

NARRATIVE REPORT  
SABINE NATIONAL WILDLIFE REFUGE  
SULPHUR, LOUISIANA  
JANUARY, FEBRUARY, MARCH, APRIL, 1963

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

NARRATIVE REPORT

SABINE NATIONAL WILDLIFE REFUGE

ST. LEBLANC, LOUISIANA

JANUARY, FEBRUARY, MARCH, APRIL, 1963

JOHN R. WALTHER .....	REFUGE MANAGER
JOHN A. MC CANN .....	ASSISTANT MANAGER
CLYDE A GOINGS.....	CLERK
JOHNEY MOUTON.....	MECHANIC
FLOYD SILVER.....	MAINTENANCEMAN
DEWEY PORTIE .....	MAINTENANCEMAN

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OTHER ITEMS: NR-1; NR-1a, NR-2; NR-4

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I. GENERAL

A. Weather Conditions.

Precipitation

	<u>This Month</u>	<u>Normal</u>	<u>Maximum</u> <u>Temperatures</u>	<u>Minimum</u> <u>Temperatures</u>
January	3.10	3.81	73	20
February	4.35	3.87	74	25
March	.59	2.96	88	37
April	.52	3.70	82	44
Total	8.56	14.34	Extremes 88	20

Precipitation was only slightly more than one-half that normally expected and only one-quarter of an inch more than that of last year for the period. This is a drought condition for the area. The maximum temperatures were approximately the same as those of last year. The average minimum temperatures were much lower than last year during the first three months of this period.

B. Habitat Conditions.

1. Water.

The water levels in Pool 3 declined for the third consecutive year. The final April reading at Spillway 1 was 1.81 feet. Not since 1956 has the water level of the pool been so low at this time of year. Most of the pool has water of less than two inches covering it. The old plant stubble is now standing six to ten inches above the water surface.

Pool 1b now holds less water than it did in April of a year ago. Wading bird usage has greatly increased with the lowering water level. The late April gauge reading was 2.68 feet for the unit.

The unmanaged water areas of the refuge are completely dry and cracks are forming on many of the pond bottoms. We have noted some alligator holes that showed no surface water in them. Continuous strong SE winds coupled with the drought have blown Gulf waters into all refuge canals.

## 2. Food and Cover.

Waterfowl were not present in sufficient numbers to utilize the food plants available on the refuge. A host of lingering ducks possibly remained because of the excellent food supply thus provided.

The drying up of shallow ponds has greatly reduced the aquatic food plants normally present on the refuge. Only the deep watered areas in Pool 3 and 1b continue to be productive and unless sufficient precipitation is received to replenish ground and surface water these areas will be our only source of aquatic foods.

The wetter emergent species, such as Eleocharis, are being killed back by the drought. On Unit I, Sagittaria, which occupies the former sawgrass areas, appears to have its growth retarded from lack of precipitation. All other plants are starting to show the effects of this continued drought.

## II. WILDLIFE

### A. Migratory Birds.

#### 1. Waterfowl.

The southwestern coastal marshes of Louisiana wintered a greatly reduced waterfowl population when compared to last year. Refuge weekly inventories for the period revealed an additional decline in birds which started in mid-January. As reported last period, the waterfowl concentration which normally winter in these marshes apparently stayed in the rice fields to the north and east of here for they were definitely in Louisiana as shown in the Mid-Winter Inventory but not in the coastal marshes of Cameron Parish.

A comparison of the weekly census figures between this and last year shows the drastic reduction that occurred in waterfowl usage and numbers. The average decline in the total number of geese was 86 per cent. Ducks declined an average of 87 per cent from last year. Coots had an average decline of 57 per cent.

The peak number of geese was only two-thirds that of last year and the total days use for geese was only one-third as large as the previous year. Ducks totalled only slightly more than one-half the peak number of last year and the total days use was only two-thirds of that for the previous year. Coots were present in number only one-half as large as last year and the total days use amounted to slightly more than one-third that for 1962.

Ducks species were present in the following order of abundance as shown by waterfowl days use: Pintail - greatest number of days use but only one-third that of last year; Shoveler - second in days use, but only two-thirds that of last year; American Widgeon - third in total use days, but only one-third that of the previous year; Gadwall and Mallard both only one-half the total days use when compared to last year; the above were followed by these species in lesser number; Green-winged Teal, Blue-winged Teal, Black and Scaup.

The total use days for Canada geese was one-third greater than last year. They are the only species of waterfowl to show an actual increase over last year. The peak number of Canada geese was almost double that of last year.

White-fronted geese were present in very reduced numbers with only one-fifth the total use days recorded for last year.

Blue and Snow geese were present in mixed flocks with varying ratios of 3 to 1 and 4 to 1 (ratio: Blue to Snow). The limited use of coastal marshes by these two species is becoming a concern to us. The "holding" of these marsh feeding species in the agricultural areas of Louisiana and the continued deterioration of coastal goose marshes are causing a change in the food habits of these birds which may never be reversed. The improvement or natural return of good goose areas may never hold the attraction that they had in former years. Blue and Snow geese recorded a total use days number of only one-third that of last year.

Coots followed the downward trend of other species of waterfowl present on the refuge. The total use days for coots this year were two-thirds less than those recorded for last year.

The effect of migration was a very gradual force in reducing bird numbers until the second week of March. The movement of waterfowl off the refuge started in mid-January and continued throughout the period, but we believe this was not the result of migration but of drought and other factors. The majority of the ducks had left the refuge by March 27, and all geese had left the area as of that date.

A larger than normal number of ducks lingered past their usual migration departure dates and many were present until the end of this period. Species still present include Shoveler, Mallard, and Scaup. Reports of some Pintail off the refuge have been received.

Blue-winged Teal and Mottled Ducks were nesting at the close of the period.

The Shell Hill Heronry is active with a small number of birds present at the site. A total of 125 Roseate Spoonbills were seen but were known not to be nesting there at the close of the period. Nesting species include: Great Blue Heron: 8 pairs, Common Egrets: 40 pairs, Snowy Egrets: 10 pairs, Olivaceous Cormorants: 150 pairs.

A number of large heronries are located in the bullwhip, Scirpus californicus, in the southwest corner of Pool 3 and can only be reached by air. An aerial survey at the end of April revealed the following species and numbers present: Common Egrets: 2,000 pairs, Snowy Egrets: 500 pairs, White-faced Glossy Ibis: 2,500 pairs, White Ibis: 2,500 pairs, and Roseate Spoonbills: 20 pairs. No young birds were noted during the April survey flight or the ground check at Shell Hill so all production will be shown in the narrative report for next period.

B. Upland Game Birds.

Nothing to report.

C. Big Game Animals.

An aerial waterfowl census of February 8 revealed that many deer which are normally seen on the levees were deep in the marshes. The drying up of the deeper marshes and lack of insects has allowed deer to remain and utilize these wetter areas.

D. Fur Animals, Rodents.

1. Muskrat.

There was no indication of an increase in muskrats during this spring. Small nuclei of rats are to be found in East Cove, the south line of Unit 4, and West Cove area between headquarters and Central Canal. Only at East Cove were noticeable dens constructed and a total of seven houses were seen by refuge personnel.

Thirty-five muskrats were accidentally taken by our trappers and of these over half were kits or young animals.

2. Mink.

The continued drought conditions allowed mink to remain in the deeper marshes and lowered the chances of trappers success. The number of young mink and females in our total catch was noticeably above that of last year.

Most of the pelts indicated that the animals were in good condition at the time of harvest.

3. Otter.

The trapping quota of 100 animals was exceeded by five this trapping season. The abundance of otter in the canals, the fact that both nutria and otter were taken in trail sets, and the pelt value were all factors contributing to the harvest success.

The ratio of small to large pelts was about even with a few more large animals being taken. All fur was in good condition.

Otter are still being seen regularly in the canals but this may be the result of drought rather than other reasons.

4. Raccoons.

The increased value of 'coon pelts was an incentive for trappers to make real effort to catch 'coons and to save the pelts; thus the harvest of 'coons this year was at an all time high for recent years. The harvest of raccoons is directly tied in with the value received by the trapper for the pelts and there is little that can be done to alter this situation. Pelts were prime and indicated that the animals were in good condition at the time of harvest. Continued observations since the close of trapping season indicates that the refuge population is still high.

5. Nutria.

The nutria population on the refuge was much smaller than estimated this last fall. Our trapping harvest was only one-half that of last year. Few nutria were seen or heard after the close of trapping operations.

The factors affecting the reduction in number were reported last period and we believe that in addition to these there is the possibility of disease mortality as yet undetermined that is also acting as a control factor.

After the close of trapping and through the remainder of this period we have noted dead nutria in the canals which show no visible causes of death.

The quality of fur harvested this trapping season was the best produced on the refuge to date. This is the result of better conditioned animals and improved pelting techniques of the trappers.

**E. Hawks, Eagles, Owls, etc.**

Two Peregrine Falcons were present until late April and could be observed from the highway on most occasions. From one to three Red-tailed Hawks were present for most of the report period and were normally seen on the Furton Canal and, or the North Line Canal.

**F. Other Birds.**

Migration of passerine species was unusual this year in that the total number of migrants observed was small while their arrival was concentrated into a very brief time span. On April 27, a small front precipitated warblers for a four hour period. The refuge and adjacent Hackberry woods were literally teeming with species rather than numbers of birds. A single tree in Vincent Woods (Hackberry) was observed with 14 species of warblers feeding at one time in it. Several of these species normally do not arrive within three weeks of each other. Species observed were: Parula, Redstart, Blackburnian, Cerulean, Black-and-White, Blackpoll, Black-throated Green, Bay-breasted, Chestnut-sided, Kentucky, Golden-winged, Blue-winged, Canada, and Magnolia Warblers.

**G. Fish.**

The drought has drastically reduced the fish population on the refuge. Pool 3 has been without surface water over the marshes for almost a year. Concentrated fish numbers in the canals, bayous, and natural lakes are at a static level. The rough fish species appear to be more abundant than the game species.

The number of spawning gar fish in refuge canals has not been as great as normally is expected. Factors effecting this reduction include more brackish waters and lack of marsh water areas to spawn in.

## H. Reptiles.

The abundance of alligators is still apparent on the refuge. A minimum of 1000 alligators may be seen at night in the borrow ditch canals of Pools 1a, 1b, and 3. We know of several large alligator holes in the marshes where counts of 42, 21, and 15 alligators of several age classes have been seen. The prolonged drought has restricted production for the last three years as more 4' and 5' alligators are seen than reptiles of the 2' and 3' sizes.

## I. Diseases.

Nothing to report.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development.

All water pipes of the headquarters fire fighting system were replaced and extensions added to provide protection to the service buildings and residence # 48. A power supply unit, air cooled, with electric starter was obtained from surplus sources to replace the present unit powering the fire pump. This will allow the fire system to be operated by any adult at any time.

The cistern supplying fresh water to the office, which was located behind the building, was removed and the office building was connected to the main fresh water cistern.

The hurricane levee repair contract for Pool 3 was completed on April 24, 1963. A total of 12,502 feet of levee was rebuilt with a single casting and 22,370 feet was completed as finished levee. The total cost of this work was \$28,638.79.

Fence repair work being done with hurricane funds was continued throughout this period. A total of 18 miles of fence were re-constructed plus the maintenance of equipment used on this work.

A water softener system and a water chlorinator unit were ordered for installation on the main well at headquarters. The water tests 592 P.P.M. chloride which gives a flat taste but is palatable to drink.

The repeated freezes during January and February required the thawing out of water pipe lines daily. We were fortunate in that only one line broke from these freezes and we were able to replace it immediately.

The public fishing area at Pool 1b was again fenced to restrict the usage to the highway bridge area. The grass was burned to remove the heavy duff and two trash barrels installed for public usage.

The contract for a 26' steel-hulled boat was awarded Sewart Seacraft and construction was almost completed this period. The refuge manager made weekly trips to their yard to inspect work progress on the unit.

Another item of new equipment obtained this period was a patrol boat constructed by Winner Boats, Inc. It is a 16' fiberglass hull with a 140 hp. interceptor engine. This extremely fast unit will be used for patrol activities over the refuge.

Replacement of the 6 cylinder engine in FWS 140 with a V-8, 185 hp. engine was accomplished this period. A complete overhaul of the engine in FWS 189 was necessary to allow its continued operation.

Major items of excess property obtained for the refuge includes: 1-1/2 ton wrecker, 22' aluminum tug boat, electrical power supply, 1 ton derrick, 6 pair of binoculars, and a 15 GPM salt water pump.

Two motor vehicles were transferred to the Louisiana Surplus Property Agency and they now have two draglines on freeze order prior to picking them up.

Routine maintenance of equipment, buildings, and signs: patrol activities, supervision of trapping operations and fur sales, administrative duties, public relations, and oil field inspection consumed much of the time of refuge personnel.

## B. Planting.

### 1. Aquatic and Marsh Plants.

Spartina patens was replanted on 3.5 miles of levee on the north and west sides of Pool 1a during this period. Drought conditions last year killed the plants before they became established. The stock this year was obtained from dense stands in the immediate area. The cap and the inside toe of the levee were planted where needed. Dry conditions during the period caused some sprigs in the more exposed areas to die. Approximately 50 per cent of the plants are still alive and growing.

In consideration of last years recommendations, the planting was initiated in early February and was finished by mid April. In April the areas planted to Spartina were fertilized with 12-24-12 fertilizer, spread from a hand spreader.

Approximately 25 pounds of hulled Bermuda grass seed was used to overseed the levee planted with Spartina. To date, due to the dry conditions, no germination of this seed has been noted. Another 25 pounds of hulled Bermuda seed was sown on the cap of the new levee along the west margin of Pool 3. This area was about 4 miles long.

Approximately 7-1/2 miles of new levee on the west end of Pool 3, previously mentioned, and 3 miles of levee on the southeast corner of Pool 3 were also fertilized.

C. Collections and Receipts.

1. Seeds and Propagules.

Fifty pounds of hulled Bermuda grass seed was purchased locally for planting on the new levee as well as over the Spartina replanting.

2. Specimens.

None.

D. Control of Vegetation.

None this period.

E. Planned Burning.

Burns, to open up the marsh vegetation and to increase animal usage, were attempted in Units 2, 4, 5, and East Cove with little success. Marsh and atmospheric conditions were such that a good fire and burn could not be obtained.

F. Fires.

None this period.

#### IV. RESOURCE MANAGEMENT

A. Grazing.

The marshes, within the grazing units, appear to be in good condition. Vegetation in all units grazed was opened up in varying degrees, thus providing better habitat for the waterfowl.

In several units, greater grazing pressure would probably be desirable to further open up the vegetation. Few cattle were lost due to adverse weather conditions. The mosquitoes were not bad during the period. Toward the end of March, there was a shortage of fresh water on the refuge.

Six permits were in effect last winter which allowed the grazing of 1,224 animals on 6 major units. All cattle were removed from the refuge on or before April 15th. A total of \$1,725.86 was collected for the grazing of these animals.

#### B. Fur Harvest.

Five permits were issued to trappers this last season. Each permittee was allowed additional helpers to handle his area and catch. All told 14 men took active parts in the trapping and handling of the animals and hides in the marsh. In some cases, additional help was received in handling of the hides after their removal to the processing areas.

The overall catch of nutria this season was 51 per cent lower than last year; the average income to the trappers was only 31 per cent lower. Trappers continued to sell the nutria meat at \$.05 per pound. The trappers at Main Camp again hired a cook.

Only 909 nutria, as opposed to 6,100 for last year, were discarded because of excessive damage to the pelt or being undersize. Few kits were caught until after the first of the year. Heavy mosquito production and drought conditions were believed to be two factors that reduced nutria production last summer. The last trapper moved from the refuge on March 10.

The following table shows the fur harvest by trapping units for the 1962/1963 season:

Camp	Mink	Nutria	Discarded			
			Nutria	Muskrat	Otter	Raccoon
Gate Camp	41	1840	142		20	97
Club House	171	4859	307	13	44	353
Willow Bayou	30	1876	321		23	154
East Cove		2396		15		1
Chinaberry	48	2911	139	7	18	283
Totals	290	13,882	909	35	105	888

The following table shows the trappers' share; the average prices and the total income received by the trappers.

Species	Trappers' Share	Average Price	Income
Muskrat	18	1.50	27.00
Mink	172	4.92	846.25
Otter	64	14.28	911.70
Raccoon	889	1.54	1370.60
Nutria	12,487	1.80	22,462.91
Total			25,618.66
Income 1962	34,352.90	Nutria 1962	32,476.60
Income 1963	25,618.66	Nutria 1963	22,462.91
	8,734.24		10,003.69

No reports have been received on the prices obtained for the Government's share of the hides.

#### C. Commercial Fishing.

Twelve fishing permits were issued this period to individuals wanting to net rough fish, mainly gar, in the refuge canals, bayous and Brown's Lake. At this reporting, a total of 8,470 pounds of gar fish have been removed. The fish averaged about 9 pounds apiece.

#### D. Alligator Removal.

No alligator harvest has been conducted this year because of the continued closed season in Cameron Parish.

#### E. Other Use.

##### 1. Oil Activity

During the early part of this period, the Texaco Company seismic crews continued to rework all the marsh west of the road. A Texaco well is being drilled just north of the refuge in Section 5, R 10W, T13S

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

The following reports were completed by Management Biologist Valentine and have already been submitted to the regional Office.

"Grazing on The Sabine National Wildlife Refuge" dated December 30, 1962.

"The Use of Aerial Photographs to Study the Effects of Grazing", dated March 13, 1963.

## VI. PUBLIC RELATIONS

### A. Recreational Uses.

The refuge was opened to the public on Friday, March 15th. Initially, fishing pressure was not heavy. Approximately 300 people fished the first 3 days. The fishing pressure has become steadily lighter since then, due primarily to the poor fishing success. Last summers drought, cold water temperatures, and abundant aquatic organisms were cited as the reasons for the poor fishing success. Recently the affects of last summers drought on the fish has become apparent.

We have had a number of birders visit the refuge, particularly on the week end of April 27th and 28th. On these dates, the Louisiana Ornithological Society held its annual spring meeting in Cameron.

Many people enjoyed sport fishing and observing and photographing wildlife from the roads and canals after the refuge opened.

Blue crab fishing was the major recreational endeavor on the refuge this period. Few large crabs were taken.

### B. Refuge Visitors.

Included in the refuge visitors during this period were the following:

#### 1963

1/9 Messrs. Wayne G. Harris and James Beefe, representatives on Lindsay Soft Water Company, Inc. concerning installing water conditioner at headquarters.

1/11 Messrs. L.A. Sullivan Jr. Lake Charles, La. and Patrick A. Wagner, Beaumont, Texas, (G.S.W.) visit refuge.

Refuge Visitors, Cont'd.1963

- 1/14 State Game Agent Jardell : Law enforcement.
- 1/15 Mr. & Mrs. J.V. Gregory, Dayton, Ohio.: Birding.
- 1/17 Mr. & Mrs. Quich Metcalfe, Natches, Miss. : Birding
- 1/17 Mr. Regnick, Texas Co. : Pertaining to operation of Texas Co.
- 1/25 Messrs. James A Kelley and Omer G. Caldwell, Port Arthur, Texas: Fishing information.
- 2/1 Keith McCartney, Jena, La. : Visit refuge.
- 2/3 John W. Corn, Orange, Texas. Photographing waterfowl and wildlife.
- 2/5 Mr. & Mrs. Donald S. McChesney, Laboratory of Ornithology Cornell University: To study and photograph snow and blue geese activities.
- 2/6 Messrs. Frank Adams and Sam Connelly, Lake Charles American Press: To take pictures of ducks and geese and other wild-life shots.
- 2/11 Mr. & Mrs. E. L. Clark, Wichita, Kansas : Birding.
- 2/13 Mr. Mark Ward, .P.I. Lake Charles: Investigation theft of hoist.
- 2/16 John Gee, Texas Co. New Orleans, La.: Birding and Texaco operation on Unit 1.
- 2/18 Biologist Jacob Valentine: Biological work.
- 2/18 State Game Agent Jardell: Law enforcement.
- 2/20 Mr. & Mrs. Watson Fowle, Traverse City, Michigan: Birding.
- 2/25 Mr. & Mrs. Frank L. Yocorn and r. & Mrs. P.S. Vormelker, Ashtobula, Ohio : Birding.
- 2/27 Biologist LeRoy Giles and Dr. Franklin S. Henika (BRES) To check East Cove and adjacent areas.

Refuge Visitors, Cont'd.1963

- 3/1 Mr. & Mrs. Benjamin W. Thoror, Washington, D.C.: Birding.
- 3/1 Mr. Tony S. Allen, Fishery Reporting Specialist, Port Arthur, Texas: Visit refuge.
- 3/13 State Game Agent L.C. Andrus: Law enforcement.
- 3/13 Biologist John Lynch & Son Richard: Bird survey.
- 3/14 C.V. La Haye, Jr., Representative of the Atlantic Refining Company, Cameron, La. : Concerning sismograph work.
- 3/14 Mr. & Mrs. Herb Koelker, Dyersville, Iowa: Birding.
- 3/14 Mr. & Mrs. Lee R. Herndon, Elizabethtown, Tenn.: Birding.
- 3/20 Mr. & Mrs. Herbert P. Austin, Clastonberry, Conn. and Mrs. Leonard French, West Hartford, Conn: Birding.
- 3/22 Biologist Johny Lynch and son Richard: Bird Survey.
- 3/24 Dr. Ira Gabrilson, Oalston, Va. and Mr. William J. Allen Wildlife Management Institute, Hot Springs Ark: Refuge visit.
- 3/24 Dr. & Mrs. George H. Lowery, Baton Rouge, La.: Visit refuge
- 3/30 Geologist Arthur L. Hodges, jr. : To check water well.
- 3/30 Mr. & Mrs. Lawrence Blackburn, Beaumont, Texas : Concerning fish on refuge.
- 4/2 Biologist Valentine: To attend S.C.S. Meeting.
- 4/18 Mr. & Mrs. John Schmid, Greenwich, Conn. : Birding.
- 4/8 Mr. & Mrs. Edward L. Chalil, Short Hill, N.J. : Birding.
- 4/11 Mr. Gerald Ames and Mrs. Rose Wyler, New York: Birding.
- 4/15 U.S.G.M.A. Carlton and Osbolt: Law enforcement.
- 4/17 State Game Agents Ellis and Jardell: Law enforcement.

Refuge Visitors, Cont'd.1963

- 4/18 U.S.G.M.A. Osbolt and State Game Agents Jardell, Reeves and Andrus: Law enforcement
- 4/18 Biologists Lynch and Andrews : Wildlife research
- 4/20 Mr. & Mrs. William H. Taylor: Trip through refuge.
- 4/25 Mr. Art Sucher, GSA. Dallas: Concerning excess property.
- 4/25 USGIA Osbolt and State Game Agent Andrus: Law enforcement.
- 4/25 Mr. Harry Gates, Lake Charles, La.: Visit refuge.
- 4/27 Henry W. Haberyan, Gulfport, Miss.: Firding.
- 4/27 Miss Christian Bassit, New Hampshire: Visit refuge.
- 4/27 The following members of the Botany Department of Tulane University visited the refuge for marsh ecology field trip:

Dr. Willis A Egglar  
 Lawrence E. Fayless  
 Jerome Shrenia  
 Bill D. Winoton  
 Dennis D. Hugg  
 W.E. Mason Jr.  
 John S. Ramsey  
 P. Adlakahmi  
 Kent Rylander

- 4/27 The following teachers and students from Louisiana State University of New Orleans visited the refuge to conduct sky watch bird migration observation for Louisiana State University:

Dr. Stephen M. Russell  
 Lucia Watt  
 Carol Ann Leal  
 Bennie Strickland  
 Bill Palmisano  
 Richard Alberstadt  
 Mike Poirries  
 Sidney Gauthreau  
 Bill Rock  
 Jimmy La Vergne

Refuge Visitors, Cont'd.1963

4/30 Messers. Hall, Miller, Ball and Valentine: Checking grazing units and discussing the 3 step method and its best use on these areas.

C. Refuge Participation.

Refuge Managers Walther and McCann attended the Louisiana Wildlife Federation Conference in Lake Charles.

Walther, McCann and Valentine, with several River Basin personnel, attended a meeting at the Soil Conservation Services Office in Lake Charles to discuss the proposed water control project, which includes our East Cove area, that is being planned by Cameron-Creole Drainage Districts.

Refuge personnel manned a station for the L.S.U. bird watch study set up all along the Gulf Coast to record bird migrations across the Gulf.

Members of a botany class from Tulane University visited the refuge and were taken on a guided tour.

At the request of the Mosquito Control Commission, we have set up and run an insect trap at the refuge headquarters.

D. Violations.

Following is a list of cases and disposition of cases:

Eddie Rising, 540 Mustang Street, Sulphur, Louisiana.  
Aiding and abetting in violation of Migratory Treaty Act - U.S.C. - 703: Admonishment by District Attorney.

Phillip M. Rising, 540 Mustang Street, Sulphur, Louisiana.  
Violation of the Migratory Treaty Act 16 - U.S.C. - 703  
Admonishment by District Attorney.

Gerois Muller, 361 Mustang Street, Sulphur, Louisiana.  
Violation of the Migratory Treaty Act 16 - U.S.C. - 703  
Fined \$100.00 in Federal Court.

Violations Cont'd.

Oscar Lewis, 1102 Fournet St. Lake Charles, Louisiana .  
Trespassing and fishing on Sabine Refuge during closed season.  
Admonished by District Attorney.

Troy Godfrey, 303 North Louisiana Street, Lake Charles, Louisiana.  
Trespassing a. fishing on Sabine Refuge during closed season,  
possessing fire arms on Sabine National Wildlife Refuge:  
Admonishment by District Attorney.

Joseph Papion, 201 North Lincoln Street, Lake Charles, Louisiana.  
Trespassing and fishing on Sabine Refuge during closed season:  
Admonishment by District Attorney.

Daniel Stout, 1018 William Egan Avenue, Crowley, Louisiana.  
Trespassing and net fishing after hours and without a permit  
on Sabine National Wildlife Refuge:  
Fined \$20.00 in Federal Court.

Clopha J. Comeaux, Rt. 1, Box 30, Crowley, Louisiana.  
Trespassing and net fishing without a permit during closed  
season on Sabine Refuge:  
Fined \$20.00 in Federal Court.

Andrus Arceneaux, Rt. 1, Box 135A, Duson, Louisiana.  
Trespassing and fishing after legal hours.  
Admonishment by District Attorney.

Murphy Arceneaux, Rt. 1, Box 159, Duson, Louisiana.  
Trespassing and fishing after legal hours.  
Admonishment by District Attorney.

Ervin Trahan, Rt. 1, Duson, Louisiana  
Trespassing and fishing after legal hours.  
Admonishment by District Attorney.

Melvon T. Ward, 21 Magnolia Street, Maplewood, Louisiana.  
Trespassing and fishing on Sabine Refuge during closed season.  
Admonishment by District Attorney.

E. Safety.

The regular monthly safety meetings were held. Additional meetings were held whenever the need for one was evident. At each of these meetings, topics sent to us or suggested by the Regional Office were used. Some comments were always made to make the refuge personnel aware of potentially dangerous areas or procedures.

The fire fighting equipment was examined periodically. All personnel were familiarized as to the location of fire fighting equipment. The fire pump was started and the system checked, resulting in the underground pipe system being torn up, replaced and extended to cover additional buildings. An engine with an electric starter was obtained from surplus property to power the fire pump. This engine installation will allow any informed adult to fight a fire at headquarters if it becomes necessary.

A 26 foot steel hull crew boat has been ordered, due early in May, to allow safer travel to East Cove across Calcasieu Lake.

There has been no lost-time accidents on Sabine during this period. Sabine has gone 921 calendar days without a lost-time accident.

## VII. OTHER ITEMS

### A. Items of Interest.

The Cameron - Creole Watershed Plan prepared by the Gravity Districts Nos. 3 and 4 has been discussed on two occasions with SCS and via telephone with several members of the District. Meetings to discuss the East Cove area with SCS were held on April 3 & 4, and April 17. The alternate proposals they are now interested in would apparently be of benefit to the management of East Cove.

The arrival of Refuge Manager John A. McCann on January 7, 1963 filled the vacancy left by the transfer of Mr. Daniels. Mr. McCann has rapidly become a helpful and industrious assistant and is to be commended on his progress.

The refuge canals on at least five occasions this period became too shallow to allow the operation of boating equipment in them. The silting, a result of hurricane water conditions, at major turns and intersections has made these areas much more shallow than the remainder of the canals.

The Regional Conference at Athens, Georgia from April 8-12 was attended by Managers Walther and McCann. The interesting program and exchange of items made it an excellent educational opportunity.

The student trainee at Sabine Refuge last summer, Mr. Keith McCartney, visited the refuge during January to observe water fowl and see the refuge in operation during the winter months.

B. Photographs.

Attached photographs carry descriptive captions.

Submitted by,

*John R. Walther*  
John R. Walther  
Refuge Manager

Approved:

---

W A T E R F O W L

REFUGE Sabine National Wildlife

MONTHS OF January TO April, 19 63

(1) Species	(2) Weeks of reporting period									
	1/1-5 1	1/6-12 2	1/13-19 3	1/20-26 4	1/27-2/2 5	2/3-9 6	2/10-16 7	2/17-23 8	2/24-3/2 9	3/3-9 10
<b>Swans:</b>										
Whistling Trumpeter										
<b>Geese:</b>										
Canada	700	500	400	500	500	600	600	200	100	100
Cackling Brant										
White-fronted	20	00	50	100	75					25
Snow	3000	2200	2000	1500	1000	2500	3500	800	1000	1000
Blue	11,000	9000	7000	6000	4000	6000	4000	2000	2000	2000
Other										
<b>Ducks:</b>										
Mallard	7000	6000	5000	4000	3000	3000	3000	2000	500	300
Black	1500	1500	1000	500	300	200	300	100	50	
Gadwall	0000	7000	6000	4000	3000	2000	2000	2000	600	1000
Baldpate	9000	9000	8000	6000	4000	3000	3000	2000	700	300
Pintail	10,000	11,000	10,000	10,000	7000	5000	6000	6000	1000	400
Green-winged teal	3000	2500	2000	2000	1500	1000	1000	1000	500	500
Blue-winged teal	2000	2000	2000	1000	500	400	500	300	300	400
Cinnamon teal										
Shoveler	11,000	10,000	9000	9500	8000	5000	4000	2500	1000	1000
Wood	10									
Redhead										
Ring-necked	500	600	000	600	400	300	300	200	100	50
Canvasback										
Scaup lesser	500	600	800	500	300	100	50	50	60	100
Goldeneye common	9	9								
Bufflehead	5	7								
Ruddy										
Other Mottled	1000	1000	1200	1000	1200	1200	1400	1400	1400	1200
Hooded Merganser	12	15		12	5					
Common Merganser	10	5	6							
<b>Coot:</b>	19,000	23,000	11,000	12,000	9000	7000	6000	7000	5000	5000

WATERFOWL  
 (Continuation Sheet)

REFUGE Sabine National Wildlife MONTHS OF January TO April, 19 63

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	3/10-16	3/17-23	3/24-30	3/21-4/6	4/7-13	4/14-20	4/21-27	18		
<b>Swans:</b>										
Whistling Trumpeter				8					28,406	
<b>Geese:</b>										
Canada	100	50								
Cackling Brant									2,500	
White-fronted		10							126,535	
Snow	1500	500		5					403,260	
Blue	4000	2100		80						
Other										
<b>Ducks:</b>										
Mallard	100	50	10	3	2	2	2		36,650	
Black									5,450	
Gadwall	600	400	100	50					260,450	
Baldpate	200	200	20						308,940	
Pintail	200	10							456,270	
Green-winged teal	700	500	300	200					113,900	
Blue-winged teal	300	600	400	200	200	200	100		11,400	
Cinnamon teal										
Shoveler	800	700	500	200	100	50	30		432,660	
Wood									600	
Redhead									26,590	
Ring-necked	10	10								
Canvasback										
Scaup, lesser	50	10	10		10	10	8		21,606	
Goldeneye									117	
Bufflehead									191	
Ruddy										
<del>XXXX</del> Mottled	1000	1000	1000	1000	1000	800	800		129,200	
Hooded Merganser									296	
Common Merganser									237	
<b>Coot:</b>	3000	1500	1000	200	150	100	30		644,860	

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans				Principal feeding areas _____
Geese	560,701	21,650		
Ducks	2,096,190	56,925		Principal nesting areas _____
Coots	644,860	13,000		
				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) Productions: 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  
(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)

Refuge Sabine National Wildlife

Months of January to April 1963

(1) Species  Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total Estimated Use
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	
<b>I. Water and Marsh Birds:</b>										
Common Loon	Present		15	1/19	2	4/12				45
Horned Grebe	4	3/21	10	1/12	2	4/5				25
Pied-bill Grebe	Present		300		Present					500
White Pelican	"		320	2/20	"					500
Double-crested Cormorant	"		300	2/20	"					475
Mexican Cormorant	"		525	2/20	"		1	150		750
Ashinga	4	2/1	30		"					55
Great Blue Heron	Present		245	4/26	"		1	35		240
Common Egret	"		5000	4/26	"		4	2000		6000
Snowy Egret	"		1500	4/26	"		3	500		3000
Louisiana Heron	"		230	4/26	"					650
Little Blue Heron	"	3/20	45	4/26	"					85
Green Heron	3	3/20	700	4/26	"					1200
Black-crowned Night Heron	Present	1/24	40	4/26	"					120
Yellow-crowned Night Heron	"	3/10	10	4/26	"					25
<del>Wading Birds - Suborder</del>										
<del>Terns</del>										
American Bittern	Present		8	4/26	"					30
Least Bittern	"	4/1	950	4/26	"					3500
White-faced Glossy Ibis	"		5000	4/26	"		5	2500		6400
White Ibis	"		5125	4/26	"		4	2500		6250
King Rail	"	3/20	900	1/7	"					1450
Clapper Rail	"		1000	2/7	"					2000
Virginia Rail	"		100	1/7	"					250
Sora	"		250	1/7	"					1000
Purple Gallinule	"		50	4/6	"					75
Florida Gallinule	"		150	4/26	"					200
Roseate Spoonbill	"	1/25	150	4/6	"		1	20		200

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	Present	15	4/27		
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven					
Crow	Present	20	2/1		500
Marsh Hawk	"	40	3/15		145
Turkey Vulture	"	9	1/1		30
Black Vulture	"	35	3/16		70
Pigeon Hawk	"	2	3/16		10
Red Tailed Hawk	"	5	3/16		12
Reported by.....					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.

3-1751  
Form NR-1A  
(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)

Refuge Sabine National Wildlife Months of January to April 1963

(1) Species  Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total Estimated Use
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	
<del>I. Water and Marsh Birds</del>										
<b>II. Shorebirds, Gulls and Terns</b>										
Killdeer	Present		600	1/27	Present					1200
Black-billed Grouse	"		120	1/27	"					500
Hudson Snipe	"		1500	2/17	"					2500
Spotted Sandpiper	2	1/20	10	1/26	"					30
Least Sandpiper	30	1/17	150	1/26	"					500
Willet	Present		75	1/2	"					150
Great Yellow-legs	"	2/24	1800	1/25	"					3200
Lesser Yellow-legs	"	2/24	1500	1/25	"					2600
Red-backed Sandpiper	"		50	1/9	"					150
Dowitcher	"	3/20	1000	2/9	"					1300
Semipalmated Sandpiper	"		80	2/19	"					200
Western Sandpiper	"		300	1/26	"					600
Black-necked stilt	"	2/27	150	1/26	"					350
<del>III. Shorebirds, Gulls and Terns</del>										
<b>Terns</b>										
Herring Gull	Present		75	3/15	"					300
Ring-billed Gull	"		250	1/9	"					490
Laughing Gull	"		75	1/26	"					200
Donaparte's Gull	"		15	1/9	"					30
Forester's Tern	"		175	1/20	"					350
Common Tern	"		100	1/20	"					300
Least Tern	2	3/23	25	1/29	"					60
Royal Tern	Present		115	1/26	"					250
Caspian Tern	"		75	1/25	"					130
Black Skimmer	"		250	3/17	"					500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove					
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow					

Reported by.....

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X days present) of refuge during the reporting period.



## 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.

SMALL MAMMALS

Refuge Sabine National Wildlife Year ending April 30, 1963

(1) Species  Common Name	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula tion	
	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	30,000	150		39				T-6521	18	17	17			250
Mink	60,000	10		290				T-6522						4,000
Raccoon	50,000	50		888				T-6523	172	118	118			1,000
Otter	90,000	150		105				T-6524						500
Nutria	139,000	1-1/2		14,791				T-6525	888	0	0			15,000
Trappers Income: Chinaberry.....\$ 6,223.20 Willow Bayou .... 2,791.75 Gate Camp ..... 2,623.91 East Cove..... 4,728.30 Club House,..... 9,251.50 Total income for furs \$ 25,618.66 Income from sales of carcasses \$2,700.00 (Approx.)													Permittees sold carcasses to mink food processors.	

\* List removals by Predator Animal Hunter

REMARKS:

## 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.



Aerial Views of Reconstructed Plug (Pool Side)  
at Old North Bayou on South Line of Pool # 3.





Manager McCann Making Daylight Observation for LSU Migration Studies.



Bureau and Forest Service Personnel Conducting Field Discussion of Grazing Studies to Improve Our Program on the Refuge.



Shell Hill Heronry - Pool 3, With Small Population  
of Nesting Birds.



East Cove Marshes Drying Up Due to Drought  
Conditions. (Sec. 23 & 24).



3-1/2 Cu. Yd. Dipper Dredge Cleaning Out an Access Canal From Hog Island Canal to Ship Channel.



Hurricane Fund Fence Construction.

NARRATIVE REPORT  
SABINE NATIONAL WILDLIFE REFUGE  
EUREKA, LOUISIANA  
MAY, JUNE, JULY, AUGUST, 1963

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

NARRATIVE REPORT

SABINE NATIONAL WILDLIFE REFUGE

SULPHUR, LOUISIANA

MAY, JUNE, JULY, AUGUST, 1963

JOHN R. WALTHER ..... REFUGEE MANAGER  
JOHN A. MC CANN ..... ASSISTANT MANAGER  
CLYDE A. GINGS ..... CLERK  
JOHNEY MOUTON ..... MECHANIC  
FLOYD SILVER ..... MAINTENANCEMAN  
DREWY PORTLE ..... MAINTENANCEMAN

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OTHER ITEMS: NR-1, NR-1b, NR-1a, NR-2

NARRATIVE REPORT  
 SABINE NATIONAL WILDLIFE REFUGE  
 SULPHUR, LOUISIANA  
 MAY, JUNE, JULY, AUGUST, 1963

I. GENERAL

A. Weather Conditions.

	Precipitation		Maximum	Minimum
	<u>This Month</u>	<u>Normal</u>	<u>Temperatures</u>	<u>Temperatures</u>
May	0.79	3.66	91	59
June	3.68	4.43	94	63
July	4.42	6.81	94	69
August	<u>2.28</u>	<u>6.50</u>	<u>96</u>	<u>60</u>
Total	11.17	21.40	Extremes 96	59

The refuge experienced severe drought during this entire reporting period; only 11.17 inches of rain fell, approximately one-half of what was expected. Since January, rainfall has been only one-half of the normal amount, making this summer's drought all the more severe. The average maximum temperatures were about normal.

B. Habitat Conditions.

1. Water.

We have had one major water control problem - no water with which to work. At one point the water in the borrow ditch of Pool 1a was 3-inches below the gauge designed to measure the depth of the pool, using the Mean Gulf Level as a standard. Recent light rains have raised the water level to 0.3 MGL. Pool 1b has held the most water, 1.8 MGL, with there still being some fresh water over the marsh in the impoundment.

The water level in Pool 3 reached a new low. Levels at Spillways 1, 2, and 3 at the close of the period were 0.40, 0.75, and 0.16 respectively. There is water only in the canals, deeper bayous and the Five Lakes.

## 2. Food and Cover.

It is believed that abundant food and cover will be available for waterfowl if we receive several heavy rains before they arrive. Many of the lower areas are covered with dying stems of dwarf spikerusk. There are extensive stands of wild millet and Giant Setaria on both sides of Beach Canal in the vicinity of Pool 3. The sawgrass stubble in the southwest corner of Pool 3 is covered primarily by water hemp, (Acnida) fleabane, (Pluchia) and annual grasses. Alligator weed is spreading in the canals. The spread of water lotus in the pool along the North Line Canal was inhibited by the drought.

The northwest corner of Pool 1a supports a fair cover of fleabane, water hemp and annual grasses. The sawgrass flat just north of this area has a dense stand of dwarf spikerusk on it. No other vegetation has apparently become established in this sawgrass stubble. Alligator weed is beginning to choke the canals of Pools 1a and 1b. No water shield could be found in Pool 1b.

The sawgrass flat east of Three Mile Canal has a fair cover of fleabane, water hemp, and annual grasses. Some widgeon grass has survived the elements in the borrow ditches around the Texaco wells at West Cove.

## II. WILDLIFE

### A. Migratory Birds.

As reported last period the duck numbers are down when compared to those of recent years. Mottled Ducks and Blue-winged Teal were the only species present in any numbers. Mottled Ducks nested through out the period with occasional nests and broods being seen early in the spring. The nesting of these species appeared to slow down during June and July with only a few broods being observed. The last Mottled Duck brood was seen on August 12th. No Blue-winged Teal nests or broods were found. During June, July and the first week of August very few adult teal were reported.

During the last week in August flocks of as many as 50 Mottled Ducks were seen feeding in the south west corner of Pool 1b and in the sawgrass stubble north of Pool 1a.

Flocks of about 25 Blue-winged Teal were observed flying over the marsh in the southwest corner of Pool 1b, and south of Willow Bayou, east of Three Mile Canal. There were approximately 350 Blue-winged Teal present at East Cove on August 30.

On June 14th eight male and three female Wood Ducks were observed feeding and resting in the southwest corner of Pool 1b.

Rails and Gallinules were present in fair numbers. Several broods of young were seen along the canals.

The Refuge Manager, while on an aerial survey, observed 20 pair of Roseate Spoonbills nesting in the southwest corner of Pool 3. A flock of 102 spoonbills were flushed from the Shell Hill Rookery but no signs of nesting were found. A flock of 161 were seen in Pool 1b on June 21st, but no nesting was observed there either. Due to low water levels in the pools personnel could not get out to check the nesting success of the wading and shore birds.

Wood Ibis were first seen in Pool 1b in small numbers. The largest concentration of them was 150 observed in Pool 1b on June 14th. Later about the same number was observed feeding west of Beach Canal in Pool 3.

Common and Snowy Egrets, Louisiana and Great Blue Herons and Olivaceous Cormorants nested on Shell Hill. All these species plus Roseate Spoonbills, Black-Crowned and Yellow-Crowned Night Herons, White Ibis and White-Faced Glossy Ibis nested in a large heronry of approximately 18,000 birds in the southwest corner of Pool 3.

Green Herons and Least Bitterns nested along most of the canals.

B. Upland Game Birds.

Late in August, doves were observed on the wires along the road. Black Francolins, stocked by the state in Gun Cove, were observed on two different occasions on the west levee of Pool 3.

C. Big Game Animals.

Deer have been observed regularly on the levees of Pool 3 and down the North Line Canal to Chinaberry Island. Several does were seen with fawns. All the deer appeared to be in good shape. Their food supply is adequate.

D. Fur Animals.

With the exception of Willow Bayou, where nutria cuttings were abundant, little nutria sign could be found on the main canals of the refuge. Several dead nutria were found floating in the canals. Few young nutria were seen or heard on the refuge this summer.

E. Hawks, Eagles, Owls, Etc.

No eagles were seen or reported on the refuge or in the surrounding country. Few hawks or fish crows were seen.

F. Other Birds.

The progress of a Turkey Vulture nest on the North Line Levee of Pool 3 was followed. Three young birds reached at least flying size.

G. Fish.

Prior to July 15th, when the refuge west of the road was closed to the public, fishing on the refuge was poor. Indications are that the fishing success would have become worse, particularly since most of the fresh water areas dried up.

H. Reptiles.

The refuge alligator population remains within the desired operational range of 3000-5000. The lower water in the pools concentrated both the adult and young alligators in the canals making them more accessible to predators both human and otherwise.

Altogether 19 alligator nests were located on the banks of the canals. By the end of this period seven nests had hatched and at least three had been destroyed or abandoned. It is possible that the females were killed by either boat traffic or poachers, leaving the nests accessible to predators. The final report of alligator nesting activity and the summary of the measurements of the young will be given in the next report.

I. Disease.

Nothing to report.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development.

The entire period from mid-May through August 25 was devoted to full-time patrol for alligator poachers by at least two refuge employees each night. This rigorous enforcement program resulted in the apprehension of 22 persons definitely known to be involved in some manner in illegal alligator hunting. These operations curtailed the normal summer maintenance program considerably, but some projects were accomplished and completed this period.

A total of ten miles of boundary fencing was completed during May and early June. This leaves approximately four miles of fence construction to be accomplished. Because of low water, it was necessary for us to close down this project in mid-June. All materials are on hand to complete the work.

The outside of the old boat house, Property No. 11, was painted white. The trapping cabins on Willow Bayou and Chinaberry were painted on the outside. Both these units have metal exteriors so were given a protective metal primer finish before being painted gray.

Equipment purchased and received this period includes the following: delivery of the 26' steel Jo-Boat ordered last period from Sewart Seacraft, purchase of two electric trolling motors for use in patrol activities and to catch young alligators for restocking purposes, purchase of a replacement 75 hp. outboard motor for the Hurricane hull and a replacement V-8 Chris-Craft engine for FWS 140, purchase of new space heaters for residences 1 and 3, replacement of the old Kut-Kwick mower with a Cub Cadet tractor-mower.

Items of excess property obtained during this period for use on the refuge includes the following: a 300 ampere Hobart welding machine, 3 small wooden desks, 2 winches with 1 cylinder diesel engine, 40 gallons of exterior flat white paint; and a 1000 gallon steel water tank.

The casing on the domestic well at headquarters was pulled and the entire lower unit and two 20' sections of pipe were replaced. Personnel were without water for two and a half days.

The water system was extended to the boat house and two faucets installed to allow the washing down of boats with fresh water instead of canal water, which can get quite salty.

Administrative duties, public relations, and inspection of oil field activities required the remainder of the time of refuge personnel.

B. Planting

1. Aquatic and Marsh Plants.

Due to drought conditions no plantings were attempted this period.

The Spartina patens planted last period on 3.5 miles of levee of Pool 1a appears to have been more successful than we had estimated. However, there is still approximately one half mile of levee that needs to have additional planting done on it to provide the type cover we desire. The overseeding of this levee with hulled bermuda grass seed was apparently a failure, no new seedlings were observed. Probably the late planting, heavy bird usage and the drought took their toll.

C. Collections and Receipts.

1. Seeds and Propagules.

Nothing to report.

2. Specimens.

None

D. Control of Vegetation.

None this period.

E. Planned Burning.

None this period.

F. Fires.

Lightning fires were common throughout the period. All fires were on marsh areas and no major physical damages resulted. There were five fires that burned at least a section or more of land before going out. Drought conditions had the marshes very dry and several clean burns occurred on areas which normally burn very poorly during the fall.

## IV. RESOURCE MANAGEMENT

A. Grazing.

Range conditions within the grazing units appear to be good. Growth of the various perennial grasses has been satisfactory even though there has been a lack of rainfall. In several locations dry conditions have restricted the growth of some annual grasses.

Although the grazing units could bear slightly heavier grazing pressure to open up the vegetation more for waterfowl, no changes are contemplated in the grazing program at this time. Grazing will again be permitted from October 15 to April 15.

B. Haying.

Nothing to report.

C. Fur Harvest.

An inventory of fur animals and relative habitat conditions will be conducted in the near future and the Annual Trapping Program will be submitted to the Regional Office. If prevailing dry conditions continue, censusing will be difficult as the signs of animals become less noticeable.

D. Commercial Fishing.

Twelve permits were issued for the removal of rough fish, mainly garfish, from the refuge canals. Approximately 10,970 pounds of garfish were removed by net fishermen.

E. Alligator Removal.

A total of 529 alligators were removed from the refuge this summer for restocking in other areas of Louisiana. From May 20-20 personnel from the Delta National Wildlife Refuge, Sabine National Wildlife Refuge, the Refuge Biologist and a Game Management Agent caught 274 alligators for restocking on the Delta Refuge. On June 26-27 Louisiana State Fish and Game Commission removed 255 alligators from Sabine Refuge for restocking in Cameron Parish. Poachers illegally removed an estimated 1,200 alligators from the refuge which includes 160 animals either taken from hunters or found shot in the marsh.

Poachers were active on the refuge from about the middle of May to July 22, when the last violators were caught.

In all, 22 individuals were apprehended in or adjacent to the refuge, who were either hunting or preparing to hunt alligators on the refuge. Three were second offenders.

For disposition of the alligator cases see the section on violations. Although the parish is closed to the taking of alligators, local fur dealers are allowed to buy hides, even those under the legal size of 5 feet. Maximum prices obtained for confiscated hides sold this season were \$14 and \$16 apiece for 3 and 4 foot 'gators respectively and \$4.75 per foot for those over 5-feet long. The total 112 hides confiscated from illegal hunters sold for \$1,552.50. One individual entered the pool at Spillway 3 and killed 63 alligators in less than 2 hours, and the hides when skinned out sold for \$877.50

F. Other Uses.

Nothing to report.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report.

Refuge Biologist Jacob M. Valentine has already submitted his report on salinity tests taken on the Sabine Refuge on May 16, June 10, and June 21, 1963.

Refuge personnel constructed seven 200' X 150' enclosures in three of the grazing units at the request and direction of Biologist Valentine to aid him in grazing studies. He plans to use the Three Step Method.

A study being conducted by Manager McCann on alligator nests and the young produced will be summarized in the next narrative report.

VI. PUBLIC RELATIONS

A. Recreational Uses.

Crabbing in the road side canals, launching of shrimp boats at the ramps, and sport fishing in the open areas accounted for the majority of the public use of the refuge.

B. Refuge Visitors.

Included in the refuge visitors during this period were the following:

1963

- 5/1 Biologist John Lynch and son Richard: Nesting waterfowl research.
- 5/9 Biologists Ralph Andrews and John Lynch and Richard Lynch: Nesting waterfowl research.
- 5/9 Biologist Edwin Ball and Jacob Valentine: Aerial flight over refuge.
- 5/9 Teacher Frances Arledge with 18 students from East Natchitoches Junior High School, Natchitoches, Louisiana: To study wildlife on refuge.
- 5/13 Jacob M. Valentine: Alligator banding.
- 5/15 USGMA Osbolt, Jacob M. Valentine, Refuge Manager Carl Yelverton and John Akins from Delta Refuge to catch alligators to be removed to the Delta Refuge.
- 5/17 Biologist John S. Lynch and son Richard : Bird Research.
- 5/17 Mr. and Mrs. Cohfried Hotz, Zurich, Switzerland : Birding.
- 5/18 Mr. Ed. Armstrong, Baton Rouge, Louisiana : Wildlife Research.
- 5/18 Max La Branche, Louisiana State University : Birding.
- 5/19 USGMA Osbolt and State Game Agent Jardell : Law enforcement.
- 5/20 Refuge Manager Carl Yelverton , John Akin and Otis Mouton from Delta Refuge and Biologist Valentine and USGMA Osbolt: To catch alligators to be removed to Delta Refuge.
- 5/23 USGMA Osbolt : Law enforcement.
- 5/23 Messrs. Bob Charbreck and Pat Doland from Rockefeller Refuge: To tag alligators.
- 5/27 Biologist Valentine: To catch and tag alligators
- 5/28 Refuge Manager Carl Yelverton: To catch alligators for removal to Delta Refuge.

Refuge Visitors, Cont'd.1963

- 5/29 USGMA Osbolt to help in catching alligators and to patrol refuge.
- 5/29 Messrs. Pat Doland and Howard Dupre, Louisiana State Game and Fish Commission to tag alligators.
- 5/31 State Game Agent Jardell: To discuss cases and enforcement aid.
- 6/2 USGMA Osbolt and State Agent Jardell : Law enforcement.
- 6/4 USGMA Richard Barnes: Law enforcement.
- 6/5 USGMA's Carlton, Osbolt and Ruzic: Law enforcement.
- 6/6 Biologists John Lynch and Ralph Andrews: Nesting waterfowl research.
- 6/7 USGMA's Osbolt, Gates and Slattery: Law enforcement.
- 6/8 Biologist Valentine to tag alligators.
- 6/8 USGMA's Osbolt and Perroux : Law enforcement.
- 6/10 USGMA's Osbolt, Carlton & Barnes and State Agent Jardell: Law enforcement.
- 6/11 State Game Agent Capt. Ellis : To discuss alligator patrol.
- 6/13 Messrs. Glenn Hambrecher and H.B. Coffey, LSU Rice Experiment Station: In connection with securing Manatowoc dragline.
- 6/12 USGMA's Carlton and Ruzic : Law enforcement.
- 6/13 USGMA's Bates and Slattery : Law enforcement
- 6/18 Three members of Louisiana Mosquito Control Association: To discuss mosquitoes.
- 6/20 Biologist John Lynch and son Richard.: Nesting waterfowl research.
- 6/19 State Agents Ellis and Jardell : Law enforcement.

Refuge Visitors, Cont'd.1963

- 6/21 Mr. and Mrs. Dave Stickel, Carbondale, Ill. : Visiting Refuge.
- 6/21 Mr. and Mrs. Karl Young, West Haven, Conn.: Visiting Refuge.
- 6/25 Mr. Walter Judlin III, New Orleans Engineer District:  
Visit Refuge.
- 6/29 State Game Agents Studher and Rowell: Alligator patrol.
- 7/1 State Game Agent Capt. Ellis: Law enforcement.
- 7/2 State Game Agent Jardell and USGMA's Edwards and Martin: Patrol.
- 7/5 USGMA's Barnes and Bates : Patrol.
- 7/5 Donald Bates, Ponchatoula, Louisiana: Visit refuge.
- 7/7 State Game Agent Capt. Ellis: Law enforcement.
- 7/8 State Game Agents Jardell and Rutherford: Patrol refuge.
- 7/10 Messrs. James Evans - B.S.B.W. Houma, Louisiana, and A. Lorin  
Ward - B.S.B.W. Denver, Colorado : Study of Nutria.
- 7/12 State Game Agent Capt. Ellis and USGMA Dick Barnes:  
Pertaining to patrol of refuge.
- 7/15 State Game Agent Jardell: Patrol of refuge.
- 7/15 Messrs. Givens and Rudolph, Regional Office and Messrs. Harris  
and Giles from Vicksburg P. O. : To discuss watershed program  
with Drainage Districts 3 and 4.
- 7/15 State Game Agent Jardell and USGMA's Edwards and Martin: Patrol.
- 7/19 Mr. George Laycock and son Mike, Latavia, Ohio: Birding.
- 7/19 State Game Agents Capt. Ellis and Jardell: Law enforcement.
- 8/1 Messrs. Harvey G. Lucas and Irving I. Laperstein - U.S.G. &  
G.S. : To locate some monuments.
- Biologist Jacob M. Valentine: Biological Survey.

Refuge Visitors, Cont'd.1963

- 8/7 Messrs. Harvey C. Lucas and Irving E. Laperstein, U.S.G. and G.C. : To locate some monuments.
- 8/13 State Game Agent Andrus : Law enforcement.
- 8/14 Mr. Harry C. Whitman, U.S. Geological Survey : Concerning drilling test well at headquarter site.
- 8/21 Mr. H.E. Korseau, U.S. Weather Bureau : To paint and make repairs to weather station.
- 8/27 Ivan Harliss, Representative of Louisiana Towing and Dredging Company, Lake Charles, La. : To check on dragline for sale at Sabine Refuge.
- 8/28 Mr. and Mrs. A.H. Stone, Toronto, Ontario, Canada : Looking at alligators.
- 8/29 Biologist Valentine : Tagging of young alligators.

C. Refuge Participation.

On May 9, a group of 15 students and four sponsors from Natchitoches Junior High School, Natchitoches, Louisiana were given a short talk and a tour of the refuge by the refuge manager.

Accelerated patrol activities curtailed the participation of refuge personnel in off station public relation activities.

D. Hunting.

Nothing to report this period.

E. Violations.

Patrols for illegal alligator hunting were initiated on May 11. The first outlaw hunters were apprehended on May 18. For the remainder of the summer, until August 26, patrols were out each night to guard the area. The net result of our enforcement activities was the apprehension of 22 persons involved in alligator hunting of some type. This is an increase of over 300% in apprehensions as compared to last year. It is believed that there is a direct ratio between the number of illegal hunters and the number of apprehensions, which would indicate we experienced a mass invasion of poachers.

The excellent aid rendered by the Branch of Management and Enforcement was greatly appreciated. Without their services we would have never been able to handle the situation and the refuge alligator population would have been decimated.

The closure order on the western half of the refuge, which went into effect on July 18, was of major significance in stopping illegal alligator hunting. It stopped poachers from having any right to be on the area and eliminated their excuse of being fishermen. We received no criticism from any responsible source for having closed a portion of the refuge to public use.

Following is a list of cases and disposition of cases:

Doyle Pearce Nealy, 1705 Perry Street, Vinton, Louisiana. Trespassing on Sabine Nat'l Wildlife Refuge during closed season and using an artificial light on Sabine Refuge. Fined \$15.00 in Federal Court.

Lutches Murphy LaBove, Box 702, Vinton, Louisiana. Trespassing on Sabine Nat'l Wildlife Refuge during closed season and using an artificial light on Sabine Refuge. Fined \$15.00 in Federal Court.

Allen G. Ardoin, 1113 Pinehurst Street, Sulphur, Louisiana. Trespassing and fishing on Sabine Nat'l Wildlife Refuge during closed season. Case pending.

Theodore Azelet, P.O. Box 345, Sulphur, Louisiana. Trespassing on the Sabine National Wildlife Refuge while garfishing in the roadside canal. Possession of fire arms on Sabine Refuge. Case pending.

David A. Duplechin, 602 Barrett Street, Sulphur, Louisiana. Trespassing and fishing on Sabine Nat'l Wildlife Refuge during closed season. Case pending.

Captain W.S. Granger, MR Box 1, Most Cameron, Louisiana. Cast netting shrimp on Sabine Nat'l Wildlife Refuge during closed season. Admonished by Refuge Manager Walther.

Kinney James Deville, Jr. , Rt. 1, Box 51H-A, Sulphur, La. Hunting with bow and arrow on Sabine Nat'l Wildlife Refuge. Case pending.

Rayward Leger (Age 15) 620 Starling Street, Sulphur, La. Hunting alligators during a closed season and taking under-size alligators. Trespassing and possessing of a fire arm on Sabine Refuge. Case pending.

Violations, Cont'd.

Gene R. Sarver, Route 2, Sulphur, Louisiana.  
Hunting alligators during a closed season and killing under-  
size alligators. Trespassing and possession of a firearm on  
Sabine Refuge. Case pending.

Charles Escamp, 310 Dobbin Street, Bridge City, Texas.  
Taking alligators during closed season and taking undersize  
alligators. Two Charges; fined \$75.00 plus \$12.00 court cost  
on each charge. Total fine \$174.00 or 60 days in jail.  
Unable to pay fine so stayed 60 days in jail.

John Ruffin Hardin, 506 Dogwood Street, Orange, Texas.  
Taking alligators during closed season. Killing undersize  
alligators in Cameron Parish. Two charges: Fined \$75.00 plus  
\$12.00 court cost on each count. Total fine \$174.00 and 60  
days in jail.

Kirth La Bure, 2148 Oak Avenue, Groves, Texas.  
Taking alligators during closed season. Taking undersize  
alligators. Two charges: Fined \$75.00 plus \$12.00 court cost  
on each count. Total fine \$174.00 and 3 days in jail.

Gilbert S. Turner, 150 Eland Drive, Bridge City, Texas.  
Taking alligators during closed season. Killing an undersize  
alligator. Two charges: Fined \$75.00 plus \$12.00 court cost  
on each count. Total fine \$174.00 and 5 days in jail

John F. Shirley, Phoenix, Arizona.  
Taking alligators during a closed season.  
Sentenced 45 days in jail.

Andrew Victor Rollins, Jr., Phoenix, Arizona.  
Taking alligators during a closed season.  
Sentenced 45 days in jail.

Charles Kenneth Dennis, Hackberry, Louisiana.  
Taking alligators during a closed season and killing under-  
size alligator. Case pending.

Eertis Ray Carrico, 453 Dyson Street, Orange, Texas.  
Taking alligators during a closed season and killing under-  
size alligators. Case pending.

Durward Henderson Shull, 90 Gilmer Court, Orange, Texas.  
Taking alligators during a closed season and killing under-  
size alligators. Case pending.

Violations, Cont'd.

Irving Joseph Trahan, Box 97, Hayes, Louisiana.

Taking alligators during a closed season and killing under-size alligators. Case pending.

Cleophe J. Guidry, Rt 1, Box 239, Crowley, Louisiana.

Taking alligators during a closed season and killing under-size alligators. Case pending.

Harry J. Israel, General Delivery, Hayes, Louisiana.

Taking alligators during a closed season and killing under-size alligators. Case pending.

Paul H. Winebrenner, 112 E. Tennessee, Orange, Texas.

Attempting to take alligators. Case pending.

Benny Earl Morris, 1576 W. 4th Street, Corsicana, Texas.

Attempting to take alligators. Case pending.

Lawayne N. Lewis, Bon Weir, Newton, Texas.

Attempting to take alligators. Case pending.

Bobby Ray Porterfield, P.O. Box 173, Bon Weir, Newton City, Texas.

Attempting to take alligators. Case pending.

Carroll Myers, General Delivery, Newton City, Texas.

Aiding and abetting the taking of alligators. Case pending.

Robert Earl Myers, P.O. Box 253, Newton, Texas.

Aiding and abetting the taking of alligators. Case pending.

Ray L. Bright, 220 Oak Street, Sulphur, Louisiana.

Trespassing on a closed area. Case pending.

Marlin Bright, 611 W. Napoleon st. Sulphur, Louisiana.

Trespassing on a closed area. Case pending.

Thomas Irvis DeBarge, General Delivery, Cameron, Louisiana.

Possession of a loaded firearm within the limits of the Sabine Refuge. Case pending.

Larry Hardy General Delivery, Sulphur, Louisiana.

Possessing and discharging a firearm on the Sabine Refuge. For admonishment.

Louis Joseph Guidry, 1001 McKinley Street, Sulphur, Louisiana.

Fishing on Sabine Refuge during a closed season. Case pending.

F. Safety.

Safety meetings were held each month of the reporting period. Material supplied by the Regional Office was used for topics of discussion at each meeting.

Items of equipment obtained for station use as a result of safety meeting discussions and suggestions includes the following: Life ring and line for the boat house-dock area and one for use aboard SFW 201 were purchased this period; Residences 1 and 3 were furnished with several small cool cabinet type gas heaters, and vented, cool cabinet type large gas heaters for main heating purposes. This should eliminate the hazard of burns occurring to employees or their families residing in these two houses; six work type life jackets were purchased for use by employees during work over or around water; additional fire hose and nozzles were purchased to allow adequate coverage of the entire headquarters area.

There has been no lost-time accident for this period. The refuge staff has gone 1067 calendar days without a lost-time accident.

VII. OTHER ITEMS

A. Items of Interest.

Refuge Manager John A. McCann attended the administrative short course at Marion Fish Hatchery during May.

On July 16 a meeting was held between Bureau personnel and the Cameron-Creole Drainage District members to discuss a small watershed plan which would include the East Cove portion of the refuge. An exchange of information between district members, Soil Conservation Service personnel and Bureau personnel was accomplished and the course for further action was explained to the district members.

A closure order on the west portion of Sabine Refuge was published on July 18 in the Federal Register. This order was necessary to help curtail the illegal alligator hunting which was increasing despite vigilant patrol activities. The Manager attended the meeting of the Cameron Parish Police Jury, on August 5, to answer their questions concerning the closure order on the refuge. After a discussion, the jury adopted a resolution supporting the closure by the Bureau.

A meeting with representatives of Texaco, Inc. was held in New Orleans on July 19. Regional Office personnel and Bureau field employees discussed with them the operations being conducted on the Delta and Sabine Refuges. Methods of operation and the need for advanced notice prior to their initiating field operations were also discussed. It is felt that as a result of this meeting, the Texaco representatives are more aware of some of the major problems that have resulted from their operations on the refuges.

This Narrative Report, with the exceptions of Sections III, VI, and VII, was written by Refuge Manager McCann. The remainder of the report was prepared by Refuge Clerk Goings and Refuge Manager Walther.

B. Photographs.

The photographs showing the alligator removal operations were taken by Biologist Valentine. Other photographs were taken by refuge staff employees.

Submitted by.



John R. Walther  
Refuge Manager

September 23, 1962

Approved:

Regional Director

*Acting*

WATERFOWL

REFUGE Sabine Refuge MONTHS OF May TO August, 191963

(1) Species	(2) Weeks of reporting period									
	5/1-4	5/5-11	5/12-18	5/19-25	5/26-6/1	6/2-8	6/9-15	6/16-22	6/23-29	6/30-7/6
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	2	1	1							
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal	125	125	100	80	80	80	50	50	25	25
Cinnamon teal										
Shoveler	15	10								
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup	8	4	2	2						
Goldeneye										
Bufflehead										
Ruddy										
Other Mottled	800	800	1000	1200	900	800	800	800	800	500
<u>Coot:</u>	30	15	10	10						

3 -1750a  
 Cont. NR-1  
 (Rev. March 1953)

WATERFOWL  
 (Continuation Sheet)

REFUGE Sabine Refuge MONTHS OF May TO August, 19 63

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	7/7-13	7/14-20	7/21-27	7/28-8/3	8/4-10	8/11-17	8/18-24	8/25-31			
<u>Swans:</u>											
Whistling											
Trumpeter											
<u>Geese:</u>											
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
<u>Ducks:</u>											
Mallard									28		
Black											
Gadwall											
Baldpate											
Pintail											
Green-winged teal											
Blue-winged teal	10	10	100	400	400	500	800	800	26,320		
Cinnamon teal											
Shoveler											
Wood											
Redhead											
Ring-necked											
Canvasback											
Scaup									112		
Goldeneye											
Bufflehead											
Ruddy											
Other Mottled	500	500	500	700	700	700	700	700	93,800	10	200
<u>Coot:</u>									455		

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans				Principal feeding areas _____
Geese				_____
Ducks	120,260	1500		Principal nesting areas _____
Coots	455	30		_____

Reported by \_\_\_\_\_  
**John R. Walther**

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

(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)Refuge SabineMonths of May to August 31 1953

(1) Species  Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
<u>I. Water and Marsh Birds:</u>										
White Pelican	Present		400	7/25	Present					10,500
Brown Pelican	None noted entire period									
Double Crested Cormorant	Present				5	6/26				280
Olivaceous Cormorant	"		225	8/1	Present					27,050
Anhinga	"		3	7/23						100
Common Egret	"		3800	8/10	"			1700		456,000
Snowy Egret	"		3000	8/10	"			1000		45,000
Great Blue Heron	"		400	8/10	"			200		500
Louisiana Heron	"		300	8/10	"					36,000
Little Blue Heron	"		100	6/4	"					12,000
Green Heron	"		3000	8/1	"					350,000
Black Crowned Night Heron	"		250	7/23	"			1400		30,000
Yellow Crowned Night Heron	"		375	7/23	"					45,000
American Bittern	"		100	8/1	"					12,000
Least Bittern	"		2000	8/1	"			1000		240,000
<del>XXXXXXXXXXXXXXXXXXXX</del>										
<u>II. Shorebirds, Gulls and Terns:</u>										
Wood Ibis	30	6/7/63	160	7/23	Present					22,000
White Faced Clossy Ibis	Present		9000	8/1	"			4000		1,080,000
White Ibis	"		5000	8/1	"			2000		600,000
King Rail	"		3000	5/11	"			1000		320,000
Clapper Rail	"		4000	5/11	"			1000		450,000
Roseate Spoonbill	"		205	8/25	"			50		27,500
Purple Gallinule	"		1500	8/11	"			500		200,000
Florida Gallinule	"		3000	8/1	"			1000		320,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove					
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow					
Reported by.....					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.

3-1751

Form NR-1A  
(Aug. 1952)MIGRATORY BIRDS  
(Other than Waterfowl)Refuge SabineMonths of May to August 31 1956

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
<del>XXXXXXXXXXXXXXXXXXXX</del>										
<del>Water and Marsh Birds:</del>										
<b>II. Shorebirds, Gulls, Terns.</b>										
Killdeer	Present		100	8/1	Present					12,000
Black Billed Plover	"		50	5/22	"					3,000
Willet	"		150	5/22	"					95,000
Dowitcher	"		50	8/1	"					4,500
Semipalmated	"		50	8/1	"					4,000
Lesser Yellow Legs	"		150	8/25	"					9,000
Greater Yellow Legs	"		300	8/25	"					18,600
Black Necked Stilt	"		400	8/25	"					48,000
Herring Gull	"		30	5/22	"					18,000
Ring Billed Gull	"		15	5/22	"					9,000
Laughing Gull	"		300	8/25	"					16,000
Forster's Tern	"		100	8/25	"					12,000
Royal Tern	"		50	5/22	"					3,000
Least Tern	"		75	8/25	"					7,500
<del>XXXXXXXXXXXXXXXXXXXX</del>										
<del>XXXXXXXX</del>										
Caspian Tern	Present		5	5/22	"					300
Black Tern	5/22	65	1800	8/1	"					72,000
Black Skimmer	Present		175	5/22	"					7,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove					
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow					
Reported by.....					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.

3-1750b  
Form NR-1B  
(Rev. Nov. 1957)

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

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Sabine For 12-month period ending August 31, 19  

Reported by John R. Walther Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
EAST COVE	Crops		Ducks	1,106,091	250	25
	Upland		Geese	389,689		
	Marsh	7,520	Swans			
	Water	7,520	Coots	61,153		
	Total	15,040	Total	1,557,233	250	25
WEST COVE	Crops		Ducks	553,015	350	15
	Upland		Geese	311,751		
	Marsh	4,678	Swans			
	Water	2,529	Coots	184,359		
	Total	7,197	Total	1,049,155	350	15
POOLS 1, 1a, 1b	Crops		Ducks	1,935,660	400	55
	Upland		Geese	467,629		
	Marsh	23,010	Swans			
	Water	5,760	Coots	368,720		
	Total	28,800	Total	2,772,009	400	58
POOL # 3	Crops		Ducks	1,106,091	80	25
	Upland		Geese	77,937		
	Marsh		Swans			
	Water	28,160	Coots	191,627		
	Total	28,160	Total	1,675,655	80	25
POOL # 5	Crops		Ducks	553,015	100	20
	Upland		Geese	155,875		
	Marsh	25,536	Swans			
	Water	6,384	Coots	61,153		
	Total	31,920	Total	770,373	100	20
POOLS 2, 4, 6	Crops		Ducks	276,522	200	30
	Upland		Geese	155,875		
	Marsh	26,860	Swans			
	Water	4,740	Coots	61,153		
	Total	31,600	Total	493,850	200	30
TOTALS	Crops		Ducks	5,530,454	1280	200
	Upland		Geese	1,558,756		
	Marsh	87,634	Swans			
	Water	53,083	Coots	1,229,065		
	Total	142,717	Total	8,318,275	1280	200

(over)

## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
  
- (2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
  
- (3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
  
- (4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.
  
- (5) **Production:** Estimated total number of young raised to flight age.

UPLAND GAME BIRDS

Refuge Sabine Refuge Months of May to August, 1946

(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'vd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
None on Refuge										

## 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.

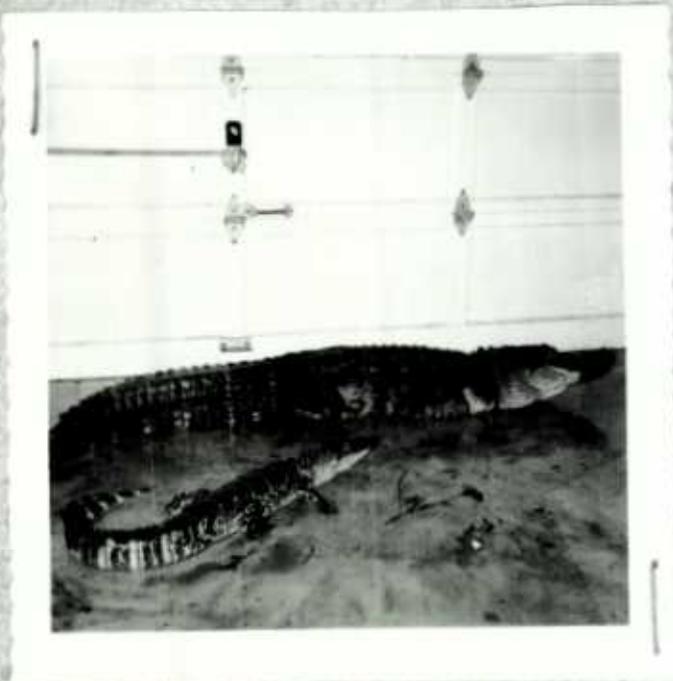
\* Only columns applicable to the period covered should be used.



Manager McCann preparing to put rubber band on 4-1/2' alligator.



Headlighted alligators were caught with a wire noose.



Alligators (one 8 feet long) caught for restocking at Delta Refuge. Mouths were tied shut with bands of inner tubes.



Alligators were kept in garage prior to tagging and trip to Delta Refuge.



State Biologists Robert Chabreck and Pat Dolan  
and Manager Akin in process of sexing, measuring  
and weighing gator.



Smaller 'gators were sexed by this method. See  
photo above for other method used on large  
alligators.



Manager McCann Investigates dry conditions  
in East Cove.



Dry flats in SE corner of Pool 3 as a  
result of drought.

• SEP • 63



Successful planting of Spartina patens on  
north levee of Pool 1a.

• SEP • 63



There are excellent Stands of Wild Millet  
in Pool 3.

• SEP • 63



Manager Walther and State Agent Jardell inspect use of newly acquired tow truck to change propellers on SFW 201.



• SEP • 63

Chain hoist in boat house used to change drive shaft on SFW 201.

NARRATIVE REPORT  
SABINE NATIONAL WILDLIFE REFUGE  
SULPHUR, LOUISIANA  
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1963

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

NAAGATIVE REPORT  
SABINE NATIONAL WILDLIFE REFUGE  
SULPHUR, LOUISIANA  
SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1963

JOHN R. WALTHER .....	REFUGE MANAGER
JOHN A. MC CANN .....	ASSISTANT MANAGER
CLYDE A. COLINGS .....	CLERK
JOHNEY MOUTON .....	MICCHANIC
FLOYD SILVER .....	MAINTENANCEMAN
DWIFY PORTIE .....	MAINTENANCEMAN

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## NARRATIVE REPORT

### SABINE NATIONAL WILDLIFE REFUGE

#### SULPHUR, LOUISIANA

SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1963

#### I. GENERAL

##### A. Weather Conditions.

	Precipitation		Maximum	Minimum
	This month	Normal	Temperatures	Temperatures
September	10.19	4.54	95	39
October	0.08	3.33	90	53
November	6.75	5.21	85	37
December	<u>5.04</u>	<u>4.71</u>	<u>72</u>	<u>19</u>
Total	22.06	17.79	Extreme 95	19

On September 17 and 18 the bountiful rains of Hurricane Cindy relieved a drought which was in its second year and believed to be as severe as the one in 1939. A total of 6.57 inches of rain was recorded at headquarters; however, Pool 3 and the western portion of the refuge received over 18 inches of water. The gauge reading at Spillway 1, Pool 3, rose from .58 feet to 2.30 feet during these rains. Hurricane Cindy was most beneficial to the coastal marshes as it brought quantities of water that could be gained only through the effects of such a storm.

The total 10.19 inches of precipitation for September set a new high for the refuge for this month. This record was followed by a record low of .08 inches which was the least amount of precipitation reported for October since 1948.

On December 7 all refuge canals were frozen over throughout the entire day, as the temperature dropped to a low of 19 degrees, making this the coldest December day since 1950.

## B. Habitat Conditions.

### 1. Water.

The water levels of Pools 1a, 1b and 3 rose to a manageable level as a result of Hurricane Cindy and the normal rainfall for November and December. All canals were filled with fresh water following "Cindy" and they remained fresh through most of October.

Pool 1a gained exactly 1 foot of water during the period and now has a gauge reading of 1.30 feet. Flushing of this pool will be continued when possible as water samples taken prior to Hurricane Cindy had salinities that averaged well over 15 per cent sea strength.

Pool 1b stood the prolonged drought much better than the other impounded areas as it retained surface water over much of its total area. During the period this pool gained 1.12 feet of water and ended the period with a gauge reading of 2.92 feet.

The dramatic change in Pool 3 effected by the rains of "Cindy" were very impressive. The dry, cracked open marsh floor and mudflats suddenly became a flooded pool and the entire area experienced a second spring. The concentrations of alligators in the borrow ditches quickly disappeared as these reptiles moved out into the flooded area. Gauge readings rose 1.72 feet at Spillway 1, 1.51 feet at Spillway 2 and 2.27 feet at Spillway 3. Pool readings fell slightly during October but rose again in November and December. At the end of December, the water level was less than 6 inches below the recommended management level.

The unmanaged marshes received sufficient surface water from rainfall to remain flooded most of the period. This aided the production of food plants throughout the refuge. Several short "northers" drained the marsh but rain always came before food plants suffered from salt burn or drought. During the waterfowl season tides aided in the utilization of dwarf spikerush over all the old sawgrass flats by providing surface water for the birds to puddle

## 2. Food and Cover.

The refuge was in excellent condition for waterfowl this year. Annual plants had made excellent growth during August and September and many aquatics became abundant following Hurricane Cindy. Surface water was present over most of the area which allowed waterfowl to utilize all seed and food plants available on the refuge. In order of usage, the units receiving the greatest utilization this period were as follows: Unit 5, Pool 3, East Cove, Unit 1 and Unit 6.

Units 5 and 6 developed vast stands of water hyssop, Bacopa, following Hurricane Cindy. This plant plus scattered stands of wild millet (Echinochloa), water hemp (Acnida), and fleabane (Pluchia) held many ducks throughout the period.

East Cove and Unit 1 produced pure stands of dwarf spikerush, Eleocharis parvula, in the barren former sawgrass flats. These areas were the most utilized portion of the units. In Unit 1 the area adjacent to Beach Canal had large stands of wild millet, Giant Bristlegrass (Setaria magna) and Panicum dichotomiflorum, which attracted and held mallards throughout the entire period.

Pool 3 produced large stands of water hyssop, Bacopa, which were scattered throughout its entire area. An excellent stand of wild millet grew just south of Spillway 2. In the pimple mound area the usual large stand of four square spikerush, Eleocharis quadrangula, was produced. Throughout the pool, Sesbania was very abundant and apparently was being utilized by ducks.

Pool 1b contained a large stand of delta duck potato, (Sagittaria platyphylla) on the flooded ridge area. Coots and ducks were eating the vegetative material but no usage of the tubers was noted. Bacopa and duckweed (Lemna) were present in all water areas. An excellent stand of Panicum dichotomiflorum, attracted and held mallards all season.

The sanding area adjacent to headquarters was utilized daily by geese from Oyster Bayou and the east side of Calcasieu Lake, and by a flock between Hackberry Ridge and Gum Cove. These birds were noted each morning and evening moving to and from the sand pile. Flights of several thousand birds were very common.

## II. WILDLIFE

A. Migratory Birds.

The refuge recorded more duck usage for this period than it has had since 1956. The peak number of 222,705 ducks was below the peak of 1956 but total use days for this period were slightly greater than those recorded for that year. As compared to last year the weekly increase in resident ducks ranged from a plus 49 per cent to a plus 577 per cent.

The peak number of the refuge goose population was only 15,500 which is the lowest ever recorded at Sabine and only 75 per cent of the previous low record of last year. Coots increased slightly this year with a peak number of 15,000 which is a 20 per cent increase over that of last year.

Migrant ducks arrived slightly behind schedule this season. Many ducks were using adjacent areas but the refuge did not attract them until mid-October. Geese moved onto the refuge in good numbers by late October but after a small build up their number remained fairly constant throughout the period. Species composition of the refuge duck population computed from total use days was as follows: Pintail - most abundant, comprised 28 per cent of total; Blue-winged Teal - second most abundant, constituted 25 per cent of total; Gadwall - third with 13 per cent of total; American Widgeon and Green-winged Teal - each made up approximately 9 per cent of total; Shoveler - comprised 8 per cent; Mallard - made up 4 per cent which was the same as last year; and all other species composed the remaining 4 per cent of total use days.

In comparison with last year the following increases occurred in species use: Blue-winged Teal - eight times greater; Pintail and Gadwall - increased four times; American Widgeon, Green-winged Teal, and Shoveler - twice as great; and as previously stated the Mallard was the same as last year.

The refuge had fewer Snow and Blue Geese this period than it has had in the past 10 years, both peak numbers and total use days were below that of last year.

The geese utilizing the refuge were in small flocks and their usage was very erratic as they would feed for short periods of time at most sites and then move on to another area. The large flocks that normally winter in this section of the coastal marshes have never moved down from the rice fields. This is the fourth consecutive year that the population of geese for the refuge has dropped and unless the attractiveness of the rice fields decreases it appears that the refuge usage will continue to lessen.

Canada Geese arrived during the same week of October as last year. The population built up higher and faster than last year until the month of December. From then until the end of the period, the population dropped slightly. The peak number and total use days were less than half of those of last year. Major usage occurred in Pool 3 and Unit 5.

White-fronted Geese were late in arrival this year, but once present they continued to increase in number throughout the period. The refuge peak number was 200 geese more than last year and total use days were one-third greater. The areas of greatest usage were Units 1 and 5. However, a large flock of white-fronts utilized Brown's Pool, adjacent to Pool 3, throughout the period.

Geese were present in slightly greater numbers than last year. They were found on all areas that produced good stands of Panicum. East Cove, Unit 5, Pool 1b and Pool 3 received the greatest utilization by this species.

Herons, egrets and other wading birds were not as numerous as usual this winter. No Roseate Spoonbills were seen after mid-october.

B. Upland Game Birds.

Nothing to report.

C. Big Game Animals.

The deer population on the refuge dropped during this period. It is believed that many of them moved north to Gum Cove following Hurricane Cindy and apparently have not returned to the refuge marshes. An aerial survey during December revealed a population of 30 deer on the refuge. All animals appear to be in good condition.

D. Fur Animals.

1. Muskrat.

The accidental trapping of two adult muskrats was the only indication of muskrat on refuge areas other than Unit 1. A single muskrat bed located in Pool 1a was reported in November and to our knowledge was the only one on the entire refuge.

2. Mink.

Trapping of mink was poorer than anticipated. Drought and other natural causes have apparently affected the status of this species more than expected. All animals taken were in prime condition.

3. Otter.

No trapping of otter was permitted this year due to poor production and the low population on the refuge. Otter are seen on all units except East Cove and all are adult animals. Refuge personnel made welded wire frames for the trappers to use to aid them in removing otter caught in their traps. Thus far these frames have been used many times to hold the animals while the snap trap is removed from its foot.

4. Raccoon.

Raccoon were affected by the prolonged drought to a greater extent than we had estimated. The abundance of raccoon signs on the levees was the result of usage by a far greater percentage of the population than normal. Most animals noted were healthy. Pelts taken by trappers are in prime condition.

5. Nutria.

Nutria continued to decline this year with our trapping catch to date reflecting a major drop in the refuge population. This decline is very definitely tied in with the prolonged droughts. Not all indications are bad for we have found gravid females since the start of trapping season and young animals were also present when trapping commenced. All animals have been in excellent condition and their fur is prime.

E. Hawks, Eagles, Owls, etc.

The arrival of a peregrine falcon and a pigeon hawk during mid-November were the only records of importance under this heading.

F. Other Birds.

The week following Hurricane Cindy the headquarters area was visited by two uncommon flycatchers. On September 20 a Vermillion Flycatcher appeared and on September 21 a Scissor-tailed Flycatcher was seen.

G. Fish.

The fish population of Pools 1b and 3 were greatly reduced by drought conditions which ended with Hurricane Cindy. The effects of this fish loss from drought will probably be apparent for the next two years.

Fishing on those areas of the refuge which remained open until October 15 was very poor and little public usage occurred.

H. Reptiles.

The rain from Hurricane Cindy dispersed those alligators concentrated in the canals of Pools 1a and 3. Few alligators were noted during the remainder of the period; however, a single small 'gator was seen at Spillway 2, Pool 3 on December 19.

I. Diseases.

Nothing to report.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

Routine maintenance of buildings, marine and automotive equipment, boundary posting, patrol and waterfowl banding consumed a major portion of the time of refuge personnel.

The trapper-patrol cabins at Main and Gate Camps were repaired, new screen doors installed and the outsides of the buildings painted a light gray. All cabins, except that at the Marceaux Tract have been repaired and painted.

The final fencing repair and re-construction of hurricane damaged fence was completed in Fast Cove this period.

Two duck traps were constructed and placed in operation. The first ducks were caught on November 24 and by the close of the period a total of 599 birds had been banded.

A 16' fiberglass airboat with a 125 HP. engine was ordered this period. This unit has long been needed at Sabine for use in the impoundments. We believe that many of our projects will be accomplished more efficiently through use of this equipment.

New butane heaters were installed in Residence 1 and 3. A new hot water heater was purchased and installed in Residence 1 and a complete gas supply system was installed in Residence 3.

Three FM mobile T/R units and two FM walkie-talkies were received on transfer from the Branch of Enforcement. The mobile units have been installed in our outboard boats to give us radio communications in all marine equipment.

B. Plantings.

Nothing to report.

C. Collections.

Nothing to report.

D. Control of Vegetation.

Nothing to report.

F. Planned Burning.

Burns were attempted on the following areas this fall: West Cove, Pool 1a, Pool 1b, Back Edge, Long Point, and the Marceaux Tract. Only two areas burned really well. Pool 1a was set afire three times to obtain a complete burn. The results were excellent as 85 per cent of the area covered by vegetation was burned. An estimated 1,600 acres were burned. That portion of West Cove between the north line and Hog Island Gulley Canal was burned for the first time in over ten years. An excellent burn resulted where fire was not blocked by open water. Approximately 600 acres were burned. Burns on the other areas were spotty and small. Total area involved was estimated at 1000 acres.

F. Fires.

Nothing to report.

## IV. RESOURCE MANAGEMENT

A. Grazing.

Cattle moved onto the refuge grazing units from October 15 thru the second week in November. Lack of fresh water was the main reason for permittees delaying use of their units.

All grazing units were in excellent vegetative condition as a result of the rains of Hurricane "Cindy" which caused new growth after the summer drought. Perennial grasses again made gains in their replacement of annual grasses on the ridge areas.

Permittee Joe Sanner is cooperating with us in a grazing study by increasing the grazing pressure on two of his units and allowing his other unit to remain unused for the grazing season. The cattle from Unit 1 have been divided between Units 2 and 3. Biologist Valentine and refuge personnel will follow through this experiment with checks on waterfowl usage, marsh conditions and cattle conditions as a result of the increased grazing rate.

B. Haying.

Nothing to report.

C. Fur Harvest.

Trapping permits were issued to the same five permittees as last year. Our fur catch has been very poor as compared to last year and we have had one permittee to suspend operations because of the lack of fur on his area. We had not expected him to be able to continue as long as he did and we expect others to request permission to stop in the near future. A complete report of the trapping harvest will appear in the next narrative.

D. Commercial Fishing.

Twelve permits for gill netting of garfish were issued for the refuge. These permits expired on October 15 and only one permit was re-issued for continued garfish removal. A total of 11,565 pounds of garfish were taken from refuge canals during the calendar year 1963.

E. Alligator Removal.

On September 19, State personnel and LSU graduate students attempted to live catch the remaining 45 alligators available to them by permit for restocking purposes. Only 27 alligators were taken because of the scattering of alligators following the rains of Hurricane "Cindy".

F. Other Uses.

Nothing to report.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report.

During the summer and fall of 1963, refuge personnel and game management agents located and observed 20 alligator nests and four alligator holes on the refuge. The majority of the nests were located on the levees of either Pool 3 or Pool 1b. The nests were visited at regular intervals to determine disposition of the nest, time of hatching, number of young produced and, when possible, to obtain lengths and weights of the young. Of the 13 successful nests, eight were found near the southwest corner of Pool 3. Seven nests were unsuccessful, four of which were destroyed by predators prior to hatching, and three that were started were never completed. Of these seven unsuccessful nests, five were located along the southern edge of Pool 1b. Possibly the female alligators were killed prior to the completion of the nest.

Initial construction work on alligator nests was discovered on June 16. The first nest hatched about August 15. Three more newly opened nests were observed the following day. The last nest started to hatch on September 4, and young were still emerging from it on September 10. Of the 65 eggs in this nest 47 hatched. It was determined by examination of the remaining eggs that ants killed some of the living embryos before they could emerge from the shell. Several of the eggs were infertile. Since most of the unhatched eggs had complete embryos in them, it is possible they died of exposure after the nest was initially opened.

Eight nests which were under close observation produced 196 young; of these, 163 were caught, weighed and measured. The emerging young varied in weight from 33 to 57.3 grams, averaging 46.8, with the greatest deviation between individuals in a hatch being 19 grams. The length of these young varied from 21.4 to 28.0 centimeters, averaging 24.5, with the greatest difference in lengths in individuals in any nest being 3.7 centimeters.

Six newly hatched alligators were brought to refuge headquarters on August 26 and raised in an open air pen to determine their growth rate. The initial average length and weight was 23.2 centimeters and 41.1 grams. They were not given any food the first 2 days. They gained an average 1.2 cm. in length and 3.1 grams in weight. By the fourth day, they had gained another average .41 cm., but were only an average 1.6 grams over their birth weight. Probably their energy source for growth for the first few days came from the remains of the concentrated yolk still in their system. Some were unable to walk because of their swollen stomachs. They appeared to absorb water. Their weight dropped by the fourth day when the yolk supply apparently became exhausted. It took them from 6 to 8 days before they started feeding on their own as indicated by the increase in weights and the disappearance of minnows and shrimp placed in the pen.

A seventh polyactylous alligator was picked up on August 30. The front feet had 6 digits and the rear feet 8. The lower jaw was a 10th of an inch shorter than the upper jaw. Its weight continued to drop from 46.5 to 37.3 grams until October 10 when it responded to force feeding. In 4 weeks time, it had only grown 1.2 cm. in length.

Another alligator, 25.2 cm. long and weighed <sup>48.6</sup> 48.6 grams was taken from the last nest that hatched. At 1 week of age it had grown 1.9 cm. and had gained 7 grams in weight. By 4 weeks of age it was 28.0 cm. long and weighed 55.1 grams.

When the original six were about 3 weeks old, Hurricane Cindy hit the area. The water levels in the area rose considerably, making the obtaining of food for the captive very difficult. The cooler fall temperatures were apparent. Perhaps because of one of these factors the growth rate tapered off considerably by the fourth week. Average growth for the first four weeks was 9.2 grams and 4.1 cm.

All alligators were released at a winter hole on October 16 to give them a chance to get accustomed to the wild before the cold weather came. At the time of release the original six had grown to an average size of 27.7 cm. in length and 53.2 grams in weight.

The growth curves plotted from the length measurements indicated normal growth curves. Initially the growth was very rapid tapering off at about 4 weeks of age. The growth curve figured from the weight measurements was irregular but indicated a gradual increase in weight. The amount of food available, the air temperature and the feeding habits of the individual alligators caused the weights to vary considerably between measurements.

## VI. PUBLIC RELATIONS

A. Recreational Uses.

Only minor public use occurred on the refuge this period. Levee fishing near the spillway of Pool 1b was the only fresh water fishing permitted through October 15 when the entire refuge closed for the waterfowl season. The closure of the remainder of the refuge, except East Cove, last period stopped the limited use of other refuge areas because of the drought.

B. Refuge Visitors.

Included in the refuge visitors during this period were the following:

1963

- 9/6 Mr. W.P. Nelson, Rockport, Texas : Birding.
- 9/6 Mrs. Annette C. Koon, Gainsville, Texas : Birding.
- 9/6 Mrs. Doris McQuire, Rockport, Texas : Birding.
- 9/10 State Game Agent Jardell: Law enforcement.
- 9/11 USGMA. Osbolt : Concerning State Cases.
- 9/13 Representative Alvin Dyson : Visit refuge.
- 9/15 Biologists Othrie and Nelson Johnson, ECF. Lab., Beaufort, N.C. : Sampling for thread herring.
- 9/19 Biologist Valentine : Checking on alligators.
- 9/25 Biologists John Lynch and Ralph Andrews: Goose survey.
- 9/25 Biologist Valentine: Grazing Transects.
- 10/6 Biologist Valentine: Discuss Cameron-Creole Drainage.
- 10/6 U.S.G.S.A. Joe Ferroux: Make aerial cruise of East Cove.
- 10/15 Biologists Ted Ball and Valentine : Aerial photos of Sabine grazing areas.
- 10/25 Harry W. Whitman, U.S.G.S., : Concerning test well to be drilled.

Refuge Visitors, Cont'd.

- 10/23 & 24 Messrs. Lankford and Rudolph, Regional Office; Messrs. Smith and Giles, River Basins; Messrs. Chabreck and Summers, Louisiana Wildlife Commission; and Biologist Valentine: To discuss East Cove Project. Mr. Lankford to assist in development of soil and moisture conservation plans.
- 10/25 Messrs. Tom Shiflit, Carl Thomas and Paul McGowan, SEC. To study East Cove Project.
- 10/25 Mr. Junius V. Hebert, Sulphur, La. : Birding.
- 10/26 Messrs. A.C. Calhoun and Robert M. Ellis Jr. Ruston, La. Birding.
- 11/15 Mr. Kenneth M. Garner, PAMC : Visit Refuge.
- 11/15 Mr. Bill Ashe, Br. of Realty : Visit refuge.
- 11/20 Mr. Walter O. Stieglitz, Florida Mgt. Biologist : Courtesy call and general survey of refuge.
- 11/23 Biologist Valentine: Visit refuge.
- 11/25 Mr. & Mrs. Noble J. Miller, Colorado Springs, Col.: Birding.
- 11/30 Mr. & Mrs. Richard S. Wilson, Little Rock, Ark. : Birding.
- 11/30 Dr. W.Q. Beard, Baton Rouge, La. : Birding.
- 12/7 Forty members of Louisiana Ornithological Society : Birding.
- 12/8 Dr. & Mrs. Lowery, LSU : Birding.
- 12/8 Mr. Harry Whitman, U.S.G.S. : Checking on test well.
- 12/9 Mr. Harry Whitman, U.S.G.S. : Supervising test well drilled.
- 12/19 Mr. Ed J. Doran, U.S.G.S. : Checking water depth in deep wells at headquarter site.
- 12/31 State Game Agent Jardell : Law enforcement.

C. Refuge Participation.

Three personnel from Sabine Refuge went to Lacassine Refuge to aid in pulling the wing feathers of the Canada Geese received under the Bureau goose transplant operation.

Manager Walther and Assistant Manager McCann attended a joint meeting between ECF, the Cameron-Creole Drainage District, and the Bureau held in an attempt to reach an agreement on the desired biological requirements for the East Cove area.

D. Hunting.

Greater hunting pressure was exerted this season on ducks than has been noted in several years. The presence of large numbers of ducks prior to the hunting season helped bring many hunters into the marshes. Full bag limits of ducks were common during the early season but dropped as birds became more wary. Geese were never abundant enough to allow concentrated hunting of them on areas adjacent to the refuge.

E. Violators.

Following is a list of cases and disposition of cases:

Dunward Henderson Shull, 90 Gilmer Courts, Orange, Texas.  
Taking alligators during closed season and killing undersize alligators: Forfeited \$250.00 bond.

Bertis Ray Garrico, 453 Dyson Street, Orange, Texas.  
Taking alligators during closed season and killing undersize alligators. Forfeited \$250.00 bond.

Cleophe J. Andry, Rt. 1, Box 239, Crowley, Louisiana.  
Taking alligators during closed season and killing undersize alligators. Fined \$75.00 plus \$12.50 court cost and 30 days with 20 days suspended.

Irving Joseph Trahan, Box 97, Hayes, Louisiana.  
Taking alligators during a closed season and killing undersize alligators : Fined \$75.00 plus \$12.50 court cost and 30 days with 20 days suspended.

Harry J. Israel, General Delivery, Hayes, Louisiana.  
Taking alligators during closed season and killing undersize alligators. : Fined \$75.00 plus \$12.50 court cost and 30 days with 20 days suspended.

Violations, Cont'd.

Bobby Ray Porterfield, P.O. Box 173, Bon Weir, Texas.  
 Attempting to take alligators during closed season.  
 Jumped bail and was returned by bondsman. Served 22 days in jail.

Rayward Leger, 620 Starling Street, Sulphur, Louisiana.  
 Hunting alligators during a closed season. Hunting with a bow  
 and arrow. Taking undersize alligators.  
 (Juvenile-case dropped)

Charles Kenneth Dennis, Hackberry, Louisiana.  
 Taking alligators during a closed season and taking undersize  
 alligators : Case dropped.

Lawayne Lewis, Bon Weir, Texas  
 Attempting to take alligators in closed season : Case dropped.

Larry Hardy, General Delivery, Sulphur, Louisiana.  
 Possessing and discharging a firearm on the Sabine Refuge.  
 For admonishment.

Benny Earl Morris, 1517 W. 4th Street, Corsicana, Texas.  
 Attempting to take alligators.  
 Fined \$35.00 plus \$12.00 court cost.

Carrol Myers, General Delivery, Newton, Texas.  
 Aiding and abetting in taking ~~all~~ alligators.  
 Case dropped.

Robert Earl Myers, P.O. Box 253, Newton, Texas.  
 Aiding and abetting in taking of alligators.  
 Case dropped.

Paul H. Winebrenner, 112 E. Tennessee Street, Orange, Texas  
 Attempting to take alligators. :  
 Forfeit \$250.00 bond.

Gene R. Sarver, Route 2, Sulphur, Louisiana.  
 Hunting alligators during a closed season. Hunting with a bow  
 and arrow. Taking undersize alligators : Case pending.

Theodore Ancelet, P.O. Box 345, Sulphur, Louisiana.  
 Trespassing and possession of fire arm on Sabine Refuge. Fishing  
 on Sabine Refuge during closed season : Case pending.

Allen G. Ardoin, 1113 Pinehurst Street, Sulphur, Louisiana.  
 Trespassing and fishing on Sabine Refuge during closed season.  
 Case pending.

Violations, Cont'd.

C. Higginbotham, 413 Donell Street, Orange, Texas.  
Having over limit of ducks in his possession.  
Case pending.

W. Dick Winter, 3703 Edgemont, Orange, Texas.  
Having over limit of ducks in his possession.  
Case pending.

Ray E. Bright, 220 Oak Street, Sulphur, Louisiana.  
Trespassing in a closed area : Case pending.

Morgan LaSalle, P. O. Box 5725, Lake Charles, Louisiana.  
Trespassing and fishing on Sabine Refuge during closed season.  
Case pending.

Mary LaSalle, P. O. Box 5725, Lake Charles, Louisiana.  
Trespassing and fishing on Sabine Refuge during closed season.  
Case pending.

David A. Kuplechin, 402 Barrett Street, Sulphur, Louisiana.  
Trespassing and fishing on Sabine Refuge during closed season.  
Case pending.

F. Safety.

Safety meetings were held monthly with minutes of the meeting being sent to the Regional Office. Subjects discussed were taken from material supplied by the Regional Safety Committee.

Safety equipment obtained this period included; safety hats for employees, seat belts installed in all motor vehicles, fire whistle (facemask idea) for installation on air compressor, and installation of a fire pump engine with electric starter so any person can operate this equipment.

No lost time accident occurred this period. It has been 1167 days since the last lost time accident at this station.

## VII. OTHER ITEMS.

A. Items of Interest.

The test well drilled for the United States Geological Survey at refuge headquarters was completed in December. It was drilled to a depth of 863 feet with its water bearing sand extending from 790

to 820 feet . The well produced 40 gallons of water per minute with the water testing almost 1400 ppm chloride. The water in this well is saltier than our present water but the electrical log run by Schlumberger will give us valuable information for any future drilling.

The Narrative Report for this period was prepared by Refuge Clerk Goings and Manager Walther. The report in Section V was prepared by Assistant Manager McCann.

B. Photographs.

Refuge personnel took the following pictures with the Bureau camera.

Submitted by.

*John R. Walther*  
John R. Walther  
Refuge Manager

January 28, 1964

Approved:

*James H. Lissner*

Regional Director, San Francisco

JAN 29 1964



3 -1750a  
 Cont. NR-1  
 (Rev. March 1953)

WATERFOWL  
 (Continuation Sheet)

REFUGE Sabine

MONTHS OF September TO December, 19 64

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	11/10-16	11/17-23	11/24-30	12/1-7	12/8-14	12/15-21	12/22-28	12/29-31			
<b>Swans:</b>											
Whistling Trumpeter											
<b>Geese:</b>											
Canada	218	250	520	500	400	500	250	300	21,522		
Cackling Brant											
White-fronted	300	375	175	400	700	1000	900	800	31,975		
Snow	4500	3500	2015	2500	3500	6000	4500	4000	270,517		
Blue	5000	6500	3615	4000	6000	8000	7000	7500	416,307		
Other											
<b>Ducks:</b>											
Mallard	4300	4500	7473	7500	7500	7000	7500	7000	406,511		
Black	3000	3000	1210	1200	1200	1100	1200	1000	147,459		
Gadwall	35,000	30,000	21,411	23,000	22,000	16,000	10,000	11,000	1,433,287		
Baldpate	27,000	25,000	7490	8000	9000	10,000	7000	6000	922,064		
Pintail	68,000	65,000	20,950	12,000	18,000	22,000	20,000	27,000	2,701,800		
Green-winged teal	22,000	26,000	15,975	15,000	10,000	7000	5000	4000	885,075		
Blue-winged teal	45,000	48,000	19,027	20,000	20,000	14,000	16,000	16,000	2,425,270		
Cinnamon teal											
Shoveler	16,000	16,000	11,240	11,000	12,000	13,000	10,000	8000	779,601		
Wood									42		
Redhead				6	20	20	10	2	398		
Ring-necked	100	150	101	200	200	300	300	100	9827		
Canvasback				1					7		
Scaup	300	300	35	300	500	800	800	400	24,286		
Goldeneye											
Bufflehead											
Ruddy											
<del>Unidentified</del> Unidentified									14,595		
Hooded Merganser	5	10	16	40	40	40	20	5	1212		
<b>Coot:</b>	5000	5000	13,525	14,000	15,000	15,000	14,000	13,000	682,160		

(over)

	(5)	(6)	(7)	SUMMARY
	Total Days Use	Peak Number	Total Production	
Swans				Principal feeding areas _____
Geese	740,320	15,500		
Ducks	9,865,741	222,705		Principal nesting areas _____
Coots	682,160	15,000		
				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  
(Aug. 1952)MIGRATORY BIRDS  
(Other than Waterfowl)Refuge.....SabineMonths of September to December 1963

(1) Species  Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total Estimated Use
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	
<u>I. Water and Marsh Birds:</u>										
Red Hilled Grebe	Present		250	11/29	Present					8000
White Pelican	0		300	12/11	0					15,000
Arctic Skua	0		1	10/3	0					30
Great Blue Heron	0		375	12/11	0					33,750
Common Egret	0		2500	10/3	0					90,000
Snowy Egret	0		2500	10/3	0					105,000
Louisiana Heron	0		1000	10/3	0					10,000
Little Blue Heron	0		100	10/3	0					6,000
Little Green Heron	0		2500	10/3	0					80,000
Black Crowned Night Heron	0		90	10/3	0					200
Yellow Crowned Night Heron	0		150	10/3	0					5,000
Olivaceous Cormorant	0		70	10/3	0					11,000
Double Crested Cormorant	0		100	12/11	0					10,000
American Bittern	0		250	12/21	0					25,000
Least Bittern	0		1500	12/3	0					82,000
<del>XXXXXXXXXXXXXXXXXXXXXXXX</del>										
<del>XXXXXX</del>										
Glossy Ibis	Present		6000	11/29	Present					800,000
White Ibis	0		3500	12/29	0					250,000
Wood Ibis	0		5	10/3	0					150
Roseate Spoonbill	0		1	10/6	0					90
King Rail	0		1000	12/11	0					120,000
Clapper Rail	0		1000	12/11	0					120,000
Virginia Rail	0		100	12/11	0					12,000
Cora	0		200	12/11	0					21,000
Common Gallinule	0		1200	12/11	0					120,000
Purple Gallinule	0		7	9/12	1	10/3				90

(over)

(1)	(2)	(3)	(4)	(5)	(6)	
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove						
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow, Fish Turkey Vulture Black Vulture Red Tailed Hawk Marsh Hawk Pigeon Hawk	1      Present * * * * 1	11/29          11/29	2   10 8 30 3 30	12/14   12/14 10/3 10/3 12/14 12/14	Present   Present * * * * *	80   720 200 3000 150 6000 45
Reported by.....						

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.

3-1751  
Form NR-1A  
(Aug. 1952)

MIGRATORY BIRDS  
(Other than Waterfowl)

Refuge Sabine Months of September to December 1963

(1) Species  Common Name	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
<del>I. Water and Marsh Birds:</del>										
<b>II. Shorebirds, Gulls, Terns.</b>										
Killdeer		Present	500	10/3		Present				40,000
Black Bellied Plover		"	100	12/14		"				6,000
Common Snipe		"	2000	12/14		"				98,000
Long-Billed Curlew	1	9/12	4	12/14		"				300
Billet		Present	25	12/14		"				2,500
Great Yellow Legs		"	200	12/14		"				20,000
Lesser Yellow Legs		"	325	12/14		"				32,500
Semipalmated Sandpiper		"	200	12/14		"				20,500
Spotted Sandpiper		"	10	12/14		"				900
Western Sandpiper		"	100	12/14		"				9,000
Black Necked Stilt		"	100	10/3	3	11/27				6,000
Herring Gull		"	100	10/3		Present				9,000
Ring Billed Gull		"	250			"				15,000
<del>Max Shorebirds and Gulls and Terns</del>										
<del>Terns</del>										
Laughing Gull		"	200	10/3		"				12,000
Black Skimmer		"	100	10/3		"				6,000
Least Tern		"	25	10/3		"				1500
Royal Tern		"	50	12/14		"				5000
Caspian Tern		"	15	12/14		"				900
Black Tern		"	1600	9/22	30	10/3				28,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove					
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow					
Reported by.....					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.



## 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.

3-1753  
Form NR-3  
(June 1945)

BIG GAME

Refuge Sabine

Calendar Year 1963

(1) Species	(2) Density	(3) Young Produced	(4) Removals					(5) Losses			(6) Introductions	(7) Estimated Total Refuge Population		(8) Sex Ratio
			Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number		Source	At period of Greatest use	
White-tailed Deer	2,500 acres of ridgeland of normal range and 90 miles of canal banks		0	0	0	0	0	0	0	0		75	30	60:40

Remarks:

Reported by \_\_\_\_\_

## INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: 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 total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Refuge Sabine

Year 1946

Botulism

Lead Poisoning or other Disease

Period of outbreak None

Kind of disease None noted

Period of heaviest losses

Species affected

Losses:

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

Number Affected	Actual Count	Estimated
Species		
.....	.....	.....
.....	.....	.....
.....	.....	.....

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

Number Recovered.....

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

Number lost.....

Source of infection.....

Areas affected (location and approximate acreage).....

Water conditions.....

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

Food conditions.....

Conditions of vegetation and invertebrate life.....

Remarks.....

Remarks.....

## PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge SabineCalendar Year 1963

## 1. Visits

a. Hunting None b. Fishing 3000 c. Miscellaneous 329 d. TOTAL VISITS 3329

## 1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl	<u>None</u>		
Upland Game	<u>None</u>		
Big Game	<u>None</u>		
Other	<u>None</u>		

Number of permanent blinds \_\_\_\_\_

Man-days of bow hunting included above \_\_\_\_\_

Estimated man-days of hunting on lands adjacent to  
refuge 1300

## 1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes	<u>39,500</u>	
Streams and Shores		<u>150</u>

## 1c. Miscellaneous Visits

Recreation 119 Official 195  
Economic Use 7 Industrial 8

## 2. Refuge Participation (groups)

TYPE OF ORGANIZATION	ON REFUGE		OFF REFUGE	
	NO. OF GROUPS	NUMBER IN GROUPS	NO. OF GROUPS	NUMBER IN GROUPS
Sportsmen Clubs				
Bird and Garden Clubs	<u>1</u>	<u>40</u>		
Schools	<u>3</u>	<u>38</u>		
Service Clubs				
Youth Groups				
Professional-Scientific	<u>3</u>	<u>14</u>		
Religious Groups				
State or Federal Govt.	<u>3</u>	<u>18</u>		
Other				

## 3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	<u>5</u>	Radio Presentations	<u>2</u>
Newspapers (P.R.'s sent to)		Exhibits	
TV Presentations	<u>2</u>	Est. Exhibit Viewers	

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and week-end samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

Refuge Sabine

Calendar Year 1963

Facilities

Picnic areas: areas none tables \_\_\_\_\_ fireplaces \_\_\_\_\_ toilets \_\_\_\_\_

drinking water \_\_\_\_\_ shelters \_\_\_\_\_

Swimming: designated areas none bathhouses \_\_\_\_\_

Boating: launching sites 3 rental facilities None

service facilities \_\_\_\_\_

are motors allowed yes maximum horsepower 7-1/2 in impoundment

Camping: permitted No or not permitted \_\_\_\_\_

tent camps None total capacity \_\_\_\_\_

group camps None total capacity \_\_\_\_\_

hunter camps None total capacity \_\_\_\_\_

trailer camps None

lodges None capacity \_\_\_\_\_

cabins None motels \_\_\_\_\_ total units \_\_\_\_\_

Tours: Season \_\_\_\_\_ frequency Occasional (Upon prior written request)

self-guided nature trails None is trail leaflet available? \_\_\_\_\_

self-guided auto tour route None is tour leaflet available? \_\_\_\_\_

Access points: estimate number in public use None

General - Brief statement of two to five lines on recreational opportunities available on refuge (suitable for inclusion in refuge leaflets or briefing reports). **Sport fishing is the best recreational opportunity available on Sabine Refuge. Approximately 30,000 acres of impoundments and 150 miles of waterways are usually excellent for fishing.**

(Over)

INSTRUCTIONS

Supply numbers wherever appropriate. These may be estimated if necessary.

Where operation and maintenance is supervised by this Bureau, but the responsibility of a concessioner, group, or agency, indicate by a single \*. Where supervision of such activities is by another Federal Bureau indicate by two \*\*.

PLANTINGS  
(Marsh - Aquatic - Upland)

Refuge.....Sabine.....Year 194~~6~~<sup>63</sup>

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Hulled Bermuda Grass				50 pounds of Hulled Bermuda Grass seed purchased from McCall Farm Supply, Inc. Lake Charles, La.				Approximately 25 pounds were used to over seed the levee planted with Spartina.  Another 25 pounds were sown on the cap of the new levee along the west margin of Pool 3. This one was about 1/4 miles long

TOTAL ACREAGE PLANTED:

Marsh and aquatic.....  
Hedgerows, cover patches.....  
Food strips, food patches.....  
Forest plantings.....

3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sabine County Cameron Parish State Louisiana

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure Cover and Water-fowl Browing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
None	None	None	None	None	None	None	None	None	None
								Fallow Ag. Land	None

No. of Permittees: . Agricultural Operations None Haying Operations None Grazing Operations 6

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
None	None	None	None	1. Cattle	1124	6903	1,725.86	13,596
				2. Other	None	None	None	None
				1. Total Refuge Acreage Under Cultivation				
Hay - Wild				2. Acreage Cultivated as Service Operation				

DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1759  
Form NR-9  
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK  
(Seeds, rootstocks, trees, shrubs)

Refuge..... Sabine ..... Year 1946

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period or Collection	Method	Unit Cost	Amount	Source		
Hulled Bermuda grass	50 lbs.	2/27/63				Purchased from McCall Farm Supply, Inc. Lake Charles, La.		
Spartina patens	36,900 sprigs	2/4/63- 2/28/ 63	Collected by hand at Sabine Refuge					

HAYING AND GRAZING

Refuge Sabine

Year 1963

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
H.C. Henderson	46	7a, 7b	1,824	853	0	11/30/62-4/7/63	.25	213.36	Yearly Payment
George A. LaBove	47	1b	511	810	0	10/15/62- 4/15/63	.25	202.50	" "
Floyd Little	45	5a, 5b, 5c	7,228	1,283	0	10/14/62- 4/12/63	.25	320.75	" "
Sam Little	50	4, 4a, 4b	1,502	815	0	10/20/62- 4/12/63	.25	203.75	" "
Sam Little	49	7c	220	580	0	10/21/62- 4/14/63	.25	145.00	" "
Joe Sanner	48	1, 1a, 2, 3	2,231	2,562	0	10/15/62- 4/15/63	.25	640.40	" "

Totals:

Acreage grazed 13,596 Animal use months 6,903 Total income Grazing \$1,725.86  
 Acreage cut for hay None Tons of hay cut None Total income Haying None



99 • NVF

UNIT 5 COVERED WITH FLOOD WATER FROM  
SABINE RIVER ONE WEEK AFTER HURRICANE

JAN • 64



THREE WEEKS DIFFERENCE IN BURNING DATE. REGROWTH FROM  
OCTOBER BURN. PHOTOGRAPH TAKEN DAY BURN WAS COMPLETED  
IN NOVEMBER. GRAZING UNIT 2.

JAN \* 64



POOL 3 PRIOR TO RAINS OF HURRICANE CINDY

OCT \* 63



POOL 3 AFTER HURRICANE RAINS



MAINTENANCEMEN PORTIE AND SILVER  
SABINE REFUGE, PARTICIPATING IN  
WING FEATHER PULL OF LACASSINE  
REFUGE CANADA GOOSE TRANSPLANT