

Office Memorandum • UNITED STATES GOVERNMENT

TO : Refuge Manager, Stillwater Wildlife Management Area, Fallon, Nevada
FROM : Regional Refuge Supervisor, Portland, Oregon
SUBJECT: Stillwater Narrative Report, May-August, 1949

I have just had an opportunity to review briefly your May-August, 1949, Narrative Report for the Stillwater area. Aside from the fact that the report was late, it appears to cover very satisfactorily the operations that were carried on during the period.

We are hopeful that you will continue to carry as a historical record in the future reports the construction and development work that will be carried on. This is the one new area in which a concentrated effort is being made to complete the development work on the short-time basis. It will be of interest and value to later review these reports and will serve as a guide for development on other new areas.

Your photographic section was of its usual high character and we are hopeful, too, that this will be continued in future reports. Our only suggestion, again, is that every effort be made to have the future reports submitted by the due date in order that they may serve their best purpose in this and the Central offices.

Kenneth F. MacDonald

Kenneth F. MacDonald

Office Memorandum • UNITED STATES GOVERNMENT

TO : Refuge Manager, Stillwater Refuge,
Fallon, Nevada
FROM : Acting Regional Refuge Supervisor, Portland, Oregon
SUBJECT: May-August Narrative Report - Stillwater Refuge

DATE: November 7, 1949

While we have not as yet had an opportunity to read the May-August Narrative Report recently submitted for the Stillwater Project, we note that only one set of the NR forms were appended to each copy of the Narrative Report. It is necessary to submit one extra copy of each NR form with the Washington office copy of the Narrative Report; these extra copies to be stapled just inside of the front cover. In this instance we are providing the extra copies ~~at~~ the Regional office, but we would appreciate your submitting the extra copies from the field with future Narrative Reports.

Willfred N. Anderson
Willfred N. Anderson

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NARRATIVE REPORT

STILLWATER WILDLIFE MANAGEMENT AREA

MAY - AUGUST
1949

PERSONNEL - Regular

Thomas C. Horn - - - - - Refuge Manager
LeRoy W. Giles - - - - - Biologist

PERSONNEL - Temporary

Illa E. Cross - - - - - Clerk-Typist
Carter S. Hughes - - - - - Mechanic
Earl W. Nygren - - - - - Maintenance Man

I N D E X

	PAGE
WEATHER CONDITIONS	1
WATER CONDITIONS	1
FIRES	2
MIGRATORY BIRDS	2
UPLAND GAME BIRDS	5
BIG GAME ANIMALS	5
FUR ANIMALS, PREDATORS, RODENTS & OTHER MAMMALS	5
PREDACEOUS BIRDS	6
FISH	6
PHYSICAL DEVELOPMENT	6
PROGRESS REPORT	8
REFUGE VISITORS	9
REFUGE PARTICIPATION	11
OTHER ITEMS	12
SIGNATURE	12

I GENERAL

A. Weather Conditions.

Rainfall during the month of May was greater than normal. This month was also characterized by a considerable amount of cloudy weather and a consequent decrease in the rate of evaporation. These conditions tended to prolong the spring period of relatively high soil moisture and marsh water levels. One result was the continued presence of "alkaline slicks" that barred extensive driving in many areas. During the summer months, however, rainfall dropped to zero and one extreme quickly changed to the next.

Rain fell in the Stillwater mountains on July 4th and the marsh areas adjacent received some slight moisture. This rain was not recorded at Fallon where the weather station is located.

	<u>Precip.</u>	<u>Miles of Wind</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>	<u>Mean</u>	<u>Evap.</u>
May	1.84	2447.1	88	31	56.1	5.39
June	0.29	2422.4	93	36	64.8	7.76
July	0.00	1822.6	96	43	71.5	8.32
August	0.00	1743.7	97	44	68.8	7.56
TOTALS	2.13	8435.8	97	31	65.3	29.03

Tabulated weather data secured from Newlands Field Station, one mile south of Fallon

B. Water Conditions.

The dry summer months have resulted in excessive demands for irrigation water. The water requirements have been the greatest in the history of the irrigation district, and have resulted in a heavy drain on the water reserve in the Lahontan Reservoir. The increased use of water has in turn led to heavy run-off, with the result that we had extremely high levels in the Stillwater Point Reservoir. We have had to maintain an outflow of from 80 to 90 c.f.s. which is all that our present ditch structures will stand, and even with the release of this amount, water levels became critically high in August.

The necessity of discharging the water as fast as possible became a handicap at times when water control was needed to facilitate the construction program.

Despite the large quantity of water flowing into the marsh, the

rate of evaporation has been so great that many of the shallow ponds on the lower end of the marsh area are now dry. Water remains in the vast alkali bulrush flat, but it has become very low. A considerable area of margin is now exposed. Many of the desert roads cross the low flat areas which are covered with water during the spring so that the intermittent character of these ponds is quite evidently normal. In all probability, water levels remained higher than usual this year because of the late spring moisture and the large amount of irrigation run-off available.

C. Fires.

There were no marsh fires during the period.

II WILDLIFE

A. Migratory Birds.

1. Population and Behavior

Since this is a newly acquired area, data from previous years is not available for comparison. It is hoped the reader will take this into account as well as the following other facts: At present most of the marsh area is accessible only by boat and by wading. At the beginning of this period, the extent, size and number of ponds were still relatively unknown. Unlike most refuges, the birds are not accustomed to man except during the hunting season. Consequently, they are quick to take to flight, or to cover, at the sight of an automobile or a man.

Two broods of canada geese containing 9 young were first seen on June 9th. It is believed these were the only geese produced on the area. Satisfactory nesting sites will probably have to be provided in order to obtain a sizable nesting population. The broods mentioned above were raised on Foxtail Flat, a pond with a good growth of sago pondweed, (Potamogeton pectinatus), surrounded by cattail, (Typha domingensis and Typha angustifolia). With the two broods were 23 other canada geese, which appeared to be adults. On July 7 the first flock of migrant canada geese moved onto the area, and by August 24, around 7,000 were present at the north edge of the "Nutgrass Area." Two snow geese, which were obviously strays, were seen on June 13. One was again seen on July 7 and August 24th.

Mallards, pintails and gadwalls nested in the surrounding irrigated area, but on the Management Area no sizable nesting population was present. However, the "Nutgrass Area" of the project served as a concentration point for moulting males of these species which were apparently attracted from the surrounding irrigated areas. On June

30th the "Nutgrass Area" contained around 2,000 male pintails, 1,200 male mallards and 700 male gadwalls in various stages of their moult into fall plumage. The latter part of August saw the open water* north of the "Nutgrass Area" with many thousands additional pintails, mallards and gadwalls which migrated in from other breeding grounds. With these birds were also large flocks of green-winged teal, along with smaller flocks of baldpates, cinnamon teal and shovellers. An estimated 250 pairs of cinnamon teal were present on the area during the nesting season, but the only sign of nesting found was one nest and three broods. Undoubtedly more cinnamon teal broods were produced. Probably a few blue-winged teal nested on the area also, as males were occasionally seen during the nesting season--female teals were seen to accompany these males on several occasions, but one cannot be sure they weren't female cinnamon teal.

The principle nesting duck on the area was the redhead. Egg laying took place in June, and the first broods appeared on June 23rd. Downy young were seen through to the middle of July. Nesting was almost entirely limited to the shallow ponds and the "Nutgrass Area" (see plate) of the northern part of the project where an abundance of sago pondweed is present. Out of a total of 65 broods, only six Class III broods were seen. These contained an average of only 1.3 young while Class I broods averaged close to seven. The "Nutgrass Area" and the open water to the north was also a concentration area for male redheads after the egg laying period. Few redheads were seen after the middle of August.

Flocks of ruddy ducks were seen on the Stillwater Point Reservoir and one of the Indian Lakes from June through August, but the only sign of nesting seen was one brood on June 30 in the "Nutgrass Area."

The coot population appeared to remain the same throughout the entire period. Coots nested on every type of pond found in the project with the exception of the open water area. Flocks of coots numbering 100 or more could be seen through June, as well as July and August. It is felt there is a possibility that many of these birds did not nest.

Western grebe young were seen over the entire project with the exception of the open water area. White pelicans, blue herons, snowy egrets, black-crowned night herons and white-faced glossy ibis feed and rest over the entire project, but nesting of these birds appears to be in other parts of the valley. A blue heron rookery was found bordering the project area in a grove of Fremont's cottonwood, (Populus fremontii).

The only shorebirds which nested on the area for certainty were avocets, black-necked stilts and killdeers. Although no nests or

*Lying to the north of the "Nutgrass Area" is what is locally called the open water, which is a shallow lake of several miles in length at the northeast corner of the project. It lacks emergent vegetation.

young were seen, a few snowy plovers probably nested along the edge of the open water area, where conditions seem ideal for them. Twelve additional species of shorebirds were listed for the period. They can all be considered migrants. The open water area attracted many thousands of shorebirds during the month of August. Dowitchers, western sandpipers, and wilson phalaropes were seen by the thousands. Marbled godwits were seen in the "nutgrass area" as well as the open water by the hundreds. Of local ornithological interest were the large numbers of godwits, the snowy plovers, a semipalmated plover and a lesser yellow-legs.

Both Forster's and caspian terns nested on the project area in limited numbers. The caspian terns nested on a bare island lying in the middle of the Stillwater Point Reservoir. A small colony of Forster's terns was found nesting in the "Nutgrass Area" on an island of matted down alkali bulrush (Scirpus paludosus). As far as known, ring-billed gulls use the area only as a resting and feeding area. Population numbers of gulls and terns remained constant throughout the period.

No mourning doves were known to have nested on the project, although they were present through June in the cottonwoods surrounding the Indian Lakes. The mourning dove population increased during July and August with birds which came in from other areas. During these months mourning doves were seen over the entire project.

2. Food and Cover.

An abundance of sago pondweed is found over the north part of the area, but is lacking, or grows sparingly, in the deep ponds where muddy irrigation water enters at the south end of the project. Since the south end of the project also lacks emergent food plants, food can be considered a limiting factor here for waterfowl. In addition to an excellent sago pondweed growth, the north part of the area contains an extensive growth of alkali bulrush in what is known as the "Nutgrass Area." (See plate). Here this plant averages five feet in height in many places, and individual plants six feet high are not uncommon. Seeds from these plants began falling the last part of August. Wigeongrass (Ruppia maritima) completely covers the open water area along with several species of muskgrass (Characeae). Dwarf spikerush (Eleocharis parvula) grows along the edges of the shallow ponds lying west of the "Nutgrass Area." Young carp and other pond fishes furnish an abundance of food for grebes, pelicans, blue herons, snowy egrets and black-crowned night herons. Heavy growths of cattail, hard stem bulrush (Scirpus acutus) and alkali bulrush furnish an abundance of marsh cover over the project with the exception of the open water lying north of the "Nutgrass Area". Lack of cover here prevents nesting.

3. Botulism.

No botulism cases were seen during the period, although ideal botulism conditions seemed present on the open water. Since no water control structures have been constructed, precautionary or corrective steps could not be attempted. Local people tell of botulism outbreaks during previous summers.

4. Lead Poisoning and Other Diseases.

See disease form. Corrective steps could not be taken as the nature of the disease is not understood, nor did it affect enough birds to be considered of major importance.

B. Upland Game Birds.

Although an abundance of ring-necked pheasants and valley quail are found in the surrounding irrigated area, suitable habitat for upland game birds is not yet present on the project. A male and female valley quail with 15 downy young were seen along the edge of a row of cottonwood trees surrounding Cottonwood Lake, one of the Indian Lakes group lying west of the marsh area. These are the only upland game birds seen on the project.

C. Big Game Animals.

No big game animals have been seen on the project.

D. Fur Animals, Predators, Rodents, and Other Mammals.

Muskrats are found over the entire project where there are permanent ponds. Deep ponds with a heavy growth of cattail and hardstem bulrush carry the heaviest populations. Muskrats are almost entirely lacking in the "Nutgrass Area" since this area dries up towards fall. Nowhere is there a heavy population. No recent houses have been seen, and it is felt the muskrats use bank burrows almost entirely. Muskrat food on the area consists of cattail rhizomes and stems of hardstem bulrush. It is hoped the rats brought in from Tule Lake during the spring will increase the population.

Coyotes range over the area, and are the only mammalian predator seen. Fresh tracks are seen every day one spends around the marsh area, and their howling is heard almost every night. Twenty-one coyote scats were examined. All but three of the samples contained duck feathers and bones. Muskrat hair was found in several of the scats.

The antelope ground squirrel (Citellus l. leucurus) is a conspicuous inhabitant of the salt brush and greasewood desert. Black-tailed jack rabbits (Lepus californicus deserticola) are abundant over much of the project. A few Nuttall cottontail (Sylvilagus nuttallii grangeri) are also present.

E. Predaceous Birds, including Crows, Ravens and Magpies.

Eagles, red-tailed hawks, accipiters, duck hawks and other predaceous hawks are uncommon on the project. Marsh hawks are found in abundance, but are not believed to be a predator on waterfowl. Horned owls are scarce on the area, or do not occur at all. No crows have been seen. A flight of twenty-two ravens passed over the area on June 7th and four were seen on August 23rd. These were the only ravens seen on the project. Magpies were not seen over the marsh area, although they were common in the surrounding irrigated area. A few magpies probably nested around the Indian Lakes, which lie west of the marsh area. At present avian predators cannot be considered important on the project.

F. Fish.

No studies were made of the fish on the project during the period.

On June 19, 1949, 5,000 large mouth black bass were planted in the Stillwater Point Reservoir by the Nevada State Fish and Game Commission.

Known species present in the Management Area at the present are:

Large Mouth Black Bass
Bullheads
Channel Catfish
Bluegills
Crappies

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

The early part of this period was spent in getting in, and overhauling, equipment. Unfortunately funds ran out early in May when we should have been centering all our activity on getting ready for the start of work on July 1st. In mid-June limited additional money was made available and equipment repair was gotten

under way again in the last 2 weeks in June.

In early July, with funds available both from Government sources and from the Nevada State Fish and Game Commission PR Project 5-D-1, work was started as quickly as possible.

On the 8th of July the Lima dragline was unloaded, some work done on it, rigged, and moved to Stillwater on the 15th on a trailer.

Procurement of dragline mat material was completed, and the construction of these well under way at the end of July.

On the 18th the Lorain dragline started the long walk to Stillwater after it was found there were no trailers in the country large enough to haul it.

Needed parts were in for the elevating grader, and repairs to it were under way.

Soil conditions for dragline travel were explored along the south end of the Hunter Drain and Canal and found to be too soft to move the Lorain and Lima on. (Subsequent trouble here with the Lima confirmed this opinion).

About August first, the elevating grader, after repairs were completed, started for the Paiute Canal and excavation was under way. Extensive clearing for this canal was necessitated by heavy brush.

As soon as the Lorain dragline arrived at the gravel pit road crossing on the Foxtail Channel, work was started placing culverts for a crossing for the draglines and gravel trucks. At this same time Stillwater Point Reservoir was about to overflow and the P&H, 1/2 yard dragline, was started on lengthening and enlarging the dike along the northwest shore of the Reservoir. When outflow on the Reservoir was out off, to install culverts for the gravel road crossing, water elevation raised 1/2 inch per day. Lee-way, before the dike was started, was about 2 inches from overflow.

Trouble in holding the culverts in the Chammel delayed the draglines crossing further. Finally a channel was dug, a pump obtained and the channel dewatered, culverts placed, backfill made and the crossing completed.

Through this time the broken down Lima was repaired by rebushing the hubs of the main drive sprockets previously worn out. We found travel impossible after it had moved 3 miles.

The gravel pit road, through this time, was under construction, and it was found that a water tank was needed to stabilize the sandy soil over which the trucks had to travel. A pontoon was secured

from Tule Lake and converted to a road sprinkler of 1,400 gallon capacity. A rented pump was used for filling the tank.

On August 15th the Lima and the Lorain crossed Foxtail Channel on the gravel pit road and excavation started the next day. About the same time, gravel hauling over the new road started.

Samples of concrete aggregate were taken to the State Highway laboratory for testing. Salt or alkali content were found to be practically nil.

Trouble developed in the Lorain shortly after it started work, and some time was lost in installing new clutch and brake linings.

The elevating grader completed the Paiute Canal about August 20th, and moved to the high spots in the Hunter drain.

Although we encountered trouble from every unexpected quarter; broken down draglines; soft ground; too much water in the Reservoir; roads too sandy to travel on; shortage of funds early in the report when they were critically needed for machine repair in preparation for a July first start; and many other tough breaks, when August 31st came we had:

Graded 2 miles of the Hunter Road;
Hauled 2,296 yards of gravel to the Road;
Moved 47,713 yards of dirt in completing the
excavation on the Paiute Canal and in
starting the excavation on the Hunter Road.

With operators becoming more accustomed to draglines they had never seen before, all machines in better condition and soil conditions improving, the next quarter holds promise of extensive accomplishment.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report.

The eventual impoundment of the Stillwater marsh will result not only in deeper water in some places, but also more permanent water in others. These changes will also be reflected in the growth of the marsh vegetation. Where the water is deepened there may be changes in composition or merely a migration of the present zones toward the new shore lines. In areas where the water supply is changed from intermittent to permanent, it may be expected that the present species which are adapted to alternate flooding and drying will be replaced by others of a less hardy nature.

Such changes will become apparent over a period of years and in order to adequately measure and define these anticipated trends, we are establishing a series of vegetational study plots. At the present time, August 18th, three such plots have been established. Two of these are 3-foot square quadrats; the third is a line transect which crosses a bare "flat" at the edge of the marsh. This flat will be flooded, or at least partially watered, when Foxtail Flat is impounded, and it is one of the areas where a planting of Scirpus americanus will be tried.

VI. PUBLIC RELATIONS

B. Refuge Visitors.

The following visitors were received in Fallon:

- May 2 - Summer Hatch, District Conservationist and Grayson E. Murphy, Soils Scientist, Yerington, Nevada - 2 hours. Conferred on pasture plantings.
- May 5 - Mr. Jacoby arrived to spend two days running surveys.
- May 11 - Preston Hale, Mammal Control Supervisor, Reno, Nevada, spent the afternoon going over our Refuge Area.
- May 16 - Phil Hiibel and Harry B. Richards, Truckee-Carson Irrigation District, spent three hours in conference on water management and canal structures.
- May 26 - Mr. Larry Chambers, Consultant Engineer for the State Fish and Game Commission - 1 1/2 hrs. Development plans and work program were discussed.
- May 27 - Vernon Ekedahl, Refuge Manager, Sacramento, California. Delivered the Gallion Road Grader.
- June 2 - Baine Cater, Refuge Manager, Ruby Valley, Nevada - 4 hours. Delivered Chevrolet truck chassis.
- June 7 - S. S. Wheeler and Frank Groves, State Fish and Game Commission - 1 day. Out over the Refuge Area.
- June 8 - Mr. MacDonald, Mr. Quick and Mr. Willis, Regional Office - 3 days. Audited accounts, discussed work program and conferred with the sportsmen on the open and closed areas.

- June 9 - Mr. Salyer, Washington, D. C., - 2 days. Conferred with the sportsmen and discussed our work program.
- June 16 - Charles H. Rouse, Biologist, Lake View, Oregon - 3 hours. Delivered panel delivery truck, and went on a brief survey of the Refuge.
- June 21 - S. S. Wheeler, Dan Evans, Jr., Dr. Gabrielson, Committee members for the selection of the open hunting area, spent the day on the Refuge.
- June 23 - Mr. Willis and Mr. Jacoby, Regional Office, - 1 day. Survey of the Hunter Drain.
- June 24 - Fred Evenden and Dan W. Slater, Biologists, spent the day going over the Refuge.
- June 28 - Leonard Springer, Asst. Regional Supervisor, Branch of Federal Aid, spent the day going over the work schedule and out on the Refuge for inspection.
- Mr. Dan Solari, Range Management Asst., Bureau of Land Management, Reno, Nevada - 4 hrs. Conferred on pasture.
- July 11 - Mr. MacDonald, Regional Office, - 3 days. Refuge inspection.
- July 12 - Sheldon Dart, Refuge Manager and Noel Cagle, Dragline Operator - 6 hours. - Delivered dump trucks.
- July 15-- Daniel S. Willey and Victor B. May, Maintenance Men, National Bison Range, Montana - 1 day. Dump truck delivery.
- July 26 - Mr. Elmo See, Traveling Accountant, Federal Aid; Mr. Robert P. Boone, Regional Supervisor, Federal Aid; and Mr. Ludlow, Federal Aid - 2 days. Conferring on the cost accounting for the PR Project and on the inspection of the Refuge.
- August 15 - Mr. Taylor, Washington, D. C., Mr. Willis and Mr. Jacoby, Regional Office - 2 days. Surveying.
- August 17 - Mr. Larry Chambers, Consultant Engineer for State Fish and Game Commission - 4 hours. Conferred on concrete structures.
- August 29 - John L. Sypulski and Fred G. Evenden, River Basin Studies, Sacramento, California - 1 day. Refuge inspection.

C. Refuge Participation.

The following meetings were attended through the report period.

- May 4 - County Commissioners and U.S. Navy representatives regarding the gunnery range north of the Stillwater Wildlife Management Area, at Fallon.

- June 10 - Mr. Salyer, Mr. Quick, Mr. MacDonald were present at a meeting of sportsmen in Fallon for the selection of Refuge and open hunting area on the Management Area.

On the same date a meeting of the above with the Nevada State Fish and Game Commission personnel in Reno relative to management policies.

- June 21 - Met with committee appointed to select open and closed area on Refuge. Selection made with qualification that fresh water be released to the marsh before hunting season.

- June 29 - Met with Leonard Springer, Frank Groves, S. S. Wheeler, on discussion of PR project and the development work on the Refuge. Meeting held in Reno.

- June 30 - Attended meeting of State Fish and Game Commissioners in Reno.

- July 6 - In evening, in conference with William Petherbridge, Manager, Fallon Chamber of Commerce and Ray Fitzgerald and associates, J. Lee Allen, Joe Stallings and H. B. Walkins on discussion of purchase of Kent Tract. They have an option on the tract for \$16,000 and have asked if we'd pay \$32,000 for it.

- July 22 - Met with Larry Chambers, Consultant Engineer, Nevada State Fish and Game Commission at the State Highway laboratory in Carson City, on final information on concrete construction.

- August 1 - Attended meeting of Nevada State Fish and Game Commissioners in Reno.

- August 20 - 27 Attended Regional Office Conference in Portland, Oregon.

VII OTHER ITEMS

Regular personnel on the job through this period were:

Thomas C. Horn, Refuge Manager

LeRoy W. Giles, Wildlife Management Biologist, moved permanently to Fallon from Sabine Refuge, Louisiana, on June 10th.

Illa E. Cress, entered on duty April 11th as Clerk-Typist.

David B. Marshall, Student Assistant, entered on duty June 7th.

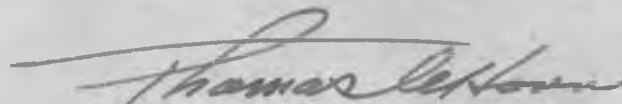
Carter S. Hughes, Mechanic, started work on August 9th, recommended for temporary appointment.

Earl W. Nygren, Laborer, started work on August 16th, recommended for temporary appointment.

The operating crew employed on Nevada State Fish and Game Commission payrolls as of August 31st, PR Project 5-D-1 includes:

- 1 - Construction Foreman
- 4 - Dragline Operators
- 4 - Dragline Oilers
- 2 - Tractor Operators
- 1 - Blade Operator
- 1 - Elevating Grader Operator
- 7 - Truck Drivers
- 1 - Laborer

Submitted November 3, 1949



Thomas C. Horn
Refuge Manager

(1) Species	(2) First Migrants Seen		(3) Peak Concentration	
Common Name	Number	Date	Number	Date
1. <u>Swans</u> : Whistling swan				
2. <u>Geese</u> : Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose	2	June 13	7,000	Aug. 24
3. <u>Ducks</u> : Mallard Black Duck Gadwall Baldpate Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck	2 6,000 1	 Aug. 22 Aug. 22 Aug. 22 July 20	5,000 1,200 100 20,000 8,000 25 900 400 4,200 2 300	Aug. 22 June 30 Aug. 22 Aug. 22 Aug. 22 June 25 Aug. 22 Aug. 22 July 30 July 21 July 21
4. <u>Coot</u> :			3,000	Aug. 24

3-1750
(June 1949)

(over)

W L
 MONTHS OF _____ to September, 1949

(4) Last Migrants Seen		(5) Young Produced		(6) Total
Number	Date	Broods Seen	Estimated Total	Estimated for Period
7,000	Aug. 24	2	9	7,000
1	Aug. 24			2
500	Aug. 24	5	400	6,400
200	Aug. 24	9	300	1,500
20	Aug. 24			100
200	Aug. 24	1		22,000
50	Aug. 24			8,000
				25
800	Aug. 24	3	200	1,500
25	Aug. 24			600
5	Aug. 19	65	2,000	4,200
2	July 22			3
250	Aug. 23	1		300
3,000	Aug. 24	20	1,500	3,000

Form NR-1

54,630

SUMMARIES

Total Production:

Geese 9
 Ducks 2,900
 Coots 1,500

Total waterfowl usage during period _____

Peak waterfowl numbers 54,630

Areas used by concentrations Open water north of
"nutgrass Area" and "Nutgrass Area"

Principal nesting areas this season shallow ponds at
north end of project and "Nutgrass Area"

Reported by David B. Marshall

INSTRUCTIONS

- (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) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: 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 in the reporting period.
- (5) Young Produced: 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.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)Refuge Stillwater Wildlife Mgt. Area Months of May to September 1949

(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>										
Eared Grebe	2	June 8	40	June 15						40
Western Grebe			300	June 30				150	300	450
Pied-billed Grebe			40	July 5						40
White Pelican			800	July 1						800
Farallon Cormorant	1	June 6	60	Aug. 5						60
Blue Heron			140	June 30						140
Snowy Egret			250	July 28						250
Black-crowned Night Heron			200	June 23						200
American Bittern	1	June 7	10	July 1	1	Aug. 18				10
White-faced Glossy Ibis			1,000	July 15						1,500
Virginia Rail	1	June 8	100	July 15						100
Sora	1	July 11	200	July 20						200
II. <u>Shorebirds, Gulls and Terns:</u>										
Snowy Plover	4	July 15	10	July 18	6	Aug. 22				10
Semipalmated Plover	1	Aug. 22	1	Aug. 22	1	Aug. 22				1
Killdeer			150	Aug. 15				30	75	150
Wilson Snipe	4	June 10	4	June 10						25
Long-billed Curlew	4	June 7	4	June 7	1	July 7				8
Spotted Sandpiper	1	July 28	1	July 28	1	July 28				1
Willet	3	July 17	3	July 17	3	July 17				50
Greater Yellow-legs	1	Aug. 22	4	Aug. 23	4	Aug. 23				25
Lesser Yellow-legs	1	July 28	1	July 28	1	July 28				1
Least Sand Piper	2	July 11	100	Aug. 24	100	Aug. 24				500
Dowitcher	400	Aug. 22	3,000	Aug. 24	2,200	Aug. 24				6,000
Western Sand Piper	2,000	Aug. 22	2,000	Aug. 22	400	Aug. 24				5,000
Marbled Godwit	14	July 18	200	Aug. 22	5	Aug. 24				600

(over)

(1)	(2)		(3)	(4)		(5)			(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove			400	Aug. 15					400
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow	5 22	June 16 June 7	15 22	July 15 June 7	4 Aug. 23				15 22
II. <u>Continued -</u> Avocet Black-necked Stilt Wilson Phalarope Ring-billed Gull Forster's Tern Caspian Tern Black Tern			800 1,200 4,000 200 100 88 3	July 28 July 28 July 15 June 15 June 12 Aug. 5 June 30	6 40 5 1 15 25 1	Aug. 24 Aug. 24 Aug. 24 Aug. 23 Aug. 19 Aug. 24 Aug. 22	150 150 300 400	1,000 1,500 5,000 400	
	6 6 15 3	June 7 June 8 June 12 June 30					1 1 10 11	20 15	100 88 10
Reported by <u>David B. Marshall</u>									

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

161

Refuge Stillwater Wildlife Mgt. AreaMonths of Mayto September, 1949

(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.
Valley Quail	6 acres, cotton- wood, lake shore	6	1	4					10	Only 2 adults with young seen

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 Stillwater Wildlife Management Area Year 1949

Botulism

Lead Poisoning or other Disease

Period of outbreak None observed

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease UnknownSpecies affected Ring-billed Gull

Number Affected	Actual Count	Estimated
Species		
<u>Ring-billed Gull</u>	<u>8</u>	<u>30</u>
_____	_____	_____
_____	_____	_____

Number Recovered None known to have recoveredNumber lost 30 is estimatedSource of infection unknownWater conditions GoodFood conditions Good

Remarks A post mortem was made on several birds. Digestive tracts were empty except for a greenish fluid. Death apparently slow and covers several days, as the birds weaken gradually. The birds examined lacked fat. Parasites were lacking.

Refuge Stillwater Wildlife Management AreaYear 1949

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	
Large Mouth Black Bass						5,000	Stillwater Point Reservoir	

REMARKS:



Mamma Honker leaves the nest which she has
constructed on muskrat house.



M-38. Shallow ponds which lack a heavy border of cattail such as this supported a large number of redhead broods. These ponds are typical of the northern part of the project, and support a heavy growth of sago pondweed. Toward the end of July they begin drying up. Alkali bulrush (Scirpus paludosus) in foreground. Clumps in background are hardstem bulrush (Scirpus acutus). Stillwater Range in background.



A growth of alkali bulrush (Scirpus paludosus), locally called "Nutgrass", in the "Nutgrass Area".



Lima on Hunter Drain



Spreading gravel on Hunter Road



Elevating Grader cut on Palute Canal.



The Concrete Crew assembling forms



The Lorain down for repairs



P&H loading gravel on dump truck for Hunter Road



HD-14 and blade breaking down dragline spoil bank for Hunter Road