Yellow flag iris

What it is

With its showy flowers, yellow flag iris is one of the prettiest noxious weeds in Montana. This perennial native to the British Isles, Europe, and North Africa arrived in Montana in 1925 when it was planted in a garden in Ronan. The invasive plant has since spread across the Flathead, lower Clark Fork, and Bitterroot valleys and has potential to continue east into other river valleys.

How to ID it

Yellow flag iris looks like most garden irises, with three downward-pointing sepals and three upward-pointing petals. But it's much bigger, standing 3 to 5 feet tall. The flat, erect, bright-green leaves look just like those of a cattail, but iris leaves have a flat base, while cattails show a round base.

Why we hate it

This pretty plant is actually a big bully, choking out valuable native vegetation like cattails and bulrushes and forming dense monotypic stands in low-lying wetlands and ditches and along stream, river, pond, and lake shorelines. It clogs trout tributaries, irrigation canals, and water pipes and is toxic to wildlife, livestock, cats, dogs, and humans.

How it spreads

Yellow flag iris is spread by people digging it up and planting it in their gardens. It also spreads naturally when the seeds float in water or when rhizomes break off and are carried downstream.

How to control it

Like all noxious weeds, yellow flag iris is difficult to control. Small stands can be dug out, but only if the rhizomes are entirely removed. Repeated mowing can help, as can certain aquatic herbicides. Some states have had success using non-native beetles and other insects to control yellow flag iris. ■

If you see what you think is yellow flag iris, report it to Jasmine Chaffee, Montana Department of Agriculture Noxious Weed Program manager, at 406-444-3140; JChaffee@mt.gov.

Illustration by Liz Bradford

A quick look at a concept or term commonly used in fisheries, wildlife, or state parks management.

"Otolith Aging"

The main ways fisheries managers determine the overall health of trout, walleye, or other fish populations is by monitoring fish abundance (using electroshocking, netting, and creel surveying).

By aging fish, biologists can also determine how fast they grow, how old they are when they reproduce, and how long they live. Biologists then use this information to estimate the number and health of fish in different age groups, or "cohorts," which in turn helps them determine things like the effectiveness of stocking walleye or trout in lakes and reservoirs or the effects of water flows on spawning success.

Biologists determine the age of a fish by examining its otolith. Otoliths are calcium deposits that build up in a fish's skull behind the eye and below the brain, forming what look like small white stones. Also known as "ear bones," the stones help fish orient themselves and maintain balance, acting like a human middle ear.

Collecting otolith samples from silver carp in South Dakota's James River.

SAM STUKEL/USFWS

Otoliths are composed of calcium carbonate and protein, which is deposited at different rates throughout a fish's life. This process leaves alternating opaque and translucent layers. To estimate fish age, biologists cut the otolith into thin slices. Through a microscope, they count the number of layers, like tallying growth rings in a tree. Biologists collect otoliths during warm-weather fish surveys then head to the microscope in winter to see how old the fish are. ■