

BRANCH OF WILDLIFE REFUGES NARRATIVE REPORTS

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MR. GRIFFITH _____

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MR. REGAN MR

MR. DuMONT DD

Land Management

MR. ACKERKNECHT WA

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Stenographers

REFUGE SWAN LAKE

PERIOD May-August 1955

Swan Lake National Wildlife Refuge

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Narrative Report
Swan Lake National Wildlife Refuge
May - August, 1955

PERMANENT PERSONNEL

Robert F. Russell	Refuge Manager
Marvin F. Lentz	Clerk-Typist
William H. Thornsberry	Mechanic, Heavy Duty

TEMPORARY AND INDEFINITE EMPLOYEES

Melvin D. Earlywine	Laborer, Construction
Benny N. Howerton	Operator General
James L. Howerton	Laborer, Construction
Cysco Lee	Laborer, Construction
Roy T. Warren	Tractor Operator Light
Floyd A. Holland	Laborer, Construction
Ervin Windsor	Tractor Operator Light

United States Department of Interior
Fish and Wildlife Service
Sumner, Missouri

Narrative Report
Swan Lake National Wildlife Refuge
May - August, 1955

I GENERAL

A. WEATHER CONDITIONS

The following weather data was obtained from the U. S. Weather Bureau Station at St. Joseph, Missouri.

<u>Month</u>	<u>Precipitation</u>	<u>Maximum Temperature</u>	<u>Minimum Temperature</u>
May	2.53	88	42
June	7.40	95	47
July	3.65	105	64
August	<u>2.17</u>	<u>99</u>	<u>55</u>
	15.75 Extremes	105	42

The weather can be summed up as a little warmer than usual and dry during July and August. Local precipitation during May exceeded that in the St. Joseph area. Heavy rains during late May and early June prevented us from planting many bottomland acres until too late to sow anything but a fall crop. Refuge crops on higher land got a good start but a shortage of moisture hurt them some during that vital period when the seeds were beginning to form and fill. However, we were fortunate in that an occasional rain fell locally which passed over most other areas. Our crops are correspondingly better too.

B. WATER CONDITIONS

Swan Lake stood at 656.80'; .20' low on May 1. Scheduled drawdown to 654.00' May 16 was not accomplished until July 31. Heavy rains on the Turkey and Elk Creek watersheds raised Silver Lake above operating level and necessitated discharging water into South Lake faster than it could flow out of South Lake. As a result South Lake rose to an elevation higher than that of Swan Lake - thus preventing discharge from Swan Lake into South Lake and thence out.

A 3-3/4 inch rain August 12 reflooded Swan Lake to 654.40'. This was unfortunate as it inundated 300 acres of mudflat recently exposed by the drawdown which were coming up to wild millet and smartweed. It required a week to draw down the lake again and during that interval much of the wild millet and smartweed was smothered out.

Silver Lake went into the period below operating level. It rose to 665.00'; .50' high as a result of heavy rains during late May. It gradually fell until June 24 when a 5" downpour brought it up to 655.50'. When the Silver Lake gate is wide open, discharge from Silver Lake enters South Lake much faster than it can flow out of South Lake. To

prevent raising South Lake too high and flooding out Agricultural Units A2, 3 and 6 we regulated the Silver Lake discharge to obtain the maximum flow possible without flooding the farm units. We took the risk of discharging from Silver Lake at less than full capacity. We gambled (and won) that more rains would not fall on the watershed before we could lower the pool. The excess from Silver Lake was eventually discharged without undue crop loss; 10 acres in A6 and 10 acres in A3.

This situation points out the need for enlarging the limited capacity of the South Lake water control structure.

South Lake entered the period at elevation 655.20'; .20 high. Because of the heavy discharge from Silver Lake it was impossible to dry up the lake (elevation 653.0') June 16 as planned. The lake dropped to 655.10' June 20 before inflow from Silver Lake began to raise it. It rose to a high of 656.20 on July 1. Thereafter it dropped slowly until it reached 653.0' in mid-August.

Wild millet and rice cutgrass produced a good crop on the exposed flats of Swan and South Lakes - considering the difficulty we had in attaining and holding scheduled water levels. Reflooding of South Lake will commence October 1. Reflooding of Swan Lake will be delayed until the completion of the new water control diversion structure at the north end of Levee No. 3.

C. FIRES

The contractor clearing refuge lands (Public Hunting Area) for the Missouri Conservation Commission burned the products of their clearing. Their contract required they burn or bury all timber and brush.

A. MIGRATORY BIRDS

1. Populations and Behavior

Geese

A resident flock of 50 Canada Geese remained on the refuge through the summer months. So far as we know they did not nest. One resident bird carried our plastic yellow neck marker - indicating that it had been banded at Swan Lake in the fall of 1954.

The spring exodus for the nesting grounds was nearly complete by May 1. About 4,000 ducks occupied the refuge on that date but most departed the following week. A few Shovelers lingered until mid-May and Bluewings stayed with us until the second week of June. An occasional Scaup was seen as late as June 27.

As usual a few Mallards and Wood Ducks stayed through the summer and nested along the back bays and creeks.

Thirty Blue-wings heralded the start of the fall migration with their arrival August 12. These first arrivals appeared one to two weeks earlier than usual. By August's end 500 Blue-wings and 300 Pintails occupied the refuge.

Coots

The Coot population had dwindled to 800 by May 1. These departed rapidly and none remained June 1.

Water and Marsh Birds

White Pelicans occupied the refuge from May 1 to June 20. None had returned at the close of August.

Great Blue Herons, Green Herons and American Egrets were much more numerous. The draw-down of South Lake and Swan Lake apparently made them ideal feeding areas. The birds fed heavily on small frogs which were present in great numbers. Snowy Egrets also made an appearance this year.

Sora rails were exceptionally numerous. A heavy concentration built up in our rice field during August. The flooded rice apparently made ideal habitat.

Shorebirds, Gulls and Terns

The populations and migration pattern of Killdeer, Spotted Sandpipers, Black Terns and Ring-billed Gulls did not change materially from previous years.

Mourning Doves

The largest Mourning Dove population ever reported occupied the refuge. Many nested in our osage hedges and in the few evergreens scattered around the refuge. Refuge Clerk Lentz banded four nestlings in the headquarters area.

The dove hunting season will be more liberal this year. Ten days have been added to the season and two birds to the bag.

The Commission is hopeful that the larger bag limit and longer season will permit a greater harvest than in the past before cold weather moves the doves south for the winter.

2. Food and Cover

Periodic flooding of mudflats smothered out some of our volunteer waterfowl food plants and curtailed production. The total crops does not approach that of last year. Volunteer crops in South Lake and Swan Lake are late because of our inability to draw-down water levels earlier.

They will do well to mature before frost. This fall we will be in a position to reflood South Lake and Swan Lake so that the wild food crop we have will be more available than in years past.

Cultivated crops are discussed on page 9 & 10.

3. Botulism

There was no evidence of botulism.

4. Lead Poisoning and Other Diseases.

There was no evidence of lead poisoning or other diseases during the period.

Again there is the possibility of Canada Geese losses from crop impaction. The availability of waste soybeans, a product of the combining, and the amount and frequency of occurrence of precipitation appear to be the decisive factors. We expect losses if the weather remains dry.

B. UPLAND GAME BIRDS

1. Populations and Behavior

Bob-white Quail

The quail outlook is more favorable than for several years. Production was good and many fine covies have been seen. The Commission held the bag limit to six birds but extended the season 15 days.

Prairie Chickens

Again we must report no Prairie Chickens seen or heard on the refuge during the period. A few chickens can still be found in the bottoms north of Sumner but the flocks which formerly used pastures G2 and G4 have not been observed.

Wild Turkeys

To our knowledge none of the 42 Wild Turkeys released by the Commission last December remain on the refuge. Few reports have come in concerning their whereabouts this summer. Three turkeys were observed in the spring south of the refuge (east of Bash's) and one remained in that vicinity during the summer. The writer picked up a highway kill on the road directly west of headquarters in June. This was a hen in excellent condition.

The turkey egg salvaged from a nest plowed under west of headquarters proved to be fertile. Since two of the four old gobblers released were shot and another died of disease, it is likely that the

young males did mate with the hens the first year. We received two reports of poults being seen but were unable to confirm either.

2. Food and Cover

Food and cover are adequate for all species of Upland Game.

3. Disease

We have no evidence of disease.

C. BIG GAME ANIMALS

1. Populations and Behavior

The number of White-tailed deer observed on the refuge approximated that of the year previous. It is not known whether the population is continuing to increase - although that apparently is the opinion of the Commission since it has opened the county to the hunting of "any deer" this year and lengthened the season to five days. The county will also be open to archery hunting during the month of October.

Coon and fox hounds continue to run deer promiscuously. I believe they are a limiting factor on the deer population in northern Missouri.

2. Food and Cover

Food and cover conditions are better than a year ago. There is no evidence of over-browsing. Soybeans along the timber fringes show evidence of limited browsing.

3. Disease

We saw no evidence of disease in the herd.

D. FUR ANIMALS. PREDATORS. RODENTS AND OTHER MAMMALS

There was no known change in the trend of the Raccoon, Muskrat, Mink, Coyote, Fox, Skunk or Rabbit population from that reported last period.

With the flooding of South Lake one or two colony of Beaver moved into the refuge. Their cutting is evident at the intersection of the old Elk Creek channel with Levee No. 2 and in the area just south of Levee No. 5.

E. Predaceous Birds, Including Crows, Ravens and Magpies

No change occurred in the Horned Owl population. The refuge harbours about 60 residents.

More Crows used the refuge this summer than last.

Red-tailed Hawks were plentiful, although their numbers were lower than last year.

An occasional Sparrow Hawk, Sharp-shinned Hawk and Coopers Hawk were reported. Numbers of each are believed to be higher than in 1954.

A single observation was made of four Turkey Vultures over Swan Lake May 3.

F. FISH

The summer draw-down of Swan Lake had no noticeable effect on fish populations. However, it certainly does not favor the fish since, after drawdown, the maximum depth of the lake, excepting the deep borrow pit along the west levee, measured 18". The fish did not concentrate in the west borrow pit as they did in 1954, the lower success of seining parties seining the borrow pit attested to that. Lower water temperatures and the fact that the lake did not remain shallow for such an extended period as last year accounted for the fish failing to concentrate in the deep water.

The three Fish Attractors constructed last winter in the borrow pit along Levee No. 4 went virtually unused. These brush piles are not especially popular with the seiners.

We plan to drain South Lake each summer to encourage the production of Wild Millet, Smartweed, etc, and for this reason do not intend to open it to fishing.

III REFUGE DEVELOPMENT, MAINTENANCE

On July 11 the Atkinson-Wendle Construction Company started work on a Silver Lake outlet structure and two diversion structures; one to divert water into Swan Lake and the other to South Lake, at the north end of Levee No. 3. By August 31 they had completed the concrete work on the South and Swan Lake diversion structures and the walls and a part of the riser on the larger outlet structure. See photograph No. 137 showing the ~~South~~ Lake diversion structure and ditch. At the date of this writing the project has been completed except for installing the steel gate in the Silver Lake structure and digging out the inlet channel.

Cooperating with the Commission in the development of the public hunting area we installed eight steel culverts to provide crossings from roads to hunter parking areas. We constructed six parking areas and graveled four.

Other development and maintenance projects accomplished were as follows:

On 14.5 miles of boundary cleared around boundary sign posts, removed "penalty" markers replacing them with "Blue Goose" and erected the yellow public hunting signs. See photograph No. 138.

Constructed .5 mile of fence along our west boundary.

Installed two outlet tubes with gates in the south levees of two duck ponds in pasture G-1. At the same time dozed in the corners of the levees forming the ponds so that they would fill.

With the D7 tractor constructed .4 mile of "W" ditch in Agricultural Unit A25(F1) and 1 mile of single ditch; .7 mile in A25(F1) and .3 mile in A27(F2 and 3).

Threw up .2 mile of "W" ditch in A1(F3) and made repairs to .2 mile of terrace in A23 with the TD9 and grader.

Laid out and built 1.5 miles of contour terrace in the 18 acre rice field. Hauled an 8" pump from Mingo Refuge and installed to flood the rice field.

Built a picket fence around the outlet to No. 3 water control structure and painted it.

Built a rack for steel and assorted large parts in the south end of the equipment building.

Constructed a weight box to hold down the front end of the Ford tractor when pulling heavy equipment.

Made extensive repairs to the Case drill several times.

Converted two International plows and the John Deere Model A tractor to hydraulic control.

Overhauled the water pump assembly and replaced the two top rollers on the right hand side of the D-7 tractor.

Installed a dolly and spring tooth harrow attachment on the land leveller.

Painted the exterior of the Service Building.

Replaced the guttering on Quarters No. 13 and 3.

Razed the old blacksmith shop, and the oil house at the old CCC camp, salvaging all usable materials.

Repaired and painted our two-wheel trailer.

Moved the tail and signal lights on the rear of two jeeps and the Chevrolet pickup to a higher position to prevent their being covered with mud thrown from the wheels.

Made a number of improvements to our equipment for planting and

cultivating wide-spaced corn.

Received and placed 1557 tons of gravel on .8 mile of road leading from headquarters to Levee No. 2 and .3 mile of the north end of Levee No. 2 (down and across the water control structure) The gravel was delivered under contract.

The Commission was well along on the development of the refuge 2500 acre public hunting area. At the close of the period they had completed about nine miles of access road (about four miles of new road, and the rest involved the clearing and grading of old farm levees) and were starting to gravel them. See photograph No. 139. Parking areas and turn-outs (for the single lane road) were built where needed. This work was being done under force account. They also let contracts for construction of a Headquarters Building at the site of the old CCC camp and for the clearing of 309 acres (around Taylor Point and south and west of South Lake) The Headquarters Building has been finished on the outside. See photograph No. 140. Most of the clearing had been completed except for burning and clean-up.

About half of the 120 blinds or pits had been constructed and installed. See photograph No. 141.

The dry fall facilitated the public hunting area development.

B. PLANTINGS

1. Aquatic and Marsh

High water and fluctuating levels prevented us from seeding some of the mudflat areas to Japanese millet. We made no aquatic or marsh plantings this year.

2. Trees and Shrubs

With our assistance the Commission's Cover Restoration Agent planted .3 mile of multiflora rose fence as a border for the Headquarters area. He cultivated this twice and it is doing nicely.

3. Upland Herbaceous Plants.

We worked down and seeded to wheat and alsike clover hay field H1 (15 acres). We intend to broadcast a mixture of grasses and legumes on this field this winter. H1 will be maintained as a hay field hereafter.

Spring grass and legume seedings did well this year. Pasture units G2 and G4 will have more browse available for geese than usual. However, use of G-4 will be limited by the activities of Commission Headquarters and the Concession east of it.

4. Cultivated Crops

Crops on the higher, better farmland went in in fine shape during April and early May. The ground worked well and the crops got off to a good start. The weather turned wet in late May and remained that way through June. Four hundred acres of bottomland that had not been planted by early May did not dry out until July - too late for anything but a fall browse crop. Wet weather delayed the planting of another 350 acres making the crops unusually late. Farmers will be unable to harvest their late sown beans until frost.

We terraced and planted to domestic rice an 18 acre field due west of the Silver Lake water control structure. We kept the rice flooded most of the summer with the 8 inch pump secured from Mingo Refuge. The crop is now in the hard dough and looks exceptionally well. We intend to take sample yields to the University to check the yield. See photograph exposures No. 142 and 143.

We planted another field of nine acres but made no attempt to flood it as we wished to check the possibility of growing rice as a dry land crop. Competition from an assortment of annual weeds cut down the yield drastically on the field and we do not believe it is practical to grow it in this manner - at least not this variety of rice.

From our experience in rice culture this year we believe it is well adapted to our tight, bottomland soil - perhaps more so than any other crop. The potentialities of rice culture on refuge bottomlands appear to be tremendous. At present rice is under acreage allotment and there is little likelihood of securing an allotment for sharecroppers. We can, however, grow it ourselves with what funds we can provide from our farming allotment.

Dispite a rather favorable crop year the total crop of cereals which will be available for waterfowl will be little larger than last year. We tentatively estimate it at 18,000 bushels compared to 15,960 in 1954. There are two reasons for production not being higher: wet weather prevented us from planting extensive acreages of bottomland to milo, and under the new rotation we now accept a greater percentage of the refuge share of the crop in browse (wheat and rye) than in the past. After the new rotation has been in effect a few years, we believe that higher yields per acre on the acreages planted to grain will compensate for the reduced acreage in grain in the refuge share.

A total of 722 acres of wheat, rye and hairy vetch will be available for waterfowl as compared with 548 acres in 1954. This is by far the greatest acreage of browse we have ever been able to provide for geese. The refuge staff grew 350 acres; 48% of the total.

As explained previously, the crop of wild food crops, a product of our mudflat areas, is not as good or as extensive as last year. However, the crop will be more accessible to waterfowl because of our ability to

reflood both Swan Lake and South Lake from Silver Lake.

The Commission selected a 70 day waterfowl hunting season, from October 28 through January 5. The opening date is about a week later than usual. Last year the refuge food supply was almost exhausted by December 1 and as a result hungry geese moved off the refuge in droves and were exceedingly vulnerable to hunting. Our food supply may be a bit greater than last year's but we anticipate an increase in the goose flock. Therefore, it is likely that our food supply will go no further than the previous year and that the kill will be heavy from December 1 on. I believe that we must watch this situation closely and be prepared to close the season on short notice if necessary to avoid an excessive kill. Our ace in the hole this year is our great acreage of browse. To what extent this will take the place of grain I do not know.

With the exception of two individuals who kicked up their heels a bit, our new rotation went over well enough. Some of the permittees experienced trouble in plowing under the soybean green manure crop but I believe they will have little difficulty hereafter with the "Know How" gained this year. I feel that the refuge staff (we are now the largest farmer on the refuge) actually put the new program across by handling our farming operations in exactly the same manner that we required the permittees to handle theirs. I doubt if there is any individual whose mind is more difficult to change than that of a Missouri farmer. However, he couldn't very well shake his head and say it couldn't be done, when we did it in the field along side his.

The refuge staff grew the following crops:

	Acres
Corn (wide spaced with vetch and rye between)	48.6
Milo	61
Soybeans	76.7*
Rice	27**
Wheat, Rye and Vetch	350

*
58.7 plowed under and planted to wheat, 18 to be harvested for seed.

**
Nine acres not flooded and crop poor.

C. COLLECTIONS

None. We could not locate wild millet or smartweed stands suitable for combining.

D. RECEIPTS OF SEED AND NURSERY STOCK

We received 400 pounds of Hairy Vetch seed from Fort Niobrara Refuge, Valentine, Nebraska.

E. PLANNED BURNING

None.

IV ECONOMIC USE OF REFUGE

A. GRAZING

The following permits covered the grazing of mixed cattle.

- No. 20052 - Donald D. Daniels of Mendon, Missouri
- No. 20053 - Floyd Thornsberry of Sumner, Missouri
- No. 22242 - Earl F. Washam, John F. Schafer of Sumner and
Frank A. Fox of Mendon, Missouri
- No. 22243 - Reams Downey of Sumner, Missouri

Pastures remained in better condition this summer than last. The grazing season will terminate October 25 in pastures G1, 2 and 4. Since this unit will be hunted we are requiring that cattle be removed three days prior to the hunting season.

B. HAYING

None

V FIELD INVESTIGATIONS OR APPLIED RESEARCH

We discontinued the goose browse study plot. The drouth of the previous two years had taken it's toll and the stands of most plantings had deteriorated. We plowed the entire plot and put it in corn (wide-spaced with vetch and rye between the rows). Experimental plantings of new browses will still be made whenever they are secured for testing.

With public hunting on Swan Lake this fall, we believe it is more important than ever that we band as many Canada geese as possible. As usual the Commission will undertake the banding program with our assistance. We intend to fluoroscope all birds as well as band them. Weight, sex and age data will be collected from the geese passing through the checking station. We also plan to run a food habits study on Canada geese. By using the information obtained from weight records, fluoroscopy record, food habits, and correlating it with the population trend, the movements of birds off the refuge and the quantity of food available, we hope to get a better picture of the food-kill relationship.

The following band returns were received during the period:

<u>Species</u>	<u>Number of Returns</u>	<u>Locality</u>
Canada Goose	56	Missouri
" "	50	Louisiana
" "	23	Manitoba
" "	13	Texas
" "	3	Arkansas
" "	2	Illinois
" "	1	Iowa
" "	1	Oklahoma
" "	1	Mississippi

150

Band returns continued -

<u>Species</u>	<u>Number of Returns</u>	<u>Locality</u>
Hutchins Goose	1	Missouri
Blue Goose	1	South Dakota
" "	1 ✓	Ontario
Mallard	31	Missouri
"	23	Arkansas
"	12	South Dakota
"	9	Texas
"	8	Illinois
"	8	Saskatchewan
"	6	North Dakota
"	5	Oklahoma
"	5	Louisiana
"	4	Alberta
"	4	Nebraska
"	3	Manitoba
"	3	Kansas
"	3	Tennessee
"	2	Alabama
"	2	Minnesota
"	1	Nevada
"	1	Oregon
"	1	N.W. Territories
"	1	Wisconsin
"	1	Indiana
"	1	Georgia
Pintail	1	Louisiana
Baldpate	1	Texas
Green-winged Teal	1	Utah
" " "	1	Louisiana
" " "	1	Arkansas
" " "	1	Missouri
Coot	2	Alabama
"	2	Minnesota
"	2	Iowa
"	2	Louisiana

A pintail bearing band no. 41-698327 was trapped and released at Swan Lake December 9, 1954, it had been banded at Aransas Refuge in Texas on December 12, 1951.

VI PUBLIC USES

A. PUBLIC USES

2. Fishing Use

Fishermen spent an estimated 4,200 fishing days on the refuge.

3. Miscellaneous Uses

There was an estimated 4,500 visitor-days of this type. Many people came merely to inquire concerning the progress of plans to open up a portion of the refuge to public hunting.

B. REFUGE VISITORS

A list of official and important visitors follows:

<u>Name</u>	<u>Title</u>	<u>Date</u>
Harris White	Conservation Agent	Numerous
Charles Guthrie	Conservation Agent	Numerous
Charles E. Shanks	Waterfowl Biologist, State of Missouri	Numerous
Lewis G. Helm	Biologist, Missouri Consv. Comm.	Numerous
John Lewis	Turkey Biologist, Missouri Consv. Comm.	Numerous
Howard Wight	Biologist, Missouri Consv. Comm.	Numerous
J. D. Beets	Land Acq. Agent, Mo. Consv. Comm.	5-12
Hamlet B. Clark	Manager, Fountain Grove Area	Numerous
F. C. Gillett	Regional Supervisor, Region 3	6-29
M. O. Steen	Chief, Fish & Game, Mo. Consv. Comm.	6-29
Ray Wright	Regional Engineer, Region 3	7-12/14
Al Price	Hunting Club owner	7-17
J. Warren Smith	Engineer, Missouri Consv. Comm	Numerous
J. S. McGuire	Concessionaire	Numerous
Hubert VanDyke	Civil Engineer, Region 3	8-9/11
Mr. Stevenson	Civil Engineer, Region 3	8-23
Claude Alexander	GMA, State of Missouri	8-25
Joe Green	Conservation Agent, Supervisor	8-27
Richard Vaught	Manager, Trimble Area	9-2

C. REFUGE PARTICIPATION

Mr. Thornsberry showed the film "Haunts for the Hunted" to the Mendon Fellowship Club May 18. He discussed the placing of refuge directional signs in Mendon and the possibility of developing a small park on the south east side of the refuge.

The refuge manager attended the Commission regulations meeting at Keytesville on August 24. He was called upon to outline refuge public hunting plans.

The Swan Lake Sportsmen's Club suspended operations during the summer.

D., HUNTING

None

E. FISHING

Fishing improved greatly over 1954. Excellent catches of channel cat were taken from both lakes on set lines. Most of these weighed between two and four pounds, but with occasionally larger cats being taken. The catch of other species remained about the same.

Evidently there is a good concentration of crappie in Silver Lake as we noticed hundreds which were drawn through our rice pump and ended up in our rice field. Few are caught as most fishermen hereabouts prefer to fish with prepared baits for catfish, bullheads and carp.

To increase the take of rough fish, and their removal from our waters, we changed the regulations covering the seining of rough fish during the month long state seining season, July 15 thru August 15. Anyone desiring to seine was permitted to do so - providing he first obtained a permit at headquarters. We inspected nets and licenses at headquarters and made spot checks on the fishermen in the field to insure that they complied with the regulations. A total of 40 parties composed of 305 individuals took approximately 2,439 pounds of rough fish. Buffalo made up 95 percent of the catch. The take of rough fish dropped considerably from last year when the fish concentrated in the deep water of the Levee No. 4 borrow pit north of headquarters.

F. VIOLATIONS

On the night of July 1 the refuge manager assisted Conservation Agents White and Guthrie apprehend Mr. Louis Sportsman in the act of running an Indian fish trap in Yellow Creek north of Rothville. The case has not yet come to court.

VII OTHER ITEMS

A. ITEMS OF INTEREST

Mr. J. S. McGuire of Kansas City recently signed a contract with the Service to operate a concession on the refuge. His agreement stipulates that within three years he will construct and have in operation a 20-unit motel, a dining room or lodge and other utility buildings necessary to serve the main buildings. Mr. McGuire hopes to complete the motel and a smaller structure equipped with mechanical duck and goose pickers by the opening date of the waterfowl season, October 28. At this writing he has the foundation in and part of the plumbing. The knoll directly east of the Commission headquarters in pasture G-4 has been selected as the concession site. The motel will be known as "Goose Hill Lodge."

Last period we neglected to mention that Mr. Thornsberry received a \$100.00 cash award for his suggested improvements to the cannon net trap.

B. PHOTOGRAPHS

A series of photographs follow the written portion of the narrative.

Respectfully submitted,

Robert F. Russell
Robert F. Russell
Refuge Manager

October 12, 1955

Approved

Robert F. Russell



Swan Lake diversion structure nearing completion. Distribution basin in foreground. (Exposure No. 137, 9-10-55)



Public hunting signs were placed on posts below blue goose boundary signs. (Exposure No. 138, 9-10-55)



Typical section of old farm levee cleared and graded for access road. Note parking area upper center. (Exposure No. 139, 9-10-55)



Looking southeast at Swan Lake Wildlife Management Area Headquarters building. (Exposure No. 140, 9-10-55)



Front view of pit in wheat field before being "dug in". Dimensions! 4' x 4' x 8'. Accomodates four hunters. Constructed of green cypress. Front top is hinged to fold forward. (Exposure No. 141, 9-10-55)



Eighteen acre experimental rice field. Rice in the "dough" stage. (Exposure No. 142, 9-10-55)



Close-up of rice heads. Some wild millet showing -
upper right. (Exposure No. 143, 9-10-55)



Refuge personnel plowing under green manure crop of
5' high hay soybeans on 58 acres. (Exposure No. 135,
8-1-55)



Another view of refuge personnel turning in soybean green manure crop. Wheat crop follows. (Exposure No. 136, 8-1-55)

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Swan Lake

MONTHS OF May 1 TO July 10, 19 55

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling	5/2	5/9	5/16	5/23	5/30	6/6	6/13	6/20	6/27	7/4
Trumpeter										
<u>Geese:</u>										
Canada	50	50	50	50	50	50	50	50	50	50
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	300	300	300	300	200	100	100	100	100	100
Black										
Gadwall										
Baldpate	25									
Pintail	50									
Green-winged teal	50									
Blue-winged teal	2,000	1,000	800	500	200	100			1	
Cinnamon teal										
Shoveler	1,500	300	100							
Wood										
Redhead									25	25
Ring-necked	50	25								
Canvasback	10									
Scaup	100	50	50	10				10	1	
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>	800	500	500	300	100	-				

3-7150a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Swan Lake

MONTHS OF July 11 TO August 31, 19 55

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	11	12	13	14	15	16	17	18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											
Cackling	50	50	50	50	50	50	50	50	6,150		
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	100	100	100	100	100	100	100	100	13,000	1	50
Black											
Gadwall											
Baldpate									109		
Pintail								300	1,875		
Green-winged teal									225		
Blue-winged teal					30		40	500	30,440		
Cinnamon teal											
Shoveler									9,200		
Wood	10	10	10	10	10		10		763	2	50
Redhead											
Ring-necked									393		
Canvasback									45		
Scaup									1,291		
Goldeneye											
Bufflehead											
Ruddy											
Other											
Coot:									13,400		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans			
Geese	6,150	50	-
Ducks	62,341	4,085	100
Coots	13,400	800	-

SUMMARY	
Principal feeding areas	East side Silver Lake
Principal nesting areas	-
Reported by	Robert F. Russell

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 Svan LakeMonths of Mayto August1945

(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>										
White Pelicans	100	5/1	100	5-1	10	6/20				200
Great Blue Herons	10	5/1	300	7/31-8/7	250	8/31				500
Green Herons	1	5/17	250	8/7	75	8/31				400
American Egrets	200	6/20	300	7/17	150	8/31				500
Snowy Egrets	10	6/26	50	7/17	10	8/31				100
Sora Rail			5,000	8/31	5,000	8/31				6,000
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	200	5-1	Common Summer Resident							500
Spotted Sandpiper	10	5/10	Common Summer Resident							200
Black Terns	50	6/20			25	8/15				500
Ring Billed Gull			25	8/17						100

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. <u>Doves and Pigeons:</u>								
Mourning dove	2,500	5/1	4,000	7/15-8/25	3,500	8/31		6,000
White-winged dove								
IV. <u>Predaceous Birds:</u>								
Golden eagle								
Duck hawk								
Horned owl			60	Resident Population				80
Magpie								
Raven								
Crow	50	5/1	200	8/1	125	8/31		500
Marsh Hawk	20	5/1	75	8-31	75	8/31		150
Red Tailed Hawk	10	5/1	30	7/1-8/31	30	7/1-8/31		75
Sparrow Hawk			6	8/10				15
Sharp Shinned Hawk			4	8/10				15
Coopers Hawk			10	8/1	5	8/31		20
Turkey Vulture			4	5/3				10
Reported by.....								Robert F. Russell

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 Swan Lake

Months of May to August, 1955

(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.
Bob White Quail			11	500					800	
Prairie Chickens									Unknown	None observed on or near refuge.
Wild Turkeys									Unknown	

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.

REFUGE GRAIN REPORT

Refuge Swan LakeMonths of May through August, 1955

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Andrew Oats	150	-	150				0	150		150	0
Balboa Rye	200	12.5	212.5	-	212.5	-	212.5	0			0
Dwarf Midland Milo	139	-	139	-	139	-	0	0			0
Ear Corn	125	-	125	-	-	-	125	125		125	0
Black Wilson Soybeans	400	-	400	-	153	-	153	247	247	-	0

(8) Indicate shipping or collection points Swan Lake Refuge - Summer, Missouri(9) Grain is stored at White Barn(10) Remarks Oats and Milo is two years old and no longer suitable for seed.

*See instructions on back.

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

