

owners may continue to use these lands for haying but other land use practices are not permitted. In addition, through 1988, landowners are also given a tax credit for prairie lands enrolled under this program.

The future of protecting native prairie in Minnesota is improving, however. In 1987 the Minnesota legislature enacted two pieces of legislation that hold significant promise for accelerating prairie protection efforts.

One law directs the Department of Natural Resources to develop and manage permanent prairie landscape reserves in order to maintain the native plant and animal populations, landscape features, and habitat types characteristic of intact native prairie ecosystems. Further, this legislation notes that prairie landscape reserves are composed of an integrated network of protected prairie lands, prairie restoration sites, and private prairie lands. This legislation further provided for the establishment of a prairie biologist under the State Scientific and Natural Areas Program to plan, develop, and manage native prairie reserves and prairie land. Minnesota's first prairie biologist was hired in October 1987 and is permanently stationed at Fergus Falls.

The second significant piece of legislation was simply called "Prairie Bank." Developed as a part of the "Reinvest in Minnesota" conservation legislation, "Prairie Bank" permits

the purchase of easements for the protection of native prairie. This landmark legislation specifies that priority must be given to permanent easements for prairie protection. Minnesota's prairie biologist is utilizing this important protection tool to assist in developing prairie landscape reserves as well as to protect other key prairie tracts in danger of being destroyed. Using this important protection tool the Department of Natural Resources will be implementing prairie protection and management while working with private prairie landowners. Management of prairie bank easements and other prairie lands may consist of prescribed burning, prescribed grazing, and regulated haying or combinations thereof to enhance and maintain the native prairie resource at any given site. The actual management prescription will depend on site resources and rare resources present, among other things. One thing is clear, however; the long term outlook for the protection of the remaining native prairie in Minnesota is brighter today than it has been for years, although a lot of work remains to be done to see that it happens.

Those interested in visiting one of Minnesota's remaining protected prairies should contact the author: Bob Djupstrom, Supervisor, Scientific & Natural Areas Program, DNR, Box 7, 500 Lafayette Road, St. Paul, Minn. 55155. Telephone: 612-297-2357.

Minneapolis/St. Paul: An Agricultural Hub

David S. Dahl

In ancient Greece a metropolis was the mother city of a colony. Minneapolis/St. Paul today is the double-headed metropolis for that far-reaching, agriculturally oriented area of the United States often referred to as the Upper Midwest. The Twin Cities, as the Minneapolis/St. Paul metropolitan area is frequently called, is home to about 2 million people, making it the nation's 16th largest urban area. In fact, across the northern tier of states, Minneapolis/St. Paul is the largest economic complex between Milwaukee and the Pacific Coast.

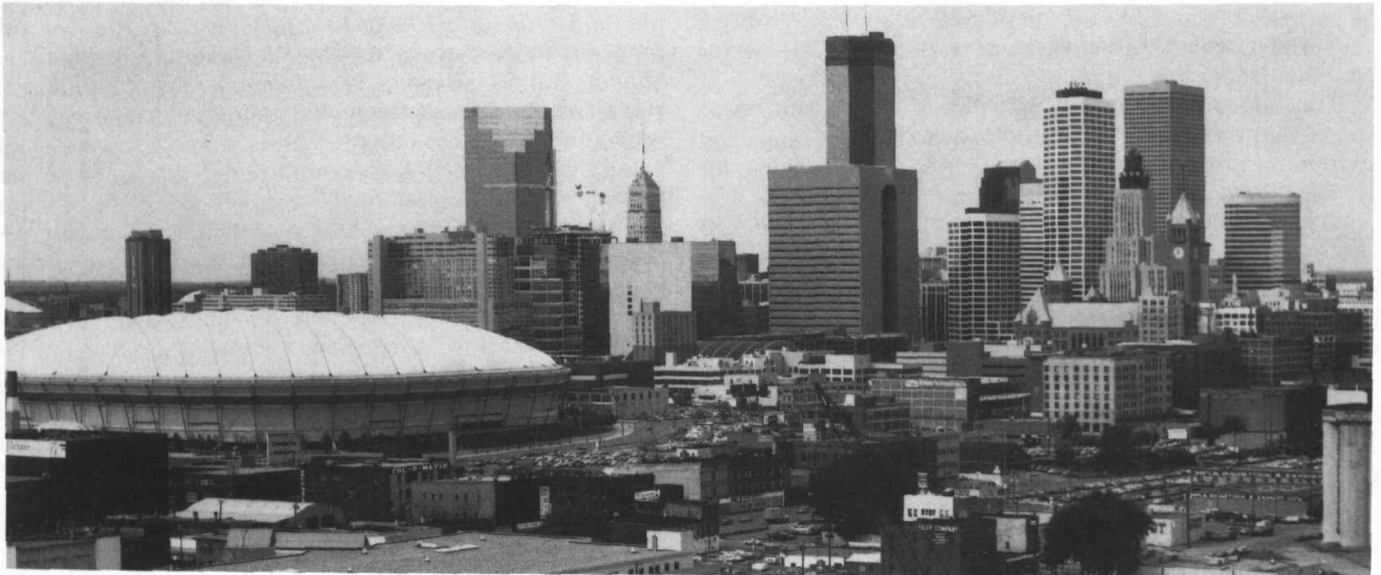
The Twin Cities serves a region which includes Minnesota, Montana, North Dakota, South Dakota, northwestern Wisconsin, and the Upper Peninsula of Michigan. The region stretches 1,800 miles from east to west and encompasses 411,000 square miles. Although the Upper Midwest accounts for 12 percent of the nation's land, only 3 percent of the nation's population resides here (roughly 8 million people).

One of the distinguishing features of this vast area is its strong orientation toward agriculture. As a significant producer of a wide range of agricultural products, the Upper Midwest:

- contains 12 percent of the nation's grassland pasture, making it an important livestock producer;
- produces 26 percent of the nation's wheat, 11 percent of its corn, and 10 percent of its soybeans; and
- accounts for 15 percent of the nation's milk production.

The Upper Midwest's development into a preeminent agricultural producer and Minneapolis/St. Paul's evolution into a major urban center were intertwined. In the late 1800's as the railroads pushed west from the Twin Cities, immigrants began to develop the Upper Midwest's agricultural potential. They relied on railroads to supply goods and to ship crops and livestock to market. One of their major markets became the Twin Cities. Millers in Minneapolis had coupled the power of St. Anthony Falls on the Mississippi River with growing wheat production in the Upper Midwest to develop a booming flour milling industry. Two of the largest flour millers were C.A. Pillsbury and Company and Washburn-Crosby Milling Company (later General Mills). Their success resulted in Minneapolis becoming known as the "Mill City." The Twin Cities has diversified into an important finance, high tech manufacturing, education, business services, and medical center that serves national and international markets. Nevertheless, many Minneapolis/St. Paul businesses continue to have close ties to Upper Midwest agriculture. Twin

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Reflecting the vitality of Twin Cities economy are the new office buildings that dominate the downtown Minneapolis skyline.

Cities businesses influence the prices farmers and ranchers receive for their crops and livestock; what they pay for seed, feed, fuel, and machinery; and the availability and cost of transportation and credit to them.

The Twin Cities is an important transportation interchange where grains are brought in from the Upper Midwest by rail and transferred to barge for shipment down the Mississippi River to gulf ports. In 1986 several barge companies shipped 6.9 million tons of grain from the Twin Cities. Several railroads serve Minneapolis/St. Paul, the most dominant lines being: Burlington Northern, Inc.; the Soo Line Railroad, which has its corporate headquarters in Minneapolis; and the Chicago and Northwestern Transportation Company.

Numerous Minneapolis/St. Paul firms supply Upper Midwest farmers and ranchers with machinery, feed, fuel, and seed; assist them with their marketing; and process their commodities. Three of the most prominent are:

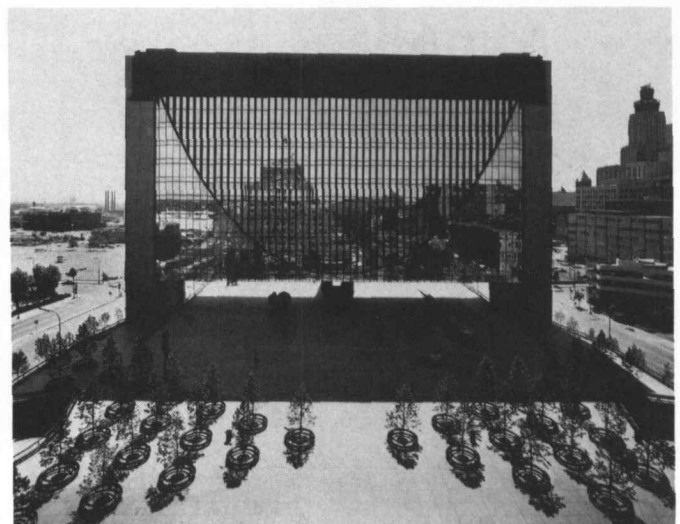
Minneapolis Grain Exchange: By bringing together buyers and sellers, it is the centralized marketplace for grain grown in the Upper Midwest. It has cash markets for several grains and a futures market for hard red spring wheat. About 1 million bushels are traded each day on its cash markets and about 6 to 8 million bushels per day on its futures market.

Cargill: Headquartered in a French chateau on an estate outside of Minneapolis, Cargill, with \$32 billion in revenue, is the nation's largest privately held company. Most of this revenue comes from buying, storing, transporting, and selling agricultural products. It is the nation's No. 1 grain exporter, No. 1 egg producer, No. 2 beef packer, and No. 3 wheat miller. Cargill's elevators, located across the Upper Midwest, buy and store the region's grain.

Land O'Lakes: With more than 325,000 farmer members in 8 Midwestern states, Land O'Lakes, with corporate offices in Arden Hills, a Twin Cities suburb, is the nation's third largest farm cooperative. It process and markets its members' milk production; operates meat processing plants; and provides its members with feed, seed, fertilizer, chemicals, and petroleum products. Land O'Lakes' presence in the Upper Midwest is

evidenced by the fact that it feeds 1 in 5 dairy cows in the region.

In addition to relying on Twin Cities companies for fuel, feed, seeds, and transportation, many Upper Midwest farmers look to Minneapolis for financial services. Located in downtown Minneapolis in an architecturally striking building is the Federal Reserve Bank of Minneapolis. It assists the



The Minneapolis Fed's office tower is suspended over three underground levels that comprise two-thirds of the building's space.

Upper Midwest's 1,394 commercial banks, 658 of whom primarily serve agricultural customers, in moving funds in and out of the region as well as within it. The Minneapolis Fed, for example, daily processes over 3 million checks and transfers \$15 billion electronically. At the end of 1986, Upper Midwest banks accounted for \$4.3 billion, 14 percent, of the \$32 billion of agricultural loans held by United States commercial banks. Located in St. Paul is Farm Credit Services of St. Paul, which makes mortgage and operating loans to farms and cooperatives in Minnesota, North Dakota, Wisconsin,

and Michigan. It is the largest of the nation's 12 Farm Credit Services Banks, and at the end of 1986 its outstanding loans amounted to \$8.7 billion.

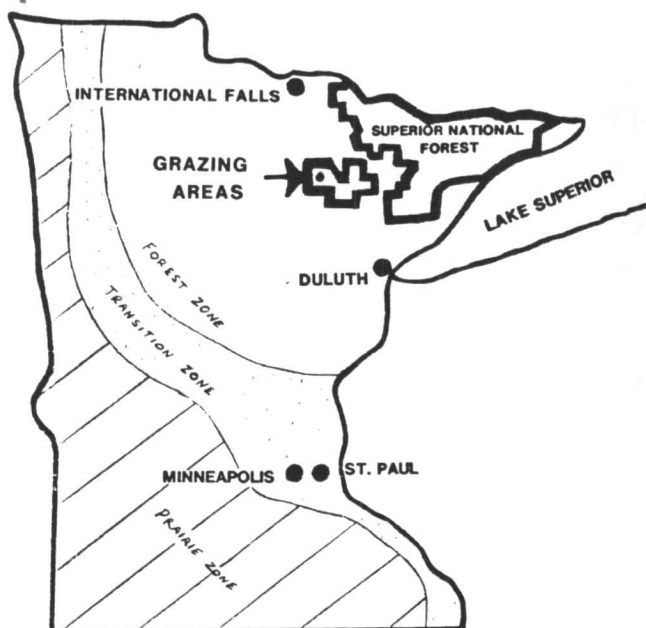
Recent years have been difficult for Twin Cities businesses supporting agriculture as well as for Upper Midwest farmers and ranchers. Agricultural exports collapsed in the early 1980's, and farm commodity prices plummeted. The stress this placed on farmers is manifested in the fact that the number of Upper Midwest farms declined 10 percent between 1981 and 1986. Farmers' financial stress was in turn transmitted to their Twin Cities suppliers. Farm Credit Services of St.

Paul increased the amount it set aside for loan losses from \$217 million in 1982 to \$694 million in 1986. But for now, the worst appears to be behind for Upper Midwest agriculture. In late 1987 Upper Midwest bankers responding to a Federal Reserve Bank of Minneapolis survey reported that the region's farm income was up from a year ago and that the sharp slide in farmland values was over. With some brightening in agricultural prospects, Minneapolis/St. Paul should experience some pickup in its agriculturally related businesses and continue to be the primary agricultural service center in the Upper Midwest.

Pioneering a Grazing Program on the Superior National Forest

Gerald R. Rustad

When the Forest Service transferred me from Colorado to Minnesota in June 1978, one of the first questions that I asked was, "Where do you keep the horses?" I got a blank stare followed by a short reply: "We don't have any horses." I then asked, "How do you ride the range?" Another short reply: "We don't have any range." This was my introduction to range management on the Superior National Forest in Minnesota.



"Welcome" to old field pasture.

that there was a demand. Two rancher/farmers on the district expressed an immediate interest. A short chat with the Forest soil scientist enlightened me to the fact that the Forest soils were quite capable of producing livestock forage. The only thing left was to determine if grazing was a suitable management activity for the Superior National Forest.

Description of Area

Minnesota is divided into three broad vegetation zones (see map). The Superior National Forest is well within the forest zone. The "natural" state of northeastern Minnesota is forest. Natural openings are lakes, rock outcrops, and

The subject was not brought up again until some months later. The Forest biologist was looking at a document one day. He had a perplexed look on his face, then looked at me and said, "We have to address range management in the Forest plan." I figured it would be an easy task—no demand, no capability, and no suitability. It didn't take long to find out

The author worked with USDA Forest Service 8 years in Colorado, 10 years in Minnesota, Asst. Dist. Ranger in Range Wildlife and Recreation, and currently president of North Central Section SRM.