

Native Plants Stand Fast to **Protect the Shore**

BY TOM SPRINGER PHOTOS BY MARK BUGNASKI

David and Betsy Patterson have seen the wild world in all its far-flung glory. Lions and giraffes on the plains of Africa; giant tortoises and frigate birds in the Galapagos Islands; a rookery of 100,000 gabbling penguins in Antarctica. But back in the Midwest, it's everyday backyard encounters that keep their wild spirits fed.

"There's a deer that comes by often to drink from the lake and chew a few wildflower buds," said David, with no small sense of wonder. "We have a blue heron that

fishes from our dock and some mallard ducks that gave birth to a little family this year. And every year now, we see more native plants and color than before."

The Patterson's magnet for backyard wildlife has been the 100 feet of shoreline on Watkins Lake that they restored with native plants in 2013. "We're outdoor people," David said. "Having lived here all our lives, we like things natural. We think this is how an inland lake should be."



Yet keeping the 500 lakes of this urbanized region natural has become ever more difficult. Larger homes, more runoff from lawns and streets and destruction of shoreline habitat has taken its toll on water quality. Out of their concern for the natural well-being of Watkins Lake, the Pattersons – who have been married for 51 years – decided to try something new.

The opportunity came when they bulldozed the old house that once stood on their property. Built in 1910 as a two-bedroom cottage, it belonged to Betsy's family and she'd spent many happy summers there swimming and sailing. Then, as often happens on Midwestern lakes, the Pattersons decided to replace the cottage with a larger year-round home. They built a two-level brick house that nestles into the hillside, with floor-to-ceiling windows that face the lake. Except unlike most "tear downs," they want theirs to have a modest ecological footprint.

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"I don't like to see new houses bring in tons of rocks for the shore or put in steel seawalls," said David, who retired after a 30+ year career in information technology. "But with higher water levels, our beach was eroding, and we had to do something." And, that "something" would prove cheaper and safer than a seawall – and easier to maintain than a turf-grass yard.

While seawalls seem like a simple solution, they come with a built-in design flaw: by stopping erosion in one place, they can cause erosion someplace else. It has to do with the physics of wave action. On a natural lake, waves dissipate force as they lap against shoreline vegetation or roll up the gradual incline of a beach. Yet when waves smack into a sea wall, they bounce off with a rolling action that stirs the bottom. This forces a scouring, muddied current to flow "down lake" where it can erode the beach of a neighbor who doesn't have a seawall.





The Pattersons hired Jim Brueck, a Certified Natural Shoreline Professional, to address their erosion problem. For a solution, Brueck installed rolled mats of coconut fiber known as coir logs at the water's edge. The coir logs were held in place with wooden stakes, and the area behind them was covered with burlap sheets and top soil. Then, plugs of native plants were buried in the coir and soil. Today, the biodegradable logs are barely visible. What remains is a gently sloped barrier of native plants that looks identical to a natural beach.

After the Pattersons return from Florida in spring, David gets busy with annual maintenance on the shoreline. He rakes out excess oak leaves – there's a majestic white oak whose limbs stretch like rugged arms above the back yard – and cuts back the dead plant stalks. "The hardest part is identifying what's a weed and what's not," he says. "But I'm learning."





KEY TAKEAWAYS

On this August day, the brilliant red of a cardinal flower and fuzzy yellow of goldenrod make identification easy. Yet looks aside, it's not the individual plants that matter most. It's how all of them, together, weave a sturdy matrix of roots and stalks that protects the shore. And, create a rich habitat for untold creatures that a turf-grass monoculture alone could never attract.

"It didn't cost as much as a seawall, and there's no big boulders or metal breakwater that could hurt our grandkids," David said. "It just makes for a nicer home environment."

- To learn more about native plants, study how they change across the seasons.
- Be sure to haul away any grass clippings or vegetation that's cut along the shore – if dumped into the lake, it can fuel weed and algae growth.
- If you must use stones to prevent shoreline erosion, use the smallest ones possible to make access easy for turtles and other wildlife.
- Even tearing down a smaller home to build a larger one can be done in ways that protect the environment.