

Rydell National Wildlife Refuge 2001

Erskine, Minnesota
Fiscal Year 2001



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**Rydell National Wildlife Refuge
FY 2001 Annual Narrative Report**

OCTOBER 2000 - - -SEPTEMBER 2001

Highlights

Staff at Rydell and the Regional Office completed the Glacial Ridge Refuge proposal in March. In June the Regional Director approved the proposed Glacial Ridge National Wildlife Refuge Environmental Assessment and Interim Comprehensive Conservation Plan and forwarded it to the Washington Office for approval. No action has occurred in Washington on the proposal as of this writing. The proposed refuge will be located 6 miles west of Rydell, in tall grass prairie habitat. The proposed 35,700 acre refuge has more than 12,700 acres of wetland restorations. Approximately 5,000 acres of native prairie still exists within the proposed boundary (Section 5a).

The Visitors Center and trail system welcomed more than 6,000 visitors in FY01, eclipsing the 5,023 visitors in FT00. Use by schools has greatly increased (Section 8a).

MMS funding was received for the construction of replacement restroom facilities in our visitor's center. The contract was awarded in September with construction to begin in October. With more than 6,000 visitors this past year, the need for more than one unisex restroom has been intense at times. Open house programs can draw more than 200 people. (Section 8a)

Eighty-five acres of prairie restoration were completed on the refuge this year. The final 175 will be seed next spring (Section 2b).

The deer hunt for persons with disabilities was a great success. The 18 disabled hunters harvested 14 deer. Twenty seven youth ages 12 to 15 signed up in July for the drawing for 25 openings for the November 2001 youth hunt. Participants and their mentors were required to participate in an advanced deer hunter education clinic held at the refuge on September 8 and 9. Only nineteen students attended the course. All had a great time at the training and were eagerly awaiting the hunt on November 10 and 11. (Section 8a)

Introduction

This is the first stand alone Narrative Report for Rydell National Wildlife Refuge. Formerly all accomplishments were included within the Detroit Lakes Wetland Management District reports. Background information on the Refuge will be included in this introduction:

Rydell National Wildlife Refuge is located in northwestern Minnesota. The Refuge is located in Grove Park and Woodside townships in Polk County, Minnesota, just south of U.S. Highway 2 between the communities of Mentor and Erskine. The Refuge is located between the flat Red

River Valley flood plain on the west and the rolling hardwood forest and a lake region on the east. The 2,120-acre refuge was established in 1992 on property donated to the U.S. Fish and Wildlife Service by the Richard King Mellon Foundation. It was in custodial status until 1996. The Refuge was established to protect wildlife habitat and diversity, to encourage waterfowl and other migratory bird production, and to promote environmental education and recreation. In addition, the Refuge was established to demonstrate sound fish and wildlife management and wise land and water stewardship.

Rydell National Wildlife Refuge lies within the Mississippi Headwaters/Tallgrass Prairie Ecosystem. This ecosystem includes the majority of Minnesota and portions of Wisconsin and Iowa. The Ecosystem is one of transition from Prairie Parkland, to Eastern Broadleaf Forest, and then to Laurentian Mixed Forest. Land uses and condition range from northern forests dominated by tourism and timber industries to vast areas of intensively used agricultural lands, typically containing severely fragmented and degraded remnants of the tallgrass prairie. A major threat to the Ecosystem is the continued loss and fragmentation of grassland, wetland and native woodland habitats for conversion to agricultural and other land uses. Degradation of remaining wetlands, lakes, and rivers due to runoff from agricultural lands and other non point or point source discharges is also a concern. Timber harvesting, mineral extraction, and increasing pressures from recreational uses are problems in the northern reaches of the Ecosystem.

The Refuge is located on the eastern edge of the Lake Agassiz Plain subsection of the Red River Valley section of the ecological units of the Eastern United States. The potential natural vegetation types for the general area include bluestem prairies, northern flood plain forest along major tributaries of the Red River and, to the east, aspen parkland, dogwood-willow swamp, sedge meadow, big bluestem-Indiangrass prairie, bur oak openings-woodland, and maple-basswood forest.

Historically, bison and elk lived in the area. The dominant large predator was the wolf. Other species included prairie chicken, sharptail grouse, beaver, and meadow lark. The area supported large populations of nesting and migrating waterfowl. Major natural disturbances to the area included fire and high winds. Past changes by humans have included clearing of the land for agriculture, drainage of wetlands, logging, and the near-extinction of some fur-bearing mammals for the fur trade. Today, farming and recreation are the major human activities affecting the ecosystem.

The Refuge is part of the chain of national wildlife refuges that extends across Minnesota from the southeast to the northwest. It is also near the northernmost extent of waterfowl production areas that are scattered throughout western Minnesota. Numerous waterfowl production areas are located within 5 miles of the Refuge.

At least 19 farmsteads existed historically within the Refuge boundaries. These farmsteads had been consolidated into one ownership by the time it was acquired by the Richard King Mellon Foundation in 1992. In the same year, the Foundation donated the property to the U.S. Fish and

Wildlife Service to be managed as part of the National Wildlife Refuge System. The Refuge currently has two employees and is supported by administrative personnel of Hamden Slough National Wildlife Refuge.

Climate Data

Rydell does not have its own weather station (only a couple rain gauges) and relies on information collected by Mr. James Cameron, Research plot Coordinator at the NW Research & Outreach Center located on the grounds of the University of Minnesota campus in Crookston, approximately 35 miles west of the Refuge. The precipitation data from Crookston can differ considerably from what occurs on the Refuge. We have had differences of up to 10 inches in snow fall in a storm event and summer thunder storms can be very localized. In 2001 we had two 4 inch rain events that missed Crookston and in 1999 we were blessed with a 9 inch and a 7-inch event that caused significant damage to our road and culvert system.

Crookston data has been collected for the past 111 years (1890 to date). The following are some summarized data and averages for that period:

Calendar year information: January 1 to December 31

Precipitation:

Total precipitation 20.6 inches, April to August precipitation 13.7 inches, Number of days with 0.10 inches of precipitation or more: 45, Number of days with 1.00 inches of precipitation or more: 4. June is our wettest month: average more than 3.5 inches, followed by July with an average more than 3 inches. December, January and February average .5 inches (5 inches of snow). Average winter 32.4 inches.

Temperature:

Annual Mean: 39.5 F, June through August Mean: 67.1 F, December through February Mean 8.2 F, Average date of last 32F day in spring: May 17, Average date of first 32 F day in fall: Sept 21, Number of days below freezing: 185 days, Number of days minimum temperature 0F or below: 60 days, Number of days maximum temperature 90 F or above: 11 days.

Seasonal extremes are also interesting. Highest annual precipitation: 32.87 inches in 1941, Lowest 9.97 inches in 1936. Highest month 9.66 inches in June 1895, (we topped that in the summer of 99 in one thunderstorm). There was a 18-inch rain event 60 miles west of Crookston in July 2001. Coldest day: -51.0 F (Feb 15, 1936) Warmest day 106.0 F (July 28, 1917) shortest period free of 32 F or lower temperature: 69 days in 1964. Snow fall: 99.2 inches 1996-97.

In FY 2001 23.10 inches of precipitation was recorded in Crookston, We had 60 days with a low below zero, (average!) and seven days when the high was below zero. Coldest day was -28 on

Dec. 31 and warmest was 96 F on August 5. We had 13 days above 90 F (above average).

Weather conditions were considered some what "normal" for a change this year. Winter conditions were very favorable to the local wildlife populations. We did not have excessive snow with the cold weather. The deer herd, estimated at 100 animals, came through the winter in excellent shape. The lack of snow was harder on the ruffed grouse. Not enough for snow roosting.

Rains fell at the right time to allow for completion of the upland restoration activities, and provide excellent moisture for development of the restorations. The major weather event for the year occurred in August, when two days of sever thunderstorms, that produced straight line winds estimated at 70 and 100 mph, struck the area (Section 3e). Hundreds of trees were felled on the refuge and power was lost for three days, and the voice mail phone system was lost due to a lighting strike. Damage to the refuge roads, one roof and the culvert system also occurred. Our Friends Association lost around 200 ice-cream bars they had in the freezer for the summer open house.

High Spring Run Off Impact Refuge Road and Trail System

Spring rains and a rapid snow melt this April, have resulted in damage to a number of roads and accessible gravel trails within the Rydell Refuge. One six-foot culvert and a number of smaller units have been undermined by the high water flows. As a result three miles of trail system will need to be temporally closed until repairs can be undertaken.

In several other location road erosion has created deep ruts and washouts and covered portions of the hard surface trail with stones and sand. Clean up and repair of these areas will be undertaken as soon as weather condition's permit.

Refuge Back Ground Information

Historically, the area in which the Refuge is located was a small forested island within the Prairie Pothole Region. A concentration of lakes south and west of the Refuge formed a "fire shadow" that supported the growth of maple-basswood and oak forest surrounded by northern tallgrass prairie.

Major Habitats

Many of the trees were cleared for farming during the homesteading era. The areas that were not cleared were grazed. Today the Refuge is a mosaic of wetlands, hardwood stands, conifer plantations, grass meadows and crop land. Wetlands make up 657 acres of the Refuge; trees and shrubs about 500 acres; grassland 590 acres; and crop land constitutes 293 acres. The fragmentation of the plant communities negatively affects wildlife and ecosystem management. The area around the Refuge is dominated by agriculture with crops grown on most cleared land.

Plant Communities

In 1994 and 1995, a team of biologists from the University of Minnesota-Crookston conducted a baseline plant inventory with emphasis on native, remnant communities. The biologists concluded that "... the Refuge is in a uniquely positioned ecotonal setting on the borders of major North American biomes. Consideration should be given to looking at the entire Refuge as an example of large scale ecosystem restoration with a view toward restoring a sizable unit of maple-basswood and oak forest types, particularly for forest interior species (birds and plants)." Forest interior bird species are those that require large, un fragmented blocks of forest habitats. These species generally have been shown to be in decline due to pressures caused by increased predation and also nest parasitism by brown-headed cowbirds. The biologists further identified Sundew Bog as the most unique remnant community on the Refuge. The biologists also recommended controlling undesirable invasive woody species such as common buckthorn and prickly ash to protect the integrity of the native communities. This will be a big job!

Approximately 800 acres, or 37 percent of the Refuge, was farmed or hayed under a cooperative agreement with local farmers when the Refuge was established in 1992. The intent of the original farming program was to provide food plots for the wintering deer herd on the acquired land. After the Refuge was established, the cooperative farming agreement allowed the co-op farmer to use Refuge lands for crop and hay production in exchange for planting food plots on private property within 5 miles of the Refuge. This program was significantly reduced as the Refuge wintering deer population decreased to an acceptable level. Rental farming on the remaining 255 acres ended this year. Two hundred and ten of these acres, will be converted from tilled land to prairie, wetland, and forest restoration areas. The remaining crop land will be a demonstration area for no-till farming practices and will be farmed through force account or a coop agreement. DL Wetlands plans to assist with prairie seed harvested this fall. Additional flower seed will be purchased if available.

Wildlife

The diverse Refuge habitat is currently used by both diving and dabbling ducks, geese, swans, white-tailed deer, moose, ruffed grouse, cormorants, herons, rabbits, raccoon, otter, beaver, mink, muskrats, fox, coyotes, black bear, hawks, and owls. More than 196 species of birds have been observed on the Refuge (see Appendix for a list of birds, reptiles and amphibians, mammals and butterflies). A bald eagle's nest is located approximately 1 mile south of the Refuge, and eagles and ospreys are often seen using Refuge habitats. Trumpeter swans, a state-listed threatened species, were reintroduced on the Refuge land prior to acquisition and now nest on the Refuge regularly. The Refuge is within the peripheral range of the gray wolf and confirmed sightings of wolves have been reported on the Refuge.

Existing Facilities

The facilities on the Refuge include the Refuge office, a residence, a Visitor Center, a

maintenance shop, two cold storage buildings, a small barn, a woodworking /vehicle storage building, two earthen fish rearing ponds, three homestead sites with log structures, and a number of old buildings on former building sites. Several power lines transect the Refuge. The townships have abandoned all of their former roads within the Refuge, and these former roads are closed to the public. Approximately 13 miles of hiking/cross-country skiing trails were developed on the Refuge by the former owner over the entire property. Approximately 9 miles have been maintained by the Friends Association in the North eastern portion of the refuge.

Cultural Resources

Responding to the requirement in the law that our comprehensive conservation plans include "the archaeological and cultural values of the planning unit," the Service contracted for a cultural resource overview study of Rydell National Wildlife Refuge. This section of the CCP derives mostly from the report, "A Cultural Resources Management Plan for the Rydell National Wildlife Refuge, Polk County, Minnesota," by Jeanne Ward and Robert Cromwell, Institute for Minnesota Archaeology, dated October 1997.

The Refuge has 24 reported cultural resources sites on Refuge land. Ward identified land characteristics on the Refuge indicative of prehistoric occupations, but Ward's areas of high potential shown on his map exclude the location of the one known prehistoric site on the Refuge. Ward studied several historic maps to determine the locations of previous and existing farmsteads and the school. Ward's map locates no historic sites.

The potential for additional cultural resources on the Refuge is mixed. Undiscovered prehistoric sites are likely, especially for the Woodland culture (500 B.C. to A.D. 1650) in this vegetative transition zone. The Cheyenne tribe is the earliest historic period tribe in the area, replaced by the Ojibwa. Most likely all historic period sites have been located, with little potential for Indian sites and trading posts.

As of September 6, 2000, Polk County contains six properties on the National Register of Historic Places. All these properties are historic period structures located in cities.

Existing Programs

When established in 1992, the Refuge was managed by the Detroit Lakes Wetland Management District staff and one permanent Refuge employee. The Refuge now has an on-site manager and a maintenance worker. In the Refuge's first eight years, several management emphases have emerged.

Public uses are a significant component of the Refuge's programs. All Refuge public use activities must be compatible with the National Wildlife Refuge System mission or the purposes of the Refuge. Wildlife-dependent recreational activities are compatible at Rydell. We determined that other activities are not appropriate at Rydell. These activities include the picking of wild flowers,

recreational riding of all-terrain vehicles and snowmobiles, horseback riding, beekeeping, fish bait harvest, and large-scale production of crops.

Volunteers and Friends

The volunteer program on the Refuge has developed and increased each year since 1992. In 1992, a volunteer contributed 320 hours of service; nine volunteers put in 373 hours in 1993; 26 people contributed 770 hours in 1994; 43 volunteers contributed 1,052 hours in 1995; 99 volunteers contributed 5,438 hours in 1996; and 164 volunteers contributed 5,455 hours in 1997. In 1998 and 1999, several volunteers logged more than 1,000 hours and one logged more than 1,500 hours. Many of the Refuge programs are possible only through the assistance of dedicated volunteers. The volunteer program is expected to grow and play an integral role in Refuge management.

The Friends of the Rydell Refuge Association was formed in 1996 to assist the Refuge with management, public use, and fund-raising activities. The Friends Association received its nonprofit 501(c)(3) status in early 1997 and has begun applying for grant and aid monies to complete needed wildlife and public use projects. In 2000, the Association was awarded the Friends Association of the Year Award by the National Fish and Wildlife Foundation and the National Refuge Association.

White-tailed Deer Management Hunt

The Refuge and surrounding area historically attracted large numbers of deer, especially in winter, because both prairie and woodland habitats were available. The previous owner of the Refuge property actively encouraged deer to use the area by planting many acres of lure crops, limiting hunting pressure, and providing a high degree of protection for the deer herd. Because of this, the deer population increased dramatically and became concentrated in the relatively small area of the Refuge.

In 1993, the Refuge and surrounding area supported about 300 white-tailed deer in the spring and fall and about 500 in the winter. Overpopulating by deer was obvious. Browse lines in Refuge woodlands were evident and extensive crop damage occurred annually-both on farmed Refuge land and on neighbors' land.

To reduce the damage to Refuge vegetation and neighbors' crops, all of the lure crops were discontinued on the Refuge in 1994 and several corn plots were established on private or Federal lands within a 5-mile radius of the Refuge.

In addition, antlerless deer hunts were held on the Refuge starting in November 1994. During the next three years, 186 antlerless deer were taken on the Refuge through the management hunt.

Because the deer herd had been reduced sufficiently, two new deer hunts were conducted on the

refuge in 1996 - one for people with disabilities and one for youth. Both were conducted in accordance with the Rydell Deer Hunting Plan. The hunt by persons with disabilities was conducted on October 18 and 19 with the cooperative assistance of the Options Resource Center for Independent Living from East Grand Forks, Minnesota, and numerous volunteer hunting assistants. Twenty-three hunters harvested 11 deer. The deer hunt for youth ages 12 through 15 was conducted on November 9 and 10 with the cooperative assistance of the Minnesota Department of Natural Resources and 30 volunteer mentors. Thirty youth hunters participated in the training and hunting and 23 harvested a deer on the Refuge.

The winter of 1998 caused a significant reduction in the Refuge deer herd. Because of the reduced population, the only hunters permitted between 1998 and 2000 were persons with disabilities. In 1998, 17 hunters harvested seven deer. In 1999, 20 hunters harvested 12 deer (Section 8a).

Visitor and Education Programs

In cooperation with the Friends of Rydell Association, the Maple Lake Improvement District, the Union Lake Sarah Improvement Association, the Agassiz Environmental Learning Center, and numerous volunteers, several wildlife-oriented public programs were presented on the Refuge during 1996. The programs covered bluebird houses, landscaping for wildlife, bats and astronomy. Most of the programs were well attended.

On August 18, 1996, a "homecoming" open house was held on the Refuge. The event was open to the general public, and individuals who formerly lived on the land that is now refuge received special invitations. More than 290 people attended the event, many of whom had ties with former homesteading families on the Refuge. Refuge auto tours, a historical program and exhibits were available for visitors to enjoy during the day. We have continued to host an annual Refuge open house since 1996.

With the help of dedicated volunteers, in June of 1996 the Refuge was opened to the public from 1 to 4:00 p.m. on Sundays. Since then the program has expanded to 12 to 5:00 p.m. each Sunday, year round. Volunteers answer questions, work around the Visitor Center and direct visitors to hiking trails. For the summer of 2000, we hired a student to keep the visitor center open from 12 to 5:00 p.m. Thursday, Friday, and Sunday and from 10:00 a.m. to 5:00 p.m. on Saturday.

Rydell National Wildlife Refuge Expands Hours for Greater Public Use

Rydell National Wildlife Refuge, located between Mentor and Erskine, Minnesota, has just extended their hours by nearly six times. The Refuge Visitor's Center is now open to the public from 12:00 p.m. – 5:00 p.m. Thursday through Sunday, with an earlier starting time of 10:00 a.m. on Saturdays.

The longer hours were made possible by hiring a full-time summer Outreach Specialist/Biological Science Aid. Dan Doty of Crookston, Minnesota was hired and will be on hand during the new

hours. Guided tours are in progress and will be given on Saturdays and Sundays. There is also a new self-guided interpretive trail system in place at the Refuge. Three sets of signs labeled A-Z are in place on the entire 3 miles of paved trails. There is a guide sheet corresponding with each trail, pointing out and explaining interesting plants, animals, trees, and anything else that can be found along the trails.

Rydell National Wildlife Refuge is a very beautiful and untouched area that gets very little traffic. If you're looking for somewhere to hike, watch birds, photograph nature, or even just sit and enjoy the surroundings, go out and visit, you won't be disappointed.

Fishery Management

Walleye fingerling production continues in one Refuge wetland, Clifford Lake, to support Fish and Wildlife Service programs off the Refuge. No walleye were produced in the pond this past fall. The pond was stocked with frylings, supplied by the White Earth Band, in June. Fish harvested this fall averaged 50 to the gallon.

Normally, walleye fry, supplied by the Minnesota Department of Natural Resources, are stocked in Clifford Lake. The purpose is to produce advanced fingerling walleye to help meet the annual Fish and Wildlife Service fishery goals. The fingerlings are trapped in the fall to stock lakes on Region 3 National Wildlife Refuges and Tribal lands.

When Rydell was given to the service in '92 by the Richard King Mellon Foundation a stated goal was to use the area as a fish and wildlife demonstration area. The former owner used the site as a fish rearing facility. A large hatchery came with the gift. All the large wetlands (13) were artificially controlled and used for fish propagation. There are currently 82 wetland basins on the area. Very few of these wetlands are isolated from "up ditch" or down "stream" water flows in the spring (impossible to keep out a fathead invasion (movement) without major construction activity).

As Fisheries did not desire to utilize the hatchery, it has been dismantled and the pieces and parts sent to existing hatchery facilities. The hatchery building now serves as our wood shop and a vehicle storage building.

The service did however have a need for a walleye rearing site to assist the local Native American programs and to provide fish for other service locations in our region where we have fishing programs. One wetland was selected for the rearing. Control structures were removed from the majority of the other wetlands to return them to more normal levels.

The wetland, "Clifford Lake" has historically received the greatest use by migrating scaup and ring neck on the refuge as it maintains the greatest scud populations since we took over. An interesting note for last year: we had a bust on the walleye plant, zero catch, the first time since we took over, the water was pea green, no scuds, tons of fathead, stickleback, and mud minnows

and we had little diver use on the wetland that fall, but the Canada geese loved the place.

As part of our CCP process, fisheries was detailed the responsibility to evaluate the impact of walleye rearing in the wetland. We wanted to know if we should continue to use the site. To accomplish that they are going to utilize data being collected in a currently ongoing research project by Mark Hanson with the Wetland Wildlife population and Research Group with the State of MN on the impacts of walleye rearing on benthos in prairie wetlands.

Cultural Resources Management

The Refuge Manager considers potential impacts of management activities on historic properties, archeological sites, traditional cultural properties, sacred sites, and human remains and cultural materials. The Refuge Manager informs the Regional Historic Preservation Officer early in the planning stage to allow qualified analysis, evaluation, consultation, and mitigation as necessary.

The Refuge has no museum nor on-refuge museum collections (art, ethnography, history, documents, botany, zoology, paleontology, geology, environmental samples, artifacts). If an on-refuge museum were to be established, it would be required to adhere to 411 DM. To date, two cultural resources' investigations have produced artifacts from Refuge lands; these collections are stored at the Minnesota Historical Society under a cooperative agreement.

Archeological investigations and collecting are performed only in the public interest by qualified archeologists working under an Archaeological Resources Protection Act permit issued by the Regional Director. Refuge personnel take steps to prevent unauthorized collecting by the public, contractors, and Refuge personnel. Violations are reported to the Regional Historic Preservation Officer.

Wilderness Review

As part of the CCP process, we reviewed the lands within the legislative boundaries of Rydell National Wildlife Refuge for wilderness suitability. No lands were found suitable for designation as Wilderness as defined in the Wilderness Act of 1964. Rydell National Wildlife Refuge does not contain 5,000 contiguous roadless acres nor does the Refuge have any units of sufficient size to make their preservation practicable as Wilderness. The lands of the Refuge have been substantially affected by humans.

1. Monitoring and Studies

1a. Surveys and Censuses

Few formal surveys or census activities were conducted on the refuge this year. A survey for deformed frogs was conducted July (below) and the annual check of the wood duck boxes was completed in October and November (section 4 b). The refuge black bear population continues to expand. A sow with triplets was present this spring as was a sow with twins. They were very

active around the visitors' center bird feeders until the electric fence was activated.

Other critter of note: We had our first confirmed sighting of a fisher and a porcupine on the refuge this year (not sure if there is a "relationship" here). No timber wolves were seen this summer. The last sighting of our young wolf was in October 2000. Otter sightings are becoming "common." Two Canada jays took up residence by the visitors' center last winter, a first for the refuge as did a female cardinal.



The Refuge bears were getting up close and personnel in June. Bird feeders by the visitor center becoming a daily treat. Erection of an electric fence stopped the feeding frenzy.

Rydell was home to a team of 10 research biologists with USGS for the third summer. They are conducting research on prairie nesting birds on native prairie fragments located west of the refuge. They were placing video cameras by the nests to determine what causes predation, if it occurs. So far it appears everything will eat baby birds, even deer. The researches spent many hours touring the refuge and monitoring bird activities. They confirmed many of the previous bird listings on our bird list and added two new species as nesters: western grebe and American bittern.

"Frog Harvest" again successful on Rydell Refuge and in the area

What has now become an annual event, a collection of newly transformed leopard frogs on Rydell refuge by a crack team of biologists from the Bloomington Indiana, Barbara Hosler and Robin McWilliams and Bloomington Minnesota's Stan Smith occurred on the 23 and 24th of July.

Water condition, temps in the 70's and no rain, and the bugs all cooperated in making the collections go smoothly. Indications were that more than 280 green and brown critters were collected on Rydell this year with not abnormalities noted.

A collection of a hundred plus frogs from a second site east of the Refuge also produced no abnormalities, a first for the survey. Last years' collections uncovered two to 3 percent with deformities, a condition, so far, considered normal for frog populations. Plan calls for continuing the survey next year.

2. Habitat Restoration

2b. Upland Restoration: On-refuge

85 Acres Replanted to Prairie Grassland on Rydell

Rydell staff seeded eight retired farm fields, totaling 85 acres, to native prairie grassland with seed drills purchased, in part, by Ducks Unlimited. The restored prairie will provide nesting habitat for waterfowl and grassland nesting birds. The sites, when mature, will also provide additional harvest sites for future restoration projects. Review of the fields indicated an excellent catch of the grasses and forbs.

2d. Upland Restoration: Off-refuge

Native Prairie Seeding Completed

Fifteen acres at two sites at local schools under the Detroit Lakes WMDs private land program were planted this spring. Bob Hiltner, the prairie restoration coordinator at Rydell, completed seeding at the Win E Mac school by Erskine MN, five acres, and at the East Grand Forks MN, High School, 10 acres, the week of June 25. A long wet spring had significantly delayed the seeding attempts. Both schools had similar sized areas planted by the Refuge last year.

3. Habitat Management

3a. Manage water levels

Beaver are a continuous problem. Virtually all the larger wetland areas have exit culverts or a water control structure. No wetlands are currently being maintained at a higher level with the water control structures. Clemson levelers are being used at three locations to attempt to maintain reduced water levels.

3c. Graze/Mow/hay

More than 200 acres of native grass seeds were mowed two time during the summer. Spot mowing was done on several older plantings and firebreaks were mowed around all potential burn plots.



New mower in action on restoration field

3d. Farming

Two Hundred and seventeen acres were farmed this year. All but 40 of these acres will be retired this next spring. The fields will be seeded with native seed harvested from service lands within 60 miles of the refuge. Additional flower seed has been hand harvested on the refuge and additional flower seed may also be purchase. Forty acres of crop will be planted next spring using no till equipment from our local NRCS office. If a local farmer / cooperator cannot be located our Friends Association will be given an opportunity to do the farming or we will do it force account.

3e. Forest Management

Boy Scouts Help With Reforestation

Ten members of the MacIntosh, Minnesota, Boy Scout troop and their five leaders spent four hours on the Refuge assisting in the reestablishment of forest habitats. More than four thousand sugar maple and bur oak seeds were collected on the refuge for planting in the restoration field. On site harvest of local ecotype seeds for use in the restoration effort is a refuge goal, and requires hand collection of seed. With the assistance of the Scout troop, four acres of field received a heavy seeding. In addition to the seeding several scouts also reinstalled "deer tree guard" tubes on trees planted last spring. The Refuges local bear population liked using the tubes as "scratching posts," knocking many to the ground in the process.

Rydell Receives Mother Natures Habitat Management Approach - Again

On August 7 wind between 70 and 100 MPH made a significant difference in the woodland

habitats. The storm on brought winds of more than 70 mph to the area knocking out power, damaging many buildings and boats on local lakes and knocking down many trees. More than a hundred trees were down on Refuge trails and roads. Many power poles and wires were toppled, hit by lightning or snapped off, knocking out power in the entire area all day. A long days work removed most of the trees from on the roads and trails. Most trees were aspen or box elders. In 1997 the refuge was hit by straight line winds estimated to be more than 100 mph that broke off or toppled all the large aspens on more than 250 acres of woodland on the southern portion of the refuge.

Mother Nature Thought She Could Do Better

Rydell was lucky enough to be in the bull's eye for a second night of severe thunderstorms on August 8. On the evening of the 8th a storm hit East Grand Forks MN with recorded straight line winds more than 100 mph. That storm traveled east, causing significant damage in Crookston before it hit the refuge and continued traveling on to Erskine and Fosston causing considerable damage. Many farms were damage.

Power had not been restored from the storm the day before when this storm hit. Three lightning strikes occurred around the headquarters building burning off the electric transmission lines and burning a hole in the transformer. The phone system was toasted. The top of one large pine ended up on the roof of the storage building, doing minor damage. North - south power transmission line poles are all leaning to the east. Power was restored on the 10th.

Literally hundreds of trees were broken off or blown down around the refuge, with many crossing the trail and road system. Red oaks to 36 inches D.B.H. were snapped off and dropped on the trails. Green ash and birch over 16 inches D.B.H. were also added to the mess. Many more aspens were snapped off 15 feet or more above the ground. It took three hours to clear a quarter mile of trail, 7 miles to go. We will have many new rest sites along the trails and numerous new drumming logs. The refuges ruffed grouse should appreciate the woodland modifications. Not sure the deer will.



Trail covered with tree - firewood anyone?

Non Native Trees Removed from Refuge Lands

During November and December volunteers assisted refuge staff with the removal of more than 2.2 acres of introduced spruce trees from the refuge. One of the refuge goals is the restoration of

300 acres of the maple / basswood / oak forest that once existed on the refuge lands. Present day woodlands are fragmented. The trees removed this winter will be replaced with sugar maple, basswood, bur oak or other native tree species this spring. Volunteers will be involved in this process also.

Thirty-five Pounds of Prairie Flower Seed Heads Collected and six thousand Acorns Planted

Four classes, grades two through four, from Red Lake Fall Elementary School visited Rydell Refuge on September 11 and 12 to learn “a little” about the refuge and to assist station staff in the collection of flower seeds from a portion of native prairie restoration and acorns on the refuge and in the planting of the acorns collected on the refuge at forest restoration sites.

After completing an hour and a half tour along our trail system each day and an early lunch, the students were divided into two groups to participate in “biologist” activities. Over the two days the 95 students planted more than six thousand acorns, one at a time, in a 9-acre forest restoration field and collected more than thirty-five pounds of flower seed, including black-eyed Susan, purple prairie clover, and Maximilian sunflowers. These seeds will be used in our prairie restoration activities next spring when an additional 210 acres of retired crop land will be planted to prairie plants. Following their “hard work” the Friends of Rydell Refuge Association provided the students with ice cream bars and cool aid.



Red Lake Falls 4th Graders Collecting washtub of wildflower seeds

According to Refuge Manager Rick Julian “As a result of the Red Lake Student efforts, our new prairie restorations will be assured of having a good inoculation of flower seeds that will eventually spread throughout the restoration sites.” In addition “The insects that will utilize the flowers will provide a food source for the many prairie song birds and waterfowl that will eventually nest in our new prairie habitats. We will also look forward to seeing the many new oak seedlings that will result from the student’s forest restoration efforts also. The quality of the new habitats restored will definitely be positively impacted by the great work of the hard-working students.”

Similar acorn plantings last fall resulted in hundreds of new oak seedlings in restoration fields this spring.

3f. Prescribed Burning

Wet weather prevented initiation of any burns. Fire breaks had been mowed around 300 acres of prairie restoration location in hopes of burning them for seed harvest. Always next year. Flower seeds were hand harvested for one of the plots. (See 3e above).

3g. Control pest plants

Weed control season quickly approaching

At the request of the Polk county weed inspector, Refuge Manager Rick Julian attended two county training programs the week of April 2. Approximately 45 individuals attended the training programs. Presentations were made by a TNC representative, MNDOT, a county commissioner, NRCS representative, State Department of Agriculture and the Service. Our presentation covered the vegetation control methods used on the refuge when needed, our bio control research plot created with the USDA for control of spotted nap weed, and a request for assistance from the weed inspector in identifying noxious weed occurrences on Service lands. No questions were fielded from the participants. Thirty-two of the participants had at one time visited Rydell.

4. Fish & Wildlife Management

4a. Bird Banding

As part of a summer program at the visitors center, members of the USGS bird research team put on a banding demonstration for 50 visitors. Around a hundred song birds visiting the bird feeder were banded. Numerous sighting of banded chickadees, red-breasted nuthatches, and downy and hairy woodpeckers have occurred all summer and this past fall. (See section 8a)

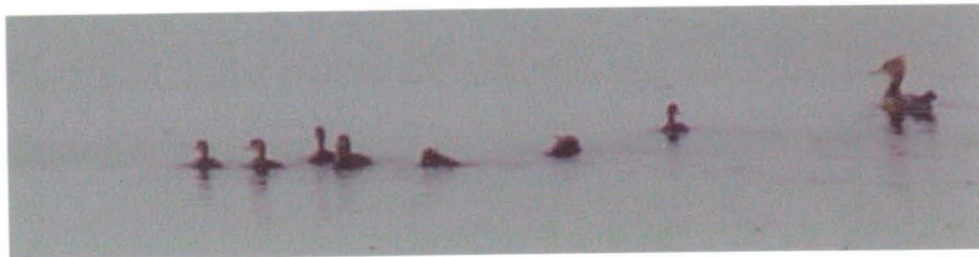
4d. Provide Nest Structures

Thanks to a team of dedicated volunteers lead by Andrea Stableton, the annual maintenance and check of Wood duck boxes were completed in November at Rydell NWR for the 2000 nesting season. One hundred and twenty-one of 129 boxes located were found to be available for bird use. Of these 121 boxes, 49 were used by ducks. Of the 121 boxes, 22% were used by wood ducks and 11% by hooded mergansers. There was 87% nest success rate by wood ducks and 67% success in hooded mergansers. Twenty two percent of the boxes were used by squirrels. Deer mice occupied 5% of the nest boxes and 32% were unused this season. No flying squirrels were observed for the first time in nine years.

Nest boxes have been available on the Rydell land area since 1980, with a high of 65 boxes used

by wood ducks in 1988. Hooded mergansers first appeared in Refuge nest boxes in 1997. The increasing use of past "wood duck used location" boxes by mergansers appear to mirror the decrease use of nest boxes by wood ducks. There appears to be competition for good locations. Previously unused boxes were not used in the same proportions.

A detailed evaluation of past nest box use will be made this winter to determine if additional boxes should be placed in other locations on the Refuge to increase wood duck use.



One of many merganser families using refuge wetlands in 2001

The Blue box trail system continues to expand. Volunteer of the year Ione Halverson maintains the 170 box system.



Volunteer of the year Ione Halverson out working on the Blue Bird Trail

5. Coordination Activities

5a. Interagency Coordination

In early September staff from the Fisheries Resources Office in Onalaska, Wisconsin trapped Clifford Lake for walleye for transport to DeSoto NWR. The fish were very nice sized. Thousands of seven to 11 inch walleye were collected and taken south. Refuge staff and students

form the University of Minnesota in Crookston assisted in the collections. As a result of the good harvest, fish were also transported to the Red Lake Reservation and to Indiana.

The Nature Conservancy Received Check for \$1.63 Million for Wetland and Prairie Restoration On Glacial Ridge Project Area

On June 28, The Nature Conservancy received a check for the Natural Resources Conservation Service (NRCS) for their first enrollment in the Wetland Reserve Program activities on the Glacial Ridge project area in central Polk County Minnesota. TNC enrolled 4,300 acres of previously drained wetland and farmed tallgrass prairie area into the program. Approximately 2,800 acres of wetlands will be restored.

Restoration activities are being aided by the Service in assisting TNC with GPS mapping of the wetland restoration basins. Additional partners include Ducks Unlimited, The Minnesota Waterfowl Association and the Minnesota Department of Natural Resources DNR). Upland restorations are being conducted with locally harvested tallgrass prairie seed, some of which came for DNR lands in the area.

Refuge Supervisor Don Hultman, and Glacial Ridge project manager Rick Julian participated in a ceremonial groundbreaking for the project complete with gold-plated shovels.

Enrollment of an additional 2,700 acres is being planned for this fall.

A Service Environmental Assessment to establish a new National Wildlife Refuge at this location is awaiting final approval in Washington at this time.

Proposed Glacial Ridge Refuge Received Supportive Reception From Public

With the completion of the Draft Environmental Assessment (EA) for the proposed Glacial Ridge National Wildlife Refuge, letters were sent to all land holders within the proposed refuge site, other possibly interested groups, and county officials. Two public meetings were held to provide information and receive comments from anyone interested in attending. Both meetings were attended by the media, land owners and persons from the area. Everyone appeared supportive of developing a refuge, though some concerns were expressed over the potential loss of hunting access and a reduction in tax monies coming to the county. With the completion of the comment period on February 15, a total of ten e-mails and letters were received in addition to the comments received at the open house events. All were basically supportive of the proposal. Preparation of the final EA can now be started for Regional Director review.

POLK COUNTY: Agency favors big refuge
By Brad Dokken Herald Staff Writer

The U.S. Fish and Wildlife Service is moving forward with a proposal to establish a national

wildlife refuge in Polk County. But first, the agency needs to gather public comments on the alternatives being considered. The service today is releasing a draft environmental assessment outlining three options for the proposed Glacial Ridge National Wildlife Refuge east of Crookston.

Those options range from no refuge to one that would exceed 35,000 acres. According to service officials, the "preferred" alternative, as outlined in the 66-page document, also is the most ambitious and would call for a refuge containing up to 35,750 acres of land. The area is ecologically significant because it contains more than 5,000 acres of native tallgrass prairie, one of the country's most threatened ecosystems. The project also would involve restoring thousands of acres of wetland habitat.

Next step

Last summer, the Fish and Wildlife Service held public meetings to gain input on the idea of establishing a refuge. According to Rick Julian, manager of the Rydell National Wildlife Refuge and project coordinator for the agency, input from those meetings indicated public support for the idea of a refuge in Polk County. Today's draft assessment comes on the heels of those meetings. "The feedback has been very favorable," Julian said. "Now, we've drawn up some different options and evaluated them based on their wildlife value, recreation value and local economic impact."

Tilden Farms

The core area of the proposed refuge is a 21,750-acre block of prairie and wetland habitat located on what's known locally as the Tilden Farms land. The land is south of U.S. Highway 2 along state Highway 32 in the townships of Tilden-Grove Park, Godfrey, Kertsonville and Onstad. In September, The Nature Conservancy purchased the Tilden Farms land for \$9 million in a deal the group called the largest tallgrass prairie restoration project in the country. TNC has said it hopes to eventually turn the land over to the Fish and Wildlife Service.

The Fish and Wildlife Service's "preferred" alternative in the draft environmental assessment would expand the refuge boundaries to encompass up to 35,756 acres. According to Julian, this alternative would allow for restoring up to 12,700 acres of wetland basins. The refuge boundary under this alternative would include TNC's preserve, along with several Minnesota Department of Natural Resources wildlife management areas.

About a third of the acreage is under private ownership, Julian said, and more than half of that already is enrolled in the federal Conservation Reserve Program. The other two alternatives listed in the environmental assessment are no refuge at all and the "core restoration" option, which would focus only on the Tilden Farms acreage. The service opted for the larger refuge as the preferred alternative because of its potential for more habitat restoration.

Landowner impact

Julian said landowners in the area under consideration wouldn't be required to sell their property.

"Should a refuge become established, (landowners) would retain all the property rights they had prior to the refuge being there," That could be done through permanent easements or other incentives.

Meanwhile, according to the environmental assessment document, The Nature Conservancy plans to establish an endowment fund to cover taxes on the acquired acreage. The service would make payments in lieu of taxes at a rate of .75 percent of the appraised land value. The area, Julian said, also would gain from tourism revenues. The proposed refuge would provide habitat for a variety of wildlife, including prairie chickens, waterfowl, white-tailed deer, fox and more than 18 species of turtles, frogs and salamanders. The refuge also would offer hunting opportunities.

"Overall, it would be an extremely good deal for the area from a tourism standpoint," Julian said. The service now is taking comments on the three refuge proposals until Feb. 14. Open house sessions are scheduled for 4 to 8 p.m. Jan. 24 at Rydell National Wildlife Refuge and 4 to 8 p.m. Jan. 25 at the Crookston Public Library.

After that, Julian said, service officials will review the comments and forward a recommendation to regional director, Bill Hartwig. Hartwig likely will rule on which alternative to pursue sometime in the spring.



Glacial Ridge is utilized by an estimated 20,000 Sandhill Cranes during migration. Nesting also occurs

5b. Tribal Coordination

The White Earth Tribe provided approximately 25,000 frylings for stocking in Clifford Lake in late May for later relocation to DeSoto Refuge in the fall. (See Section 5a)

Excess Fish Tanks Provided to White Earth Band Fisheries Program for Sturgeon Project

With the decision not to utilize the fish hatchery facilities acquired with the Rydell Refuge

acquisition, a home for the thousands of dollars worth of plywood/fiberglass rearing tanks and hatching batteries was undertaken.

With the assistance of Todd Turner's fishery folks from Genoa National Fish Hatchery, the large, in floor tanks were removed and made available to the White Earth Fisheries program for the Ice Cracking Lake Fish Hatchery in Becker County Minnesota. Each tank is valued at \$10,000.

On June 7, Randy Zortman, Fisheries Manager at the White Earths' Ice Cracking Lake fish Hatchery, came to Rydell to pick up three of the smaller tanks to be used for the tribes lake sturgeon rearing program. Young sturgeons are being provided to the White Earth Band by the Service for restoration projects on Reservation lakes in Becker County. The remaining large tanks are scheduled to travel to Genoa Hatchery.



Bob Hiltner loading fish tanks for the White Earth Band Fish Hatchery

5e. Cooperative/Friends Organizations

The Friends of Rydell Refuge Association (FRRA) continue to be a powerful entity in maintaining public support for refuge activities. They were extremely helpful in the development of the Glacial Ridge Refuge Proposal (section 5a). We had virtually no one against the development of a new 35,000 acre refuge. Not one negative comment was received from local individuals. Even the county board though the idea was OK.

The FRRA continues to support the refuge financially and with many hours of volunteer time. Volunteer continue to staff the visitor's center every Sunday afternoon throughout the year and

on numerous occasions on Saturdays during the summer. They provided funds to support a STEP student to provide visitors services this past summer. Dan Doty, student at the University of Minnesota, Duluth, developed and maintained three self guided interpretive trail loops, providing field guides for 26 stops on each trail and provided tours to groups and with our electric golf carts, provided by the Friends, to disabled person about the refuge paved trail system.

The Friends groom the trails in the winter to offer cross country skiing opportunities.

New Electric Cart to Offer Greater Tour Opportunities for Mobility Challenged

Thanks to the Friends of Rydell Association, the refuge now has a new tool to provide access to the trail system for people with mobility difficulties. With the acquisition of a new \$8,000, eight passenger cart, with a sound system, we can now provide guided tours to larger groups of visitors on the trail system. Friends President Bill Roeszler "wish to thank all the local individuals and organization who provide funding for the purchase of the new cart. The VFW in Crookston and the American Legion in Erskine were large supporters."

Visitors have already taken advantage to the new addition. Over the past weekend 35 persons affiliated with Options: Resource Center for independent Living in East Grand Forks, visited the Refuge and were escorted on tours of the Refuge trail system. Having the ability to take seven visitors out at one time greatly expands our ability to provide tours to larger groups, especially families.

Volunteer Ione Halverson, a tour guide with more than 3500 hours of volunteer time already given, said "Being able to carry just four visitors, a normal car load, is a great benefit. It was always difficult to have to leave one person behind when using the four passenger carts when we did not have enough volunteer to drive another cart." "Many times we also have groups from nursing homes come out, and this cart will allow us to provide tours for those larger groups also!"



Volunteer Ione Halverson pilots' new eight passenger electric golf cart donated by the Refuge Friends Association along a black-topped trail. Cart tours are provided for persons with disabilities and older visitors.

6. Resource Protection

6a. Law Enforcement

Snowmobile Trespass Continues to be a Problem: Snowmobile trespass occurred most often on the weekends when refuge staff are not around. With no enforcement staff on the refuge and insufficient funding needed to pay an officer for weekend duty from another refuge, it makes it difficult to effectively enforce the snowmobile trespass problems that are getting more prevalent each year.

Dog Trespass: A neighbor to the refuge owns two dogs, a malamute and a German short hair. The dogs have been caught on the refuge two time this past year and tracks in the snow indicated they may have made many trips around the refuge. The first time they were caught, they were transported to the dog pound in Crookston MN, 35 miles from the refuge. The owner finally claimed them and we were notified who he was. The owner received one ticket last spring for allowing his animals to trespass on the refuge.

6b. Wildfire preparedness

The Refuge experienced several wildfires this past year. A total of three fires (4 acres) were documented. Two of the fires were suppressed by the local volunteer fire department. The others went out on their own. Some evergreen trees were lost to one fire.

6f. Manage cultural resources

Documentation was prepared for NEPA, Section 7 and Archeological compliance for the construction of the new restroom facilities on the visitor's center and for wetland restorations in the southern sections of the refuge. No impact was identified on known cultural resources. CE were provided for the work to commence.

6h. Land Acquisition

A 60-acre piece of land bordered by the refuge on three sides was purchased by the DL wetland office several years ago. DL would like the Refuge to take over responsibility for the land. Fergus Fall Realty was contacted on initialing the paperwork to trade a 60-acre outlying portion of the refuge (across an active township road from the subject land) for the portion within the refuge area for access and management reason.

8. Public Education and Recreation

8a. Provide Visitor Services

This was a banner year for refuge visitations. With the publication of the Pine to Prairie birding tail booklet numerous birders made the trek to the refuge to observe and photograph our wildlife. A number of birders recorded their first sighting of some species. Weekly news release on refuge programs and activities were also made. We know more than 6,200 people visited the refuge this year, with many others coming during the week but not registering in the visitor center as it was closed. The parking lot had constant visitations throughout the day. Many individuals have lake cabins in the area and regularly visit the refuge to view the wildlife. Birders were allowed to park outside the gate a half hour before sunrise and access the trail system. May took advantage of that opportunity.

An accessible fishing pier has been constructed on Tamarac lake, our only fish lake. A county ditch system passes through the lake into Maple lake, a half mile away. Thousands of northern pike, walleye, bass and panfish travel up the ditch to the lake each spring. Fish appear to remain in the shallow lake until early July when the water heat up. A paved trail system connects the pier to a parking area. The pier is also an excellent location to observe waterfowl from.

Rydell National Wildlife Refuge Expands Hours for Greater Public Use:

Rydell National Wildlife Refuge, located between Mentor and Erskine, Minnesota, has just extended their hours by nearly six times. The Refuge Visitor's Center is now open to the public from 12:00 p.m. – 5:00 p.m. Thursday through Sunday, with an earlier starting time of 10:00 a.m. on Saturdays.

The longer hours were made possible by hiring a full-time summer Outreach Specialist/Biological Science Aid. Dan Doty of Crookston, Minnesota was hired and will be on hand during the new

hours. Guided tours will be given on Saturdays and Sundays. There is also a new self-guided interpretive trail system in place at the Refuge. Three sets of signs labeled A-Z are in place on the entire 3 miles of paved trails. There is a guide sheet corresponding with each trail, pointing out and explaining interesting plants, animals, trees, and anything else that can be found along the trails.

Rydell National Wildlife Refuge is a very beautiful and untouched area that gets very little traffic. If you're looking for somewhere to hike, watch birds, photograph nature, or even just sit and enjoy the surroundings, go out and visit, you won't be disappointed.

Accessible Deer Hunt A Great Success

Eighteen hunters participated in the fifth annual hunt for people with disabilities on Rydell National Wildlife Refuge on October 13, 14 and 15. Everyone had an outstanding time and the weather cooperated. Twenty-one individuals had been selected to participate from the 46 applicants, but three could not participate at the last minute. During the two-day event, noon Friday to noon Sunday, the 18 hunters harvested 14 deer from our 7 miles of accessible trails and fields. For a few it was their first deer. Eleven doe and three bucks made up the harvest. Refuge staff was very happy with the large doe harvest as it was necessary to help maintain the population within the habitat limits of the refuge. This is currently the only hunt held on the Refuge.

More than 60 volunteers assisted with this year's hunt. Options: Resource Center for Independent Living and Cabela's from East Grand Forks, Minnesota sponsor the weekend hunt and the folks from Options do the majority of the hard work needed for everyone to have a great hunting experience. We received many positive comments for the participant's family members about having the opportunity to get into a hunt again, or in some cases for the first time.

2001 Programs:

Rydell Refuge to host Learning at the Lakes 2001 programs

The following programs will be held at the Rydell National Wildlife Refuge visitor's center at 2:00 p.m. on Sundays. For more information call the Rydell Refuge at 218-687-2229.

June 17: Birdwatching Basics Learn how to identify several common Minnesota birds and learn about their habits and habitat. Tips on binocular selection and a short birding hike will be presented by John Logering of the University of Minnesota, Crookston.

June 24: So You Want to Camp Experienced outdoor enthusiast Diane Bach will share tips on how to prepare yourself properly for your next adventure so your camping outing is fun and relaxing. The program will include product displays and demos.

July 8: Bald Eagle and Great Horned Owl - LIVE! This entertaining program will feature

Greg Brooks, wildlife rehabilitator and licensed falconer, Destiny, a 7-year-old Bald Eagle and Sully, a one year old Great Horned Owl. The is a very popular program with the kids and adults alike.

The Sundew Bog

One of the rarest features on Rydell Refuge is the Sundew bog and its unique ecosystem. Minnesota Department of Natural Resources Region 1 Plant Ecologist Janet Boe will provide insights on our bog and lead a tour on the Bog Walk.

These programs are cosponsored by the maple Lake Improvement District, Union/Lake Sarah Improvement District, American State Bank of Erskine and The Friends of the Rydell Refuge Association and its contributing members.

In addition, on August 12, the Annual Rydell Refuge Open House will be held. This year's focus will be on the history of the Refuge. All are welcome."

Ground Hog Day

The Friends of Rydell Refuge Association conducted their fourth annual "Ground Hog Day" refuge program on February 4. More than 125 visitors participated in wildlife observations opportunities on the refuges trail system on foot, ski and snow shoe, participated in some native American and Norwegian snow oriented outdoor games and ate soup and cookies and drank hot cider and cocoa while watching wildlife oriented videos within the visitor's center. A great time was had by all.

Annual Earth Day Bluebird Box Building Program Well Attended

Despite snow and light rain more than one hundred hardy soles attended the Rydell Refuge Annual Earth Day bluebird information and box building program on April 22. The Earth Day program is organized by the Friends of Rydell Refuge Association each year. Rydell staff and volunteers cut out the box parts and make several hundred kits for use at the program. Prior to the "construction" activities, a video and presentation is provided to the visitors on the life history of bluebirds and placement of boxes. After attending the program individuals were provided with kits to construct a house free of charge. Volunteers were also available to assist in the construction process. This year Dynamic Homes of Detroit Lakes donated lumber for the construction of more than 200 boxes and funds for the hardware were provided through donations to the Rydell Friends Association.

Bird Banding Program

With the start of the summer Visitors Center season the first Learning at the Lakes program, Banding Song Birds, sponsored by the Friends of Rydell Refuge Association, drew 50 visitors on

beautiful, sunny afternoon.

The program was presented by a U.S. Geological Survey research team conducting a prairie bird-nesting research study on native prairie parcels located west of the refuge. The team explained the purpose of their study, identified the species of birds they have been banding on the prairie, and some of the results they have achieved to date, such as the recapture of a bobolink for three years in a row at the same nesting area. These birds migrate to Argentina each winter.

The team then demonstrated bird monitoring techniques such as capturing birds using mist nets and the banding of birds to help identify their migratory patterns. The main emphasis was on the bird banding system: sizes of bands and how they are attached, how it works and what information it gives back to us. Everyone was able to see first hand and learn about how each band is unique and how the system is used to register and track banded birds. Monitoring migratory patterns and numbers and diversity of species helps assess the relative health of our environment.



Visitors seeing first hand the removal of a bird from the mist net

During the hour long presentation, mist nets were set outside the visitor center window in full view of all the visitors. The birds could be seen flying into and avoiding the nets as they flew past. When birds were captured, a few of the visitors were allowed to accompany the field team to the nets and observe the removal techniques in action.

Fourteen birds, representing eight species were captured and banded as necessary. Two of the birds captured had been previously banded. Both, a male hairy woodpecker and a male

rose-breasted grosbeak, were banded at last year's program. The grosbeak spends its winters in Mexico, while the hairy spent its winter at the visitor center feeder, along with banded white-breasted nuthatches, downy woodpeckers and chickadees. The only female birds collected were goldfinches, as they have not started their nesting season.

Following the program most visitors took time to tour a portion of the refuge on our accessible trail system and utilize the self guided tour information now available. The Rydell visitors' center will open Thursday through Sunday from 12:00 p.m. until 8:00 p.m. for the summer season. Guided tours will be scheduled on Sunday afternoons all summer long. Persons with mobility disabilities can call the Refuge to schedule guided riding tours.

Braving 95 Degree Heat 100 Visitors Attend Rydell NWR Raptor Program

By Dan Doty

Sunday, July 7 brought high temperatures and high excitement to Rydell National Wildlife Refuge. Greg Brooks, wildlife rehabilitator and licensed falconer, brought with him two natural gems for the education and entertainment of the crowd through the sponsorship of Rydell Friends Association. With him came Sully, a two year old Great Horned Owl, and Destiny, a seven-year-old Bald Eagle. Both birds were unfortunately injured early in their lives, and were deemed unable to survive in the wild. Fortunately for us, they are now used as real live tools to educate the public.

The Rydell Visitor's Center was as packed full of chairs as it possibly could be and the air-conditioning system disabled by some pesky rodents, the folks sitting on them couldn't help but to fan themselves constantly during the program.

Despite the hot sticky conditions, both the presenter and the birds put on a wonderful show in front of the amazed crowd. When Destiny, the Bald Eagle was first brought out, a collective volley of ooh's and ayahs went up from the crowd. At the end of the program, the visitor's were given a chance to observe the birds up close and take as many pictures as they wanted.

After a little refreshment, many folks still had enough in them to hit the trails, both on their own and on guided tours. All in all, it was a great day, with many folks going home with a rejuvenated appreciation of the National Wildlife Refuge System, the creatures, big and small, it supports, and the opportunities it brings for observation and education.

45 People Attend Sundew Bog Program at Rydell NWR

Sunday, July 21 brought enjoyable weather and an interested crowd to Rydell NWR for a program on Sundew Bog. Sundew Bog is a very special area on Rydell Refuge due to it being the only peat land on the Refuge, and also because it supports regionally rare plants such as Round-leafed Sundew, a predacious bladder wort and four species of Cottongrass.

Janet Boe of the Minnesota DNR led the program and included a slide presentation and a hands on tour of Sundew Bog. The presentation included pictures and definitions of different types of wetlands, and also pictures of plants normally found in areas like Sundew Bog. After the presentation, a caravan of accessible golf cars, hikers, and bikers made its way to Rydell's bog-walk on Sundew Bog. Once on the walkway, plants were identified, questions were asked, and the group collectively worked through a dichotomous key to identify the different plant communities within the bog area. It was found that Sundew Bog is really a mixture of a few different wetland communities, identifying it as even more of a gem than previously thought.

The day ended with everyone leaving with more knowledge and appreciation of beautiful Rydell Refuge.



Tour on Bog Walk Trail

Rydell Open House is a Hit

By Dan Doty

Rydell NWR held their 7th annual Open House on Sunday, August 12. After a week of cleaning up the Refuge from two powerful storm systems, the Refuge was in great shape and the weather was beautiful. Nearly 30 volunteers and members of the local Friends group contributed time and effort in preparing for and running the open house. As in the past few years, there was a team of horses pulling a cart full of visitors around the Refuge all afternoon long. The afternoon also brought two programs for visitors to enjoy. Ted Hoberg brought in live reptiles and wowed the audience with his large assortment of snakes and lizards. Nedra Hoberg came to the Open House in costume, and gave an interesting presentation as Lena, the pioneer woman. 97 visitors signed

the guest book, and probably just as many slipped by without signing in. Ice cream and cookies finished off the day. The day ended as a great success and with many first time visitors having an opportunity to see and enjoy our beautiful Refuge.

Without the assistance of the Friends of Rydell Refuge Association, facilitating all the visitors during the week would have been exciting at best!

8b. Outreach

Numerous contacts were made with local paper and radio stations throughout the year promoting the refuge program and opportunities and the Glacial Ridge Refuge development project. Many of the news releases are contained within this report, along with one of the news articles published as a result of some contacts.

VFW Post in Crookston hosts Outdoors Day Program

Rydell Refuge was invited to participate in the day long Outdoor Recreation day program at the VFW Post in Crookston, Minnesota. Refuge Manager Rick Julian set up a display that featured Refuge programs and facilities and featured the stations' Friends Association. An additional display, used at the Proposed Glacial Ridge Refuge Open House, was also displayed. Many questions were fielded from display visitors. In the late afternoon, as part of a seminar program, a presentation on the Refuge was given with specific reference to our accessibility for all visitors and our special deer hunt for people with disabilities. Many questions were fielded concerning the refuge activities and opportunities and also questions on the proposed Glacial Ridge Refuge Project.

Donation to support Rydell Youth Deer Hunt Received from Fosston Sportsmen's Club

At the request of the Fosston Sportsmen Club, Refuge manager Rick Julian made a presentation, on April 5, to the clubs' members on the status of the Glacial Ridge project and upcoming hunting activities planned for Rydell Refuge: Deer hunt for persons with disabilities and the youth deer hunt. After the presentation the Club members voted to sponsor noon meals for the two days of youth hunt training in September, and several members volunteered to assist in the hunting training and hunt programs. A \$200 dollar check was provided to the Friends of Rydell Refuge for use in obtaining items for the meals.

Group visits

Watching Wildlife Tour Group Visits Rydell

Through the sponsorship of the Minnesota Office of Tourism, the Mn Department of Natural Resources non game Wildlife Program and a hand full of other associations, 67 individuals representing owners and managers of hotels, motels, resorts and campgrounds,

convention and visitor bureaus, tourism business, tour operators and media traveled to Rydell on April 17 to learn more about the opportunities for “watchable wildlife.” In a short presentation, Manager Rick Julian provided handouts and information about Rydell accessible trail system, open hours for visitation and general information on the photographic opportunities for plants and wildlife on the Refuge and answered many questions.

The half hour visit ended up being over an hour in length as the group took quick tours on the trail system and spent considerable viewing and photographing the trumpeter swans setting up their territory near the visitors center. Many in the group indicated it had been the best stop on their tour.

Busy School Week at Rydell Refuge

Rydell became the temporary home for more than 255 students plus instructors during the last week in April. Classes from eight regional schools visited the refuge to take advantage of onsite environmental education programs and the wildlife viewing opportunities along the refuge trail system. One highlight for many of the students was seeing the nesting trumpeter swans.

All the visiting schools expressed interest in returning to the Refuge in the fall to assist in the collecting of prairie flower seeds and tree seeds and assisting with the planting of same on the Refuge in September and October. We look forward to all the potential volunteer help.

Without the assistance of the Friends of Rydell Refuge Association, facilitating all the visitors during the week would have been exciting at best!

Twenty Youth and Their Mentors Complete Advance Deer Hunter Education Program at Rydell

As part of the Rydell Refuge deer management program, hunting is allowed on the refuge. A special season for persons with disabilities is conducted in mid October and a hunt for youth between 12 and 15 is conducted during the regular deer firearm’s season in November. To participate in the youth hunt the student has had to successfully completed the State’s hunter education program, has a mentor who is willing to accompany the young hunter on the hunt as an observer, and provide an application to refuge to participate in the advance deer hunter education program, completion of which is required in order to participate in the hunt. Applications were received from North Dakota, and from Warroad to Clear Lake Minnesota.

Twenty-five students were drawn to participate in the two days of training held at the Refuge. The training, conducted by long time, retired Minnesota Advanced Hunter Education Coordinator Dick Anderson, covered items from the history, biology and management of white-tailed deer in Minnesota, using a compass, state hunting regulations, talking to land owners for permission, finding their deer and processing it once it’s harvested. The mentors were also required to attend the training with their young hunters.



Students learned how to follow a blood trail. Sometimes they even found a deer!

Kids being kids, they did not have a lot to say when they were done, but comments received from some of the mentors were: a couple (long time hunters) said they thought it would be a boring weekend but found it to be fun and educational. Many learned things they had never known about deer. Others look forward to signing up their upcoming youth in future training programs as they felt the course was just "Excellent." One mentor was a "second timer" as his older son had participated in the hunt in 1996. He thought the class was even better than the last one he attended.

All the students were looking forward to returning to the refuge in November.

Volunteers:

Rydell Volunteers Recognized for Outstanding Work

On a beautiful summer evening 44 Rydell Volunteers were recognized for their outstanding efforts on behalf of the Refuge at an outdoor Bar-B-Que. More than 3500 hours of volunteer time, and lots of hard work, were provided to the Refuge. Certificates and recognition awards were presented to volunteers for their hard work.



Ione Halverson, Left, Volunteer of the Year, and Donna Larson, with over a thousand hours donated, Shows off their awards at the Volunteer Appreciation Bar-B-Que

Ione Halvorson again received the honor of being our Volunteer Of The Year 2000 with more than 650 hours of time. Ione has provide more than 2500 hours of time to date. Ione staffs the visitors' center every Sunday afternoon from noon until 5 as well as providing tour for the disabled and elderly during the week and maintaining the visitors' center for the Refuge. We do not know what we would do without Ione's assistance.

9. Planning and Administration

9a. Comprehensive Conservation Planning

The Rydell NWR CCP was approved by the Regional Office during the last week of September.

9b. General Administration

Personnel

Rydell Staff



Bob Hiltner and Rick Julian

The following list reflects the staffing throughout FY 2000

Rick Julian	Refuge Manager	GS-13	PFT
Bob Hiltner	Maintenance Worker	WG-08	PFT
Dan Doty	Biological Science Aid	GS-02	STEP

Equipment

The Refuge continues to pick up items at the DRMO at the Grand Forks Air Force Base. Occasionally items for other offices are also secured. Our woodworking shop has benefitted with several new band and table saws, fire cabinets, storage cabinets and numerous tools.

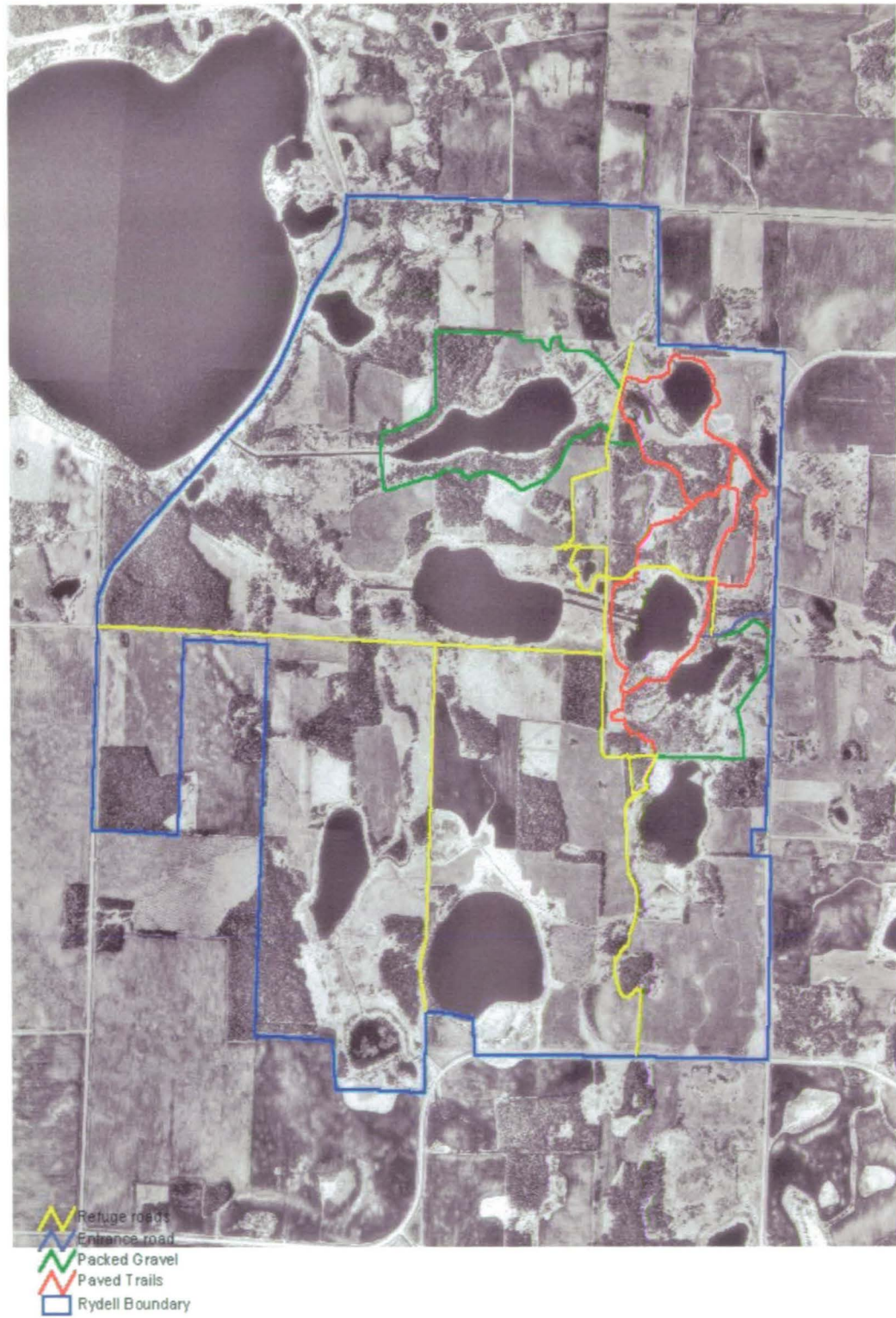
New equipment: with the ongoing upland restoration activities and the need to clip the fields at least twice the first year, replacing our 6-foot brush hog with something bit larger appeared a necessity. In May we purchased a 18' bat wing brush hog mower. Many hours of work have been saved with the new equipment.

Budget

The following table summarizes funding received by sub activity in 2001

Sub Activity	Amount in thousands
1261: Salary, utilities, volunteer fund	64.6
1262 : Maintenance and new vehicle	54.0
1332: Fishing pier	2.0
7201: DU \$ for restoration work, donations	6.0
8451: Salary & travel	94.0
9251: Fire	.5
1234: Joint Venture funding	2.5
Total	223.6

Road and Trail System



Appendixes of Tables:

Species (Bold indicates species that are abundant or common on the refuge for at least part of the year)	Nested on refuge recently	Status On Refuge				Potential Benefit by Habitat Objectives (Habitat used regularly for food, nesting, or cover)				Status In Region and State R3 - Region 3 Conservation Priority SMC - Species of Mgt. Concern SSC- State Special Concern ST - State Threatened SE - State Endangered T - Federal Threatened E - Federal Endangered
		a - abundant: a common species that is very numerous c - common: certain to be seen or heard in suitable habitat, not in large numbers u - uncommon: present, but not always seen o - occasional: seen only a few times during the season r - rare: seen every two to five years				1	2	3	4	
		Spring	Summer	Fall	Winter	Restore mesic deciduous forest 500 acres	Restore and manage wetlands for waterfowl and other wildlife	Establish native prairie grassland 300 acres	Manage cropland for wildlife food and viewing opportunities 40 acres	
Birds With Special Regional Status										
Common Loon	Y	c	c	o			f,c			R3,SMC
Horned Grebe		o		o			f,c			ST
American White Pelican		o	o	o			f,c			SSC
Double-crested Cormorant		u	u	u			f,c			R3
American Bittern		o	o	o			f,c			R3,SMC
Snow Goose		r		r			f,c	c	f	R3
Canada Goose (giant race)	Y	a	a	a	o		f,n,c	c	f	R3
Canada Goose (EPP)		c	o	c			f,c	c	f	R3
Trumpeter Swan	Y	c	c	c	o		f,n,c			R3,SMC,ST
Wood Duck	Y	c	c	c		f,n,c				R3
American Black Duck		r	r	r			f,c	f,c	f	R3
Mallard	Y	c	c	c	r		f,n,c	f,n,c	f	R3
Blue-winged Teal		c	c	c			f,c	c	f	R3

Northern Pintail		o	o	o			f,c	c	f	R3
Canvasback		o	r	o			f,c			R3
Lesser Scaup		u	r	u			f,c			R3
Bald Eagle		u	u	u	r	f,n,c	f	f	f	R3,T,SSC
Northern Harrier		u	u	u		n,c	f	f	f	R3, SMC
Northern Goshawk	Y	u	u	u	r	f,c	f	f	f	R3, SMC
Peregrine Falcon		r		r		f,c	f	f	f	R3,E,ST
Upland Sandpiper		o	o	o			f,c			R3, SMC
American Woodcock		o	o	o		f,n,c	f,c			R3
Franklin's Gull		u		u			f,c			SSC
Common Tern		u	o	u			f,c			R3,SMC,ST
Forester's Tern		u	o	u			f,c			SSC
Black Tern		u	o	u			f,c			R3,SMC
Yellow-billed Cuckoo		r	r	r		f,c				R3,SMC
Northern Flicker		u	o	u	r	f,c				R3,SMC
Acadian Flycatcher		r	r	r		f,c				SSC
Sedge Wren	Y	u	u	u			f,n,c			R3,SMC
Veery		o	o	r		f,c				R3,SMC
Chestnut-sided Warbler		u	o	u		f,c				R3,SMC
Field Sparrow		o	o	o		f,c		f,c	f,c	R3,SMC
Grasshopper Sparrow		o		o		f,c		f,c	f,c	R3,SMC
Bobolink	Y	u	c	u			f,c	f,n,c	f,n,c	R3,SMC
Eastern Meadowlark		r	r	r				f,c	f,c	R3,SMC
Birds Currently Not on Regional Lists										
Pied-billed Grebe	Y	u	u	u			f,n,c			
Eared Grebe		r		r			f,c			
Red-necked Grebe		o	o	o			f,c			
Western Grebe		o	o	o			f			

Great blue Heron		c	c	u			f,c			
Green Heron		u	u	u			f,c			
Tundra Swan		r		r			f,c			
Green-winged Teal		o	o	o			f,c	c	f,c	
Northern Shoveler		u	u	o			f,c	c		
Gadwall		o		o			f,c	c	f,c	
American Wigeon		o		o			f,c	c	f,c	
Redhead		o	r	o			f,c			
Ring-necked Duck		c	u	c			f,c			
Greater Scaup		u		c			f,c			
Common Goldeneye		u	r	u			f,c			
Bufflehead		u	r	u			f,c			
Ruddy Duck		u	u	u			f,c			
Hooded Merganser	Y	c	c	c		n	f,n,c			
Common Merganser		o		o			f,c			
Red-breasted Merganser		o		o			f,c			
Turkey Vulture		o		o		f,c	f	f	f	
Osprey		o	o	o		f,c	f	f	f	
Sharp-shinned Hawk		o	o	o	r	f,c	f	f	f	
Cooper's Hawk	Y	o	o	o	r	f,n,c	f	f	f	
Red-tailed Hawk	Y	c	c	c		f,n,c	f	f	f	
Rough-legged Hawk		r		r		f,c	f	f	f	
Golden Eagle					r	f,c	f	f	f	
American Kestrel		o	o	o		f,c	f	f	f	
Merlin		u	u	u		f,c	f	f	f	
Virginia Rail		o	o	r			f,c			
Sora	Y	u	c	u			f,n,c			
American Coot	Y	u	u	u			f,c			

Sandhill Crane		u	u	o				c	f,c	
Killdeer	Y	c	u	u				f,n,c	f,n,c	
Spotted Sandpiper		o	o	o			f,c			
Common Snipe		c	c	u			f,c			
Bonaparte's Gull		u		u			f,c			
Ring-billed Gull		u	u	u			f,c			
Herring Gull		r		r			f,c			
Rock Dove	Y	c	c	o	o			f	f,c	
Mourning Dove	Y	c	c	c		f,n,c		f,c	f,c	
Black-billed Cuckoo		u	o	o		f,c				
Great-horned Owl		u	u	u	o	f,c	f	f	f	
Barred Owl		o	o	o	o	f,c	f	f	f	
Snowy Owl		r			r	f,c	f	f	f	
Common Nighthawk		o	o	o		f,c	f	f	f	
Whip-poor-will		r	r	r		f,c	f	f	f	
Chimney Swift		r	r	r		f,c	f	f	f	
Ruby-throated Hummingbird	Y	u	c	c		f,n,c		f,c	f,c	
Belted Kingfisher		u	u	u	r	c	f,c			
Yellow-bellied Sapsucker	Y	o	u	u		f,n,c				
Downy Woodpecker	Y	a	c	c	a	f,n,c				
Hairy Woodpecker	Y	a	c	c	a	f,n,c				
Pileated Woodpecker	Y	u	u	u	u	f,n,c				
Eastern Wood-Pewee		u	c	c		f,c	f	f	f	
Least Flycatcher	Y	u	c	c		f,n,c	f	f	f	
Eastern Phoebe	Y	c	c	c		f,n,c	f	f	f,n,c	
Great Crested Flycatcher	Y	u	c	u		f,n,c	f	f	f,n,c	
Western Kingbird		r				f,c	f	f	f,c	
Eastern Kingbird		u	u	u		f,c	f	f	f,c	
Horned Lark		u	u	u				f,c	f,c	

Purple Martin		r		r		f	f	f	f,c
Tree Swallow	Y	c	a	a		f,n,c	f	f	f,n,c
Northern Rough-winged Swallow		o	o	o		f,c	f	f	f,c
Bank Swallow	Y	u	o	u		f,n,c	f	f	f,n,c
Cliff Swallow	Y	u	c	u		f,n,c	f	f	f,n,c
Barn Swallow	Y	c	a	c		f,n,c	f	f	f,n,c
Blue Jay	Y	c	c	c	c	f,n,c	f	f	f,n,c
Black-billed Magpie		o	o	o	r	f,c	f	f	f,c
American Crow	Y	c	c	c	o	f,n,c	f	f	f,n,c
Common Raven		r			r	f,c	f	f	f,c
Black-capped Chickadee	Y	c	c	a	a	f,n,c		f	f,n,c
Red-breasted Nuthatch		o	o	u	o	f,c			
White-breasted Nuthatch	Y	a	a	a	a	f,n,c			
Brown Creeper		o	r	o	o	f,c			
House Wren	Y	u	c	u		f,n,c			f,n,c
Marsh Wren	Y	u	c	u			f,n,c	f,c	f,c
Golden-crowned Kinglet		r		r		f,c			f,c
Ruby-crowned Kinglet		o		o		f,c			f,c
Eastern Bluebird	Y	c	a	c		f,n,c		f,c	f,n,c
Swainson's Thrush		o		o		f,c			f
Hermit Thrush		o		o		f,c			f
American Robin	Y	c	c	c	o	f,n,c		f,c	f,n,c
Gray Catbird	Y	u	c	u		f,n,c		f,c	f,n,c
Brown Thrasher	Y	u	u	u		f,n,c		f,c	f,n,c
Bohemian Waxwing		o		o		f,c		f	f,c
Cedar Waxwing	Y	u	u	u	o	f,n,c		f	f,n,c
Ring-necked Pheasant		r	r	r	r		f,c	f,c	f,c
Ruffed Grouse	Y	u	u	u	u	f,n,c			
Northern Shrike		r			o	f,c	f	f	f,c

European Starling		r	r	r	r	f,c		f	f,c	
Solitary Vireo		o	r	o		f,c			f,c	
Yellow-throated Vireo	Y	u	o	u		f,n,c			f,n,c	
Warbling Vireo		u	o	u		f,c			f,c	
Philadelphia Vireo		o	r	o		f,c			f,c	
Red-eyed Vireo	Y	u	c	u		f,n,c			f,n,c	
Tennessee Warbler		o	r	o		f,c			f,c	
Orange-crowned Warbler		o		o		f,c			f,c	
Nashville Warbler		o	r	o		f,c			f,c	
Northern Parula		o		o		f,c			f,c	
Yellow Warbler	Y	c	c	c		f,n,c			f,n,c	
Magnolia Warbler		o		o		f,c			f,c	
Cape May Warbler		o		o		f,c			f,c	
Yellow-rumped Warbler		u		u		f,c			f,c	
Black-throated Green Warbler		o		o		f,c			f,c	
Blackburnian warbler		o		o		f,c			f,c	
Pine Warbler		o		o		f,c			f,c	
Palm Warbler		o		o		f,c			f,c	
Bay-breasted Warbler		o		o		f,c			f,c	
Blackpoll Warbler		o		o		f,c			f,c	
Black-and-white Warbler		o	r	o		f,c			f,c	
American Redstart		o	r	o		f,c			f,c	
Ovenbird	Y	c	c	c		f,n,c			f,n,c	
Connecticut Warbler		r		r		f,c			f,c	
Mourning Warbler		r		r		f,c				
Common Yellowthroat	Y	u	c	u		f,n,c	f,n,c	f,n,c	f,n,c	
Wilson's Warbler		o		o		f,c	f,c		f,c	
Canada Warbler		o		o		f,c			f,c	
Scarlet Tanager	Y	u	o	o		f,n,c			f,n,c	

Rose-breasted Grosbeak	Y	u	o	o		f,n,c			f,n,c	
Rufous-sided Towhee		o		o		f,c			f,c	
Pine Grosbeak		r			o				f,c	
Evening Grosbeak		r			o				f,c	
Blue Grosbeak				r					f,c	
Indigo Bunting		u	o	o		f,c			f,c	
Snow Bunting		r			o				f,c	
American Tree Sparrow		r		r	o	f,c	f,c	f,c	f,c	
House Sparrow	Y	u	u	u	u	f,n,c	f,n,c	f,c	f,n,c	
Chipping sparrow	Y	c	a	c				f,c	f,n,c	
Clay-colored Sparrow	Y	c	a	c		f,n,c		f,c	f,n,c	
Vesper Sparrow	Y	c	c	u		f,n,c		f,c	f,n,c	
Savannah Sparrow	Y	c	c	u				f,c	f,n,c	
LeConte's Sparrow		o	r	o			f,c	f,c		
Sharp-tailed Sparrow		r	r	r			f,c	f,c		
Fox Sparrow		o		o		f,c				
Song Sparrow	Y	c	c	c		f,n,c	f,c	f,c	f,n,c	
Lincoln's Sparrow		r		r		f,c	f,c	f,c	f,c	
Swamp Sparrow		u	o	u			f,c	f,c	f,c	
White-throated Sparrow		u	r	u		f,c			f,c	
White-crowned Sparrow		o		o		f,c	f,c	f,c	f,c	
Harris' Sparrow		o		o		f,c	f,c	f,c	f,c	
Dark-eyed Junco		o		o	o	f,c		f,c	f,c	
Western Meadowlark		u	o	u				f,c	f,c	
Red-winged Blackbird	Y	a	a	a	r		f,n,c		f,n,c	
Yellow-headed Blackbird	Y	o	u	o			f,c			
Rusty Blackbird		r		r	r	f,c			f,c	
Brewer's Blackbird		r		r	r				f,c	
Common Grackle		c	u	c					f,c	

Brown-headed Cowbird		c	u	c				f,c	
Orchard Oriole		r		r		f,c		f,c	
Northern Oriole	Y	u	u	u		f,n,c		f,c	
Purple Finch		u	u	u	u			f,c	
House Finch		o	o	o	o			f,c	
Red Crossbill		r			r			f,c	
White-winged Crossbill		r			r			f,c	
Common Redpoll		r			r	f,c		f,c	
Hoary Redpoll		r			r	f,c		f,c	
Pine Siskin		o	o	o	o			f,c	
American Goldfinch	Y	c	c	c	c	f,n,c		f,n,c	

Mammals

Arctic Shrew	<i>Sorex arcticus</i>
Masked Shrew	<i>Sorex cinereus</i>
Northern Water Shrew	<i>Sorex palustris</i>
Pygmy Shrew	<i>Sorex hoyi</i>
Shorttail Shrew	<i>Blarina brevicauda</i>
Star-nosed Mole	<i>Condylura cristata</i>
Little Brown Myotis	<i>Myotis lucifugus</i>
Keen's Myotis	<i>Myotis keenii</i>
Silver-haired Bat	<i>Lasiurus noctivagans</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Red Bat	<i>Lasiurus borealis</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Snowshoe Hare	<i>Lepus americanus</i>
Whitetail Jackrabbit	<i>Lepus townsendii</i>
Woodchuck	<i>Marmota monax</i>
Eastern Fox Squirrel	<i>Sciurus niger</i>
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>

Thirteen-lined Ground Squirrel
Least Chipmunk
Eastern Chipmunk
Beaver
White-footed Mouse
Deer Mouse
Meadow Jumping Mouse
Boreal Redback Vole
Meadow Vole
Prairie Vole
House Mouse
Plains Pocket Gopher
Norway Rat
Muskrat
Least Weasel
Longtail Weasel
Shorttail weasel
Mink
River Otter
Raccoon
Striped Skunk
Spotted Skunk
Porcupine
Badger
Red fox
Coyote
Gray Wolf
Black Bear
Bobcat
Whitetail deer
Moose

Spermophilus tridecemlineatus
Tamias minimus
Tamias striatus
Castor canadensis
Peromyscus leucopus
Peromyscus maniculatus
Zapus hudsonius
Clethrionomys gapperi
Microtus pennsylvanicus
Microtus ochrogaster
Mus musculus
Geomys bursarius
Rattus norvegicus
Ondatra zibethicus
Mustela nivalis
Mustela frenata
Mustela erminea
Mustela vison
Lutra canadensis
Procyon lotor
Mephitis mephitis
Spilogale putorius
Erethizon dorsatum
Taxidea taxus
Vulpes vulpes
Canis latrans
Canis lupus
Ursus americanus
Lynx rufus
Odocoileus virginianus
Alces alces

Reptiles and Amphibians

Snapping turtle
Western Painted Turtle
Smooth Green Snake
Northern Red-bellied Snake
Plains Garter Snake
Red-sided Garter Snake
Northern ribbon snake
Mudpuppy
Eastern Tiger salamander
American Toad
Canadian Toad
Great Plains Toad
Northern Spring Peeper
Boreal Chorus Frog
Gray Treefrog

Chelydra serpentina
Chrysemys picta belii
Liochlorophis vernalis
Storeria occipitomaculata occipitomaculata
Thamnophis radix
Thamnophis sirtalis parietalis
Thamnophis suaritus
Necturus maculosus
Ambystoma tigrinum
Bufo americanus
Bufo hemiophrys
Bufo cognatus
Pseudacris crucifer crucifer
Pseudacris triseriata
Hyla versicolor

Swamp Tree Frog
Wood Frog
Northern Leopard Frog

Pseudacris nigrita.
Rana sylvatica
Rana pipiens

Butterflies

Dusted Skipper
Dun Skipper
Delaware Skipper
Dakota Skipper
Northern Broken-Dash
Peck's Skipper
Tawny-edged Skipper
Long Dash
Poweshiek Skipperling
Common Checkered-Skipper
Dreamy Duskywing
Black Swallowtail
Checkered White
Cabbage White
Alfalfa Butterfly
Common Sulphur
Purplish Copper
Melissa Blue
Viceroy
Red Admiral
Painted Lady
Mourning Cloak
Pearl Crescent
Harris' Checkerspot
Silvery Checkerspot
Silver-bordered Fritillary
Regal Fritillary
Great Spangled Fritillary
Aphrodite Fritillary
Variegated Fritillary
Monarch Butterfly
Eyed Brown
Inornate Ringlet
Common Wood Nymph

Atrytonopsis hianna
Euphyes vestris
Anatrytone logan
Hesperia dacotae
Wallengrenia egeremet
Polites peckius
Polites themistocles
Polites mystic
Oarisma poweshiek
Pyrgus communis
Erynnis icelus
Papilio polyxenes
Pontia protodice
Pieris rapae
Colias eurytheme
Colias philodice
Lycaena helloides
Lycaeides melissa
Limenitis archippus
Vanessa atalanta
Vanessa cardui
Nymphalis antiopa
Phyciodes tharos
Chlosyne harrisii
Chlosyne nycteis
Pieris rapae
Speyeria idalia
Speyeria cybele
Speyeria aphrodite
Euptoieta claudia
Danaus plexippus
Satyroides eurydice
Coenonympha inornata
Cercyonis pegala

Source for scientific names:

Opler, Paul A., Harry Pavulaan, and Ray E. Stanford (coordinators). 1995. Butterflies of North America. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/bflyusa.htm> (Version 17AUG2000).