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Rain Gardens

Healthy for nature and people



by Jack Broughton

Wake up the kids! Call the wife out of the shower! On this early Saturday morning, there's a great blue heron at the backyard bird feeder!

That's the kind of reaction Mike Sands has enjoyed in the past few years, and not just to herons, but also nesting mallards, wood ducks, snipe, and birds of all stripes.

Mike's bird feeder doesn't actually hang suspended from a tree branch.

It lies shiny and gleaming at ground level, reflecting the blue sky on a sunny day. Sands's feeder is a tiny pond, ringed with wetland plants, guarded by a buffer of prairie grasses and wildflowers, home to dragonflies, butterflies, frogs, even water boatmen and, somehow, minnows.

His feeder is a rain garden. Instead of swaying on a pole, it waves lazily in a soft breeze, growing, blooming, setting seed, and dying back with the seasons.

Instead of a tray of sugar water, the rain garden serves the hummingbird a feast of cardinal flower. Rather than a plastic tube of millet, the miniature wetland presents a natural smorgasbord, not only of birdseed but also of beneficial insects and other food chain

Resources for Rain Gardeners

Rain Gardens

(Virginia Dept. of Forestry) - nice pictures

Rain Gardens

(Thornapple River Advisory, Michigan) - has links to supply and information resources

delectables.

At [Prairie Crossing](#) in Grayslake, Sands and 13 of his neighbors have created rain gardens to catch storm-water runoff and provide shelter and food for dozens of beautiful and interesting creatures.

One neighbor, who created a sinuous wetland swale with a slow-flow "stream" running down the slope of his back yard, has spied the secretive Virginia rail feeding in his suburban lot.

"I told him he's got to call me immediately the next time he sees them," Sands says. "He's seen them feeding three or four times."

Rain gardens have only recently caught on as natural landscaping, and frequently, they are touted for their ability to absorb stormwater and reduce runoff. However in the Chicago Wilderness region, wildlife habitat is probably their highest value. The compacted soils typical of most developed lands may limit infiltration.

Still, any properly built depressional rain garden will at least hold water and allow sediments and contaminants to settle, rather than simply being flushed off the landscape to cloud and pollute streams and lakes. And in our urban areas, this is important.

Plus, in addition to infiltration (which, in looser soils can be significant), a rain garden measurably helps reduce stormwater runoff volumes by evaporation and "evapotranspiration" — the transfer of water vapor to the atmosphere through plant structures.

When planned for biodiversity, a rain garden can host scores of colorful native wetland and wet prairie plants. The long list could include staples such as Torrey's rush, sweet flag, blue flag iris, marsh milkweed, cardinal flower, fox sedge, marsh blazing star, great blue lobelia, New England aster, meadow rue, ironweed; and, in shallow water along pond edges, species such as bulrush,



Nature in your yard is an adventure. "Expect surprises," writes author Jack Broughton. Photo by

pickerelweed, duck potato, arrowhead, and water lily. *Dave Jagodzinski.*

Sands, who counts more than 800 species in his suburban lot, including the English garden his wife Betsy has created, also planted many rare species such as marsh marigold and buttonbush which thrive in wet environments.

So how do you build a rain garden? And who will do it for you?

Well, you can design and build it yourself with a bit of creativity, a shovel, wheelbarrow, a healthy back, and a little time. Or you can design it yourself — choosing plant species, outlining the perimeter, and defining the depth — and then hire some local muscle to work the dirt.

One summer, Sands's teenage sons Will and Tito made a small business out of it, creating rain gardens of various sizes and shapes for seven different Prairie Crossing homeowners. Or, you could hire a landscape designer or contractor with experience in wetland ecology.

Designs can vary considerably, based on yard size and layout, your water source and your personal desires. Some rain gardens have small pools of open water, emulating emergent wetlands, and others are entirely vegetated wet meadows that hold standing water only seasonally. Even a drainage channel can be planted with wet prairie species to create a colorful, low-maintenance habitat area.

Is there a wet spot in your yard? That may be a good place to dig your depression. One common-sense rule is to place your rain garden in line with the basic drainage pattern of your yard so that overflow will drain away from the house, in accordance with the designed drainage of the area. You don't want to moisten your neighbor's basement, or your own, so to play it safe, keep it at least 20 feet away from the house.

The location and size of your rain garden should fit well with your overall landscape plan and the size of your yard. If you're technically minded and want to capture the rooftop drainage from the majority of storms, you can calculate the rooftop area and stormwater volumes to determine the required storage volume. Sump pump volume calculations can also be made. But, for the non-technical, your yard size, landscape plan, and aesthetic considerations will give you all the direction you'll need.

The depth of your rain garden depression will depend on how much water you're directing into the rain garden, and whether or not you want a shallow pond. If you'd like a pond, dig the center of the depression to a depth of 18 to 24 inches. Feather it out to the perimeter, perhaps with a shallow bench or shelf along the rim of the depression. Then plant the

shelf with emergent wetland plants, and the edges with wet prairie species, followed by a buffer of mesic prairie grasses and wildflowers.

Most rain gardens are fed water from one or two sources — either from rooftop rain runoff or the basement sump pump. Sands and sons have found that the sump pump is a more reliable, higher volume source.

In either case, the benefit to regional water resources is that runoff from your yard doesn't carry with it the amount of fertilizers, herbicides, salts, and sediments that would otherwise make their way downstream.

To direct water from the downspout or sump pump outlet, simply dig a shallow trench to the rain garden and bury a 4-inch black plastic drainage tube that connects with positive drainage from the outlet to the depressional area.

Once your new garden is physically constructed, it's planting time. Most wetland species do best when planted as plugs, while prairie and wet prairie species grow well from seed. For a "pond" rain garden of about 350 square feet, the Sands boys figured on planting roughly 200 wetland plugs in the shallow-water and edge areas. Total cost, including design, plants, labor, and connection to the sump pump, was \$1,000. A do-it-yourself project can be completely free, if you want to borrow the tools and beg plants or seeds from someone whose garden is a little farther along.

One tip from Mike Sands: plant as many species as you want, appropriate to hydrologic zones (water levels), but don't plant cattails. They'll show up anyway, uninvited, and unless they're controlled, they will take over.

Speaking of cattail control, it's about the only maintenance required — other than, perhaps, a prescribed burn every other year or so.

Experimentation plays a part in the process, of course. Some weeds may show up — particularly in the first year after soil disturbance — which may require pulling.

And, after a year or two, you may find that water levels differ from what was predicted. If so, simply reconstruct or replant areas that aren't functioning as expected. After the first growing season of his rain garden, Sands decided to expand the area so he dug a wider depression to create his present 200- square-foot pond.

Expect surprises. Sands certainly didn't expect to wake to the croaking of a great blue heron. Nor did he figure on the school of minnows that inexplicably found their way into his pond.

But he was hoping for the melodious evening concert of frogs that have

since inhabited his back yard – green frogs, leopard frogs, chorus frogs, and spring peepers. And he was counting on the visual spectacle of dragonflies, swallowtails, monarchs, and fritillaries, along with the nightly mid-summer show put on by the fireflies that don't seem to favor the adjacent turf grass.

At Prairie Crossing, an innovative suburban development dedicated to ecological health and conservation principles, he may have been counting on a positive reaction from his neighbors – which he certainly received.

But, the start of a homeowner movement in the Chicago Wilderness region? Time will tell whether it comes to pass.

Jack Broughton plans to install a rain garden himself this spring.

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