



# Driftless Prairies: Native Ecosystems

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# Going “au naturale”

What is ecological restoration? Some define it as returning the land to pre-settlement conditions, which in Wisconsin is pre-1830. Some define it as unnecessary work because they believe that “nature knows best” and to just let “nature take its course.” If we are to preserve the biodiversity that remains on our planet, we need to expand our definition beyond these archaic and fantastical notions. Perhaps a better definition would be creating habitat that is useable and functional so that a diversity of biota are able to thrive.

Habitat loss is not due only to development and farming. Much of the loss is due to alien plant species going unchecked and replacing the natives. This spread of non-native plants is the reason that “going au naturale” is very damaging and until this is reversed, it’s also unrealistic, which this article will address.



A place in the woods where the invasives and weeds have taken over.



Unlike the above photo where “nature is allowed to take its course,” this photo shows a place in the woods where the invasives have been removed and the native plants are thriving. In today’s world, landscapes much be managed if they are to be valuable for our wildlife.

Nearly every living being on this earth owes its existence to plants. Plants are the only means of converting the sun’s energy into nutrition, which is the life source to many animals. Often those animals will eat only specific plants which means for a diversity of animals to exist, a diversity of native plants need to exist and each plant must contribute to that ecosystem. For an alien to be considered a native, it must provide the same ecological services as it does in its home land; this process of naturalizing takes hundreds and hundreds of years. The non-native plants that are replacing our natives are not palatable to our native insects. The consequences of this radiate and compound, negatively

affecting the diversity of life.

If we look at just insects, 90% of our plant-eating insects are specialists eating only one or two genera or species of plants. The complex chemical interactions between plants and insects don't allow for insects to easily change to another host plant; it takes hundreds of years for this evolution to occur. As one example, a common reed, *Phragmites australis*, was introduced over 300 years ago into the US. In this vast amount of time, it only supports 5 species in the US, whereas it supports 170 species in its native region. (Tallamy, 285) There is no lack of these examples in the literature. One invasive that has displaced a great number of natives is [Reed Canary Grass](#) (*Phalaris arundinacea*). It has no nutritional or habitat value to birds, insects, or mammals and it spreads rapidly.

Sadly, there are natives that invade and alter habitats as well. Boxelder trees (*Acer negundo*) and Red maples (*Acer rubrum*) are good examples. They invade prairies and woods where management activities have been excluded. They crowd out the other native species, change the composition of the habitat, and can create a monoculture. Anything that creates a monoculture decreases diversity and native or not, that isn't a good thing for the rest of earth's inhabitants.

There are many ways that non-natives alter the ecosystem. Er, uh...should we say a diversity of ways? Yes, I know...Ugh! We've briefly touched on their effects on insects and how they push out the native plants. They also can hybridize with natives, thereby changing the native gene pool. They alter fire effects making management with prescribed burns less predictable. They deplete nutrients and water available for other plants; they change the soil biota making that ecosystem less hospitable for the natives; they degrade wildlife forage; and their encroachment increases competitive pressure on endangered and threatened species.

The mistaken belief that the non-native berry bushes such as Honeysuckle and Oriental bittersweet are OK because birds eat the berries needs a closer look. Berries support birds **after** they have raised their young. Berries are not what the babies eat in order to develop and mature, insects are; 96% of all terrestrial birds in North America raise their babies on insects. When the insects aren't plump, healthy, and numerous, neither are the birds. There is much literature linking bird health to the quality and quantity of insects they eat.

It is often difficult to "see" the negative effects of non-natives but that does not diminish their harmful consequences and the domino effect they have on diversity. As the quantity of non-native plants take over an area, the quantity of native insects, birds, reptiles, amphibians, and mammals are impacted. Many of us would never know if 100 or 1000 species of insects were no longer on our land. For some, it might take years to notice the loss of several birds.

Allowing invasives to crowd out natives is not how nature was intended to work and expecting that nature can change the direction of this negative multiplier effect is a fantasy. On a positive note, of all the reasons that our habitats are being destroyed, removing and controlling non-natives is the one where a single individual can make a huge difference in a short amount of time.

## **Resources**

Tallamy, Douglas W. 2007. Bringing Nature Home. Portland, Ore: TimberPress.

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