TRUE NATURE

BY JULIE ZICKEFOOSE

FIRE ON THE PRAIRIE

Native prairie is burned prior to tilling—the end of diversity on this North Dakota tract.

RICK BOHN

It's an unlikely rock star, this delicately striped, slender, dust-colored sparrow. The song perches it chooses are often beneath the grass cover, and you spend a lot of time scanning the waving grass tops and concentrating ferociously on where that song—a soft, round, quieter version of a field sparrow's—is coming from. That alone makes it tough to make this bird a birding festival headliner. But Baird's sparrows are getting harder and harder to find, even well inside the notably small oval of prairie pothole habitat, a bulls-eye in the Dakotas and Montana that flops over into Alberta, Saskatchewan, and Manitoba. It's no longer a given than anyone will find a Baird's sparrow for the hungry eyes of Potholes & Prairie Birding Festival participants, and, after 12 years of going there trying to do just that, I wondered why.

Like many of the things I wonder about, this question has no easy answer, but leads rather to a constellation of causes whose net effect is vanishing Baird's sparrows. Dirk Lammers, an Associated Press reporter who called to ask me a few questions about Baird's sparrow for a piece he was working on, set off this train of inquiry. He cited a U.S. Geological Survey study led by Terry Sohl from South Dakota's Earth Resources Observation and Science (EROS) Center, which projects that, by the year 2075, the United States could lose this species entirely. Changes in land use and rising temperatures will likely push the bird's range into Canada by then.

AUTHOR READ-ALOUD

PLAY IT »

Bird ranges are dynamic in nature; in my lifetime, I've seen northern cardinals arrive on Cape Cod and red-bellied woodpeckers, blue-gray gnatcatchers, tufted titmice, and Carolina wrens push into Ontario. And, bucking the north-moving trend, tree swallows have pushed steadily south, and are now nesting in the Carolinas. But the Baird's sparrow range contraction northward stands out as both swift and drastic. In the decade-plus that I've been guiding field trips at North Dakota's Potholes

JERRY SCHMIDT

Before plowing.

Converted grassland.

RICK BOHN (2)

& Prairie festival, I've noticed an increasing uncertainty in finding this already-elusive species. North Dakotan and fellow guide Corey Ellingson noted, "Fields are going under all over the place in my travels ... and Baird's sparrow is increasingly difficult to find! We will do our best for the festival, but the bus drove 100 miles one way for a Baird's last year."

This sparrow, and the high-flying Sprague's pipit, which is often found with it, needs relatively sparse, short grasses, interspersed with forbs and small woody bushes such as snowberry. The practiced eyes of native North Dakotans, who can evaluate grassland quality (and sparrow-harboring potential) from a speeding car, always impress me. I've picked up a few of their tricks with help from Neil Shook, Refuge Manager at Chase Lake National Wildlife Refuge near Woodworth, North Dakota. I vividly remember his clawing up great handfuls of dry yellow thatch from a degraded prairie heavily invaded by cool-season exotic grasses. Here there was little potential for regeneration of native prairie grasses and forbs, which need bare soil on which to germinate. Walking across a road, we beheld the light, airy cover of native prairie that had been burned off. It was dotted with bright yellow and red gaillardia, violet locoweed, scurf pea, and scarlet globe mallow. Patches of bare soil and rock abounded.

Where plant growth is concerned, "thick" generally connotes "healthy" to me, so this required a shift in my thinking. I've come to associate the thin grass cover, the bright colors of prairie flowers, and the lichen-encrusted emergent rocks with diversity, health, and vitality, as well as a notable uptick in interesting birds. Large emergent rocks, of course, indicate prairie that has never been broken by a plow. My heart quickens when I see those boulders, because I know that many biodiverse treasures await on such tracts. But this prairie is being turned under at a ferocious rate, ironically spurred by a complex of government incentives and the controversial phenomenon of climate change. Here's what's going on in the Great Plains.

Native prairie and Conservation Reserve Program (CRP) lands are traditionally where we birders go to find quest birds, because the rest is in comparatively sterile exotic grasses (hay) or croplands. But the amount of land enrolled in CRP, which pays farmers to plant their marginal or low-producing land back to a permanent grass cover, is at a 25-year low. The falloff is sharp, and it began in 2007, the year that the Energy Independence and Security Act of 2007 passed. This act mandated the use of corn ethanol in gasoline, creating a sudden demand for more than 40 percent of the U.S. corn crop produced yearly. Corn prices shot up, and farmers responded by putting CRP lands back into production and plowing up native prairie that had never seen a plow. Farmers even uproot and burn the trees in their hedgerows to eke out just a few more acres to cultivate, removing nesting habitat for raptors and forest birds.

You can see great piles of stumps and roots wherever you go, the carcasses of what were once hedgerows alive with bird song. Almost 10 million acres of CRP grasslands were lost nationwide from 2009 to 2013. And more alarming is the unknown amount of native prairie that has been lost. And "lost" means "gone forever," because once native prairie is plowed under, seed banks are destroyed. It can be seeded to grass but cannot return to anything near the diversity and abundance it once harbored. And the native birds, the myriad sparrows and pipits and longspurs, the bobolinks and meadowlarks, willets and godwits and snipe and the infinite palette of pothole-nesting ducks, go with it. The two states converting the most CRP acreage to cropland in 2013 were North Dakota and Montana, traditionally cold-climate wheat-growing states. And thereby hangs an interesting tale.

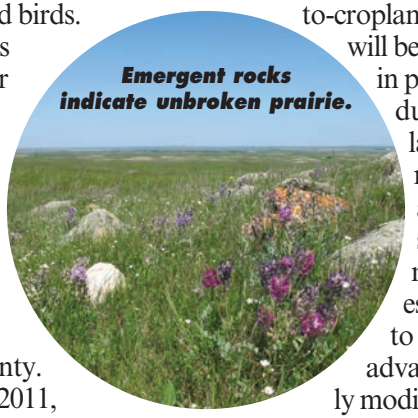
Studies by North Dakota state climatologist and agricultural weather network director Adnan Akyuz have shown the average annual temperature in North Dakota has increased by 0.27 degrees in the past 10 years. Because of the temperature increase, the length of the growing season has increased 17.5 days in the past century. Parts of the state have seen their plant hardiness zones upgraded to warmer sectors. Couple this climate change with selection for faster-maturing and higher-yielding varieties of corn, and the sharp per-bushel price uptick thanks to demand for ethanol production, and North Dakota farmers saw great economic incentive to convert as much of their

land as possible to corn. Acreage in corn tripled from 2003 to 2013, to 3.5 million acres. And acreage in CRP plummeted from 3.39 million to 1.6 million in the same period.

Stutsman County, North Dakota, boasts a jewel in Chase Lake NWR. Ten thousand acres of grassland and prairie potholes host North America's largest nesting colony of white pelicans and a dizzying array of ducks, shorebirds, and grassland birds. Stutsman County is also at the epicenter of prairie conversion to cropland. The staff at Chase Lake NWR has worked to compile data regarding native prairie and CRP losses in one North Dakota county. Between 2005 and 2011, Stutsman County lost more than 120,000 acres of CRP and more than 20,000 acres of native prairie. It lost more than three times the refuge's area—36,000 acres—of CRP grassland and potholes in 2013 alone. Ninety percent of Stutsman County's CRP land is expected to be lost, and for grassland birds, Chase Lake refuge will become an island in inhospitable cropland. Stutsman was carpeted in CRP grassland in 2000: 180,000 acres. By 2013, that had fallen to 70,000 acres.

Nearby Kidder County, where I used to take Potholes festival participants for Sprague's pipits and Baird's sparrows at dawn, had 112,000 acres of CRP land in 2000. More than half of that was plowed under by 2013, leaving only 48,000 acres. Because there's no way to track it, it's hard to say what happened to native prairie in these two counties in the same timeframe. It's even harder to think about it.

The net effect of this prairie-to-cropland conversion will be drastic drops in pothole-nesting ducks and grassland bird species, most of which are quite area-sensitive and need vast expanses of grassland to thrive. With advances in genetically modified seed and the heavy use of herbicides, comparatively little effort is required to convert the prairie to cropland. On aThursday in May 2013, 320 acres of Stutsman County native prairie was burned. By the following Monday, the land had been seeded to Roundup-Ready soybeans, never to be prairie again. To a bird watcher who treasures each square inch of native prairie, marveling at the perfect sparrow, lark, and pipit nests woven into the jewel-toned wildflowers, that's like rolling up a priceless Oriental carpet so you can lay Astroturf.



Emergent rocks indicate unbroken prairie.

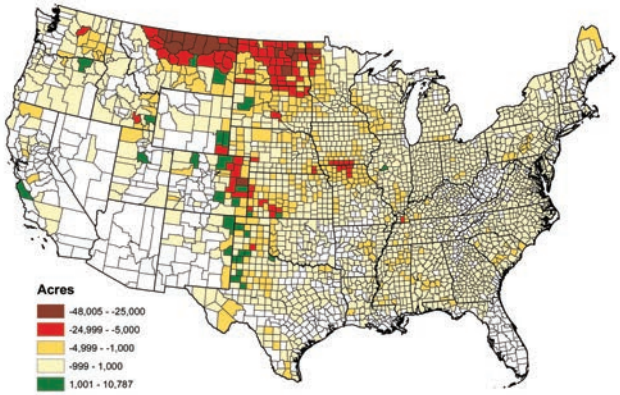
JULIE ZICKEFOOSE

Stutsman is just one county in North Dakota, and this grassland loss is ongoing throughout the Great Plains. The Corn Belt spreads like a fast-moving prairie fire into places where corn has never before been grown. Government mandates for ethanol percentages in gasoline are the match; warming soil temperatures are the fuel; and the native grasses and forbs, with their Baird's sparrows, bobolinks, meadowlarks, pipits, chestnut-collared and McCown's longspurs, lark buntings, and dozens of duck and shorebird species, are the collateral damage in that uncontrolled fire.

The 1985 Farm Bill encouraged farmers to cultivate only productive acres and leave wetlands and highly erodible soils alone in exchange for federal farm program benefits. This "conservation compliance" policy saved a great deal of habitat for wildlife, while providing a safety net for farmers. As of 1996, however, farmers no longer had to comply with conservation regulations (leaving wetlands undisturbed) in order to qualify for crop insurance. Crop insurance became the farmer's safety net, and now there was no financial incentive to protect wetlands from being converted to cropland. Furthermore, our tax dollars fund about 62 percent of these crop insurance payouts, projected to be $90 billion over the next decade. In effect, American taxpayers have been made to subsidize the massive destruction of precious native prairie and pothole habitat, which is rarely suitable for farming in the first place. Hence the perceived need for crop insurance. It's a vicious cycle of prairie and wetland destruction, poor production, and payouts for crops that fail on land that should never have been plowed in the first place.

Ducks Unlimited is the most effective private advocate for prairie preservation, and DU successfully worked with a wide coalition of agricultural and conservation interests to support recoupling conservation compliance to crop insurance payouts in the newly passed Farm Bill of 2014. In addition, the bill includes a "sodsaver" provision, which creates a federal disincentive for breaking native prairie. Crop insurance payouts will be reduced by 50 percentage points for the first four years of production on newly converted land. Though farmers won't be prevented from breaking native prairie, they will be doing so at their own financial risk, without the crop insurance protection they'd formerly enjoyed. If our tax dollars no longer underwrite the risk of growing crops on recently broken native prairie, much of this land may never be broken.

Although the 2014 Farm Bill offers some hope that the destruction will slow, we must never be complacent, because conversion of prairie to cropland is proceeding

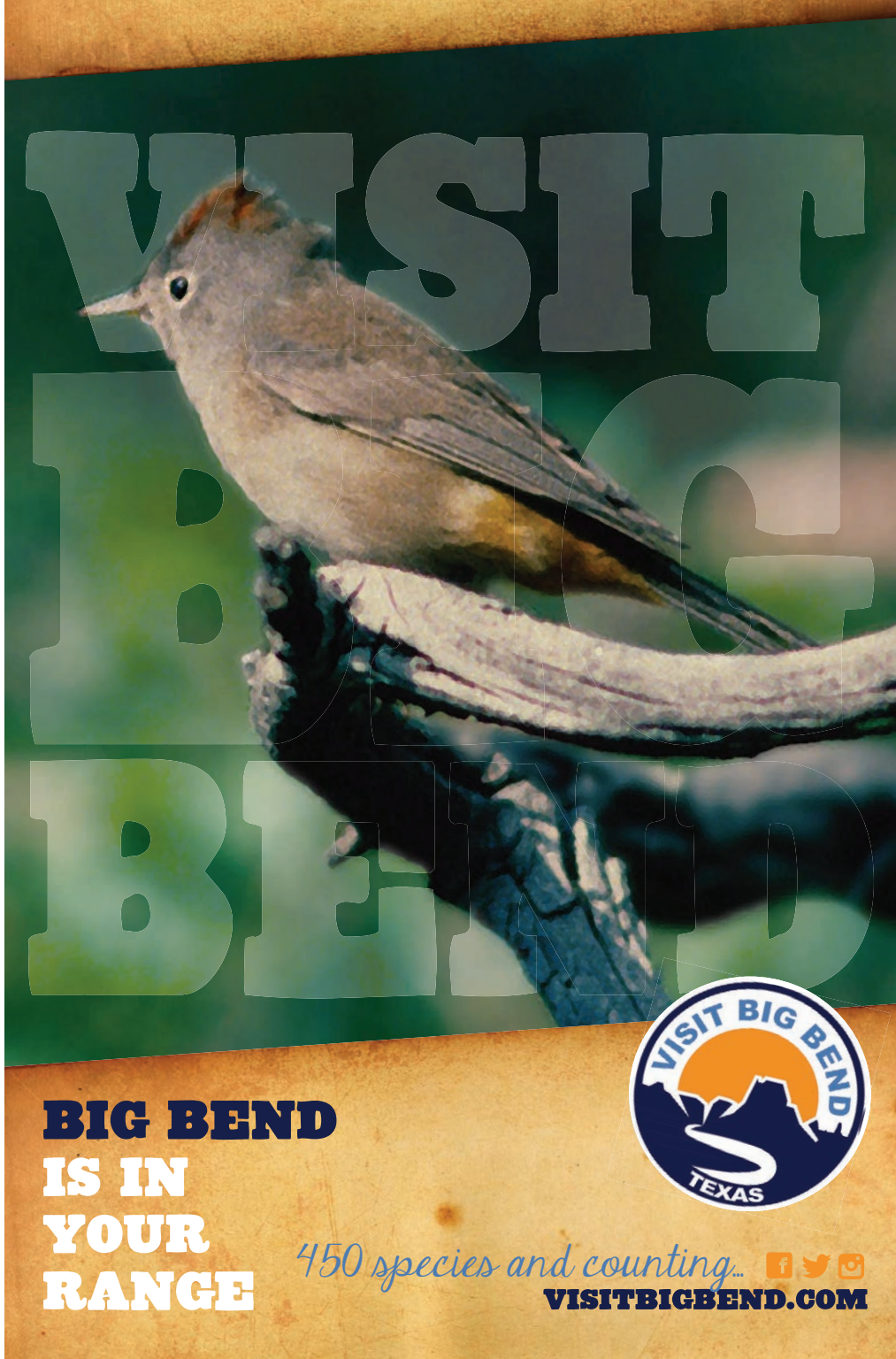


Red and brown areas are hotspots for de-enrollment of CRP lands. These are lands being converted from conservation reserve program lands to cropland.

MAP PREPARED BY FSA/EPAS/NRA

at a rate not seen since the Dust Bowl. Congress slashed the CRP program, which was much more effective at saving prairie and wetland, as a cost-saving measure.

What can we do about this? Contact your representatives and tell them that wetland and prairie preservation are important to you. Call for a reinvigorated CRP program. Buy a duck stamp, or several, and tape them to your binoculars to show other bird watchers that you care and are willing to contribute. This is the money that the U.S. Fish and Wildlife Service uses to buy conservation easements from landowners to protect native prairie and wetlands. Join Ducks Unlimited, even if the thought of downing a teal has never occurred to you. DU is the most powerful private advocate for prairie and wetland preservation. For hunters, yes, but for habitat, which is for every creature and every birder. Buy grass-fed beef, and support sustainable ranching practices. Avoid buying gas that contains ethanol, if you can. (It creates a lacquer-like buildup that can gum up your engine, anyway.)

Last, do this before it's too late: Bird the Great Plains, and patronize festivals such as the Potholes & Prairie Birding Festival, in Carrington, North Dakota. Learn more about the issues, pump some money into local economies, and show these states that you came there to see native prairie—that birding tourism matters. Peer into those waving grasses, and try to find a Baird's sparrow. Throw your head back and listen to the swirling dawn song of the Sprague's pipit, sure to be circling on backlit wings high overhead. Look up, look down, but please don't look away from what's happening to our native prairie.

Julie Zickefoose thanks naturalist/photographer Rick Bohn, Chase Lake National Wildlife Refuge Manager Neil Shook, and Potholes &Prairie Birding Festival organizer Ann Hoffert for help with this article, and for everything. Julie recently worked her 11th Potholes & Prairie festival. Follow her on her blog at ***juliezickefoose.blogspot.com.***