

NARRATIVE REPORT ROUTING SLIP

REFUGE CRAB ORCHARD PERIOD January - April 1962

Mr. Crawford _____ Mr. Askerknecht _____ Mr. Fermanich _____

WILDLIFE MANAGEMENT: Mr. Banko _____ Mr. Goldman _____ Mr. Stiles el

RESOURCE MANAGEMENT: Dr. Morley _____ Mr. Stollberg _____

OPERATIONS: Mr. Hickok _____ Mr. Regan _____

PUBLIC USE: Mr. DuMont _____ Mr. Monson gw Mr. Kubichek _____

ADMINISTRATIVE SERVICES: Miss Baum _____

NARRATIVE REPORT

January through April, 1962

U. S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
Crab Orchard National Wildlife Refuge

Route 2

Cartersville, Illinois

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

REFUGE STAFF

Administrative, Managerial and Technical

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R. G. PERSONIUS	REFUGE MANAGER
G. H. HUNTER	MANAGEMENT ASSISTANT
L. E. HOVELL	REFUGE MANAGER
L. B. SHEFFIELD	PARK RANGER
C. C. WINGARD	ENGINEERING TECHNICIAN
(VACANT)	ASSISTANT REFUGE MANAGER-TRAINEE
P. E. FERGUSON	ASSISTANT PARK RANGER
H. T. GUALDONI	CLERK (TYPING)
ESTHEL L. COX	CLERK-STENOGRAPHER
JOYCE A. TODD	FISCAL ACCOUNTING CLERK (STENOGRAPHY)
MARY L. SHERERTZ	CLERK-STENOGRAPHER
ARLIE JACK	STOREKEEPER (GENERAL)
CLARK BAVIN	LAW ENFORCEMENT OFFICER
GORDON TRIPP	FIRE CONTROL AID

Construction, Operations and Maintenance

J. J. PICKAR	FOREMAN, MIXED GANG
W. E. ELLIOTT	FOREMAN, SHOP
R. L. BASLER	FIREFIGHTER, SUPERVISORY
E. C. HUNTER	FOREMAN, OPERATING ENGINEER (STEAM)
A. G. BOLES	FOREMAN, MUNICIPAL UTILITIES (WATER & SEWER)
W. T. CAMPBELL	FOREMAN, LABORER
F. L. NORTON	FOREMAN, LABORER
P. E. EASTWOOD	FIREFIGHTER
J. T. GIBBONS	FIREFIGHTER
W. E. WEBB	FIREFIGHTER
K. W. SUMMERS	FIREFIGHTER
H. L. DAVIS	GUARD
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S. E. IRVIN	GUARD
H. L. SUMMERS	GUARD
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H. L. CARNER	FIREMAN, STATIONARY BOILER
C. L. FLORA	FIREMAN, STATIONARY BOILER
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R. H. HOWELL	FIREMAN, STATIONARY BOILER
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J. C. COX	FILTER & DISPOSAL PLANT OPERATOR
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W. R. WALLIN	FILTER & DISPOSAL PLANT OPERATOR

- Continued -

REFUGEE STAFF

[illegible]

Devil's Kitchen Survey

G. W. DARLAND	ENGINEER TECHNICIAN
ROBERT NAGEL	ENGINEER TECHNICIAN
M. O. McCARTHY.	ENGINEER AID
FRANCIS FROST	ENGINEER AID
2 EMPLOYEES	WAE LABORERS

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PhotographsAppended
N. R. FORMSAppended

I. GENERAL

A. Weather Conditions.

	<u>Snowfall</u>	<u>Precipitation</u>		<u>Max.</u>	<u>Min.</u>
		<u>This Month</u>	<u>Normal</u>	<u>Temp.</u>	<u>Temp.</u>
January	<u>3.75</u>	<u>4.84</u>	<u>3.68</u>	<u>62</u>	<u>-7</u>
February	<u>.50</u>	<u>4.94</u>	<u>3.75</u>	<u>76</u>	<u>11</u>
March	<u>T</u>	<u>5.91</u>	<u>4.63</u>	<u>72</u>	<u>13</u>
April	<u>T</u>	<u>2.40</u>	<u>4.40</u>	<u>84</u>	<u>27</u>
Total	<u>4.25</u>	<u>18.09</u>	<u>16.46</u>	Extremes <u>84</u>	<u>-7</u>

The period was characterized by above normal precipitation (1.61" above average) and below normal temperature (11.2° below average for four months). Snowfall was about 3" below average.

B. Habitat Conditions.

1. Water

All three lakes remained at or above spillway level during the period. Crab Orchard Lake valve was open 16" during February, March, and April, and yet remained above spillway until the end of April at which time the valve was closed.

2. Food and Cover

The geese started using "Skinner Bottoms" (refuge-planted corn) at the beginning of the period. This was the last major source of grain on the refuge. The flock using the area ranged from a few to 15,000 birds. Mallards and black ducks also made limited use of the area. By the end of January, this unit was completely utilized. An estimated 9,000 bushels of corn was taken from this field.

At the end of January, a check was made of all refuge crop areas. Only a few rows of corn remained adjacent to roads open to the public. This corn was picked and thrown out in the fields.

The last of February, 25 truck loads of corn, the last of our trap bait, were dumped in Areas 6 and 10, two fenced enclosures within the closed area.

This corn was spread on the roads. Deer were the first visitors to these areas, but soon the geese moved in and cleaned Area 10 and most of Area 6. The corn left in Area 6 was only in spots where the truck was not moving fast enough for spreading and piles were left. The geese were reluctant to feed on the piles. Deer, quail, doves, and woodchucks, however, cleaned up the remaining corn after the goose migration.

The geese made use of the fescue pastures throughout the period. This was particularly true in the closed portion of the refuge and Cambria necks.

Additional use of privately-owned areas was observed. The Campbell's Pond area north of the refuge was heavily used. Use of other private areas was the cause of some grumbling about depredation. Investigations proved that these complaints were largely unfounded.

Lack of snow cover made food readily available for other birds and small game.

Deer Browsing appeared to be moderately heavy in the closed area. If the refuge herd is permitted to increase, a formal browse survey should be initiated. Informal surveys disclosed evidence of damage to some hardwood stands. This condition, although not yet alarming, indicates that more information on the herd is needed.

II. WILDLIFE

A. Migratory Birds.

1. Canada Geese

Goose days use improved this period compared with the same period last year and was about five percent over the average for the last five years. During a cold spell in January when the lake surface froze almost completely, the numbers of birds declined, presumably as a result of flights to state refuges. After that, the flock built to a maximum just prior to migration, which was practically en masse in mid-March.

Our resident flock apparently numbers about 40, mostly non-breeders. Our annual nest survey on Crab Orchard Lake islands was conducted on April 12, and resulted in observations of three active and two abandoned nests. There were 16 eggs in the three active nests. Since then, one brood of unknown number of goslings was reported by a local citizen.

2. Ducks

Ducks continue to stay away from Crab Orchard in droves. The decline in use days is reaching terminal numbers. In 1962, the period had only 300,468 use days compared with 484,281 last year, and almost all of this was by Common Mergansers. Mallards were especially conspicuous by their near absence--only ten percent of last year's number. All other species were observed in such small numbers that changes from last year are not significant.

3. Other Waterbirds

The first Common Loon was sighted March 23, about two weeks behind last year. This year only seven Double-Crested Cormorants were seen compared with eighteen last year.

Great Blue, Green, and Black-Crowned Night Herons were observed in small numbers.

4. Shorebirds, Gulls and Terns

Large numbers of Ring-billed and Herring Gulls helped the Common Mergansers harvest the fish population on Crab Orchard Lake. Gull numbers were down considerably from last year when about 20,000 were present at the peak.

This year we had about 50 Pectoral Sandpipers compared to 20 last year.

B. Upland Game Birds.

1. Bobwhite Quail

The quail population on the closed area seems to be stabilizing at a level of abundance below that in former years, but sufficient to provide good sport for the field trialers.

C. Big Game Animals.

1. White-tailed Deer

Deer are so abundant in the closed area that "deer-watching" is crowding some refuge roads with cars in the evening. Car kills are becoming common both on and off the refuge. The animals appear to be healthy, although they are getting tame and can frequently be seen roaming about in the afternoons. Dogs continue to run deer at all seasons and are beginning to pose a control problem. Quite a few man-days have been logged answering complaints and disposing of the animals impounded. Thus far we have had no evidence of dogs actually killing deer.

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

1. Muskrats

Small populations of muskrats live in some of our stock ponds and are controlled whenever they threaten the dams.

2. Mink

Although present in limited numbers, there were no sightings this period.

3. Raccoon

Coons are frequently seen and appear to be abundant and widespread. The refuge closed area is a real terrestrial mammal haven, with coon as king.

4. Skunk

Present but infrequently seen.

5. Opossum

Abundant.

6. Fox (Red and Gray)

Judging from an ancient-appearing specimen removed from an industrial area, red foxes may be dying of old age for lack of human predation.

7. Coyote

No sightings--probably rare.

8. Cottontail Rabbit

The beagle trialers complained, but sightings and road kills indicate that cottontail are in good supply.

9. Fox and Gray Squirrels

Squirrels are commonly seen, although numbers are probably not excessive.

10. Woodchuck

No significant increase in chucks has been noted, indicating that natural predation may be keeping numbers in line with carrying capacity or at least not creating too much competition with geese or permit farmers.

E. Hawks, Eagles, Owls, etc.

Bald Eagle numbers were down from 14 last year to 8 this year, and only one Golden Eagle was sighted compared to 2 last year.

Although 3 Osprey were seen, no nests were observed.

Sightings of more Red-tailed hawks were made this year than last.

F. Other Birds.

No unusual observations this period.

G. Fish.

Sports fishing got off with a bang this year, mainly due to the long awaited opening of Devils Kitchen Lake on January 1. Even though the temperature remained below the freezing point, enthusiasm ran high, but the opening day catch was poor.

Only two to three dozen fish, bass and bluegill, were taken by some 500 fishermen who were on the lake during the first day. The turnover was high on the lake due to the icy wind and sub-zero temperature. Some fishermen braved the wintry elements for only a few minutes.

The catch remained low at Devils Kitchen until early April, when a slight warming trend set in. To date, limit strings of large mouth bass are fairly common, but average size of individuals remains small. One-half pound to two pounds is the average range, with reports of a few catches near three pounds. Bank fishermen report good success on catches of bluegill and yellow bullheads. No reported catch of channel cat during this period.

The warming trend in early April also increased fishing activity at Crab Orchard and Little Grassy Lakes. It looks as if this may well be one of the better years for crappie in both lakes. What's more, individual sizes have been encouragingly large. To date in Crab Orchard some bass are working the shores, but crappie is still the top bet. Little Grassy bass fishing has been steady, but not spectacular. Some of the "old hands" have caught bass weighing up to nine pounds.

H. Reptiles.

Our engineering crew surveying lot sites at Devils Kitchen Lake reported a variety of snakes and lizards in that area. Otherwise nothing to report from the rest of the refuge.

I. Disease.

The heads of several foxes were sent to the State for examination, but no disease was found.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

1. General Wildlife and Biological Development

- a. Hand cleared trees and brush from $1\frac{1}{2}$ miles of boundary fence.
- b. Peeled 1,000 pine posts and stacked for drying.

- c. Constructed and placed 31 wood duck nest boxes.
- d. Prepared refuge forest inventory.
- e. Constructed 3 box-type deer traps.
- f. Repaired and stored cannon net trap equipment.
- g. Burned brush piles on 100 acre pasture clearing.
- h. Manned fire tower 4 days.
- i. Conducted waterfowl census.

2. Soil and Moisture Accomplishments

- a. Built bridge in B-1 for fertilizer truck access.
- b. Inspected all pastures.
- c. Repaired four ponds in pasture units.
- d. Met with all permittees and prepared work plans for this year.
- e. Made soil test in A-41a, A-14, B-15, B-19, and B-1.
- f. Planned schedule on preparation of new conservation plans for farm units.
- g. Made field contacts with permittees and suggested waterways and retentions. Results of these contacts look good now.
- h. Made minor repairs to four farm access roads for fertilizer trucks.
- i. Seeded legumes on 70 acres of new pasture.
- j. Built farm wagon from surplus materials for hauling seed, fertilizers, and S & M supplies.

3. Recreation Maintenance and Construction

- a. Cleanup of areas and collection of trash required 51 man days.
- b. Salvaged over 700 tons of ballast type rock and spread on roads and parking areas.
- c. Cut logs, producing 12,760 board feet lumber.
- d. Salvaged 35 guard posts and reset around Carterville Beach parking area.
- e. Renovated 12 informational signs.
- f. Set 40 new traffic signs.
- g. Replaced 15 traffic signs which had been stolen or damaged.
- h. Spread 40 bales of straw and seeded 30 new diversion ditches.
- i. Road repairs required 19 man days.
- j. Installed 8 supplementary culverts under roads at Devils Kitchen.
- k. Constructed 10 new fireplaces.
- l. Constructed 2 new W.P.A.-type toilets.
- m. Painted patrol boat.
- n. New map of Devils Kitchen drawn and printed for distribution.
- o. Four concession contracts consummated.

B. Plantings.

1. Trees and Shrubs

None

2. Cultivated Crops

One hundred twenty-three acres of wheat and rye were planted on the area this year. Goose damage was severe on all wheat inside the closed area and this will not be harvested. Eighty acres on the public use area will be harvested.

The Russian winter brome sowed on the new ground in Skinner Bottoms is coming out very well this spring in spite of heavy goose use last winter.

New farming agreements were written this spring. Under the terms of the new agreements, the cooperators are required to apply 800 pounds rock phosphate and 300 pounds potash before planting corn, and to apply two tons of lime before planting beans. All seed and fertilizer are furnished by the farmer. To compensate the cost, permittees are now getting 100% of the beans.

C. Collections and Receipts.

None this period.

D. Control of Vegetation.

Vegetation control was limited to spraying stumps along boundary fence clearing with 2-4-5-T in diesel fuel to prevent re-sprouting.

E. Planned Burning.

None this period.

F. Fires.

Refuge personnel suppressed two small field fires, one on April 20 burning four acres of brush, and one on April 23 burning eight acres of grass and brush. No damage was sustained by valuable timber or wildlife food plants.

IV. RESOURCE MANAGEMENT

A. Grazing.

Four pasture ponds were repaired this spring. Legumes were seeded in one pasture. Some brush pile burning was accomplished in newly cleared pasture. Plans were completed for developing several new pastures. We hope to complete work on these units before fall.

Negotiations have begun with an industrial tenant on a cooperative effort to develop a 600-acre explosives storage area for pasture. The company is interested and has indicated that it might furnish some of the fertilizer and labor. The company hopes to cut its fire hazard by controlling vegetation with grazing.

B. Haying.

Under the new farming agreement, all hayland must be clipped once a year. Farmers not wanting hay will use sweet clover in their rotations. We hope this will keep the farm land from reverting as it has done in the past.

C. Fur Harvest.

None.

D. Timber Removal.

Four special use permits were issued this period for the harvesting of locust posts. A total of 2,321 posts were harvested for a remittance of \$208.89. One permit was issued to Southern Illinois University for removal of various tree species to be transplanted around the campus for landscaping and erosion control.

In March, refuge personnel harvested thirty mixed oak trees from a five acre woodlot. One hundred twelve logs were delivered to the mill for sawing. The final mill cut totaled 12,670 board feet of lumber. Primary saw dimensions were 2" planks for bridge decking and 4" by 4" by 8' posts for sign installation.

E. Commercial Fishing.

Six special use permits (free) were issued this period for commercial fishing. The following table summarizes their catch for the period.

Table No. 1 - Commercial Fishing

Permittee	Buffalo	Carp	Drum	Bullhead	Turtle
	Pounds				(head)
W. Pearce	--	48	3	169	32
C. Swan	5,826	16,008	25	185	920
D. Jennings & A. Presley	3,866	1,778	25	--	480
A., W., & J. Beasley	3,731	1,017	55	--	65
R. DeSherila	5,711	1,192	41	--	123
J. Leach, J. Hinchcliff and R. Johnson	5	95	10	36	--
Total	19,139	20,138	159	390	1,620

F. Other Uses.

Revenues realized from all phases of the recreational operations are listed in the following table.

Table No. 2 - Recreational Revenues

Item	January through April, 1962
Concessions - Southern Sports, Inc.	\$1,200.00
Devils Kitchen	850.00
Little Grassy	850.00
Camp Lease - Educational Council of 100	300.00
Camp Permits - Future Farmers of America	1.00
Presbytery of Southern Illinois	1.00
Use Permit - Crab Orchard Boat and Yacht Club	25.00
Quarters Rent -	265.68
Impoundment Fees -	20.00
Miscellaneous Receipts -	15.00
Total Revenues	\$3,527.68

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Progress Report.1. Wood Duck Nest Box Project

Since wood ducks are the only naturally breeding waterfowl at Crab Orchard, and about the only one even present during the breeding season, we believe they deserve a little

active management. To test the feasibility of increasing the production of wood ducks at Crab Orchard, we constructed and placed 31 nest boxes in habitat believed favorable for nesting wood ducks. The results of this experiment over a reasonable period of time should tell us where an increased number of boxes would significantly raise our wood duck production. We especially are interested in the flooded timber areas of our youngest impoundment--Devils Kitchen Lake, as well as in some of the many refuge stock ponds with flooded timber, and in over-water installations on posts in remote parts of Crab Orchard Lake. Although there is a large number of natural cavities on the refuge, we believe raccoon and squirrel predation limits production.

The boxes were built and erected by John Wilbrecht and Bob Rice. Twenty-one were made from old metal air ducts and the rest of wood. Devils Kitchen Lake received 19 boxes while 7 were put on Crab Orchard Lake, 3 on Little Grassy Lake, and 2 on a farm pond.

2. White Tail Deer Project

Our "exploding population" problem--the white tail deer herd--will be scrutinized during a new research project by a Southern Illinois University student, John Davis. John will be our student assistant this summer also. He will try to determine how many deer we have, where they travel, and what effect they have on the number of deer adjacent to the refuge in public hunting areas. He will trap and mark as many as he can.

3. Improvement of Cannon Net Trap Cartridge

The new A5 polyethylene cannon net-trap cartridge developed by Universal Match Corporation (one of our industrial tenants), went into production this period. The cartridge is loaded with 110 grains of black powder and has an Atlas M-100 squib. About 700 of these cartridges have been sold.

The company is still considering the feasibility of developing a smokeless powder cartridge.

4. Canada Goose Trapping and Banding

The following table summarizes Canada goose trapping and banding for the 1961-1962 season.

Table No. 3 - Canada Goose Trapping and Banding

	No. Banded	Adult		Immature	
		Male	Female	Male	Female
Pre-season sample 10/18 - 10/30	247	78	90	35	44
Post-season sample 12/21 - 2/27	551	221	198	60	72
Total	798	299	288	95	116

Note:

Rather than repeating "no progress" progress reports, the results of previous or continuing research will be reported only when available.

VI. PUBLIC RELATIONS

A. Recreational Use.

Horses seem to be coming back to Southern Illinois, and "riding to the hounds" by fox hunters from Chicago, St. Louis, Memphis, and elsewhere was enjoyed for several weeks during January and February. The hunters headquartered at Lake View Farms Estate and hunted south of Devils Kitchen. The visitors were impressed with the abundance of "wild" country.

A good fishing season seems to be coming up as mentioned earlier in this report and the crowds of people are beginning to descend upon us. The next report will contain more "public relations."

B. Refuge Visitors.

Refuge visitors during the period are logged as follows.

<u>Date</u>	<u>Name</u>	<u>Title or Organization</u>	<u>Purpose of Visit</u>
<u>January</u>			
2	Kurby Sniderwin	Marion Metal & Roofing	Lease contact
	Gordon Estes	" " "	Leased building
	James Durham	Gen. Telephone	R. O. W.
3	Dave Yehling	Ill. St. Highway Dept.	Roads
	Maurice Whitacre	Ill. Dept. Cons.	Fish hatchery

Jan.			
3	Robert Keith Ross Hanson	Technical Tape Corp. Regional Office	Lease contract Census
4.	Dave Olson Maurice Whitacre Robert Keith	S.I.U. Ill. Dept. Consv. Technical Tape Corp.	Goose management Fish Hatchery Lease
8	Marion Castellano	Permanent Homes	Lease
9	Egon Kamarasy G. H. Hughes	Shawnee Hills Riding Club - S. I. I.	Bridle paths Bridle paths
10	Allan Studholme Don Leland Don Smith	Regional Office Minn. Consv. Dept. Regional Office	Goose management Goose management Goose management
12	Lester Buhls Herman Bearden Oscar Schafale Harold Pangborn Robert Keith Arthur Hamilton Art Hawkins Allan Studholme Don Smith Don Leland Larry Jahn	Sangamo Electric Bank of Egypt Bank of Marion Bank of Egypt Tech. Tape Corp. Herrin Chamber Commerce - Miss. Flyway Regional Office Regional Office Minn. Consv. Dept. Wildlife Mgmt. Inst.	Lease Tech. Tape lease Tech. Tape lease Tech. Tape lease Lease Lease Goose management Goose management Goose management Goose management Goose management
15	Joe Pearson Marshall Skelcher Silas Brown R. J. Harris	Blount Bros. Lakeview Farms Dept. Agriculture Marion, Ill.	Cons. Prison Boundaries Coop farming Surplus tie sale
16	Rev. Dickey Chet Townsend Ralph Harris	Carterville, Ill. A.R.A. Lakeview Farms	Methodist camp Lease information
17	Robert Sharpe Al Brooks Eugene Ittensohn Julius Swayne Loren Rechter	Regional Office Carbondale, Ill. Carbondale, Ill. Herrin, Ill. Marion, Ill.	Fish management Concession Concession Concession Real Estate Development
18	Robert Sharpe	Regional Office	Fish Management
19	Dr. W. Klimstra Claude Grace	S.I.U. F.B.I.	Deer Study Courtesy
22	Cline Skelcher	Devils Kitchen	Concession lease

Jan.

23	George Bowers Warren Kelly	Sangamo Elec. Sangamo Elec.	Lease Lease
25	F. E. Graper I. Mueller M. J. Castellano	F.B.I. Peabody Coal Co. Permanent Homes	Courtesy Courtesy Lease
31	Roy Glenn	C'ville Golf Club	Concession bonds

Feb.

5	Fred Graper Chet Townsend George Krenzolak Robert Keith Kenneth Hickey	F.B.I. A.R.A. Supreme Transformer Technical Tape Technical Tape	Investigation Development Development Lease Lease
6	Bill Brown Silas Brown	Southern Sports, Inc. Dept. Agriculture	Lease Co-op farming.
8	Bill Hays Claude Ross Dr. Loren Taylor	Sports Craft Giant City School S.I.U.	Lease School district School district
10	Jim McVey J. W. Travelstead Bill Brown	Herrin, Ill. General Telephone Play Port	Boundaries Courtesy Concession
12	Jim McVey J. W. Travelstead Don Thomas	Herrin, Ill. General Telephone General Telephone	Boundaries R. O. W. R. O. W.
13	W. E. Kimberlin	W. H. Dyer Co.	Track bid
14	Claude Grace	F.B.I.	Courtesy
15	Senator H. Green	Palestine, Ill.	Courtesy
16	Claude Ross Dr. R. Marty Frank Thompson Wes Newcomb	Giant City School Springfield Viking Truck Line USGMA Des Moines, Iowa	Land acquisition Land acquisition Lease Courtesy
20	Tommy Harris Carpenter & Golde Karl Malzahn	Construction Co. US Forest Service V.T.I.	Contract Moving Timber plots Building relocation

<u>Feb.</u>			
23	M. L. Wills F. E. Graper	Dept. Defense F.B.I.	Fallout shelters Courtesy
26	Eugene Ittensohn William Hickey	L. G. Concession Technical Tape Corp.	Bond payment Lease
28	Bill Brown -- Davenport	Southern Sports SCS Engineer	Concession Wetland Survey
<u>March</u>			
1	Claude Ross	Giant City School	Land acquisition
2	Elmer Snyder Bob Keller	Snyder Cons. Co. Keller Heating	Boundaries Contract
3.	Comm. L. Pautzke	Central Office	Inspection
5	Gary Beach Don Raines Chas. Struz Eugene Ittensohn	S.I.U. student Pirates Cove, Inc. Pirates Cove, Inc. Little Grassy	Interview Lease Lease Lease
6	J. A. Willis Frank Hemmings	Dept. Defense Regional Office	Fallout shelters D. K. survey
7	Silas Brown Jack Toll	Dept. Agriculture Mingo Refuge	Co-op farming Courtesy
8	Eugene Ittensohn W. Troy Barrett Kenneth Hickey	Little Grassy Con. Little Grassy Con. Technical Tape Corp.	Lease Lease Lease
9	Bernie Simicea Val Baggot	Technical Tape Corp. Zeigler, Ill.	Lease Lease inquiry
13	Don Raines Sam Stilley	Pirates Cove, Inc. Marion, Ill.	Lease Boundaries & R.O.W.
14	Claude Ross Bert Terpinitz Bill Mestle Gordon Goodman	Giant City School Dst. S.I.U. Ill. Dept. Consv. Ramona Stone Co.	Land Acquisition Property Courtesy Stone & rock bids.
16	J. W. Travelstead Norman Klauss Claude Ross	General Telephone General Telephone Giant City School	R.O.W. R.O.W. Land Acquisition
22	Gordon Goodman Peter Litt W. E. Kimberlin	Ramona Stone Co. Hyman Michaels W. H. Dyer Co.	Stone contract Railroad track bid Railroad track bid

April

2	E. A. Kurmes John Davis	S.I.U. Forestry Dept. S.I.U.	Timber Management Deer study
3	Sam Stilley	Marion, Ill	R.O.W.
4	Art Hamilton	Herrin Chamber Commerce	D. K. development
5	Don Raines Marshall Stinnett	Pirates Cove, Inc. USGMA	Lease Courtesy
6	Dave Umberger Ray Wright	R.O. Engineer R. O. Engineer	D. K. Inspection D. K. Inspection
9	R. MacLean	MacLean Cons. Co.	Lease building
10	E. A. Kurmes	S.I.U. Forestry Dept.	Timber Management
11	Don Raines Kenneth Yow	Pirates Cove, Inc. Pirates Cove, Inc.	Lease Lease
12	Carl Parsons Jim Simpson	C.O.S.A. C.O.S.A.	Field Trials Field Trials
13	Roy Glenn	C. O. Golf Club	Land acquisition
15	Congressman Gray --Shinn --Showalter	25th District Shinn Aircraft Shinn Aircraft	Industrial leasing Industrial leasing Industrial leasing
16	R. MacLean	MacLeans Cons. Co.	Lease
17	Harry Able	St. Louis COE	Courtesy
18	Berse Emery W.E. Kimberlin Julius Swayne	Makanda, Ill. W.H. Dyer Co Herrin, Ill.	Area complaint Switching permit Concession
19	Mort Carroll	Armco Co.	Buildings
20	Don Raines Kenneth Yow Russell Clark	Pirates Cove, Inc. Pirates Cove, Inc. Clark Co.	Construction plans Construction plans Courtesy
24	F. E. Graper Claude Ross	F.B.I. Giant City School	Courtesy Land acquisition
25	Ray Richardson George Jensen Julius Swayne	Herrin, Ill. C.I.P.S. Herrin, Ill.	R.O.W. Outdoor Lighting Sale of property
26	Bert Clendennin	Marion	Lease building

April

27	Claude Grace Bill Brown Roy Patton R. J. Harris	F.B.I. Sou. Sports, Inc. Howell, Ins. Marion, Ill.	Courtesy Insurance " R.R. ties
28	Stanley Wilson Ray Richardson	Wilson Asphalt Herrin, Ill.	Road surfacing R.O.W.
30	Goodman K. Larson Eugene Cowley	Regional Office AFGE, Madison, Wisc.	Labor-Mgmt. meeting " " "

C. Refuge Participation.

Members of the Crab Orchard staff represented the Service at the following meetings and activities during the period.

January

- 11 -- Sheffield attended Carbondale Chamber of Commerce annual meeting.
- 16 -- Bavin on panel on forest fire law enforcement at Benton.
- 16 -- Hovell attended Soil Conservation Service meeting at Marion.
- 16 -- Stiles cut tape for Station WFPF for program on water management, Devils Kitchen Lake opening, general refuge program.
- 16 -- Stiles attended Seminar at Southern Illinois University re career opportunities in U. S. Forest Service.
- 17 -- Stiles toured refuge with Regional Supervisor R. Sharp.
- 23 -- Bavin and Wilbrecht visited Horicon Refuge.
- 25 -- Sheffield presented talk at meeting of camp representatives from 18 states at S.I.U. Little Grassy camp.
- 25-31 Bavin, Wilbrecht, Stiles, Personius, Hunter, Hovell, and Ferguson attended Region 3 Conference, Minneapolis.
- 31 -- Sheffield attended Southern Illinois, Inc. annual meeting.

February

- 1 & 2 Personius picked up dump truck in Pontiac for delivery to Crab Orchard.
- 3 -- Bavin and Wilbrecht attended Crab Orchard Sportsmen's Association meeting.
- 3 -- Sheffield rode with Fox Hunters south of Devils Kitchen and attended Hunt Ball at Giant City Lodge.
- 7 -- Personius and Sheffield attended luncheon meeting of Crab Orchard Sailing Club.
- 7 -- Sheffield attended Southern Illinois Recreation Council meeting.

February

- 17 -- Stiles gave slide talk on refuge to Allen Industries Management Club.
- 19 -- Wilbrecht gave slide talk at Evangelical & Reformed Church, Marion.
- 19 -- Personius, Bavin, Wilbrecht, Hovell, and Ferguson attended seminar at S.I.U. on Southern Illinois Migratory Birds.
- 19 & 20 -- Bavin picked up new truck at Kansas City.
- 23 -- Stiles attended Resources Development Ideas Conference in Vienna.
- 26 -- Stiles and Sheffield attended S.I.U. annual board meeting.
- 27 -- Stiles presented seminar program to S.I.U. zoology students.
- 27 -- Stiles and Personius attended meeting of Crab Orchard Creek Watershed Steering Committee at Marion.
- 27 -- Bavin attended law enforcement meeting with State wardens and Sanders at Benton.

March

- 1 -- Bavin attended C.O.S.A. meeting.
- 1 -- Stiles gave slide talk on Refuge & Wildlife Conservation to Jefferson School PTA at Marion.
- 1 -- Sheffield attended Herrin C. of C. annual meeting.
- 3 -- Stiles and Personius met Commissioner L. Pautzke and Pilot Agent Von Dane at airport for aerial inspection of refuge, followed by auto tour.
- 5 -- Sheffield attended Williamson County Tourist & Recreation Association meeting.
- 8 -- Stiles, Toll, Wilbrecht met with Dr. Minckler at United States Forest Service Research Center, S.I.U., to discuss forest types and silvicultural practices common to Central States.
- 12 -- Sheffield attended C. O. Playground Association meeting.
- 12 -- Stiles attended Cartersville Lions Club meeting.
- 18 -- Stiles in Regional Office for three days attending conference on North American Wildlife Conference, discussions, and preparation of detail to Washington.
- 20 -- Sheffield attended Jackson County Tourist and Recreation Association meeting.
- 21 -- Sheffield attended So. Ill. Rec. Council meeting.
- 23 -- Sheffield attended Shawnee Hills Rec. Ass'n. meeting.
- 24 -- Wilbrecht conducted Bird Tour.
- 25 -- Personius toured closed area inspecting ponds with Dr. John Crenshaw, S.I.U. herpetologist.
- 25 -- Stiles departed for Washington, where he spent six days working on Forest-Wildlife Management Report for Branch of Refuges, discussions on labor-management relations at Crab Orchard, etc.

March

- 26 -- Sheffield attended S.I.L. meeting.
- 31 -- Sheffield conducted refuge tour for Carterville High School Science Club.
- 31 -- Sheffield attended Ozard-Shawnee Scouts Annual Meeting.

April

- 3 -- Sheffield attended meeting at S.I.L. office re River to River Scenic Highway or prospective Shawnee National Wonderland.
- 5 -- Bavin, Personius, Ferguson attended Directors' meeting of C.O.S.A.
- 5 & 6 -- Stiles presented banquet talk to Annual Illini Forestry Banquet at University of Illinois. Presented talk to Forestry Class on career opportunities in U. S. Fish and Wildlife Service, followed by attendance at various seminars.
- 6 -- Personius, Sheffield, and Wingard toured Devils Kitchen roads on inspection with Regional Office engineers.
- 9 -- Stiles attended luncheon meeting with Herrin and Marion Chambers of Commerce officials.
- 9 -- Personius met with Drs. Klimstra and Lewis at S.I.U. and discussed biological research projects.
- 15 -- Stiles attended District I Convention of Lions International at Carbondale.
- 21 -- Stiles assisted with Carterville Lions Club pancake fry.
- 23 -- Stiles and Sheffield attended S.I.L. Directors' Meeting.
- 25 -- Sheffield attended So. Illinois Rec. Council meeting.
- 28 -- Sheffield attended meeting of Illinois Association of Park Districts at S.I.U. Little Grassy Camp and conducted tour of Little Grassy and Devils Kitchen Lakes.

D. Hunting.

None this period.

E. Violations.

The following table summarizes prosecutions in State court for this period.

Table No. 4 - Prosecutions			
	Number	Violation	Fine and Cost
	4	Traffic	\$60.00
	4	Fishing	60.00
Totals	8		\$120.00

The enforcement officer spent considerable time this period patrolling the waterfowl concentration areas near the refuge in an effort to deter and apprehend spring hunters. Some evidence of hunting was found, but no apprehensions were made. Some of this patrol was with USGMA Sanders.

Some acts of vandalism were discovered, such as removing refuge signs, but no major damage was found. The concession stand at Little Grassy Lake was broken into twice, but nothing of value was taken.

F. Safety.

On March 14, our lost time accident-free record of 378 calendar days was shattered. An employee driving a Government car hit a cluster of brick laying on the highway which resulted in a blowout. The car veered off the pavement and struck a concrete culvert abutment. The employee lost two days recovering from a cut over his left eye and a bruised knee.

The monthly safety meetings included a thirty minute presentation on public health problems by the Williamson County Health Department Director, a ten minute film from the Regional Office on the proper method for vehicles to pass on the highway, a fifteen minute film on the Kansas City Petroleum Products fire, and a fifteen minute film on sprinkler system operation.

Discussion covered local traffic problems, near-misses, moving heavy equipment, and the operation of roadside equipment.

A complete inspection of the refuge facilities for safety and maintenance deficiencies was made and corrections completed.

VII. INDUSTRIAL ACTIVITIES

A. Water Use.

I. Industrial Consumption

In spite of the fact that one of our largest consumers of water, the Sangamo Electric Company, ceased all operations in January, our production of treated water at the refuge-operated water plant showed an increase over the same period last year. Primarily this was caused by an increase in production at the Olin Mathieson Chemical Corporation plant, which resulted in increased water consumption by approximately 33,000,000 gallons for the period compared to last year.

Our daily average production during this period was approximately 904,800 gallons per day or about 45% of plant capacity.

The amount of sewage treated also increased this period over last year due to the increased water usage.

Quantities of Water and Sewage Treated at Refuge Operated Plants.				
Table No. 5				
Month	January - April, 1961 Gallons Treated		January - April, 1962 Gallons Treated	
	Water	Sewage	Water	Sewage
January	23,968,000	2,729,000	30,920,000	5,973,000
February	10,966,000	5,104,000	24,127,000	5,168,000
March	24,600,000	6,159,000	27,670,000	7,526,000
April	32,029,000	5,375,000	25,864,000	6,589,000
Total	100,563,000	19,367,000	108,581,000	25,256,000

2. Municipal Use

The City of Carbondale pumped 73,194,000 gallons of raw water from Crab Orchard Lake this period. Revenue for this use amounted to \$1,463.88. Carbondale's pumpage this period is considerably less than usual. In fact, no water was taken from the lake in the month of March.

Due to above normal precipitation during this period, all the area cities' water reservoirs were overflowing. Therefore no raw water was pumped from Crab Orchard Lake by Marion, Herrin, or Carterville.

B. Facility Activity, Development, and Maintenance.

1. Boiler House

On March 19 with the arrival of warm weather, Boiler House No. 1 was completely shut down. At the beginning of the period Sangamo was in the process of moving their equipment to Pickens, South Carolina. The move was completed by April 1.

The boiler house shut-down consisted of the following: Completely drained all pumps, tanks, boiler drums, steam lines, regulators, traps, flow meters, water softeners, turbines, radiators, drinking fountain, and toilet. Cleaned and painted rusted pipes and metal. Repaired wooden lids above oil tanks. Regraded yard. Disconnected all electric power.

2. Buildings and Grounds

Major items completed under this heading are listed as follow:

- Dismantled and moved three 43'4" x 27'6" transite buildings to shop area.
- Installed new flooring in dining room and living room at Quarters #4.
- Repaired four water main leaks.
- Renovated electrical wiring at the refuge office.
- Repiped service water lines at water plant and sewage plant.
- Rebuilt four sewage pumps.
- Hauled cinders from the Boiler House #1 to parking lot on Sneed Highway.
- Agitated sludge in the sewage digester to facilitate removal.
- Refinished eight office desks.
- Levelled three burning grounds with bulldozers.
- Installed kitchen linoleum in Quarters #21.
- Repaired Modine heaters in the refuge shop.
- Installed a septic tank and drain field at Quarters #8.
- Installed bedroom partitions at the Devils Kitchen Lake residence.
- Replaced all water lines at Quarters #2.
- Minor carpenter repairs made at Quarters #7,8, Staff House #2, 10, 4, 8, and 5.
- Constructed two W.P.A.-type toilets.
- Constructed a pump house and water intake from Devils Kitchen Lake to serve as domestic water supply for the Devils Kitchen residence.
- Painted the refuge office exterior.

3. Equipment

Major engine overhauls were completed on the 1957 FWD pickup, 1947 International water truck, 1956 Ford dump truck, and D-7 Caterpillar bulldozer.

During this period thirty-one of the forty pieces of automotive equipment were in the repair shop one or more times. Most of the repairs consisted of engine tuneups, electrical repairs, radiator repair, brake relining, valve jobs, exhaust system repairs, and continuing maintenance checks.

The 10 h.p. Scott-Atwater, the 25 h.p. Johnson, and two 35 h.p. Evinrudes were in for major and minor repairs.

4. Railroad

A two man crew with a power operated bolt machine completed tightening the track bolts on the thirty miles of active railroad track.

With the exception of minor switch repairs, this was all the track maintenance undertaken during the report period.

Operation records for the period show 636 cars handled by our train crews. Revenue for the railroad operation totalled \$9,664.69 for the period. Operational costs totalled \$10,666.33.

5. Water and Sewage

Operation of both of these facilities was routine this period. Consumption of water decreased because of the Sangamo Electric Company shutdown, but increased again because of heavy production of fertilizer at the Olin Mathieson plant.

We are having some difficulty removing sludge from the digester at the sewage works, but alleviated the situation by agitating the bottom layers of sludge with compressed air.

In addition to operating duties, Water and Sewage Plant personnel accomplished the following maintenance:

- Installed re-built sewage pump at Lift Station #5.
- Painted the interior walls and equipment in the raw water pump house.
- Painted all interior walls of the filter building second floor.
- Painted walls and piping in the raw water gallery.
- Repaired two return sludge pumps at the Sewage Plant.

6. Fire and Security

No industrial fires this period.

Regular personnel of the Fire and Security Department accomplished the following maintenance this period:

- Hauled and spread seven tons of gravel on the fire station parking lot.
- Refinished the radio room desk and the lobby table.
- Recharged twenty-four soda acid fire extinguishers.
- Recharged eighteen foam fire extinguishers.

TABLE NO. 6 - INDUSTRIAL LEASING, REVENUE & EMPLOYMENT

Industry	Lease Footage				Monetary Return					Total No. Employed	
	Jan.	Feb.	March	April	Rent	Wat. & Sew.	Steam	Switching	Total	12-31-61	4-30-62
Allen Industries	42,000	42,000	42,000	42,000	\$ 2,373.36	\$ 16.00		\$ 150.00	\$ 2,539.36	4	4
Aronson, Knute	2,021	2,021	2,021	2,021	101.04	---		---	101.04	1	1
Blount Brothers	2,021	2,021	2,021	2,021	101.04	100.08		---	201.12	70	350
Diagraph Bradley	75,410	75,410	75,410	75,410	4,699.12	214.99		75.00	4,989.11	100	100
East Side Lumberyard	16,195	16,195	16,195	16,195	1,079.64	24.00		240.00	1,343.64	3	3
Explosives, Inc.	2,138	2,138	2,138	2,138	71.28	---		---	71.28	2	2
General Services Admin.	63,294	63,294	63,294	63,294	3,539.72	16.00		15.00	3,570.72	10	15
Good Luck Glove	24,141	24,141	24,141	24,141	1,207.04	---		---	1,207.04	2	2
Great Lakes Terminal	41,221	41,221	41,221	41,221	2,334.40	16.00		450.00	2,800.40	3	3
Grinnell Sash & Door	36,041	36,041	36,041	36,041	1,955.00	57.45		1,095.00	3,107.45	56	56
Hanley Industries	1,069	1,069	1,069	1,069	35.64	---		---	35.64	---	---
MacLean Erection	---	---	---	4,224	52.80	---		---	52.80	---	7
Marion Metal & Roofing	5,125	5,125	5,125	5,125	256.24	---		---	256.24	---	---
Mass. Electric Co.	4,685	4,685	4,685	4,685	312.36	---		---	312.36	13	12
Monsanto Chemical	33,250	33,250	33,250	33,250	1,639.24	---		1,230.00	2,869.24	5	10
Nat'l. Reproductions	3,891	3,891	3,891	3,891	259.40	30.34		---	289.74	3	3
Norge	76,850	76,850	76,850	76,850	4,610.88	---		---	4,610.88	25	25
Olin Mathieson	518,248	513,427	510,213	506,999	22,679.32	12,366.68		5,714.69	40,760.69	260	406
Oxford Electric	33,214	33,214	33,214	33,214	1,906.80	968.58		---	2,875.38	185	185
Permanent Homes	10,250	10,250	10,250	10,250	580.84	16.00		---	596.84	---	---
Petrof Trading Co.	32,060	32,060	32,060	32,060	1,068.72	---		---	1,068.72	---	---
Propellex Chemicals	1,069	1,069	1,069	1,069	35.64	---		---	35.64	---	---
Sangamo Electric	195,018	117,077	191	---	4,094.81	954.47	24,047.98	---	29,097.26	793	---
Schilli Transportation	3,324	3,324	3,324	3,324	221.60	16.00		---	237.60	6	8
Schilli Warehouse	10,250	10,250	10,250	10,250	512.52	---		555.00	1,067.52	2	3
Southern Homes	62,020	62,020	62,020	62,020	3,078.48	24.00		105.00	3,207.48	15	16
Southern Metal Arts	4,685	4,685	4,685	4,685	312.36	8.00		---	320.36	---	---
SIU - VTI	240,526	240,526	240,526	240,526	661.12	1,300.57		---	1,961.69	140	140
SIU - ETP	20,702	20,702	20,702	20,702	1,380.16	108.00		---	1,488.16	8	8
Technical Tape	---	---	25,946	25,946	864.86	---	980.11	---	1,844.97	---	---
Triangle Construction	20,500	20,500	20,500	20,500	1,025.00	---		---	1,025.00	---	---
Universal Match Co.	129,303	129,303	129,303	129,303	5,025.76	2,626.27		---	7,652.03	330	375
Winger Construction Co.	8,448	8,448	8,448	8,448	493.12	---		---	493.12	29	50
Simonds Construction Co.	---	---	---	---	100.00	---		---	100.00	---	---
COFTA Club	---	---	---	---	---	44.22		---	44.22	---	---
COSA Club	---	---	---	---	---	59.18		---	59.18	---	---
Totals-Jan.-April, 1962.	1,718,969	1,636,207	1,542,053	1,542,872	\$68,669.31	\$18,966.83	\$25,028.09	\$ 9,629.69	\$122,293.92	---	1784
Totals-Dec., 1961				1,684,924	\$70,597.25	\$22,637.85	\$37,056.97	\$10,938.44	\$141,230.51	2065	

- Checked and weighed twenty-nine chemical fire extinguishers.
- Checked pressure in twenty-three carbon tetrachloride fire extinguishers.
- Checked and weighed fifty CO₂ fire extinguishers.
- Sanded and painted the wood trim on 14-foot aluminum emergency boat.

C. Industrial Lease Management.

Our industrial leasing program suffered a severe blow this period when the Sangamo Electric Company moved their factory to Pickens, South Carolina. Sangamo, one of our largest tenants, had occupied approximately 240,000 square feet of floor space, paying a monthly rental of \$10,431.40. We now have the job of trying to locate an industry large enough to require this amount of space.

At one time it appeared that Technical Tape Corporation would move into these buildings as soon as Sangamo vacated them. But after occupying 26,000 square feet of storage space for two months, they withdrew their option and decided against leasing this area.

Total industrial occupancy at the end of the period dropped to 1,542,872 square feet. Industrial employment also dropped to 1,784.

Industrial revenues for the period totalled \$122,293.92. Operational costs were \$124,706.94. To date this fiscal year industrial revenues amount to 107% of industrial operations cost.

D. Lease Prospects.

For the second time in the last few years, we are faced with the problem of securing a sizable firm requiring a large factory site. When Hoosier-Cardinal Corporation vacated Load Line 11, we were fortunate in leasing their area to the Olin Mathieson Chemical Corporation several months later.

We are hoping the few leads we have will produce a desirable tenant for the ex-Sangamo buildings.

VIII. OTHER ITEMS

A. Items of Interest.

The refuge has originated a monthly news letter to keep the employees informed of all of the happenings. We hope this will help draw our employees together and also make them better public relations agents.

The seven-man survey crew completed field work on the cadastral survey on the west side of Devils Kitchen Lake and began working the east side. As of April 1, 700 cabin-site lots had been staked out.

The problems of water supply and sewage disposal in connection with the proposed private cabin-site lease development around Devils Kitchen Lake have yet to be solved. The overall program at Devils Kitchen Lake is currently under review in the Washington Office. About 1,325 letters of application for cabin site leases have been received at the refuge office to date. Most applicants are becoming quite impatient with the delays in this program.

Our regulation against motors on Devils Kitchen Lake is running into much opposition from the public. The boat dock concessionaire is also complaining that this regulation is hurting his boat rental and camping business.

Evidently our thought that a quiet fishing lake would be appreciated is too unrealistic for this age of soft muscle, hot rods, and fast music. One thing certain, few people nowadays know how to row a boat. Since January 1, the Devils Kitchen concessionaire has had 28 pairs of oars broken. The question of motor boats on Devils Kitchen is also under review by the Central Office.

B. Personnel.

Personnel actions this period were quite numerous, causing some major alterations in our staffing.

Refuge Manager William D. "Pete" Carter was transferred to Horicon Refuge, Mayville, Wisconsin, on January 8, 1962. We were informed that Pete "lost his hat" at the Regional Conference shortly after his transfer.

Robert Personius arrived with his family on January 18 and assumed the duties of Refuge Manager. Bob was transferred to us from the Bureau of Commercial Fisheries while stationed at Ann Arbor, Michigan.

John Wilbrecht, after serving one year at Crab Orchard as a trainee, received a promotion to Refuge Manager GS-7. A few weeks later on March 30 he was transferred to Union Slough Refuge, Titonka, Iowa, as Manager.

It was necessary to abolish five positions at our boiler plant when Sangamo Electric Company terminated their lease.

The following employees received reduction-in-force notices effective April 30: Ed Hunter, Stanley Glenski, Bob Howell, Lee Flora, Floyd Norton, Doug Elliott, Jim Moore, and Bob Venegoni. Harvey Carner, former Stationary Boiler Fireman, was transferred to our Water Plant to replace Herbert Browning when his disability retirement becomes effective.

Of all the above men who received RIF notices, Ed Hunter was the only employee who terminated his employment with the Federal Government. Ed had been with us since 1948, and we regretted seeing him leave. The employees presented Ed with an engraved watch as a going away present. He intends to move to California to be near his father and brother.

Doug Elliott, Jim Moore, and Bob Venegoni were terminated on April 30 and re-hired as W.A.E. the next day.

Thomas Harle, Sam Henderson, and Jim Lacy entered on duty April 30 as W.A.E. and will spend the summer on the recreation crew.

Floyd Norton became the proud father of a baby girl on January 11.

William Arnold became the proud father of a baby boy on February 2.

Clydell Hoffard became the proud father of a baby girl on February 10.

C. Photographs.

Eleven photographs are appended.

Credit for writing this report is divided as follows:

- Section I. Sheffield (A, B-1), Howell B-2.
- Section II. Personius (A thru I, except G.), Ferguson G.
- Section III. Personius
- Section IV. Howell A, B; Ferguson D, F; Bavin E.
- Section V. Personius, Bavin.
- Section VI. Personius, Cox, Sheffield, Bavin, Wingard.
- Section VII. Hunter, Wingard.
- Section VIII. Bavin, Hunter, Stiles.

SIGNATURE PAGE

Submitted by:

Harry E. Stiles
(Signature)

Harry E. Stiles
Project Manager

(Title)

Date: May 29, 1962

Approved, Regional Office:

Date: 5-31-62

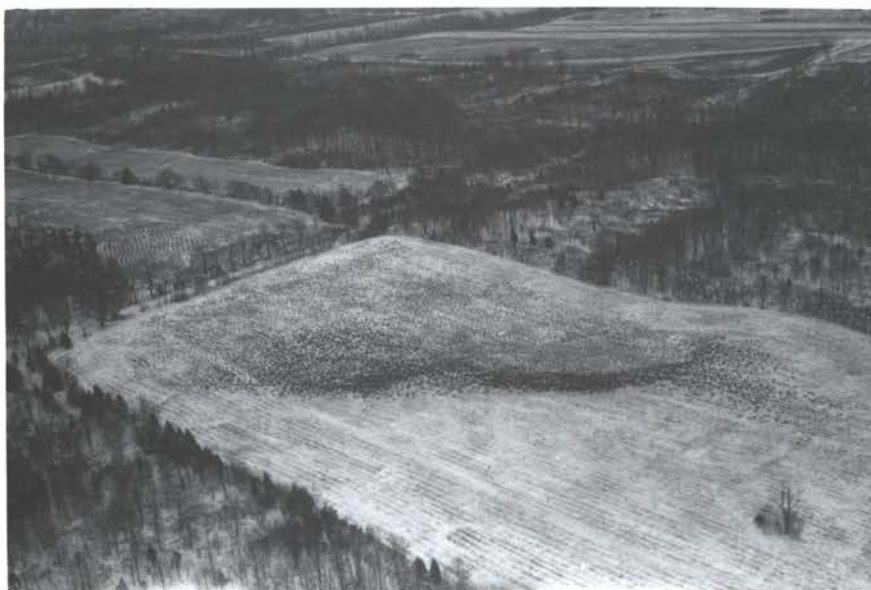
James R. [unclear]
(Signature)

Regional Refuge Supervisor



MAY • 62 •

Canada goose concentration around open water - Crab Orchard Lake.
R-1-1 C.B. 1/19/62.



MAR • 62 •

Geese on snow in picked corn field. Agriculture Unit
A-39.
R-1-2 C.B. 1/19/62.



MAR • 62

Commissioner Pautzke's first visit to Crab Orchard.
Project Manager Stiles left, Pilot Agent Von Dane right.
R-2-1 R.P. 3/3/62.



MAR • 62

Tightening track bolts with machine on loan from Illinois Central Railroad. Track-bolt tightening on 29 miles of "Crab Orchard and Southern" this period completes three-year rehabilitation of our line. R-1-6 H.S. 2/5/62.



MAR • 62

Refuge Manager John Wilbrecht and Maintenceman Robert Rice installing wood duck nesting boxes in flooded timber at Devils Kitchen Lake. R-3-1 and R-3-2 C.B. 3/15/62.



MAR • 62

MAY • 62



Completed and partially completed Wood duck nesting boxes fabricated from salvage air duct. Interior surfaces were given an application of automobile undercoating.

R-4-1 R.P. 3/18/62.



MAY • 62

Privately owned vehicle stolen in Carterville, set afire,
and abandoned on Refuge.

R-4-3 C.B. 4/4/62.



MAY • 62

Messrs. Umberger, Wright, Wingard, Darland, and Sheffield
inspecting roads at Devils Kitchen Lake. Engineer Wright
"eyeballing in" the next drainage check.

R-4-5 R.P. 4/6/62.



MAY • 62

Pumping seepage water from excavation made to repair 16" water main. Capacity of fire pumper needed to hasten repair and get pressure back to normal at refuge industrial tenants on South side of lake. R-4-8 C.B. 4/17/62.



MAY • 62

As usual, a hole in the steel Dresser coupling--the weak links in this section of our main water distribution system. R-4-7 C.B. 4/17/62.

WATERFOWL

REFUGE Crab Orchard

MONTHS OF January TO April, 19 62

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling Trumpeter										
Geese:										
Canada	50,000	36,000	17,000	19,500	22,100	20,000	28,000	25,000	25,350	20,000
Cackling Brant										
White-fronted Snow										
Blue							4	7	10	2
Other										
Ducks:										
Mallard	271	53	200	200	200	100	115	200	300	125
Black	110	18	400	250	100	60	55	125	200	80
Gadwall										11
Baldpate						6	12	50	90	15
Pintail						3	14	75	125	55
Green-winged teal										
Blue-winged teal										1
Cinnamon teal										
Shoveler										
Wood										
Redhead									15	
Ring-necked							13	150	280	15
Canvasback							7	5	5	
Scaup, L.	275	162						35	75	10
Goldeneye	63	60				42	12	45	91	100
Bufflehead		2					2	4	4	4
Ruddy										3
Other Hooded Merganser	36	38				1				
Common Merganser	5,180	7,611		225	450	4,300	3,500	3,200	3,200	4,400
Red-breasted Merganser	5	11								1
Coot:									13	26

3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)REFUGE Crab OrchardMONTHS OF January TO April, 19 62

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11	12	13	14	15	16	17	18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	38,765	4,800	19	2	90	40			2,146,662	
Cackling										
Brant										
White-fronted										
Snow										
Blue									161	
Other										
Ducks:										
Mallard	136	6	4	16	13	3			13,594	
Black	67								10,255	
Gadwall			2	12	18				301	
Baldpate	10	10		10	1				1,428	
Pintail	29	52	7	10					2,590	
Green-winged teal					3				21	
Blue-winged teal			4	7	22	2			252	
Cinnamon teal										
Shoveler	4	2	2	15		12			245	
Wood	4	10	2	7					161	
Redhead					2				119	
Ring-necked	20	21	7			2			3,556	
Canvasback									119	
Scaup, L.	46	12	78	36	40	1			5,390	
Goldeneye	96	2	50	6					3,969	
Bufflehead	8		8	12	1				315	
Ruddy			1	8	21				231	
Other Hooded Merganser									525	
Common Merganser	4,345	232	40	38	6	1			257,096	
Red-breasted Merganser				12	14				301	
Coot:	42	146	132	149	98	38			4,508	

(over)

	(5)	(6)	(7)	SUMMARY
	<u>Total Days Use</u>	<u>Peak Number</u>	<u>Total Production</u>	
Swans	:	:	:	Principal feeding areas <u>Area I, II, III</u>
Geese	<u>2,146,662</u>	<u>50,000</u>	:	
Ducks	<u>300,468</u>	<u>7,884</u>	:	Principal nesting areas <u>Islands in Crab Orchard Lake</u>
Coots	<u>4,508</u>	<u>149</u>	:	
				Reported by _____

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)Refuge Crab OrchardMonths of January to April 1962

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
<u>I. Water and Marsh Birds:</u>										
Pied-bill grebe	1	3/2	4	4/6	3	4/20				
Horned grebe	2	3/9	2	3/9	1	3/30				
Common loon	3	3/23	3	3/23	1	4/13				
Great blue heron	1	3/6	1	3/30	1	3/30				
Bl. crowned night heron	1	3/27	1	4/6	1	4/6				
Double crested cormorant	7	4/13	7	4/13	1	4/20				
Common egret	1	4/20	1	4/20	1	4/20				
Green heron	1	4/20	1	4/20	1	4/20				
 <u>II. Shorebirds, Gulls and</u>										
<u>Terns:</u>										
Ring-billed gull	590	1/9	2,000	4/2	30	4/20				
Herring gull	173	1/9	500	4/9	10	4/20				
Killdeer	1	2/15	8	4/13	2	4/20				
Pectoral sandpiper	50	4/13	50	4/13	50	4/13				
Lesser yellow legs	2	4/13	2	4/13	2	4/13				
Common tern	2	4/13	2	4/13	2	4/13				
Woodcock	1	3/2	2	3/6	1	3/9				

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	-----Permanent resident				
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Golden eagle	1 1/9	1 1/9	1 1/9		
Duck hawk Broad-winged hawk	1 3/28	1 3/28	1 3/28		
Horned owl	Permanent resident				
Magpie Cooper's hawk	1 1/9	1 1/6	1 1/6		
Raven Marsh hawk	2 1/9	3 3/16	3 3/16		
Crow	Permanent resident				
Red tail hawk	1 1/9	17 3/16	2 1/20		
Bald eagle	1 1/9	8 2/11	4 3/9		
Sparrow hawk	Permanent resident	4 1/9			
Red-shouldered hawk	Permanent resident	7 3/16			
Osprey	1 3/28	3 1/13	3 1/13		
Turkey vulture	1 2/13	5 1/6	1 1/13		
Kingfisher	1 1/6	1 1/6	1 1/6		
Reported by <u>J. Wilbrecht, J. Rice, C. Bavin</u>					

INSTRUCTIONS

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

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Crab Orchard

Months of January to April, 19 62

(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	Cropland, pasture, idle upland, wood- land Areas I & III 15,000 acres		None		1:1		NONE		800	
	Area II 18,079 acres		None		1:1		NONE		1,750	

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, 1962

(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				
Fox & Gray squirrel	Area II 2,300 acres Areas I & III 4,300 acres				Unknown				None				Unknown	
Cottontail Rabbit	Area II 12,000 acres Areas I & III 10,000 acres				Unknown				None				Unknown	
Muskrat	Area II 1,000 acres Areas I & III 1,200 acres				Unknown				None				Unknown	
Mink	Areas I, II, & III 30,000 acres				Unknown				None				Unknown	
Red & Gray Fox	Areas I, II, & III 34,000 acres				Unknown				None				Unknown	
* List removals by Predator Animal Hunter														

REMARKS:

Reported by _____

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.

/Canada Goose
WEEKLY ~~DUCK~~ POPULATIONS AND PEAK NUMBERS
Refuge: Crab Orchard
Period: January - April, 1962

Week of period :	1958	:	1959	:	1960	:	1961	:	1962
1	: 17,785	:	7,866	:	33,000	:	17,600	:	50,000 *
2	: 21,000	:	24,500	:	35,000	:	24,000	:	36,000
3	: 20,164	:	28,000	:	40,000 *	:	26,400	:	17,000
4	: 18,500	:	32,000	:	32,600	:	15,000	:	19,500
5	: 13,500	:	33,200	:	20,770	:	9,400	:	22,100
6	: 9,800	:	43,500 *	:	35,000	:	10,800	:	20,000
7	: 8,500	:	25,100	:	34,200	:	33,300 *	:	28,000
8	: 10,225	:	36,400	:	31,300	:	24,000	:	25,000
9	: 22,000	:	32,000	:	34,000	:	16,900	:	25,350
10	: 22,000	:	31,200	:	35,000	:	6,000	:	20,000
11	: 24,000	:	19,000	:	33,100	:	6,700	:	38,765
12	: 31,000 *	:	2,200	:	30,000	:	2,572	:	4,800
13	: 9,000	:	279	:	6,237	:	800	:	19
14	: 1,200	:	414	:	8,700	:	50	:	2
15	: 387	:	558	:	890	:	123	:	90
16	: 221	:	441	:	190	:	51	:	40
17	: 105	:	295	:	72	:	41	:	
18	: 85	:	97	:	47	:		:	
TOTAL DAYS USE	: 1,606,304	:	2,219,350	:	2,870,742	:	1,356,159	:	2,146,662

*Indicates peak concentration.

COMMENTS: