

NARRATIVE REPORT ROUTING SLIP

REFUGE OAK ORCHARD

PERIOD May-August 1963

CHIEF'S OFFICE: Mr. Gillett B

Mr. Ackerman BA

Mr. Fermanich

Mr. Goldman

WILDLIFE MANAGEMENT: Mr. Stiles

RESOURCE MANAGEMENT: Mr. Stollberg BA

Mr. Lumb CL

OPERATIONS: Mr. Huenecke A

Mr. Regan RR

PUBLIC USE: Mr. DeMont PAD

Mr. Monson ju

PLANNING: Mr. Hickok

ADMINISTRATIVE SERVICES: Miss Baum

NARRATIVE REPORT
OAK ORCHARD NATIONAL WILDLIFE REFUGE
MAY-AUGUST, 1963

PERSONNEL

Lawrence S. Smith.	Refuge Manager
Harold O'Connor.	Ass't Refuge Manager *
Donald H. Owen	Wildlife Aid
Robert L. Wolfe.	Clerk-Typist
Odmund T. Olsen.	Maintenanceman
Richard A. Cole.	Student Assistant **
Daniel E. Nyhan.	Student Assistant ***

* Began duties 6/3/63

**Period of employment 6/9 - 8/23, 1963

*** Period of Employment 6/16 - 8/30, 1963

U.S. FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
BASOM, NEW YORK

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NARRATIVE REPORT

OAK ORCHARD NATIONAL WILDLIFE REFUGE

MAY - AUGUST, 1963

I. GENERAL

A. Weather Conditions. The table below summarizes the precipitation and temperature records obtained from equipment maintained at the refuge. The figures used for normal precipitation are those of the nearest weather bureau station at Batavia, New York.

	PRECIPITATION			TEMPERATURE	
	<u>Snowfall</u>	<u>Total Precip.</u>	<u>Normal</u>	<u>Maximum</u>	<u>Minimum</u>
May	.01	2.03	3.08	76	25
June	--	.34	2.62	95	42
July	--	5.64	3.00	92	38
August	--	4.15	2.82	80	39
Totals		12.16	11.52	Ext. 95	25

This reporting period had the driest June for a number of years. The state-wide precipitation for June occurring in Barker, N.Y., approximately 12 miles to the northeast of the refuge. The dry month caused the hay crop to be poorer than usual in this area in spite of the above average precipitation in July. While the last two months of the period were characterized by above average precipitation, ground water levels didn't recover from the early summer drouth conditions. Cool weather prevailed throughout the entire month of August with a noticeable lack of sunshine.

B. Habitat Conditions.

1. Water. This is the fifth summer that we have observed conditions on the area. The below normal precipitation during June caused a gradual drop in water gauge levels. As a result of increased precipitation during July the water levels had returned to normal by August. The one point of water stabilization during the summer was engineered by a colony of beaver on the feeder canal where a dam was constructed backing water up into a considerable feeding area to the south. Having no master plan requirements nor concern over acquisition status, they have a head start on us in the control of water levels.

2. Food and Cover. Food and cover have appeared adequate during the period. Some grain crops seem to be maturing later because of the lack of precipitation during germination. If the cold weather will hold off long enough our corn should also make it. The fruit trees on the refuge have produced high yields and the numerous areas of wild berry bushes appear to be flourishing.

II. WILDLIFE

A. Migratory Birds.

Waterfowl. Six hundred Canada geese were on the area through the first week of this period. The northward goose flight had arrived two weeks earlier than normal and the last migrants left a few days earlier. Migrant ducks were pretty well gone by the second week of May leaving the breeding population of mallards, black ducks, blue-winged teal, and wood ducks. One brood of hooded Mergansers was observed on the refuge again this year.

Five goose nests resulted in the vicinity of the goose enclosures on Sour Springs Road. One of these was a pair that had developed last year and produced 4 young from a nest in goose pen #1. They successfully raised seven young this year. The other four pairs are assumed to have resulted from the release of our goose flock #2 which were birds produced locally on the State Game Farm. One pair nested in goose pen #1 and failed to hatch the eggs-possibly due to loss of nesting material from the nest platform. A second pair nested on a nesting platform on a new dugout constructed last year south of our goose enclosures. This was a late nesting and failed due to infertile eggs. A third pair nested near a new pond north of the goose enclosures and their young were commonly observed on the pond and on Oak Orchard Creek. The nesting site of the fourth pair is not known. They turned up outside the goose enclosure with three half grown young and were eager to get to the water when we opened the gate and let them in.

Goose production on the adjacent State Oak Orchard Game Management Area was encouraging this year. Production from paired birds returning to the area was known to be 80 with the production from two successful nests unknown. No releases of paired geese had been made this spring and all birds had left the Game Management Area this past winter.

Student Assistant Richard Cole was responsible for a study of waterfowl production on our acquisition area as a portion of his summer program. Dick's survey resulted in fewer broods than had been turned up during 1961 and 1962 from a comparable effort. A rather cool spring season may have caused later nesting by which time the early summer drouth left less total nesting habitat on

our acquisition area with plenty of good habitat available on the immediately adjacent Game Management Area.

Brood information for the 1961, 62 and 63 seasons is provided below:

	1961		1962		1963	
	<u>Broods</u>	<u>Total Prod.</u>	<u>Broods</u>	<u>Total Prod.</u>	<u>Broods</u>	<u>Total Prod.</u>
Mallards	12	108	5	31	5	35
Black	10	68	2	15	4	18
B.W. Teal	12	79	13	75	12	83
Wood duck	11	69	23	138	11	82
Hooded Merg.	1	8	-	-	1	7
Unknown	-	-	2	11	-	-
	46	332	45	270	33	225

Other waterbirds. Two broods of pied-billed grebes and three broods of Florida gallinules were observed during the waterfowl brood surveys. Commonly observed also were great blue herons, green herons, American bitterns, and least bitterns. Common egrets were observed at the east end of the refuge and on the Swallow Hollow impoundment.

Shorebirds. Woodcock and Wilson's snipe were both observed. An upland plover was reported as the first observation we have noted. Killdeer and spotted sandpipers nested on the area.

Mourning Doves. A common nesting species often observed on utility lines or on gravel roads searching for grit. We have been unsuccessful so far in bringing them to bait placed for the purpose of trapping and banding them.

B. Upland Game Birds. Sixteen broods were recorded compared to thirty broods observed in 1962 and twenty-two in 1961. General observation indicates that the population is holding good which it should with many local releases each fall by the State. Cold weather during the late spring season is probably responsible for much re-nesting and the late observations of young broods. Two broods of ruffed grouse were observed.

C. Big Game Animals. White tailed deer are common but not as plentiful as would be expected with the summer habitat available.

D. Fur Animals, Predators. During both 1962 and 1963 cottontail rabbits were noticeably abundant in May and June with an apparent drop in population by August. Opossum seem less abundant following the severe winter when many were known to have perished.

Beaver established a dam on the Feeder Canal just downstream (north-east) of the main drainage ditch which drains the southwestern portion of the swampland and former muck crop fields. As there were no complaints from private landowners we permitted them to remain and they are working young aspens and cottonwood adjacent to the old drainage ditches. Their dam immediately adjacent to the Feeder Canal road has created considerable interest.

E. Hawks, Eagles, Owls, Crows, etc.. Red-tailed, marsh, and sparrow hawks are the common summertime hawks. Two barred owls were seen along Oak Orchard Creek and Great Horned Owls are common. Turkey vultures number about 25 and utilize the same roosting site in the swamp woodland on Tract 84 just east from Route 63.

F. Other Birds. Not Applicable this period.

G. Fish. Evidence of pollution and dead fish have been absent for both the 1962 and 1963 seasons since the food processing plant in Oakfield, N.Y. has changed hands. Use of the creek for fishing has picked up with a few good catches of northern pike made.

H. Reptiles. An eastern box turtle, Terrapene carolina carolina, was discovered on the lawn of the refuge office. According to Roger Conan's "A Field Guide to Reptiles and Amphibians" this turtle was more than a hundred miles outside its natural range. None have been observed here before so we suspect that it is an escape.

III. REFUGE DEVELOPMENT AND MAINTENANCE

Land Acquisition:

Messrs. Charles Adsit, Harvey Warner and Leighton Lane of our Branch of Realty have carried out negotiations for land purchases this period. The first action occurring for a long time in the acquisition line took place this period. This resulted primarily from the approval of new appraisals made by the Migratory Bird Conservation Commission at their May 21st meeting. Seven options have been obtained including one large section of prime waterfowl use area along the Oak Orchard Creek. At the close of this period, the status of acquisition of the programmed 10,802 acres is as follows:

	<u>Acreage</u>	<u>Percent of Total</u>
Option Negotiated	604.69	6%
Deed Executed	199.75	2%
Payment Made	<u>5,287.89</u>	<u>49%</u>
Total of the Above:	6,092.33	57%

Engineering Surveys.

Mr. Vance Zook of the Regional Office Branch of Engineering and Roger Tornstrom of the Dover, Delaware office were at the refuge on August 12-14 to take care of property surveys occasioned by Realty's progress at acquisition.

A. Physical Development.

Office. As no end appears to be in sight for use of our "temporary" office, a flagpole was erected in the front lawn for flying of the stars and stripes and the new Department flag.

Quarters #1. The cistern was cleaned and the septic tank pumped this period.

Quarters #2. The septic tank was pumped this period.

Quarters #4. The cistern was cleaned and a coat of masonry sealer applied prior to opening up this quarters for use by Harold O'Connor and family.

Fencing. A delivery was made of 2,500 seven foot studded T fence posts for use in our fencing program. Work accomplished this period is as follows:

Boundary fence:

Line leveled, disced and seeded to grass mixture,
Tract 45. 4,280'
Posts driven and wire stretched, Tract 94 900'

Pasture Fence:

Posts driven and wire stretched, Tracts 90b,
97 and 96 8,712'
Fence line cleared. 4,000'

Patrol Trail. A proposed patrol trail across the northeast corner of the refuge was furthered by the placing of two culvert pipe crossings at the location of temporary stream courses.

Ponds. At the pond site completed late last fall on Tract 100 the spoil area and dike banks were fitted, seeded to a mixture of grasses with oats for a nurse crop, and mulched.

A new pond was constructed west of our goose pen #1 to offer additional nearby nesting opportunity for our released geese. This pond is a combination dike and dugout structure and was constructed with our D-7 bulldozer. The island, dike, and spoil area were seeded to a mixture of grasses and mulched. The first rains put a little water in the pond and a few flying geese remaining from our 1963 release have been attracted to it for the new grass.

Two dugouts placed for grazing use are reported under S&M.

Two hundred bales of hay donated by the New York State Pheasant Farm were hauled and stored for use in mulching new pond dikes.

The area biologist stationed at the Genesee Soil Conservation District office assisted us in planning a small marsh north of the refuge office which will be located on Tracts 71 and 77a. We hope to be able to put this structure in before snow flies.

Building Disposal. Some debris remaining following leveling of former building sites on Tract 97 was hauled away. The former building sites on Tracts 12 and 16 were leveled and seeded to grasses with wheat for a nurse crop. At the close of this period 17 structures are being offered for sale on a bid basis. We will be glad when they are gone as "break-ins" and theft have been a problem. Our efforts to catch a thief at Tract 32 so far have been fruitless. He stole the locked front door, heat registers, electric fixtures, kitchen sink, and has methodically been removing ceiling tile and the supporting framework.

Equipment. Our gains probably have equalled our losses this period. Major property items procured this period were:

- By purchase: 1 1963 Rammer Stationwagon.
- 1 Wright reciprocating saw.
- 1 Three speed sabre saw.
- 1 16 mm Bell & Howell magnetic & optical sound projector.
- 1 Mott 6' flail type mower.
- 1 21" rotary lawnmower.
- 1 Blade for 3 point hitch (7')
- 1 Typewriter stand
- 1 Bookcase section

- By transfer: 1 600 gallon fuel service trailer.
- 1 Caterpillar D-7 bulldozer w/hyster winch.

One cable blade Caterpillar D-6 was shipped to the Moosehorn Refuge, and permanently transferred this period. One telephoto lens was transferred to the Kenai, Alaska, area. An electric hoist was transferred to the Lamar National Fish Hatchery. An unserviceable road grader and 16mm projector were disposed of by bid invitation.

Soil and Moisture Work. Forty-six acres located on Tracts 14, 114, 112, and 57 were broken up this period; leveled by discing, use of springtooth harrow and cultipacker; fertilized; and seeded to a mixture of bird's foot trefoil and timothy. These reverting fields had been abandoned following plowing or use of a row-crop

and were in rough condition. As time permits, these areas which we plan to manage as grassland (hay-pasture) will be broken up and re-seeded to adapted grasses and legumes for long term seedings.

Two dugouts located in a grazing unit on tracts 96 and 97 were provided with gravelled cattle access areas and will be fenced during the next period. Two dugouts were constructed in a proposed grazing unit on tracts 114 and 132 utilizing a Caterpillar D-7 bulldozer. One of these hit a spring ~~and~~^{which} is filling with clear water. These potholes have attracted waterfowl and serve to distribute nesting opportunity throughout our grassland area. A pair of geese resulting from the 1963 release of our flock #2 utilized one of the dugouts constructed in 1962.

Mr. Lumb from the Central Office and Mr. Sutherland of the Regional Office visited the station on June 24th to discuss Soil and Moisture work and examine portions of the refuge where S&M funds have been expended and where we anticipate spending them for F.Y. 1964.

B. Plantings.

1. Aquatics and Marsh Plants. Not applicable.
2. Trees and Shrubs. One thousand each of Scotch Pine and Norway Spruce were utilized to reinforce windbreaks and timber screens previously planted. These were obtained at no cost from the adjacent N.Y. State Tree Nursery.
3. Upland Herbaceous Plants. Reported under Soil and Moisture work above.
4. Cultivated Crops. A policy preventing the cash rental of land for cropping brought such farming activity to a cease on our area. We utilized one field for the production of field corn (6 acres) and buckwheat (6 acres). This field had been under permit to corn last year and had been sprayed with atrazine. We hoped to capitalize on some after affect of the spraying to produce some feed for our captive geese.

C. Collections and Receipts. Not applicable.

D. Control of Vegetation. This was a major work project this period and consisted of both mechanical and herbicidal control efforts. Observation of our efforts of the past two years indicated that a dual mechanical herbicidal treatment is showing the best results in situations of heavy brush and hardwood reproduction.

Areas of tall brush and tree growth are difficult to completely cover with a spray and after two passes still often leave much to be desired. These situations also require heavy per acre applications of a herbicide. Areas which had been cut with the Brillion brush cutter and then sprayed with a boom sprayer as the re-growth accured have given the most positive results. This has permitted lighter per acre applications of chemical and resulted in clear grass areas which had been jungles.

The Brillion brush cutter was utilized on 55 acres this period, many of which were reverting to an ash cover which we have been unable to handle with spray.

The primary tool utilized this summer was a spray outfit mounted on the 4-wheel drive recon car consisting of a 200 gallon tank, an engine-pump unit, and hand gun-frequently equipped with a roadside elbow. This outfit was utilized on roadsides, trails, in brush and woodland, spraying brush and tree growth in ditches and along fences, clearing weeds and brush at former building sites, and spot treatment of hardwood reproduction in reverting fields. Chemicals utilized were 2,4-D, half and half mixtures of 2,4-D and 2,4,5-T. A total of 113 acres was treated by this means.

A basal stem treatment of 2,4,5-T in oil was utilized on larger specimens of hardwood species difficult to treat adequately with a hydraulic spray. One area which we wish to maintain as open brushland for the benefit of nesting woodcock was so treated to eliminate the eventual tree growth.

A Solo back pack mist blower was utilized at brush control in places of difficult access including sections of our boundary fence line where re-growth of hardwood material cut for the fence line clearing was rank. The spray consisted of 2,4,5-T in oil.

Dowpon at a mixture of one-half pound per three gallons of water was utilized in a garden sprayer to kill grass around buildings foundations and along goose pen fence lines.

Summarization of vegetative control work will appear in the December Narrative Report.

E. and F. Not applicable this period.

IV. RESOURCE MANAGEMENT

A. Grazing. Three grazing permits were issued as follows.

<u>PERMITTEE</u>	<u>TRACT</u>	<u>ACREAGE</u>	<u>AUM's</u>	<u>RATE</u>	<u>RETURNS</u>
Edward Baubie	114	20	42	.50	\$ 21.00
Robert Falker	90b, 96 & 97	125	210	.50	105.00
Donald Hellert	63 & 64	50	150	.50	75.00
				Total	201.00

Messrs. Baubie and Hellert are utilizing pasture area they had owned prior to our acquisition and utilize existing fences. We have fenced an area comprising portions of tracts 90b, 96 and 97 which has been utilized for the second season by Mr. Falker. Three dugout ponds were constructed during 1962 for stock water on this area and a corral constructed this period. The portion of Tract 96 was included for the first time this year with the construction of a fence which added 58 acres to this grazing unit. The unit is divided with a fence for rotational grazing.

We face a big battle in the prevention of reversion of open lands coming into our ownership-many acres of which have been abandoned for some years. The uses of grazing and haying are both being utilized as tools in the management and maintenance of grassland areas for the encouragement of waterfowl nesting and goose grazing. One of our satisfactions this year came with the use of one of the dugouts by a pair of Canada Geese from goose flock #2.

B. Haying. Eight permits were issued for the harvesting of hay as follows:

<u>TRACT</u>	<u>ACREAGE</u>	<u>TYPE OF HAY</u>	<u>RATE/ACRE</u>	<u>RETURN</u>
63	31	Mixed legume grass	\$3.00	\$93.00
132	24	Timothy w/light trefoil	1.50	36.00
64	12	Trefoil	5.00	60.00
60	6	Trefoil	5.00	30.00
90c	33	Mixed legume grass	2.00	66.00
57	19	Mixed legume grass	3.00	57.00
114	30	Mixed legume grass	2.00	60.00
21	18	Grass hay	1.00	18.00
		Total		420.00

Drouth conditions during the early summer have created a demand for hay throughout our area.

C. Fur Harvest. Not applicable.

D. Timber Removal. Three timber permits were issued this period as follows:

<u>TRACT</u>	<u>CORDS CUT</u>	<u>TYPE OF WOOD</u>	<u>RATE</u>	<u>RETURNS</u>
44	50	Hardwood pulp	\$1.00	\$50.00
55	20	Hardwood pulp	1.00	20.00
103 & 102	10	Hardwood pulp	1.00	10.00
			Total	80.00

Efforts to obtain a market for our large expanse of swamp hardwood species that would allow a satisfactory profit to our permittees have continued to prove fruitless. The difficulty encountered in removal remains the big stumbling block. One permittee after obtaining his permit to cut pulpwood on tracts 102 and 103 encountered the mosquitoes on the way into the swamp, decided that discretion was the better part of valor and left without cutting a stick.

E. & F. Not applicable.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

Our Student Assistant program this summer contributed information on the extent of waterfowl production on this area prior to development, provided information on the small mammal species to be found on the refuge, and added 49 specimens to the refuge herbarium.

VI. PUBLIC RELATIONS

A. Recreational Uses. Most of the recreational use during the period has been by fishermen. Those native to the area say the Northern Pike fishing is the best in years. Again, however, the beaver have had a hand in the matter as some of the largest fish caught seem to have been cultivated behind their dam. Spot checks indicate an estimated 754 use days for fishing this period.

B. Refuge Visitors. A list of refuge visitors follows:

<u>DATE</u>	<u>NAME</u>	<u>AFFILIATION</u>	<u>PURPOSE</u>
5/1	Charles H. Adsit	Realty, Boston	Negotiations
5/9	Vance D. Zook	Engineering, Boston	Courtesy call
5/9	R.W. Anderson	" "	" "
6/12	Harvey F. Warner	Realty, Boston	Negotiations
6/12	Charles H. Adsit	" "	" "
6/13	David Pitkin	Syracuse Sply, Buffalo	Maintenance check
6/13	Ken Magargel	Montezuma NW Refuge	Deliver beams
6/15	Darrell D. Uptegraft	Erie NW Refuge	Pick up fence posts

<u>DATE</u>	<u>NAME</u>	<u>AFFILIATION</u>	<u>PURPOSE</u>
6/15	Edward Moses	Erie NW Refuge	Pick up fence posts
6/15	Clarence Ledbetter	" " "	" " " "
6/20	Victor Schmidt	Federal Aid, Boston	Courtesy call
6/20	Frank Nix	Engineering, Boston	" "
6/21	Arther Hawking	Minneapolis, Minn.	" "
6/24	Dale Sutherland	Refuges, Boston	S&M Inspection
6/24	Mr. Lumb	F&WS, Wash. D.C.	" "
7/1	Russell Cheney	NYS Cons. Dept.	Courtesy call
7/16	Bill Lamale	Buffalo Courier Exp.	News article
7/17	Ron Schefferle	" " "	News pictures
7/17	Robert E. Myers	SCS, Batavia, N.Y.	Small marsh survey
7/23	Harvey F. Warner	Realty, Boston	Negotiations
7/26	Mr. & Mrs. J.W. Carr	Realty Office, Dover, Del.	Courtesy call
8/11	Roger R. Tornstrom	Dover, Del.	Survey
8/12	Vance D. Zook	Engineering Boston	"
8/13	Phillip A. DuMont	Chief, Public Use, Wash.	Inspection
8/13	Merton Radway	Refuge Operations, Boston	"
8/14	Paul S. Steel	Refuges, Boston	Master Plan
8/14	Trooper Ferrucci	NYS Police, Batavia	Investigate theft
8/23	J.L. Smith	NYS Police, Batavia	Information
8/27	Investigator Bochynski	NYS Police, Batavia	Investigate theft
8/30	John E. McIntosh	Lockport, N.Y.	Information
8/30	Richard A. Huth	Akron, N.Y.	"

C. Refuge Participation:

May 12-24th. Refuge Manager Smith spent two weeks in the Washington Office on a detail in the section of Wildlife Management.

May 28th. Wildlife Aid Owen attended a one day GMC training course on the Delcotron alternator at Clarence, New York.

June 6th. Refuge Manager Smith presented a program for the Oakfield-Alabama Central School Science Club on film developing and printing. This was an obligation resulting from use of the school's darkroom facilities.

June 17 & 18th. Wildlife Aid Owen attended a two day GMC training course on automotive tune-up. We await the procurement of a couple thousand dollars worth of equipment to capitalize on this training.

July 11th. Refuge Manager Smith and Student Assistants Nyhan and Cole attended an evening Genesee County Extension Service meeting on the establishment of grass and legume stands from summer seedings. The meeting was held at a local farm where several test plots were put in by Cornell University last summer.

August 24th. Refuge Manager Smith, Wildlife Aid Owen, and Student Assistants Nyhan and Cole spent a Saturday touring the New York State Conservation Department's Rattlesnake Hill Multiple Use Area and inspected several small marsh developments.

D. - E. Not applicable this period.

F. Safety. Five safety meetings were held this period as follows:

May 3rd. Coverage of the proper method of handling heavy materials by Olsen.

June 19th. Smith covered procedure to be followed in handling refuge fires, and the operation of various types of equipment for the familiarization of the three new employees. Owen discussed the dangers of poison ivy.

June 28th. The films "You are the Lifeguard" and "Paddle a Safe Canoe" by the Aetna Insurance Co. were viewed.

July 17th. Coverage of refuge fire hazards and methods of mouth to mouth resuscitation by Nyhan.

August 19th. Coverage of carbon monoxide and various household poisons by Cole. Coverage of dangers in the use of charcoal fire starting fluid.

One incident occurred requiring medical attention this period when Daniel E. Nyhan suffered lacerations of the right hand fingers while changing the blade on a power lawn mower. The lacerations inflicted by the lawn mower blade required four stitches to close. Although the injury was painful and awkward while healing Mr. Nyhan suffered no permanent impairment to his hand. One automobile accident occurred during the period when the refuge jeep operated by Mr. Nyhan was struck from the rear while making a left hand turn. Although the driver of the other car and both student assistants Nyhan and Cole, (a passenger in the jeep) were shaken up, they all came through unscathed. No lost-time accidents occurred this period and the record at this station for days without a lost-time accident stands at 1,865.

As safety measures this period, safety belts were added to the new Dodge dump truck and provided for the passenger seat in the military jeep.

VII. OTHER ITEMS

The assistant Refuge Manager position was filled on June 3rd when Mr. Harold J. O'Connor entered on duty. The O'Connors and

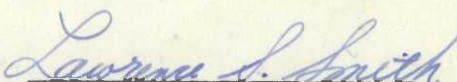
their three youngsters moved into Quarters #4 which had been vacant for half a year. Harold was typically observed running around with pipe wrenches and a plumber's helper before problems with the quarters were brought under control. Hal entered on duty at a rush season and has already been exposed, if only briefly in some instances, to many facets of the job. He has approached his new position with "vigor".

Captive Goose Flocks. Flock number three occupies our goose pen #1 adjacent to Sour Springs Road and is scheduled for release in 1964. We obtained thirty yearling Canada Geese from the adjacent New York State Game Farm to comprise our goose flock #4 which will be released in 1965. These were young geese produced in 1962 at the local game farm.

Photographs. Pictures follow at the close of the report.

NR Forms. Forms required with this report are attached.

Respectfully submitted,


Lawrence S. Smith
Refuge Manager

Completed 9/23/63

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

W A T E R F O W L

REFUGE OAK ORCHARD

MONTHS OF MAY TO AUGUST, 1963

(1) Species	(2) Weeks of reporting period									
	MAY					JUNE				
	1 - 7 1	8 - 14 2	15 - 21 3	22 - 28 4	29 - 4 5	5 - 11 6	12 - 18 7	19 - 25 8	26 - 2 9	3 - 9 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	600	10	10	10	10	15	15	15	15	15
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	125	100	100	100	100	75	75	90	100	125
Black	20	20	20	20	20	30	30	40	50	60
Gadwall										
Baldpate	4									
Pintail	10									
Green-winged teal	4				2					
Blue-winged teal	80	150	150	150	150	125	125	150	175	200
Cinnamon teal										
Shoveler										
Wood	40	50	50	50	50	75	75	100	125	150
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other - Hooded Merg.		2	2	2	2	7	7	7	7	7
Coot	10	4								

3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)REFUGE OAK ORCHARDMONTHS OF MAY TO AUGUST, 1963

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	10 - 16 : 11	17 - 23 : 12	24 - 30 : 13	31 - 6 : 14	7 - 13 : 15	14 - 20 : 16	21 - 27 : 17	28 - 31 : 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	15	15	15	15	15	15	15	15	2,800	3	130
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	125	100	100	100	100	100	100	100	12,405	5	105
Black	60	50	50	50	50	50	50	50	4,850	4	54
Gadwall											
Baldpate									28		
Pintail									70		
Green-winged teal									42		
Blue-winged teal	200	175	175	175	175	175	175	175	19,635	12	249
Cinnamon teal											
Shoveler											
Wood	150	150	150	150	150	150	150	150	13,305	11	246
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
Hooded Merg.	7	7	7	7	7	7	7	7	810	1	7
Coot									98		
Coot:											

(over)

*Broods from released & captive flocks.

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	:	:	:
Geese	5,800	600	13
Ducks	51,194	535	674
Coots	88	10	:

SUMMARY

Principal feeding areas

Principal nesting areas

Reported by

Lawrence S. Smith
Lawrence S. Smith
Refuge Manager

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).

Interior Duplicating Section, Washington, D. C.
1953

It appears most practical to treat the refuge as one area until such time as development takes place. Figures apply to the entire acquisition area, 57% acquired at this date.

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 OAK ORCHARD

For 12-month period ending August 31, 1963

Reported by Lawrence S. Smith

Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
Entire Refuge	Crops	1,000	Ducks	215,771	320	661
Acquisition Area	Upland	8,590	Geese	502,980	10	18*
	Marsh	324	Swans	574		
	Water	3,888**	Coots	496		
	Total	10,802	Total	719,771	330	674

*This represents the production of our captive goose flock.	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
**Represents swamp timber flooded from 4 - 6 months of the year.	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(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.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge OAK ORCHARDMonths of May to August 1953

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimated
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Number
I. Water and Marsh Birds:										
Pied-bill Grebe	3	6/18			5	6/28				8
Great Blue Heron	5	5/8	6		6	8/29				6
Green Heron	1	5/8	19	8/28	15	8/29				40
American Egret	4	6/16			4	8/29				4
American Bittern	1	5/10			1	7/27				2
Common gallinule	1	6/18			8	7/27				10
II. Shorebirds, Gulls and Terns:										
Killdeer	2	5/1			10	8/21		25	50	250
Snipe	1	5/3			1	6/14				
Upland Plover	2	6/23			2	7/23				
Spotted Sandpiper	3	5/3	20	6/3	1	8/23		10	30	50
Solitary Sandpiper	1	5/4	4	5/12	1	8/23				
Greater Yellowlegs	1	5/7	4	5/12	1	8/20				
Lesser Yellowlegs	1	5/21	3	7/27	1	8/23				
Pectoral Sandpiper	12	5/9								
Least Sandpiper	8	5/21	18	5/25	8	5/28				
Dowitcher	1	5/20								
Black Tern	4	5/31			2	6/18				

(over)

(1)	(2)		(3)	(4)		(5)		(6)
III. <u>Doves and Pigeons</u> :								
Mourning dove	50	5/6	250	8/21	200	8/31	500	1,000
White-winged dove								3,000
IV. <u>Predaceous Birds</u> :								
Golden eagle								
Duck hawk								
Horned owl								
Magpie								
Raven								
Crow								
Reported by						Lawrence S. Smith		

Refuge Manager

INSTRUCTIONS

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

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge OAK ORCHARD

Months of May to August, 19 63

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
<u>Estimates are made for the entire acquisition area of which 57% is now owned.</u>										
Ring-necked Pheasant	Brushland-1080 acres Reverting Agric. land-3,500 acres Cropland-2,000 acres Total-6,580 acres	16	20	200					400	
Ruffed Grouse	1,500 acres upland woods.	15	2	80					100	
Bobwhite quail	Brushland-1080 acres Reverting Agric. land-3,500 acres Total-4,580 acres	153	-	-					30	Thirty Bobwhite quail were released on private lands within our acquisition area in April by the State of New York.

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.



A six foot Mott flail type mower procured this period has made easy work of mowing grounds at our office and shop and trimming about goose enclosures. We are using it to replace the lawn mower on the larger sections of our grounds.



Attachment brackets being welded on the blade of the Caterpillar D-7 to support an H & L Brush Grubber attachment. This attachment is readily put on and off-attaching by two pins through the vertical arms. Various holes in the vertical arms permit its use on a variety of sizes of bulldozer blades.



Above: Placing a gravelled cattle access area on a pothole within a grazing unit. Cattle will be excluded from the remainder of the pothole by fencing.

Below: A pair of geese from flock #2 released this past spring season adopted this dugout made last year in a grazing unit. We hastily placed a nesting platform. They immediately utilized it but failed to hatch their eggs.





This nest form placed between three trunks of cottonwood on a shoreline situation was in place three years before a mallard utilized it this year. The hay placed for nesting material had been in place all this time with no attention.



Another of nature's tragedies occurred when a golden-crowned kinglet landed on a burdock bur and remained to dry out to a pretty well preserved specimen.



Examination of an unhatched egg remaining in one of the nest forms utilized by a mallard tells a story of another one of nature's accidents. An earlier hatched duckling sealed the doom of the unhatched duckling when a half eggshell with its wet membrane cupped over the end of the egg at which the duckling was attempting to break out.





Two views of nesting platforms utilized within our goose enclosure.

Above: High winds blew away most of the hay placed for nesting material despite the fact it was interwoven with baler twine and willow boughs. The eggs ended up sitting on the bottom wire support and did not hatch.

Below: This nest lost much of the nesting material but the eggs were successfully hatched. The goslings appeared to have difficulty in getting out until we placed a piece of 2 X 4 against the inside corner following taking of the picture. They then lost no time in joining ma and pa for their first swim.

