



Birds + Science

Shrinking Sedge Meadows: Reversible?

Since the 1800s, half of Wisconsin's primeval wetlands have been drained and filled in for agriculture, roads, houses and industry. Now the remaining wetlands have another threat.

Cattails blowing in the wind may be a familiar sight, but a closer look reveals they're not all alike. The native species typically grow straight, sparse leaves that leave room for other types of plants to thrive. But the hybrid *Typha x glauca*, a cross between native and invasive cattails, is less hospitable.

"The hybrid cattails form very dense stands that use all the light above ground, and below ground the rhizomes fill up all the space. Hardly anything can coexist with it," said Joy Zedler, who received UW Sea Grant funding to study the problem. At risk are sedge meadows, one of the region's most diverse types of wetland. The roots of native sedges, which are grass-like plants, form mounds that create nooks and crannies for other types of plants to live. They also provide excellent cover for birds and small animals.

The fluctuating water levels of the Great Lakes historically have sustained sedge meadows and kept cattails in check. Native cattails hug the waterline, while sedges grow just inland. Both plants prefer wet soil, and together they move upslope when water is high and recede when water levels drop. But it's a different story with hybrid cattails.

Using GIS technology to compare aerial photos of several Green Bay wetlands from the past 40 years, researchers found that the sedge meadows had shrunk in recent years with the drop in Green Bay water levels. During the same time, hybrid cattail populations had expanded rather than receding like those of native cattails. Because they are much hardier and more aggressive, the hybrid cattails can withstand a broader range of water levels.

Once an area is taken over with hybrid cattails, it may be difficult to restore, the researchers say. Researchers found that soils under hybrid cattails had few seeds to regenerate sedge meadows. In fact, the most common seed found was purple loosestrife, another notorious invasive plant. According to Zedler, this is a red flag for wetland managers seeking to restore sedge meadows by simply removing hybrid cattails with fire or herbicides. "You'd be trading one problem for another," she said.