Washtenaw County Conservation District

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Reconstructing Native Ecosystems at a Scale That Works For You

By Tyler Bassett, PhD

"Here is the means to end the great extinction spasm. The next century will, I believe, be the era of restoration in ecology."
– E.O. Wilson, 1992

The imperative for ecological restoration could not be clearer. No ecosystem on Earth has been left untouched by the consequences of modern land use. Native ecosystems are reduced to small fragments. Invasive plant and animal species expand their ranges and their influence on native ecosystems. The persistent effects of pollution continue. Human population expands, requiring more resources. Overharvesting of natural resources exacerbates all these concerns. As a result, the planet's biodiversity declines, that is, the variety of living things in the world, including biological species and the genetic variation within and between them. Ecosystem services, or the benefits that humankind derives from nature free of charge as a result of the integrity of ecosystems, are disappearing and becoming less reliable. The clean air, clean water, pollination, soil health, and a million more things we take for granted every day, may not be here tomorrow. That is why the United Nations has declared 2021-2030 the 'decade of ecosystem restoration'.

Ok, so the world is falling to pieces. Maybe you feel motivated play your part in putting it back together, by planting native species and reconstructing native ecosystems on your property. You may also feel overwhelmed, without a clue of where to start. This article is intended to provide some guidance to get you over that speedbump. I will start with some big picture stuff and then provide some more concrete

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steps and resources. The Society for Ecological Restoration defines ecological restoration as any "intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability." The practice of ecological restoration is specifically focused toward reversing the erosion of biodiversity and ecosystem services. Great! But how does that work?

To simplify the decision-making process, here are three guidelines. Consider, 1) what your property supported historically – to the extent that can be ascertained, 2) what your property can support in the future – given all the changes that have occurred, and with that in mind, 3) what is feasible – given your personal limitations and those of your property. When I start a project, I like to remind myself that no one is going to save the world on their own. You can, however, make an important contribution toward a more livable world. The kind of world you want to live in. As such, set goals that are meaningful to you and make sense to you, can be accomplished at the scale of and in the context of your property, and ideally will be a small piece of a larger regional effort to restore native ecosystems and the services they provide. Ecologically speaking, I encourage you to seek to understand how native plants and animals organize themselves in communities, rather than thinking of each individual organism as an interchangeable part. Each plant may provide one important function well, such as nutritious nectar for pollinators. But the interactions between species, and between species and the environment, is what makes a natural community resilient. Without other plant species to nest in or around, those pollinators will not survive in an ecosystem. Native legumes increase nitrogen availability for all plants. Certain shrubs and trees provide protected microsites for other plants to become established. Introducing as much plant diversity as possible, of the species that are appropriate to and native to a place, increases the possibilities for these interactions.

There are many resources available to understand the ecological history of an area, and help you integrate that knowledge into your restoration plan. To understand the history of an area, I refer to the “Vegetation circa 1800” maps (mnfi.anr.msu.edu/resources/vegetation-circa-1800). These maps provide a glimpse into the types of natural communities that existed across Michigan at the time of European settlement, when the landscape was far less fragmented. For example, both *black oak barrens* and *oak-hickory forest* are similar natural communities, both found on sandy or sandy-loam soil, that were historically common in Washtenaw County. They differ in important ways, as well, with a denser tree canopy and shade-tolerant understory species in the latter. Using a natural community as an overall target can provide clues about which species to plant on your property. Then, go see some examples of the high-quality natural communities that remain, to develop a more intuitive understanding of the essence of Michigan’s native unique biodiversity. That way, you can envision what is possible on your property, and see how for example how each “oak-hickory forest” is subtly

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different.

There are many organizations that protect and manage natural communities in Washtenaw County and throughout Michigan (all "Google-able"). Ann Arbor Natural Areas Preservation, Huron-Clinton Metropark Authority, and Matthei Botanical Gardens manage some of the most accessible natural areas in the area. Michigan Nature Association, Southeast Michigan Land Conservancy, Legacy Land Conservancy, and many other land trusts manage great examples of natural communities throughout the region. Several advocacy groups hold regular meetings and field trips to learn about and manage natural areas These are great resources, and include the Stewardship Network, Michigan Botanical Club, and the Wild Ones. Finally, when it comes time to seek out native plant material, in addition to your local Conservation District, Michigan has several reputable and ethical native plant producers (www.mnppa.org/members.html).

Good luck, and I hope the decade of ecosystem restoration becomes a lifelong endeavor for you!

Rain Barrel FAQ By Hannah Bradshaw

What is a rain barrel?

Rain barrels collect and store rainwater from roofs that can be used for gardening and other outside chores.

Why would I use one?

Rain barrel water is better for your plants, better for the environment, and better for your water bill. Rain barrels reduce storm water pollution and provide naturally chemical-free water for gardens. Additionally, residents of the City of Ann Arbor can receive a Storm Water Tax Credit by installing a rain barrel on their downspout. Rain barrels that are available from the conservation district are made from recycled, food-grade, high density polyethylene plastic that is thoroughly cleaned and assembled in the USA.

How do rain barrels work?

Rain barrels have a screw on lid with holes for water entry, as well as an aluminum screen to help keep out leaves, debris and mosquitos.

There are two options for installation.

1. Standard installation with the end of a downspout pointed directly towards the rain barrel top. For this type of installation, a 55-gallon rain barrel can fill up in as little as 15-20 minutes. Because of this, an overflow hose must be connected to the barrel and should be directed away from the foundation of the house or structure.

2. Another option for installation is the use of a diverter hose. Only part of the water is directed into the rain barrel, with the rest going down the downspout. It takes about an hour for this type of installation to fill a rain barrel, and after the barrel is full, the water directs itself through the downspout, eliminating the need for an overflow hose.

Both options for rain barrel installation should be set about 12" above the ground on either a pedestal, cement blocks, or another creative heightening apparatus. Pedestals, as well as downspout diverters, linking hoses, and rain barrels themselves (three colors available!) are all ready to purchase on the District's website, www.washtenawcd.org, for pick up April 26th 27th at the Farm Council Grounds .

Upcoming Events:

April 26th & 27th 2019: Spring Tree and Shrub Sale, Farm Council Grounds. Friday the 26th from 1-6PM, Saturday the 27th from 9-10:30AM. Extra trees are available for purchase

June 1, 2019: Native Plant Expo & Marketplace , Farm Council Grounds from 9AM-2PM. Free to public.

June 1, 2019: Fish Stock Distribution, Farm Council Grounds from 12-3PM. Pre-order at https://harriettahills.com/live-fish/fish-day/.