

Invasive Plants: Easy to Identify, But Difficult to Define

I wanted to write about invasive plants, so I started looking for a definition and found none in any of my botany or biology books. I did find a definition by the United States Department of Agriculture that certainly fits with a very common usage of the term, and that is, “An invasive species is defined as a species that is non-native (or alien) to the ecosystem under consideration and whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health.”

I think most everyone in the fields of biology, agriculture, ecology, and environmental science would agree with that definition at some level, but what it doesn't cover are native plants that can become invasive.

The USDA does have a term for that--“Opportunistic Native Plant”—which they define as, “A native plant that is able to take advantage of disturbance to the soil or existing vegetation to spread quickly and out-compete the other plants on the disturbed site.” That definition mostly covers the situation of native plants becoming invasive, but I have never heard anyone use that term to describe them.

Definitions aside, there is no argument about the tremendous damage caused to our ecosystems, including our woodlands, savannas, prairies, or riparian areas by non-native invasive plants. It is the number two cause of loss of species of plants and animals, worldwide. For a non-native species to become invasive it must be able to reproduce without man's help and establish itself in areas removed from the original plant.

The reasons for the loss of species and degradation of the health of the habitat by non-native species is two-fold. First, a non-native species crowding out a native species is unlikely to perform the same functions in the ecosystem that the native species did—it may not be recognized as a food source or nest site by native insects or birds—and its presence decreases the population of the native species. Secondly, as a non-native species becomes invasive and takes over in an area, the biodiversity of the habitat is reduced and the health of the habitat is degraded. Diversity is always desirable in a healthy habitat.

Some of the most common examples of non-native invasive species would include chinaberry and Chinese tallow trees, ligustrum and vitex shrubs, forbs such as Malta star thistle and bastard cabbage, grasses such as bermudagrass, johnsongrass, KR bluestem, and bamboo, and giant reed and saltcedar in riparian areas.

Some of these species become invasive by producing seeds that are scattered by wind or animals and have a high germination rate. Some reproduce vegetatively (via broken stems or leaves taking root) or through root sprouts, and some by all processes. Most all of the non-native species listed above have proved difficult to control, at least in an environmentally friendly way, largely because they are so efficient in spreading. For

landowners, the bottom line here is to know how invasives spread and tackle the problem as soon as it is identified because the longer any control measures are postponed, the greater the problem will be.

But natives are not completely exempt from becoming invasive. In the absence of frequent fire in the Hill Country after settlement, and especially after the land was overgrazed, cedar (Ash juniper) has become invasive in many areas. Cedar reproduces faster than Hill Country hardwoods and it also grows faster and since it is on the bottom of the deer food-preference list, there are now no natural limits to its spread.

Willow baccharis or poverty weed is another native plant that can become invasive in disturbed soils such as after a fire or construction work which leaves the soil bare.

There are some native plants that naturally form thickets under many conditions and are therefore somewhat invasive, especially when landowners intentionally plant these native species. Examples include creek plum, Blanco crabapple, rough-leaf dogwood, and tall goldenrod. All of these spread largely by root sprouts

I once intentionally planted a rough-leaf dogwood in an area with little understory in an attempt to introduce more understory. It did that in hurry--until it became so thick it was in competition with large live oaks. Then I found out how difficult it was to eliminate it!

My advice to all landowners is to keep an eye on your property and do what you can to eliminate any non-native species as soon as possible. It might not be easy, but it will definitely be harder later on.

Until next time...

Jim Stanley is a Texas Master Naturalist and the author of the books "Hill Country Landowner's Guide" and "A Beginner's Handbook for Rural Texas Landowners: How to Live in the Country Without Spoiling It." He can be reached at jstmn@kctc.com. Previous columns can be seen at www.hillcountrynaturalist.org.