

## CURRENTS

**Strange Sanctuary****Old Factories Offer New Hope for Wildlife***By Christopher Weber*

In Detroit, a wildlife refuge is growing beneath a pair of towering red-and-white candy-striped smokestacks. If you could stand astride them, giant-like, you'd behold a landscape of organic greens and blues mixed with the brown-gray stains of industry. To the north, the Rouge River joins the Detroit River, and together they flow into Lake Erie, passing marshes, forest, savanna and the city of Detroit along the way.

Julie Craves, a research supervisor at the University of Michigan-Dearborn, looks in on this strange sanctuary, the Detroit River International Wildlife Refuge, once a month to monitor the effects of its metamorphosis on the creatures that live there. The refuge encloses everything from power plants to chemical factories to a former missile site. Lately Craves has focused on Humbug Marsh, where a Chrysler plant once stood, only its foundation now intact. In the coming years, these 44 acres will undergo a rigorous revitalization. Workers will cap polluted soils, restore native vegetation, reestablish a natural shoreline and build a visitor center.

The refuge is just one of many projects unfolding across the country to remake "brown" industrial land as verdant habitat. There's a surfeit of idle factories, mines, docks, landfills, rail spurs, warehouses and parking lots awaiting redevelopment. And scientists like Craves are discovering that urban industrial sites can hold surprising ecological significance. The Detroit River refuge, for instance, stands at the intersection of two major flyways. Over 300 species of migratory birds come to rest, nest and feed there. It's also home to lake sturgeon, raptors, foxes and threatened reptiles like the spotted turtle and eastern fox snake. Craves believes that the refuge's greatest treasure is actually a little-known dragonfly, the russet-tipped clubtail, found here in extraordinary concentrations.

Not every industrial site within the 48-mile-long refuge will be reclaimed as habitat. The striped smokestacks above the Detroit River refuge belong to an active power plant that will continue its normal operation. But by restoring strategically located brownfields, Craves and other scientists believe they can enhance the ecological value of existing parks and habitat.

Craves started working at the refuge in 2004. It had few trails at the time, so she waded through tall weeds with a net. "The Chrysler property is adjacent to both a large chemical plant and a coal-burning power plant, so there is this very industrial vibe," she says. Nevertheless, she says, "I have come to really love this juxtaposition of the hyper-urban with resilient nature."

Craves monitors eight vacant properties in Dearborn that the Ford Motor Company has remade as habitat. Ford planted them with sunflowers and sorghum, which attract flocks of small songbirds, which in turn draw spectacular raptors. A few years ago, Craves spotted a gyrfalcon on the grounds of Ford's world headquarters; as she spread the word, traffic jams formed as people flocked to see this rare Arctic bird. Red-tailed hawks make regular appearances at Ford's properties. A bald eagle and snowy owl have made extended stays, and, in winter, a small, checker-breasted raptor called a merlin, threatened in the Midwest, wings in. A few miles away, foxes and mallards prowl the grounds of Ford's Rouge Center, an 1,100-acre auto plant that incorporates grass and wetlands in its campus.

Spurred by a need to manage thousands of idle acres, corporate titans like BP, Gulf Oil, Bridgestone and U.S. Steel have undertaken projects like Ford's. In Indiana, employees at U.S. Steel's behemoth Gary Works restored 30 acres of oak savanna and rehabilitated a five-acre wetland—all previously polluted.

Of course, not all industrial habitat is created intentionally. Several times a year, Craves checks the boat dock behind the Rouge factory.

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**Smokestacks overlook the thriving Detroit River International Wildlife Refuge.**

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**Burrowing owls**

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“Warm-water discharge from the plant keeps the ice away,” she explains. “It’s the only spot on the Rouge River that doesn’t freeze all winter. Waterfowl love it.”

While no one keeps a complete count of these industrial habitats, they are becoming increasingly common. When President Obama signed the federal economic stimulus into law last year, he launched restoration projects at places like Colorado’s Great Sand Dunes National Park, where old mines will soon be converted to habitat.

One of the most spectacular—and unlikely—examples of industrial habitat can be found in Denver at the Rocky Mountain Arsenal National Wildlife Refuge. Beginning in 1942, the arsenal produced nerve gas and other chemical weapons for the U.S. Army. By the time it closed in 1992, these 27 square miles had become one of the nation’s most poisonous landscapes.

Today, the reclamation process is almost complete. Just 11 miles from downtown Denver, the old arsenal draws scads of tourists. The stars of the show are two wobbly, cinnamon-toned bison calves born this summer. They brought the self-sustaining bison herd to 29 animals; managers expect it reach 200 some day. “We’ve restored their habitat back to short-grass prairie, the way it looked in the late 1800s,” says Sherry James, visitor services manager for the refuge. “The fact that we’ve cleaned up the arsenal to the point that we can reintroduce bison—and they’re thriving—that’s amazing.”

Mule deer and white-tailed deer are well established at the refuge, too, and scientists plan to study the possibility of reintroducing other native species like the pronghorn antelope and the prairie chicken. Like the Detroit River refuge, Rocky Mountain Arsenal will soon construct a gleaming, environmentally friendly visitor’s center.

“A lot of the people in the communities that surround the Arsenal aren’t going to get to visit Yosemite or Yellowstone,” says Matt Kales, a spokesperson for the Fish and Wildlife Service. “We’re giving them an opportunity to see what a vibrant ecosystem looks like.”



**Bucks) at the Rocky Mountain Arsenal National Wildlife Refuge.**

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**DTE&#8200;Energy’s Rouge Power Plant before and after reclamation.**

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