

Using Bioswales in Your Landscape

In a shady Sarasota neighborhood a three-foot deep drainage ditch runs along the front of every house. Kris Schleerd decided to turn her drainage ditch into an ecosystem that filters water. And so the former ditch started a new life as a bioswale - a flow through filtration garden.

"I think the concept is very cool," Schleerd says. "We did it five or six years ago. First we put down a bed of river rock. We have over 100 species of plants including sunshine mimosa (*Mimosa strigillosa*), railroad vine (*Ipomoea pes-caprae*), and we choose to be really colorful with pickerel weed (*Pontederia cordata*), blue flag iris (*Iris hexagona*) and blue eyed grass (*Sisyrinchium angustifolium*).

"In season there are lots of wild flowers," says Schleerd and they grow alongside giant leather fern (*Acrostichum danaeifolium*), horsetail (*Equisetum*) (it spreads, plant judiciously), swamp fern (*Blechnum serrulatum*), river lily (*Hesperantha coccinea*) also known as crimson flag and scarlet hibiscus (*Hibiscus coccineus*) also called scarlet rose mallow.

"We've learned lessons over time, which plants thrive, what doesn't," Kris said and noted a distinct benefit;

"These plants in a bioswale or rain garden can pull out 80 percent of the nitrogen and 98 percent of the heavy metals."

Bioswales and rain gardens are two easy ways to clean water for people and nature. Any low spot in your yard where water puddles when it rains or a ditch that is hard to mow due to standing water and the area just under a gutter down spout - these problem areas can provide the beginnings of an attractive rain garden or bioswale.

The basics:

Remove sod.
Loosen soil.
Lay down river rock in the central channel.
Next, plant wetland and semi-aquatic vegetation in the channel and up the banks. You can fill the channel with wetland vegetation like pickerel weed (*Pontederia cordata*) that will soak up rainwater and pollutants.
Finally, line the banks with wildflowers, grasses, and ground covers.

"The best time to plant a rain garden or bioswale is late spring just before the rainy season starts. That way there will be no watering issues. The rain takes care of it," says Robert Wright, NEST coordinator for Sarasota County. NEST means Neighborhood Environmental Stewardship Team. The difference between a bioswale and a rain garden is a bioswale is a flow through rain garden (usually linear), it must allow water to percolate and pass through during major storms.

Wright notes two possible approaches to straight drainage ditches and irregular low lying areas: "Mow it all, keep it trimmed at all times, let water flow away immediately. Or not, retain water for a while with plantings that filter toxics and help water quality." His advice: "Pick the most unmanageable place in your yard (preferably low lying) and make that the rain garden or bioswale." In other words, choose to retain water for a while.



The benefits:

- Rainwater gets filtered
- Stormwater runoff is reduced
- Pollutants are pulled out by plants thus reducing toxins in local waterways
- Bioswales and rain gardens can be attractive in landscapes
- Creating them reduces lawn mowing chores
- Birds, butterflies, and other wildlife are attracted to rain gardens and bioswales

Wright offers some small cautionary notes:

"Most people are geared to have everything symmetrical," says Wright. "Bushes flat on top, straight down the sides. But a water garden or bioswale is going to be messy. And they do require some maintenance, you do have to take out weeds."

Plant choices that Wright recommends for bioswales or rain gardens include pickerel weed (*Pontederia cordata*) and cordgrass (*Spartina bakeri*). And he advises gardeners not to forget the sides of the bio-



Kris Schleerd looks over the bioswale created in a drainage ditch in front of her Sarasota home.



Pickereel weed (*Pontederia cordata*) makes a colorful addition to a bioswale.



Robert Wright examines a young giant leather fern (*Acrostichum danaeifolium*) recently planted in a new bioswale in Sarasota.



A mowed drainage ditch in front of a residence can be the beginning of a beautiful bioswale.

swale. “Be sure to plant ground cover along the sides like perennial peanut (*Arachis glabrata*) or frog flower (*Phyla nodiflora*) also called matchstick, or sunshine mimosa (*Mimosa strigillosa*),” says Wright. All are excellent turf replacements. Then there is the issue of size. “Giant leather fern (*Acrostichum danaeifolium*) will get really huge,” notes Wright. “Plant large things on either end of a bioswale or one end of a rain garden, where they can get tall and not block plants in the middle. Another choice for the ends is firebush (*Hamelia patens*) – but it gets massive and will have to be cut back.”

Wright’s final advice: “Talk to friends who have done one,” says Wright. “It doesn’t have to be expensive. When plants establish a good root system they reseed themselves.”

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For more information:

Florida Native Plant Society
(www.fnps.org), phone (321) 271-6702

Association of Native Plant Nurseries
(www.afnn.org), phone (877) 352-2366

Florida Wildflower Association
(www.floridawildflowercouncil.org),
phone (407) 353-6164

City of Tallahassee, Rain Gardens
(www.tappwater.org/raingardens.aspx), phone (850) 891-8754

Florida Yards & Neighborhoods
(www.Floridayards.org), phone
(941) 861-5000

UF/IFAS Extension: contact your county extension service for brochures on bioswales and rain gardens