material may need to be added. Determine if the erosion is occurring from water velocity to a certain area or from rodent activity. Erosion occurring where concentrated water is entering the rain garden will likely require rock in order to slow the water’s energy or an erosion control blanket to help establish vegetation on a slope entering the rain garden. Erosion within the rain garden may be remedied with a different plant selection. Some sedges or grasses can withstand greater flows and still provide beauty and habitat within your rain garden and/or native planting area.

MAINTENANCE GUIDE WITH ATTACHED GRAPHIC EXAMPLES



<i>What to do:</i>	<i>Frequency:</i>	<i>Tips:</i>
PLANT SPECIES (SEE DEBRIS GRAPHIC FOR EXAMPLE)		
Remove any trash	After heavy rain event	Trash reduces the beauty, can clog infiltration, and can present a danger to visiting wildlife
Remove any yard waste that has washed in	Monthly	Grass clipping and leaves will decay and clog the infiltration capacity of your rain garden
PLANT SPECIES (SEE PLANT GRAPHIC FOR EXAMPLE)		
Trim brown vegetation	Once a year	Keep your rain garden beautiful and your neighbor's may construct one too!
Replace dead or dying plants	As soon as possible	Do not leave bare ground exposed - weeds and erosion will result
Pull weeds	Monthly (after rain event, weeds are easier to pull from moist soil)	A little regular maintenance can prevent an invasion of weeds. Weeds can easily get out of control and younger/smaller weeds are easier to pull than older/larger weeds which have a root system established. Remove manually, don't use herbicides.
Water plants (if new garden or in drought)	As needed	Native plants can withstand lengthy, dry conditions but new plants need to be nurtured. Do not fertilize - yard and roof run-off have plenty of nutrients for your plants.
Leave seed heads for wildlife over winter; cut the plants back to the ground in late February/early March.	Annually	Winter food supply (seeds) is important to wildlife. Cutting them back in February/early March
STRUCTURAL ELEMENTS (SEE STRUCTURAL ELEMENTS GRAPHIC FOR EXAMPLE)		
Check/Fix erosion on berms or within rain garden	Once a year	Determine erosion problem (water, loose soils, rodents, etc.) Replace soils, add rock, or use erosion control blanket to stabilize things.
Check/Fix erosion where water enters	Twice a year	Consider adding rock to slow water velocity/flow
Check for any sediment accumulating within the rain garden	Once a year	Create a small area/basin where concentrated water enters that can collect sediment or particle loads from roof tops. Make this point easy to dig out, thus protecting the heart of your rain garden from filling in.
Check for standing water more that two days after rain event	After heavy rain event	May require tilling or amending the soils with a more porous soil mixture to get better infiltration
Check mulch layer, maintain 3 inches of mulch, but not more	Once a year	Before adding a new layer of mulch, rake the decaying mulch to help aerate the top layer and prevent soil compaction. Do not maintain a mulch layer of more than 3 inches total; remove decaying mulch if necessary.

*For more information on rain garden and/or native planting area construction and materials (soil ammendments, rocks, plants) see www.sustainindy.org/rain-gardens.cfm.



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Debris Cleanout

Action item: Remove trash regularly



TIPS

- Trash and debris can accumulate from numerous sources
- Trash can blow in on windy days and get caught in the plants
- Debris can come from nearby trees that drop pinecones or limbs
- Be sure to regularly remove trash and debris as it can cause infiltration problems
- Trash and debris is also unsightly

Examples of Trash Accumulation



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Debris Cleanout

Action item: Remove yard waste regularly



Pile of Leaves



Grass Clippings

TIPS

- Remove yard waste such as leaves, grass clippings, pine cones, or tree limbs and branches
- Yard waste will decay and can clog the infiltration capacity of your rain garden
- Debris and yard waste is also unsightly



Pine Cone



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Examples of a Weedy Rain Garden



- Label your plants with plant markers
- It helps in identification come spring when you can't remember what you planted
- It also helps determining if a plant is a weed or not
- Markers come in all shapes and sizes or be creative and make your own

TIPS

- Many weeds emerge early in the spring before other perennials
- Plants that appear to be growing or creeping in from the edges are often weeds
- Weeds often have a spreading or low growth habit
- Fast growth or invasion is also an indication of a weed
- Plants that appear to have no intended location may also be weeds
- Sometimes it is difficult to identify a weed – the following pages provide pictures of common weeds found in Indiana



Example Labels



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Dandelion *Taraxacum officinale*



White Clover *Trifolium repens*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Easily identified by bright yellow flowers
 - Yellow flowers are followed by white puffball seed head
 - Perennial weed with deep taproot
 - Growth can be inhibited by increasing other plant density
 - Dandelions can be removed with special tools, but if any part of the root is left, the plant is capable of regenerating
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- Identifiable by trifoliate leaves (having 3 leaves or 3 leaflike parts)
 - White flowers are also helpful in identification
 - Perennial weed that spreads by creeping runners
 - Growth can be inhibited by increasing other plant density



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Persian Speedwell *Veronica persica*



Prickly Lettuce *Lactuca serriola*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Persian purple speedwell is identifiable by small, light blue flowers
 - The leaves are oppositely arranged, oval shaped with rounded teeth, and slightly hairy
 - Persian speedwell grows in a low or spreading manner
 - Hand removal is a feasible eradication option if the plants are small and few
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- Prickly lettuce looks like a lettuce plant and is also referred to as wild lettuce
 - Hairs/prickles are visible along leaf margins and veins
 - When cut, the plant emits a white milky sap
 - Young plants can easily be controlled by pulling or hoeing



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Wild Garlic *Allium vineale* or
Wild Onion *Allium canadense*



Henbit *Lamium amplexicaule*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Identifiable by tall (6-24"), thin, hollow leaves
- When leaves are crushed, it smells like garlic or onion
- Small clumps can be easily pulled by hand
- Increasing the density of wanted plants will crowd out this unwanted pest

- Henbit appears in early spring
- It has square stems and is a member of the mint family
- Flowers are pinkish to purple and trumpet shaped
- Henbit can easily be pulled from moist soil



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Canada Thistle *Cirsium arvense*



Large Crabgrass *Digitaria sanguinalis* and
Smooth Crabgrass *Digitalis ischaemum*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Canada thistle is a noxious weed
 - A very common weed, most people are able to identify thistles
 - Leaves are oblong with spines along the edges
Shiny purple flowers are visible from June to August
 - Canada thistle is a very difficult weed to control due to an extensive root system
 - Pulling is typically not effective, however persistent repeated pulling may deprive the root system of food and weaken it
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- Crabgrass can be identified from other turfgrasses by its wider blades and lighter green color
 - It often has reddish-purple stems and grows in a low manner
 - Crabgrass can be pulled from moist soil. Weeding can be done by hand more effectively after a rain because the soil is more loose.



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Black Medic *Medicago lupulina*



Low Spurge *Euphorbia prostrata* and
Spotted Spurge *Euphorbia maculata*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Black medic is a close resemblance to other clovers
- It can be identified by its trifoliate leaves and small yellow flowers
- Dense strands of wanted vegetation will crowd out this pest
- Black medic can easily be pulled from moist soils

- Spurges have small egg-shaped leaves, oppositely arranged on the stem
- All spurges emit a white milky sap when broken. This sap is a latex and some people can develop a rash after coming in contact with the sap
- Spotted spurge can be identified by the dark red spot in the center of the leaf
- Plants can easily be pulled in moist soil
- Increasing the density of wanted plants will decrease the chance of this weed



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Purslane *Portulaca oleracea*



Sheperd's Purse *Capsella bursa-pastoris*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Purslane is typically found in areas where growth of our plants is not vigorous
 - It has a thick succulent, rubbery leaves and stems
 - Purslane grows in a low manner
 - If left to flower, it will produce yellow flowers
 - Eradication is best by hand removal. Plants pull easily in moist soil
 - Plant density of wanted plants will out compete purslane
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- The lower leaves are similar to that of a dandelion
 - White flowers appear at the top of a 6 to 8 inch flowerstalk in clusters
 - Seeds are contained in shells that resemble notched triangles
 - A single plant can produce over 33,000 seeds
 - A thin taproot allows this plant to easily be pulled or hoed from moist soil while young
 - Spot treatment of individual plants is the best application method



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Oxalis *Oxalis corniculata*



Broadleaf Plantain *Plantago major*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Oxalis is also known as creeping woodsorrel
- This plant is often mistaken for clover because of its shamrock type leaves
- In cooler weather, the leaves may turn a purplish-red color, but some may have purplish leave all year round
- Oxalis has small, yellow, 5 petal flowers
- It is not a very strong competitor, so it can easily be crowded out by other plants
- Plans pull easily in moist soil

- Broadleaf plantain can be identified by its broad leaves with veins parallel to the margins
- The leaves are arranged in a rosette shape
- Flowers appear as tall green spikes
- Physical removal with tnt is a moderately effective control method



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Foxtail *Setaria* spp.



Reed Canary Grass *Phalaris arundinacea*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Foxtail species can be identified by the long cylindrical bristly seedhead
 - It has wider blades than most grasses
 - Foxtails are also a lighter color than most turfgrasses
 - Some foxtails have hairs on the leaves while others do not
 - Typically the oldest plants are complete bald
 - If the soil is moist, plants can fairly easily be pulled
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- Typically grows in saturated or nearly saturated soils
 - Usually found along roadside ditches, right-of-ways, riparian areas, and shallow marshes
 - Plants are usually 3-7 feet tall with smooth green, upright stems
 - Leaves are 4-8 inches long and about 1/2 inch wide
 - Flowers appear in June and July
 - Reed canary grass does not stand upright during winter
 - Hand pulling is effective on newly infested small areas, but follow up will be needed for a few years



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Creeping Charlie *Glechoma hederacea*



Violets *Viola spp*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Creeping Charlie is also known as ground ivy
 - It is a low growing perennial and thrives in shady areas
 - Leaves are small, round, and scalloped and resemble those of a common geranium
 - Lavender to blue flowers appear in the spring
 - If crushed or mown it gives off a minty-like smell
 - Keeping a healthy stand of wanted vegetation will crowd out creeping Charlie
 - Young, early patches can be pulled by hand
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- Violets are often considered a weed in landscape areas
 - Leaves are heart shaped
 - Flowers are purple with five petals and are approximately the same height as the foliage
 - Violets form dense, fibrous root systems making them difficult to control by pulling



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Kentucky Bluegrass *Poa pratensis*



Smooth Brome *Bromus inermis*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Kentucky Bluegrass is a common turfgrass used in lawns
- It can become problem due to invasion from surrounding lawn areas
- Kentucky Bluegrass can be identified by its boat-shaped leaf tip
- The seedhead is a pyramidal panicle
- Small clusters can be pulled by hand

- Smooth Brome is a grass that can grow as tall as 1-3 feet
- The leaf blades are 1/4 to 1/2 inch in width and have a grayish-blue color
- A W shaped wrinkle can also be found about halfway up the leaf
- Hand pulling is an effective control method for small areas
- Small clusters can be pulled by hand



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Pull Weeds



Purple Loosestrife *Lythrum salicaria*



Glossy Buckthorn *Rhamnus frangula*

TIPS (RESOURCES TO HELP IDENTIFY WEEDS)

- Purple loosestrife is an invasive species in Indiana
 - It invades many types of wetland areas and over-crowds native species
 - Purple loosestrife can grow up to 10 feet tall
 - The leaves are lance shaped and opposite or whorled around the stem
 - Pink to purple flowers are present from July to October on long spikes at the tops of the stems
 - It spreads very rapidly due to its prolific seed production
 - Small infestations can be controlled by removing all roots and underground stems
 - Small segments of the stem can root and reestablish itself
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- Glossy buckthorn is deciduous shrub or small tree
 - It can be identified by its shiny, oblong shape leaves, similar to those of a dogwood in shape
 - Leaves typically do not fall from the tree until late November
 - Small greenish white flowers appear in May or June
 - Fruit initially is a red color, but turns black once ripe and are readily eaten by birds
 - Small plants can be pulled by hand
 - Cut stumps of larger trees will sprout vigorously and usually require treatment with a herbicide such as glyphosate or triclopyr



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Replace dead or dying vegetation, trim brown vegetation & water plants



Dead Vegetation

TIPS

- Trim out brown vegetation when visible during growing season
- Cutting out dead or dying vegetation allows light to reach new and established growth
- It is also more aesthetically pleasing to keep a neat garden
- Replace dead plants as soon as possible
- Exposed bare areas can lead to weed or erosion problems



Water Plants

- Water plants regularly in a newly constructed garden
- This helps in the establishment of good root systems
- Also water your plants during a period of drought
- Water your plants at the base of the plant
- Watering on the tops of plants is not effective and can lead to possible disease problems



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Plants

Action item: Leave Seeds into Late Winter



Leave Seed Heads Over Winter

TIPS

- Leave seed heads of forbs and grasses on during the winter
- Seed heads provide food for many wildlife
- Cut the plants back during early spring to help with growth and vigor of the new vegetation



RAIN GARDEN AND NATIVE PLANTING AREA MAINTENANCE GUIDANCE AND TIPS

Structural Elements

Action item: Check/Fix Erosion Problem



Erosion

TIPS

- Erosion can occur in newly planted gardens where soils and mulches have not had a chance to settle in
- Erosion can also occur from heavy rains or after periods of drought when soil is very hard
- Rodents can also cause erosion problems
- If erosion occurs, try adding rock to slow the flow of the water
- Replace any soil that has been removed

Action item: Check/Fix Erosion Problem



Sediment Accumulation

- Check for areas where sediment has accumulated
- Too much accumulated sediment can clog infiltration or reduce stormwater storage
- Remove sediment or particles from roof or street runoff that accumulates in piles
- Place removed sediment or particles in an area where it will not wash back into the rain garden
- Sediment build-up at the inlet can create a “dam-like” effect causing water to back up outside of the rain garden