

January-April, 1961

COVER PICTURE

Waubay # 528 - 5/11/61. This is one of the five Canada goose nests which successfully hatched on an artificial nest platform this spring. Please refer to photo story in picture section.

NARRATIVE REPORT

for

January, February, March and April, 1961

WAUBAY NATIONAL WILDLIFE REFUGE

WAUBAY, SOUTH DAKOTA

Permanent Personnel

J. C. Carlsen Refuge Manager

E. J. Fromelt Wildlife Aid

TAPER Appointment

Ed Henning Operator General

C O N T E N T S

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NARRATIVE REPORT

WAUBAY NATIONAL WILDLIFE REFUGE January, February, March, April

1961

I GENERAL

A. Weather Conditions

| Month | Snowfall | Precipitation | | Temperature | |
|----------|----------|---------------|------------|-------------|------|
| | | This Mo. | Normal | Max. | Min. |
| January | 1.1 | .11 | .51 | 41 | -30 |
| February | 3.5 | .30 | .46 | 47 | -8 |
| March | 1 | .20 | 1.08 | 67 | 11 |
| April | 3 | 1.20 | 2.06 | 77 | 10 |
| TOTALS | 8.6 | 1.81 | 4.25 (Ext) | 77 | -30 |

The winter portion of the period was unusually mild except the last two weeks of January when below zero readings were common. During late February it appeared that spring was in the air. The snow melted and the lakes began to open but this weather was short-lived. From mid-March until the end of April the weather was cold and dreary - more than off-setting the early start of spring.

Precipitation was below normal throughout the period resulting in a deficit of 2.44 inches. Snowfall was little more than nominal and the proverbial "April showers" simply did not materialize. Strong winds combined with dry conditions resulted in duststorms so severe that on some days it was necessary to drive with the lights on in the afternoon.

B. Habitat Conditions

1. Water

The good runoff in the spring of 1960 was but a brief respite from the continued drought conditions. By the fall of 1960 conditions were almost as dry as they were in 1959. All but the spring fed potholes were dry and lake levels continued to drop. Lack of snowfall and a gradual thaw resulted in negligible runoff, in most cases doing nothing more than soaking up the bottoms of the potholes.

The old dike across the northeast bay of Spring Lake is holding the water about a foot higher than the main basin of the lake. Good quality habitat is found there. The only other bright spot in the habitat picture is Swan Pond which was flooded with water from Spring lake through the channel constructed last summer. The culvert control has been closed since last fall and a uniform level maintained. Waterfowl have made a tremendous response to this greatly improved habitat. At times there were more ducks present in this 60 acre pond than on the balance of the refuge. The undated stands of prairie bulrush and phragmites plus the submerged sago pondweed made an attractive habitat.

Refuge lakes were ice-free on April 15th, essentially a normal date in spite of the early start of the spring thaw. A list of ice-free dates for the refuge lakes in recent years follows.

| <u>Year</u> | <u>Date</u> |
|-------------|-------------|
| 1961 | 4/15 |
| 1960 | 4/12 |
| 1959 | 4/16 |
| 1958 | 4/8 |
| 1957 | 4/18 |

2. Food and Cover

Refuge lakes are noted for their abundant supply of sago pondweed and this year was no exception. Emergent vegetation is limited to the smaller impoundments and quiet bays of the lakes. The numerous long points or peninsulas jutting into the lakes do provide a favorite "lee" for the waterfowl on windy days. Ample growth of upland nesting vegetation exists.

II WILDLIFE

A. Migratory Birds

1. Whistling Swans

Although swan use of the refuge was limited to eight birds in mid-April, there were at least 175 on non-refuge portions of Waubay lake from April 5 to 15. This is the usual pattern for these birds as they seem to prefer the "wide open spaces" of the Hedke pass area to the refuge.

2. Canada Geese

Early termination of winter weather brought the Canada geese back to the refuge on March 9th, one of the earliest dates on record. The only open water was in the beaver ponds in Spring Coulee and at the break in Unit I dike and these places were utilized heavily.

Numerous banded birds could be seen with the 20x spotting scope as they stood on the ice, substantiating the theory that the small spring flight of Canadas in this vicinity is mostly native birds.

By the 19th of March the paired Canadas were spreading out and establishing territories. The familiar haunts of the Swan Pond islands and the various nesting platforms were the most popular spots and considerable fighting developed. The situation never did get resolved in the case of the east island in Swan Pond. One pair started nests there two separate times only to have a bigger and more pugnacious pair take over the nests which they would later abandon. The fighting was so intense and continued that the eggs chilled and none hatched. The first pair returned a third time and incubated the eggs but the damage had been done.

At least twenty pairs of nesting Canadas were using the refuge as a base of operations this spring. Three of these pairs had nests outside the refuge on the Tracy farm or on Indian land. This fact makes the land doubly important to the refuge. It is goose production territory and also an area of high goose kill in the hunting season. Acquisition is urgently needed.

Banded geese were observed on territory so often this spring it was almost exceptional to see an unbanded pair. In some pairs the goose was banded and in others the gander. In at least four pairs, both sexes are banded. If the drive trapping during the flightless period is successful, this year, a large majority of the refuge geese will be banded. The State Conservation Department is going to make a special effort to band and color mark Canadas on lakes adjacent to the refuge.

Several nests were being incubated by April 5th so an early hatch was indicated. Unfortunately the weather was cold and miserable, requiring the geese to cover their eggs as they were laid so the hatch was uneven. In some cases fertile eggs did not hatch due to insufficient incubation. Please refer to photo number 530 in the picture section.

Higher water levels in Swan Pond and excessive wave action caused the dirt islands to deteriorate rapidly. As an emergency measure, nest platforms were constructed on these islands and the nest relocated to the platform. Shortly thereafter, the island dissolved under the previous nest location. Another nest was salvaged from a muskrat house which was falling apart and relocated on a platform. This is the goose nest in the cover picture. All three attempts at relocating goose nests were completely successful and the eggs hatched. In the case of the nest platform in the cover picture, a mallard hen is now incubating eggs following the hatch of the geese on May 14. Another mallard hen is nesting on a newly erected platform in the east end of Swan Pond.

Six goose nests hatched on platforms this spring, three volunteers and three relocated. The first goose nest hatched on May 6th, the earliest hatching date on record. Several other nests followed in short order and by May 20th there were at least ten goose broods on the refuge and several still incubating. Probably the most spectacular achievement was the successful nesting of the pair of geese on Phragmites Pond. This pond has been dry for three years except for brief periods following rains. In 1959 and 1960 this pair nested on the bottom of this dry pond only to have the nest broken up by predators. They refused to use a nest platform which was built in the south part of the pond. This winter a second platform was built where the previous two ground nests had been located. This fickle goose then decided to nest on the original nest platform. The platform and a close-up of their nest are in the photo section of this report. The writer watched this brood moving overland to Spring lake and caught one of the goslings and examined it.

The immature or bachelor geese moved freely around the countryside more often off the refuge than on it. By mid-May they were starting to congregate on the refuge again for the moult and flightless period.

As of the end of May there were seven broods totalling 31 goslings on Spring lake and three broods with 14 goslings on Hillebrand lake. There were several nests on the Waubay lake shore, one of which is known to have hatched, but the goslings have not been observed to date.

3. Other Geese

White-fronts were observed more frequently than usual this spring, a total of four times. The first group on March 24 were flying southeast. Several flocks were seen during the heavy migration of waterfowl on April 4th.

During most years it is possible to check your calendar by the Snow-Blue goose flight OVER Waubay. The first flight usually occurs on April 1st and the late flight on May 1st. The season started early this year and the first flocks went over on March 29. There was a heavy migration of Snows and Blues plus other waterfowl on April 4th in spite of strong northwesterly winds and cold weather. The weather was cold for the balance of April and the late flight did not occur until the evening of May 10th. There were even a few stragglers the next several days. Some places 15 to 20 miles south and southwest of the Waubay Refuge accommodated several hundred thousand Snows and Blues yet not one of these birds used the refuge or the Waubay lake complex.

Not more than three of the "small Canada geese" were present on the refuge this spring and they departed by April 1st.

4. Ducks

Six mallards, two drakes and four hens, spent the winter on the beaver ponds in Spring Coulee. Supplementary feed was provided twice during cold or snowy weather.

The first migrants, a mixture of mallards, goldeneye, American mergansers and a female pintail, arrived at the open hole in Spring lake on March 17th. Last year the first mallard did not show up until March 29th.

The following table illustrates how the season got off to an early start but how the onset of cool weather slowed down the arrival of later migrants to a more normal schedule.

Comparison of Spring Arrival Dates for 15 Common Birds

| | <u>1959</u> | <u>1960</u> | <u>1961</u> |
|-------------------------|-------------|-------------|-------------|
| Canada Goose | 3/16 | 3/31 | 3/9 |
| Mallard | 3/18 | 3/29 | 3/17 |
| Gadwall | 3/31 | 4/13 | 4/1 |
| X BW Teal | 4/16 | 4/31 | 3/26 |
| Lesser Scaup | 4/2 | 4/6 | 3/24 |
| Ruddy Duck | 4/23 | 4/22 | 4/24 |
| Marsh Hawk | 3/18 | 3/30 | 3/4 |
| Coot | 4/10 | 4/13 | 4/5 |
| Killdeer | 3/31 | 4/7 | 3/24 |
| Yellow-shafted Flicker | 4/6 | 4/15 | 3/28 |
| X Purple Martin | 4/20 | 4/13 | 4/22 |
| Robin | 4/1 | 4/2 | 3/19 |
| Meadowlark | 3/18 | 4/4 | 3/16 |
| Yellow-headed Blackbird | 4/22 | 4/23 | 4/21 |
| Redwing | 3/23 | 3/31 | 3/17 |

B. Upland Game Birds

The pheasants had a very easy winter with plenty of food and cover available. The V-plow was used to open feeding strips in HA-4 and 5 and an abundance of barley was available all winter long. No more than normal natural mortality was observed. Although a few birds are found throughout the refuge, the majority of the 200 "refuge pheasants" are found in the southwest corner of the refuge.

Gray Partridge were not commonly observed this period which leads us to believe the population is down somewhat from the 50 birds previously reported. The reason for this decline is unknown but it is not due to hunting on private lands around the refuge. There is very little upland game bird hunting done in the refuge vicinity.

C. Big Game Animals

The weather during the past "open winter" was no hardship for the 15 to 20 deer remaining after the deer hunting season. They moved on and off the refuge as they pleased and food and cover were abundant. No losses were noted.

It is encouraging to see the response the woody vegetation is making under the existing policy of maintaining a small herd of deer. Young ash, oak, elm, chokecherry and basswood are coming along rapidly. Of course, if buckbrush were acceptable to the deer, there never would have been a deer problem as it is very abundant. Sumac has been an important winter browse species but the large rabbit population has girdled and killed big patches of it.

D. Fur Animals, Predators, Rodents and other Mammals

Predator and Rodent Control Agent, Gene Hollopeter trapped predators on the refuge during April with the following results.

| <u>Species</u> | <u>Number</u> |
|----------------|-------------------|
| Red Fox | 4 adults - 2 pups |
| Raccoon | 2 |
| Badger | 2 |
| Skunk | 6 |
| Feral Dogs | 3 |
| Beaver | 4 |

Mr. Hollopeter feels that the refuge furbearer population is at a fairly moderate level. This conforms with the general observations of refuge personnel. Four adult foxes were located females which should act as an additional repressant on the pups. Raccoon and skunk are quite scarce compared to the high population levels of a few years ago. The possibility of some type of epizootic affecting these animals can not be discounted.

On April 1st a single coyote was observed in the West Woods by the manager and his family. It is interesting to know there is a remnant population of this species present. The lonesome call of the coyote lends wilderness atmosphere to our modern day society.

The feral dogs continue to be a problem. They are mostly mongrels belonging to Indians around the lake area and are trying to hunt up a square meal. They wander into the refuge at night when they are difficult to apprehend and leave again by daylight.

The four beaver were removed from Barse Slough where they constituted a hazard to the dike and culvert. Some removals may be necessary in Spring Coulee soon to prevent the beaver from eating out their entire food supply of willow. This is almost the only suitable beaver habitat on the refuge.

Only token numbers of muskrat and mink are present under existing low water conditions.

Cottontails are still plentiful and responsible for a large amount of girdling on some winter browse species. Jack Rabbits are becoming increasingly common and it is estimated that there are at least 30 to 40 on the refuge.

Richardson's ground squirrels are in close contention with the thirteen lined for the most abundant species. Control measures will undoubtedly be needed as well as for the pocket gophers which have numerous mounds in the east portion of the refuge. An occasional Franklin's ground squirrel is also seen. Fox squirrels are common in the wooded portion of the refuge. Woodchucks are rarely seen.

E. Hawks, Eagles, Owls, Ravens and Magpies

The usual assortment of Marsh, Red-tail and Swainson's hawks drifted through in late March and early April. The only concentrated migration was in connection with the general waterfowl migration on April 4th. Occasional sightings were made up of Rough-legs, Cooper's and Sparrow Hawks.

A Broad-winged hawk was observed on April 21st along the entrance road to refuge headquarters. This is the first sighting of this species in several years.

The Horned Owl population was "stabilized" at about eight pair this spring when nest control operations were undertaken. The owl population must be kept low to prevent depredations on young waterfowl but fairly stable for control on mice and rabbits.

Short-eared Owls migrated through this area during the last week in April.

No ravens or magpies were seen. A nominal number of crows migrated through the area.

One Golden Eagle spent a few days on the refuge in mid-March. It hungrily eyed the ducks and geese sitting in the small puddles of open water but none were taken to our knowledge.

F. Other Birds

Dr. L.J. Moriarty of Watertown reported seeing a neck-banded small Canada goose on Rush Lake on March 29th. This was reported through channels and is believed to be one of the geese banded on the west side of Hudson Bay by Mr. McInnes of Cornell University.

A Yellow-bellied Sapsucker spent a week working over the cedars around the Headquarter's site in late April. This member of the woodpecker family is rarely observed here.

Two immature and one adult Bonaparte's Gull were observed on nearby Rush lake grade during the first week in May. The first refuge record for this species was recorded last year. These observations were submitted to S.D. Bird Notes for publication.

G. Fish

Spring and Hillebrand lakes have only stickleback and mud minnow populations. Waubay lake winter-killed last year and no new fish have been introduced.

H. Reptiles

There is nothing to report other than a few garter snakes and painted turtles.

I. Disease

No disease evident this period.

III REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development

The following work projects were completed in addition to regular maintenance.

1. With "V" snowplow plowing out feeding lanes for upland Game.
2. Working on clogged sewer and pumping out septic tank several times.

3. Major repairs to Tandem Disc
4. Hauling rock to build goose nesting islands
5. Constructed 7 goose nesting platforms
6. Snow removal operations as necessary
7. Riprapped portion of East island in Swan Pond
8. Removing and storing snow fence from Recreation Area
9. Hauled crested wheat grass seed from Tewaukon Refuge
10. Prepared ground and planted 700 trees around Headquarters area
11. Repaired breaks in boundary fence.

B. Plantings

1. Aquatic and Marsh Plants

None

2. Trees and Shrubs

Around 700 trees were acquired from the local SCS office and planted around the Headquarters area. Many of the old scrub oak trees are dying out and replacements were needed. Species of trees planted were 200 Russian Olive, 75 Pine, 200 Am. Elm, 100 Ash, 100 cedar and ONE Red maple tree. Shrubs planted around the office and residence included 1 Cistena, 1 Red Barberry and 4 Dwarf Junipers.

3. Upland Herbaceous Plants

None

4. Cultivated Crops

Blowing dust with moisture much below normal were the conditions that greeted the farmers as they began spring planting. These conditions remained until the end of the report period. However, at this writing generous rains have been received which has brightened crop prospects considerably.

C. Collections and Receipts

1. Seed and other Propagules

Three hundred pounds of Crested Wheat grass was received from Tewaukon Refuge. The seed was used as a grass mixture with Brome, alfalfa and

planted on the McCarlson Tract. It is planned to eliminate grain crops and give this land a long needed rest. This Tract can then be used for grazing purposes in the future.

2. Specimens

None this period.

D. Control of Vegetation

None this period.

E. Planned Burning

None this period

F. Fires

No fires occurred during the period.

IV ECONOMIC USE OF THE REFUGE

A. Grazing

Our grazing season is open during the period June 1st through Oct. 15th. An increase in grazing fees will be in effect this year. Charges will be increased from \$1.00 per AUM to \$1.25 per AUM. This modest increase will bring our charges more in line with local prevailing rates.

It will be necessary to eliminate the use of Grazing tract G-5 this year due to low water conditions. Windgate Arm which supplies this tract is at an all time low as a result of the drought conditions these past years.

B. Haying

This section will not be reported on in the future. The two remaining hay permittees have been notified that this will be the last year that any wild hay cutting will be permitted on the refuge. Any wild hay cutting in the future will be confined to the maintenance and clearing of the air strip.

C. Fur Harvest

None this period

D. Timber Removal

One free use permit for the removal of dead and down timber for firewood was issued to the local Indians.

E. Commercial Fishing

Not applicable to this area.

F. Other Uses

None

V FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report

There is no field activity to report for the Waubay Study Area or the Waterfowl transects this period. Refuge personnel will conduct the breeding pair counts, production estimates and habitat evaluation studies on the Waubay Study Area for the third year in a row during 1961. Lack of spring runoff has dimmed hopes for substantial duck production there this year.

VI PUBLIC RELATIONS

A. Recreational Use

The cold spring weather was not conducive to recreational use of the refuge. A few hardy bird watchers were the only visitors in the recreation category.

B. Refuge Visitors

The more important official visitors during the period are listed on the following page. Routine business callers and permittees are not included. State Game Warden Doug Salley and Predator and Rodent Control Agent Gene Hollopeter were frequent visitors.

C. Refuge Participation

An important meeting concerning the management of the local flock of Canada geese was held in the refuge office on January 31st. In attendance were representatives of the Research, Management and Enforcement branches of the State Conservation Department plus Service representatives. (Please refer to visitor list). The problems of selling an accelerated program of Canada goose management to the public were discussed and the following guidelines adopted:

1. All future public hearings and publicity on this problem would be billed as "a discussion of measures to be taken to increase Canada goose habitat and production in eastern Day County".

REFUGE VISITORS

| Date | Name | Organization or Title | Address | Purpose |
|------|---------------------|--------------------------|-----------------|---------------------|
| 1/11 | Joe Hopkins | USGMA | Aberdeen, S.D. | Goose violation |
| 1/12 | Barry Peterson | Realty Branch | Aberdeen, S.D. | Wetland Acquisition |
| 1/16 | Larry DeBates | Area Game Mgr. | Webster, S.D. | Deer kill data |
| 1/18 | Jerry Streckfuss | State Land Mgr. | Webster, S.D. | Grazing program |
| 1/3/ | Les Berner | Chief Game Branch, S.D. | Pierre, S.D. | Goose mgt. problem |
| 1/31 | Maurice Anderson | Biologist-S.D. | Aberdeen, S.D. | Goose mgt. problem |
| 1/31 | Tom Rohauer | Area Game Mgr. | Aberdeen, S.D. | Goose mgt. problem |
| 1/31 | Larry DeBates | Area Game Mgr. | Webster, S.D. | Goose mgt. problem |
| 1/31 | Bob Hodgins | Warden Supt. | Watertown, S.D. | Goose mgt. problem |
| 1/31 | Doug Salley | Warden | Waubay, S.D. | Goose mgt. problem |
| 1/31 | Jerry Stoudt | MSFWS Research Biologist | Aberdeen, S.D. | Goose mgt. problem |
| 2/14 | Mr. W.J. Plagnen | I-H Representative | Watertown, S.D. | I-H equipment |
| 3/3 | Larry DeBates | Area Game Mgr. | Webster, S.D. | Goose mgt. |
| 3/6 | Barry Peterson | Realty Branch | Aberdeen, S.D. | Wetland Acquisition |
| 3/6 | Ken Vail | Realty Branch | Aberdeen, S.D. | Wetland Acquisition |
| 3/7 | Ury Dahling | Retired Warden | Webster, S.D. | Courtesy call |
| 3/17 | Mr. Lyons | Dist. Mgr. Ottertail Co. | Milbank, S.D. | Refuge power line |
| 3/17 | Mr. Howard Jones | State Historical Society | Waubay, S.D. | Courtesy call |
| 4/5 | Mr. Gene Hollopeter | P&RC Agent | Watertown, S.D. | Predator control |
| 4/6 | Harold Bowers | State Land Buyer | Pierre, S.D. | Land Ownership |
| 4/18 | Bert Langen | Finance Officer | Mpls., Minn. | Refuge Inspection |
| 4/19 | Bert Langen | Finance Officer | Mpls., Minn. | Refuge Inspection |
| 4/20 | Dick Munding | Realty Supt. | Mpls., Minn. | Wetland Acquisition |
| 4/20 | Barry Peterson | Realty Branch | Aberdeen, S.D. | Wetland Acquisition |

2. The degree of restriction of hunting opportunity would be left open for public discussion as no such plan could work unless there is a general acceptance by the public.

3. No definite boundary lines for a "protective area" would be made.

4. A co-operative banding and marking study will be set up to test the theory that geese from Bitter Lake and other outlying areas assemble at the Waubay Refuge prior to hunting season.

5. The attitude of State personnel (principally Mr. Berner) toward a refuge acquisition and expansion program was vastly improved. He indicated there would be no objection on his part to the expansion of the Waubay Refuge.

The first public hearing on this subject was Tuesday evening, February 7th at the regular monthly meeting of the Day County Sportsman's Club at Bristol, South Dakota. A large number of State personnel were present including Commissioner Christian, Acting Director Fillmore and Mr. Berner. Delegations from Sportsmen's Clubs at Britton, Milbank, Webster, Brookings, Aberdeen and Dell Rapids attended as well as numerous goose hunters from the Waubay-Grenville vicinity. Tension was high since the hunters had heard rumors of a large closure and were prepared to fight it.

After the introduction of guests the meeting was turned over to Mr. Berner who spoke on the subject in a general fashion and called upon the writer for specific information on the Canada goose flock of the Waubay Refuge. This was done through a historical review of the building of the flock, comments on efforts to improve habitat, results of banding studies and an analysis of harvest information. A series of color slides on life history, banding and management of Canada geese at Waubay Refuge was shown at this time.

Various persons then spoke on methods of increasing goose production through construction of nesting islands, and other types of habitat improvement on State and private lands. All thought the State should foot the bill. Other ideas advanced included reducing the limit to one goose, making a portion of Bitter Lake a refuge, putting in closed areas of various sizes and also selling blank shells to hunters on the Henning and Tracy farms !

While the general attitude of the audience was sympathetic to the production of Canada geese they are extremely reluctant to approve any plan to restrict their hunting. They want to eat their cake and have it too. However, with the proper approach, a majority could be rallied to put across a reasonable sized closed area.

Two developments which were rather surprising were volunteer statements from John Henning after the meeting. He is a large landowner on the north and west sides of the refuge and an avid goose hunter. He stated that a number of banded geese have been shot around the refuge in past years and the bands not turned in. There always is a certain amount of this and we have suspected several individuals but have been unable to prove it. Mr. Henning also indicated a willingness, almost eagerness, to cooperate in conserving the local goose flock. He suggested exchanging grazing rights on the refuge for hunting rights on his cropland. (He is already a grazing permittee). This is an extremely interesting possibility although there may be regulations to prohibit this. As he put it, "I have something you want (goose feeding fields) and you have something I want (grazing land), so let's cooperate". His attitude is especially amazing in view of his dedication to goose hunting and also the fact that he was arrested two years ago for exceeding the daily bag limit on ducks. Mr. Henning's comments certainly are worthy of further exploration.

A second hearing on this subject was held at the organizational meeting of the Lake Region Sportmen Club in Waubay on February 28th. In fact, this goose situation was the stimulus needed to organize a club in the Waubay area. The manager presented a program similar to that of the previous meeting at Bristol and also showed a movie on Alaskan wildlife following the meeting.

The situation is "status quo" at present awaiting results of banding and color marking studies by State personnel. It is not likely that any closure will be adopted in time for the 1961 waterfowl hunting season.

Wildlife Aid Fromelt made slide talks to two classes of Biology students at Sisseton High School on April 25th as well as assisting in numerous other presentations and refuge tours.

The manager attended a Wildlife Division conference in Jamestown, North Dakota between March 21st and 23rd. Problems in connection with the selection, acquisition and management of wetlands purchased with the \$3 duck stamp funds were thoroughly discussed and solutions suggested. It was a very worthwhile meeting and much was accomplished.

Refuge personnel were active on School Reorganization Survey Committees. Mr. Fromelt served on the Building Committee for the Roslyn Survey and the manager was appointed Secretary for the Waubay Survey Committee. Unfortunately, both areas have a long, tough "row to hoe" before an improved, reorganized school situation will result.

The manager helped reactivate the Boy Scout Troop in Waubay and served as Scoutmaster. Several outings were held including an overnight camp on the refuge.

Refuge personnel attended, spoke, gave a slide-talk or movie at the following places during the period. Most of these appearances were made in connection with National Wildlife Week.

| <u>Date</u> | <u>Organization</u> | <u>Address</u> | <u>Attendance</u> | <u>Presentation</u> |
|-------------|-----------------------------|-----------------|-------------------|---------------------|
| 2/7 | Day County Sportsmen Club | Bristol | 135 | slide-talk |
| 2/28 | Sportsmen Club | Waubay | 75 | movie-talk |
| 3/7 | Day County Sportsmen Club | Bristol | 75 | Attended |
| 3/21-23 | Wildlife Conference | Jamestown, N.D. | 60 | Attended |
| 4/6 | Lake Region Sportsmen | Waubay | 50 | movie-talk |
| 4/10 | Brookings Conservation Lge. | Brookings | 75 | slide-talk |
| 4/17 | Kiwanis Club | Sisseton | 35 | slide-talk |
| 4/25 | Biology Students | Sisseton | 40 | slide-talk |
| 4/25 | Mothers Club | Waubay | 20 | Movie |
| 4/26 | Kiwanis Club | Milbank | 35 | slide-talk |
| 4/28 | Sisseton School | Sisseton, | 65 | tour of area |

Information on birds was contributed periodically to the Audubon Field Notes and South Dakota Bird Notes magazines.

D. Hunting

None this period.

E. Violations

None this period.

F. Safety

Safety meetings were held monthly and Operator General Henning participated even though he was not on duty at the time. He is on a TAPER appointment at present and due to lack of funds works only during the period April through November. It is hoped that a full time appointment will be possible soon as he is a valuable and conscientious employee.

Subjects discussed included proper "housekeeping" of Service facilities the lifting and handling of objects, winter driving techniques. The March meeting included a demonstration of the new dry chemical type extinguishers which are very effective. (See picture section). It was recommended that a pair of heavy leather gloves be purchased for each employee to prevent accidents in handling objects. This has now been accomplished.

There were no accidents during the period and the station safety record now stands at 5,190 days without a lost time accident.

VII OTHER ITEMS

A. Items of Interest

1. Wetland Acquisition

The following tracts in Day County were purchased during the period and turned over to the Waubay Refuge for jurisdiction.

| <u>Purchased From</u> | <u>Acres</u> | <u>Price/acre</u> | <u>Cost</u> |
|-----------------------|--------------|-------------------|-------------|
| G.E. Hawkinson | 40.94 | \$41.38 | \$1,694.09 |
| J. H. Hilt | 58.00 | 31.25 | 1,812.50 |
| Martin L. Hanse | 40.00 | 25.00 | 1,000.00 |
| Martin Orness | 120.00 | 31.00 | 3,720.00 |
| Lawrence Donat | 160.00 | 42.50 | 6,800.00 |
| Agnes H. Johnson | 20.00 | 32.50 | 650.00 |
| Alma E. Hamman | 64.20 | 17.50 | 1,123.50 |
| Wallace M. Hamman | 47.70 | 26.50 | 1,264.05 |
| TOTAL | 550.84 | | \$18,064.14 |

At the end of the period, 1,147.46 acres of land had been purchased in Day County. The easement program has started in some townships and several thousand acres signed up.

The McCarlson tract, purchased under the old duck stamp program, has now been officially transferred to the wetland program. This tract is being seeded to grasses this year so that a moderate grazing program can be handled there in future years.

2. Credits

Sections III, IV and the NR forms were prepared by Wildlife Aid Fromelt.

3. Personnel Change

This is the eleventh and last narrative by the writer from the Waubay Refuge. On June 12, 1961 he will be promoted and transferred to the position of Supervisor, Area Acquisition Office, Minot, North Dakota. This will involve the selection and acquisition of wetlands for waterfowl conservation in nine counties of northwestern North Dakota.

Mr. Robert Johnson, Assistant manager of the Lower Souris Refuge will take over the duties of manager on June 19, 1961.

4. Soil Bank Payments

In October 1960, the Soil Bank farmers of Day County received \$1,034,489. of the States total payment of \$18,551,872. Day County is reputed to have the highest Soil Bank participation of any county in the state of South Dakota.

5. Taxes

The State Game, Fish and Parks Department recently released the information that it pays \$2,661.02 land tax in Day County, which is the largest payment for any county in the state. Neighboring counties Brown and Marshall also receive substantial payments too, as seen in the following table.

Tax Payments by Conservation Department to Counties

| <u>County</u> | <u>1960 Total Acres</u> | <u>1960 Total Tax</u> | <u>Cost per acre</u> |
|---------------|-----------------------------|---------------------------|--------------------------|
| Brown | 5,611.30 | \$2,219.96 | \$.396 |
| Day | 5,257.24 | 2,661.02 | .506 |
| Marshall | 3,986.54 | 2,129.74 | .557 |

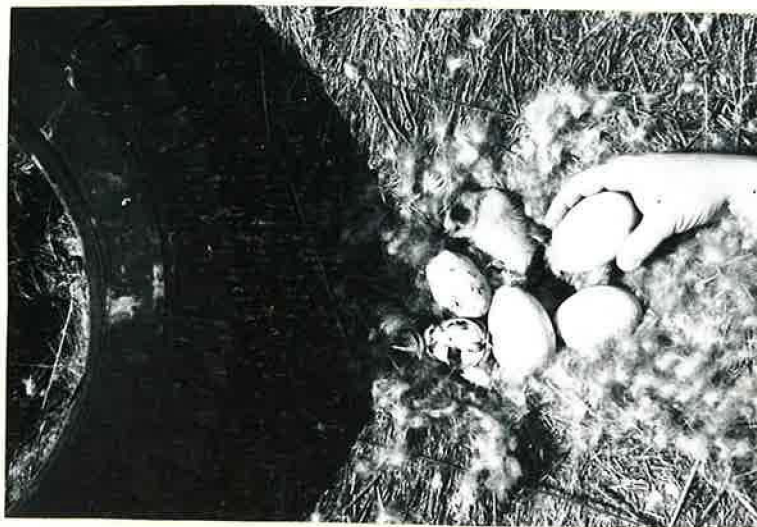
The Service is going to receive considerable criticism from the County Commissioners unless it can increase the return to the county. There are almost equal amounts of State and Federal land in Day County but the income from Federal land is only about one-tenth of the State payment. In a poor county like Day, this can be an important problem, especially when there is a considerable acreage to be purchased soon. There are numerous methods of increasing the return to the county, varying from changing the split of refuge income to a more "commercial" type of management. This problem will have to be resolved soon to insure the continuation of the Wetlands Acquisition program.

B. Photographs

Amateur photographer Dale Nally of Aberdeen visited the refuge on May 11, 1961 and took a number of fine pictures with his telephoto equipment. The series on goose nesting and a few bird portraits are appended. He also took several color slides and these have been added to the refuge slide library. Photos 536 and 537 were taken with the refuge camera by the manager.



Naubay #529 - 5/11/61 The geese using this nesting platform in Phragmites Pond produced a brood of three goslings in spite of the fact the pond was dry.



Naubay #530 - 5/11/61 Closeup view of goose nest on Phragmites Pond platform. Four goslings hatched and one died in the nest. The remaining three eggs had fully developed embryos and would have hatched shortly had the geese continued incubation. The cold spring weather is believed responsible for the uneven hatch.

50-WB-278



Waubay # 531 - 5/11/61 This is typical Canada goose behavior when incubating eggs. She flattens out on the nest platform to make herself as inconspicuous as possible.



Waubay # 528 - 5/11/61 Repetition of cover picture. The goose realizes the approaching photographer sees her and is about to leave the nest.

SD 10151-279



Waubay #532 - 5/11/61 "And away she goes". A shutter speed of 1/500 of a second has almost stopped the action. Although not readily discernable, this goose is banded on the left leg.

SD-WBY-280



Waubay #533 - 5/11/61 Mama goose joins papa goose out on the lake and they loudly discuss the intruder who has disrupted their domestic tranquility.

SD-WBY-281



Haubay #534 - 5/11/61 Portrait of a drake
Blue-winged teal

SD-WBY-282



Haubay #535 - 5/11/61 Solitary Sandpiper

SD-WBY-283



Waubay #536 - 3/7/61 Wildlife Aid Fromelt is standing beside one of the dams put in drainage ditches on the McCarlson tract. Minimal runoff resulted in only small temporary water areas behind these dams.

50-WBY-284




Waubay # 537 - 3/7/61 The March safety meeting featured a demonstration of the dry chemical type of extinguishers by Wildlife Aid Fromelt and Operator General Henning.

50-WBY-285

SIGNATURE PAGE

Submitted by:


(Signature)

Refuge Manager
Title

Date: June 16, 1961

Approved, Regional Office:

Date: _____

(Signature)

Regional Refuge Supervisor

WATERFOWL

THE UNIVERSITY OF CHICAGO PRESS

MONTHS OF JANUARY TO APRIL, 1961[illegible]

3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE WAUBAY MONTHS OF JANUARY TO APRIL, 1961

| (1) Species | (2) Weeks of reporting period | | | | | | | | (3) Estimated waterfowl days use | (4) Production Broods: Estimated seen : total |
|-------------------|----------------------------------|---------------|----------------|-------------|--------------|---------------|---------------|----|---|--|
| | 3/12-18 11 | 3/19-25 12 | 3/26-4/1 13 | 4/2-8 14 | 4/9-15 15 | 4/16-22 16 | 4/23-29 17 | 18 | | |
| Swans: | | | | | | | | | | |
| Whistling | | | | | 8 | | | | 56 | |
| Trumpeter | | | | | | | | | | |
| Geese: | 55 | 141 | 125 | 114 | 50 | 48 | 39 | | 4, 144 | |
| Canada | | | | | | | | | | |
| Canada | 1 | 3 | 3 | | | | | | 49 | |
| Brant | | | | | | | | | 163 | |
| White-fronted | | | | | | | | | | |
| Snow | | | | | | | | | | |
| Blue | | | | | | | | | | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | 15 | 33 | 49 | 69 | 295 | 80 | 24 | | 4, 375 | |
| Black | | | | | | | | | | |
| Gadwall | | | 50 | 224 | 230 | 355 | 320 | | 8, 253 | |
| Baldpate | | | 2 | 15 | 155 | 120 | 30 | | 2, 254 | |
| Pintail | 5 | 10 | 25 | 80 | 160 | 55 | 20 | | 2, 835 | |
| Green-winged teal | | | | 4 | 115 | 115 | 85 | | 2, 233 | |
| Blue-winged teal | | | 1 | | | 135 | 56 | | 1, 337 | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | 6 | 20 | 25 | 90 | 180 | 100 | | 2, 947 | |
| Wood | | | | | | | | | | |
| Redhead | | | 15 | 175 | 475 | 380 | 36 | | 7, 532 | |
| Ring-necked | | 5 | 15 | 87 | 30 | 10 | 16 | | 1, 141 | |
| Canvasback | | | | 5 | 35 | 15 | 2 | | 399 | |
| Scaup | | 71 | 54 | 217 | 1,235 | 2,055 | 1070 | | 32, 914 | |
| Goldeneye | 8 | 28 | 17 | 129 | 70 | 50 | 40 | | 2, 394 | |
| Bufflehead | | 2 | 2 | 41 | 55 | 65 | 80 | | 1, 715 | |
| Ruddy | | | | | | | | | | |
| Other C. Warg. | 1 | 72 | 60 | 149 | 80 | 20 | 10 | | 2, 744 | |
| DUCK TOTAL: | 29 | 227 | 310 | 1,220 | 3020 | 3635 | 1914 | | | |
| Coot: | | | | 10 | 165 | 2010 | 2680 | | 34, 055 | |

(over)

| | (5) Total Days Use | (6) Peak Number | (7) Total Production | SUMMARY |
|-------|-----------------------|--------------------|-------------------------|--|
| Swans | 56 | 8 | | Principal feeding areas |
| Geese | 4,193 | 125 | | |
| Ducks | 73,073 | 3,635 | | Principal nesting areas <u>Hillebrand and Spring Lakes</u> |
| Coots | 238,385 | 2,680 | | |
| | | | | Reported by |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Neuse Months of January to April 1951

| (1) Species | (2) First Seen | | (3) Peak Numbers | | (4) Last Seen | | (5) Production | | | (6) Total |
|---|-------------------------------------|------|---------------------|------|------------------|---------|--------------------|------------------|----------------|---------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Great Blue Heron | 1 | 4/26 | 2 | 4/30 | Still | Present | | | | 2 |
| Am. Bittern | 1 | 4/28 | 1 | 4/30 | " | | | | | 1 |
| Red-necked Grebe | 2 | 4/23 | 6 | 4/30 | " | | | | | 6 |
| Pied-billed Grebe | 2 | 4/21 | 4 | 4/30 | " | | | | | 4 |
| Saved Grebe | Observed after end of report period | | | | | | | | | |
| B-C Cormorant | 1 | 4/6 | 100 | 4/30 | " | | | | | 100 |
| White Pelican | 4 | 4/21 | 30 | 4/30 | | | | | | 30 |
| B-C Night Heron | 1 | 4/26 | 6 | 4/30 | | | | | | 6 |
| Western Grebe | 2 | 4/24 | 10 | 4/30 | | | | | | 10 |
| | | | | | | | | | | |
| II. <u>Shorebirds, Gulls and Terns:</u> | | | | | | | | | | |
| Herring Gull | 10 | 4/6 | 50 | 4/30 | Still | Present | | | | 50 |
| Ring-billed Gull | 3 | 3/24 | 300 | 4/30 | " | | | | | 300 |
| Franklin's Gull | 20 | 4/10 | 50 | 4/30 | " | | | | | 50 |
| Bonaparte's Gull | 1 | 4/26 | 1 | 4/30 | 1 | 4/30 | | | | 1 |
| Killdeer | 1 | 3/24 | 50 | 4/30 | Still | Present | | | | 50 |
| Willet | 2 | 4/12 | 20 | 4/30 | " | | | | | 20 |
| Common Tern | 1 | 4/26 | 25 | 4/30 | " | | | | | 25 |
| Upland Plover | 1 | 4/30 | 1 | 4/30 | " | | | | | 1 |
| Marbled Godwit | 1 | 4/21 | 10 | 4/30 | " | | | | | 10 |
| Wilson's Phalarope | 6 | 4/28 | 6 | 4/30 | " | | | | | 6 |

(over)

| (1) | (2) | | (3) | | (4) | (5) | | | (6) |
|---------------------------------|-----|----------|-----|------|---|-----|--|--|-----|
| III. Doves and Pigeons: | | | | | | | | | |
| Mourning dove | 1 | 4/17 | 10 | 4/30 | Summer Resident | | | | 75 |
| White-winged dove | | | | | | | | | |
| IV. Predaceous Birds: | | | | | | | | | |
| Bobolink eagle, Bald | 1 | 3/18 | | | | | | | |
| Duck hawk | | | | | | | | | |
| Horned owl | 6 | Resident | | | | | | | |
| Magpie | | | | | | | | | |
| Raven | | | | | | | | | |
| Crow | 1 | 2/22 | 5 | 4/30 | | | | | 5 |
| Cooper's Hawk | 1 | 3/27 | 2 | 4/30 | | | | | 2 |
| Sparrow Hawk | 1 | 3/28 | 10 | 4/10 | | | | | 10 |
| Marsh Hawk | 1 | 3/28 | 20 | 4/15 | Summer Resident | | | | 20 |
| Red-tailed Hawk | 1 | 3/25 | 20 | 4/10 | " | | | | 20 |
| Rough-legged Hawk | 6 | 4/8 | 10 | 4/10 | " | | | | 10 |
| Swainson's Hawk | 1 | 4/23 | 10 | 4/15 | " | | | | 10 |
| Broadwing Hawk | 1 | 4/21 | 6 | 4/30 | " | | | | 6 |
| | | | | | Reported by J. C. Carlson, Refuge Manager | | | | |

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Neotoma Months of January to April, 1961

| (1) Species | (2) Density | | (3) Young Produced | | (4) Sex Ratio | (5) Removals | | | (6) Total | (7) Remarks |
|-------------------------|--|----------------------|----------------------------|--------------------|---------------------|-----------------|---------------------|-----------------|--|--|
| Common Name | Cover types, total acreage of habitat | Acres per Bird | Number broods obs'd. | Estimated Total | Percentage | Hunting | For Re- stocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Ring-necked Pheasant | Prairie sloughs Agr. fields & woods-2700 acres | 15 | | | | | | | 200 | |
| Hungarian Part. | " | 108 | | | | | | | 25 | |

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Gauley Year ending April 30, 1961

| (1) Species | (2) Density | | (3) Removals | | | | | (4) Disposition of Furs | | | | | (5) Total Popula- tion | |
|----------------|---|------------------------|-----------------|----------------|-----------------------|---------------------|-------------------|----------------------------|-------------------|-----------------|------------------------------|--------------|---------------------------------|----|
| Common Name | Cover Types & Total Acreage of Habitat | Acres Per Animal | Hunting | Fur Harvest | Predator Control * | For Re- stocking | For Re- search | Share Trapping | | | Total Refuge Furs Shipped | Furs Donated | Furs Destroyed | |
| | | | | | | | | Permit Number | Trappers Share | Refuge share | | | | |
| Muskrat | | | | | | | | | | | | | | 2 |
| Mink | | | | | | | | | | | | | | 13 |
| Beaver | | | | | | | | | | | | | | 10 |
| Red Fox | | | | | | | | | | | | | | 10 |
| L-T Weasel | | | | | | | | | | | | | | 10 |
| S-T Weasel | | | | | | | | | | | | | | 10 |
| Striped Skunk | | | | | | | | | | | | | | 2 |
| Spotted Skunk | | | | | | | | | | | | | | 2 |
| Badger | 5 | | | | | | | | | | | | | 1 |
| Raccoon | 10 | | | | | | | | | | | | | 2 |
| Jackrabbit | | | | | | | | | | | | | | 2 |
| Cottontail | 200 | | | | | | | | | | | | | 2 |
| Fox Squirrel | | | | | | | | | | | | | | 2 |

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by _____

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.