TEXAS Master Naturalist HAYS COUNTY CHAPTER

RIPARIAN NETWORK NEWS

Riparian: transitional area adjacent to a waterway
Uplands: land lying above the 100-year floodplain

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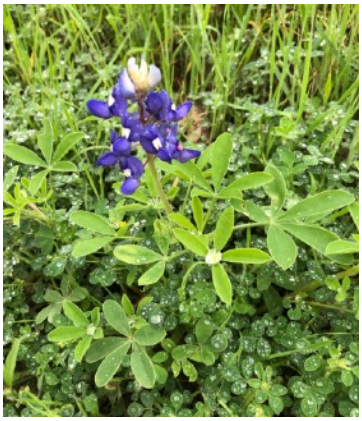
Native, Non-Native, Invasive, Weed or What?

Do you know what it means when plants are labeled native? Or when someone says a plant is invasive. And what are weeds anyway? Here's some definitions that should help you understand what these and other terms mean when applied to plants we see every day here in Central Texas.

The USDA definition of a native plant reads "a plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem." Another aspect is that the species designated as native must have gotten there on its own. Sometimes the terms native and indigenous are used interchangeably. But often native implies that a plant grows across a large region while indigenous suggests that it has actually been seen growing within a specific area. So a native plant you see growing on you property without any action by you or previous property owners would be both native and indigenous to your property.



Endemic is another term sometimes applied to native plants. That means the species grows only in a specific area and nowhere else. For example, Texas Bluebonnets (Lupinus texensis) are endemic to Texas. Given the right conditions and a bit of human intervention, they might be encouraged to grow elsewhere. But outside of our state,Texas Bluebonnets are considered a non-native species. The area across which a plant is endemic could be even more concentrated, say just the Texas Hill Country. An example is Escarpment Black Cherry (Prunus serotina Ehrh. var. eximia) which according to the Wildflower Center Plant database "is a distinct and isolated geographic variety of Black Cherry (*Prunus serotina*) found only in the calcareous soils of central Texas."

Non-native plant are the logical opposite of natives - plants that came into new places or habitats where they not previously found through some form of human intervention. Also

termed introduced, Central Texas non-natives came by definition from somewhere else It doesn't matter whether the introduction was intentional or accidental. And some non-natives have been here long enough to become well-established within their new environment. Such plants are said to have become naturalized.

The oxblood lilies pictured were brought to Central Texas about 150 years ago by German immigrants. These delightful, ephemeral flowers are also called schoolhouse lilies. That's because their blooms appeared just as 18th century schools were about to open in the fall. But schoolhouse lilies are not considered invasive. To be considered invasive, a plant must be both non-native and disruptive of native plant communities or ecosystems. That implies that the foreign species is both present in many places and spreads quickly in ways that interfere with native plant and animal species.

So then what is the difference between an invasive plant and a weed? The term weed is independent of origin and simply implies the plant it is applied to grows quickly and is unwanted. These are also characteristics of most invasive species. To qualify as an invasive, a species much be both non-native and disruptive. Weeds can be either native or non-native but must be "unwanted" for some reason. But unwanted is a subjective term as one person's weed can be another person's flower. As discussed in Issue #22, some native plants with weed in their name serve important functions like providing nectar for monarch butterflies as they migrate through Central Texas in the fall.

And why are invasive plants such a problem for riparian areas? Many invasive plants produce large quantities of seed and thrive in disturbed areas. That combination is particular problematic in riparian areas where floods can spread seed across a wide area naturally disturbed by the rushing waters. A good example is the explosion of Bastard Cabbage along the Blanco River in the year following the 2015 Memorial Day flood. Other invasive species have aggressive root systems enabling them to spread across a large area from a single plant. Broken pieces of root can cause the further spread of such invasive species during flood events. This was the case with Arundo Cane in the same 2015 flood event as discussed in Issue #5.

There are lots of other ways non-native species become invasive that are not dependent on floods. Some non-native landscaping plants produce berries or seeds spread by birds. In our part of the world, ligustrum (also called privet) and nandina (also called heavenly bamboo) often make their way into our natural areas with the help of hungry birds. Other invasive species are simply too different chemically from natives in ways that evade natural control mechanisms. Often that is because insects or deer don't eat them. Still other invasive species simply create changes in soil conditions that favor them over native species.

Some invasive plants found in Hays County riparian areas are not only a danger to the ecosystem. They also contain toxins that can be deadly for animals and humans. Others are very pretty and thus appreciated at first. But failure to control the spread early on can result in a much bigger problem for you and your downstream neighbors just a few years later.

Here are some invasive species spotted in Hays County riparian areas that you should definitely be on the lookout for:

Poison Hemlock (Conium maculatum) contains pyridine alkaloids that can be toxic to cattle, swine, and other animals. All parts of the plant can also be toxic to humans. In fact poison hemlock was used for political executions in ancient Greece — think Socrates. Poison hemlock looks a lot like Queen Anne's lace. But poison hemlock's stems have purple blotches and are hairless. Queen Anne's lace stems don't have purple blotches and are hairy.

The Castor Bean plant (*Ricinus communis*) can also be toxic. The Castor Bean seeds which are not actually beans are used to make Ricin. That's the substance that has been used as a biological weapon by terrorists. The plants can reach about 10 feet in height and has huge, deeply lobed leaves. It's rather small flowers are a pale creamy yellow and the seeds are contained in clusters of dramatic spiny seedpods.

Here's an example of a very pretty invasive species sometimes seen along creeks here in Hays County — Yellow Flag Iris (*Iris pseudacorus*). Yellow Flag Iris is an aquatic plant found in shallow water at the edges of waterways. Unfortunately, this iris is fast-growing and fast-spreading — outcompeting native wetland plants and forming almost impenetrable thickets. These thickets are also detrimental to aquatic wildlife.

Fall turns the leaves of the Chinese Tallow (*Triadica sebifera*) tree a striking red. By age three, this small tree can start producing seeds. And its prolific seeds are readily transported by both birds and water. In addition, tallow trees propagate via cuttings stumps, and roots. Large stands interfere with light availability and its fallen leaves alter soil chemistry. Both factors create conditions unfavorable to natives.

Solutions designed to control invasive plants vary by species. Want to know more about the invasive plants on your property? Here's a link to a great resource for better understanding the biology, spread, and control methods associated with most invasive plants whose presence on your property is unwelcome.

The Riparian Network News is a periodic Hays County Master Naturalist publication covering topics of interest to the Hays County community. Back issues are available at http://beautifulhayscounty.org/conservation-restoration/.
Share with neighbors and friends. Send questions or ideas for new topics to riparian@haysmn.org. Also use this same address to get on our mailing list.