

ROUTING SLIP

DIVISION OF WILDLIFE REFUGES

DATE: May 24, 1948MR. SALYER

SECTION OF HABITAT IMPROVEMENT:

MR. KRUMHOLTZMr. GriffithMR. DULANTDr. BourneMISS BAUMMiss Cook

SECTION OF OPERATIONS:

SECTION OF LAND MANAGEMENT:

Mr. BallMr. KentMr. ReganMr. Ackerman

SECTION OF STRUCTURES:

STENOGRAPHERS:

Mr. TaylorMr. Johnston

REMARKS:

CRABORCHARD NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY--APRIL 1948

Return to:

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

REFUGE STAFF

E. E. Crawford	Refuge Manager
C. W. Nelson	Maintenance Foreman
H. T. Gualdoni	Clerk - Patrolman
J. T. Clayton	Maintenance Man (Gen.)
W. F. Meneese	Laborer - Patrolman
E. May	Towerman

TABLE OF CONTENTS

	Page
I. GENERAL	
Weather Conditions	1
Water Conditions	2
Fires	2
II. WILDLIFE	
Migratory Birds	4
Population and Behavior	4
Food and Cover	5
Upland Game Birds	5
Population and Behavior	5
Food and Cover	6
Big Game Animals	6
Population and Behavior	6
Food and Cover	7
Fur Animals, Predators, Rodents & Other Animals.	7
Predacious Birds, including crows	8
Fish	8
III. REFUGE DEVELOPMENT MAINTENANCE	
Physical Development	9
Plantings	10
IV. ECONOMIC USE OF REFUGE	
Grazing	11
Fur Harvest	11
Other Uses	12
V. FIELD INVESTIGATION OR APPLIED RESEARCH	
Canada Goose Project	12
Cooperative Quail Program	14
VI. PUBLIC RELATIONS	
Recreational Uses	14
Refuge Visitors	15
Refuge Participations	17
Fishing	19
Violations	19
VII. OTHER ITEMS	
Items of Interest	19
Photographs	20

I. GENERAL

Weather Conditions

Like a greater portion of the United States, we experienced a grand fathers winter - the kind grandpa said they had in 1880. Mamma Nature kind of knocked the wind right out of grand pappy's sails with her recent offerings.

As reported in our last narrative, the year and this report period was ~~issued~~ in with a cloud burst that put water everywhere it wasn't supposed to be. Water levels were just getting back to normal by mid-January when darn if someone didn't leave the refrigerator door open. From January 10th on, each night seemed to get progressively colder. Farm ponds started freezing, bays of the lake started icing over and by January 26th, the lake and ponds had 4 to 6 inches of ice over them. Local merchants did a land office business in tire chains, sleds, and ice skates of a vintage that dated back to 1920. On January 31st Crab Orchard Lake, never known to have iced over for more than a two day period and then only with scum ice, was 99 9/10% frozen over. Periodic snows during this month put an unprecedented snow blanket on the ground for as much as three weeks at a time.

Snow moisture and ice continued until February 15th and then the weather returned to more normal.

March was normal other than for some unusual snow falls and tornados that hit all around us.

April made a fellow feel like beating on his chest, paw the ground and whistle at the female of the species. The whistle got kind of wet during the big rain of the 11th and 12th.

We are going to include the tabulation blocks for our weather. We hope we are more successful in getting the weather data, from our cooperator, than we were last report period.

	: Snowfall :		: Precipitation :		: : Max.Temp. :		: Min.Temp :	
Mon.	: 1947 :	: 1948 :	: 1947 :	: 1948 :	: : 1947 :	: 1948 :	: 1947 :	: 1948 :
Jan.	:	:	:	:	:	:	:	:
Feb.	:	:	:	:	:	:	:	:
Mar.	:	:	:	:	:	:	:	:
Apr.	:	:	:	:	:	:	:	:
Total	:	:	:	:	:	:	:	:

As the edition of this narrative is being sweated out, local prognosticators of the weather to be, say we are in for the hottest and dryest summer in many a year.

Water Conditions

We related in our last narrative report how this present report quarter was issued in with a rather alarming cloud burst. Said cloud burst and its putting water over the Crab Orchard spillway to a depth of 18 inches, was a record in itself, but was put to shame by our dewy offerings from the heavens on April 11th and 12th. The latter down-pour setting a new record of 24" over spillway. Many a resident below the dam were thankful for the water retarding effects of Crab Orchard Lake.

As a measure for flood control, the Grape Vine News hints that we are going to be approached with the proposition of maintaining a two foot below spillway draw down on Crab Orchard Lake, during the winter period, to serve as a buffer in these possible spring floods. Such a request would be rather contrary to winter waterfowl management, so we hope the idea gets tabled somewhere along the line.

The gate on Little Grassy Lake has been cracked since the 2nd of January in order to maintain a constant water level during bass spawning season and pending contract construction work on the dam face.

Henceforth we shall omit, unless otherwise directed, gallons of water drawn from Crab Orchard Lake for industrial usage. We find that industrial water usage has no marked effect on the water level of the lake and likewise no biological effect. We shall continue to report average monthly gauge readings for Crab Orchard Lake, as follows:

<u>Gauge Level</u>			
Month	:	1947	: 1948
Jan.	:	---	: 406.2
Feb.	:	---	: 405.4
Mar.	:	---	: 405.8
Apr.	:	---	: 406.3
*Spillway level 405.0			

Fires

Somewhere between this official station and our last station, your manager lost the charm that kept field fires out of our report chores.

Despite the combined efforts of the refuge staff (and industrial staff, since March 7) we have had more than our share of fires. Our suppression efficiency, we will match with any like refuge crew and have made up for what we lacked in pre-suppression efficiency.

On certain phases of pre-suppression and public education, we have seemingly failed miserably. We are unwilling to shoulder more blame than necessary. Our spotting from the tower has been good, we have had excellent newspaper coverage of the hazard and cause of a few of our fires and we have preached the gospel publicly, even including the showing of one good fire film; but, our communication or lack of communication has hindered us, lack of demarkation of duties and responsibilities between refuge and industrial crews, up until March 7, didn't help and last of all the apathetic public we have to work with or rather against.

With government lands, usually in pine plantations, bordering private lands on 1 to 4 sides, and private land owners with a management practice calling for annual spring burning of their fields, our towermen and fire crews have literally been dragging the seat of their pants in the dust from answering false alarms. Each so called false alarm, nine out of ten times, could have been the end of a plantation if our man or men hadn't been there. A few times it was darn hard to remember we were public servants, especially when some private land owner would set a broom sedge field afire adjacent to a plantation and then proceed to cuss our men to a fare-thee-well when they put the fire out as it approached the government's plantation. Our poor towerman has been called all the names from Adam to Zekiah by these irate hill farmers.

Thus far, we have stopped any fire on private land from spreading onto government land. We have had eight fires, as tabulated, below, start on the refuge.

Fire No.	Date	Cause	Suppression		Habitat In Acres	Total Acres
			Man Hours	Cost		
48-1	3/18	R.Road	8	8.30	2A - Grass	2
48-2	3/21	Smokers	1	1.79	1A - Grass	1
48-3	3/26	Fishermen	8	8.72	1A - Marsh	
		Debris			4A - Pine	5
48-4	3/25	Burning	30	25.10	12A - Grass	12
48-5	4/3	Campfire	48	35.00	30A - Grass	
					60A - Hardwood	90
48-6	4/3	Fishermen	8.	6.20	.8A - Marsh	.8
48-7	4/16	Fishermen	2	2.45	1.3A - Grass	1.3
48-8	4/17	Fishermen	36	27.70	100A - Grass	
					20A - Pine	120
Totals	50%	Fishermen	141	\$115.26	148.1 Grass	232.1
					84. Timber	

II. WILDLIFE

Migratory Birds - (See Forms NR-1 and NR-1A)

Populations and Behavior - "Waterfowl" - This report not only serves to summarize the winter use of the Crab Orchard Refuge but more important is of biological interest from the fact that it is our first real test of the potency of the area as a winter waterfowl refuge. We assure you that our baptismal period has been filled with qualms of fear and sighs of relief. What with the idiosyncrasies of the weather, our potential holding of waterfowl over a winter has undergone rather severe tests this first winter of existence. Based on our local estimates of past use of the lake by waterfowl, we of the refuge staff had chosen merely as hypothetical goals for this first winter season, a hope that we would hold 10 to 20 thousand ducks and 1000 geese. Actually, during the six month winter period of October 1 to March 31, we averaged 28,000 ducks and 2200 geese. If waterfowl are educated to the powers of arithmetical progression, we can foresee a possible potential of 75 to 100 thousand ducks and 25 to 30 thousand geese sojourning with us in the winter of 1952 - 53. Geese - We entered the report period with approximately 1000 honkers using our offerings. Perhaps as a forecast of the coming cold wave - we had, on January 5 to 10, a marked influx of both geese and ducks. In these few days our goose population jumped to a resident population of 2200 to 2700 Canadian geese. It was indeed a pleasure to be in the field during the early morn and evening feeding flights these days. Felt a little like a well-to-do setting back and cutting coupons on the first return of our investment. The spring flight of geese, even though occurring, was not as awe inspiring as one finds west of the Mississippi. Snow and blue geese were rather unexpected spring migrants and several flocks spent a day to several days resting and feeding on the refuge. The snows appeared as stragglers in flocks of Canadians and blues. The blues appeared in small flocks and were more inclined to linger on the refuge than were the snows; Ducks - Through this report period, mallards remained the preponderant duck species. During the nearly total freeze up of the lake, the three water holes that were kept open were by an evenly mixed flock of mallards and blacks. Mallards were noted pairing off on January 5 and by mid-February, 90% of the mallard drakes had chosen the lady of the season. As we write this narrative, one of our men (Tom) has located a mallard nest well along to hatching out 11 ducklings; our baldpate records were of 10 chance visitors; that gaudy jeweled buffle, the green-winged teal was in sufficient numbers for a short while to add much color to the somberness of waning winter; blue-wings, like the green-wings were few in numbers but recordable; the only spring migrant, in anywhere near spring flight numbers, were the 1200 pintails recorded on March 16th; the diving ducks were fewer in numbers during the wintering period and spring migration than we had been led to believe; ring-necks - were the only species showing

a resemblance of last spring's flight; red-heads, cans, scaups and ruddys were far below the recorded numbers for last spring, by Stub Nelson; American Mergansers - added color to the winter lake scene by their numbers and there were some days when quite a marked flight of these gay colored fishermen were in; coots - despite a rather rigorous winter, for this southern clime, this comic of the web-feet remained with us through the entire winter. The mortality of the coot was rather high. The darn things insisted on walking across highway 13 at the twin bridges and it was not uncommon to find as many as five coot a day come a cropper to a car. "Other waterbirds" - data as to arrival dates is rather incomplete and of little biological value. We have, in NR-1A, given estimates of the total populations of the visiting and permanent resident species. Just a few comments of interest. We are confident that the double-crested cormorants have set up light house keeping on the refuge, but to date have not run across the nest colony. Cormorants were observed several times feeding in concentrations of 40 to 80 birds, on spawning hickory shad. The great blue heron rookery was located this winter and on April 25th, we noted 134 active nests in the rookery. Nests contained stages of freshly laid eggs to half grown herons. An item of interest in this heron rookery was a great horned owl nest, bearing two half grown young, in the very center of the heron rookery. We, like the Mormons of Salt Lake, were thankful for the gulls this spring. We had quite a winter kill of hickory shad and after the ice went out, we had wind rows a foot deep on our shoreline, of hickory shad. This could have led to a very odoriferous condition except for the arrival of the gulls. Ring-billed gulls were much more common than the herring gulls.

Food and Cover - We were confident that our cultivated crops would suffice for our first wintering population of waterfowl. Our confidence was justified and we had to do very little feeding. During January, geese and ducks were foraging in both wheat and corn fields, but just about cleaned up our available corn that was knocked down. During the severe freeze up of January 25 to February 12, we fed rather heavily but still could not hold the birds - mainly due to lack of available open water. Our ducks and geese apparently migrated to the Mississippi bottoms for this period. On the return of the birds about February 15, our wheat fields apparently had lost their palatability and both geese and ducks took to the remaining standing corn fields until they left us for their northern trek. Thanks to rather slipshod farming methods by some of our farmers, we still had considerable quantities of unharvested corn on the permittees' share of our lands. We would say we received 50 to 60% shares on at least one - fourth of our permit corn this year.

Upland Game Birds - (See Form NR-2)

Population and Behavior - To the best of our knowledge, our bob-white quail wintered over in very good condition. During the extremes

of winter, the quail made considerable use of waterfowl feeding stations to supplement their normal diet of weed and shrub seeds. On March 25th, wintering coveys were noted to be breaking up and paired birds picking their territorial holdings. On April 3rd and 4th, the Crab Orchard Field Trial Club held an Amateur All-Age Stake on Area II of the refuge. We quote from the report of the trial in the May 1st issue of The American Field "Only 36 coveys were moved during the twelve hours of running, but conditions were bad. The birds had begun pairing off, and were either sitting on top of the new green undergrowth, hence flighty and skittish, or else were buried deep in the thick grass and had to be literally kicked from under the dogs' noses." Yes, their trial was held two weeks too late. As to the China pheasants - reported on last period, we do not have too accurate information as to the remaining population. We do know that few, if any, of the chinks remain on the original release grounds (site of Nat'l. Retriever and Springer Trials). We have had sight observations and verbal reports of these birds having moved as much as 10 to 20 miles in a general north and easterly direction.

Food and Cover - Other than nature's offerings and the bit of supplementary feeding the quail did at some of our corn dumps and waterfowl feeding stations, food availability was only normal. Both food and cover shall be materially benefited if the plans we are working on materialize. Our plan calls for a cooperative research program and habitat improvement program by the Service, Illinois Natural History Survey and the Crab Orchard Field Trial Club.

Big Game Animals -

Population and Behavior - Pressure of attention to development work precluded our taking advantage of some wonderful tracking snows and flight weather to get more accurate census information on our white-tailed deer population. From chance observations and reports of our personnel and trappers, we feel that our estimate of ten deer on Area II was rather conservative. Rather than go out on a limb we will let our past estimate of 10 ride for a while. With the stationing of Ernie down at the fire tower and his numerous fire action calls, we can report that it is common for our Area II deer to clear our outside boundary fence and drift into the Little Ozarks of Area III. Bucks had started shedding their antlers by the first of January and at the end of this report period Ernie reported one buck already with velvet nubbins. Fawns have probably been dropped, but we have not been fortunate enough to observe any. On January 29, one of our permittee farmers reported a dead deer near his unit. Nelson and Crawford checked report. A fine four point buck was found drowned in a then dry creek. Deer's fore feet had been locked in a coil of old barbed wire in creek bed and deer had apparently drowned during high waters of New Year's day.

Food and Cover - Both abundant but no sight or tracking observations during report period to determine feeding proclivities.

Fur Animals, Predators, Rodents and Other Mamals -(See Form NR-4)

A report of our fur harvest will be found under Section IV of this report.

Our past winter, the coming of spring and the fur harvest program did glean us a little more additional information on our fur bearing species.

Muskrat - are limited in number appearing only in the east bay of Crab Orchard Lake and big grassy bay. One of the limiting factors in muskrat population is lack of emergent vegetation for home building and food use. If, and we mean IF, this situation can be corrected by biological manipulation, we should be able to work up a nice little muskrat population.

Mink - With a goal of 40 mink and a take of 33, we had fair success in controlling this species. Our total remaining population of 60 mink, we feel is fairly accurate as it represents an influx of mink following high waters and unusual winter conditions.

Skunk - This species must definitely be put on our removal list for next harvest season. Skunks are literally everywhere, especially around old farm sites and scrap piles left by the war production period. We are very much afraid that our quail population is definitely suffering from the forays of this species. During the field trials of the 3rd and 4th of April, the manager came in for quite a ribbing from the owners and gallery as dogs and horses were several times sprayed by skunks unfamiliar with the niceties of a field trial.

Raccoon - As with the skunk, our coon population far exceeds our original "guesstimate". We would like very much to see a state removal, by live trapping, of this species.

Opossum - Although our population seems large, it is not alarming nor has there been any indication that control is necessary. Road and highway mortality in and on the fringes of the refuge runs very high.

Red Fox - We fell far short of our goal for a take of 150 foxes. Our estimate of 75 red foxes remaining on the refuge is conservative. Local sportsmen are awakening, but doubt whether they will carry enough weight to the State legislature to over rule the fox hunters' strong group. In an effort to get both red and gray foxes on the predator list. We did note during our trapping season that the red foxes were just starting to prime at the close of the season, January 15th.

Gray Fox - Trapping trends indicate the gray fox is more in abundance than its red brethren.

Fox Squirrel - With the diversified upland habitat and hardwood timber stands, we have, we predict, that within five years, unless nature exercises a control, we are going to have to give thought to some kind of control or harvest of squirrels within Area II.

Bob-cat - The one bob-cat record is from one of our trapper's track observations. The species is rather rare in these parts but is occasionally found.

Rabbit - The cotton-tails are apparently at a low in their cycle in this locale and are constituting the main diet of our fox population.

Woodchuck - Present but probably will never cause us too much concern except for den burrows in Crab Orchard and Little Grassy Dams.

Predacious Birds - (See Form NR-1A)

As noted before, our bird observations have been very limited this report period. During the report period no species of predacious bird was found in sufficient numbers to cause comment or concern.

Fish

The open season on game fish in southern Illinois is year round, except for a closed season of April 1 to May 15 on bass. Some hardy souls fished the full season, but in the main, most people seemed to take the opening of Area II, on March 1, as the signal to wet a line.

Our opening this season coincided with the annual spring strike of the coal miners. This year also is the first year since the lake's construction that Area II has been open to public fishing. As is usually the case in such closures, the grass was greener the other side of the fence and did we ever have fishermen.

From March 1 to April 1, fishing success was average for most fishermen. Some good catches of bass averaging 5 1/2 pounds were made, yellow bellied cats were easily caught on worms and striped bass were in the creel. With bass season out, fishermen were after cats, carp and striped bass. Some crappies were being caught on minnows. With the bass season out a lot of the boys went to dipping carp, grinnel and shad below the main spillway of the Crab Orchard Dam.

As noted before, we had a tremendous winter kill of hickory shad this past winter as many of the more shallow bays froze from bank to bank and top to bottom. Less than one tenth of one percent of game fish were winter killed.

III. REFUGE DEVELOPMENT MAINTENANCE

Physical Development

Work accomplishments during the report period were: -

Project 53

In addition to hours spent by regularly assigned staff personnel, 180 hours of wage employee labor were used in: -

- Adding 5 acres to our 9 acre goose pen, giving us a pen that now can be sub-divided into spring and winter pasture. Work included fencing of additional 5 acres, salvaging materials and conditioning grounds.
- Bettering our road into the goose pen site.
- Building photographic blinds for professional and amateur photographers visiting refuge.
- Unloading, servicing and general tune-up of surplus army equipment shipped in.
- Conditioning and installing personnel in quarters.
- Several intra regional movements of automotive and boat equipment.
- Fence maintenance along main highway due to cars out of control that had gone through the fence.
- Regular personnel spent 96 hours in lake search for two drowned fishermen.
- Routine preventive maintenance and inspections of all service equipment.

Project 11

In addition to hours spent by regular assigned personnel in a supervisory capacity, 1126 hours of wage employee labor were used in:-

- Surfacing 1/4 mile of fire action road.
- Blading of 19 miles of truck trail fire breaks.
- Construction of 4 miles of metallic telephone line from fire tower to terminal line to main office. Included salvage of all posts used.
- Minor repairs and service to all fire suppression and pre-suppression equipment.
- Installation of two-way radio contact between fire tower and main office.

Project 10 - Job # 5074

With minimum regular staff supervision and 112 hours of wage employee labor: -

- Cut and planted 3000 willow cuttings.

Project 167Job # 5177 - Boat Dock Construction

With supervision by L.D. Longley, civil engineer from the regional office, and 372 hours of wage employee labor: -

* Salvaged sufficient lumber, steel beams and creosoted piling to get the bulk head of the crib dock plus two wing docks in on the new public use development area. This included pulling and redriving the piling.

- An access road with necessary approaches and culverts was also roughed out.

Job # 5178 - Bath House Renovation

A total of 725 hours of wage employee labor and some supervision by regular staff and Mr. Longley was used in: -

- Salvaging sufficient lumber to completely reconstruct the dressing room portions of the White bath house and make several minor structural changes to enhance the looks of the edifice.

- Reworking all of the floor drain lines in the bath house and pouring of a finish floor to get better drainage for more sanitary up-keep of the building.

- Digging up and re-plumbing 150 feet of the source line on the water supply.

Plantings

Aquatics and Marsh Plants - The only planting accomplished during this period was, as indicated, the cutting and planting of 3000 willows. Willow switches were cut from the parent tree as four foot switches. From this 4 foot switch, an 18" stub was cut from the base. Both stubs (double-cut) and switches were planted. Planting was accomplished from April 1 to 5. Though experiencing some complete loss from the high waters of April 11th and 12th, the following survival success is noted to date:- 85% survival on the stub cuttings and about 45% on the switch plantings.

Cultivated Crops - As inferred before, we do have some rather lack-a-dasical farmers that were still picking corn the first of May. We rather imagine that these permittees have had an expensive lesson in what ducks and geese will do to \$3.00 a bushel corn when left in the field all winter on a waterfowl refuge. All permittees were forewarned by refuge personnel that there would be loss if they didn't get their share picked.

Our winter wheat crop, in the main, looks excellent. Most of the crop has excellent color, stooled heavily in fields used by the geese and was starting to head May 1. We watched with special interest for

signs of winter kill and goose damage, especially on the permittee's thirty five acre wheat field adjacent to our goose pen. For a while this spring we, like the permittee, were very much afraid that we had at least a 50% loss by goose concentration on one 20 acres of this unit. This particular unit was a focal point for all of our goose tenants and though cropped fairly close, we were more afraid of the field being puddled out of existence by 4000 goose feet. The 20 acres has snapped out of it and we are confident there won't be over a 5% loss in this particular field.

Our planting of Balboa rye in the goose pen has met with varying success. From the mid point in the pen down to the water, the geese and ducks obliterated the planting. In the upper portion of the pen, we have a stand that is a beauty to behold. The rye is now 3 1/2 feet high, thick enough to loose a goose in and is already in the dough stage.

IV. ECONOMIC USE OF REFUGE

We finally completed an economic use plan covering the grazing, cooperative and cash farming aspects of our operations. This plan consumed much time in the field, personal contacts with farmers and research men and many an evening hour in its final write-up.

Grazing

Other than grazing by a permittee grazing on an old Army permit, from which we do not receive the revenue, no grazing has been in effect this report period. The permittee on the mentioned Army permit is sure taking a final advantage of his permit - which is year round grazing, no AUM stipulation and all for a flat fee of \$95.00 for a year. Within his 1000 acre permit area, he had crowded 250 adult cattle this period and has a calf crop of some 125.

Several of our grazing permittees have used the report period for fixing fences, putting in new fences and patching water impoundments.

Fur Harvest

Our fur harvest this first season of existence met with only a modicum of success. With more time to select and screen applicants and probably further sub-division of the trap territory for the next season, we perhaps shall arrive at a bit better fur bearer balance.

Tabulated below is the catch record and returns of our two permittees: -

	:Nov. :			Dec. :			Jan. :			:Permit.Share :			Average Return :			: Total	
Permittee:	M:	F:	R:	M:	F:	R:	M:	F:	R:	M:	F:	R:	M:	F:	R:	Return	
T-3832	:	9:	2:	:	5:	7:	5:	:	1:	2:	2:	:	7:	8:	5:	23.00:	\$189.50
T-3833	:	10:	6:	:	6:	16:	3:	:	2:	8:	2:	:	9:	20:	4:	28.00:	302.45
Totals	:	19:	8:	:	11:	23:	8:	:	3:	10:	4:	:	16:	28:	9:	---	\$491.95

M = Mink F = Fox R = Raccoon

The above tabulation rather vividly reflects the proficiency of the two permittees and also shows the value of putting up better pelts for the market.

Other Uses

Tabulated below is the return from the concession contract, for the report period, as operated by concessionaires, Schwartz & Davis, at 3% to the government.

Facility	: JANUARY :	FEBRUARY :	MARCH :	APRIL :	TOTALS
Refreshments	: --- :	: --- :	: .27 :	: 1.51 :	: 1.78
Gas & Oil	: --- :	: --- :	: 1.41 :	: 3.29 :	: 4.70
Dock, Boat & Motor:	: --- :	: --- :	: --- :	: 9.41 :	: 9.41
Bait	: --- :	: --- :	: .16 :	: 1.72 :	: 1.88
Boat Rides	: --- :	: --- :	: --- :	: --- :	: ---
Equip. & Repairs	: --- :	: 21.86 :	: 42.11 :	: 188.14 :	: 252.11
Swim	: --- :	: --- :	: --- :	: --- :	: ---
Gun Club	: --- :	: .18 :	: 3.74 :	: 9.33 :	: 13.25
Miscellaneous	: --- :	: --- :	: --- :	: --- :	: ---
TOTALS	: --- :	: \$ 22.04 :	: \$ 47.69 :	: \$ 213.40 :	: \$ 283.13

V. FIELD INVESTIGATION OR APPLIED RESEARCH

Canada Goose Project

Our pinioned call bird goose flock have done well at earning their board and keep this period. Despite the fact that they require daily attention, consume prodigious quantities of feed and sometimes are

a plain nuisance, we feel they have been worth the effort and cost by making our project a success.

We entered the report period with 46 geese in our flock. During this period we lost two of the birds; one by getting out of the pen and becoming frozen in the lake ice, and two, one died in the pen - we could not tell whether internal complications weakened the bird, but he met his end by a great horned owl decapitating him. During the report period, we received from our friend, game agent Rae Sjoström, two wing-shot geese from Horse-shoe Lake, giving us again a total of 46 geese. Then with the passing of the spring flight, we had two Canadians that said, "This is far enough, let's stay here", so now we have 48 geese on the payroll.

Our employee geese have exhibited strong tendencies and all the actions common to raising a family, but to date no nests have been built nor eggs laid.

A few notes on behavior and addities of our wintering goose visitors.

January - as previously reported in this narrative, we had quite an influx of geese between January 5th to 10th. Our visitors were using 70% of the refuge feed areas and doing considerable flying out and feeding out of the refuge on adjacent private lands. On January 14th the lake that was never known to have frozen over, started freezing over. As open water became less available, so did the geese, as far as sight observation. By January 26 the geese had left us and set up storm bivouac on the Missiswippi River. During the goose concentration period, we made one interesting wildlife observation; on January 10, the manager was in an observation blind watching the early morning activities of our goose visitors. Had a legion of 300 Canadians in a ten acre corn field before my view. The geese, much like a group of new boots, were marching the length of the field gleaning a morning repast. A red fox entered the east end of the field and wending its way between marching and feeding geese - fox trotted the length of the field with no concern regarding the other shown by the geese nor the fox. How the manager wished for a motion picture recording of the episode.

February - We were "goose-less" from January 26th to February 4th. On the afternoon of February 4th, five of our winter registrants returned. By February 24th, all former residents were on hand.

March - Experienced a fluctuating goose population with transients passing from south to north. Had a peak of 5000 Canadians on the refuge on March 12th. By the 23rd of March most of the moving geese had moved on by us.

April - During the waning days of March and the first five days of April, a few flight stragglers visited the refuge. These late arrival birds used only the goose pen site of the refuge and remained for only a night's rest or a free lunch of corn, wheat and mixed grain.

Our pinioned Flock looks in good health and really appreciates the additional five acre blue grass pasture we have provided them. Apparently as long as the blue grass range remains palatable, we will have to do little feeding as they have scorned our grain feedings the past two weeks.

Cooperative Quail Program

During the report period, we have been working with personnel of the Illinois Natural History Survey and the Crab Orchard Field Trial Club in an effort to set up a three-way cooperative research program on the bob-white quail. Your writer sincerely hopes that the program proposed can be worked up and initiated as there is a wonderful opportunity for some collaborated research of intrinsic wildlife management value.

VI. PUBLIC RELATIONS

Recreational Uses

With the rather severe, for these parts, winter, public use of the area was rather light during January and February. A few hardy fishermen braved the elements to try for one of the piscatorial species. A minority of the more brave, or rather more foolish, even tried ice skating on some of the bays of the lake.

March saw the local folks cleaning up fishing tackle and picnic gear for a first of the season venture into our recreational domain. We would estimate a day usage of 400 per day on the area. This figure might seem unreasonably high but the coal miners were on strike and it seemed like every miner went to digging worms for fish.

April was a beautiful month and recreational use was shifted in to high gear. Boating and fishing enthusiasts were everywhere on the refuge. Picnicers and just Sunday drivers boosted our daily average to a steady 300 people a day (miners had gone back to work).

With the advent of the boating season, we had our first boating casualty of the season. Two males, 23 and 15 years of age, using a boat made of 2" x 6" lumber, capsized and drowned in Crab Orchard Lake

on April 2nd. The boat, besides being of crude construction, had lain sunk in the water and ice of the lake since last fall. When these men were afloat, they couldn't have had over two inches of free board on their craft. Many hours were spent by refuge personnel, the sheriff's office, state conservation department and local volunteers in searching for the bodies. Both bodies were eventually dragged up.

One spot light event was held on the refuge this report period and that was the Amateur All-Age Stake, for pointers and setters, as run by the Crab Orchard Field Trial Club, on April 3rd and 4th. The trial was held over the pre-designated trial grounds in Area II of the refuge. Twelve braces of dogs were run. Gallery riding the trial was limited to available horses. Most of the horses were local and some didn't prove quite hardy enough - especially the manager's, which gave out in the fifth hour of riding.

Refuge Visitors

In addition to an average of 25 peoples per day calling at the office relative to diverse refuge matters, the following VIP's called:-

- Jan. 7 - 10 - J.R. Wright, Civil Engineer, Regional Office, made necessary surveys for bid solicitation on Little Grassy Lake.
- 7 - R.O. Sjostrom, U.S. Game Agent, 2 hours re annual duck inventory.
- 8 - Reporter Mel Topping and photographer Adams of Carbondale Free Press, 2 hours on photos and story of our goose management program.
- 10 - D. Marlow, local, amateur photographer spent 4 hours on refuge taking colored movies of general refuge scenes and goose flight. Pictures came out excellent and have been spliced into an hour film covering the Nat'l. Retriever and Springer Trials. This film has been shown pretty general throughout Illinois, Missouri and Kentucky and is slated for an eastern showing this summer.
- 11 - Photographer Adams, Carbondale Free Press, 4 hours in field on goose flight photos.
- 15-16 - F.C. Gillett, Regional Refuge Supervisor, 14 hours on refuge inspection.
- 15-19 - Gus Pasquarella, staff photographer, The Saturday Evening Post, photographing refuge activities and waterfowl for the feature article "Honker Hotel" by Harold Titus, appearing in the March 27th issue of The Saturday Evening Post.
- 27 - State Wardens, Evans and Randolph, 4 hours, prosecution of game law violator.
- Feb 16 - 18 - Messrs. Krummes, Corbin and Kent, of Central Office, 20 hours discussing refuge operations and developments.

- Feb 18 - 22 - A. Eustis, River Basins, Regional Office, 28 hours surveying possibilities of setting up a sub-headquarters office on this refuge.
- 18 - R.O. Sjostrom, U.S. Game Agent, 1 hour relative to enforcement problems.
- 26 - W. Hopkins, Refuge Manager, Necedah Refuge, 6 hours, delivered load of mixed grain and picked up surplus equipment.
- 28 - R.O. Jones, Project Leader, Mussels Studies, reported on duty and set up space as a sub-headquarters.
- March
- 1 - Farmers Day - had all of our cooperative farmers in for a 4-hour discussion of plans and problems in our program.
- 1 - R.O. Sjostrom, U.S. Game Agent, 1 hour for hash-over of enforcement problems.
- 3 - State Wardens, Evans, Randolph and Beasley, 2 hours to pick up state boat and discussion of problems.
- 6 - Messrs. Griffith, Gillett, Tunnison and Copeland of Service spent 4 hours on refuge discussing refuge biological problems and operations.
- 10 - F. C. Gillett, Regional Refuge Supervisor, returned to refuge from St. Louis, with manager.
- 11 - Messrs. Gillett and Baetkey, of regional office, 8 hours on administrative problems.
- 11 - Messrs. Smith, Olson and Griffin, U.S. Forest Service officials, 2 hour conducted tour over refuge.
- 12 - Messrs. Cottam, Janzen, Gillett and Baetkey, 8 hours inspection of refuge and address to all personnel by Dr. Cottam and Mr. Janzen.
- 13 - Dr. Cottam, Ass't. Director, 2 hours on refuge general inspection.
- 18 - R.O. Sjostrom, U.S. Game Agent, 2 hours, brought us two additional canadian geese for our flock.
- 18 -20 - Messrs. Salyer, Gillett and Huey, of Service, 24 hours inspection and discussion of administrative problems and several public meetings.
- 24 -25 - W. Wandell, Ill. Natural History Survey, 12 hours inspecting refuge for and discussing cooperative quail program.
- 27 - Mary Grant, instructor, University of Illinois Geography Department, 2 hours interview for information for a paper on recreation to be presented at the State Academy of Science meeting.
- 30- 31 - A. Schmid, prospective laborer-patrolman down to look us over.
- 31 - T. Mofield, President, Crab Orchard Field Trial Club, 2 hours to discuss Stake running to be held April 3rd and 4th.

- April 3 - 4 - Several notables of the dog world were here for the All-Age Stake running.
- April 5 - May 7 L.D. Longley, Civil Engineer, Regional Office, with us as supervisor of some heavy construction.
- April 7 - O. Carrington, carpenter union boss, 1 hour trying to tie up our work on the bath house. He didn't get the job done.
- 12 - Messrs. Storey, Beers and Mondino, Crab Orchard Boat & Yacht Club, 2 hours to discuss problems and look over possible building for a club house.
- 14 - Hon. Congressman Bishop and Mr. McCabe, 2 hours discussing refuge developments, operations and employment.
- 15 - Messrs. Bennett and Evans, Ill. Natural History Survey, 3 hours inspection of refuge and collection of plant specimens.
- 29 - Messrs Lawrence and Peebles, West Frankfort Sportsmen's Club, 2 hours discussion of club program and possible wildlife developments by their club.

Refuge Participation

Refuge personnel, as named, have participated in the following public attendances as salesmen of the Service.

January 3 - the manager, together with a representative group of the Carterville Sportsmen's Club discussed wildlife habitat improvement by the group, and as the discussion was held in the field, we also scattered some ear corn for the release pheasants left on Area I of the refuge.

January 7 - Nelson and Crawford attended a meeting of the Crab Orchard Sportsmen's Club, in Harrisburg. Some knives were thrown but missed us.

January 24 - we had a really enjoyable afternoon. 28 high school boys and girls of the Herrin High School were on the refuge. These kids call themselves the Williamson County Conservation Club. They are full of enthusiasm and a pleasure to work with. They spent 3 hours on the refuge, observing wildlife, tracking and feeding out 40 bushels of ear corn.

February 4 - Nelson, Gualdoni, May and the manager attended the meeting of the Crab Orchard Sportsmen's Club in Marion. There were 89 persons present and other than going off on some wild targets a few times, some good was accomplished. The manager talked informally on refuge activities and showed the films "Birds of Woody Island" and "Know Your Hawks". Both films were well received.

The night of February 24 - the manager had a chin-fest with the kids of Williamson County Conservation Club at the Herrin High School. 68 kids were present and the two films noted above were shown.

February 12,- the manager attended a joint meeting of the county commissioners, engineers and Herrin Lions Club relative to request for an open State aid road through the refuge.

On the night of February 12 - the manager was guest speaker before the Carterville Christian Church Men's Supper Club. The general refuge program was discussed.

March 1 - the manager attended the annual meeting of the Crab Orchard Boat & Yacht Club. Failure on the part of the manager to read a PS on the reverse of a Washington Office memo darn near caused his demise, in this instance. From now on, memo's that consume a page are turned over to see what is on the hind side.

On March 9th and 10th - the manager attended the National Wildlife Conference in St. Louis. Personally we gained little from technical papers, but contacts and in the hall selling of our wares was of immeasurable value. Also relished the opportunity of renewing old and new acquaintances.

On April 3 - our Williamson County Conservation Club kids were out to the refuge for the day. Stub Nelson and Bill Meneese took them in tow for the day and with the 35 kids, did some material work consisting of the planting of 1000 black locust trees in a very badly eroded spot in Area II. We wish very much that the planting stock could have been almost anything except black locust.

At noon on April 5th - the manager was luncheon speaker at the Herrin Rotary Club. Our talk in this instance was based on refuge developments and recreation - stressing boating safety and fire precautions.

To reduce our personal board bill further, the manager attended the spring bar-b-que of the Murphrysboro Sportsmen's Club the same evening as guest speaker. In addition to our talk as above, we showed the Service films "Birds of Woody Island" and "Forest Fires on Game".

April 13th - the manager was guest speaker on France Laux's radio broadcast over station KXOK in St. Louis. This particular program is called the Illinois-Missouri Fish and Hunt Club program. Our script, self prepared, was mainly about the refuge and recreational possibilities.

On April 15th - the manager was luncheon guest and speaker at the Marion Rotary Club. General aspects of the Service's over-all refuge program were the subject matter.

April 24th - the Illinois Redevelopment Commission, a body of 26 State legislatures, university officials and State officials, made an industrial and recreational tour of Southern Illinois. The manager

served as a guide and salesman on the rubber-neck bus as it toured the industrial and recreational portions of the refuge.

Just for the record, we would like to state that refuge personnel missed the March meeting of the Crab Orchard Sportsmen's Club meeting. We had been skeptical of this organization before and commented in our last narrative that we were attending for our own and the Service's protection. Circumstances prohibited our attendance at their March meeting. Apparently our attendance had been cramping their style a little. With no representation, someone drove a knife in your narrator's back and broke it off at the hilt, it seems. Not wanting to cramp their style again, we shall refrain from attending their meetings except when specially invited.

Fishing -

General comments on fishing success and fishing pressure has been made through previous pages of this report.

Violations

Stub Nelson and Doc Goodpaster had picked Sunday, January 25 to do a little crow busting. They were just getting their blind and decoy set up, made down at the main dam, when blooey, some one cut loose in a corn field just west of the refuge.

Upon investigation, they found two men using white sheets on snow covered ground to hunt rabbits(?). One hunter had a rabbit, the other a mallard duck. That mallard duck cost Mr. Charles J. Baggett, of Carbondale, Illinois, \$53.00 in justice court.

VII. OTHER ITEMS

We have had additional personnel assigned this report period which has greatly alleviated some of our development problems. We still are having very tough luck in filling our second labor-patrolman position. Twice we have accepted applicants, had their appointment papers completed and approved and then had both individuals turn the job down. In both cases, the men were Minnesotans - guess they just couldn't leave Scandanavia and "gopher" this "sucker" state.

On March 7, War Assets finally gave up the ghost and turned the industrial management with staff over to the Fish and Wildlife Service. So, now we officially have a million dollar baby on our hands. Anybody

that cares to leave the confines and ties of an office behind is welcome to come down and play engineer on our diesel locomotives (2) over 85 miles of track, operate a heating, water or sewer plant that will serve a city of 5 to 10,000 or push a motor patrol over some 250 miles of road.

As of March 1st, the Fisheries Division set up headquarters with us for the carrying on of their five state mussel study. This project is under the leadership of Richard O. Jones.

On April 1st, under the leadership of Arthur Eustis, River Basin set up a sub-headquarters office and operational base with us.

Yes, between orienting new project leaders of three divisions, carrying on a rather intensive and extensive development program and trying to satisfy most of the whims of the public down here, the refuge staff has been a mite busy and just a bit at loose ends sometimes.

Photographs

The manager finally missed enough lunches that he would have to pay for by appearing at public free lunches, to buy himself a camera. Some of the not-too-hot first results are attached.

Date Submitted -- May 17, 1948

Eugene E. Crawford
Eugene E. Crawford
Refuge Manager

Approved by Regional Office:

SA J. J. J. J.
REGIONAL DIRECTOR

MAY 20 1948

ANNUAL SUMMARY REPORT

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

INTRODUCTION

The refuge came into existence on August 5, 1947, by congressional action, specifically the Bishop Bill H.R. 3043.

Financial obstacles in taking over from the predecessors didn't see us get our feet on the ground until October 1, 1947, on the former Soil Conservation Service lands and on March 7, 1948, on War Assets Administration lands.

GENERAL

Unusuals in weather were experienced. The summer of '47 was unusually hot and dry. The winter of '47 - '48 had its idiosyncracies; Crab Orchard Lake, never known to have frozen over before, was ice bound to a depth of 9 inches for three weeks; heavy precipitation in the form of snow and rains, of cloud burst proportions, twice put record gauge readings over the main spillway.

Field fires were rather general and too frequent. A total of 437.1 acres of varying habitats were affected by fire. The most serious loss was of 44 acres of pine plantations.

WILDLIFE

Waterfowl use of this new refuge was such, this first year of existence, that we are confident this refuge will be of material worth in the Service's chain of refuges. During this first winter, we averaged 28,000 ducks, mostly mallards and black ducks and best of all we relieved the over-burdened, State owned, Horse-shoe Lake of 2200 Canadian Geese. These figures are ~~most~~ ^{not} startling at first glance, but when we remind the reader that this is the first winter use of the area by waterfowl, the figures take some potency.

Food was supplied from a 1400 acre cooperative cropping program. This program was initiated under a lease agreement with WAA to get it initiated, but now that we have full title, we shall get in high gear with a managed plan for maximum food production for wintering waterfowl.

Our upland game birds are confined to bob-white quail of which we have an average stocking.

Big game species are limited to an estimated 10 white-tailed deer we have within Area II of the refuge.

The refuge fur harvest called for controls on fox, mink and raccoon. 31, 30 and 5 animals respectively were removed.

DEVELOPMENTS

Construction of a 14 acre goose pen for holding our 46 pinioned geese.

Establishing waterfowl feed stations, grainarys and grain distribution cribs.

Renovation of a building for joint offices of the refuge and industrial management divisions of the office.

Posting of Area II of the refuge with blue-goose shields and markers.

Planting of 3000 willow slips for bank erosion.

Surfacing 1/2 mile of road.

Blading of 19 miles of truck trail fire breaks.

Construction of 4 miles of telephone line and two-way radio system for fire pre-suppression and suppression.

Renovation work on White bathing beach.

Construction of a public boat dock facility on Area II.

Receiving, servicing and putting in operative condition, refuge purchase and Army surplus equipment received.

ECONOMIC USE

Completed field surveys and write-ups for grazing and farming phases of refuge management.

Grazed a total of 1025.41 animal use months for a return of \$1025.41.

Returns from the recreational concession contract at 3% were \$682.60.

PUBLIC RELATIONS

Catering to 300,000 peoples within a 25 mile radius of the refuge, we

are confident over half of these peoples made at least weekly use of the refuge.

With regret, we report five drownings during this fiscal year.

Four national spot light events occurred on the refuge, they were: the National Retriever Trials, the National Springer Trials, and the fall and spring running of the Amateur All-Age Stake for pointing dogs.

Refuge personnel have appeared twenty nine times, throughout Southern Illinois, at public gatherings as salesmen of the Service's wares, including five showings of Service films. This of course does not include the time spent around the hot stove and chinning over the fence in a never ending effort to preach the gos-pel of our wildlife management program.

Only one prosecution was necessary in the enforcement of federal laws.

Respectfully submitted

Eugene E. Crawford
Eugene E. Crawford
Refuge Manager



Jan. 24, 1948 - Herrin High School students sacking ear corn for spreading as feed to waterfowl and upland game. '48-1



Jan. 24, 1948 - Kids hauling and spreading ear corn. '48-2



March 27, 1948 - A cooked pine plantation at the point where we knocked out the fire. Fire caused by fishermen.

'48-3



March 27, 1948 - Same as '48-3, general view of fire burned area.

'48-4



April 15, 1948 - The old dressing rooms or bull-pens at the bathing beach before remodeling. '48-5



April 15, 1948 - White bathing beach before remodeling. from east side. Note broken glass by vandals. '48-6



April 23, 1948 - Driving piling at new recreational boat dock. '48-7



April 23, 1948 - Piling job on boat dock - Wolf Creek Road. '48-8



April 4, 1948 - Some of the bang-tails and gallery that rode to the hounds on April 3rd and 4th. '48-9



Fish -- all black bass, the largest weighing 6 pounds -- caught March 23 1944 by Mrs. Chase E. Robbins in Crab Orchard Lake, Carbondale, Ill.

A few Crab Orchard bass.



Crab Orchard Lake bass fishermen.

WATERFOWL

Refuge Crabb Orchard

Months of January to May 1948

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. <u>Swans:</u>									
Whistling swan									
II. <u>Geese:</u>									
Canada goose			5000	3/12	24	4/7			9000
Cackling goose									
Brant									
White-fronted goose									
Snow goose	10	3/12	150	3/17	4	3/23			175
Blue goose	43	3/12	700	3/17	15	4/5			1200
III. <u>Ducks:</u>									
Mallard <i>nesting</i>			10000	2/25					21000
Black duck			3000	1/10	200	4/7			6700
Gadwall									
Baldpate	10	3/16	10	3/16	10	3/16			10
Pintail	1200	2/25	12000	3/16	70	3/23			18000
Green-winged teal	200	3/5	250	3/16	40	4/7			600
Blue-winged teal	4	3/19	425	3/25	8	4/7			700
Cinnamon teal									
Shoveller									
Wood duck									
Redhead	200	2/25	300	3/5	40	3/23			800
Ring-necked duck	2800	3/17	2800	3/17	200	4/7			4000
Canvas-back			800	2/25	14	3/20			2300
Scaup	250	3/12	250	3/12	100	3/20			400
Golden-eye			350	2/25	2	3/20			800
Buffle-head									
Ruddy duck	2	3/12	400	3/20	25	3/23			900
Am. Merganser			4000	3/5	20	4/5			16000
IV. <u>Coot:</u>			1200	4/5					2700

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 81385

Peak waterfowl numbers 15000 +

Areas used by concentrations Area I - divers

Principal nesting areas this season _____

Reported by Eugene E. Crawford

INSTRUCTIONS

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
- (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak Concentration: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.
- (5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

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

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refugee

Crab Orchard

Months of

January

to

May

194 48

(1) Species	(2) First Seen	(3) Peak Numbers	(4) Last Seen	(5) Production	(6) Total
Common Name	Number	Date	Number	Date	Number
I. Water and Marsh Birds:					
Pied-billed Grebe					250
* Dbl.-crested Cormorant					500
Great Blue Heron					300
American Egret					50
Little Green Heron					2
Least Bittern					3
II. Shorebirds, Gulls and Terns:					
Herring Gull					800
Ring-billed Gull					1700
Killdeer					350
Lesser Yellow Legs					20

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove - - - - -					950
White-winged dove					
IV. Predaceous Birds:					
Golden eagle					
Duck hawk Marsh Hawk					70
* G. Horned owl - - - - -					5
Maggie Broad-winged Hawk					30
Raven E. Sparrow Hawk					200
* Crow - - - - -					4200
Turkey Vulture					15
Sharp-shinned Hawk					5
Cooper's Hawk					5
E. Red Tail					40
Reported by Eugene E. Crawford					

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.

* - Permanent Residents

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Crab Orchard

Months of January to May, 1948

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bob-White Quail	Reverting agri- cultural lands & fence rows	---	---	---	---	---	---	---	400	
China Pheasant	-----	-----	-----	-----	-----	-----	-----	-----	37 ON AREA I 3 ON AREA II	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

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

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

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Crab Orchard

Year ending April 30, 1948

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5) Total Popula- tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Muskrat	1450 A - Marsh	-----	0	0	0	0	0	3832	0	2	2	0	0	75
Mink	12000 A -Lake & Stream	----	0	0	0	0	0	and	17	16	16	0	0	60
Skunk	35000 A - Upland	-----	0	0	0	0	0	3833	0	0	0	0	0	350
Raccoon	35000 A - Upland	-----	0	0	0	0	0		9	3	3	0	0	225
Opossum	35000 A - Upland	-----	0	0	0	0	0		0	1	1	0	0	400
Red Fox) Gray Fox)	35000 A - Upland	-----	0	0	0	0	0		28	13	13	0	0	150
Fox Squirrel	20000 A - Timber	-----	0	0	0	0	0		0	0	0	0	0	800
Bob-Cat	20000 A - Timber	-----	0	0	0	0	0		0	0	0	0	0	1
Rabbit	35000 A - Upland	-----	0	0	0	0	0		0	0	0	0	0	600
Wood-chuck	35000 A - Upland	-----	0	0	0	0	0		0	0	0	0	0	100

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by Eugene E. Crawford

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.

Months of January thru April 1948.

(8) Indicate shipping or collection points.....Mixed grain from Horicon.....

(9) Grain is stored at.....#3-1 Grainary.....

(10) Remarks.....

NR-8a

REFUGE GRAIN REPORT

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

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Southern Illinois

GEESSE COME TO SOUTHERN ILLINOIS FOR SANCTUARY AND A GOOD FEED

'Honker Hotel' Affords Geese Refuge In Area

Southern Illinois in general and the Crab Orchard lake area in particular are getting more and more national publicity designed to boost the stock of this area as a potential center for small industry and as an area adapted to year-round recreation and sports.

Recently Crab Orchard lake received a new kind of boost on a national basis when the Saturday Evening Post published an article on the newly established fish and wildlife refuge. The article, titled "Honker Hotel," is written by Harold Titus who spent some time at the Crab Orchard refuge last fall.

By permission of the Post editors the Southern Illinoisan publishes excerpts from the article. It reads in part:

Late in the dank afternoon of last October seventeenth, a pickup truck came to a stop before the office of the brand-new Crab Orchard National Wildlife Refuge near Herrin, Illinois, and the driver went in to report that his tory had just been made.

"Well, we finally got customers!" he announced. "Nine of 'em! Nice big Canadas! They swung for danged near an hour, but the callers did their stuff and they're feeding in the pen right now!"

TRANSLATED, this meant that nine wild Canada geese, after displaying the reluctance of their kind, had finally yielded to the invitational honking of the forty-five flightless live decoys in their enclosure on the shore of 7000-acre Crab Orchard Lake and were filling their drips with fodder grown especially for them.

Young Eugene Crawford, the refuge manager, got up and grinned. "Maybe," he chuckled, "our luck has changed!"

The clerk stretched and said wowie, it was time they got a break! And a worker coming in from the storehouse said gosh, wasn't this swell! and all kept grinning. They were like worried toilers who have finally got a promising sputter out of a stubborn motor and know that from then on the job is going to click.

Now, to most of us the fact that a few wild geese had stopped to eat in an Illinois field would seem of small consequence, even if we were also told that to see flocks alighting in the vicinity was without precedent. But it was an important incident, indeed, for Gene Crawford and his crew, because they are being paid largely to bamboozle into a new way of life the bird that combines more wariness, sagacity, suspicion of man and adherence to routine than any other thing that flies. Crawford is one of six managers of National Refuges in the Mississippi drainage area who are trying to persuade migrating geese by the thousands to try something they have never done before, and then make them like it.

The reason is that the continent's goose population is in a bad, bad way. The habit of congregating on migration and concentrating in the identical places year after year has made the birds woefully vulnerable to gunners. And those geese which do succeed in running the gauntlet from north of the Canadian boundary clear to the Gulf of Mexico without even having a feather ruffled continue to be in a bad way because their traditional wintering grounds are going to pot, and fast. Man wants those coastal marshes and has appropriated them in such large slices that countless flocks of the great birds are homeless.

ON THE Mississippi flyway alone, the population of Canada geese shrank by more than 60 per cent from 1941 to 1945, and this was not because of desertion to other regions; once escorted on a migration by his or her elders, not one goose in hundreds ever tries another route. Repeated poor nesting success and increasing gunfire doubtless were factors, but perhaps the greatest handicap was lack of wintering facilities where food was sufficient and contentment adequate. Ill-fed or discontented wild things just don't go for family rearing in a normal way.

The goal of this new program is to give the birds better winter homes and to break up some of their worst concentrations, so that mass slaughter will not be so easy. The quickest way, of course, would have been to acquire enough of the areas which geese picked out for themselves long ago and have used since; some of that has been done, but to follow through would have called for more money than the United States Fish and Wildlife Service or the state game departments have ever dreamed about. So the boys tried something else, and the experience at Crab Orchard is one more piece of evidence indicating that it can be done.

This territory around Herrin just never was goose country. It



This crowd is part of the staff and transients who have been tasting advantage of the facilities of the "Honker Hotel." Nearby, grain fields give plenty of food under the

watchful eye of Eugene Crawford, who is in charge of the



Clarence "Shorty" Nelson maintenance foreman at the refuge, holds one of the "callers." These birds were imported from the west for their amazingly loud voices com-

was on a big migratory route, and legions have streamed past annually, but they had never stopped. For decades it had been known as indifferent farm land in a coal-producing region. During the war part of it had been the Illinois Ordnance Depot, and that's what attracted the Fish and Wildlife Service; 20,000 acres could be had for free.

Now, anybody can coax geese to a given location by scattering quantities of grain, if he has the grain. For thirty years or more, migrating geese by the thousands have stopped, spring and fall, to feed on grain at the Jack Miner sanctuary near Kingsville, Ontario. But for a public agency out to persuade vast numbers of birds to adopt new habits, such a costly device as a permanent practice could not be considered. It was given a brief trial at Crab Orchard in 1946, just to check flock response. That response was good enough to offer hope that less expensive devices would function.

CRAWFORD took charge early in 1947. He enlisted nearby farmers in co-operative cropping, got in 1400 acres of corn, the Government's share of one third to be left standing, and 1700 acres of winter wheat, which makes fine off-season goose pasture. To advertise these wares to his potential trade he brought wild birds trapped in Utah clear across the country, pinioned them against flight and set them up as decoys. He posted the area and established his patrols so that no roving hunters would ruin the atmosphere of peace and plenty he was trying to create.

Titus goes on to say that Crawford spent many sleepless nights wondering whether the geese would take kindly to his department's efforts to provide a resting place where none had existed before.

"Crawford could hear them by night and see them by day, strong of wing and in their rigid V formations as they bored southward on that stirring trek from Hudson's bay and beyond to the Gulf or thereabouts. . . . But from the last day of September until the 17th of October not one flock even hesitated."

INDICATION that the big Canada geese who stopped at Crab Orchard found their liking is contained in Titus' statement that just before Christmas the real test of its attraction came when "an unusual four inches of snow fell and the arms of the lake froze over. The geese didn't take



Don't let Eugene Crawford, director at the refuge, fool you by this pose. Far from the business executive, his first

love is out in the fields where the ducks and geese are trying out his sanctuary from the hunter's blasts.

the federal permit to shoot migratory waterfowl, which costs the gunner a dollar—and the law provides that land acquired with such funds shall remain an inviolate sanctuary.