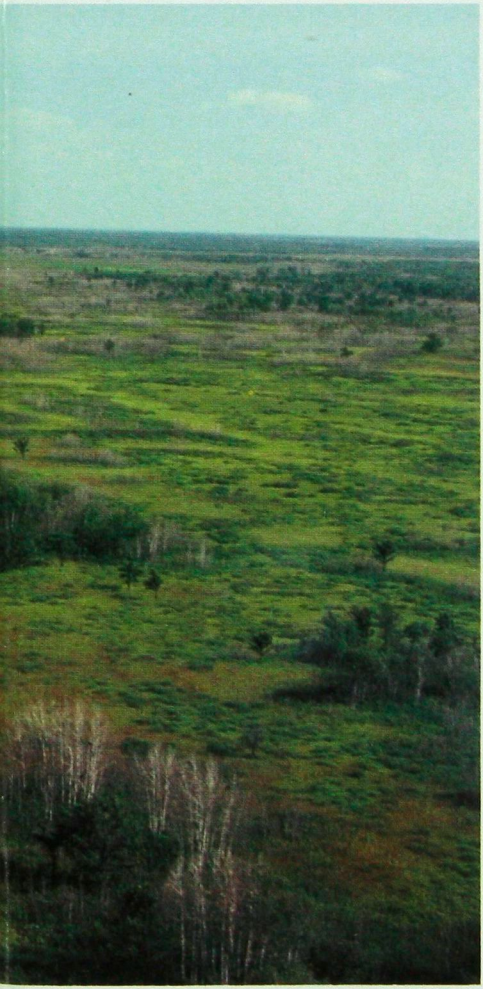
Tallgrass Aspen

By NANCY SATHER and ROBERT DANA

Parkland

AN UNSUNG WILDERNESS PRESENTS A VAST OPPORTUNITY FOR CONSERVATION.



ROBERT DANA

Our course lay on the east side of the river, through a beautiful level prairie studded with willow bushes. . . . A very perceptible change was observed in the prairie the next day. . . . Hummocks of aspen and willow relieved the sameness of the scenery. . . . Between Pine River and Middle River the soil preserves its light character, the trail running for many miles on ancient lake ridges or beaches.

—HENRY HIND, OCTOBER 1857

IF EXPLORER HENRY HIND WERE TO repeat this journey today, he would find no trace of the "beautiful level prairie" on the east side of the Red River. Since European settlers first introduced wheat to the Red River valley in the early 1800s, Hind's rich prairies have been entirely converted to cropland. Much the same fate has befallen all of Minnesota's tallgrass prairie, which by building some of

Aspen parkland, characterized by a smattering of aspen groves, shrub thickets, and tallgrass, is found in northwestern Minnesota and southern Manitoba.

the world's finest agricultural soils assured its own destruction.

However, on reaching the beach ridges, Hind would find himself in familiar surroundings, a brushy prairie full of "hummocks of aspen and willow." Here in the tallgrass aspen parkland, tens of thousands of acres have been spared the plow. Unlike the tallgrass prairie, which is extinct as a naturally functioning ecosystem, the parkland survives in sufficient acreage to function much as it did when Hind journeyed there. Because it is a dynamic landscape, maintained by cycles of wet and dry years, frequent fire, and natural recovery, the parkland's future as a biological phenomenon depends on large, intact blocks of land.

D. & M. ZIMMERMAN, VIREO

One denizen of the aspen parkland is the rare and elusive yellow rail.

The survival of this ecosystem is the result of a fortuitous combination of the agriculturally inhospitable nature of the landscape, its history of settlement, and the foresight of individuals who decades ago recognized its value for wildlife. Recent recognition that the tallgrass aspen parkland is an ecosystem found only in northwestern Minnesota and adjacent Manitoba has brought new urgency to the task of conserving it for future generations.

Natural Patchwork

The tallgrass aspen parkland extends roughly from Red Lake Falls, Minn., to Winnipeg, Manitoba, encompassing 1.2 million acres. It is the northernmost expression of the transition between tallgrass prairie and forest ecosystems. In Minnesota it is sandwiched between the conifer forests and peatlands north of Red Lake and the croplands in the former rich prairies of the Red River valley.

Scarcely an explorer passed through the parkland without commenting on the islands of willow and aspen that everywhere interrupted the prairie expanse. Colorful township names attest to the patchwork: Marsh Grove, Eckvoll (Norwegian for "oak vale"), and Espelie (also Norwegian, meaning "poplar slope"). Today, the intact areas are still a mosaic of trembling aspen and balsam poplar groves, prairies,

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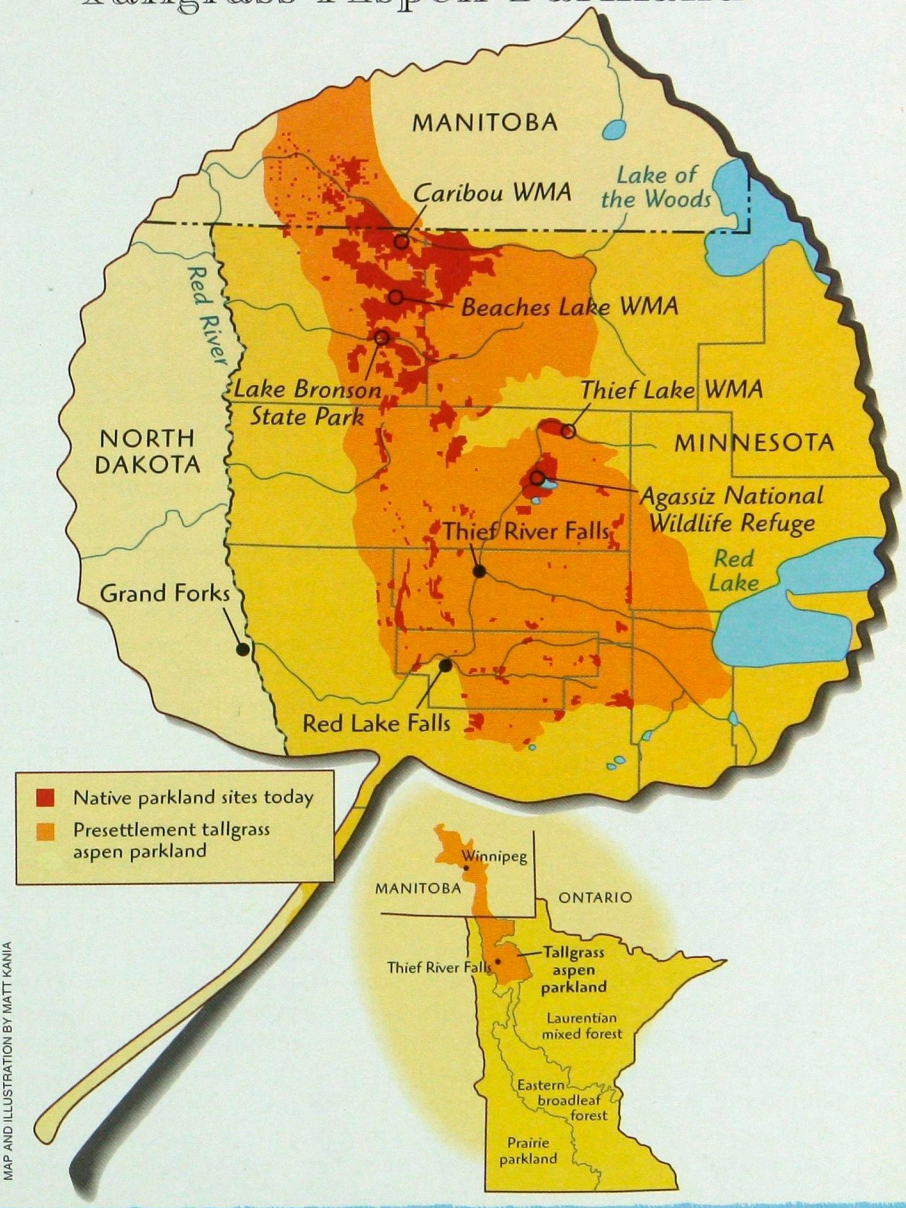
***Nancy Sather** and **Robert Dana** are botanists and plant ecologists with the DNR Natural Heritage and Nongame Research Program and Minnesota County Biological Survey.*

Tallgrass Aspen Parkland



SOURCES: MINNESOTA COUNTY BIOLOGICAL SURVEY DATA 1998. THE NATURE CONSERVANCY 1997. CANADIAN WILDLIFE SERVICE 1985.
MAP AND ILLUSTRATION BY MATT KANIA

UPTON, MINNESOTA HISTORICAL SOCIETY

The deafening screech from the wooden axles of Red River ox carts echoed through the parkland during the mid-1800s. A half-century later, hunters (below right) gathered at the Hotel Hallock to shoot the plentiful game, including moose, deer, and elk.

and sedge-dominated fens dotted with willow and bog birch. A striking feature is the abundance of shrubs (more than 25 species) in the prairies and meadows, resulting in a native plant community known as brush prairie.

Most of the area is level and poorly drained, smoothed first by flowing ice and later by the waters of Glacial Lake Agassiz. The most prominent topographic features are 10,000-year-old beach ridges of Glacial Lake Agassiz that rise a mere 25 feet above the plains and trend sinuously northward through the center of Marshall and Kittson counties. Their sandy soils once supported strings of oak savanna and dry prairie, fragments of which still remain. Important trails for pre-European peoples and bison, these beach ridges also provided an upland route for thousands of ox carts hauling furs from posts in the Red River valley and Canada to St. Paul throughout most of the 19th century.

Railroad Legacy

In 1879 the U.S. government granted alternating square-mile blocks of land throughout the northern Red River valley, including most of the aspen parkland, to a railroad company (later to become part of James J. Hill's empire) to finance the construction of rail service into the area. By 1912 the Kittson County plat atlas showed that the land most promising for agriculture had nearly all been sold. However, in several

large areas of poor agricultural potential, the railroad's ownership remained largely intact.

Impressed by the wildlife value of these vast blocks of parkland, Robert Farmes, the DNR area wildlife manager for northwestern Minnesota in the early 1960s, sought to protect them as public wildlife lands. In 1969 Kittson County approved plans for Beaches Lake and Caribou wildlife management areas, and the DNR began buying tax-forfeited land within the units. By 1990 the state owned most of the land within the WMAs, except for the checkerboard of former railroad properties, which had been purchased for speculation by an out-of-state investor group before Beaches Lake and Caribou had been created. Development of these tracts would fragment the parkland, reducing their value to wildlife.

The investors offered their land in Beaches Lake WMA for sale. The Nature Conservancy of Minnesota, a private conservation organization dedicated to protecting areas important for biodiversity, bought all 6,900 acres and transferred them to the DNR in 1993.

Soon after, a Swiss entrepreneur who had bought most of the old railroad lands in and around Caribou WMA decided to sell many of the undeveloped tracts. Again, The Nature Conservancy bought the

KITTSON COUNTY HISTORICAL SOCIETY

land and transferred the 4,300 acres in Caribou to the DNR. With these two transactions, the early vision for Beaches Lake and Caribou wildlife management areas, respectively the largest and second largest contiguous blocks of tallgrass aspen parkland in the United States, has come close to realization.

Paradise for Wildlife

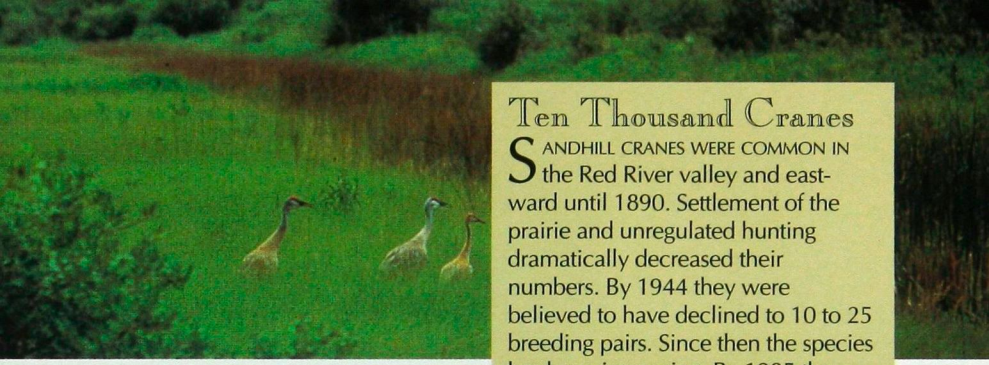
Although the thousands of bison, prairie wolves, and elk noted by early explorers are gone, hunting opportunities abound to this day. The parkland harbors the state's second largest population of moose, and it is one of the few places in Minnesota where the sharp-tailed grouse still reaches populations of adequate size to be hunted.

The aspen parkland supports not only a variety of common water-

STEVE MAXSON

Though once-plentiful elk have nearly disappeared, moose (below) still roam the parkland in large numbers. Sandhill cranes (upper right) feed in grassy openings.

BARBARA COFFIN



fowl, but also horned grebes, red-necked grebes, sandhill cranes, and Wilson's phalaropes. Agassiz National Wildlife Refuge and Thief Lake WMA are keystone areas for migratory waterfowl, including colonial waterbirds and other nongame species.

Not only does the parkland support a large diversity of species, but it also provides habitat for some of the state's rarest plants and animals, as documented by the Minnesota County Biological Survey in the early 1990s. For example, the survey discovered that the aspen parkland is the stronghold in Minnesota for the rare yellow rail, once believed to be imperiled in the state. In addition to 35 new locations for the yellow rail, the survey documented 285 new

Ten Thousand Cranes

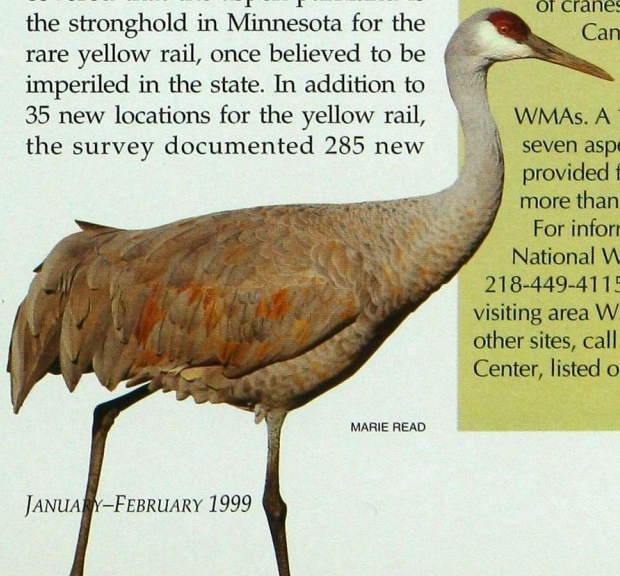
SANDHILL CRANES WERE COMMON IN the Red River valley and eastward until 1890. Settlement of the prairie and unregulated hunting dramatically decreased their numbers. By 1944 they were believed to have declined to 10 to 25 breeding pairs. Since then the species has been increasing. By 1985 the state's population had revived to an estimated 760 to 1,160 nesting pairs.

The wetland-laced landscape of the aspen parkland is prime crane habitat. It has shallow wetland roost areas; an abundance of nesting sites in taller vegetation such as cattails, reed-grass, and bulrush; and nearby open habitat for feeding.

Although noticeable because of their size and high trumpeting call, sandhill cranes become quieter and less obvious after their "colts" (chicks) hatch. As summer progresses they move to feed in nearby fields, congregating at night in wetland roost areas. By early September thousands of cranes from Minnesota and Canada move into Agassiz National Wildlife Refuge and area WMAs. A 1988 study found that seven aspen parkland sites provided fall staging grounds for more than 10,000 cranes.

For information on Agassiz National Wildlife Refuge, call 218-449-4115. To learn about visiting area WMAs, state parks, and other sites, call the DNR Information Center, listed on page 63.

—*Nancy Sather*



MARIE READ

ROBERT DANA

Aspens form small but often dense groves. Prairie plants, such as the rare western prairie fringed-orchid (upper right), grow in openings dominated by grasses.

locations for six other rare bird species, four locations for rare mammals, 19 for rare butterflies, and nearly 200 for 36 rare plant species.

Dynamic Interplay

The large areas of parkland provide an unprecedented opportunity to protect sufficient acreage of a still-intact ecosystem to ensure that natural processes can continue to maintain it. In his journal in 1860, Hind noted the delicate balance between prairie and trees and the role of fire: "If a portion of prairie escapes fire for two or three years the result is seen in the growth of willows and aspens, first in patches, then in large areas, which in a short time become united and cover the country, thus retarding evaporation and permitting the accumulation of vegetable matter in the soil. A fire comes, destroys the young forest growth and establishes a prairie once more."

It is this dynamic interplay of the coarseness of the soil (which influences drainage profoundly), topography, weather, and fire that creates the patchy landscape. Historically, the parkland occupied a broad zone of gradual transition where neither prairie, forest, nor peatland could gain the upper hand, but elements of all three

WELBY SMITH

could intermingle. The beach ridges, extensive wetlands, and annual precipitation in the area impeded the spread of fire enough to allow fire-tolerant shrubs and

Turning a Profit

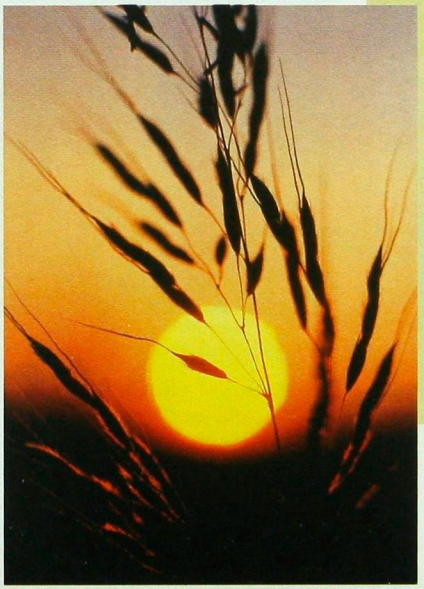
SMALL GRAINS AND LIVESTOCK HAVE been part of the parkland scene for more than 100 years. During the past decade, grassland acreage increased as northwestern counties led the state in acres enrolled in the Conservation Reserve Program. One side effect of more CRP lands has been demand for native prairie seed.

For Lake Bronson farmer Oscar Carlson, this demand was a serendipitous opportunity for his interest in prairie planting to evolve into what he calls "a hobby gone out of control"—harvesting and selling native prairie seed. Expanding CRP markets prompted him to plant his own fields with local-origin seed.

Since Minnesota began certifying the geographic origin of native seed, Carlson has found himself in the enviable position of being the state's northernmost grower of little bluestem for northern planting. The demand is enormous because native seed is specified for CRP and Minnesota Department of Transportation lands.

"You really don't know where the market could go if farmers knew the value of bluestem and Indian-grass as a substitute for cool-season grasses in summer pastures," Carlson says.

—*Nancy Sather*



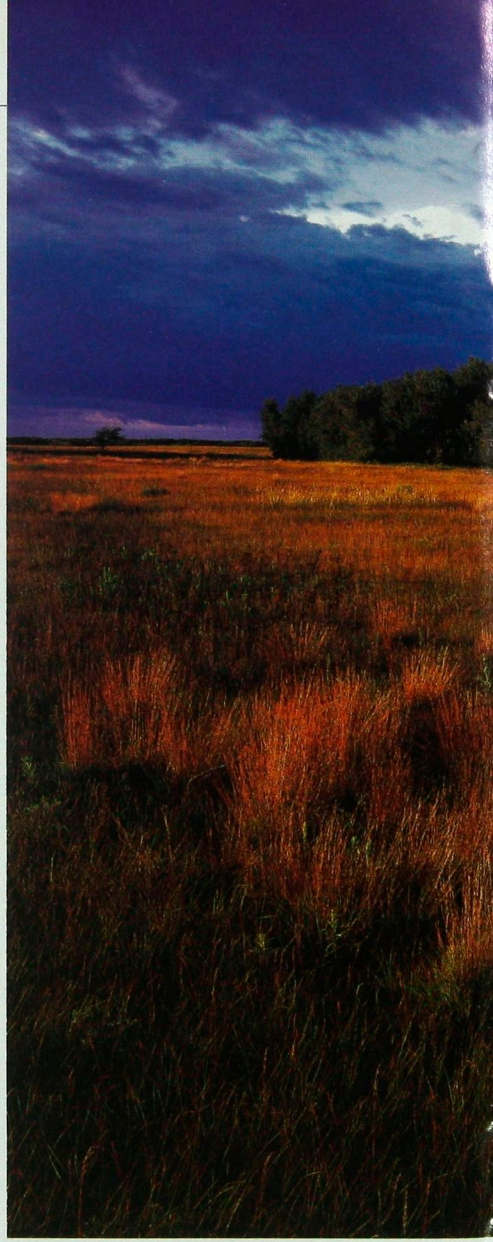
CLOSE-UP OF INDIAN-GRASS BY JIM BRANDENBURG

trees to persist and a shallow layer of peat to form in depressions.

Fire is still fundamental to this ecosystem, but because people will continue to live and farm here, carefully planned prescribed burns must serve the dynamic function noted by Hind. With that effort comes the cost of creating firebreaks and employing crews to manage the fire. Consolidation of ownership reduces risks of property damage and allows for efficient use of work crews and financial resources. Large contiguous tracts allow managers to replicate the scale of historical wildfires and thus preserve the natural patchiness of the landscape.

The benefits of large public lands and landscape-scale management are myriad. After a century of often-failed attempts at agriculture in "cold bottom" land far from markets and fraught with drainage problems, natural processes are being restored. Open habitat is being reclaimed for declining brushland species such as sharp-tailed grouse. Counties are receiving in-lieu-of-taxes payments that often exceed former tax rates, frequently on lands that have gone through cycles of tax forfeiture.

Conservation management at this landscape scale can help ensure adequate habitat for all parkland species, from moose to prairie voles, from the most cryptic beak-rush to the showiest of orchids, the smallest yellow rail to the giant sandhill crane. ❑



GARY ALAN NELSON

Aspen groves and bunches of little bluestem grow in Lake Bronson State Park along an ancient beach ridge of Glacial Lake Agassiz. The parkland lies at the transition between forests to the east and prairies to the west.