

Complex and Resource Descriptions

Tewaukon Complex History

The Tewaukon National Wildlife Refuge Complex is located in the southeast corner of North Dakota (See Map 2). The Complex includes the Tewaukon NWR and the Tewaukon Wetland Management District (WMD). The Refuge is composed of the Tewaukon and Sprague Lake Units. The WMD includes Waterfowl Production Areas and wetland and grassland easements and two easement refuges. It is located on the gently rolling glacial till plain in the Prairie Pothole Region and the Red River of the North Valley (original bed of ancient glacial Lake Agassiz). It hosts birds from both the Central and Mississippi Flyways (See Figure 1 and 2). More than 243 bird species have been recorded in the area. Of these species, 100 are known to nest in the area and the remainder can be seen during spring and fall migrations when peak numbers occur.



Figure 1. USDI, FWS. Flyways, *Pioneering Waterfowl Management in North America*. 5/84, 517 pgs.

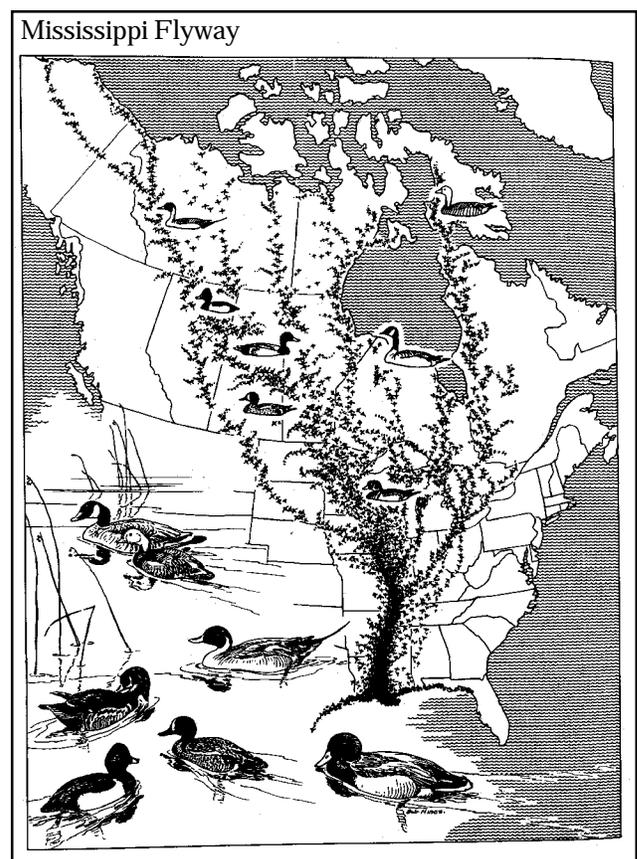


Figure 2. USDI, FWS. Flyways, *Pioneering Waterfowl Management in North America*. 5/84, 517 pgs.

Tewaukon National Wildlife Refuge

Land around Lake Tewaukon has been a part of the U.S. Fish and Wildlife Service's National Wildlife Refuge System since 1934. An Easement Refuge was established on November 26, 1934 by Executive Order 6910, which provided for acquisition of easements for flowage and refuge purposes and filing of water rights. At that time, the Government's goal was to provide jobs for the unemployed and conserve water and wildlife resources. As part of Franklin Roosevelt's "New Deal," the Work Progress Administration worked with local landowners to purchase refuge easements which reserved the right to impound water (to maintain water areas during drought), maintain no hunting areas for migratory birds, and serve as wildlife conservation demonstration areas. Though these were perpetual easements, the land remained in private ownership. The construction of dams in these areas provided employment for workers and developed additional water resources. Water rights for the additional impounded water were also applied for from the State of North Dakota during this time. The easement refuges where water rights were applied for included Lake Tewaukon, Hepi Lake, Lake Elsie, Storm Lake, and Wild Rice Refuges. One fee title piece of 80 acres along the Wild Rice River west of the current headquarters was purchased in 1936 and used for temporary housing and storage. The area was managed from the Sand Lake National Wildlife Refuge located 80 miles to the southwest of Tewaukon just north of Aberdeen, South Dakota.

The Tewaukon easement lands were reserved and purchased as a Government-owned Refuge with the encouragement and support of local landowners and sportsmens groups. These landowners and groups wanted to protect the area for wildlife and to continue recreational fisheries improvements. On June 26, 1945, Public Land Order 286 established Tewaukon Refuge as "... a refuge and breeding ground for migratory birds and other wildlife..." In 1946, 512 acres were purchased in fee title around Lake Tewaukon. Since that original Refuge purchase, additional lands have been acquired totaling 8,363 acres. In March of 1956, Sand Lake NWR turned over management of the area to an on-site staff (one refuge manager) in a headquarters located five miles south of Cayuga, North Dakota.

Original management objectives established in the Master Plan for the Refuge in October 1962 included: "Primary objectives (1) to provide optimum nesting habitat for ducks; (2) to provide protection and food for fall and spring concentrations of migrant ducks and geese, primarily the smaller races of Canada geese, and snow and blue geese. Secondary objectives are (1) to maintain balanced population of all resident wildlife species; (2) to provide for public observation of wildlife species in their natural environment; (3) to provide limited day-use recreation including public hunting, where and when such activities are compatible with primary management objectives of the refuge."

The Tewaukon area has a rich historical background. Prior to settlement by Europeans, this area was inhabited by several plains nomadic tribes that were primarily hunter-gatherers. They utilized the area around Lake Tewaukon including the lake's peninsula extensively. In 1867, the Government established the Lake Traverse Dakotah Sioux Reservation for the Sissetonwan and Wahpetonwan Dakota peoples. The boundaries included a portion of the Lake Tewaukon area. This area continued to be used for gatherings by Native Americans and white settlers. This lake is still a popular spot today, especially for sightseeing, wildlife observation, hunting, and recreational fishing.

Tewaukon Wetland Management District

The Tewaukon Wetland Management District was established in 1960 to administer a variety of Service property interests in Richland, Ransom, and Sargent Counties. Enabling legislation includes: the Migratory Bird Hunting and Conservation Stamp Act (Stamp Act) and amendments; the Wetlands Loan Act and the Migratory Bird Conservation Act, for acquisition of areas for migratory birds and for Waterfowl Production Areas. Waterfowl Production Areas are subject to the provisions of the Migratory Bird Conservation Act "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds...." Public Law 85-585 amended the Stamp Act to remove the inviolate sanctuary provision from WPAs. This is further defined in the Code of Federal Regulations (CFR) 50 as areas open to hunting, trapping, and fishing.

The Wetland District is comprised of Waterfowl Production Areas (fee title ownership), wetland easements, and grassland easements in Ransom, Richland, and Sargent Counties. Wetland easements and WPAs are purchased with Federal Duck Stamp dollars to protect migration and nesting areas for waterfowl. The Waterfowl Production Areas are fee title areas, from 20 to more than 1,000 acres in size, that provide migratory bird habitat. The Tewaukon Complex staff administers over 14,000 acres of these WPAs in the three Counties (See Map 2). Wetland easements have been purchased from willing landowners in the District over the past 30 years. In order to protect wetlands on described tracts from draining, filling, leveling, or burning, the Service has purchased a perpetual real property interest in them. District personnel are responsible for managing over 35,000 acres protected by wetland easements. In 1998, grassland easements were added to the District to protect prairie tracts from being converted to farmland. Grassland easements allow grazing at any time, and haying after July 15 to protect grasslands for wildlife habitat. To date, Complex personnel are responsible for administering over 10,000 acres of grassland easements.

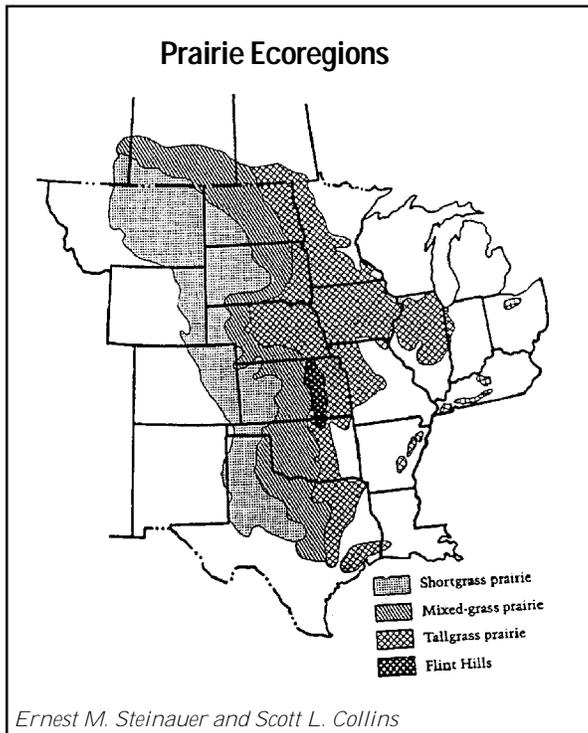
Tewaukon Complex Easement Refuges

Easements were purchased on Lake Elsie, Wild Rice, and Storm Lake Refuges in 1934 as water and wildlife conservation projects. The Service divested Lake Elsie in 1998. The real property interest that the Service purchased in Wild Rice and Storm Lake Easement Refuges is limited, and is similar to the interest that was purchased on some of the tracts around Lake Tewaukon in the 1930s. On these three refuges, the Service purchased refuge easements which reserved the right to impound water, maintain no hunting areas for migratory birds, and serve as wildlife conservation demonstration areas.

Geographic/Ecosystem Setting

The majority of the Tewaukon Complex is located in the tallgrass prairie ecosystem while a portion of western Ransom and Sargent Counties lie in the mixed-grass ecosystem (See Figure 3). Of all the prairie types, the tallgrass prairie is the most mesic with annual precipitation averaging 20

inches for southeastern North Dakota. Extreme seasonal temperatures range from -31 degrees to 100 degrees Fahrenheit. The tallgrass prairie is characterized by grasses, some over five feet tall, including big bluestem, Indian grass, switchgrass, prairie cordgrass, and a variety of forbs including golden Alexander, Maximilian sunflower, blazing stars, and leadplant. The mixed-grass prairie is characterized by grasses and forbs ranging from two to four feet tall including needle-and-thread grass, sideoats grama, little bluestem, coneflowers, aromatic aster and golden rod. These plant communities are not separated by distinct boundaries but transition from tallgrass to mixed-grass in the western part of the District. This boundary transition depends primarily on precipitation. Tallgrass plant species are commonly found on wetter sites and mixed-grass species are often found on higher, drier sites. Sites that have less than a 10 foot difference in elevation can have very different plant communities. Soils are also different on these sites.

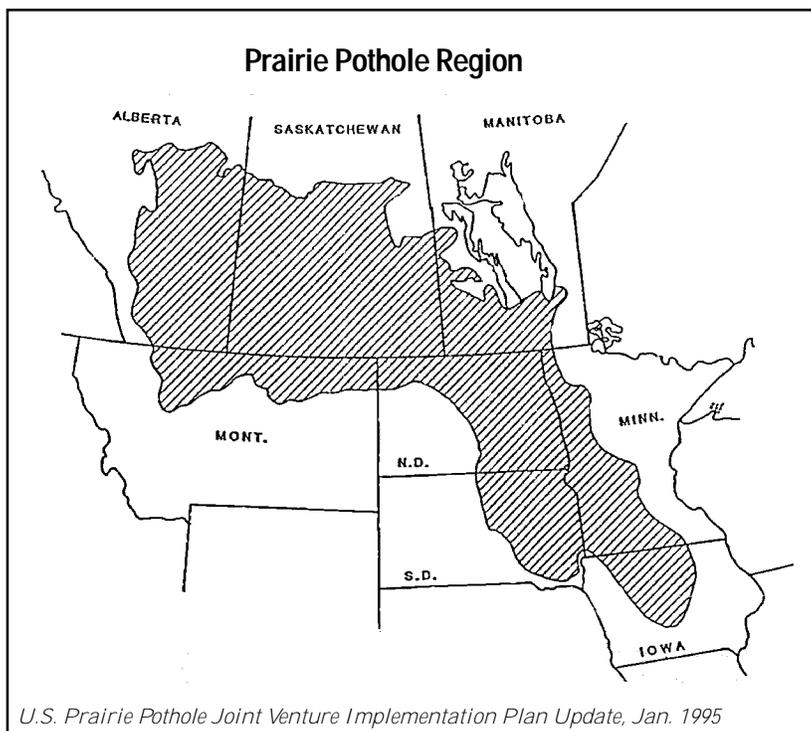


Ernest M. Steinauer and Scott L. Collins

Figure 3. Prairie Ecoregions

The Complex is also located in the Prairie Pothole Region (See Figure 4). The wetlands in this region are among the continent's most biologically productive systems. They provide habitat for waterfowl, shorebirds, wading birds, amphibians, and a variety of other wildlife. The wetlands are important for maintaining and recharging groundwater supplies, improving water quality, storing flood waters, and trapping of sediments. The prairie pothole wetland complexes and their associated grasslands are an integral component of the prairie landscape, providing a

wide array of ecological, social, and economic benefits. (U.S. Prairie Pothole Joint Venture Implementation Plan Update 1995). The Complex lands are located in several river watersheds including the Sheyenne, Red River of the North, and the Wild Rice River (Map 3). The Wild Rice River, a western tributary of the Red River of the North, flows through the Refuge. The Wild Rice River and several unnamed tributaries provide a water source for Refuge managed wetlands that attract migratory waterfowl which rest, feed, and nest in the area.



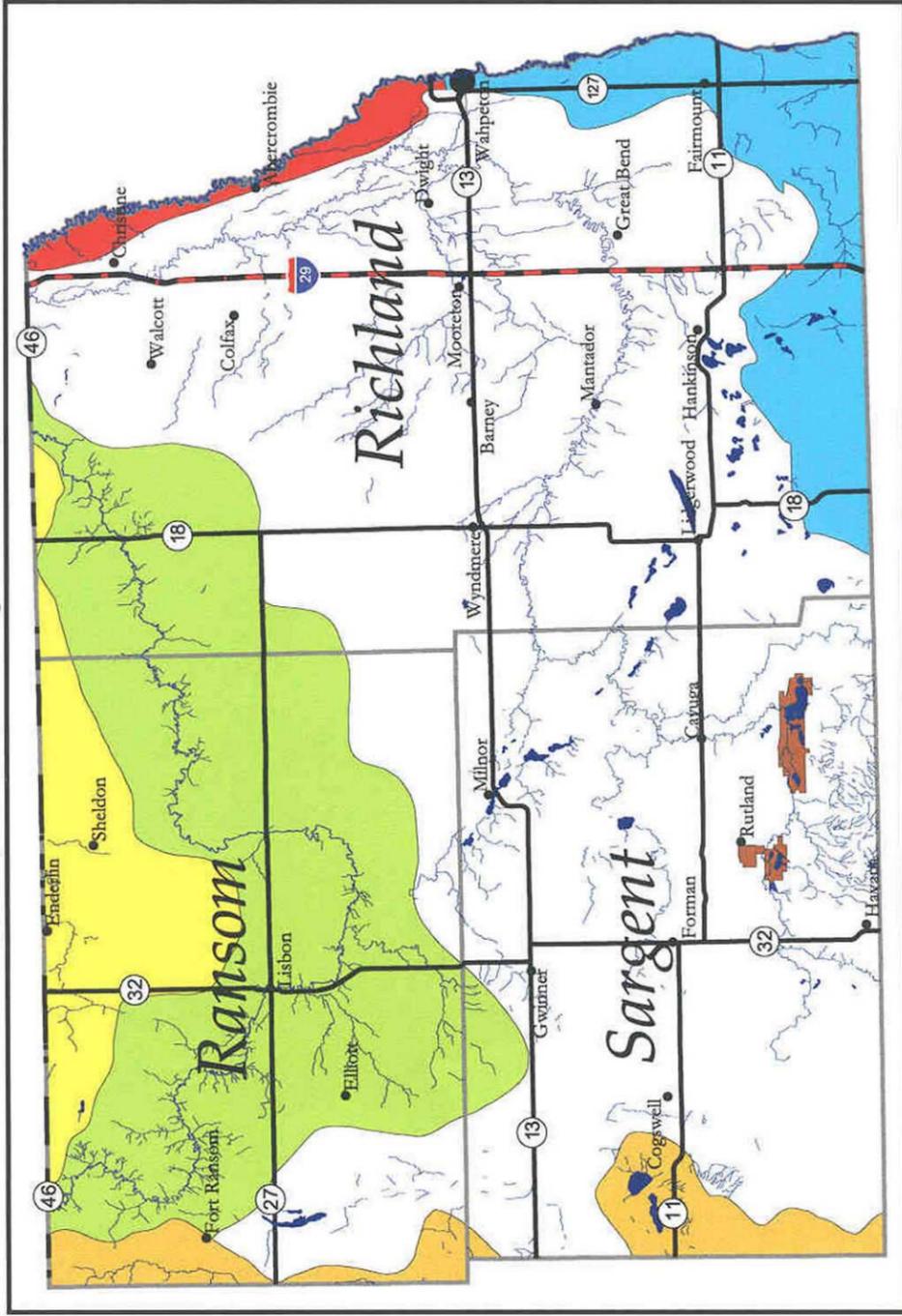
U.S. Prairie Pothole Joint Venture Implementation Plan Update, Jan. 1995

Figure 4. Prairie Pothole Region

The Tewaukon Complex is located on the eastern edge of the Central Migratory Bird Flyway and migrating birds are strongly influenced by the James River Corridor. Birds from the Mississippi Migratory Bird Flyway, following the Lake Traverse-Minnesota River system also use the area. As a result, Tewaukon is a mixing point for birds associated with both the Central and Mississippi Flyways (See Figures 1 and 2).

Tewaukon National Wildlife Complex

Ransom, Richland, and Sargent Counties, North Dakota



Legend

- Watersheds
- Upper James
- Maple
- Lower Sheyenne
- Upper Sheyenne
- Wild Rice
- Bois De Sioux



Map #3 Tewaukon Complex Watershed Map

Historical Resources, Cultural Values, and Uses

Four major glacial periods impacted the northern plains during the Pleistocene Age (Pielou 1992). The most recent was the Wisconsin glacial stage, which reached its maximum extent about 13 thousand years ago (Mayewski et al. 1981). All the dominant landscape features of the Prairie Pothole Region are products of that geological event including prairie wetlands or “potholes” and the rich glacial till soil that gave rise to the tallgrass prairie. The gently rolling landscape with shallow, seasonal, temporary, and permanent wetlands or potholes was carved out as the glaciers receded.

The tallgrass prairie was once an estimated 190 million acres (Bailey 1995) and stretched from southern Texas to southern Manitoba (See Figure 3) and was the dominant vegetation type across the eastern portion of the Great Plains during pre-settlement times (Steinauer and Collins 1996). Shallow, seasonal temporary and permanent wetlands dotted the grassy plain. Most of the original tallgrass prairie was plowed for agricultural production shortly after European settlement. The Service’s Habitat and Population Evaluation Team (HAPET) office, through the use of land satellite imagery, currently estimates that 275,000 acres of tallgrass prairie remain in North Dakota, a 99 percent loss. In the Tewaukon District, 118,700 acres are estimated to remain.

The Complex area has a rich history of use by prehistoric man. Three periods of occupation have been documented through archaeological excavation at the Refuge. The three main cultures described in the area include the Plains Archaic (5500-500 B.C.), Plains Woodland (500 B.C. - A.D. 1000), and Plains Village (A.D. 1000 - 1780). Evidence indicates that the cultures using this area had an equestrian nomadic life style (Jackson and Toom 1999) which focused on subsistence big game hunting (especially bison) and the gathering of wild fruits and plants (Haberman 1978). Fish and bird (probably waterfowl) remains have been found in limited quantities in archaeological sites. Fruits and plants utilized included chokecherry, plum, and hawthorn (Haberman 1978), prairie turnip (a food staple), Jerusalem artichoke, Indian potato, wild onion, arrow leaf, pond lily, wild raspberry, and wild strawberry (Gilmore 1977, Weaver 1954). It is believed that eventually some of these cultures grew or traded for corn, squash, and beans as they became less nomadic.

Land Use and Wildlife Species Changes

Prior to the migration of European settlers, the Complex area was used by nomadic tribes primarily for subsistence. They consumed large ungulates (bison and elk), birds, and plants. Very little farming took place, and the majority of the grassland remained intact. As European settlers moved into southeastern North Dakota, farming was introduced and the highly productive cropping potential of the soils was discovered. Production crops in the area include wheat and barley, corn and soybeans. Sugar beets are planted in the rich Red River Valley. In more recent years, other crops have been introduced including sunflowers, canola, and higher cash yield crops that require irrigation such as potatoes and dry edible beans. Currently, the majority of the land in the District capable of producing a crop is farmed. The Conservation Reserve Program (CRP) administered by the U.S. Department of Agriculture has had a tremendous affect on the landscape for grassland birds. Cropland is enrolled in the CRP and is planted to grassland cover. Annual payments are made to the landowner for a period of 10 years. As of January 2000, over 144,000 acres of CRP grassland have been planted in the Tewauckon District. A few areas of native prairie still remain primarily due to poorer soil quality and cattle or buffalo are raised on these sites. See Map 4 for existing land cover types for the three Counties (Ransom, Sargent, and Richland).

"The ground was covered (with bison) at every point of the compass, as far as the eye could reach, and every animal was in motion."

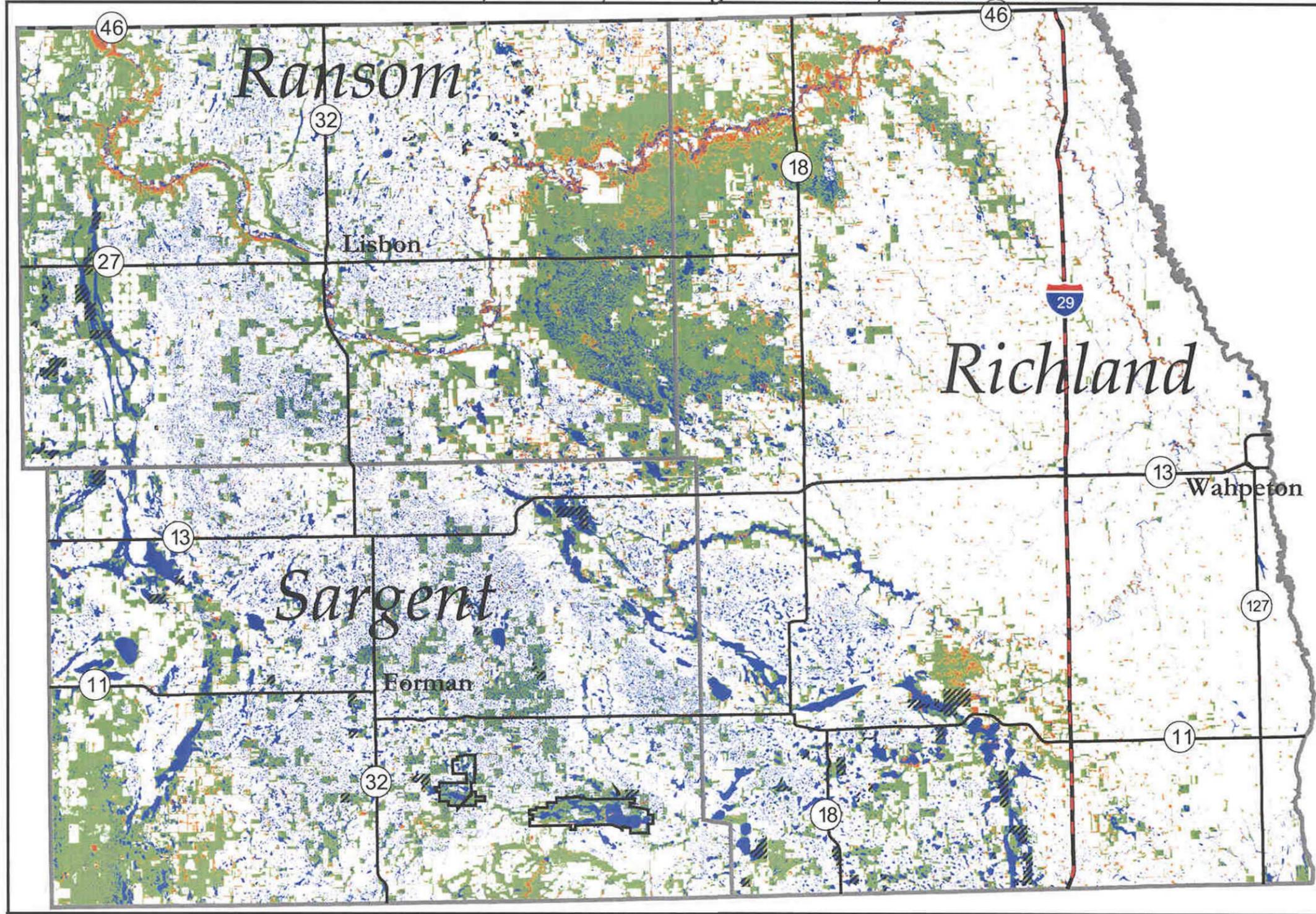
- Alexander Henry 1801; Explorer along the Red River Valley

With the advent of European settlement, many of the grassland dependent wildlife species that historically used the area were either pushed out, hunted to extinction or severely reduced. Some of these grassland species included: bison, elk, mule deer, antelope, grizzly bear, wolf, coyote, and sharp-tailed grouse (Bailey 1926).

Originally, trees were found in the prairie but were located only along natural rivers and lakes. As more trees were planted for windbreaks, and other sheltered spots such as culverts, abandoned buildings, and rock piles increased on the landscape, species of wildlife not previously found in the area, or found in limited numbers, increased. Red-tailed hawks, great horned owls, raccoons, woodchucks, striped skunks, white-tailed deer, and red fox populations increased in response to agricultural and settlement conversion. White-tailed deer are rarely mentioned by early explorers in the Red River Valley region (Bailey 1926) but are numerous today. Several species were introduced (either by natural events or by humans) from other countries and have spread to North Dakota or were directly released. These introduced species include house sparrows, ring-necked pheasants, gray partridge, carp, cattle egrets, and pigeons (rock doves). Giant Canada geese were originally found in the area but were hunted to extinction. They were reintroduced in the 1970s and are now found in record numbers.

Tewaukon National Wildlife Refuge Complex

Ransom, Richland, and Sargent Counties, North Dakota



Legend

Covertypes

- Wetland (NW)
- Grassland
- Cropland
- Forest and Shelterbelt
- Waterfowl Production Areas



Map #4 Landcover Map for Tewaukon Complex

