LAKE ILO NATIONAL WILDLIFE REFUGE
(Pretty Rock, White Lake, Stewart Lake)
Dunn Center, North Dakota

ANNUAL NARRATIVE REPORT
Calendar Year 1984

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

REVIEW AND APPROVALS

LAKE ILO NATIONAL WILDLIFE REFUGE

Dunn Center, North Dakota

ANNUAL NARRATIVE REPORT

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Rick Poetter — Refuge Manager — 3/4/85 — Date

Del Pierce — Project Leader — 3/25/85 — Date

Refuge Supervisor Review — 4-1-85 — Date

Regional Office Approval — 4-1-85 — Date

INTRODUCTION

Lake Ilo National Wildlife Refuge is located near the center of Dunn County in central western North Dakota. The refuge consists of 3,197 acres of fee title lands, 716 acres under flowage and refuge easements, and 120 acres under flowage easement. The main water area is comprised of Lake Ilo, a 1,240 acre impoundment created by a 1,525 foot long dam and fixed elevation spillway constructed in 1937 across Spring Creek.

Lake Ilo Refuge is a satellite station of the Des Lacs National Wildlife Refuge Complex. Satellite stations of Lake Ilo Refuge include the White Lake NWR, a 1,040 acre fee titled area, and the Stewart Lake and Pretty Rock NWR's which are under flowage and refuge easements of 2,226 acres and 800 acres respectively. Another 3.99 acres are held in fee title at Stewart Lake NWR.

The Service owned portion of Lake Ilo refuge includes:

Open water	930 acres
Marsh	390 acres
Native Grassland	1,205 acres
Dense Nesting Cover . .	322 acres
Cropland (coop. farmed)	175 acres
Cropland (force account)	10 acres
Trees	63 acres
Administrative	102 acres

The primary objectives for Lake Ilo Refuge are waterfowl production and waterfowl maintenance. In addition, the area supports excellent populations of white-tailed deer and ring-necked pheasants. The pheasant population on the refuge and immediate vicinity is one of the highest in the state. Lake Ilo NWR is closed to hunting. Boat, bank and ice fishing is the primary recreational use of the refuge. Game fish species include northern pike, walleye pike and yellow perch.

INTRODUCTION

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A. HIGHLIGHTS

After 39 devoted years at Lake Ilo NWR, GS-7 Biological Technician Chesley M. Dinkins retired (Nov. 1983) and moved two miles away to Dunn Center, North Dakota. GS-7 Refuge Manager Rick Poetter arrived in March to assume duties as Refuge Manager.

An April 27 blizzard dropped 21 inches of snow, causing some waterfowl to abandon their nests.

A proposed land exchange between the FWS and Tony Stroh fell through.

A dam safety inspection revealed needed work on the facilities.

Dunn County is prohibited from mining scoria on the refuge.

A cooperative fire agreement was made with the Dunn Fire Protection District.

Snow and white-fronted geese were hard to find on the refuge.

The refuge received a new look.

Plans for a new office/shop building were drawn and await future funding.

The refuge residence gets carpeting and new lighting.

B. CLIMATIC CONDITIONS

Total precipitation/moisture for the year was 14.99 inches compared with 15.65 inches in 1983 and 25.50 inches in 1982. This was 1.40 inches below normal, which is based on data from 1951 to 1980. There were 9.05 inches of rain during the growing season (April-July) compared to the long-term average of 10.28 inches.

Table 1 summarizes data collected at the refuge for the U.S. Department of Commerce, National Weather Service.

Table 1. Weather Conditions

	Precipitation (inches)			Temperature (F^{o})	
Month		Normal	Snow	Max.	Min.
Jan	.14	.40	3.0	45	-28
Feb	.11	.48	0.6	53	- 8
Mar	.58	.60	11.0	64	-11
Apr	4.39	1.60	21.5	68	19
May	.21	2.35	T	92	23
Jun	4.43	3.69	0	85	40
Jul	.02	2.17	0	102	44
Aug	3.02	2.05	0	99	42
Sep	.59	1.65	2.0	91	26

Table 1. Weather Conditions (cont'd)

	Precipitation (inches)				Temperature (F°)	
Month		Normal	Snow		Max.	Min.
Oct	1.06	.87	1.3		78	3
Nov	.12	.19	2.3		63	- 1
Dec	.32	.34	7.9		54	-22
Total	14.99	16.39	49.6	Extreme	102	-28

The lake ice began breaking up the first week of April. On October 27, the smaller and shallower water areas froze over when the temperature dropped to 8°. The larger and deeper waters froze over on October 29. Warmer weather combined with wind and wave action re-opened over half of Lake Ilo during the first two weeks of November. The lake again froze over on November 17 and remained that way through the end of the year.

The last significant snowfall for the winter season occurred on April 25, when a severe blizzard blanketed the area. It lasted for two days and left 21 inches of snow that contained 3.10 inches of moisture. The headquarters area was snowed in until late afternoon on the 28th when the roads were finally cleared by Manager Poetter. Equipment break-downs and inadequacies made a two hour job into an eight hour one. Very poor tractor traction, even with chains, and wet heavy snow were among the causes for most of the problems. The entrance road, where it makes a large dip to cross the creek below the spillway, remained closed for another five days due to a five foot snow drift that could not be cleared.

Only five months later (what we call "summer") the first snowfall occurred only 12 hours after fall officially began. Mid-day on September 23, the snowfall began and lasted until approximately 8:00 AM on the 24th, leaving an accumulation of 1.5 inches. By noon on the 25th only traces of snow remained in shaded areas. The moisture content of 0.30 inches was not much but it was welcomed.

A severe thunderstorm on August 19, with winds estimated between 75 and 80 mph, broke off tree limbs and felled several beaver damaged trees. Two days of cutting and hauling the debris from the headquarters and the park areas were required in the clean up. The top twelve feet of a forty foot tall blue spruce tree broke off and fell into the residence yard just missing the house.

C. LAND ACQUISITION

1. Fee Title

An exchange of fee title lands between Mr. Tony Stroh and Lake Ilo NWR was first requested by Mr. Stroh in 1977. The proposed exchange involved a FWS owned half section of land (N½, Sec. 31, T145N, R94W) consisting of native prairie, a ¼ acre water hole, planted dense nesting cover, farmed food plots, and a sizeable scoria (used like gravel in this area) pit.

Mr. Stroh's half section of land (W½, Sec. G, T144N, R94W) consists of grazed rocky native prairie, a 40 acre portion of Lee Paul Slough (already under perpetual flowage and refuge easement), and a windmill and shallow well. The reasoning behind Mr. Stroh's request for the exchange was that the properties are of similar soil quality and current land uses could easily be switched from one half section to the other. Also, the Service's half section is adjacent and closer to Mr. Stroh's ranch, a distance of four miles.

The properties were not appraised at that time but it was obvious to the FWS that a considerable differential payment in favor of the Service would be necessary to equalize the values. Negotiations ceased until late 1983 when Mr. Stroh, through Senator Andrews, requested that the properties be appraised with the intent of resuming negotiations. Realty Officer Herman Fettig from the Wetlands Acquisition Office in Minot, North Dakota made an appraisal of the two properties on December 9, 1983, and advised Mr. Stroh thay any exchange would involve a $15,000 differential payment to the government. Mr. Stroh indicated he would probably be interested at around $10,000. Mr. Fettig indicated he felt that based on the appraisal, the values were not negotiable.

With assistance from recently retired Biological Technician Chesley Dinkins, Project Leader Del Pierce conducted a biological assessment of the two areas on February 9, 1984. In their judgement, the Service would provide more wildlife benefits by retaining its tract of land than it would if it were to trade for Mr. Stroh's land. The main reasons behind this was that the Service land has a better potential for establishing or maintaining established dense nesting cover, and the soil and topography are better suited for farming for wildlife food crops. Mr. Stroh was notified and no further action has been initiated by him.

E. ADMINISTRATION

1. Personnel

DES LACS NWR PERSONNEL

1.	Delano A. Pierce, Project Leader	GS-12	PFT
2.	Theodore Gutzke, Assistant Project Leader	GS-11	PFT
3.	Muriel M. Hansen, Refuge Assistant	GS-06	PFT
4.	Doris E. Huwe, Clerk-Typist	GS-04	PPT

LAKE ILO NWR PERSONNEL

2. Larry 3. Debra 1. Rick

1. Richard D. Poetter, Refuge Manager
   EOD 3-4-84 GS-7 PFT
2. Larry W. Kittilson, Biological Aide
   5-20-84 to 9-29-84 GS-3 TEMP
3. Debra A. Poetter, Volunteer

Personnel actions for the complex are summarized by the month.

January:
GS-11 Assistant Project Leader, Rollie Krieger, officially resigned (H.Q. office).

February:
GS-6 Biological Technician, Scott Busching, officially resigned (Crosby WMD).

March:
Rick Poetter transferred from the Back Bay Refuge to the GS-7 Assistant Manager's position (Lake Ilo).

David Gillund was hired as a Biological Technician GS-5 on a 180 day appointment (Crosby WMD).

April:
Biological Technician GS-5 Robert Murphy was hired on a NTE 180 day appointment in cooperation with NPWRC. They paid half his salary and the refuge paid the other half (Lostwood NWR).

May:
Jon Dietz was hired as a Biological Aide GS-4 on a NTE 180 day appointment (Des Lacs Refuge).

Larry Kittilson was hired as a Biological Aide GS-3 on a NTE 180 day appointment (Lake Ilo Refuge).

June:
No personnel action this month. All permanent positions received audits by Fred Vallier and Joe Young from the Denver Personnel Office.

July:
Tedd Gutzke received a transfer and a promotion from the J. Clark Salyer Refuge to the Assistant Project Leader GS-11 position (Complex H.Q.).

August:
Clerk-Typist, Doris Huwe, was promoted to Clerk-Typist GS-4. Also, her tour of duty was increased from 24 hours to 32 hours per week (Complex H.Q.)

Biological Aide GS-4 Jon Dietz's temporary appointment was terminated (Des Lacs Refuge).

September:
Biological Technician GS-5 Robert Murphy's and Biological Aide GS-3 Larry Kittilson's temporary appointments were terminated (Lostwood Refuge and Lake Ilo Refuge).

October:
Biological Technician GS-5 David Gillund was converted to a WG-2 on a TAPER appointment (Crosby WMD).

November:
Assistant Manager GS-9, Steve Knode, received a transfer and promotion to the Charles Russell Game Refuge (Des Lacs).

December:
Assistant Manager, Frank Kartch, was promoted to Refuge Manager GS-9 (Lostwood WMD).

At the close of the year, we had still not received official results of the June audit. There are still several serious grade level inequities in the complex and we are disappointed at this delay. Various freezes, bulges, ceilings and ordinary run-of-the-mill inertia are preventing decisions from being made.

The current political climate is not conducive to immediate corrections of grade level discrepancies. However, this should not preclude decisions regarding where grade levels should be.

2. Youth Programs

Six local youths were hired for eight weeks under the YCC program. Bonnie Mazur was hired as the Group Leader.

Projects included removing old fences on Nelsen and Bryant WPA's, constructing fence on the Lostwood Refuge, painting the exterior of the headquarters building and accomplishing several other projects on Lostwood and Des Lacs Refuges and the Lostwood WMD.

One problem with the YCC is a logistical one. Although there are a lot of projects for them it often becomes inefficient to take on projects that require less than the full YCC crew because another refuge employee must be released to drive and/or supervise enrollees.

Because of the inexperience of the enrollees, and because they are no longer "free" (station budgets must support the program), YCC may become a marginal program. If we were given the opportunity to choose (we aren't) between receiving several more thousand dollars for regular summer help and receiving a YCC crew, we would probably choose the former at this station.

4. Volunteer Program

Refuge wives constituted our main source for volunteers. Jenny Knode at Des Lacs and Debbie Poetter at Lake Ilo both are official volunteers. They both helped in picking up supplies and doing various "gofor" jobs at their respective refuges.

Jon Dietz became a full time student volunteer in March. Jon worked for us 40+ hours per week for eight weeks between mid-March and mid-May. He was reinstated to a paid Biological Aide position in May. This was the same position he had held during the summer of 1983.

5. Funding

Funding and budgeting figures are for the complex. Field stations do not have individual allocations. Salaries and wages went up, the cost of goods and services went up, demands for outputs are increasing, the budget for next year is down.

We started out the year with $528,000 in 1260 funds but $5,000 was subtracted to go into the YCC fund. This was held pending our becoming committed to the program at which time it was reallocated along with $5,000 matching funds.

Funding is almost adequate for custodial management but little or no overall progress can be made towards significant increase in habitat improvement. Much of the land that once could produce ducks well if we simply left it alone now has too many negative pressures on it to function as good duck habitat without lots of improvement.

Table 2. Operational Funding Des Lacs Complex

FY	O & M Funding	Expenses for Sale
1985	510,000*	13
1984	523,000**	10
1983	355,000	9.5
1982	315,000	9.0
1981	310,000	6.0

*Includes $56,000 ARMM's funding
**Includes $64,000 ARMM's funding

Unit 8 Spillway Replacement and Unit 7 Bypass Ditch projects were allocated $10,200 in design costs and $129,900 in construction funding during the year.

About $136,000 was more or less allocated for construction of an office/shop building at Lake Ilo. This amount was a combination of reallocating some Audubon Refuge funds and carrying over some FY82 Des Lacs funds. Somewhere in the midst of reprogramming, congressional committee approval, some fine points in congressional directives and perhaps other phenomena that perhaps did or did not occur in perhaps or perhaps not the proper ways, the money may or may not still be available, if perhaps it ever was. We can still use the money if anyone ever finds it.

Table 3. Staffing-Des Lacs Complex

Yr.	Des Lacs Refuge			Lostwood Refuge			Lostwood WMD			Crosby WMD			Lake Ilo Refuge			H.Q. Staff			Complex Total			FY FTE
	Perm.		Temp.	Perm.		Temp.	Perm.		Temp.	Perm.		Temp.	Perm.		Temp.	Perm.		Temp.	Perm.		Temp.	
	F.T.	P.T.		F.T.	P.T.		F.T.	P.T.		F.T.	P.T.		F.T.	P.T.		F.T.	P.T.		F.T.	P.T.		
84	2	1	1	2	0	1*	2	0	0	2**	0	0	1	0	1	3	1	0	12	2	4	13.7
83	2	1	1	2	0	1	2	0	0	2	0	1	1	0	1	3	1	0	12	2	4	12.5
82	2	1	1	1	2	0	-	-	-	1	1	1	1	0	0	3	1	0	8	5	2	13.3
81	2	1	4	1	2	1	-	-	-	1	1	1	1	1	0	3	1	0	8	6	6	--
80	2	1	1	1	2	1	-	-	-	1	1	1	1	0	2	3	1	0	8	5	6	--

* 50% Lostwood Refuge - 50% NPWRC
** One Taper appointment

6. Safety

No lost time accidents occurred on the Des Lacs Complex in 1984 and no injuries occurred that required medical attention.

All fire extinguishers were checked in November and recharged where necessary.

New smoke detectors were installed in the Des Lacs residence Q-4 and Lake Ilo residence Q-1.

Felch, Fuller, Huwe, Kartch and Knode attended a Defensive Driving Course given by GSA at the J. Clark Salyer NWR during January.

Felch, Fuller, Gins, Vaage, Smith and Stewart were recertified as pesticide applicators in February.

A 34 hour course of orientation and introduction to fire fighting was completed by Gins, Poetter and Smith in April.

Engineering Technician Dean Fortik visited the refuge on September 13, and assisted by Manager Poetter, a dam safety inspection was conducted on the Lake Ilo facilities. Photos and videotapes were made of the structures and downstream areas for comparison with previous photos and types for future reference. The Lake Ilo dam has been placed in a Class I (High Hazard) category because, if the structure incurred an overtopping failure, flows would be high enough to endanger lives and property in Dunn Center, one mile downstream. A previous inspection was conducted in April, 1982. As a result of this inspection, $600,000 has been set aside in the RO to rehabilitate the facilities in FY 86.

8. Other

A special use permit was issued to Research Archaeologist Stanley A. Ahler of the University of North Dakota in Grand Forks. The permit allowed the temporary occupancy of the "Waggoner House" for ten weeks during the summer by an archaeological crew of up to twelve people. The plumbing in the house was non-functional and all electrical usages were paid by the permittee. The crew conducted summer course work and archaeological research on the Knife River Flint Quarries located four miles east of the refuge. The listing of these flint quarries on the National Register of Historic Places has been proposed.

The following training sessions, workshops and meetings were attended by Manager Poetter:

- On the first day of each month (April through December) safety and staff meetings were held at the Des Lacs NWR Complex.

- April 17-18, North Dakota Wetland Manager's meeting in Bismarck, ND.

- April 23-25, Fire Management Training (S-110, S-130 and S-190 courses) in Minot, ND.

- May 14, firearms qualification at Upper Souris NWR.

- June 6-8, Forest Service workshop concerning oil industries operating on federal lands. The workshop was held at the Custer National Forest Headquarters in Dickinson, ND and centered around problems encountered with oil exploration and development and how the FS met these problems in management of the Little Missouri National Grasslands.

- June 15, an eight hour Defensive Driver Training course sponsored by the North Dakota Safety Council in Dickinson, ND.

- August 27-30, North Dakota Project Leaders' meeting in Minot, ND.

- September 21, firearms qualification and pre-hunting season briefing held at Upper Souris NWR.

- December 19, meeting of the Dickinson Area Rangeland Resource Council. The council consists of local professionals from state and federal agencies that are involved in wildlife and range management. The objectives include communicating range/wildlife related information, agency activities, and to act as a sounding board for management, research and educational efforts.

F. HABITAT MANAGEMENT

1. General

An inspection of the real property and habitat of the Lake Patricia Wetland Management Area, located five miles east of Flasher, North Dakota in Morton County, was conducted on July 30. In 1939, nine quarter sections were put under flowage easements with the FWS. On March 31, 1949 the State of North Dakota purchased four (Section 36) of the nine quarter sections.

In 1955, the FWS and North Dakota entered into a cooperative agreement in which the State Game and Fish Department manages the entire area of easements in conjunction with their fee title lands. The state appears to be doing a fine job of intensive management. Shelterbelts have been established, share-crop cooperative farming and haying are ongoing, the marsh and water areas are in excellent condition, and waterfowl nesting structures are in place. Hunting is not allowed on the area. This year, the FWS is initiating a transfer of real property to the state. Real property inventories have been carrying a 30 foot long by 4 foot high check dam on them over the years.

2. Wetlands

Lake Ilo is approximately 1,240 acres in size. Approximately 890 acres are open water and 350 acres are cattail and bulrush marsh, predominantly on the south and west borders of the lake. The fixed elevation spillway prevents economical water level manipulation. Water levels are regulated by the amount of precipitation received during the year.

Lee Paul Slough receives its water through a ditch connected to Lake Ilo. A double stoplog structure located in the ditch controls water levels in the slough. When lake waters are high, water can be let into the slough and held when water levels drop.

Table 4. Lake Ilo Water Levels 1984 - Spillway Crest 72.5

Month	Peak Elev.	Average Elev.	Area (acres)	Capacity (ac/ft)
Jan*	72.2	72.2	1198	6448
Feb*	72.2	72.2	1198	6448
Mar*	73.0	72.7	1254	7358
Apr	72.7	72.6	1247	7244
May	73.0	72.6	1247	7244
Jun	72.6	72.5	1240	7130
Jul	72.5	72.3	1212	6676
Aug	72.1	72.0	1170	5994
Sep	71.7	71.7	1143	5758
Oct	71.5	71.5	1110	5469
Nov*	71.5	71.5	1110	5469
Dec*	71.5	71.5	1110	5469

*Frozen over for most of the month

Lee Paul Slough is becoming increasingly inundated with cattails and this progression will have to be controlled in the near future. This slough is the best waterfowl area on the refuge at this time.

3. Forests

Roughly twenty-five acres of predominantly cottonwood trees are located along the water area shorelines and stream courses.

Another thirty-eight acres of shelterbelts (mostly Chinese and American elms, blue spruce and Russian olives) have been established over the years. The practice of maintaining firebreaks and cultivating in and around these areas was discontinued this year. The expenditures of labor and fuel could not be justified once the trees have become established. No new shelterbelts were planted.

4. Croplands

Ten acres of food plots farmed by refuge personnel were summer fallowed this year after being planted to spring barley in 1983.

Three cooperative farming agreements with two neighboring farmers were issued again this year. A total of 68 acres were planted and 74 acres were summer fallowed. Crops planted consisted of spring wheat and spring barley. The cooperator's share included 45 acres of harvested wheat and the refuge's share was 22 acres of barley left standing for wildlife food. Wheat yields averaged 25 bushels per acre and barley yields were estimated at 30 bushels per acre on the fields farmed by Joe Schollmeyer. The fields farmed by Chuck Schollmeyer produced yields of 5 bushels per acre less than

his brother's. Differences in planting times and weed control accounted for the lower yields.

The barley that was grown for wildlife was utilized heavily by the pheasants and deer from September through December. Waterfowl use was heaviest in October when the water areas froze over. One hundred Canada geese and about five hundred mallards could be seen at one time in the fields.

6. Other Habitats

The refuge's scoria (superheated clay from underground coal fires) pit was closed to any use other than by the refuge this year. Previously, scoria was sold to Dunn County for use on their roads. Table 5 shows the amount of scoria removed and the prices the Service charged. Scoria prices on the open market in 1982 were ranging from $1.50 to $2.50 per cubic yard. The Service was selling its scoria three times less than other landowners. During 1983 Biological Technician Chesley Dinkins began negotiations to close the pit. This was finalized this year when the pit was officially closed. During the year, five other requests for mining of scoria were received from construction companies and landowners who were constructing oil rig pads and roads and were denied.

Table 5. Scoria Sold to Dunn County

Year	Cubic Yards	Cost/Cubic Yard	Revenue
1977	1,142	26¢	$ 296.92
1978	1,260	16¢	201.60
1979	0	-	-
1980	3,855	10¢	385.50
1981	14,514	25¢	3628.50
1982	185	25¢	46.25
1983	6,269	50¢	3134.50
Totals	27,225		$7,693.27

The refuge dump was also closed this year. Trash and debris is now hauled two miles to the Dunn Center dump. The two local contractors that would haul refuse were contacted. One wanted $25.00 per load plus a dumpster rental fee, and the other wanted $5.00 per month for twice a week pickup. The first contractor was far too expensive and the second had a history of stealing weapons and money from employers. An inquiry was made with the auditor and mayor of Dunn Center concerning the use of their dump. A fee of $10.00 per month or $50.00 per year was proposed and approved by the town council. This fee would be for unlimited trips by non-residents, residents are permitted free use. The $50.00 per year fee was selected for the refuge.

8. Haying

Roadside haying along the State Highway 200 easement was granted to Tony Ridl and Pete Hutchinson who are adjacent landowners to the east and west respectively. Their fee for the hay was to deliver a third of the large round bales to headquarters for use as nesting structures in the marshes.

A total of six bales were received.

9. Fire Management

This year a cooperative agreement was entered into between the FWS and the West Dunn Fire Protection District for the purpose of providing adequate fire protection and suppression for the lands located within and adjacent to the refuge. The Fire District agreed to furnish fire fighting equipment and manpower for suppression of fires on these areas and the Des Lacs NWR Complex agreed to provide equipment and manpower to assist in fire protection within the Fire District. In addition the Fire District was paid $150.00. No fires occurred on the refuge and the Des Lacs Complex equipment and staff were not utilized by the Fire District.

The North Dakota Rural Fire Contingency Plan, developed by the North Dakota Disaster Emergency Services, was put into effect in April. This station participated in the Rural Fire Threat Assessment Program by conducting bi-weekly "percent of green" surveys from April 15 through September. These surveys were reported to the National Weather Service. The survey involved walking a predetermined transect on the native prairie of approximately 100 yards and taking 4 to 8 vegetative samples from a randomly placed 8"x18" rectangle. The vegetation, consisting mostly of grasses, is clipped and separated into two piles, dry and green. The dead thatch is also collected and added to the dry pile. Through visual comparison of the two piles, a "percent of green" figure is derived.

10. Pest Control

On July 26, four small areas (less than ¼ acre in total) of leafy spurge were hand sprayed with picloram (Tordon 22K). A recheck of these areas on August 21 found another 40 foot diameter area, which was sprayed.

At the insistence of the local extension agent, the refuge was surveyed for areas infested with Canada thistle. Approximately 45 acres were located throughout the refuge. Time prohibited the preparation and approval of the required pesticide proposal prior to the plants going to seed. A full effort will be put into the control of this noxious weed next year.

A new 80 gallon pickup truck mounted sprayer was purchased for weed control. The unit is equipped with 15 feet of boom and a hand held spray nozzle.

G. WILDLIFE

2. Endangered and/or Threatened Species

Endangered species known to occur on the refuge this year include the bald eagle. Bald eagles were observed only in November. A lone adult bird was seen on the 6th, two adult birds were observed on the 11th and three on the 18th. No bald eagles were observed after the 21st. A coyote killed deer carcass, on the lake ice, was fed upon by the eagles.

3. Waterfowl

Duck, geese and coot use days at Lake Ilo Refuge, and the three satellite stations, increased over last year's figures. The past five year average of 558,585 use days were also exceeded.

Table 6. Waterfowl Use Days - Lake Ilo NWR and Satellites

Year	Use Days
1984	592,714
1983	542,700
1982	677,045
1981	293,193
1980	349,831
1979	930,157

The April 27 blizzard that dropped 21 inches of snow caused the destruction of some mallard, pintail and giant Canada goose nests. Most of the mallards and pintails were suspected to have renested. Some renesting of Canada geese also occurred.

Ducks

The first paid of ducks to arrive at Lake Ilo Refuge after the long winter were pintails, which were observed on March 22. The first major influx of ducks occurred on April 7. The total population consisted of about 600 birds of mostly mallards, gadwalls, pintails, lesser scaup and redheads.

Known mallard production totalled 56 young from 8 nests. Other duck production totalled 296 young of gadwalls, American wigeons, blue-winged teals, pintails, northern shovelers , canvasbacks, redheads and lesser scaup. Forty-four coots were produced.

Mallards were the last waterfowl to leave the area. The last major flock of 250 had departed by December 3.

Geese

The first pair of Canada geese to arrive this spring were observed on March 20. On the 22nd a flock of 35 had arrived.

A total of 12 pairs of giant Canada geese made nesting attempts, but only 4 pairs produced 18 young to flight stage. Records indicate that no broods were produced in 1983.

A peak population of 350 Canada geese (mostly giant) were observed on November 16. By the end of the month they had all left the area.

The only white-fronted geese observed this year were flying overhead. Several flocks of roughly 65 to 120 birds were seen during each migration, but not one bird was known to land on the refuge. In the fall of 1983, a peak of 300 white-fronts utilized the refuge.

A pair of snows were the only snow geese observed utilizing the refuge during the spring migration. About 10 flocks of 75 geese each were observed flying overhead during the week of April 8. The fall flights were just as poor, but a flock of 65 snows did utilize the refuge during the first week of November.

Swans

A peak population of five tundra swans were observed during the last week of October. These were the only swans seen on the refuge this year.

4. Marsh and Water Birds

Species which were known to nest on the refuge this year included the eared grebe, pied-billed grebe and great blue heron. Other species observed included the double-crested cormorant, American white pelican, greater sandhill crane and American bittern.

A colony of 24 breeding adult great blue herons utilized the mature stand of cottonwoods on the west side of Lake Ilo, as in the past. This colony has been established since 1978. Exact production figures are unknown but are estimated at five young fledged.

The spring passing of greater sandhill cranes occurred around the 7th of April. Roughly 120 were observed flying over the refuge on three separate days. Another 60 cranes spent the night of the 7th in a farmer's field 14 miles east of the refuge. On the 13th, a pair stayed overnight on the western section of the refuge. Only one or two flocks of 70 cranes each were observed during the fall migration.

A flock of twelve white pelicans were the first group of pelicans to arrive at the lake this year. They were observed on March 30. No nesting occurred on the refuge. Flocks of 35 to 65 birds were occasionally seen during the summer months.

5. Shorebirds, Gulls, Terns, and Allied Species

Black terns and killdeer were known to produce young on the refuge this season. Other species observed included the herring gull, ring-billed gull, Franklin's gull, Forester's tern, common tern, Wilson's phalarope, American avocet, common snipe, marbled godwit, willet, spotted sandpiper, western sandpiper, semi-palmated sandpiper, greater yellowlegs and lesser yellowlegs.

6. Raptors

Known nesters on the refuge this year included the great horned owl and northern harrier. Other species observed included the short-eared owl, burrowing owl, turkey vulture, northern goshawk, American kestrel, merlin, bald eagle, golden eagle, Swainson's hawk, red-tailed hawk, rough-legged hawk, and gyrfalcon. Prairie falcons were not observed this year, but have been seen in past years.

At least one golden eagle was observed in each month of the year except during the months of June, July and August. Most sightings were of

immatures. A peak of two golden eagles were observed in September and December. The large ring-necked pheasant population on the refuge provides the eagles with plenty of good hunting.

A pair of gyrfalcons was frequently observed from January through March and then again from the third week in November through the end of the year.

7. Other Migratory Birds

The first spring migrant American crow was observed on March 22 and the first western meadowlark was on March 26. After a long winter, it is a pleasure to hear the prairie alive with songbirds again.

Mourning doves were again a common sight and sound this breeding season. It is estimated that the peak population totalled 500 birds in August, with over 300 young being produced on the refuge.

8. Game Mammals

A count of white-tailed deer in January showed a peak population of 105 deer. By May the herd had dispersed leaving about 15 deer on the refuge. Production was estimated at 14 fawns. At least two sets of triplets were born. Once the sharp-tailed grouse hunting season opened on September 15 around the refuge the deer population tripled within a week. Deer obviously can't distinguish the difference in sound between shotguns and rifles!

Headlight reflectors installed along Highway 200
to reduce deer/vehicle collisions
RDP Dec 1984

Two deer were known to have been hit by vehicles travelling on State Highway 200 and many other close calls were reported during September and

October when the deer became more action in their nighttime travels on and off the refuge. In a cooperative effort to further reduce these collisions the North Dakota Highway Department installed a three mile series of mirrored reflectors. As an approaching vehicle's headlights shine on the mirrors, the light is reflected at angles away from both sides of the highway. Hopefully, if deer are present, the reflected light will "freeze" the deer and keep them from moving onto the road surface until the vehicle has passed. No deer have been hit since their installation in October.

A herd of eight antelope was observed four miles east of the refuge in September. There were no sightings on the refuge.

The refuge is closed to any hunting. One reason is due to its small size and ranging of animals off the area.

No red fox were observed this year on the refuge or in the vicinity.

The beaver population on the lake remains high, as was noticed by the substantial number of felled and girdled trees along the shoreline. One beaver was trapped in November by the permittee.

10. Other Resident Wildlife

A peak ring-necked pheasant population was estimated at 400 birds in November and December. Increasingly cold weather and hunting pressure brings neighboring birds onto the refuge for food and relative safety. The average population during the year was roughly 300 birds. It is not uncommon during the winter and spring to count over 100 birds along the refuge roads.

The refuge turkey population consists of one gobbler and one hen. A brood of three were hatched out in the spring but none of them survived through the summer. The pair were last seen in December in the woodlot east of the refuge park.

One sharp-tailed grouse dancing ground was located on the refuge in the SE¼, SE¼, Sec. 30, T145N, R94W. Seventeen individuals were counted on two separate occasions in May. A peak population of 195 birds was estimated for September.

A peak population of 90 gray partridge was estimated for September.

11. Fisheries Resources

Fisheries Management Biologist Frank Pfeifer and Hatchery Maintenance Worker Gene Heise from the Valley City NFH, Valley City, North Dakota visited the refuge on August 13 and 14 to conduct the annual test netting of Lake Ilo. Two gill nets and two trap nets were used. White suckers dominated the catch, and comprised 78% by weight and 62% by number of the total. Following white suckers were black bullheads and then carp. Game fish accounted for 6.7% of the catch. Species included northern pike, walleyed pike and yellow perch. One large snapping turtle was also caught. A drawdown of the lake will be attempted in 1986 in conjunction with the

proposed dam rehabilitation work. A winterkill of the fish population will be attempted. It may become feasible to try and eradicate the carp and suckers from the watershed in conjunction with the drawdown. In anticipation of this, no fish stocking will be done in 1985. Both gamefish and waterfowl will benefit from a reduced population of carp and suckers.

The fish screens and trap were put in place again this spring in the water control structure between Lee Paul Slough and Lake Ilo. The screens prevented spawing carp from entering the slough and the trap allowed capture of northern pike, which were netted and placed on the slough side to spawn. After all spawning was over the screens were pulled and the northerns were allowed to re-enter the lake.

Gene Heise pulls in gill net catch from area below headquarters. Gene is very photogenic!
RDP Aug 1984

12. Wildlife Propagation and Stocking

Seventy thousand one-inch walleye pike fry were stocked into Lake Ilo on June 25. The fry were delivered from Garrison Dam NFH, located 75 miles east of the refuge.

H. PUBLIC USE

1. General

The year was spent trying to present the public with a different perspective concerning the refuge. It was viewed by most locals as "Chesley's Ranch", referring to the retired Biological Technician Chesley Dinkins. It was not a derogatory term, but after 39 years of operating the area by

yourself and pretty much the way you wanted to, some people perceived it that way. The "new" approach involved emphasizing the area as a publicly owned and government operated wildlife refuge. Boundary and other confusing signs located inside the refuge were removed. New permitted/prohibited signs were erected at the four main entrance points. The old porcelain shield shaped signs on the refuge boundary were replaced with updated boundary signs. Entrance roads onto the refuge were more clearly signed. All of the older routed wooden signs were restained brown and the yellow lettering changed to white. Many small garbage piles were cleaned up and work was started on the cleanup and moving of the trashy boneyard, which is located atop a hill in plain view of refuge visitors. Old equipment, debris and trash were removed from around the buildings at headquarters. There was not enough time to complete all projects and more cleanup is needed, but a definite change has occurred and the public has noticed it. More changes are mentioned under the headings of fishing, trapping, picnicking, law enforcement and maintenance.

Biological Aide Kittilson (left) and Manager Poetter erecting one of four similar signs

DAP Jul 1984

2. Outdoor Classrooms - Students

An interagency outdoor classroom activity was scheduled at the refuge for May 8. Eighty-four students from local schools were scheduled to attend but the date was rained out and the scheduling of another date could not be worked out. Participating agencies were to include the U.S. Forest Service, Soil Conservation Service, National Park Service and Fish and Wildlife Service.

Refuge Manager Poetter talks with a local school group
DAP Sept 1984

A group of 50 students from grades ten through twelve at South Heart Public School made a field trip to the refuge on September 20. Manager Poetter discussed the history of the refuge, past and present management practices and gave an overview of the National Wildlife Refuge System. After making stops at various locations throughout the refuge, the group continued on to visit areas administered by other federal agencies.

6. Interpretive Exhibits/Demonstrations

Manager Poetter assisted with the staffing of the Duck Stamp Exhibit at the Minot State Fair in Minot, ND on July 24 from 11:00 AM to 11:00 PM. Working with Duane Anderson from Upper Souris NWR, they were able to switch off and on to break up the long day.

8. Hunting

Hunting is not allowed on the refuge, but the boundaries are hunted heavily during the ring-necked pheasant and deer seasons.

Sharp-tailed grouse hunting was good to excellent in the local area this year. Dove hunting was also excellent. One reason for this is that only a handful of people in the area hunt doves. The refuge staff had no problem finding unwary doves to shoot at.

Waterfowl hunting is very similar to doves in that very few people hunt them in this area. Most hunters go north or northeast of here where there are thousands of more waterfowl, especially geese. Canada goose hunting is closed for five miles in each direction around the refuge, and the other species of geese did not come within gun range.

9. Fishing

Ice fishing closed on March 25. The regular boat (25 hp maximum) and bank fishing season opened on May 5 and closed on September 21. The next day, September 22, the season reopened to bank and ice fishing only through the end of the year. Boat fishing is restricted to reduce the disturbance to migrating waterfowl in the fall.

In April several areas previously used by fisherman to drive from the road 10 to 50 yards to the lakeshore were closed off and signs reading "Foot Traffice Only, No Vehicles" were erected. Fishermen have been historically driving off the roads to eliminate the carrying of all their necessary fishing gear like beer coolers, lawn chairs, radios, etc. Few areas were safe from vehicles driving up to where you might be fishing and destroying any type of wildlife experience that may have been occurring. A few of the signs were stolen and a few tavern patrons "talked" of getting up a petition to reopen these areas to vehicles, but an overall acceptance has occurred and many people have taken advantage of these more peaceful fishing areas. More than enough areas still exist where one can still drive up to the lakeshore and fish.

Also in April all trash barrels, that had previously been in place at all the popular fishing areas and boat ramps, were removed. This was done to eliminate having to dump the barrels and clean up the overflow. The program was very effective. Instead of emptying barrels twice or more a week, litter pickup was needed only three times during the year and it took only an hour each time to do all of the public use areas. Without any extra signing or news releases, the public responded on its own to "pack it in, pack it out".

Fishing during the year was moderately poor until in September. For six to seven weeks, limits of northern pike and large catches of excellent sized yellow perch were being caught in Spring Creek near the Highway 200 bridge. A quarter mile downstream is the mouth of the creek where it enters Lake Ilo. This area is under flowage easement and has been deepened by the backwaters of the lake when it was created. Most northern pike caught were 20 inches in length but several 6 to 8 pounders and a few 16 pounders were caught. A few medium sized walleyes were also taken. Ice fishing in November and December has also produced relatively well in these areas. Eleven ice fishing houses were in place in December and on a "nice" weekend up to 45 vehicles with two to five fishermen each, can be seen on the lake ice.

10. Trapping

The 1960 Refuge Trapping Plan is scheduled for a complete rewriting in FY85. The current plan does not define how a trapper is to be selected. Mr. Gary Jepson has been trapping this refuge for many years including the 83-84 season. A permit was going to be issued to him again for the 84-85 season until he admitted to being a circuit trapper. He has three traplines off the refuge. One trapline is checked each day. If a permit to trap the refuge were issued to him, his traps would be checked only once every three days or so. Another trapper, Mr. Pat Sinclair, was willing

to abide by all the permit requirements and was issued a permit. Next season a bid fee system will be used to select a trapper.

The following are the results of Mr. Jepson's trapping efforts from September 26, 1983 through March 31, 1984:

> Red fox - 1, beaver - 1, striped skunk - 8, raccoon - 25, mink - 10 (9 males, 1 female), and coyote - 5 (a set limit). He indicated that he had trapped another 92 coyotes on his trapline off the refuge, but did not indicate the size of the area trapped.

14. Picnicking

In 1939, the seven acre Lake Ilo Refuge Park was established. A special use permit was issued to Dunn County to construct, operate and maintain recreational facilities in the park. Within a year or two, a mortared rock bathhouse and two rock pit toilets were constructed by refuge workers, and the county had constructed a wooden concession stand and picnic shelter. Over the years, trees have been planted and grown to provide adequate shade. The park and adjacent Lake Ilo were the main recreational areas for Dunn County residents until 1953 when Garrison Dam was completed creating the 383,000 acre Lake Sakakawea to the north of the refuge.

The last special use permit for the operation and maintenance of the park was issued to Dunn County in 1983 for a five year period. Today, picnicking is the primary use of the park along with swimming when certified lifeguards are present. Group picnic permits are issued through the Dunn County Auditor's office and a fee of up to $7.00 is charged for electrical and facilities use along with a refundable $5.00 deposit that is returned if the area is left in good condition. Nine group picnics (45-200 people) were held this year.

Prior to this year, the county had not been involved in maintaining the park as much as they should have been. The lawn was being cut and the garbage was dumped after the picnics, but the gate was in disrepair, painting was needed, trees needed removing or trimming, and several picnic tables needed repairs and painting.

Mr. Kittilson, who lives next to the park, no longer wanted to mow the lawns and haul the garbage for the county this year. After considerable prodding and delays, the county finally decided to use their own workers to maintain the park when nobody else could be found. This summer, half of the tree trimming has been completed and during the winter months a new gate will be constructed and the picnic tables painted and repaired. Next spring more work is promised to be completed.

17. Law Enforcement

Emphasis during the year was placed on informing refuge visitors of the particular do's and don'ts of the area. Improved signing and substantial visibility and public contacts were utilized. Most of the enforcement problems are connected with fishing violations, hunting violations, vehicles off roads, and teenager parties during the day and at night. An excellent working relationship and coordination with the county sheriff's

department and the state game warden has substantially helped with law enforcement on the refuge. Several fishing violations were issued by the state game warden.

I. EQUIPMENT AND FACILITIES

1. New Construction

The office is currently located in the basement of the residence. A home, with all the daily family business going on, is not the place for a government office. The invasion of the privacy of the residents is also of major concern. To get to the office you must enter the kitchen, go downstairs past a bedroom and through the laundry room. This is the most accessible location for the office, in this residence. For years there has been talk of building a new shop/office building. Funds from projects at Audubon NWR and the Des Lacs NWR Complex have been submitted to Congress for reprogramming along with other funds for other projects at Audubon NWR. It has been well over a year and Congress has not yet acted on it. The draft plans for the $132,000 shop/office building have been reviewed and as soon as $80,000 is reprogrammed the construction contracts can be drawn up. The present shop is insufficiently heated, too small, and very poorly equipped. Some minor improvements in equipping the shop have been made this year but there is a long way to go.

The refuge shop and its very limited and, in most cases, old equipment. The outside can be seen in the staff photo
RDP Apr 1984

2. Rehabilitation

The boathouse, located below the residence, was repainted in shades of

brown instead of white and green, to blend it into the hillside and trees. It is now more aesthetically pleasing. By its appearance, it had been at least 15 years since it was last painted. The pit toilet near the boat ramp received the same treatment.

The boneyard in its present location atop a hill in plain view

RDP Aug 1984

The refuge boneyard is located a quarter mile east of the headquarters area. It is atop a hill overlooking the lake. It is also in public view from the entrance road that goes to the headquarters and the southeastern area of the refuge that is open to the public. Work on cleaning up the mostly useless material was started this summer. The useful items will be neatly arranged in a new location hidden by mature shelterbelts in the headquarters area. Time permitted only the relocation of metal fence posts and the hauling away of rotten wooden fence posts.

3. Major Maintenance

The melting of April's 21 inch snowfall raised the waterflow over the spillway to 6 inches. This flow caused the downstream creek to rise 12 inches over the 12 foot long concrete bridge, thereby washing off the 8 inch layer of scoria. The road remained impassable for four days until the water level dropped below the top of the bridge. The scoria was replaced, waiting for the next high water to wash it away. This bridge has two five foot wide by two foot high openings under it for water to pass through. This is inadequate when there is a 5 inch or greater waterflow over the spillway, which usually occurs each spring. Also, the bridge is part of the main entrance road and it makes an abrupt 5 foot dip to accommodate the low bridge. In the winter, the snow drifts into the dip closing the entrance road again. This bridge needs to be replaced or modified to raise it at least 5 feet

and to accommodate the waterflows that occur in that area.

A 5 inch diameter hole in the entrance road, below the dam, was discovered on September 6. Upon inspection, it was discovered that the hole was 4 feet deep and opened up to 2.5 feet in diameter at the bottom. The hole was located above a sectionalized 18 inch diameter concrete culvert. It apparently has a gap where two sections connect and due to vibration and water eating away at the soft scoria, a hole is created. It was discovered that this was not the first time this has happened over the years. The hole was located in a wheel track and could have caved in causing severe vehicle damage. The hole was temporarily packed with gravel. The culvert will be dug out, inspected and probably replaced next summer.

To reduce drifting of snow on the roads the grasses along the road edges are cut each year. The tractor and sickle mower were excessed after the 1983 cutting, leaving the station without a mower. A former temporary employee and cooperative farmer were paid $15.00 per mile to cut 8 miles of roadway with their own equipment. Some less used roadways were not cut to save money.

Thirteen miles of the fifteen miles of refuge boundary were reposted. Most signs were of the older shield shaped porcelain type of various designs. Most sign posts had to be relocated, replaced and/or deleted altogether to more clearly delineate the boundary. The two miles of the south boundary of the Murphy Easement has not been reposted.

A week was spent hauling scoria from the refuge pit and placing it on problem areas of the refuge roads and then back-blading it smooth. Three days were also spent back-blading potholes and cutting the grass center strip from the middle of two miles of roadway.

4. Equipment Utilization and Replacement

An old hand operated adding machine, poorly functioning manual typewriter, and a pair of old 7x50 power Navy binoculars, with severely scratched lenses, were replaced with an electronic calculator, IBM selectric typewriter, and 8x50 power Bushnell binoculars from the Des Lacs Complex office in March.

The 1965 International 2424 wheeled tractor, excessed in 1983, was picked up by the Department of Agriculture Research Station in Mandan, North Dakota on July 17. The tractor was in good running condition but it did not have "certified" rollover protection and, due to its age, it was felt it was not worth the money that would have to be spent to get it certified.

On September 12, a contracted trucker with the South Dakota Federal Property Office (SDFPO) picked up the 1956 Massey-Harris 1020 wheeled tractor, also excessed in 1983. It, too, did not have certified ROP but was fully operational, especially for the mowing of road edges.

To make the one remaining wheeled tractor (a Massey Ferguson 40B with front end loader) useful with a variety of implements, $600 was put into modifying the 3-point hitch on it. Both lower arms were extended six inches to keep the back blade from hitting the cab and rear windows. A hydraulic

cylinder was added to the lower right arm of the hitch to replace the screw type adjuster, which was non-functional because it was hitting against the cab. New controls had to be installed to operate the cylinder. A sway bar was also added on.

The back blade, cultivator, seed drill and two bottom plow were scraped, primed and painted by Biological Aide Kittilson. The MF tractor and dump truck bed are still in need of painting.

Poor photo of 1980 Jeep 4x4 with 97,000 miles on it. The south end of Lake Ilo is in the background. That is snow on the ground!

RDP Sept 1984

An excessed 1980 Jeep 4x4 pickup with 97,000 miles on it was picked up from the ADC office in Bismarck, ND. A 1981 Dodge 2x4 pickup was the only vehicle at Lake Ilo. After being stuck a few times and being short a vehicle in the summer, the high mileage Jeep was very welcome. It is in fair to good running order and should be very useful until funding permits replacing it with a newer 4x4.

An excessed 1954 TD-14 crawler tractor was picked up for Lake Ilo Refuge from Bowdoin NWR. The Des Lacs Complex transported it to their headquarters and will have certified ROP installed with FY 85 small ARMM's project funds. Some dozer is better than none, and this one runs well!

5. Communication Systems

At the beginning of the year the refuge's radio communication system consisted of one mobile radio, on the state radio frequency, mounted in the Dodge 2x4. In June, the RO was able to send two Radio Shack walkie-

talkies. These were greatly appreciated but were inadequate for most refuge uses. The cumbersome antennas and poor reception are the main problems.

8. Other

The following improvements were made on the refuge residence this year:

- March, a 220 volt electrical outlet was wired in the basement for a clothes dryer. All unpanneled walls were painted white.

- April, all upstairs ceiling light fixtures were replaced with shielded light fixtures. Fire extinguishers were installed.

- July, wall-to-wall carpeting was purchased from Absco Mfg. in California under a FSS contract. The living room hallway, master bedroom and extra bedroom upstairs were all carpeted. A total of 62 square yards were purchased. Thick rubber padding was also purchased from another company under contract. Installation was completed by professionals who indicated that the quality of the carpet and padding was superior to any they had worked with in 14 years. Carpeting was also installed on the basement stairs.

- October, three new two foot by four foot fluorescent light fixtures were purchased under FSS contract and installed in the kitchen and dining rooms. Three smoke alarms were purchased under contract and installed.

J. OTHER ITEMS

1. Cooperative Programs

A cooperative agreement is maintained with the U.S. Department of Commerce, National Weather Service to operate a weather station consisting of maximum/minimum thermometers, a bucket rain gauge and a Fisher-Porter punch tape rain gauge that is solar powered.

An agreement was made by Manager Poetter with the Bismarck Tribune newspaper in Bismarck, ND allowing them to call the refuge headquarters and inquire about local weather conditions. A list of fifteen other cooperative National Weather Service weather observers across the state has been compiled by the Tribune. Two or three observers are called each day. The refuge benefits by being able to interject tidbits concerning migrations, fishing conditions, or any other refuge items that "might be of interest to the readers". A working relationship with the paper is also being established.

4. Credits

Del Pierce wrote sections E1, E2, E4, and E5 and Tedd Gutzke wrote section E6. All other sections were written by Rick Poetter, Refuge Manager, Lake Ilo NWR. All editing was done by Del Pierce and Tedd Gutzke, and typing and assembly by Molly Hansen and Doris Huwe.

K. FEEDBACK

I came to Region 6 in March of this year. Assistance from the RO staff has been super. Each section of the RO that I have talked with, for a variety of reasons, has been courteous, prompt in returning calls, factual, and provided detailed information. These sections include Realty, Engineering, Personnel and Wildlife Refuges. The personal contacts with those employees in each section have given me a positive view of their entire section. I would like to express my appreciation for their efforts toward the support of field operations.

My thanks and appreciation go to North Dakota Refuge Supervisor Dale Henry for his efforts in putting this satellite station and any others on the RO mailing list. By doing so, I am receiving information updates, minutes of RO and WO staff meetings, vacancy announcements, excess property lists and other information in a much more timely manner. It has also lessened the burdon on the clerks at the Complex office. This satellite station now has much more current information and is able to operate more efficiently.

Rick Poetter

REVIEW AND APPROVALS

WHITE LAKE NATIONAL WILDLIFE REFUGE

Dunn Center, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1984

Rick Poetter — Refuge Manager — 3/5/85 — Date

Del Pierce — Project Leader — 3/25/85 — Date

Dale B. Henry — Refuge Supervisor Review — 4.1.85 — Date

Regional Office Approval — Date

INTRODUCTION

White Lake National Wildlife Refuge is a 1,040 acre fee title area located along U.S. Highway 85, five miles east of Amidon, North Dakota in Slope County. The refuge was first established in 1956 as a refuge easement area of 960 acres. In 1959, the 960 acres under easement were purchased along with another 80 acres to set the boundaries as they are known today.

The refuge is administered as a part of the Des Lacs NWR Complex by the Refuge Manager stationed at Lake Ilo NWR. Since the station is located 85 miles from the Lake Ilo headquarters, only monthly visits were made to the refuge to conduct surveys, maintenance and/or inspections.

Public use on the refuge is by special use permit only. The lake does not have a viable fisheries at this time. U.S. Highway 85 passes along the north boundary and affords the public a view of the area. A roadside rest/scenic view area was proposed many years ago in a development plan, but has never come to pass.

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B. CLIMATIC CONDITIONS

The total precipitation/moisture for the year was 11.75 inches compared with 12.61 inches in 1983. This year's total was 4.17 inches below normal (based on data from 1951-1980). There were 7.38 inches of moisture during the growing season of April through July. This was 2.77 inches below normal.

The data found in Table 1 was collected by Mr. Roy J. Frederick, a National Weather Service cooperator located at the Slope County Courthouse in Amidon, North Dakota. This weather station is located five miles west of the refuge.

Table 1. Weather Data - White Lake NWR

	Precipitation (inches)			Temperature (degrees F)	
Month		Normal	Snow	Max.	Min.
Jan	.12	.37	1.5	46	-26
Feb	.11	.37	2.2	55	- 1
Mar	.49	.54	10.1	65	1
Apr	1.74	1.53	18.0	65	1
May	.07	2.54	0	92	20
Jun	5.52	3.85	0	88	39
Jul	.05	2.23	0	99	45
Aug	1.71	1.49	0	99	43
Sep	.65	1.41	11.1	94	24
Oct	.90	.74	3.1	79	3
Nov	.07	.50	.2	61	- 4
Dec	.32	.35	1.1	50	-21
Totals	11.75	15.92	47.3	Extremes 99	-26

F. HABITAT MANAGEMENT

Table 2. White Lake Water Levels 1984 - Spillway Crest 93.0

Month	Average Elevation (ft)	Area (acres)	Capacity (acre ft)
Jan*	92.6	178	670
Feb*	92.6	178	670
Mar*	92.6	178	670
Apr	92.8	182	700
May	92.8	182	700
Jun	93.8**	221	940
Jul	93.5**	210	883
Aug	93.3**	198	823
Sep	93.0	188	760
Oct	92.9	185	730
Nov*	92.8	182	700
Dec*	92.8	182	700

*Frozen over for most of the month
**A beaver dam behind the primary spillway has raised the crest to approximately 94.6

For two years beaver activity has produced and maintained a dam approximately eight feet in front of the primary concrete spillway. It is also eighteen inches higher. Because of the dam, there was no water outflow of the lake. The raising of the water level has been more beneficial in creating habitat than harmful.

All of the former croplands (330 acres) have been seeded to a DNC mixture of alfalfa, sweet clover and tall wheatgrass. The last seeding was done in 1974. These areas are becoming rank, and rejuvenation by burning or replanting is now necessary. There has never been any prescribed burning conducted on the refuge.

The 480 acres of native prairie have not been manipulated to improve nesting habitat since 1977, when grazing was discontinued. A burning program needs implementing, or restarting of the grazing program or both. When manpower is available these programs can be implemented.

A special use permit was issued to Doug Nordby, a neighboring farmer/rancher, to cut hay on approximately 20 acres of the refuge. The areas included the roadside along the U.S. Highway 85 easement, a couple acres of vehicle trails and ten acres of alfalfa. The refuge's share consisted of one fourth of the large round bales, to be used for nesting structures at White Lake and Stewart Lake Refuges.

G. WILDLIFE

Waterfowl use day data is included in the Lake Ilo NWR portion of the narrative.

Seven successful pairs of mallards produced 36 young. Other known duck production included 20 northern shovelers, 13 gadwalls, 10 blue-winged teals, 9 American wigeons, 5 pintails, and 45 coots.

Three pairs of giant Canada geese, out of 5 nesting pairs, produced 6 young to flight stage. This compares with 19 young produced in 1983. A peak population of 350 Canadas was observed in October.

The lake receives use from 150 to 200 eared grebes during the migrations. Ten pied-billed grebes were known to have been fledged this year.

Twenty-seven black-crowned night herons were observed in August. No nest sites were found but nesting is suspected to have occurred. A search will be conducted next summer to verify if a colony exists.

Up to 65 American white pelicans were observed on the lake at various times during the year. No nesting occurred.

The sharp-tailed grouse population appears to be about the same as it has been for the past four years. Estimates range from 45 to 65 birds. Three

broods of twelve each were observed.

Gray partridge and ring-necked pheasants are found on the refuge but are not as populous as sharp-tailed grouse.

From five to eleven white-tailed deer were observed on each visit to the refuge. It is unknown what the fawn production was this year.

Antelope were seen in the vicinity of White Lake Refuge. It is believed a few did venture onto the refuge during the year.

A couple red fox may have utilized the refuge during the year. Two or three coyotes can also be found on the refuge at varying times of the year. Mink, muskrat, striped skunk, raccoon, and beaver are also found on the refuge.

A trapping permit was issued to Mr. Bill Clendenen of Amidon, North Dakota in October, 1983. The permit covered the period of October 8, 1983 through March 31, 1984. Nine striped skunk, 8 beaver, 4 raccoon, 3 mink and 1 coyote were trapped. No permit was issued for the 1984-85 season. Mr. Clendenen did not want to trap the area again, and until the trapping plan is rewritten in 1985, no new permits will be issued.

I. EQUIPMENT AND FACILITIES

There was no new construction on the refuge this year. The dam and spillway remain in good condition.

The two old homestead buildings, that are constructed of corrugated metal over a wood frame, were excessed for sale. They are not in the best of condition and may have to be torn down and hauled away or buried if nobody wants them.

Before! All five of the three satellite refuge's signs looked like this. They are located along well travelled paved highways

RDP Aug 1984

After! Each sign required a gallon of stain. They really soaked it up

RDP Aug 1984

The two 7'x7' routed wooden refuge signs, along U.S. Highway 85, were restained brown and the lettering painted white instead of yellow. Each sign required one gallon of stain and took three hours to complete. The lettering took up most of the time.

REVIEW AND APPROVALS

PRETTY ROCK NATIONAL WILDLIFE REFUGE

Dunn Center, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1984

Rick Poetter 3/5/85
Refuge Manager Date

[signature] 3/25/85
Project Leader Date

[signature] 4-1-85
Refuge Supervisor Review Date

Regional Office Approval Date

INTRODUCTION

Pretty Rock National Wildlife Refuge is located in Grant County, eight miles south of New Leipzig, North Dakota. The refuge is comprised of 800 acres of flowage and refuge easements obtained in 1936. These easements are perpetual.

The refuge is administered as a part of the Des Lacs NWR Complex by the Refuge Manager stationed at Lake Ilo NWR. The station is 115 miles southeast of the Lake Ilo headquarters and 70 miles east of the nearest other satellite, White Lake NWR. Visits were made once a month for surveys, maintenance and/or inspections.

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B. CLIMATIC CONDITIONS

The total precipitation/moisture for the year was 16.43 inches compared with 16.49 inches in 1983. This year's total was 0.14 inches below normal (based on data from 1951-1980). There were 10.00 inches of moisture during the growing season of April through July. This was 0.31 inches below normal.

The data found in Table 1 was collected by Mr. Daryl T. Heupel, a National Weather Service cooperator located on Elgin, ND. This weather station is located seventeen miles northeast of the refuge.

Table 1. Weather Data - Pretty Rock NWR

	Precipitation (inches)				Temperature (degrees F)	
Month		Normal	Snow		Max.	Min.
Jan	.06	.29	1.2		51	-29
Feb	.14	.30	2.2		59	- 7
Mar	.84	.63	14.0		60	-11
Apr	3.44	1.65	12.2		74	20
May	.24	2.85	0		89	22
Jun	6.25	3.59	0		88	32
Jul	.07	2.22	0		102	43
Aug	2.93	2.08	0		101	40
Sep	1.32	1.38	15.5		93	20
Oct	.30	.88	.5		82	4
Nov	.47	.43	4.0		56	- 1
Dec	.37	.27	9.2		53	-20
Total	16.43	16.57	58.8	Extremes	102	-29

F. HABITAT MANAGEMENT

Table 2. Pretty Rock Slough Water Levels 1984-Spillway Crest 150.0

Month	Ave. Elevation (ft)	Area (acres)	Capacity (ave. ft)
Jan*	148.9	119	377
Feb*	148.9	119	377
Mar*	148.9	119	377
Apr	150.5	165	567
May	150.0	147	500
Jun	150.2	153	531
Jul	149.8	142	485
Aug	150.0	147	500
Sep	149.6	137	470
Oct	149.4	132	455
Nov*	149.4	132	455
Dec*	149.4	132	455

*Frozen over for most of the month

Water flowed over the spillway for two weeks in April and one week in June.

The uplands are under refuge easement and the Service has no control over their management. The current landowner is not only a farmer/rancher but a conservationist with a keen interest in wildlife. The uplands are not overutilized by him and there remains substantial nesting habitat each year.

G. WILDLIFE

Waterfowl use day data is included in the Lake Ilo NWR portion of the narrative.

Nine pairs of mallards produced 80 young. Other known duck production included 45 northern shovelers, 33 gadwalls, 25 blue-winged teals, 8 pintails, 7 ruddy ducks, 6 lesser scaups, 3 canvasbacks and 75 coots.

Two pairs of giant Canada geese, out of 4 nesting pairs, produced 5 young to flight stage. A peak population of 150 Canada geese were observed in September.

Thirty pied-billed grebes, 11 eared grebes and 6 horned grebes were produced.

Peak populations of 46 gray partridge, 50 ring-necked pheasants and 45 sharp-tailed grouse were estimated to be found on the refuge this year.

White-tailed deer, coyote, red fox, mink and striped skunk can also be found on the refuge during the year. The muskrat population is thriving.

State Highway 49 passes through the west edge of the slough and affords the public with an excellent close view of the area.

There was no furbearer trapping conducted on the refuge this year. Trapping can be permitted if the trapper first secures signed authorization from the landowner.

I. EQUIPMENT AND FACILITIES

There was no construction on the refuge this year. The dam and spillway remain in good condition.

The only 7'x7' routed wooden refuge sign was restained brown and the yellow lettering painted white.

REVIEW AND APPROVALS

STEWART LAKE NATIONAL WILDLIFE REFUGE

Dunn Center, North Dakota

ANNUAL NARRATIVE REPORT

Calendar Year 1984

Rick Poetter 3/5/85
Refuge Manager Date

Del Pierce 3/25/85
Project Leader Date

Dale B. Henry 4-1-85
Refuge Supervisor Review Date

Regional Office Approval Date

INTRODUCTION

Stewart Lake National Wildlife Refuge is located in Slope County about twelve miles southwest of Amidon, North Dakota. The refuge consists of 2,226 acres of flowage and refuge easement land and 3.99 acres owned in fee title. In 1936, approximately 1,906 acres of perpetual easements were obtained. In 1939 another 320 acres were put under easement and 3.99 acres were given to the government by Dugald A. Stewart, for park and recreational uses. This area was very popular during the 1940's and 50's for family picnics and swimming.

The refuge is administered as a part of the Des Lacs NWR Complex by the Refuge Manager stationed at Lake Ilo NWR. The station is 17 road miles southwest of White Lake NWR and 102 miles from the Lake Ilo headquarters. Visits were made once a month for surveys, maintenance and/or inspections.

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B. CLIMATIC CONDITIONS

The total precipitation/moisture for the year was 11.75 inches compared with 12.61 inches in 1983. This year's total was 4.17 inches below normal (based on data from 1951-1980). There were 7.38 inches of moisture during the growing season of April through July. This was 2.77 inches below normal.

The data found in Table 1 was collected by Mr. Roy J. Frederick, a National Weather Service cooperator located at the Slope County Courthouse in Amidon, ND. This weather station is located twelve miles northeast of the refuge.

Table 1. Weather Data - Stewart Lake NWR

	Precipitation (inches)			Temperature (degrees F)	
Month		Normal	Snow	Max.	Min.
Jan	.12	.37	1.5	46	-26
Feb	.11	.37	2.2	55	- 1
Mar	.49	.54	10.1	65	1
Apr	1.74	1.53	18.0	68	19
May	.07	2.54	0	92	20
Jun	5.52	3.85	0	88	39
Jul	.05	2.23	0	99	45
Aug	1.71	1.49	0	99	43
Sep	.65	1.41	11.1	94	24
Oct	.90	.74	3.1	79	3
Nov	.07	.50	.2	61	- 4
Dec	.32	.35	1.1	50	-21
Totals	11.75	15.92	47.3	Extremes 99	-26

F. HABITAT MANAGEMENT

Table 2. Stewart Lake Water Levels 1984-Spillway Crest 154.0

Month	Ave. Elevation (ft)	Area (acres)	Capacity (acre ft)
Jan*	152.7	164	583
Feb*	152.7	164	583
Mar*	152.8	166	599
Apr	153.0	171	615
May	153.0	171	631
Jun	153.2	176	665
Jul	152.9	169	615
Aug	152.7	164	583
Sep	152.5	159	550
Oct	152.4	157	534
Nov*	152.4	157	534
Dec*	152.4	157	534

*Frozen over for most of the month

There was no waterflow over the spillway this year. Water levels were not low enough to cause significant degradation or loss of wetland habitat. The lake is fed mostly by underground springs. For this reason, little algae growths occur in the lake, unlike most small lakes in North Dakota.

Because the upland area is only under refuge easement, we have no control over how it is managed. This is one refuge that the Service should not post signs around the boundaries because it is so heavily overgrazed and poorly managed by the owner. The insufficient cover on this short grass prairie significantly reduces water production.

G. WILDLIFE

Waterfowl use day data is included in the Lake Ilo NWR portion of the narrative.

One successful pair of mallards produced 3 young. Other known duck production included 21 blue-winged teals, 6 northern shovelers, 6 ruddy ducks, 4 pintails and 45 coots.

During the fall migration, up to 800 ducks were observed at one time on the lake. The most populous species included gadwalls, mallards, wigeons, canvasbacks, redheads, and green-winged teals.

There were no nesting attempts made by Canada geese. A couple old nesting structures are in place, but more need to be put out. Up to 200 Canada geese were observed during the migration periods.

Sharp-tailed grouse are the most populous upland game bird on the refuge. A peak population is estimated at 31 birds. Few ring-necked pheasants and gray partridge inhabit the area.

On occasion, antelope, mule deer, white-tailed deer, coyote, red fox, mink and striped skunk can be found wandering onto the refuge.

Trapping can be permitted on the refuge if the trapper first secures signed authorization from the landowner. No permits were issued for the 1983-84 season. Mr. Clint Clendenen indicated he would like a permit for the area during the 1984-85 season, and then declined prior to signing the permit.

The North Dakota Game and Fish Department has for several years been stocking Stewart Lake with northern pike fingerlings. This year 17,500 were stocked, mainly for the ice fishing seasons. Fishing has been good this year.

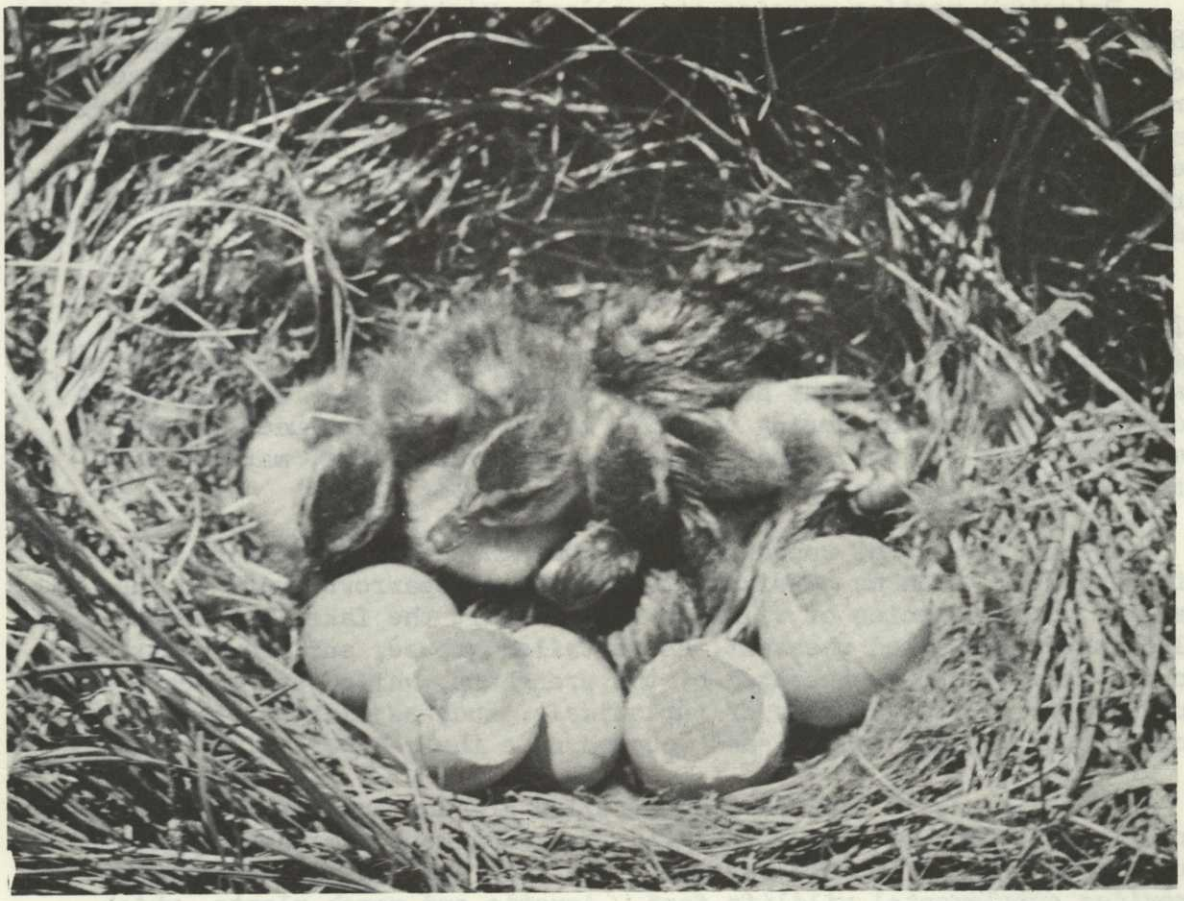
I. EQUIPMENT AND FACILITIES

There was no construction on the refuge this year. The dam and spillway remain in good condition.

The two 2'x7' routed wooden refuge signs were restained brown and the yellow lettering painted white to conform with refuge standards. Each sign required one gallon of stain and took four hours of continuous painting. Bad weather prevented the finishing of the lettering on one sign.

L. INFORMATION PACKET

LAKE ILO NATIONAL WILDLIFE REFUGE



Lake Ilo National Wildlife Refuge, established in 1939, comprises 3,963 acres and is located 1 mile west of the town of Dunn Center, North Dakota. There are 1,250 surface acres of impounded water in the lake itself, which was created by the construction of a dam across Spring Creek. Prior to the establishment of this refuge, there was very little water in the vicinity. Development of the refuge by the U. S. Fish and Wildlife Service has made a veritable oasis in the midst of this semi-arid, rolling prairie environment. In addition to the impoundment of waters, the attractiveness of the area has been increased by the many shelterbelt and wildlife plantings around the lake. A park is available for picnicking, swimming, and boating, and is used extensively throughout the summer months.

Lake Ilo Refuge, lying within the breeding grounds of the Central Flyway, produces many ducks. During recent years, the average production for waterfowl has been 730 young per year.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

Principal nesting species are mallard, pintail, blue-winged teal, shoveler, and gadwall. This refuge also provides resting and feeding habitat for waterfowl during spring and fall migrations. Peak concentrations have reached 100,000 ducks during the fall migration, usually in late October or early November. Up to 8,000 mallards have wintered here during years with light snowfall. Peak numbers during spring migration have reached 23,000 birds, but during normal years the number varies from 13,000 to 15,000.

Red-necked, horned, eared, western, and pied-billed grebes have all been observed on the area in small numbers. Other waterbirds and marshbirds commonly found are the double-crested cormorant, great blue heron, black-crowned night heron, and American bittern. The shorebird population is largest during the fall migration and includes the killdeer and other plovers, sandpipers, willets, yellowlegs, marbled godwits, American avocets, and phalaropes.

A large number of songbirds pass through the refuge during migration and many, such as catbirds, thrushes, and sparrows, nest on the refuge. Other species of wildlife that inhabit the Lake Ilo Refuge include the ring-necked pheasant, sharp-tailed grouse, and gray partridge. Common mammals are represented by the pronghorn, white-tailed deer, and mule deer. Limited numbers of fur animals, such as mink, muskrat, weasel, beaver, skunk, badger, and raccoon make their homes on the refuge.

Economic use is limited to controlled grazing and farming, which are important components of the wildlife management program. Regulated grazing is used to improve waterfowl habitat, and the farming program provides supplemental wildlife food. Aquatic and marsh plants, which are common in the marsh areas and shallow portions of the lake, also furnish substantial amounts of food and cover for waterfowl.

Lake Ilo, while being a good duck-producing area, has also received considerable recognition as one of the better fishing locations in western North Dakota. The lake is a consistent producer of large perch, and in recent years has been furnishing excellent angling for northern pike and walleyes. Most of the fishing is done from shore, but boat fishing is becoming more popular. Certain areas are closed for the protection of nesting ducks, and restrictions are imposed on the horse-power of outboard motors.

Current regulations can be obtained by contacting the Refuge Manager at headquarters on the south side of the lake. Written inquiries may be addressed to the Refuge Manager, Lake Ilo National Wildlife Refuge, Dunn Center, North Dakota.

RL-73
August 1960

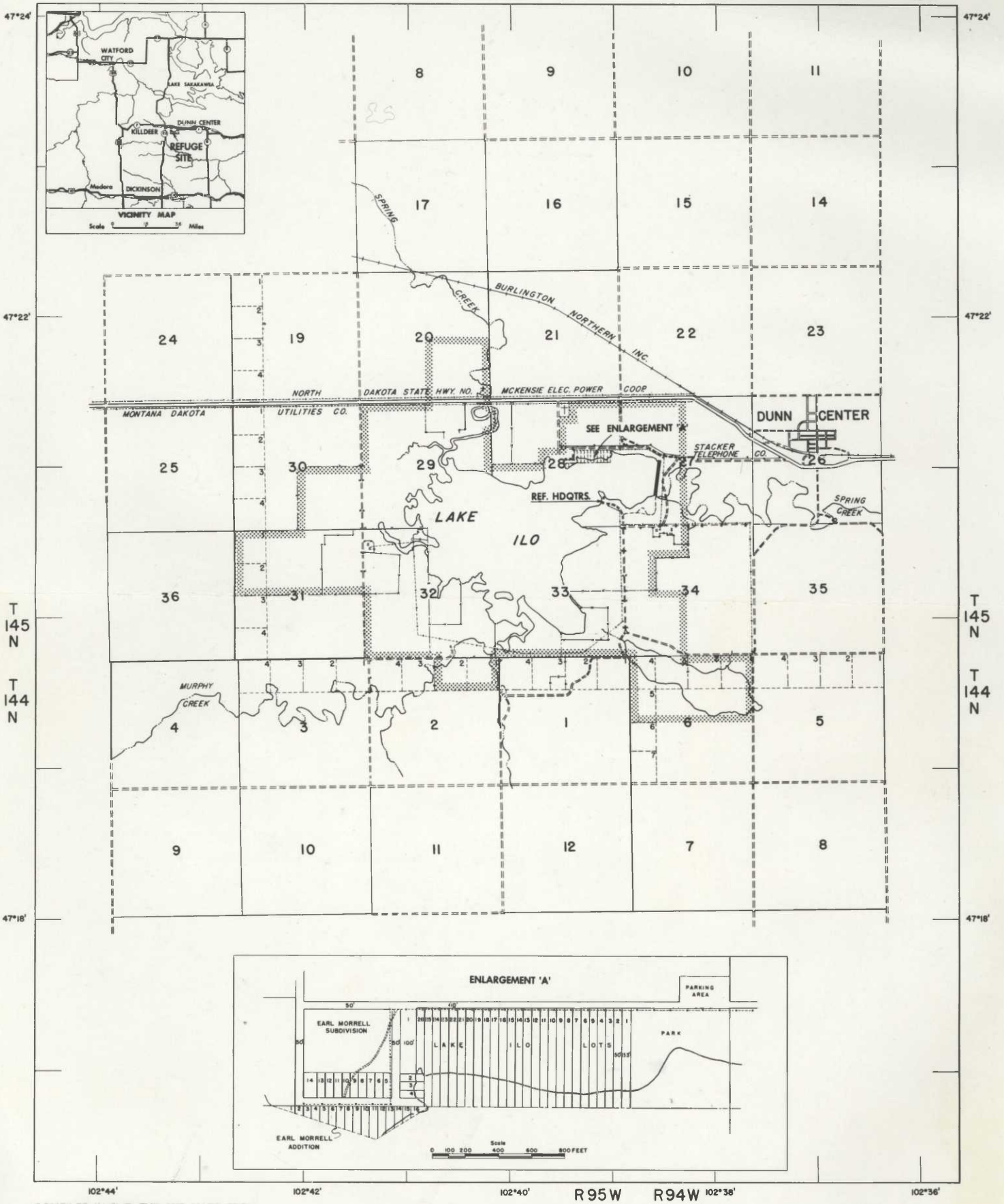
INT.DUP.,D.C.60-79713

LAKE ILO NATIONAL WILDLIFE REFUGE

DUNN COUNTY, NORTH DAKOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE



COMPILED IN SURVEYS AND MAPS FROM SURVEYS BY THE USGS AND FWS

FIFTH PRINCIPAL MERIDIAN

Scale 0 1320 2640 5280 7920 10560 FEET
0 ¼ ½ 1 1½ 2 MILES

MEAN DECLINATION 1975

DENVER, COLORADO
REVISED: August, 1977

SEPTEMBER 1974

6R N.D. 307 403

	S	S	F	W
___• American Robin (Robin)	c	c	a	o
___ Hermit Thrush	u		u	
___ Swainson's Thrush	c		c	
___ Gray-cheeked Thrush	c		c	
___• Veery	u	c	u	
___• Eastern Bluebird	o	o	o	
___ Mountain Bluebird	u	r	u	
___ Townsend's Solitaire	r		r	r
___ Golden-crowned Kinglet	u		u	
___ Ruby-crowned Kinglet	u		u	
___ Water Pipit	u		u	
___• Sprague's Pipit	u	u	o	
___ Bohemian Waxwing	u		u	u
___• Cedar Waxwing	c	c	c	r
___ Northern Shrike				o
___• Loggerhead Shrike	u	u	u	
___• Starling	u	u	u	u
___• Yellow-throated Vireo	o	o	o	
___ Solitary Vireo	r	r	r	
___• Red-eyed Vireo	c	c	c	
___• Philadelphia Vireo	o	o	o	
___• Warbling Vireo	c	c	c	
___• Black-and-white-Warbler	u	o	u	
___ Tennessee Warbler	c		c	
___ Orange-crowned Warbler	c		c	
___ Nashville Warbler			r	
___• Yellow Warbler	c	c	a	
___ Magnolia Warbler	o		o	
___ Cape May Warbler	r		r	
___ Black-throated Blue Warbler	r		r	
___ Yellow-Rumped Warbler (Myrtle & Audubon's)	c		c	
___ Black-throated Green Warbler	o	o	o	
___ Blackburnian Warbler	o	o	o	
___ Chestnut-sided Warbler	o	o	o	
___ Bay-breasted Warbler	o	o	u	
___ Blackpoll Warbler	c		u	
___ Palm Warbler	o		o	
___• Ovenbird	u	o	u	
___• Northern Waterthrush	c	u	c	
___ Connecticut Warbler	r		r	
___ Mourning Warbler	u	o	u	
___ MacGillivray's Warbler	o	o	o	
___• Common Yellowthroat (Yellowthroat)	c	c	c	
___• Yellow-breasted Chat	o	o	o	
___ Wilson's Warbler	u	u	c	
___ Canada Warbler	r		o	
___• American Redstart	u	u	u	
___• House Sparrow	c	c	c	c
___• Bobolink	c	c	c	
___• Western Meadowlark	a	a	a	r
___• Yellow-headed Blackbird	a	a	a	
___• Red-winged Blackbird	a	a	a	o

	S	S	F	W
___• Orchard Oriole	o	o	o	
___• Northern Oriole (Baltimore & Bullock's)	u	u	u	
___ Rusty Blackbird	u		u	r
___• Brewer's Blackbird	u	u	u	
___• Common Grackle	c	c	c	r
___• Brown-headed Cowbird	c	c	c	
___ Western Tanager			r	
___ Scarlet Tanager	r	r		
___• Rose-breasted Grosbeak	o	r	u	
___ Black-headed Grosbeak	r			
___ Indigo Bunting	r	r		
___• Lazuli Bunting	o	o		
___• Dickcissel	r	r	r	
___ Evening Grosbeak	r		r	r
___ Purple Finch	u		u	r
___ Pine Grosbeak				o
___ Hoary Redpoll				r
___ Common Redpoll	c			c
___• Pine Siskin	c	r	c	r
___• American Goldfinch	c	c	a	r
___ Red Crossbill	r	r	r	r
___ White-winged Crossbill				r
___• Rufous-sided Towhee	u	c		
___• Lark Bunting	c	a	c	
___• Savannah Sparrow	c	a	a	
___• Grasshopper Sparrow	u	c	u	
___• Baird's Sparrow	u	c	u	
___• Le Conte's Sparrow	u	c	u	
___• Sharp-tailed Sparrow	u	c	u	
___• Vesper Sparrow	u	u	u	
___• Lark Sparrow	o	o		
___ Dark-eyed Junco (Slate-colored, Oregon & White-winged)	a		a	r
___ Tree Sparrow	a		a	r
___• Chipping Sparrow	c	u	c	
___• Clay-colored Sparrow	a	a	c	
___• Field Sparrow	o	o	o	
___ Harris' Sparrow	c		c	r
___ White-crowned Sparrow	c		c	
___ White-throated Sparrow	a		c	
___ Fox Sparrow	u		u	
___ Lincoln's Sparrow	c		c	
___ Swamp Sparrow	o		o	
___• Song Sparrow	c	c	c	
___• McCown's Longspur	r	r	r	
___ Lapland Longspur	a		a	c
___ Smith's Longspur	o		o	
___• Chestnut-Collared Longspur	c	c	u	
___ Snow Bunting	c		c	a

BIRDS THAT ARE RARELY SEEN ON THE REFUGES AND OUT OF THEIR NORMAL RANGE:

Green Heron
White Ibis
Fulvous Whistling Duck
Oldsquaw
Harlequin Duck
Surf Scoter
Common Scoter
Red-shouldered Hawk
Bobwhite
American Woodcock
Whimbrel
Knot
Black-necked Stilt
Barn Owl
Barred Owl
Whip-poor-will
Scissor-tailed Flycatcher
Winter Wren
Northern Parula
Townsend's Warbler
Hooded Warbler
Lesser Goldfinch
Henslow's Sparrow

Acknowledgments: To Dr. and Mrs. R.T. Gammell for their contribution in compiling this birdlist.

Further information about the refuges or certain species can be obtained from:

Des Lacs Refuge
Kenmare, North Dakota 58746

[redacted]

J. Clark Salyer Refuge
Upham, North Dakota 58789

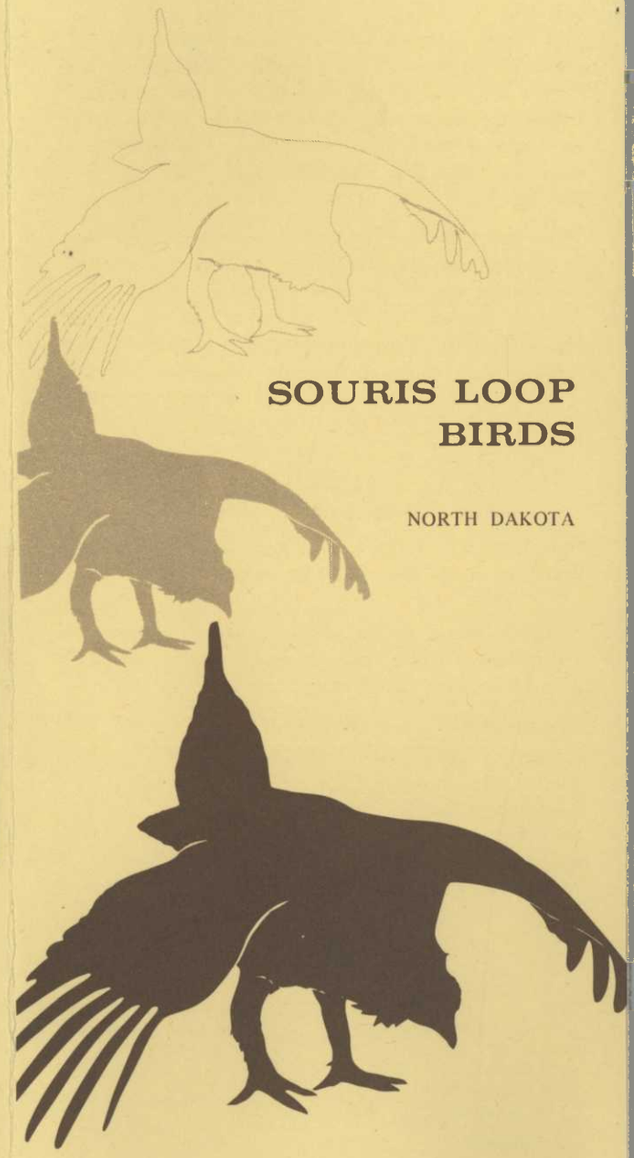
Upper Souris Refuge
Foxholm, North Dakota 58738

Lostwood National Wildlife Refuge
RR 2
Kenmare, North Dakota 58746

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH & WILDLIFE SERVICE

RF–Region 6

1979
GPO 849 - 947



SOURIS LOOP BIRDS

NORTH DAKOTA

SOURIS LOOP BIRDS

The "Souris Loop" National Wildlife Refuges were established in 1935. They are Des Lacs (18,881 acres), Lostwood (26,747 acres), J. Clark Salyer (58,695 acres), and Upper Souris (32,092 acres). Wetlands consist of restored marshes on Des Lacs, J. Clark Salyer, and Upper Souris and potholes in the rolling hills on Lostwood. Other important wildlife habitats are remnants of the original short-grass prairie, lowland meadow, wooded sandhills, river bottoms, and coulees.

While the waterfowl concentrations of spring, summer, and fall are spectacular, bird observers are generally most interested in the five species of grebes, white pelicans, certain hawks, grouse, cranes, shorebirds, Franklin's gulls, burrowing owls, Sprague's pipits, lark buntings, longspurs, and sparrows—including Baird's and Le Conte's. About 140 species are known to nest on these refuges.

CHECKLIST
Souris Loop National Wildlife Refuges

This list contains 290 species (23 are accidental species) recorded on the refuges since 1935.

Species nesting on the refuge are indicated by a (•). The relative abundance of each species at each season is coded as follows:

S—March-May F —September-November
S—June-August W—December-February

a—abundant ..... common species, very numerous
c—common ..... certain to be seen in suitable habitat
u—uncommon ..... present, but not certain to be seen
o—occasional ..... seen only a few times during a season
r—rare ..... seen at intervals of 2 to 5 years

	S	S	F	W
___ Common Loon	r	r	r	
___• Red-necked Grebe	o	o	o	
___• Horned Grebe	u	u	u	
___• Eared Grebe	c	c	c	
___• Western Grebe	c	c	c	
___• Pied-billed Grebe	c	c	c	
___ White Pelican	c	c	c	
___• Double-crested Cormorant	u	u	u	
___• Great Blue Heron	u	u	u	
___• Little Blue Heron	u	u	u	
___• Cattle Egret	u	u	u	
___ Great Egret (Common)		r	r	
___ Snowy Egret		r	r	
___• Black-crowned Night Heron	c	c	c	
___• American Bittern	u	u	u	
___ Least Bittern	r	r	r	
___ White-faced Ibis		r	r	
___ Whistling Swan	u		c	
___• Canada Goose	c	u	c	
___ White-fronted Goose	c		c	
___ Snow Goose (Snow & Blue)	a		a	
___ Ross' Goose			r	
___• Mallard	a	c	a	
___• Black Duck	r	r	r	
___• Gadwall	a	c	a	
___• Pintail	a	c	a	
___• Green-winged Teal	u	u	u	
___• Blue-winged Teal	a	c	a	
___ Cinnamon Teal	r	r		
___ European Wigeon (European Widgeon)	r	r		
___• American Wigeon (Am. Widgeon)	c	u	c	
___• Northern Shoveler (Shoveler)	c	u	c	
___• Wood Duck	u	u	u	
___• Redhead	c	u	c	
___• Ring-necked Duck	u	o	u	
___• Canvasback	c	u	c	
___ Greater Scaup			r	
___• Lesser Scaup	c	u	c	
___ Common Goldeneye	u		u	
___ Bufflehead	u	o	u	
___• White-winged Scoter	r	r	r	
___• Ruddy Duck	c	c	c	
___• Hooded Merganser	o	o	o	
___ Common Merganser	c		u	
___ Red-breasted Merganser	u		u	
___ Turkey Vulture	r			
___ Goshawk			r	r
___• Sharp-shinned Hawk	o	o	o	
___• Cooper's Hawk	o	o	o	
___• Red-tailed Hawk	c	u	c	
___ Broad-winged Hawk	o	o	o	
___• Swainson's Hawk	c	u	c	
___ Rough-legged Hawk	o		o	o
___• Ferruginous Hawk	o	o	o	
___ Golden Eagle	o		o	o
___ Bald Eagle	o		o	
___• Marsh Hawk	c	c	c	
___ Osprey	r		r	
___ Gyrfalcon				r
___ Prairie Falcon			o	o
___ Peregrine Falcon	r		r	
___ Merlin (Pigeon Hawk)	o		o	r
___• American Kestrel (Sparrow Hawk)	u	o	u	
___ Greater Prairie Chicken (1)				
___• Sharp-tailed Grouse	c	c	c	c
___• Ring-necked Pheasant	u	u	u	u
___• Gray Partridge	c	c	c	c
___ Whooping Crane	r		r	
___ Sandhill Crane (2)	a	r	a	
___• Virginia Rail	u	c	u	
___• Sora	u	c	u	
___• American Coot	c	c	a	
___ Semipalmated Plover	u		u	
___• Piping Plover	o	o	o	
___• Killdeer	c	c	c	
___ American Golden Plover	u		r	
___ Black-bellied Plover	u		u	
___ Ruddy Turnstone	r		r	
___• Common Snipe	o	o	o	
___ Long-billed Curlew	r			
___• Upland Sandpiper (Plover)	u	c	u	
___• Spotted Sandpiper	u	c	u	
___ Solitary Sandpiper	u		u	
___• Willet	u	u	c	
___ Greater Yellowlegs	u		c	
___ Lesser Yellowlegs	c	u	c	
___ Pectoral Sandpiper	c	c	c	
___ White-rumped Sandpiper	r		r	
___ Baird's Sandpiper	u		u	
___ Least Sandpiper	c	c	a	
___ Dunlin			r	
___ Short-billed Dowitcher	r		r	
___ Long-billed Dowitcher	u	u	c	
___ Stilt Sandpiper	o		u	
___ Semipalmated Sandpiper	a	a	a	
___ Western Sandpiper	r		r	
___ Buff-breasted Sandpiper	r			
___• Marbled Godwit	u	u	c	
___ Hudsonian Godwit	r		r	
___ Sanderling	r			
___• American Avocet	c	c	c	
___• Wilson's Phalarope	c	c	c	
___ Northern Phalarope	a		a	
___ Herring Gull	r		r	
___• California Gull	u	r	u	
___• Ring-billed Gull	c	c	c	
___• Franklin's Gull	c	c	c	
___ Bonaparte's Gull	r		r	
___• Forster's Tern	c	c	c	
___• Common Tern	u	u	u	
___• Black Tern	a	c	c	
___• Rock Dove	o	o	o	o
___• Mourning Dove	c	c	a	
___ Yellow-billed Cuckoo	r			
___• Black-billed Cuckoo	o	o	o	

(1) Last observed in 1956
(2) Nesting recorded at J. Clark Salyer in 1973

	S	S	F	W
___• Screech Owl	o	o	o	o
___• Great Horned Owl	u	u	u	u
___ Snowy Owl	o		o	o
___• Burrowing Owl	o	o	o	
___• Long-eared Owl	o	o	o	o
___• Short-eared Owl	u	u	o	o
___ Boreal Owl				r
___ Saw-whet Owl	o	o	o	o
___• Common Nighthawk	o	o	o	
___ Chimney Swift	r			
___• Ruby-throated Hummingbird	o	o	o	
___• Belted Kingfisher	o	o	o	
___• Common Flicker (Yellow & Red Shafted)	c	c	c	
___• Red-headed Woodpecker	r	o	r	
___• Yellow-bellied Sapsucker	o	o	o	
___• Hairy Woodpecker	o	o	o	o
___• Downy Woodpecker	u	u	u	u
___• Eastern Kingbird	a	c	c	
___• Western Kingbird	a	c	c	
___• Great Crested Flycatcher	r	o	o	
___• Eastern Phoebe	r	o	o	
___• Say's Phoebe	o	o	o	
___ Yellow-bellied Flycatcher	r	r	o	
___• Willow Flycatcher	c	c	a	
___• Least Flycatcher	c	c	a	
___• Eastern Wood Pewee	r	o	o	
___ Western Wood Pewee			r	
___ Olive-sided Flycatcher	o		u	
___• Horned Lark	a	c	a	c
___ Violet-green Swallow			r	
___• Tree Swallow	c	c	a	
___• Bank Swallow	c	c	a	
___• Rough-winged Swallow	o	o	o	
___• Barn Swallow	c	c	a	
___• Cliff Swallow	a	a	a	
___• Purple Martin	c	c	c	
___• Blue Jay	o	o	o	o
___• Black-billed Magpie	u	u	u	u
___ Raven				r
___• Common Crow	c	u	c	
___• Black-capped Chickadee	c	c	c	c
___• White-breasted Nuthatch	o	o	o	o
___ Red-breasted Nuthatch	u		c	r
___ Brown Creeper	u		u	r
___• House Wren	c	c	c	
___• Long-billed Marsh Wren	c	c	c	
___• Short-billed Marsh Wren	c	c	u	
___• Rock Wren	r	r	r	
___ Mockingbird	r	r	r	
___• Gray Catbird (Catbird)	u	u	u	
___• Brown Thrasher	u	u	u	
___• Sage Thrasher	r	r	r	