

BRANCH OF WILDLIFE REFUGES

NARRATIVE REPORT

ROUTING SLIP

DATE May 15, 1952

Mr. Salyer \_\_\_\_\_

Mr. ~~Dumont~~ le \_\_\_\_\_

Mr. Krummes \_\_\_\_\_

Miss Baum \_\_\_\_\_

SECTION OF OPERATIONS:

Mr. Ball \_\_\_\_\_

Dr. Morley \_\_\_\_\_

Mr. Regan \_\_\_\_\_

SECTION OF HABITAT IMPROVEMENT:

~~Mr. Griffith~~ \_\_\_\_\_

Mr. Kubichek \_\_\_\_\_

~~Mr. Dorn~~ WBS \_\_\_\_\_

Mr. Stiles WBS \_\_\_\_\_

SECTION OF LAND MANAGEMENT:

Mr. Ackerknecht \_\_\_\_\_

Mr. Davis \_\_\_\_\_

STENOGRAPHERS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

REFUGE Upper Mississippi

PERIOD January-April, 1952

UPPER MISSISSIPPI RIVER WILDLIFE AND FISH REFUGE  
NARRATIVE REPORT  
JANUARY, FEBRUARY, MARCH, APRIL, 1952

I. GENERAL

A. Weather Conditions:

Winona District

Comparatively speaking, the weather this period was somewhat milder than last year, although wide monthly variations were experienced. The period started with a cold January and ended with a "heat wave" in late April, with February and March being about average.

In January temperatures plunged below zero on 10 different days--twice to 20 below, and once each to 19 below, 18 below, 14 below, and 10 below, for the coldest six days of the month. On January 31, however, the weatherman kicked over the traces, pushed winter into the background, and sent the thermometer galloping up to 45° above zero at noon. This was the highest reading in 55 days, and bordered on an all-time high for January. The mean temperature for January was 16.72°, 2.62° above the normal mean, and 3.63° warmer than the mean in 1951.

February was quite mild, with a minimum of only 4° below zero, compared to 23° below in 1951. The maximum temperature, however, was only 51°, which was 2° below the maximum of 53 recorded a year ago. February mean temperatures were 27.96°, which was 9.06° higher than normal, and 7.9° higher than 1951.

March showed a high of 58°, the same as the 1951 high. On the other hand, the minimum was zero, or 2° above the minimum of 2° below zero in March, 1951. The March mean of 29.14 was 3.19° below normal, although 4.1° higher than in 1951.

April had a maximum of 96°, setting an all-time high for the month, on April 29. April 28 had a reading of 90°, while April 29, with its reading of 96, broke the record of 91° set in 1910. Thus, the month ended in a "heat wave", with the last days setting a record 5° higher than the previous record high. Never before in the city's history had temperatures in April gone above 91°, and that was 42 years ago. The new record also made April 29 in Winona the hottest spot in the nation. April readings in the high 80's are common, but 90 or more is as rare as a snowstorm in August. The April 30 maximum of 94 was also above the old record; and the last three days of April, with readings in the 90's, set another all-time record for successive days in April above that figure.



April thus had a maximum of 96°, while the low was 21. In 1951 the maximum was 85, with a minimum of 26. Mean temperatures in the month were 49.96°, which is 2.26° above normal, and 8.32° warmer than the mean in 1951.

Precipitation for the Winona area totaled 8.76", compared to 11.75" for the same period in 1951, and the normal of 5.97". On April 13 a heavy wet snow, totaling 6", fell. This snow had almost an inch and a half of moisture in it, making it the wettest snow for some time.

Snowfall for the winter set another all-time high. Last year total snowfall was 83.75", setting a new record at that time, and exceeding the previous record of 68" set in 1880. Not content with setting one record, the weatherman repeated again this spring to better his last year's mark and set a new all-time snowfall record, a total of 88.5". The wet snow of April 13 is what pushed the total to the new high.

The following table, based on Winona statistics, shows comparisons in temperature and precipitation for this period and the same period a year ago:

Month	Year	Temperature				Precipitation	
		Max.	Min.	Mean	Normal	Total	Normal
January	1951	46	-32	13.09	14.1	.89	1.03
	1952	41	-20	16.72		2.51	
February	1951	53	-23	20.06	18.9	1.67	1.01
	1952	51	- 4	27.96		1.30	
March	1951	58	- 2	25.04	32.3	5.30	1.62
	1952	58	0	29.14		2.63	
April	1951	85	26	41.64	47.7	3.89	2.31
	1952	96	21	49.96		2.32	
TOTALS 1951						11.75	5.97
1952						8.76	

#### La Crosse District

During January snowfall was above normal, with the seasonal accumulation being about the same as last year. The ground cover varied from 3 to 12 inches, and the ice on the river varied from 9 to 14 inches. Streets and highways were slippery most of the month, but particularly so from the 14th to the 19th, when freezing rains fell. Temperatures for the first half of the month were generally above normal, while those for the last were below average, except for the 31st, when the maximum reading reached 49°.

Precipitations for February were about normal, but temperatures were consistently above average. In fact, February 1952 was the warmest since 1931. While snow fell on 11 days, most occurrences were light, except for one heavy fall of 8.7" on the 18-20th. The ground cover varied from 1 to 9", and ice on the river from 10 to 13.

While there were no destructive storms or high winds during March, precipitation was above normal, with snow falling on 14 days. This brought the total snowfall for the season up to 64". The ice in the river began to disintegrate early in the month, and the ice went out of the navigation channel from Dam 7 to Brownsville on March 13, which was the same date as last year. The first towboat of the season arrived at La Crosse on the 14th, which was 16 days earlier.

April came in with mild temperatures, but it soon turned cold, raw, and wet. Both snow and rain fell on several occasions during the second week and temperatures were below normal. After the 15th the weather again turned mild and has continued thus up to the close of the month. Precipitation for the last half has been below normal.

High winds on the 5th broke up most of the ice on the lakes and pools, so that by the 9th it was all gone except for a few small pools in the timber.

#### Lansing District

The mean temperature for the month of January 1952 was 18.3°. In 1951 the January mean was 13.5°. Both years were below the normal of 16.1° generally had in January. A high temperature of 49° was recorded on January 31 and a low of -17° on January 24. The high mean daily temperature of 38° and a low of -6° were also reached on the respective above two dates. Snowfall and total precipitation, as in 1951, were both above normal. Normal snowfall is 8.9" for the month of January. In 1952, 13.7" fell, while in 1951 17.9" fell. Normal precipitation for the month is 1.08"; however, 2.09" fell in January of this year, while only 1.18" fell last year.

February 1952 was generally milder and drier than normal. Generally one can expect 1.11" of precipitation in this month; however, there was only 1.05" reported as against 1.88" for the same month in 1951. The 11.8" of snowfall was somewhat above the normal of 9.0" and also above the 6.5" that fell in February of 1951. Normal temperature for February is 19.2°; however, this year we had a balmy 28.1° normal, while in 1951 the normal was only 20.6°. Mean maximum and minimum temperatures for 1951



were  $29.6^{\circ}$  and  $11.5^{\circ}$ , while for February of this year they were  $35.2^{\circ}$  and  $21.0^{\circ}$ , respectively. A high of  $50^{\circ}$  was reached on February 12. Also on that date the mean daily temperature was the highest for the month,  $38^{\circ}$ . A low of  $6^{\circ}$  was recorded February 22, as well as the  $13^{\circ}$  recorded as the lowest mean daily temperature for the month of February 1952.

The month of March 1952 had a high of  $61^{\circ}$  on March 30 and 31. The highest mean daily temperature for the month was  $51^{\circ}$  and was recorded on March 30. The low temperature for the month was  $3^{\circ}$  on March 5. The lowest mean daily temperature for March of this year was recorded on the 4th,  $14^{\circ}$ . The 2.53" of precipitation was above the normal of 1.61" and below that of March 1951, 4.58". A total of 13.1" of snow fell in March of this year. During the same period in 1951, 26.3" fell. Normal is 8.1". The mean temperature for the whole month of March 1952 was  $30.4^{\circ}$ . This is below the normal of  $31.5^{\circ}$  and above the  $26.3^{\circ}$  for the same period last year. Mean maximum and minimum temperatures for the month of March 1952 were  $38.1^{\circ}$  and  $18.5^{\circ}$  (both colder).

#### Prairie du Chien District

Since this report had to be prepared prior to the end of the period, no weather station data are available for April.

January had a high of  $48^{\circ}$ , compared to  $47^{\circ}$  in 1951; and a minimum of  $17^{\circ}$  below zero, compared to  $24^{\circ}$  below in 1951.

February maximum was  $51^{\circ}$ , identical with the maximum in 1951; while the low was 2 above, compared to  $27^{\circ}$  below zero a year ago.

March high was  $65^{\circ}$ , or  $13^{\circ}$  higher than the maximum for the same month in 1951; but the minimum of  $2^{\circ}$  was slightly less than the  $3^{\circ}$  minimum in 1951.

April temperatures were mild, with especially nice weather prevailing the last half of the month. No maximum or minimum figures are available.

Precipitation was less this period than for the same period a year ago, but in the absence of April data, no direct comparisons can be made.

#### Dubuque District

Normal conditions prevailed the greater part of the period. January was entirely normal, with the usual amount of snow,

high winds, sub-zero temperatures, and occasional mild, thawing days. February departed from normal in a pleasant manner, with relatively high temperatures, clear, warm days, and some nights of above-freezing temperatures. March roared in in typically March fashion and tried to get even with February for being nice. April started out in much the same pattern established by March, with subnormal temperatures, cold rains, and snow. The second week saw temperatures rising and better weather except for very hard winds out of the northwest. However, it turned bad on the Easter week-end, turning bese tons of heavy, wet snow over the entire countryside. Temperatures began to rise during the following week quickly, removing all the snow and turning the small creeks into flood streams. Fair weather continued through the rest of the month, with temperatures rising to new seasonal highs.

Following is a table of comparative temperatures and precipitation for this and last year:

Month	Year	Temperature				Precipitation	
		Max.	Min.	Mean	Normal	Total	Normal
January	1951	46	-23	17.0	19.1	3.25	1.75
	1952	44	-17	19.0		1.80	
February	1951	48	-32	20.0	22.2	2.60	1.80
	1952	58	18	28.0		.80	
March	1951	48	0	24.0	34.0	2.40	2.60
	1952	36	12	28.0		2.80	
April	1951	68	14	41.0	48.6	2.00	3.20
	1952	88	26	52.0		1.15	
TOTALS					1951	10.25	9.35
					1952		

#### Savanna District

January was a rather cool month, and although the refuge manager was not present until the 20th, he did experience some of the wintry blasts. A mean of  $26.3^{\circ}$  was recorded as compared with a normal of  $32^{\circ}$ . Precipitation was above normal, with 1.97" as compared with a normal of 1.52". This was presented chiefly in the form of snowfall.

Mild temperatures prevailed throughout February and came as a very pleasant respite from the sub-zero records for January. The mean temperature of  $32.9^{\circ}$  was  $8.4^{\circ}$  above the normal for that month. Precipitation measured 1.14", which is .28" below the normal measurement for February.



March temperatures took a nasty drop, and the March lion brought in above normal snowfall, although it was below that for March, 1951. The mean temperature of 34.6 was 2.2° below normal, but 2.5° above that for March, 1951. This precipitation of 4.73" was 2.37" above normal and 1.36" below that for March, 1951.

#### Clinton District

The average temperature this period was 31.27°. This is 4.51° above that which prevailed during 1951.

The month of January had a mean temperature of 26.3. February recorded a 32.9 average and in March it warmed up to a 34.6 average.

Precipitation this period has been 7.84". The same period in 1951 recorded 9.97", a 2.13" decrease.

#### Summary

Generally speaking, this period was comparatively mild, with January being warmer than 1951, February having three weeks of unseasonably warm weather, March being about average, and April bowing out in the midst of a "heat wave".

Precipitation was normal or somewhat below during the period, but the winter in general set a new all-time record for snowfall. In the Winona area, for instance, snowfall of 88.5" was recorded, breaking the new record of 83.75" set in 1951.

Warm weather in March resulted in reduction of ground snow cover, and no doubt was a contributing factor in keeping flood stages as low as they were. Had local snows melted and entered the river at the same time that high water from upstream hit, it is hard to say what the crest might have been.

Surprisingly enough, within two weeks after a 6" fall of wet heavy snow in the upper end of the refuge, extremely dry conditions existed, and in timber and brush areas back from the river fire warnings were issued the third week in April. At the present time, despite the fact that river levels are above flood stage the entire length of the refuge, and we had the heaviest snow in years, residents are already looking forward to rains which will relieve the extremely dry conditions.

B. Water Conditions:

Winona District

Although there were three weeks of unusually warm weather in February, melting most of the snow cover in the area, ice in the river was not melted too much. Fortunately, surface runoff was well under way before the break-up came, or levels might have gone even higher than they eventually did. In the last week of March temperatures reached 58°, and was followed by rain. This melted much remaining snow and caused tributary streams to flood. It was during this period that the Trempealeau, Root, and Black Rivers flooded, blocking some roads.

On the Mississippi River, however, pool levels at Winona were below normal until normal was reached on March 28. It is interesting to note that on February 26 the prediction was that a maximum stage of 16 feet would be reached in Winona, and that figure was repeatedly reduced until at one time, the maximum expected was 13.5. By late March, however, the Minnesota River went into flood, and water in the upper reaches of the Mississippi started rising rapidly. This caused a marked revisal of predicted crests higher, until at one time the figure of 20 feet was predicted.

Pool levels on the Mississippi continued to increase from a normal of 5.4 feet on March 28, and reached flood stage of 13 feet on April 11. Before there was a decrease in levels, the river crested at an all-time high of 17.93 feet on April 20. This was .53 feet higher than the previous record established in 1951, when the crest was 17.4 feet, on April 17. At the close of the period the stage was 14.35 feet. Thus, during the period, the river was above flood stage of 13 feet for the last 20 days of the period, and was 1.35 feet above flood stage at the close of the period. On May 1 the pool stage was 13.86 feet.

In 1951 the river was above flood stage only 16 days of the spring, returning to 12.95 feet on April 30. This year it has already been above flood for 20 days, and may be a total of about 25 days before receding to flood stage if the same rate of fall continues.

The city of Winona was in precarious position for a period of over a week this spring, when the flood waters were approaching the crest and for a few days thereafter. Hastily constructed emergency sand-bag and earth-fill dikes kept water out of the major portions of the city for the second year in a row. Had the dikes let go, almost half of the city would have been inundated.



Water reached a depth of 21" on the concrete floors of the warehouse, but the main storage portion was not affected because it is on a higher level. No pictures were taken of the warehouse this spring because they would merely be a duplicate of those submitted last year, except that a few more inches of water would have been involved. Again it was necessary to use boats to reach the warehouse for flood waters were too deep to permit wading out. And again, all refuge cars were removed from the warehouse prior to excessive flooding. Cars regularly assigned to Winona personnel were stored on high land in Winona, while those in "dead" storage were taken to the Homer Fisheries Station to avoid the floods.

Locks and dams in the Winona district went out of operation during the flood, tying up several tows which were unable to proceed upstream. The locks at Alma, Wisconsin, were inundated again, with over a foot of water flowing over the lock walls. Other dams were so nearly covered that it was necessary to remove electric motors used for operating the gates. Traffic could not be resumed on the river until late April.

The main dike road leading to Prairie Island was breached again this year, in the same spot and almost at the same time as last year. This year, however, even a greater break resulted.

The Nelson-Wabasha dike road was badly washed, but not breached, and since flood waters have receded washed spots have been refilled and the road is again open to traffic.

Highway 61, north of Winona, was again closed in two places, one just north of Minnesota City and the other north of Lake City.

The Winona Airport was flooded again when the Prairie Island dike broke. This caused postponement of the formal opening of air traffic to the city, which was scheduled to have its first regular flight on April 27.

Winona, for the second year in succession, has had the most snow in history and the highest floods. It can well do without this distinction in the future, provided the Gods are willing, for it is a dubious honor at best.

Ice moved out of the river at Winona on March 16 this year. Two days later the river season was opened by the Coast Guard Cutter "Fern". Only four times in the last 96 years has a river vessel tied up at Winona earlier in the spring. In

1864, 1934, 1944, and 1947 river traffic opened on March 16; and in 1859 and 1860 the March 18 date was equalled.

Heavy ice in Lake Pepin slowed up the cutter, where it had to punch through up to 30" of solid blue ice in the lower portions of the lake. It took over a week to break the ice in the lake this spring.

Ice in the backwaters, however, held on for a much longer time, and even when flood stage was reached on the river on April 11, there was still considerable ice in the sloughs and backwaters except where there was a heavy current.

Flood waters caused an exodus of wildlife from the bottomlands, when all species which could do so moved to higher ground. There was a tendency for deer to start moving out early this spring, and consequently not as many were trapped as in 1951. Muskrats were forced to the margins, where they fell prey to cars on the highways, predators, and boys with rifles. However, these animals built nests in trees above the water and appeared to survive the flood well. These animals could be seen by the hundreds in the Winona district, on a reconnaissance trip around the area, and a good stock survived to go into the breeding seasons. Beaver and raccoon also sought refuge in trees, and survived the flood well. Other species, such as rabbits, skunk, and foxes, were apparently hard hit by the floods, but it is still too early to make an accurate determination of loss.

#### La Crosse District

Water conditions for the first three months continued to bounce up and down in somewhat the same pattern as in the previous period, though the fluctuations were not as extreme. Pool levels did not get down to near normal until near the end of March, when warmer weather caused them to start going up again.

Flood stages were forecast for the Root, La Crosse, and Black Rivers as well as for the Mississippi. The tributary streams were out of their banks and flooding the last week in March and the first week in April. The Mississippi reached flood stage the first week in April but subsided a little before going way above flood stage for the second time in as many years.

A crest of 14 feet (2 feet above flood stage) was forecast, but the excessive amount of precipitation received the second week of April together with the high ground water levels



and the sudden spring run-off caused an upward revision of this forecast. A level of 16 feet was predicted for the Mt. Vernon Street gauge, with a stage of 15.33 feet being actually reached. However, at the station below Onalaska, a reading of 17.45 was attained.

The crest of the flood reached La Crosse on April 20, one day later than last year. It remained at about this level for two days before any noticeable recession was noted. Since then the drop has been so slow that by the end of the period levels are still more than one foot above flood stage.

Again, hundreds of people living in the La Crosse-La Crescent areas were forced to leave their homes, and property damage will be high. However, it will not be as high as a year ago due to the advance forecast of the 16 foot stage, which prompted the cities and people to take immediate action to prevent as much property damage and suffering as possible. Dikes were built and reinforced with sand bags. Many additional pumps were put in operation to control seepage, and the people in the flooded areas were evacuated together with all their personal effects that could be moved before the high waters reached them.

The river has remained exceptionally clear all through the period. Even the flood waters did not appear to be carrying the expected amounts of silt. At the present time the results of the flood on vegetation and wildlife are not expected to be extremely disastrous.

The high and low river stages at La Crosse for each month are as follows:

January	- 6.5 on the 1st to 5.1 on the 27th.
February	- 5.9 on the 20th to 5.2 on the 24th.
March	- 6.7 on the 31st, 4.8 on 18th.
April	- 15.33 on the 20th, 7.4 on the 1st.

#### Lansing District

Normal water level at Lansing is 7.8 feet. Levels have generally been slightly over pool normal during the period of this report. January had a low of 7.7 and a high of 8.7 feet. Water levels fluctuated only .3 of a foot during February going from a low of 7.8 to a high of 8.1 feet. March levels were also above normal ranging from 7.8 feet (normal) to 8.5 feet. April started out with a low of 9.3 feet and worked steadily up to a high of 18.1 feet on the 22nd and 23rd of the month. The

flood stage of 18 feet was bested by .1 of a foot this year, while last year it was slightly above the recorded high of 17.8 feet. Water levels are now dropping rapidly.

High water in this district this year has done very little damage because luckily no high winds occurred. It did, however, drive a lot of the small mammals out of the refuge.

The river in Pool 9 was officially opened to navigation on March 13, when the first tow was noted passing by Lansing at 5:30 p.m. The opening was several days earlier than last year.

#### Prairie du Chien District

The water levels were high throughout the period, fluctuating from 7.5 feet to 9.8 feet during December, January, February, and March.

The East Channel was first clear of ice on March 11, and the main channel was officially opened when the first towboat, the La Crosse Socony, and six barges passed through Pool #10 on March 13, sixteen days earlier than in 1951.

During April the river level rose from 9.9 on April 1 to an all-time high of 21 feet on April 23 and 24, receded to 19.9 feet by April 28, and continued down. Flood warnings had so prepared Prairie du Chien that there were no emergencies, even though most of the residences of the Fourth Ward and of the other low sections had to be evacuated. Other towns and villages in the district were similarly warned and prepared for high waters.

#### Dubuque District

Good conditions prevailed throughout the winter months. There was a minimum of fluctuation, and the mild weather during February opened up the ice cover sufficiently to permit some aeration of important fish areas. It also so weakened the ice in the lake and marsh sections where vegetation was abundant that with the first rising stages in early March those areas rapidly became open water and made large supplies of foods available to the first duck arrivals. Ice in other parts of the refuge was also weakened by February's weather and, though there were no flash floods, ice in the main channel moved out early. There was a mass shifting at Cassville February 28 and 29, and on the morning of March 1 it was wide open from the mouth of Turkey River to Picayune Chute. It continued to shift, and on March 13 the first towboat went north through Pool 11. Stages rose slowly and intermittently from the first of March to a stage of 8 feet on the 29th. Following that date



the rises were sharper until April 12, when a stage of 14.6 was reached at Cassville. Following that date, stages rose steadily until the crest of the flood was reached on April 26, with a stage of 20.4 feet at Cassville. Waters began to recede slowly on Sunday, with a speed-up starting on Monday and at the present time, April 30, it is falling at a rate of about .8 foot per day.

In spite of the extreme height of the waters, there was considerable less turbidity than is usually encountered in spring floods, and at the present time the river is nearly as clear as it is usually found in midsummer. It is felt that there have been no serious results from silting during this period.

#### Savanna District

As in 1951, water levels were secured at the railroad bridge between Savanna and Sabula and should give a better comparison than Clinton readings. It will be noted that readings throughout the period ranged higher than those for 1951. The freeze-out of muskrats was greatly reduced because of these higher levels, which was reflected in the percentage of live houses listed in the winter fur inventory, as compared with the devastating losses of 1950, when levels dropped to 5.8 many times during the period. The low for the same period in 1952 was 10.2.

The ice moved out at Savanna on March 8. On March 10 the U. S. Coast Guard Ice Breaker "Fern" passed Savanna, followed by the Tow "La Crosse Socony" with 4 barges. In 1951 the ice went out on February 27.

Following are some of the Savanna-Sabula gauge readings for the period:

#### January

1 - 11.4; 14 - 10.9; 21 - 11.8; 31 - 10.2.

#### February

1 - 10.5; 5 - 10.8; 12 - 11.0; 19 - 10.9; 29 - 11.0.

#### March

1 - 11.0; 6 - 11.6; 12 - 12.3; 17 - 11.0; 24 - 11.9;  
31 - 11.9.

The river built up steadily during the month of April, and the flood crest was reached on April 27, with a reading of 19.90 feet. This was somewhat lower than the expected reading but was higher than last year's high of 19.50. Damage from the flood in this area to date was mainly due to backed up water in

sewers, etc., and the water is now expected to drop steadily unless heavy rains come. Wind damage could still come, and it is fortunate that the weather has been so unseasonably ideal. Warm, dry days have helped the situation a great deal. The temperature on April 29 was 93°. Constant sand-bagging and patrol have been maintained in this area, chiefly by National Guard units.

#### Clinton District

During January, February, and March of this period, water levels were comparatively stable. The normal pool stage at Sabula, Iowa, is 11.01 feet, and gauge readings varied from a low of 10.2 on January 31 to a high of 11.9 on March 31.

The month of April brought higher readings, with pool stages becoming progressively higher, until the crest of 19.90 feet was reached on April 27. On April 28 the reading had dropped to 19.84 feet, and continued dropping slowly until the end of the period. The crest at Sabula this spring was .23 foot higher than the previous record crest of 1951.

In 1951 river stages were above normal earlier in the period, and in February a high of 12.9 feet was recorded, compared to only 11.9 feet at the end of March this spring.

Spring floods are always expected on the Mississippi River, and with them the devastating effects on wildlife. It may be that spring floods do not harm wildlife as much as sudden winter drawdowns. This year we were fortunate, for the drawdown was not extreme.

This spring ice started moving out of the river on March 8, while in 1951 the river opened up on February 27. The first towboat of the season this spring went upstream on March 14.

#### Summary

In April the Upper Mississippi Refuge, extending from Wabasha, Minnesota, to Rock Island, Illinois, experienced the record-breaking flood of all history on the Mississippi River.

#### C. Fires:

With general conditions so unfavorable for burning, there have been no uncontrolled fires either on or in the immediate vicinity of the refuge. Railroads have done some burning along rights-of-way, but at no time have these fires gotten beyond control.



## II. WILDLIFE

### A. Migratory Birds:

#### 1. Populations and Behavior:

##### (a) Ducks:

#### Winona District

The first migrants this spring were the scaup noted at Buffalo City, Pool 5, on March 25. From that date on, more ducks arrived, until the peak migration occurred in mid-April.

Some of the first arrivals found the bottomlands and backwaters iced over, except for main flowing channels, and hence were forced to the margins or to flooded tributary streams. This was especially true of the puddle ducks, for on the refuge proper there was a decided decrease in this group of ducks. Probably not over 10% of the normal movement of puddle ducks were found on the district this spring. Their absence can be explained either by movement into tributary streams when they arrived to find the bottoms flooded, or because they moved to the northwest along main tributaries south of this district. At any rate, the large numbers of puddlers which piled up in the Upper Iowa bottoms in the Lansing district, and to a lesser extent in the La Crosse district, failed to show up in the Winona district.

Divers, on the other hand, were scattered everywhere throughout the district. Scaup, which were the most abundant species in the spring flight in 1951, again took top honors, being by far the most common duck in the district. These birds were found not only in the expected deep water areas, but were also scattered through flooded timber, flooded margins, and in marginal flooded agricultural fields, where they were observed feeding by tipping instead of diving. It is estimated that 50,000 scaup passed through this district during the spring.

Along with the scaup, other divers were commonly found. Redheads showed the biggest increase, on a percentage basis, exceeding even the unusually heavy flight of the spring of 1951. At one time, on April 16, 5,000 redheads were found, mixed with scaup, on a single flooded cornfield north of Weaver, Minnesota. It is estimated that about 10,000 redheads passed through the area.

Canvas-back, too, showed a marked increase in the district this spring, appearing in greater numbers than have been observed in the past. Like the scaup and redheads, these birds frequently fed in flooded cornfields, in from 6" to 3' of water. It is estimated that 2,000 cans used the district this spring.

Ring-necks, normally more common than scaup, were present in reduced numbers this spring and failed to make up more than 10% of the numbers of scaup. Not more than 5,000 ring-necks were observed in the area.

Bufflehead, too, were down, and not over 100 are known to have used the district. Way below normal, also, were ruddies, with only one having been seen during the spring.

Mallards were infrequently seen, and then in small numbers, on the refuge proper. However, in early April these birds were found in the flooded fields along the Trempealeau River, where about 5,000 were estimated. Scarcely 1,000 were found on the refuge proper, however.

Baldpate showed up late this spring, but were the most common puddler in the district. An estimated 7,500 used the district, feeding in flooded fields along the river margins.

Green-winged teal were low, with not over 150 being seen. Blue-wings were slightly more abundant, but still not up to their usual numbers. Moving in late, these birds were not observed until April 10. These fed in marginal fields, together with baldpate and mallards, but did not exceed 1,000 in total use.

Gadwall were almost conspicuous by their absence, being first seen on April 8, and not exceeding 100 for the spring flight. Even less common were shovellers, with 50 being seen this spring.

Most disappointing of all was the movement of pintails. Normally abundant spring migrants in this area, they failed to arrive in any numbers, and when they did come they arrived later than usual. First seen on April 1, this species did not exceed 500 in total use. Sites along the river where pintails normally appear in numbers were barren this spring, and what few birds did occur were found on extreme margins in new sites.

Wood ducks are present in about normal numbers, but as they are restricted to widely flooded timbered areas, it is difficult to arrive at an accurate estimation of their abundance. Current estimates place the figure of 300 as a reasonable number for the district.

Blacks were also infrequent this spring, with not over 250 being estimated for the period. These were usually mixed with mallards.

Golden-eye were winter residents, but started increasing in March, building up to a maximum use of 2,000 for the period.



Estimated total use for the district this period was 84,000 ducks. This is an increase of 9,000 birds over the total use estimated for the 1951 spring migration. It should be pointed out, however, that the only reason the total flight figures held up at all was because of the big increase in divers, particularly scaup. Puddle duck figures were disappointingly low, and were it not for scaup the total use would have shown a tremendous drop compared to a year ago.

At the close of this report period most ducks had moved out, many over the week-end of April 26-27. A final check made on April 29-30 showed that wood ducks remained in the flooded timber, together with about 150 scaup and a few blue-wings.

#### La Crosse District

At the start of the period there were only a few golden-eyes, American mergansers, plus an occasional mallard and black duck in the district. These birds were to be found for the most part in the fast waters below the dams. No particular change was noted in the numbers or the habits of the winter residents from preceding years, and apparently refuge usage was normal.

The start of the northward movement was noted about the first week in March, but before it had gained much momentum it was nearly stopped by the adverse weather of the fourth week of March. At this time the migration was made up chiefly of golden-eyes, mergansers, ring-necks, mallards, and pintails. Unfortunately, there was little open water available other than portions of the main channel or the faster flowing sloughs.

Near the end of March, mild weather with southerly winds accelerated the movement and birds began arriving in waves. This continued until about April 10, when frontal squalls caused a pile-up in this district such as has not been observed in several years. At this time rising water had covered most of the bottoms, inundated some agricultural fields, and taken the ice out of the ponds, marshes, and lakes. Thus, a most attractive feeding and resting area was created, and the birds certainly took advantage of it.

Pleasant and mild weather returned about the middle of April. With this a general exodus began, and before the end of the month only stragglers were left. Thus, in summing up the migration, it is found that it was broken into three periods. The first occurred about the middle of March, the second from the end of March to about April 10, and the third from about

April 15 to 27, with the bulk of the birds moving through during the second period.

In an analysis of the behavior of the individual and more common species it was noted that the mallards and blacks concentrated in the timbered areas of Pools 7 and 8 from the end of March to about April 10, when the water levels went above flood stage. From then on until the majority had moved on north they were to be found in the margins of the flooded agricultural fields.

The pintails, gadwalls, widgeons, blue-winged teal, and shovellers were to be found in the flooded marshes, meadows, and pastures bordering the refuge. After the river went out of its banks they moved into the margins of the agricultural fields and the marshes on Brice's Prairie.

The American mergansers, golden-eyes, and ring-necked ducks concentrated in the open portions of the main channel and faster flowing sloughs until rising waters, together with wind and wave action, took the ice out of the pools. After this they became scattered over the lower portions of these pools and other large open water areas.

The scaups, redheads, canvas-backs, and other divers did not begin arriving in any numbers until most of the ice was out and then they were scattered out over most of the district. However, good concentrations were to be found in the Goose Island, Blue, Target and La Crescent Lake in Pool 8. In Onalaska Bay, Gibbs Flats and Spring Lake in Pool 7.

The largest concentration of all ducks were to be found in the marshes extending from the Black River east of the C. B. & Q. R. R. down to Midway. While this concentration was primarily dabblers, scaups, and such other divers as redheads, canvas-backs, and ruddies were also noted in there.

In the overall picture it is felt that there was an increase in refuge usage as compared to the corresponding period of 1951. For the dabblers, it is estimated that usage more than doubled, but that only the canvas-back and redhead were much more numerous of the divers.

#### Lansing District

Personnel changes in this district in September of 1951 make population comparisons for this period in 1951 impossible.

An estimated total of 253,600 waterfowl used this district during the period of this report, peaking at 70,289 birds almost entirely between March 31 and April 2. The peak number represents birds only on one check area, while the total usage takes in the whole district.



The duck movement was unusual in that the bulk of the birds arrived and left all within the four or five days mentioned above. Two mallards were noted in a small creek on February 12. An estimated 35,000 birds appeared in the upper Iowa River bottoms on March 31. A few resident birds remain. It is estimated that 100,000 of these "greenheads" used this district this period.

An estimated 6,000 black ducks used the area this period. Six were first seen March 28, a peak of 2,000 on April 1 in the Upper Iowa, and the last 20 birds were seen April 9.

Three hundred gadwall appeared in the Upper Iowa on March 31 and also peaked that same day. Gadwall were last seen April 5. An estimated 1,000 of these "grey ducks" used this district.

Two baldpate were noted March 27. Five thousand of these birds were present in the upper Iowa on April 1, and a few are still present. An estimated total of 15,000 used this district.

Two pintail were seen March 27. An estimated 8,000 "sprig" were present in the Upper Iowa on March 31, while the last three were seen April 24. An estimated 19,000 used this district this period.

Green-winged teal first appeared March 29, peaked at 200 birds March 31, and were last seen April 17. An estimated 700 used this district.

Rather early, the blue-winged teal appeared and peaked at 800 birds on March 31. A few birds remain, probably as residents. The estimated total for the period was 2,400.

Still here, the shovellers appeared March 21, peaked at 150 birds March 31, and an estimated 900 used this district this period.

An estimated 6,000 wood ducks used this district this period. This resident first appeared on March 21 and peaked at 1,700 birds on March 31.

The first redheads were seen March 27, also in the Upper Iowa. A peak of 500 was reached April 2, while the last one was seen April 24. An estimated 2,000 used this district this spring.

Ring-necked ducks, still here, were first seen March 19 in the Mississippi channel south of Lansing. An estimated 2,000

were present in the Upper Iowa River bottoms April 1. An estimated 10,000 have used this district so far this spring.

Canvas-back, also using the flooded cornfields of the Upper Iowa, were first noted April 4 and peaked the same day at 250 birds. The last "can" was seen April 24, with an estimated total of 1,000 using the district.

Scaup, yet present in large numbers, first appeared March 12. An estimated 8,000 were present in the Upper Iowa on April 1. An estimated 35,000 of these "bluebills" used this district this spring. Numerous birds have been found dead and dying in the lower parts of Pool 9. Two of these dead birds were sent in to Iowa for examination. The report was lead poisoning. The scaup seem to be the only birds dying.

A few of the estimated 4,000 golden-eye using the district are still here. One golden-eye was seen February 21, and a peak of 800 birds was reached March 31.

Buffle-head was the scarcest duck in this district this spring (of those seen). Fifty birds appeared and peaked March 30. Four were seen April 24 and none since. An estimated 200 used this district this spring.

No ruddy ducks were seen in this district this spring.

#### Prairie du Chien District

The 1952 winter waterfowl inventory indicated 70 golden-eye in Pool 10, as compared with 77 golden-eye in 1951.

No other waterfowl remained in Pool 10 throughout the winter, although some American mergansers and mallards wintered over in open tributary streams and were frequently observed on the Mississippi.

Lesser scaup first appeared on March 11, followed by red-head on March 15. The main duck migration was on by March 17, about a week ahead of last year's migration, and continued throughout the reporting period.

Mallard, gadwall, pintail, green-winged teal, blue-winged teal, shoveller, wood duck, redhead, ring-necked, canvas-back, ruddy duck, and hooded mergansers showed an increase in usage of the district, while black duck, scaup, and golden-eye remained about the same, and baldpate and American merganser reduced their usage of Pool 10.



## Dubuque District

Mergansers and other winter ducks began their northern movement in late February. On March 12 the first of other species were seen, when 21 pintails were noted flying over the Turkey River section. Later that day 38 more were found in the Potosi area, and 197 mallards, 14 black ducks, 38 scaup, and numerous American mergansers were noted there. This arrival date was exactly two weeks earlier than that of last year and considerably earlier than the usual time of arrival. Following this first arrival, the species increased in numbers, but total populations of the puddlers were far below those usually found in the spring migration.

Mallards slowly increased in numbers from March 12 to about March 29, spreading out from the Potosi section up through the Hay Bottoms and the Turkey River area. There was no massed movement at any time, and no heavy flight. Their numbers just seemed to increase from day to day until the peak figure of about 7,500 was reached. This compares with an estimated 15,000 of last year. Following their peak concentration, their manner became one of dispersal. There were no large concentrations, and they were found well scattered throughout the timbered sections and shoreline marshes, but in rapidly decreasing numbers.

Pintails went along with the mallards in their habits. They arrived together and were found in the same areas; however, they did not begin to reach the population figure of last year. Then we had an estimated 6,000, but this year it is believed there were no more than 2,000 in all.

Black ducks, in contrast to last year when they were not found at all during the entire period, arrived with the mallards. Fourteen were seen on March 12, and they were found quite commonly in company with mallards through the rest of the period. It is estimated there are 200 in the district at this time.

Baldpates were not found until March 25 and then in greatly reduced numbers. It is estimated there were 1,500 at the time of their greatest concentration, about April 1, as compared to 3,500 last year.

Blue-winged teal were also noted first on March 25, when 6 were seen in the Potosi section. They have not appeared in any considerable numbers and are far below the figure of last year, when we had an estimated 1,250. They are found chiefly in the Potosi area and along marshy mainshore areas just south of Cassville and Paddy's Pond, a short distance north. Estimates place the population at about 400 at this time.

Gadwalls were first seen on March 28, when 14 were seen in the Hay Bottoms. They were occasionally found there and in the Potosi area until April 12, but in very few numbers. It is believed there are about the same number as were found last year - 350.

Green-winged teal were first seen on March 17, when 4 were found in the Potosi area. They have been seen occasionally since that date in about the same numbers as last year, a total of 500.

Wood ducks arrived considerably ahead of schedule, the first 2 being seen on March 17. Four more were seen the following day, and since then they have slowly increased, until their present numbers will about equal those found last year - about 1,000.

Scaup arrived on March 12, and from that date to about April 5 their numbers increased daily until we had the greatest concentration of that species we have had for years. They appeared to favor the area through which the Grant River flowed south from Potosi before the construction of the dams, and on March 27 there were an estimated 17,500 in that section alone. At the same time they were widely spread over the area from the lower end of Zollikoffer's Lake to Cassville. They were actually found everywhere. It is believed that a conservative estimate would show a total of 40,000 in the district at that time.

Ring-necks did not arrive until March 29, when 250 were found in the Hay Bottoms section. They increased quite steadily until April 9, but their numbers did not equal those of last year, when they were estimated at 20,000. It is believed that there were about 12,500 during the period indicated.

Canvas-backs appeared in substantial numbers, the first arriving about March 24, when 750 were found with the scaup in the old Grant River channel. They increased rapidly and were found in the Zollikoffer's Lake section and in the Grant River-Lynn Hollow sections. The peak was reached about March 31, with an estimated 8,000 in the district. Following that date they began to extend their feeding range from the deeper, out-shore waters to those in near main shore. They were found scattered well over the entire district. One flock of 272 were found feeding in the Potosi marsh within throwing distance of the railroad there. It was by far the greatest concentration of this species in the district during the life of the refuge.



Redheads were first found on March 25, when 12 were seen in the Potosi area. Their numbers increased quite rapidly until about April 8, bringing their total to about 1,500 as compared to 200 last year.

By the end of April the exodus of all but resident species had been completed, with the exception of occasional ring-neck ducks. They are still found in the quieter and more shallow marsh areas near main shore but in very few numbers. A canoe trip through the Dago Slough, Bertram Lake, and Kruse's areas on April 29 found 14 ring-necks and 28 wood ducks. Not a single bird of other species was found.

Coots did not arrive until March 28, and then in reduced numbers. About 100 were found in the Potosi marsh on that day and after that increases were noted there and in other sections of the district. They are to be found now in all parts commonly inhabited by the species, but their totals are still far below those of last year. Then we had 12,500, and it is felt that there are no more than 5,000 here now.

#### Savanna District

With the return of the 1950 refuge manager to the Savanna district also comes a drop in the number of waterfowl using the area. It has not as yet been determined whether they find this person repulsive or whether greener pastures beckon elsewhere. A little research and a check along the Mississippi flyway should determine this.

Golden-eyes and American mergansers were resident as usual, but the first visitor was noted on January 31, when a lone mallard drake drifted into the Marcus area. On February 12, 100 Canada geese and 75 mallards appeared at Spring Lake, but their spring topcoats were no match for rugged northern Illinois and they turned "chicken - - -" and headed south again.

During the middle of March dozens of scaup were literally "sucked in" when they found their dinners too close to the Savanna Utilities water intake. One morning 36 of them were released from the pumphouse; only one was fatally injured.

The chief concentrations occurred in the Potter's area south of Thomson, as usual, where the birds had easy access to fields of corn, much of which had not been picked. Use of standing corn was heavy in areas east of the refuge.

It has been mentioned that the first mallard appeared on January 31, a very beautiful but lonesome gent. The 75 noted on February 12 left as suddenly as they appeared; 30 returned for a short stay on Spring Lake February 18; but the first large group arrived on March 11, when 300 were noted at Potter's. The peak was reached on March 30 (3 days earlier than in 1950 and 1951, when they peaked on April 2), when 6,000 were counted using the Potter area. This peak equals that for 1950 on the same area. It is with regret that the 1950 figure of 20,000 must be used again as compared with the 1951 figure of 40,000 birds for both districts.

As with most of the other species, the black duck ~~just~~ just wasn't present in the numbers noted in 1951. The first record was on March 11, when 50 blacks appeared at Potter's. A peak of 600 blacks was noted on March 25, with an estimated total of 3,000 for the period, quite a drop from the 10,000 for 1951. Again, that was for both districts.

Gadwall were noted in very small numbers, as has been the case for several years. A peak of 15 birds was noted on March 25. The 100 total use figure still stands for 1952.

Baldpate peaked on March 25, when 500 were noted. Their stay was brief, and the estimated total use stands at the 3,000 figure established in 1951.

The handsome pintail made a good showing, with a high of 4,500 birds on the Potter area on March 25. The 1951 peak was 4,000 birds. Estimated total use by pintails is 12,000 birds.

Though up slightly from 1951 figures, the green-winged teal is far from the number noted in 1950, when a one-day migration stopover was witnessed. Fourteen birds were noted on March 14, with an estimated 500 using the area during the period.

Blue-winged teal have been rather scarce up to the time of this writing. The largest single flock was noted on April 14, when 8 birds were counted at Potter's. It appears that the flight is late or the birds have by-passed this area. A peak of 100 to date is high.

Wood ducks in the Savanna district reached their peak by March 20, when pairs could be noted in nearly every slough and backwater. Thirty-five birds were noted on the above date, and an estimated 500 used the area during the period.



It was noted that in 1951 the redhead was making a good fight to come back. The 1952 peak of 350 birds on March 25 surpasses last year's figure. Total use by 1,500 redheads this year is an encouraging increase.

The peak of 400 ring-necks noted on March 25 and the total use remains at 3,000 birds for the period.

Canvas-backs were far below the 1950 figure, when 1,500 were reported. Twenty "cans" on March 20 made up the peak concentration, and no more than 250 canvas-backs used this district.

Although 1952 shows a substantial decrease in the numbers of scaup from the 35,000 noted in 1951, for both districts, there is still a good number of these birds using the district. Three hundred scaup were noted at Potter's on March 20, and a total of 20,000 is the estimated total use for the period.

The golden-eye is still resident in the district during the winter months and was noted from time to time during even the coldest spells of weather. Fifteen hundred birds used the area, as in 1950.

Pairs of buffle-heads were seen several times during the report period. On March 25, 5 were seen at Potter's. It is estimated that 100 of these birds used this district during their migration.

As in 1950, no ruddy ducks were noted in this district.

Shovellers appear to be down, although the 1,000 of these birds estimated for the period represents what is considered by the refuge manager to be a satisfactory percentage of the total population.

On April 14 a peak of 200 coots was noted south of Thomson. Three thousand coots were estimated using the district during the report period.

Since the present refuge manager has not worked with the 1951 manager, it is impossible to tell whether the terrific drop in estimated use for the district can be attributed to estimating difference between managers or to an actual drop in use or a shortage of birds. However, it is significant to note that 118,185 birds were noted in 1951 and only 69,550 were noted in 1952. One must, however, consider the Bellevue district, which was included in the 1951 report but not on the 1952 records. With the Clinton reports, the figures should give a better picture of the overall situation, though the greater percentage of

birds appear to have been noted in the Savanna district in 1951, and this has been used as the basis for comment.

#### Clinton District

In 1951 the report for this period was a combination of the Savanna and Bellevue districts. The recorded waterfowl populations included both of these areas. This year a report will be submitted from each district, with independent population observations. When 1951 populations are mentioned in this report, one must remember that they may be a combination of the two separate districts unless otherwise specified.

The 1952 spring migration of the dabbling ducks began with the arrival of 12 mallards on February 12. These "early birds" were seen on the only available open water of Pool 13. Black ducks, pintails, wood ducks, and baldpate did not appear until the week of March 9-15. The gadwall, green-winged teal, blue-winged teal, and shoveller were two weeks later, for they were not evident until the last week in March.

Records for the 1951 spring migration indicate that the mallards arrived two weeks later, but the black ducks of 1951 were two weeks earlier. Last year the pintails, gadwall, and wood ducks arrived a week earlier. Baldpate, green-winged teal, blue-winged teal, and shovellers arrived during the same week in 1951.

The spring migration of divers this year started when the number of golden-eye, a winter resident, increased to 252 on February 12. Four canvas-backs were also observed on this date. Redheads, scaup, and ruddy ducks first appeared during the week of March 2-8. Buffle-head appeared a week later, and ring-necks were not observed until March 21.

Last year the redheads, ruddy duck, and scaup arrived a week later. Canvas-back and golden-eye in 1951 arrived about one month later than this year. Early ring-neck migrants in 1951 were recorded approximately the same dates as this year. Buffle-head were observed a week earlier in 1951.

A few mergansers remain in the district as winter residents; however, a slight increase was noted on February 12, when 100 were observed.

The puddle ducks reached a peak concentration between March 26 and April 1. During this time 3,000 mallards, 150 black ducks, 250 baldpate, 200 pintail, 10 green-winged teal,



50 blue-winged teal, 50 shovellers, and 40 wood ducks were seen in the Green Island bottoms check area. The first and last observation of gadwall was made in the Wapsi bottoms on March 28.

In 1951 the puddle ducks reached their highest number during the first week in April. Last year's observations revealed almost twice as many mallards, blacks, and pintails on the Green Island area. This is probably due to the early flood conditions which prevailed at that time.

Peak concentrations of diving ducks appeared during the last week of March, a few days before the largest number of dabblers arrived. On April 1, 25 redheads, 100 ring-necks, 75 canvas-back, and 1,500 scaup were observed on the Green Island area. Golden-eye, however, peaked a little earlier on March 7, when 300 were seen below Sabula, Iowa.

The 1951 diver concentrations peaked at approximately the same time as this year. Observations last year for both districts indicate a decrease in redheads, scaup, and buffle-head. An increase in ring-neck, canvas-back, and golden-eye is indicated.

A second peak of baldpates occurred on April 19, on which date there were 350 in the Carroll district and 300 at Green Island.

Departure dates for ducks of this district cannot be recorded at this time for every species common to the area still have a few representatives.

#### Summary

Considering waterfowl in general, there was an increase of 19.58% in the numbers estimated for the refuge this period. It should be pointed out, however, that the biggest increase reported this spring was from the Lansing district, from which only scanty figures were available in 1951 because of the illness of the refuge manager and incomplete coverage by other members of the staff. It is quite possible, therefore, that although total figures indicate an increase in waterfowl use, this might be largely due to better coverage from this district and might not be a true reflection of total use. However, no change in personnel is likely for this station in the future, and hence any future changes will more nearly reflect actual trends to a more exact degree than is possible for the past two seasons.

If ducks only are considered, there was an increase of 22.06%. This was the result of increased use of the Lansing district by puddle ducks, as well as increased use by divers in the other portions of the refuge.

Figures indicate that increase occurred in swans, mallard, gadwall, wood duck, redhead, canvas-back, scaup, and coot. Decreases were noted in Canada geese, snow geese, blue geese, pintail, green-winged teal, blue-winged teal, shoveller, ring-necks, and buffle-head. No change was noted in black, baldpate, golden-eye, or ruddies.

This spring 400 Hutchins geese were reported from the Savanna district.

A comparison of total use for the 1951 and 1952 spring migrations is shown in the following table:

Species	: 1951 : :Total use:	: 1952 : :Total use:	:Amount of change : :Increase:Decrease:	: Per cent : change
Whistling swan	: 500 :	: 600 :	: 100 :	: 20.00
Canada goose	: 15,000 :	: 10,000 :	: 5,000 :	: 33.33
Snow goose	: 200 :	: 0 :	: 200 :	: -
Blue goose	: 300 :	: 100 :	: 200 :	: 66.66
Hutchins goose	: 0 :	: 400 :	: 400 :	: -
Mallard	: 70,000 :	: 150,000 :	: 80,000 :	: 114.00
Black	: 10,000 :	: 10,000 :	: :	: 0.00
Gadwall	: 1,500 :	: 6,000 :	: 4,500 :	: 75.00
Baldpate	: 20,000 :	: 20,000 :	: :	: 0.00
Pintail	: 21,000 :	: 20,000 :	: 1,000 :	: 4.76
G.w.teal	: 2,000 :	: 1,000 :	: 1,000 :	: 50.00
B.w.teal	: 5,000 :	: 1,500 :	: 3,500 :	: 70.00
Shoveller	: 2,900 :	: 1,000 :	: 1,900 :	: 65.51
Wood duck	: 3,500 :	: 7,000 :	: 3,500 :	: 50.00
Redhead	: 9,000 :	: 15,000 :	: 6,000 :	: 66.66
Ring-neck	: 56,000 :	: 20,000 :	: 36,000 :	: 64.28
Canvas-back	: 2,100 :	: 8,400 :	: 6,300 :	: 300.00
Scaup	: 90,000 :	: 100,000 :	: 10,000 :	: 11.11
Golden-eye	: 9,000 :	: 9,000 :	: :	: 0.00
Buffle-head	: 600 :	: 500 :	: 100 :	: 16.66
Ruddy	: 200 :	: 200 :	: :	: 0.00
Coot	: 33,000 :	: 40,000 :	: 7,000 :	: 21.21
TOTAL	: :	: :	: :	: :
WATERFOWL USE	: 351,831 :	: 420,700 :	: 64,500 :	: 19.58
DUCKS ONLY	: 302,800 :	: 369,600 :	: 66,800 :	: 22.06

Noticeable this spring was the increase in redheads and canvas-back. The largest number of canvas-back ever recorded used the Cassville district, with an estimated use for that district of 8,000 birds. Total use of canvas-back for the entire refuge was 8,400, an increase of 300% over last year. Redheads also showed big increases in all districts, but more especially



in the Winona district, where on one occasion 5,000 were seen in a single concentration.

Ring-necks, usually an abundant spring migrant, exceeding scaup in numbers, fell way off this spring. Only 20,000 were estimated for the refuge, compared to 56,000 a year ago.

Scaup were found in increased numbers throughout the refuge. It was this species that kept the duck flight in the Winona district anywhere near normal. This spring the tendency for scaup to feed in flooded fields, as well as the expected deep water areas, was again noticed.

Perhaps the most outstanding feature about the migration this spring was the almost complete lack of puddlers in the Winona district. Pintails, mallards, and baldpate are normally abundant in this district each spring, but this year very few were seen. On the other hand, the concentrations of these birds reported in the Lansing and La Crosse districts exceeds anything that has been reported in spring migration in several years. Moreover, it was noted that while at Louisa, south of the Upper Mississippi, large numbers of puddlers occurred, such concentrations were not noted to any extent between Louisa and the Lansing district. Possibly they moved right on through the lower end of the refuge, piling up before a "front" and concentrating in the Lansing-La Crosse area. At any rate, large numbers were found both at Louisa and the Lansing-La Crosse areas, but comparatively few between the two areas, nor north of La Crosse.

Pintails also proved disappointing this spring in the Winona district, although the overall flight was almost normal. Usually this species is an early arrival in the Winona area, arriving in fair numbers in the same favorite sites year after year. Such was not the case this spring, however,

The large concentrations of ducks which occurred in the Louisa-Keithsburg areas south of the Upper Mississippi failed to show up in the same numbers on the Upper Mississippi, and it is felt that there was a considerable shift to the northwest along tributary streams leading northwesterly through Iowa.

Estimated total use for the refuge this spring was 369,600, compared to 302,800 in the spring of 1951 and 276,100 in the spring of 1950.

(b) Geese:

## Winona District

There was a very marked decrease in the number of geese using the district this spring. Several small flocks were noted on the prairie areas and several reported on the river marshes. Flocks were observed in flight and could be heard after dark, but there was no way of telling what the numbers were. It is evident that the flight decreased over last spring and was far below the fall flight of last year.

## La Crosse District

Geese were first reported moving through on March 21, but none were observed on the refuge until March 23, when about 250 were found to be resting in Beier's Lake in Goose Island. This flock stayed until March 26 before moving on. It is the largest number to be noted using the refuge the past period. Smaller groups of from 8 to 25 were observed at various times in the Target Lake, Gibbs flats, and Goose Island areas, but none apparently stayed more than a day or two.

The first blue and snow geese were observed dropping into Goose Lake in Goose Island on April 4, and another flock of about 75 spent several days in the Gibbs flats area out from Brice's Prairie. While several other flocks were noted passing through, this is the total of the blue and snow geese observed using the refuge. In general, there was a decline in refuge usage, though reports from other observers together with our own observations indicate that the migration was about normal.

## Lansing District

Geese were seemingly rare in this district this spring. Twenty-two Canadas were seen March 17. Four hundred Canadas was the peak reached March 31. The last were seen April 4. An estimated total of 2,000 of these geese used this district this spring. Local information indicates that this pool (9) has never held many geese in the spring.

Snow geese were the only other geese noted in this district. Four snows appeared, peaked, and were last seen on April 2. An estimated 100 used this district.

## Prairie du Chien District

Reports of geese flocks nearby, inland, and on the Mississippi River were received during late February and March. No geese were seen by the refuge manager until March 17, when



he observed a flock of 148 Canadians resting on the ice and feeding in open sloughs near the mouth of the Wisconsin River. Ten Canadians were also observed by him the following day at the mouth of Buck Creek in Clayton County, Iowa.

Guttenberg observers stated that about 50 Canadians were resting nightly in the open water and on the sandbars above Dam 10 during the middle of March.

No snow or blue geese were observed in the district.

#### Dubuque District

One flock of 30 Canadians <sup>was</sup> seen in the Potosi area on March 13, and on March 21 a flock of 18 were found using that marsh. Other flocks were heard at night after those dates and considerable numbers were reported heard by local sportsmen. It would appear that more geese moved through the district this year than were noted last year, but because the movements were at night it would be impractical to give a numerical estimate. On April 24 a flock of 15 Canada geese was found in the Potosi marsh but took off soon after being found and headed up the Grant River valley. They have not been seen since.

The flock of Canadas which has wintered for many years in the Turkey River and Guttenberg area was seen on several occasions during the winter, and it appeared to be about the same size as it was last year - 125.

#### Savanna District

The blue and snow geese appear to have deserted this area for the present at least. In 1950 there were 16,000 blues and snows, plus 200 white-fronts in the district. This year there were no snows or white-fronts noted, and only 30 blues and 75 lesser Canadas were noted on March 14. The bulk of the flight was composed of Canada geese and a very nearly exact count was secured on several occasions by counting each flock as they rose from the water to go out to feed. On March 12, 6017 were noted. Standing and picked corn just east of the refuge was very heavily used, but no complaints were received from the farmers whose fields were being used. The feeding areas were very closely watched by both the refuge manager and State conservation officers, and no attempts at molestation were noted.

On Tuesday, February 12, 100 Canada geese appeared on Spring Lake, but returned south due to nasty weather. On February 22, 700 Canadas were noted just above Dam 13. From that time on the population built up to 4,400 on March 10, and a peak of 6,050 Canada geese and 17 lesser Canadas on March 12. On March

14, 3572 Canadas, 30 blues, and 75 lesser Canadas were using the Potter area. It is estimated that 18,000 geese used the Savanna district this spring.

On April 14, 3 Canada geese were picked up by a commercial fisherman and turned over to the State conservation officer. One was dead and 2 were sick and unable to fly. These two died the next day. They were sent to Dr. Yeatter of Illinois for examination, but no report has yet been received.

#### Clinton District

The geese were first seen on February 12, when 100 Canadas moved from Pool 13 to adjacent cornfields. The first arrivals last year were on February 27. The only area in this district which attracted geese was Green Island, and the greatest number observed there was 115 on April 1. Five of these were Hutchins, 3 were blue geese, and the remaining number Canadas. Last year's report indicates there were approximately 1,500 geese using the same area.

The goose flight this spring has favored the Savanna district. During the first week in March 3,000-4,000 geese could be observed on Pool 13, but they were not interested in this side of the river.

#### Summary

The flock of Canada geese which has been over-wintering in the Turkey River bottoms of the Cassville District, wintered there again this year, with about 125 birds present.

Generally speaking, the goose flight was down this spring compared to 1951. Only 10,000 Canadas were estimated for the period, compared to 15,000 a year ago. In 1951 there were 30 white-fronted geese in the Savanna district, while this spring none occurred. However, this spring 400 Hutchins geese were observed in that district, while none were there in 1951. No snow geese were observed on the refuge this spring, although there were 200 blue geese noted.

#### (c) Swan:

#### Winona District

There was an increase in the number of swans using the district this spring, with about 600 being estimated. On the morning of April 4 a good movement of swans was observed, and



on that date they were also well scattered through the bottoms. A reconnaissance of the district on April 10 showed 259 swans in Pools 4 and 5, with 157 being found on Pritchard's Lake (Pool 5) alone, together with 54 on the main pool area, and 37 near the mouth of the Old Zumbro. Pool 4 had 11 swans present at that time. Sixty-two were seen south of Robinson's Lake (Pool 4) on April 17, at which time there were a goodly number left in the Weaver bottoms. More swans were seen in the district this spring than usual, and they outnumbered the geese which used the district.

#### La Crosse District

More swan were observed the past period using the refuge and passing through than has been noted in the northward migrations of the past several years. A total of about 62 were noted in the Target Lake area; a flock of 8 was observed in Goose Lake in Goose Island; and 4 more were in a flooded area east of the C.B. & Q. R.R. tracks near La Crosse. Other flocks of 4, 7, and 8 were observed passing through.

#### Lansing District

A lone swan was seen March 13. One hundred and thirty-five were seen April 14 in the Upper Iowa River bottoms. The last swan was seen April 23. An estimated 400 swans used this district this spring. Swans were quite common this spring, much to the surprise of local residents, many of whom had never seen one.

#### Prairie du Chien District

A flock of 11 swan rested and fed in the district during the first two weeks in April. Additional small flocks and stragglers were reported during that period.

#### Dubuque District

None seen or reported during the period.

#### Savanna District

No swans were seen in the Savanna district this spring. Seven were seen in 1951.

#### Clinton District

Swans were not observed in this district this year.

### Summary

Swans must have "jumped" over the Clinton, Savanna, and Cassville districts this spring, for none were observed there. All other districts report swans appearing in increased numbers. The largest concentration occurred in the Winona district, where an estimated 600 used the area. This is the same as the estimated total use for the refuge. Favorite resting spot for these birds was in the Weaver bottoms, where each spring a few have been observed for several years. On April 4 a good movement of swans was observed passing over Winona, many of which settled down north of Winona, where they remained in sizable numbers for over a week. This spring we had the largest number of swans ever recorded, even exceeding the 500 seen here in 1951.

#### (d) Egrets:

Egrets were observed only in the Clinton and La Crosse districts this period. In the Clinton district a single bird was observed on April 9, but was not seen again. On April 19 and 20 another single was noted in the Brice Prairie area (Pool 8), but was not seen again after that date.

Last spring no egrets were observed anywhere on the refuge during this period.

#### (e) Shorebirds and Other Water Birds:

##### Winona District

No change is noted in the number of the various species of these birds using the district. Several grebe were noted on March 25 in the Buffalo City area. Coot came back with the first of the duck migration. Most of them are found in Pool 5. Large numbers of them are seen immediately above Dam 5 in the open water, where they are apparently feeding on food drifting down with the current.

##### La Crosse District

Apparently the snowstorm on April 12 and 13 halted in this area a segment of the jack snipe migration. For a few days there were literally thousands of them in the Brice's Prairie marshes. The first were observed on the 12th and they were all gone again by the 18th, but for 3 days they were flitting over these marshes like bees. It was the largest concentration we have ever seen.

At this same time a considerable number of soras were also noted in this area and along the Black River both below and above



Lyttles. While not nearly as many of these birds were observed as the jack snipe, there were still several times as many as are usually noted during either the spring or fall migrations. They were also all moved out by the 18th.

Other shorebirds occasionally observed include the killdeer, which was first noted on March 26, stilt, lesser yellow-legs, solitary sandpiper, and dowitchers. The killdeer has been seen in many areas, but the others have only been found in the Brice's Prairie marshes.

The first migrant coots were not observed until March 31, which is three days later than in 1951. Though they were confined to the main channels until the ice went out, they came in a wave. In spite of this there does not appear to be as many as last year though they may be more scattered.

Other water birds occasionally noted include American bittern, great blue heron, ring-billed gulls, and double-crested cormorants. No terns of any kind have been observed to date.

#### Lansing District

An estimated 20,000 coot have used the refuge during this period, arriving on March 21 and peaking at 5,000 birds on April 9.

The first cormorants were seen February 27. Twenty were noted flying over the refuge on that date. This represents the most seen at any one time so far, although it is estimated that 500 have used the refuge this spring.

One great blue heron was seen March 21. A peak of 50 was seen on April 9. One of these birds has the nasty habit of flying with its neck completely stretched out and has startled the refuge manager several times in that he thought he was seeing a crane (momentarily, of course).

Killdeer were first noted March 21, when 6 were seen in the Upper Iowa River bottoms. A peak of 130 birds was reached April 9, making an estimated total of 500 birds with more to come.

On April 9, about 150 yellow-legs arrived. The estimated total for the period was 400 birds.

It is estimated that 9,000 herring gulls and 8,000 ring-billed gulls used the refuge during the period of this report.

Other water, marsh, and shorebirds have not arrived in the district. Lack of feeding and loafing spots caused by current high water will hold back their arrival on the refuge.

### Prairie du Chien District

American coot appeared a few days later and in fewer numbers this spring than in 1951. A great blue heron was observed on March 19, about a week earlier than in 1951. Few blue heron were observed until the middle of April. A larger number of pied-billed grebe, herring gull, and killdeer were observed this spring than during a similar period in 1951, while fewer double-crested cormorant, common loon, and ring-billed gull apparently used the district than during last spring.

### Dubuque District

Two jacksnipe were seen in the Potosi marsh on March 12; and since that date others have been found there and in City Island at Dubuque, the mouth of the Little Maquoketa River, and the Mud Lake section. A few were also found in the Hay Bottoms section, but their total numbers will only about equal those of last year.

Killdeer have been quite commonly found in meadowlands adjacent to the refuge, but so far they have not been encountered in the refuge itself. The first 2 were seen on March 12.

One great blue heron was seen in the Potosi marsh on March 18, and since then they have been infrequently seen at several points in the district.

Pied-bill grebes arrived about March 25 and are found in normal numbers throughout the district.

Herring gulls have been present in the district since the last part of February. Since the river break-up, their movement has been definitely up the river. There have been no concentrations nor feeding activities, and it would indicate that the winter kill of fish was unusually light this past year.

Cormorants have so far failed to appear in any great numbers. Small flocks have been seen occasionally since March 25.

### Savanna District

Shorebirds appear to be getting more and more scarce over the years, and though 14 lesser yellow-legs were noted on April 9, these were the only shorebirds present besides the killdeer, which was present about 150 strong by March 15.

Herring gulls were not as common as in 1951, partly because of the tremendous fish kill on Spring Lake during that



winter and none this report period. A drop from 5,000 to 1,000 of these birds was recorded.

Thirty-five Bonaparte gulls were seen on April 8 over the main channel.

Six common terns were also seen on April 8.

One horned grebe was noted at Potter's on April 14.

The pied-billed grebe was first seen on March 25, when 5 were recorded at Potter's. Since that date an estimated 250 have used this district. Many are still present at the time of writing.

Double-crested cormorants showed up March 18 and peaked at 35 birds. One hundred used this area during the report period.

No loons were noted this year, though there was one each for 1950 and 1951.

American mergansers are resident of this area, with a total of 3,000 during the period.

One hooded merganser appeared on April 1, and on April 14 150 were noted on Spring Lake. This was the peak, with an estimated total use by 600 birds.

Three great blue herons were first seen on March 18. By March 25, 50 were using the district. Total use is estimated at 250 birds.

#### Clinton District

The double-crested cormorant first appeared this year on April 1, when two were observed on the Green Island area. The same date was recorded for the first arrival in 1951. At this date there are approximately 50 in the area, but many more are expected.

On March 18 the first great blue heron was observed. The first to arrive in 1951 was on March 22. The number of these birds in the area now is estimated to be 500.

The only other bird of this group to appear is the upland plover. Seven were seen on the Green Island area on April 9. This bird had not been observed this early in 1951.

(f) Mourning Dove:

Savanna District

The peak was again the same on doves, April 14, with last year's estimate of 500 birds still standing. They were resident during the period, but unless they are hardier than the writer believes, many must have been killed by the cold and shortage of food during heavy snowfalls.

Clinton District

Although a few doves remained in this area during the period, no noticeable increase has been observed to date.



## 2. Food and Cover:

### Winona District

At the time of the freeze-up last fall there was plenty of food and cover left in the district. With the ice conditions remaining in the marshes until flood waters came, the food was not available for puddle ducks. When the ice did leave the water was too deep for them. It was, however, available for divers. The ducks did not suffer from lack of feed, however, as they found plenty in flooded fields, especially machine-picked cornfields. Some of these fields had considerable grain and weed seed in them for puddle ducks and also feed for divers.

### La Crosse District

As stated in the previous report, food and cover crops were not as abundant or productive as in some previous years. Again, the past winter the unusually large amounts of snow and the fluctuating water levels have broken down and covered with ice some of the emergent crops. As a result, some of the earliest arrivals did not find this area very attractive. However, flood conditions during the last month have inundated a large number of agricultural fields as well as the higher bottomlands. These areas are very attractive to the waterfowl and are apparently providing more than sufficient food.

In general, the crops in Pool 7 were not damaged as much as in Pool 8. Since the water levels there do not fluctuate as much even with flood conditions, more of the foods are available, as can easily be seen by the numbers of waterfowl using that area.

### Lansing District

The period of early waterfowl movement had excellent food and cover conditions. Cover was to be found on the refuge as well as some food. The majority of the food, however, was taken in the flooded and wet cornfields. The flooded fields of the Upper Iowa River bottoms were a duck Mecca. With the raising of the water level, conditions affecting cover were not as good. The bulk of the spring flight had passed through this area by then so was not badly affected. Food conditions remain good as long as cornfields hold out.

### Prairie du Chien District

Golden-eye, scaup, ring-necked, redhead, and other early divers fed on packing plant fatty waste in open Pickeral Slough during early March and successive rafts of ducks continued to feed there throughout the period.

Due to high water, comparatively little food was available to the dabblers in the river bottoms. However, as the Mississippi rose and flooded the adjoining fields in April, more and more food became available to baldpates, mallard, pintail, teal, and other dabblers, as well as diving ducks.

### Dubuque District

Ample supplies of seeds, tubers, and other vegetative foods, left over from last summer, provided adequate food for all species. And, although the winter had reduced all emergent plant life to water level, there is abundant cover in the willow-bats and timbered ridges.

### Savanna District

Food and cover boils down to the old story for Spring Lake, not enough to hold the birds. Puddle ducks again used the cornfields for feeding and even the divers fed in potholes outside the refuge.

Cover has not had a chance to recover from the low of two years ago; however, some signs of progress were indicated by the refuge manager present last fall.

The Potter area appears to be the best balanced area in the district in regard to these requirements, as is indicated by this area holding the major portion of our waterfowl population.

### Clinton District

The waterfowl of the spring flight this year have utilized the Wapsi area and the Green Island area. Only an occasional duck could be seen in the two closed areas. Up until April 1, water conditions were ideal for starting new plant growth. Since that time a steady increase in water levels has flooded all of the desirable aquatics. With the present flood predictions, all we can hope for is a fast run-off, which will give the desirable food plants a chance to recover and develop for the fall flight. This same situation prevailed last spring and lasted into late June.



### Summary

Food and cover conditions this spring were almost parallel with those of 1951. Although development of marsh and aquatic species was retarded during the last growing season because of prolonged high water, ample amounts of all types were produced before the season ended. This furnished food and cover to ducks during the fall migration, with a considerable amount left over.

When the early ducks began to arrive this spring, most of the backwaters were still iced over and did not become free of ice until flood waters struck, at which time the shoal areas were too deeply inundated to permit feeding by dabblers. Accordingly, both divers and puddlers worked out into the flooded margins, where they fed on smartweed and millet beds not normally available, as well as in flooded agricultural fields.

As has been noted in the past, divers this spring were more often found in flooded flats and shallows than were dabblers, while the dabblers were often in flooded timber. The reverse would normally be expected. However, flooded higher margins with good beds of smartweed, etc. and flooded farm fields furnished ample amounts of food for all ducks which came this way.

#### B. Upland Game Birds:

##### 1. Populations and Behavior:

#### Winona District

With limited suitable habitat for upland birds, few are found on the refuge except some along the boundaries. During the winter months pheasants use some of the marsh areas, especially in the 5A pool. However, only an occasional bird is seen at any time. At present the flood waters have forced all upland birds from the refuge areas.

#### La Crosse District

The past period, up until the first of April, was not nearly as harsh on the upland game birds, and the winter mortality from atmospheric causes was not nearly as high as during the winter of 1950-51. The feeding program of the Badger State Sportsmen's Club, Inc. and the Wisconsin Conservation Department was not nearly as extensive, and at no time was it felt that these birds were having difficulty in finding food or shelter.

A few pheasants were observed on various parts of Goose Island during the first half of the period. However, early in March there appeared to be a slight influx of birds to this area,

as about 40 were estimated to be feeding in cornfields on the lower end of the island. Occasionally other birds were seen in the Black River bottoms and in the area below the Root River, but from the sign noted there were not sufficient birds in either area to make up a breeding population.

While no quail have actually been observed on the refuge area, numerous coveys have been found in the areas immediately adjacent thereto. The upper portions of the Black River bottoms and Brice's Prairie are the best populated, although occasional coveys have been observed on French Island and in the Pine Creek and Root River areas.

During the first three months of the period ruffed grouse were observed on every occasion that we were in that area of the refuge east of the North Western Railroad tracks. From the sign found after fresh snowfalls, it is felt that there was more than an occasional bird using this area. An estimate of 30 birds is felt to be conservative.

Again this year it is expected that the entire populations of all the upland game birds have been forced out of the bottoms during the past month. With water levels even higher than in 1951, there will be very little dry ground or feed available for them.

#### Lansing District

No pheasants used the refuge during the period of this report.

No quail were seen on the refuge during the period of this report. The 20 to 25 birds reported as using the district last period have (it is hoped) apparently found greener pastures elsewhere.

An estimated 20 ruffed grouse used the refuge during this period, but have stopped their usage with the coming of high spring waters.

#### Prairie du Chien District

A female pheasant was observed on January 23 in the upper Ambro area along the main Mississippi channel, feeding on one-seeded burr-cumumber (*Sicyos angulatus*). Other pheasant tracks in that area indicated that several pheasants wintered there. Two cocks and 5 hens spent most of the winter in the Ambro Park-Gremore Lake area. It is probable that other pheasants spent part of the winter on the refuge in Iowa as in Wisconsin.



There is a fairly heavy ruffed grouse population of the adjoining bluffs, and an occasional individual grouse takes to the refuge fringe for food.

#### Dubuque District

The decrease in the number of ring-neck pheasants in the district, as indicated in the last narrative report, is verified by observations during this period. Then it was estimated there were 10 birds in the district, and they continued in residence until rising waters in early April forced them to leave. At present, with all island areas under water, there are no birds left in the refuge.

No other species present.

#### Savanna District

Bob-white quail have shown a very gratifying increase during the past two years. Two coveys of 8 and 12 birds were noted several times on the Spring Lake area and two coveys of 5 and 10 birds were noted at Potter's. Two coveys of 10 each use the sand ridge south of Spring Lake. It is estimated that 70 quail now live in this district.

Ring-neck pheasants are not on the increase, to all indications. Two cocks have been observed, and the estimated total remains at 10 birds.

#### Clinton District

While a snow was on during the month of February, a preliminary survey of this district revealed a very low population of upland game. This is to be expected, however, for the heavily timbered bottomlands are not attractive to the local species. Three pheasants and 15 quail were the total observations of upland game birds during this period.

#### Summary

Upland game birds were forced out of the bottoms by flood waters this spring, and had not returned by the end of the report period. However, there was some refuge use during the period, prior to flooding. Increases were noted in all species, as shown in the following table, which compares the same period in 1951:

Species	April 1951	April 1952
Ring-necked pheasant	105	133
Bob-white quail	70	165
Ruffed grouse	61	70

There was an increased use made of the Winona district by pheasants and quail, but a decrease in ruffed grouse. The La Crosse district showed an increase in pheasants, quail, and a decided increase in ruffed grouse. The Lansing district had a complete lack of pheasants and quail and a 50% reduction in ruffed grouse; while the Prairie du Chien district picked up 10 pheasants, had no quail, and a static population of ruffed grouse. Cassville showed a decrease in pheasants, and had neither of the other species. Savanna indicated about static conditions with pheasants but an increase in quail, and had no ruffed grouse; while the Clinton district had only 3 pheasants and 15 quail. A comparison of populations by district for the period and the same period in 1951 is shown below:

District	Pheasants		Quail		Ruffed grouse	
	1951	1952	1951	1952	1951	1952
Winona	10	25	20	50	6	0
La Crosse	25	75	10	30	5	40
Lansing	0	0	0	0	40	20
Prairie du Chien	0	10	0	0	10	10
Cassville	50	10	0	0	0	0
Savanna*	20*	10	40*	70	0	0
Clinton*		3		15	0	0
TOTALS	105	133	70	165	61	70

\*Reported jointly as the Savanna-Bellevue district in 1951.

## 2. Food and Cover:

### Winona District

There is an ample supply of food and cover in the district on the higher ridges and islands, which could maintain a much larger number of game birds. However, the physical nature of the district prevents the population from increasing. Food and cover, therefore, are not the important factor for upland birds in the district.

### La Crosse District

While there was sufficient of both food and cover available for three months of the period, high waters from the first of April have covered nearly everything. The waste from harvesting operations and the corn left standing by the Badger



State Sportsmen's Club, Inc. on Goose Island is furnishing some feed for both ducks and upland game birds. Portions of these fields will be above the high water mark so that some food and cover will be available to the birds that seek refuge on that island. Other than this there will be nothing available for feeding or nesting in the entire district until near the first of June.

#### Lansing District

Pheasants and quail are hard put for a livelihood on the refuge. This district and surrounding country generally are anything but optimum for these upland birds. What few birds are in the area seem to find more satisfactory food and cover conditions inland away from the refuge.

Although the wooded hillsides adjoining the refuge hold most of the ruffed grouse, some spread out onto the bottoms. Food and cover would probably be satisfactory for these birds if it weren't for the high water.

#### Prairie du Chien District

Food and cover were available to upland game in the river bottomlands during the past period as snow was never excessively deep.

Very little good nesting cover is available, however, as abnormally high waters covered most of the refuge during April. If the flood waters this spring remain high as long as last year there will be little available nesting sites until late in the summer.

#### Dubuque District

There was an abundance of both food and cover for upland game, but no game present to utilize it by the end of the period.

#### Savanna District

Food and cover for upland game birds is not adequate nor properly placed for maximum advantage. A moderate amount of cover planting, especially at Spring Lake, would help tremendously in holding birds.

#### Clinton District

The Green Island area is the only area of the district which affords sufficient food and cover for upland game birds.

This year the area provided plenty of corn for the small population of birds. Cover conditions are satisfactory around the area, but travel lanes into the interior are scarce. This condition cannot be altered with the private ownership of land in the area.

#### Summary

The refuge is not generally suitable for upland game species since it is too wet and does not have the food and cover required by upland game in too great amounts. However, there has always been sufficient food and cover to sustain the upland game population which does inhabit the area.

#### C. Big Game Animals:

##### Winona District

With a deer hunting season permitted by the States of Minnesota and Wisconsin, along with hunting permitted on portions of the refuge, the population was decreased some, especially on the Minnesota side, where a number of them were taken in the area below the number 4 dike. On the other hand, in the Nelson-Trevino area, deer were forced into the closed portion of the refuge and most of them remained there during the winter months. On several field trips through this area several sizable herds were seen. This area has maintained the largest number in the district. Some deer are found in the higher portions of the 5A pool. It is estimated that 75 deer occupied the refuge during the winter months. At present most of them have moved from the refuge due to flood waters, although some of them were seen on the higher dredge-spoil banks on the river. In these cases they had plenty of browse and were all right unless they were chased off and had to swim a long distance to reach higher land. There was no evidence of this during this spring's flood. There have been no reports of lost deer this spring, with the exception of two bodies that floated into Lock and Dam 6. These had been dead for some time and apparently had not died due to flood conditions. During the winter dogs chased a deer that had been wounded during the hunting season onto the ice above Dam 4. This deer was almost dead and was shot and put out of its misery. It was evident that at one time it would have weighed 200 pounds, but weighed only about 75 when killed.

##### La Crosse District

Deer and deer sign were found in most areas of suitable habitat from January to the end of March, with the Black River bottoms above Lyttles on both sides of the railroads, being the



most heavily populated. The Target Lake and Root River areas were also used quite extensively, but only an occasional track or animal could be found on Goose Island.

Dogs were again found to be molesting the deer almost continually throughout the winter, and both the Minnesota and Wisconsin Wardens found it necessary to take preventative measures. A young buck was pulled from an opening in the ice on the river near Stoddard, where it had been chased by dogs. This animal died two days later. Another young buck found with its lower jaw shot off was put out of its misery. Minnesota and Wisconsin Wardens found it necessary to destroy three more animals that had either been mangled by dogs or crippled by poachers.

Since the first of April the deer herd has been moving out of the bottoms, and by the close of the period very few are left except on Dam 8, where there are at least 10 finding haven and maybe two or three on Goose Island.

#### Lansing District

Deer are still the only big game animal using this district. Until the coming of the current high water it was estimated that 600 animals were using the district. At the present time it is assumed that no animals are in the bottoms. Deer are becoming a common sight along the refuge. The refuge manager noted 30 deer (in ones and twos) in the short drive from Lansing to New Albin (about 11 miles).

Several cars have been wrecked by hitting deer and local feelings are getting harsher with the increasing population and no sign of an Iowa deer season.

Natural browse is plentiful, but with a yearly increase in population could suffer heavily.

#### Prairie du Chien District

It is estimated that 50 deer spent part of the winter in the district. Signs of 8 deer were observed in the Harpers Ferry area on January 24; three deer were seen and signs of six deer were found in the Bagley bottoms on January 28; signs of two deer were observed in the Ambro bottoms on January 29; and three deer were seen and signs of eleven deer were found on Upper Twelve Mile Island on January 30.

#### Dubuque District

It would appear that estimates made during the last narrative report period of 250 deer in the district were about

correct. Winter observations during this period verified that estimate. As winter wore to an end, it was observed that many of the animals were moving to the main shore, especially to the Wisconsin side. It is supposed, with all islands now covered by water, there are none left in the refuge at this time.

#### Savanna District

Virginia white-tail deer have done very well in this area, and it is estimated that the Savanna district now holds about 15 deer. Several have been killed by automobiles along Highway 80, north of Savanna, and nearly every one in the same spot. All were in good condition and were apparently moving into or out of the refuge at the time they were struck. Food and cover is adequate for the present herd.

#### Clinton District

The deer population in the district has not changed from the estimated 25 of last period. During a heavy snow in February tracks in the Pleasant Creek area indicated there were 10-15 animals in the vicinity. That part of the refuge is now covered with water, forcing the deer to the adjoining bluff.

#### Summary

During this report period a total of 1055 deer were found on the refuge. These animals were distributed by districts as follows:

District	Number
Winona	75
La Crosse	40
Lansing	600
Prairie du Chien	50
Cassville	250
Savanna	15
Clinton	25
TOTAL	1,055

Late in March there was a noticeable shift in populations from interior portions of the refuge to the marginal range, and when flood waters hit in April most of these moved completely out of the river bottoms. Whereas last year there was evidence of deer being lost or stranded by the floods, there have been few instances of it this spring.

Dogs continue to be a factor in reducing deer herds, and repeated evidence is received of dogs running and killing deer.



D. Fur Animals:  
(a) Muskrats:

Winona District

The winter fur census, which was about 95% coverage of the district, showed a count of 3,385 muskrat houses. During the fall trapping season in Wisconsin and Minnesota, 191 trappers taking out permits caught 14,827 animals for an average of 77.6 per person. This does not indicate that an average of over 4 animals per house were taken, but rather that a large number of them were taken from bank dens.

There was no evidence of winter kill, although during the spring flood rats could be seen almost anywhere one wanted to check on them. It was evident that they were not all caught during the trapping season. It is not uncommon to see as many as 100 animals in almost any small area checked. Throughout the district they can be found sitting in trees, willow brush, or any place where they could get out of water. Houses are being built in the clumps of willow brush and on higher stumps, which would indicate that they are about to have their young. Continued high water may effect mortality in early litters. There is no doubt that the greatest mortality has been caused from the animals being killed on highways, railroads, some shooting by kids with .22 rifles. Some reports have been received that some farmers' dogs have killed some in the shallow shorelines of the flooded fields.

From the number that are present at this time, with favorable conditions, there should be a good supply again next fall.

Buffalo County produced the most rats during the trapping season last fall, when 8,760 were taken as compared to 6,067 for the rest of the district. Eighty-four trappers took out permits in Buffalo County as compared to 107 in the rest of the district.

La Crosse District

Two definite surprises were experienced from the muskrat populations of the past season. The first came when the trappers' reports were tabulated and it was found that approximately 12,000 animals were harvested. The second came when the spring flood forced them out of their dens or houses and the number of survivors was noted. The population at the close of the period is very definitely smaller than last year, but it is still much higher than anticipated.

During the past period when the annual winter fur census was taken, approximately 25% of the muskrat habitat was covered. In these areas a total of about 1,400 houses were counted. This would indicate a grand total of 5,600 and at 3 rats per house a total population of 16,800 animals before the trapping season. With 11,800 being legally taken, plus a 50% reduction for winter mortality, predation, poaching, and other causes, this would leave an estimated 2,500 muskrats for a breeding population as of April 30.

On general patrol activities during the peak of the high water, numerous counts were made of the animals either swimming or in nests built in trees, on logs, or other floating debris. In the good muskrat areas from 30 to 50 animals were counted per mile of running. In other areas from 5 to 20 were counted per mile.

While the above figure of 2,500 breeders is too high in comparison with the population of 1951, it is felt that there are very near that many animals. They also appear to be surviving the flood better than last year since there have been no high winds, heavy rains, or storms since before the crest reached this area. Poaching, predation, and other causes are also believed to be taking fewer animals.

#### Lansing District

After a harvest of 6,454 animals there are now an estimated 5,000 muskrats using the refuge in this district. No numbers are available for a comparison with last year's population. The method used to arrive at the above figure was the winter fur census, fur harvest, and optimum winter water conditions for muskrats.

The current high water does not appear to be having any adverse effects on the rats. They can be seen busily building high water nests and should be expected to bring off their young satisfactorily unless high winds occur.

No diseased rats have been noted or reported.

#### Prairie du Chien District

Fur records indicate that 68 trappers harvested 3,628 muskrats during the 1951 trapping season. This is 1,419 more muskrats than were harvested in 1950, but 1,372 less than the 5,000 reported harvested in 1949. High, fluctuating river



levels along with scarcity of houses and other muskrat activity signs during the summer and fall resulted in predictions of a poor harvest. However, prevailing good trapping weather with open water allowed the average trapper to double his catch this year.

The winter furbearer census generally indicated a decrease in muskrat population in those areas for which we have comparative data as shown in the following table:

Area	1951	1952
	Acres per muskrat house	
Bagley Bottoms	29	37
French Island	29	25
McMillan Island	14	64
Upper 12 Mile Island	40	64

From the harvest, winter census, and daily observations, it is estimated that there are 2,000 muskrats in the district at present. This is sufficient stock to furnish a good muskrat harvest if water levels drop anywhere near normal during the breeding and reproduction season.

#### Dubuque District

It is believed that the stock remaining after trapping operations were completed, carried through to spring in a successful manner. There were no losses from disease found.

The annual fur census, completed in February, showed a total of 441 active muskrat houses. This compares with the total of 255 last year.

#### Savanna District

Muskrats fared well during the period as far as water levels were concerned. Very little freezing out was noted in the check areas, but some dead rats were found, apparently diseased. At the time of break-up, muskrats were commonly seen. Poor trapping conditions last fall spared many rats, and with proper conditions they should show a substantial increase this fall.

#### Clinton District

During January and February of this period, three new muskrat census areas were mapped and counted. The same area in the Green Island bottoms was used again this year.

A total of 170 houses were counted on 1,120 acres. A substantial increase was noted on the Green Island area this year. In 1951 only 7 houses were on the area, and 77 were present this year. Last year's water levels in this area were very low, and the amount of desirable habitat had decreased. This is another indication of the potential value of the area if water levels could be controlled.

Trapping success was much better this year than in 1951. This year 25 trappers caught 880 muskrats, and in 1951 21 trappers caught 253 muskrats. This represents an increase of 26.4 rats per trapper. This year the average price per pelt was \$1.49, and the average in 1951 was \$1.73.

Although it is hard to believe, this major population increase followed the most severe flood the locality has experienced in years. It is almost unbelievable the way the muskrat can recover after such severe conditions. It is possible that these flood waters tend to force the muskrat from the inaccessible river islands and sloughs to areas which can be trapped. If this is true, the indicated population increase is merely a shift in population.

#### Summary

Winter kill of muskrats along the river was light again this year.

As we went into the fall trapping season, population estimates were low as house building activity had not begun in earnest. At that time it was felt that a trapping season would be as much a salvage operation to prevent winter loss due to expected lowering of water levels to normal stages. It came somewhat as a surprise, therefore, when trappers during the season succeeded in removing almost 42,000 muskrats.

It is estimated that there are about 19,700 remaining on the refuge at the close of this report period. This is based on the winter fur census, together with observations of animals forced to margins during high water this spring. In almost all areas high counts of marooned rats could be made at the height of the flood, but with receding levels it is not expected that mortality will be high, nor that normal breeding will be too seriously interfered with.

During the trapping season last fall, a total of 42,000 rats were removed, for a total fur value of \$62,438.01. Average price of pelts was \$1.47, and the average income per trapper from the take of muskrats was \$98.54.



It is estimated that muskrats occur by district as follows at the close of this report period:

<u>District</u>	<u>Number</u>
Winona	2,500
La Crosse	2,500
Lansing	5,000
Prairie du Chien	2,000
Cassville	2,200
Savanna	5,000
Clinton	500
<u>TOTAL</u>	<u>19,700</u>

During the peak of the flood muskrats could be found sitting on brush, debris, or any high lands and dikes. Often several hundred could be counted in a single area. Some loss of animals occurred as a result of poaching, highway losses to "runners" and to a lesser extent, direct loss due to high water.

(b) Mink:

Winona District

There was no mink season permitted on the Minnesota portions of the refuge since the State had an early mink season which closed prior to the opening of the trapping season on the refuge.

Ninety trappers who took out permits for both muskrats and/or mink in Wisconsin caught 101 mink, for an average catch of 1.1 mink per trapper. Most mink were taken from Buffalo County, where 90 of the 101 were taken.

Since dry sets ONLY were permitted following the close of the muskrat season on December 21, mink trapping from then until the end of the mink season was rather difficult and only the experienced mink trappers had much success.

Mink sign observed so far this spring indicate a fair brood stock has been carried over.

La Crosse District

Early trappers' reports indicated a smaller mink population than estimated. However, tabulation of their reports revealed that about 30 more animals were harvested, and this with no open season in the Minnesota portion. Checks made during the late winter revealed as much or more mink sign than

a year ago. Numerous animals have been observed during the flood period, so together with the sign noted during the fur census it is estimated that there are at least 100 mink in the district, which is a gain in population over 1951.

#### Lansing District

Trappers harvested 134 mink from this district, leaving an estimated 250 of these animals left. Here again, no figures are available for the previous year.

The current high water is not harming this species since there are plenty of fish and muskrats available for the menu. Logs, brush, and trees serve as resting places from the high water.

#### Prairie du Chien District

Mink populations have been down during the past two periods due, no doubt, to prevailing high waters flooding many den sites and hunting grounds. Only 110 mink were trapped during the past season as compared to 136 in 1950 and 200 in 1949.

#### Dubuque District

Observations made during the annual fur census indicated a total population of 183. This shows a substantial increase over a similar period last year, when a check showed 60 animals.

#### Savanna District

On the basis of signs observed this past period, it is quite evident that minks have staged somewhat of a comeback on this area. The early freeze-up spared the minks as it did the muskrats, and 30 minks are the present estimated population.

#### Clinton District

The muskrat census areas are also used for estimating the abundance of minks. A total of 18 minks was estimated this year. Last year the number on the Green Island area was from 2 to 5, and 5 separate tracks were observed again this year.

This year the 25 trappers reported a total catch of 32 minks. In 1951, 21 trappers caught 25 minks. This is an increase of .28 mink per trapper. The average price per pelt this year was \$17.58, and in 1951 the average was \$20.00.



### Summary

Minks were harvested from all districts and all States in the refuge with the exception of the Minnesota portions, where the season closed prior to the refuge opening. A total of 709 minks were removed from the refuge, for a total value of \$13,973.79. The average price received was \$17.07 per pelt, and the average income to trappers was \$19.28 for mink taken. An average of 1.13 mink per trapper was removed.

It is estimated that there are 781 mink remaining on the refuge at the close of the period, distributed by district as follows:

District	Number
Winona	100
La Crosse	100
Lansing	250
Prairie du Chien	100
Cassville	183
Savanna	30
Clinton	18
TOTAL	781

#### (c) Skunk:

##### Winona District

Very few animals are found in the district as the habitat is not suited to them except along the exterior boundaries. During the summer months an occasional animal is seen. Most of them are discouraged from using the refuge due to water and occasional flood conditions.

Record flood levels this year have almost eliminated skunk from the bottoms, and at the close of this report period it is doubtful if any remain in the district.

##### La Crosse District

These animals were again noted to be coming out of hibernation about the middle of February, but only on Goose Island were there noted to be very many. High waters will again force most of them to leave, so at the close of the period it is estimated that there are not more than 20 on the refuge and all of these are on Goose Island, where they will do more good than harm by keeping the turtles under control.

### Lansing District

No skunks have been seen, smelled, or reported to the refuge manager during the period of this report. No records are available for the same period last year because of the illness of the refuge manager.

### Prairie du Chien District

No skunk and only two sets of skunk tracks have been seen on the refuge during the reporting period. The current high waters will undoubtedly force any remaining skunk out of the bottomlands.

### Dubuque District

None of this species in the district.

### Savanna District

The first skunk was observed by the refuge manager on this area April 14, when he was met head-on and escorted at a skunk's pace down one-half mile of one-way refuge trail.

### Clinton District

The skunk population on the refuge is low. Two animals were observed this period and three highway casualties were noted. Evidently the refuge land is too damp for Mr. Skunk, and he is content to remain on the nearby hills.

### Summary

Probably not over 25 skunk remain on the refuge at this time, and these are restricted to the higher margins and islands. Record floods either drove out or drowned most of the skunk, which are never too common on the refuge bottomlands.

### (d) Beaver:

### Winona District

The beaver house count remains about the same as last year, with some houses being abandoned and some new ones being built. The population has held up well with continued trapping seasons. One thing that would indicate a decrease is the size of the feed beds, as most colonies had very little winter feed stored up.



During the Wisconsin trapping season from February 15 to March 15, 29 permits were issued, and the trappers took 117 animals, for an average of about 4 per trapper. More small animals were taken than usual. With the deep snow and heavy ice, trapping conditions were difficult.

#### La Crosse District

Counts made while on general patrol during the peak of the high water indicate a smaller beaver population than anticipated. Either previous estimates have been too high or poaching, predation, and disease have taken more than normal. The Wisconsin trappers found considerable difficulty in taking their quotas after the second week of the season, while the Minnesota trappers, with water levels above flood stage, did much better for the most part. The 38 Wisconsin trappers took about 225, while the 11 Minnesota men took about 75 beaver, with a total harvest of 300 animals from the district. With only this many being legally taken, there should be almost as many left as last year, but this does not seem to be so, for from the counts made it is estimated that there are not more than 600 beaver in the district.

Three dead animals have been found, but only one of these could have died from disease. The others were killed by .22 bullets. No other sign of sickness have been noted or reported.

#### Lansing District

Excluding the Minnesota trapping season (April 10-24), 95 beaver were harvested, leaving an estimated total of 2,480. These animals are actually getting bothersome due to their large numbers, whereas only a few years ago the sight of a beaver in this district was a rarity.

Several black beaver have been seen, and one was taken during the Wisconsin season. One partially albinistic beaver is also known to be using this district.

Here again, high waters are having no adverse effect.

#### Prairie du Chien District

Beaver and beaver signs are common to the Mississippi and tributary streams. Fifty-two active beaver lodges and 29 beaver den colonies were definitely located during the past winter. Seventeen beaver were harvested during the fall Iowa trapping season, and 41 beaver were taken by Wisconsin trappers during

their winter season. Only 26 beaver were harvested during the 1950-51 trapping seasons.

The winter furbearer census indicated an increase in population and movement toward higher land areas.

It is estimated that there are 300 beaver in Pool 10 at present.

#### Dubuque District

Apparently this species came through the winter in excellent shape. Established houses and dens remained active, and with the coming of spring and open water activity increased.

The annual fur census showed a total of 79 houses and 139 dens in the entire district. This compares with a total of 41 houses and 64 dens last year.

#### Savanna District

The beaver season last fall was of no consequence as far as population is concerned. Very few trappers would care to bother with hides requiring so many hours of labor for the low prices paid. Seven beaver were caught in this district and brought \$7.00 each on the market.

The trees are beginning to suffer on many of the islands where beaver are cutting everything available. Willow thickets are clean cut in some areas. The 150 beaver estimated for the district begin to constitute an excessive population, and some effort should be made to encourage a heavier harvest next season. One 60 pound animal was killed by a train at Savanna on April 14.

#### Clinton District

The results of the furbearer census this period is not at all indicative of the present beaver population. Only 3 active beaver houses were observed on the census check areas. Evidently separate check areas for beaver will have to be established if population trends are going to be recorded. It would be very difficult to choose an area which would be satisfactory for all the important furbearers.

Only 3 beaver permits were issued during the past trapping season. One of these trappers caught his limit of 10, another caught 2, and the remaining trapper failed to score. Beaver pelts averaged \$8.00, which gave a total value of \$96.00.



The high beaver population on the refuge is probably an asset to waterfowl management for they tend to open up small potholes and sloughs for the growth of aquatic food plants. Some of the adjacent agriculture areas are suffering, however, for these furbearers have a taste for corn and are very persistent in damming drainage ditches.

#### Summary

It is estimated that there are 5,065 beaver on the refuge at this time, distributed by districts as follows:

District	Number
Winona	600
La Crosse	600
Lansing	2,400
Prairie du Chien	300
Cassville	1,000
Savanna	150
Clinton	15
TOTAL	5,065

During the past year beaver trapping seasons were held in all four States adjoining the refuge, and the refuge held concurrent open seasons. An estimated 778 animals were removed during these open seasons as follows:

State	Number
Minnesota	200 (est. since all reports not yet in)
Wisconsin	528
Iowa	43
Illinois	7
TOTAL	778

Since the refuge was established there have been eleven beaver seasons held, including four in Minnesota, four in Wisconsin, two in Iowa, and one in Illinois. This was the first beaver season held in Illinois since Civil War days. A total of 2,688 beaver are known to have been taken, and with an estimated 200 for the recent Minnesota season the estimated total take is 2,888 animals.

During the flood this spring beavers could be seen on high ground or sitting in trees, where they built up temporary nests or where they merely crawled in trees to get out of the water. Mortality as a result of the flood is believed to be low.

(e) Otter:

Winona District

The usual amount of otter sign was noted on field trips in the Nelson-Trevino area during the winter months. Tracks of three different animals were seen in the Pine Island area during the beaver trapping season. It is evident that the population is slowly increasing in the district. None were reported taken during the beaver trapping season as there was last year. It is estimated that 25 otter use the district at the present time.

La Crosse District

None observed in this district although sign and tracks were found on Dam 8. These animals are found south of the dike, in the Lansing district, although 5 are estimated for the La Crosse district.

Lansing District

Although no otter were seen during the period of this report, it is assumed that the 20 reported as using the refuge in the last report are still present.

Prairie du Chien District

Otter trails have been observed in Harpers, Ambro, Horseshoe, Wisconsin River, Glen Park, and Bagley areas during the past winter. Two dens were located in Ambro and Bagley areas and another den was found in Harpers area.

It is estimated that 30 otter are using Pool 10.

Dubuque District

The annual fur census, completed in February, verified the estimate of an increase in this species, which was made in the narrative report for the period ended December 31. This year's census showed a total of 20 as compared to the total of 11 found in the census for a like period last year.

Savanna District

No otter were known to use this district during the period.



## Clinton District

No otter have been reported in this district.

## Summary

Otter are found in all districts of the refuge except the Savanna and Clinton Districts. It is estimated that 100 animals use the refuge at the present time, which is an increase of 30 over the same period in 1951. Otter are found in districts as follows:

District	Number
Winona	25
La Crosse	5
Lansing	20
Prairie du Chien	30
Cassville	20
Savanna	0
Clinton	0
<u>TOTAL</u>	<u>100</u>

No otter were taken during the beaver seasons this year, while a year ago three were taken in beaver traps.

(f) Raccoon:

## Winona District

Raccoon apparently came through the winter in good condition as there are plenty of them throughout the district now. During the first part of the flood they could be seen in trees and on the higher ridges, but as the water came up they started to move out of the river area to the hills and as a result some have been killed on the highways. On a trip through Pool 5A during flood conditions it looked as though a dozen animals had been on one of the dredge spoil banks at one time from the tracks that were there. Hunting of them on the open portion of the refuge does not reduce their numbers as it is hard to hunt because of the nature of the bottoms. A trapping season would be much more successful.

## La Crosse District

At the close of the period there were very few of these animals left on the refuge except on Goose Island and along the dikes of the dams. An occasional animal was found perched in a tree even after the flood crest had passed, but the total population is

estimated to be lower than it has been for many years. The past winter appears to have been quite hard on them for those observed in the early spring and those found dead along the highways looked to be on the verge of starvation. At the close of the period the water is still so high that they have not been able to move back into the bottoms, and as a result population is estimated to be about 30 animals.

#### Lansing District

The current high water has affected the coon in this district. While it was assumed that there were 600 of these animals, it is now estimated that there are only 200 on the refuge. These 200 are all sitting up in trees waiting for the water to go down so that they may search for food.

#### Prairie du Chien District

Daily observations and winter furbearer census indicated that, due to prevailing high water, raccoon populations have decreased from the 1950-51 populations.

It is estimated that 100 are at present using the refuge.

#### Dubuque District

The mild weather during February brought this species out from hibernation, and the resulting signs bear out the previous estimates of population. They seem to be just about everywhere. It has been previously estimated that there are 650 in the district.

#### Savanna District

Raccoon have been suffering from disease, which has cut their increase considerably. Very little pressure has been placed upon them by trappers as the fur is practically worthless. Thirty-five are estimated using the Savanna area, with concentrations from Marcus to Galena.

#### Clinton District

A total of 48 raccoon were estimated on the muskrat check areas. This estimation was based on tracks found during the muskrat census. In 1951 an estimation of 50 animals was made for the Green Island area. This year tracks indicate that there are approximately 25 on the area. The indicated population decrease on this area is probably not as serious as it seems.



for the check area boundaries were altered slightly and tracking conditions were not the same.

The refuge manager is convinced that there is a good raccoon population on the refuge.

#### Summary

The raccoon population has increased on the refuge for several years, and the hunting which was permitted was not sufficient to keep them in check. Recommendations have been made to authorize the trapping of these animals to reduce the population and ameliorate damage to crops on the refuge margins.

High water this spring has caused reduction of numbers in some areas, although in others raccoon managed to weather the floods well by climbing in trees and going to higher land. Floods this spring lasted above flood stages for almost three weeks, during which time raccoon no doubt got quite hungry because of difficulty of feeding. It is not felt, however, that the loss of this species was too great.

An estimated 1,215 raccoon are to be found on the refuge, by district, as follows:

District	Number
Winona	150
La Crosse	30
Lansing	200
Prairie du Chien	100
Cassville	650
Savanna	35
Clinton	50
<u>TOTAL</u>	<u>1,215</u>

#### (g) Foxes:

##### Winona District

The usual number of fox sign was noted during the fur census this past winter. As these animals are more or less migrants to and from the refuge, it is believed that not too many of them are resident to the refuge. No dens have been found during the summer months. One litter of young was raised on a high ridge below Wabasha several years ago, which is the only one the refuge manager has on record. Most fox sign is noted on the Minnesota side of the district in Pools 5 and 5A.

At the peak of the flood local residents, finding foxes stranded on small islands, disposed of them for bounty. One man made himself \$16.00 for ten minutes work.

#### La Crosse District

While these animals used the bottoms most of the winter, the high waters have driven them all out except for one or two on Goose Island and an occasional animal on the dikes or other high ridges. Checks of these areas during the peak of the flood indicated that there were not more than about 4 foxes left on the refuge after one adult plus 4 young were destroyed. One other adult was shot adjacent to the refuge. The debris around the dens and on the ridges that were inhabited by foxes indicated that their diet consisted of 95% muskrats.

#### Lansing District

One grey fox was using this district at the close of the period. This fox is on the dike between the two spillways at L/D 8. He is harvesting a good share of muskrats and the refuge manager has been attempting to have a Minnesota resident dispatch it.

When water levels return to normal the refuge will probably be seeded with more foxes from surrounding farm lands.

#### Prairie du Chien District

Observations indicated that about 100 fox, twice as many as in 1951, used the district during the reporting period.

Fox seem to have more difficulty in obtaining food as much of the normal grassy bottomlands loved by mice were flooded. Signs in the snow indicated that in one instance a fox had waited in ambush near an airhole and dispatched a muskrat as he came up to breathe or feed.

Due to high water, very few fox remained in the bottomlands during April. Perhaps ten were using the refuge at the end of the period.

#### Dubuque District

As indicated in the report for the preceding period, this species is increasing its activities considerably. Observations made during the annual fur census and later in the season, as muskrat houses became more vulnerable, sustained the previous



statement. The census revealed a total of 133 animals in the district and they became even more numerous later in the winter. They left the bottoms when the ice began to open up around the edges, and there are none in the refuge now.

#### Savanna District

Foxes continue to thrive in the Savanna district though apparently not in the numbers observed in 1951, when 75 were reported for both districts. A figure of 25 foxes is a liberal estimate at this time.

#### Clinton District

An estimation of 17 foxes was made during the muskrat census. The foxes of each check area followed the same route as the refuge manager and visited almost every rat house on each area. Mr. Reynard may have been responsible for damaging some of the houses.

Last year's population of the Green Island area was estimated to be 15 animals. This remarkable population has decreased to approximately 5 this year.

#### Summary

Although there was a fairly high population of about 250 foxes on the refuge during the winter, most of these were forced to leave the bottoms with the advent of high water. Many have not yet returned to refuge lands, and the estimate at the close of the period indicates very few are currently present.

On March 29, while a party of refuge and Regional Office personnel were making a reconnaissance of the Green Island bottoms, a red fox was observed stalking mallard ducks in a small pond. It was flushed before it took one.

#### (h) Other Furbearers:

##### Winona District

The usual number of rabbits and squirrels are found in the district and their numbers have not seemed to change from year to year. Their natural enemies seem to keep them controlled as there is very little hunting done. Most of these animals have been driven from the bottoms during the spring flood. This may tend to keep the population down as some of them may not go back.

A fine specimen of an adult brush wolf was shot on a ridge near Winona on February 14 by a Winona man. It was a full grown animal, weighing about 50 pounds, with a heavy coat, and in good condition. It was the male of a pair the hunter located in a field.

In 1951 three animals were killed in Winona County and one in Wabasha County. None are known for the refuge proper.

#### La Crosse District

Some rabbit and squirrel sign was found throughout most of the period in the more attractive areas, but since the flood the only place where rabbits could survive would be on Red Oak ridge and Goose Island. There are about 6 on Goose Island, but none could be found on the ridge. Several grey and fox squirrels were observed in both locations and several have been noted in the trees in the flooded areas. Those observed in the trees appeared to be in good health, so apparently the flood will not eliminate them as it has the rabbit from all but the one area. Populations of these animals at the close of the period are estimated at 10 rabbits and 80 squirrels.

#### Lansing District

Previously rare on the refuge, rabbits and squirrels have been forced into temporary extinction because of high water.

An estimated 30 woodchuck are now using the trees on the refuge, while no opossum or weasel have been seen or reported.

#### Prairie du Chien District

Numerous squirrel tracks but very few cottontail tracks were observed on the refuge during the past winter. Prevailing high waters and spring flooding will undoubtedly keep these upland small game mammals from increasing in numbers on the bottomlands.

#### Dubuque District

Except for occasional squirrels and rabbits, no other species are found in the district.

#### Savanna District

Opossum still hold at 75 animals for the Savanna district as in 1950 and 1951. A considerable number of these animals are killed by cars and trains along the refuge borders.

Cottontail rabbits are present in large enough numbers to be considered ample for hunters and predators.



Fox and grey squirrels are found in fair numbers where oak and hickory trees prevail.

## E. Predaceous Birds:

### Winona District

The usual number of the different species of hawks, owls and bald eagles have been seen during the period. During the month of February 17 bald eagles were reported on the ice just below the Alma dam. These birds are found mostly in the Lake Pepin area, and during the winter months seem to be more noticeable farther down river. Crows began to show up during the month of February and showed an increase over last year. On March 10 the first duck hawk of the spring made its appearance on the bluffs south of Winona.

### La Crosse District

There were only one or two more bald eagles wintering in this area than usual, but they certainly got a lot more publicity. To judge from some of the comments in the local papers, one would think that there had never been any here before. Last year on one occasion 12 were counted from La Crosse, Wisconsin to Reno, Minnesota, and there could have been others in the area that were not seen. This year the most that were counted on one occasion were 17 in the area from Genoa to Dam 7. No phenomenal increase in refuge usage is estimated to have occurred the past season.

Little change has been noted in the populations of such other predaceous birds as are found in this territory. The winter crow population was no larger than usual, and so far the northward migration is felt to be a little less than usual. Other birds in this category occasionally observed the past period include barred owl, red-tailed hawk, marsh and sparrow hawks. Vultures have been reported but none have been observed.

### Lansing District

Two golden eagles were seen using the refuge this period. One of these birds was a juvenile, while the other an adult. It is felt that these were the only two in the area.

An estimated 5000 crows used the refuge during this period. These birds are resident in this district and can be seen year around. A peak of 2000 birds occurred April 9.

The first osprey appeared April 10, with an estimated 5 using the refuge thus far.

Bald eagles apparently like this area as an estimated 60 used the refuge. They were a common sight all winter, and on



two separate occasions the refuge manager counted 12 at one time.

Marsh hawks, barred owls, and red-tail hawks are the only other predaceous birds present at this time, and they only in small numbers.

#### Prairie du Chien District

It is estimated that about 30 bald eagles used the district during the past winter and spring. Individuals and small groups of eagles were frequently observed. On March 20 ten bald eagles were in the Bagley area.

Barred owl were frequently observed on the refuge. Several pairs of red-tailed, red-shouldered, and marsh hawks returned to the district during April.

A relatively small number of crows used the area, the normal number being about 100, with no more than 200 at any one time during the period.

#### Dubuque District

The crow continues to be the predominant species in this category and there does not seem to be any lessening in its numbers. They have been previously estimated at 15,000, and they continue to be found in the same areas.

Duck hawks are not found in the refuge proper but are frequently found in the cliffs overlooking the refuge near Grant River, Turkey River and the main river south of Buena Vista. Other common hawks, Cooper's, red-tail, sharp-shinned, broad-wing, marsh and sparrow, are frequently found also.

Barred owls are commonly found in all the timbered islands and occasionally a great horned owl is found in 12 Mile Island.

American eagles appear in their usual numbers at the Dubuque and Guttenberg dams, and early in April they were found cruising in the Hay Bottoms area. At that place on March 29 one was found rallying a large concentration of mallards in the marsh. He seemed to be trying to play with the ducks rather than trying to catch any. At any rate, he helped considerably with the count of ducks there!

#### Savanna District

Bald eagles were present throughout the period. As many as 50 were observed one day north of Savanna (February 18).

Marsh hawks became common about March 10, but no definite flight was observed. The first one was observed February 14.

Cooper's hawks were noted from time to time throughout the report period, especially during February.

Sparrow hawks were noted as early as February 14.

The first red-tailed hawk was observed February 13.

Large flocks of crows used the outlying cornfields for feeding during the period. One thousand birds were present and used a roost near the Potter area.

#### Clinton District

The bald eagle was the most prominent predaceous bird during this period. His classification as a predaceous bird is not at all true in this locality for he prefers dead fish to live game. During January and February the total population was estimated to be 25. This population has decreased since the river opened up, but approximately 10 birds are still on the refuge.

Other birds of this group such as the crow, red-tailed hawk, and marsh hawk are occasionally seen but were of little importance during this period.

#### F. Fish:

##### Winona District

Fishing pressure last winter decreased over the previous year. Some fair catches were made at the beginning of the period, but later on better fishing in the La Crosse area drew a lot of fishermen from this district. Some fair pike fishing was experienced at times below the Alma dam.

A fishing contest was held in the area above Alma but, as the rule at most fishing contests, few fish were taken. Water levels remained low during the period, which may have had something to do with the fishing success.

A fishing contest held on Prairie Island, near Winona, in January, resulted in a heavy take of fish, contrary to the usual local results. Winning top honors for the biggest fish was a wall-eye that exceeded 8 lbs.



### La Crosse District

Recent observations indicate that the winter mortality of the fish populations was not as high as usual. This was felt to be due to the higher water levels and to the lighter snow cover. However, the fish again moved into the opening around Allen's artesian well in Blue Lake at about the same time as they did a year ago. This usually happens the last week in January and is also usually the signal for a wave of illegal fishing. The Minnesota Conservation Department did some rescue work in this area, but again it was only a drop in the bucket. Fortunately, a warm period quickly relieved the congestion of both fish and fishermen around this well.

In the overall picture, water conditions of the past period apparently have not had a detrimental effect on the fish populations. Catches by both commercial operators and the pole and line fishermen have been as good or better than average.

### Lansing District

Winter kill was rare this past winter. No large accumulations of snow occurred so that phytoplankton apparently got enough light to produce desired amounts of oxygen. Pan fish remained in shallow water all winter and suffered no ill effects.

### Prairie du Chien District

No winter fish kills were reported this year. Apparently, high waters provided sufficient range, while shallow snow and ice allowed enough light to penetrate the waters for aquatic plants to absorb CO<sub>2</sub> and produce sufficient oxygen for the fish.

### Dubuque District

Good conditions prevailed throughout the winter and fish life came through with slight loss. Winter kill was at a minimum.

Fishing pressure was quite high, both sport and commercial, and in some cases good takes were enjoyed. Early in January excellent bluegill fishing was found along spring shores south of Bertram Lake and about the same time and at periodic intervals later in the year the wall-eyes bit voraciously at the Dubuque dam.

The usual pressure was exerted by the commercial fishermen, and it would appear that somewhat better results were

enjoyed than last winter. There were no phenomenal hauls, but ordinary good catches were made consistently by several of the outfits operating in this district.

#### Savanna District

Spring Lake had no fish kill this year, partly due to constant circulation of fresh water, high water levels, and the fact that the snow did not remain on the ice for prolonged periods. Carp and bullheads, at least, came through in good condition and are being caught by the thousands by fishermen. It is anticipated by most people that fishing will improve with the circulation of water from the river into the lake. The bullheads are much healthier looking, stockier fish than they were two years ago, and the grub infestation appeared to be negligible as early as the fall of 1951, according to fishermen.

#### Clinton District

Water conditions during the first two months of this period were ideal. There were no extreme drawdowns and the water remained clear. Sportsmen experienced some of the best pike fishing they have had in years.



### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development:

##### Winona District

The boat and motor used in patrol and posting were repaired and serviced during the period. Several refuge signs were replaced. Spring floods caused considerable damage to the river boundary posting. This will be repaired during the summer months after flood waters have gone down. Due to a shortage of signs they are not replaced unless they are badly damaged and out where they are noticed.

##### La Crosse District

This work has consisted of the general maintenance and repair of boats, motor, car, buildings, and other equipment. Damaged signs have been replaced where the need was found. Boundary lines have been relocated below La Crosse and on French Island and cabin sites relocated and laid out.

##### Lansing District

Fifteen miles of exterior boundary were posted, signs replaced, brushed, and maintained during the period of this report.

The boathouse was cleaned up and all equipment removed in anticipation of the current high water.

The government rented garage was cleaned up, but it was necessary to store all boathouse equipment therein, so at present it is not too presentable.

Routine maintenance and equipment checks have been done on the government car and outboard motor.

##### Prairie du Chien District

About four miles of exterior boundary were brushed out and reposted where necessary. A section line boundary and section corner was relocated in the Harpers Ferry area.

About 124 hours were spent on development, mostly on wildlife surveys and population studies. Over 100 hours were spent on management, mostly supervising such economic usage as trapping. About 100 hours were spent maintaining the Government owned vehicle, the 5 HP Johnson outboard motor, and other miscellaneous equipment.

### Dubuque District

About 25 miles of boundary posting were inspected and repairs made in some cases.

About 5 days were spent in the care of boats, motors, and floating equipment.

### Savanna District

Eight man days of labor were put in by the refuge manager in restoration of the Bellevue boathouse to a usable condition, in cooperation with the Clinton refuge manager. The boathouse will be moved to Sabula for easier access by both refuge managers.

Posting was deferred because of poor conditions and pending definite conclusions on lines. In most areas posting by boat is most satisfactory because of the ability to haul posting supplies.

The Northwest Dragline, so long a thorn in our sides, was shipped to the Swan Lake Refuge at Sumner, Missouri, on March 26, where it is hoped that it will prove its worth.

The refuge manager assisted in scraping and painting the Shell Lake boat. One coat of red lead and two coats of boat paint were applied.

Eleven wood duck boxes were installed by the Clinton and Savanna refuge managers in the Savanna-Sabula area on April 8.

The Bellevue warehouse was prepared for flood waters.

### Clinton District

With the help of the Savanna district refuge manager, 20 new steel drums were installed on the boathouse. The drums were purchased for \$1.75 each. They were cleaned and painted before installation. The total expense for the boathouse repair was \$39.90.

The 16-foot boat was scraped and given three coats of paint. Total expense for operation was \$4.75.

No boundary work was done this period.



B. Plantings:4. Cultivated Crops:

## Winona District

One five year special use permit for experimental growing of 45½ acres of Birdsfoot trefoil is in effect on a 10% share basis to Government of harvested seed.

## La Crosse District

None were made this period, though the Badger State Sportsmen's Club, Inc. have indicated that they are again contemplating some agricultural activities in conjunction with their duck and pheasant project on Goose Island.

## Summary

No other plantings of cultivated crops have been done or are anticipated.

C. Collections:

No collections were made on the refuge during the period of this report.

## IV. ECONOMIC USE

A. Grazing:

No grazing was done on the refuge this period, and the demand for the forthcoming season is not expected to be any greater than in previous seasons.

B. Haying:

None this period.

C. Fur Harvest:

## Winona District

During the fall trapping season in Minnesota and Wisconsin, 191 trappers took out permits to trap muskrats in both States, and mink in Wisconsin only. These trappers took a total of 14,827 muskrats; 8,760 of them being taken in Buffalo County alone, as compared to 6,067 in the remainder of the district. Trappers received an average price of \$1.40 per pelt, or \$108.64 per trapper.

Mink trapping was permitted in Wisconsin only and was included in the trapping permit. Not all trappers taking permits trapped mink; however, 101 mink were taken and trappers received an average revenue of \$20.15 per pelt.

During the Wisconsin beaver season, from February 15 to March 15, 29 permits were issued, and the trappers took a total of 117 animals for an average of 4 per trapper and received an average price of \$13.25 per pelt.

A beaver season was permitted in Minnesota from April 10 to April 24, with 17 trappers taking permits. As yet no reports have been received on this season.

#### La Crosse District

During the past period there has been an open season for the taking of mink and beaver in the Wisconsin portion and for the taking of beaver in the Minnesota portion. Since the mink season in the Wisconsin portion began Dec. 1, 1951 at the same time as the muskrat season a summary of the trap tags sold will include those reported the previous period.

For the taking of minks and muskrats in both the Minnesota and Wisconsin portions of the refuge a total of 197 permits together with 7355 trap tags were sold. These trappers took from the La Crosse district a total of approximately 11,800 muskrats plus 260 mink. Average prices received for these furs were \$1.45 for muskrats and \$21.00 for the mink.

For the taking of beaver, a total of 48 permits, together with 437 trap tags and 576 pelt seals, were sold in the Wisconsin portion. These trappers took from the La Crosse district a total of 225 beaver. Average price for these animals was \$14.00.

In the Minnesota portion 10 permits, together with 85 trap tags and 100 pelt seals, were sold. At this time no reports of how well the trappers are succeeding have been received as the period for the taking of these animals in this area was set for April 10 to 24, both dates inclusive. The dates for the other seasons were: Wisconsin, muskrat, Dec. 1 to 21; mink, Dec. 1, 1951 to Jan. 31, 1952; beaver, Feb. 15 to Mar. 15; Minnesota, muskrat, Dec. 1 to 9; all dates inclusive.

Total return to the Government from the sale of these trap tags has amounted to \$1257.00.



## Lansing District

Although no records are available for comparison with the previous years harvest, it is felt that trappers this year had a good harvest. Minnesota is now having a beaver trapping season. However, no applications were made for trapping permits, so it is assumed that no animals were or will be taken. The following table represents the total fur take in this district for the 1951-52 trapping season:

WISCONSIN:

MINK:	64 trapped.	Av.	Pr.	\$20.56	Total: \$	1315.84
Rats:	4178 "	"	"	1.60	"	6684.80
Beaver:	91 "	"	"	11.79	"	1072.89
						<u>\$ 9073.53</u>

IOWA:

Mink:	70 trapped.	Av.	Pr.	\$18.80	Total: \$	1316.00
Rats:	1988 "	"	"	1.49		2962.12
Beaver:	4 "	"	"	14.00		56.00
						<u>\$ 4334.12</u>

MINNESOTA:

Rats:	288 trapped.	Av.	Pr.	\$ 1.62	Total: \$	466.56
TOTAL TAKE:	Mink		134		TOTAL: \$	13874.21
	Rats		6454			
	Beaver		95			

It was hoped that more beaver would be taken; however, with current prices low, trapping fees, and expenses high, few trappers could be induced to trap them.

A total of 101 trappers realized an average return of \$139.34 for their efforts this past season. Muskrats accounted for \$10113.48 of the total take; mink for \$2631.84 of the take; and beaver for \$1128.89 of the total harvest.

## Prairie du Chien District

Reports from 68 trappers operating in the Prairie du Chien district indicated a harvest of 3,628 muskrat and 110 mink. This is 1,419 more muskrats than were harvested in 1950, but 1,372 less than the muskrats harvested in 1949.

The average trapper in the district took 53 muskrats in 1951. The average trapper in the Grant County, Wis. portion of this district took 75 muskrats, as compared to the low of 40 muskrats per trapper in the Allamakee County, Iowa bottomlands.

Only 110 mink were harvested during the past season, as compared to 136 in 1950 and 200 in 1949. Trappers in the district averaged an harvest of 1.6 mink; in Grant County, Wisconsin they averaged 2 mink each; and in Crawford County, Wisconsin only 1.2 mink for the greatest and least success in the district.

Of the 68 muskrat and mink trappers in the district, 45 operated in Wisconsin and the remaining 23 trapped in Iowa.

Four beaver trappers took 17 beaver in the fall season in Iowa, and 10 trappers harvested 41 beaver during the winter Wisconsin season. This made a total of 58 beaver trapped off the district during the past fall and winter.

During the reporting period 13 Wisconsin trappers purchased 94 beaver trap tags, resulting in \$94.00 revenue for the Government.

#### Dubuque District

Reports received of trapping operations indicate that trappers took 1514 muskrats, 55 minks, and 25 beaver in Wisconsin. Iowa trappers reported taking 330 muskrats, 7 minks, and 8 beaver.

#### Savanna District

The estimated total minks caught was 8; the total sale was \$123.65, or \$13.66 per mink. Only 5 trappers caught both minks and muskrats. Average catch per trapper was 0.29 mink.

Twenty-eight trappers had permits and only one failed to report. The estimated catch was 1022 muskrats, which sold for a total of \$1,515.33 or \$1.49 per rat.

Six hundred eighty-nine tags were sold at 10¢ each for a total of \$68.90.

No beaver were caught in Whiteside County on refuge land.

Only two beaver trappers operated in Carroll County. Ten tags were sold, for a total revenue of \$10.00. Seven beaver, which sold for \$49.00, or an average price of \$7.00, were taken. One trapper caught all 7 beaver; the other was unsuccessful.

#### Clinton District

Total receipts from trap tags this period was \$82.30. This represents 25 muskrat and mink permits and 3 beaver permits. Total value of furs to the trapper was \$1,969.76.



### Summary

During the December season on muskrats and the December-January season on minks, which could not be previously reported because of incomplete returns from trappers, a total of 659 permits were issued. Of these, 126 were issued for the taking of muskrats only, for on the Minnesota portions of the refuge there was no mink season since the State season on minks ended prior to the refuge opening. The remaining 533 permits authorized the taking of both muskrats and minks. This was somewhat higher than the 574 permits issued in 1950-51, but substantially below the 1,167 permits issued in 1949-50.

Reports were received from 632 of the 659 trappers, for a return of 95.90%. These trappers took a total of 41,874 muskrats and 709 minks were removed. This is roughly three times as many muskrats as were taken the previous year, while the take of mink remained almost the same.

Muskrats averaged \$1.47 each, compared to \$1.67 a year ago; while minks averaged \$17.07 each, compared to \$24.68 a year ago. Total value of muskrats taken was \$62,438.01, while mink were valued at \$13,973.79.

During the muskrat and mink season a total of 23,856 tags were sold at 10¢ each, for a return to the Government of \$2,385.60, which was remitted to the Treasury.

Beaver seasons were held in all States of the refuge during the last fall and winter. While the Iowa and Illinois seasons were held in December, they are reported here because returns were incomplete at the end of the last report period.

In Illinois only two permits were issued, despite the fact that it was the first beaver season in the State since Civil War days. Only one of these trappers was successful, taking 7 beavers. A total of 10 tags were sold, and the sum of \$10.00 remitted.

In Iowa eleven trappers were issued permits. These trappers took 43 beavers, with all but one trapper being successful. The value of these animals amounted to \$432.56. A total of 60 tags were sold, and \$60.00 remitted.

During the February 15-March 15 season in Wisconsin permits were issued to 99 trappers. These trappers removed 528 animals, having a value of \$6,623.49. A total of 882 tags were sold, and \$882.00 remitted.

During the Minnesota season 28 permits were issued, and a total of 224 tags were sold, for which the sum of \$224.00 was collected and remitted to the Treasury. No reports have been received to date, so nothing can be included here on the take. However, flood waters came almost coincident to the opening of the season, and it is not believed that trappers were very successful.

As shown in the following table, revenue to the Government from trap tag sales for the various trapping seasons of the past trapping seasons amounted to \$3,561.60:

Species trapped	No. tags sold	Value of tags sold
Muskrats and minks (tags 10¢)	23,856	2,385.00
Beaver (tags \$1.00)		
Illinois	10	10.00
Iowa	60	60.00
Wisconsin	882	882.00
Minnesota	224	224.00
	25,032	\$3,561.60

Total value of fur taken, exclusive of the Minnesota beaver season from which data are not yet in, was \$83,516.85, as shown in the following table:

Species	No. permits	No. taken	Av. price	Total value
Muskrats & )	659	41,874	\$1.47	\$62,438.01
Minks )		709	17.07	13,973.79
Beavers				
Illinois	2	7	7.00	49.00
Iowa	11	43	10.06	432.56
Wisconsin	99	528	12.70	6,623.49
Minnesota	28	-	-	-
	799			\$83,516.85

D. Timber Harvest:

Winona District

Permittee	Permit No.	Amount cut	Cash res.
Herold Bros.	303	14½	\$7.25 - closed
Orrin Becker	165	no scale	none - closed



### La Crosse District

Three permits for the removal of approximately 30 cords of down and dead timber for use as firewood are in effect at the present time. However, only about 13 cords have been removed to date. Total revenue to the Government from this use has amounted to \$15.00. There is little demand for this product and no increase is anticipated.

### Lansing District

One saw log permit on the Big Island timber unit was in effect this period, but no cutting was done.

Ten cords of firewood were cut for a return of \$5.00 during the period of this report.

### Prairie du Chien District

One contract with the Northwest Tie and Lumber Co., New Albin, Iowa, was in effect. No logging operations have been carried on during the past year.

The overall scale on this sale is 947,750 b.f. resulting in \$6,634.25 being returned to the Government.

One special use permit for 2,000 b.f. of river birch poles was let out to Mr. Jack Johnson, Prairie du Chien, at \$10 per thousand b.f. This is primarily a timber stand improvement proposition in even-aged, over-crowded, volunteer growth river birch along the backwaters of Ambro Slough and Gremore Lake. High waters have kept this operation from being initiated.

### Dubuque District

None.

### Savanna District

No timber was cut in the Savanna district during this period.

### Clinton District

A total of 24,790 feet of lumber was cut on the refuge during this quarter. The total revenue derived was \$270.00. Mr. Justine Hingtgen of Lamotte, Iowa, was the holder of the special use permit.

No firewood permits were issued.

### Summary

Three firewood permits were closed out during the period with  $34\frac{1}{2}$  cords out and \$2.25 remitted, the balance of the cordage having been covered by down payments remitted in a previous quarter. Four permits for firewood remain in open status with \$10 having been remitted this quarter.

Three timber permits were in effect and 24,790 feet of logs were removed under one for \$207.00, which was remitted.

One permit for birch poles was issued with \$10.00 down payment remitted.

#### E. Cabin Sites:

##### Winona District

W. W. Evans	Permit No. 18648	Boathouse	\$15.00
-------------	------------------	-----------	---------

##### La Crosse District

A total of 21 cabin permits are in effect at the present time, with one new permit being issued the past period. Requests for information on this use are received almost every day, but since no new sites have been laid out no applications have been accepted.

##### Lansing District

Two cabin site permits are in effect at this time.

##### Prairie du Chien District

No cabin site permits are in effect and no applications have been received.

##### Dubuque District

One active permit in first year of occupancy. No other application for permit received.

##### Savanna District

Only 3 cabin site permits are in effect on the area. No new applications have been received.



## Clinton District

There are no cabin site permits in this district

## Summary

Renewals of 3 cabin permits and 1 cabin-dock combination permit were issued. One renewal is pending due to litigation of an estate. One new permit was issued. In effect were 24 cabin permits carried over from the last period.

A total of \$155.00 was remitted during the period for cabin site rentals.

F. Other Uses:

## Winona District

John Denzer - One 3-year permit covering two garden plots in effect.

One 5-year permit covering three garden plots in effect to three party signature.

One 10-year permit for coal storage and ash disposal is in effect. During this period the sum of \$100.00 was remitted on this permit.

## La Crosse District

Other special uses in effect at the present time include:

One permit to the City of Stoddard for a baseball diamond.

Three permits to the Boy Scouts for refuge areas for troop activities.

One permit for a duck and pheasant raising project on Goose Island, the Badger State Sportsmen's Club, Inc.

One permit for the recreational development of the north shore of French Island by the City of La Crosse.

## Lansing District

One permanent fishing camp site permit is in effect. No other permits have been issued.

### Prairie du Chien District

A free-use permit to the Crawford County Sportsmen's League for a public boat landing and right-of-way is the only such permit in effect.

### Dubuque District

None.

### Savanna District

No permits for other uses have been issued this period.

### Clinton District

No permits have been issued for other uses during this period.

### Summary

During the period the sum of \$100.00 was remitted on a coal storage permit.

In addition, \$15.00 was remitted on a boathouse site rental; and \$50.00 remitted on a commercial fishing headquarters site. One other commercial fishing headquarters site was in effect.

Three Boy Scout camp permits, one city baseball diamond permit, and one recreational area permit remained in effect.

One three year garden permit and one 5-year garden permit remained in effect.

## VI. PUBLIC RELATIONS

### A. Recreational Uses:

#### Winona District

A considerable amount of ice fishing was done during the winter months. During April some boat trips were taken. Very little other use is made of the refuge during this period, although some trappers speak of trapping as recreation.

#### La Crosse District

For the past period ice fishing and trapping were about the only recreational uses provided by the refuge. The poor ice caused by the fluctuating water levels and later the extreme flood



conditions have discouraged such other recreational uses as skating, ice and pleasure boating. However, a check of our weekly reports reveal that approximately 43,500 persons visited the refuge for recreational uses.

A special event was a supervised fox hunt on Goose Island by the Badger State Sportsmen's Club, Inc. on February 24. Supposedly, the primary purpose of the hunt was to give the junior members and other interested youths an outing. A secondary purpose was to try to reduce the fox population on the Island. Both purposes were accomplished. The juniors got an outing and one of the two foxes observed was killed.

A third purpose was also accomplished, the senior members got an outing, a good lunch for everyone, and a chance to work out some of the booze inhaled the previous night.

#### Lansing District

Fishing, trapping, sight-seeing, etc. accounted for 5555 visitor days in this district. Recreational uses at this time of the year are at a low ebb and were it not for fishermen and trappers, the use would be nil.

#### Prairie du Chien District

The greatest number of recreational users were fishermen. It is estimated that 5000 ice-fishermen days were spent on the refuge during the past 4 months. The big fishing event of the district was the Prairie du Chien V.F.W. Ice-fisheree, which brought over a thousand fishermen to Gremore Lake during both February 17 and 24 week-ends. The weather was clear and cold - ideal for the event and about a thousand fish were most cooperative in getting hooked.

#### Dubuque District

Fishing constituted the only recreational use during the period.

#### Savanna District

Regardless of the weather the refuge manager is always able to find a few hardy fishermen at Potter's or Spring Lake. The enthusiasm shown by some of the Chicago fishermen toward Spring Lake bullheads borders on hysteria. One fishermen became quite angry because the local conservation officer wanted to check his license while he was fishing. He figured he might lose a strike. Note: He already had more fish than he could carry. The crappies and black bass have been slow at Potter's, but some have been caught from time to time. The average has been about 2 fish per man per trip.

### Clinton District

The only recreational use of the refuge during this quarter was ice fishing, which became popular below the navigation dams.

#### B. Refuge Visitors:

#### Winona District

- Jan. 2 : Biologists Anderson and Uppgren, River Basin Studies, stopped at office re examining Spring Lake.
- Jan. 8 : Mr. Stone, Farm Planner for Trempealeau County, visited office in connection with land management plan for the Trempealeau Refuge.
- Jan. 9 : Biologists Anderson and Uppgren stopped at office for information from files on Spring Lake.
- Jan. 9 : Mr. Jamieson of the Regional Office called to pick up truck.
- Jan. 21 : Refuge Manager Pospichal reported for duty, following military furlough.
- Jan. 22 : Minnesota Wardens Shager and Drazkowski in office briefly.
- Jan. 23 : Wisconsin Warden Supervisor Weitz and Wardens Gardner and Radke here in connection with law enforcement.
- Feb. 6 : Wisconsin Wardens Giesen and Hiebing were at office in connection with beaver trapping.
- Feb. 13-14 : Mr. Smoke, Land Acquisition, here re land purchases, etc.
- Feb. 15 : Wisconsin Warden Lange visited office briefly.
- Feb. 21 : Refuge Manager Nelson, Arrowwood Refuge, stopped to deliver property from Crab Orchard.
- Feb. 26 : Mr. Recroft here re land matters.
- Feb. 27 : C. Smith, Wisconsin Area Game Manager, in re access development. E. V. Vinton, Wisconsin District Forester, re fire control plans.
- Feb. 28 : Game Agents Sjostrom, McClure, and Morgan and Flyway Biologist Hawkins brought cars here for storage and sale, and discussed waterfowl situation.



- Mar. 4 : Mr. Regan, Central Office, visited office briefly.
- Mar. 10 : Wisconsin Warden Hiebing visited office briefly.
- Mar. 11 : Chemist from Research Laboratory, Madison, Wisconsin, here to check water supply at Trempealeau Refuge.
- Mar. 12 : Chauncey Weitz, Wisconsin Warden Supervisor, with Wardens Hammes and Lange, here re enforcement matters.
- March 17 : Messrs. Recroft and Smoke here re land acquisition.
- March 18 : Mr. C. F. Smith, Wisconsin Area Game Manager, and Mr. George Hartman, Area Biologist, in re access development.
- March 19 : Wisconsin Wardens Hammes and Kazmar stopped briefly.
- March 24 : Delegation from Bluff Lake Hunting Club re possibility of selling their land.
- March 24 : Biologists Anderson and Uppgren, re examination of Keithsburg, Carroll, and Green Island districts.
- March 25 : Wisconsin Warden Giesen in briefly.
- March 26 : Minnesota Warden Shager in briefly.
- April 1 : Mr. Gillett, Regional Refuge Supervisor, called and discussed refuge matters.
- April 2-3 : Flyway Biologist Stoudt stopped at office enroute to Aberdeen and discussed waterfowl problems, etc.
- April 3 : Biologists Anderson and Uppgren stopped at office for information from files re districts examined last week.
- April 4 : Mr. Harrison, of Regional Office refuge staff, here to survey property, etc.
- April 4 : Mr. Gillett, Regional Refuge Supervisor, stopped briefly enroute back to Minneapolis.

### La Crosse District

2/25: Wis. Con. Game Mgr. Smith in regards to public access.

3/14: Supt. Steele, Wis. War. Sup. Weitz, Mgrs. St. Ores and Burgess, Wis. War. Hammes, Lange, Kazmar, and Fiege.

Numerous visits from Wis. Wardens Lange, Hammes, Kazmar, Fiege, and Beier; Minnesota Wardens Shager and Breza.

A constant stream of local residents after information in regulations, etc.

### Lansing District

January 17: Ref. Mgr. Burgess, Prairie du Chien, Wis.  
Wisconsin Warden Fiege, De Soto, Wis.  
Iowa Warden Bloomquist.

March 21: Douglas Fiege, De Soto, Wis.  
Ref. Mgr. Lawson, La Crosse, Wis.  
Wis. Warden Dave Hammes, La Crosse, Wis.

### Prairie du Chien District

Twenty law enforcement visits were made by six Wisconsin Wardens during the past four months. Refuge Manager St. Ores visited the station ten times during the reporting period for cooperative patrols and posting activities. Refuge Biologist Green visited the station three times during the past four months while enroute to and from stations farther south. Refuge Superintendent Steele visited the station twice in February while enroute to and from the Iowa (Burlington) Law Enforcement Conference.

### Dubuque District

Game Agent Charles Horner, April 11.

### Savanna District

Mr. Ray C. Steele, Superintendent, Winona.  
Dr. W. E. Green, Biologist, Winona.  
Mr. George Winslow, Winona.  
Mr. Robert A. Uppgren, Biologist, Minneapolis.  
Mr. Harry G. Anderson, Biologist, Minneapolis.  
Various bird watching groups made numerous field trips on the refuge.



## Clinton District

The following persons visited the district during the period:

Mr. Ray C. Steele, Superintendent, Upper Mississippi Refuge.  
 Dr. W. E. Green, Biologist, Upper Mississippi Refuge.  
 Mr. Harry Anderson, Biologist, Fish & Wildlife Service.  
 Mr. Robert Uppgren, Biologist, Fish & Wildlife Service.

C. Refuge Participation:

## Winona District

Jan. 29 : Mr. Steele showed Service film "Behind the Flyways" at Winona High School.

Jan. 31-Feb.1: Mr. Steele attended Mississippi River Conservation Commission meeting at Madison, Wisconsin.

February 4 : Mr. Steele showed Service film "Behind the Flyways" at Winona Rod & Gun Club.

February 5 : Mr. Steele showed the Service film "Behind the Flyways" at a meeting of Winona sportsmen.

February 6-8 : Mr. Steele attended Law Enforcement Conference at Burlington, Iowa.

February 14 : Mr. Steele showed service film "Behind the Flyways" at local Isaac Walton League.

February 21 : Mr. Steele attended conference with Regional Office staff at Minneapolis re W/D lands.

March 7 : Mr. Steele visited Regional Office re survey of Lamey lands, etc.

March 12 : Dr. Green addressed Conservation Club at Winona Senior High School and showed Service film "Alaska Fur Seal".

March 19 : Mr. Steele showed Service film "Behind the Flyways" at a meeting of Wabasha, Minnesota, sportsmen.

April 9 : Mr. Steele attended conference at Regional Office re Gilead Club lease.

April 15 : Mr. Steele attended conference at St. Louis, Mo. re Gilead Club lease.

The district Refuge Manager attended several meetings of sportsmen's clubs in Trempealeau County.

## La Crosse District

- 1/8 : Attended La Crosse Rifle Club meeting at Genoa, Wis.
- 2/7 : Badger State Sportsmen's Club, Inc. meeting.
- 2/12 : Badger State Sportsmen's Club, Inc. directors and commercial fishermen's meeting.
- 2/12 : Gopher Rod & Gun Club meeting at La Crescent, Minn.
- 2/26 : Cub Scout Committee meeting.
- 3/6 : Badger State Sportsmen's Club, Inc. meeting.
- 3/6 : Cub Scout Committee meet.
- 3/11 : Gopher Rod and Gun Club.
- 3/13 : Badger State Sportsmen's Club, Inc. directors meeting.
- 3/24 : A group of Wisconsin and Minnesota Wardens meeting at La Crosse.

## Lansing District

- 2/7 : Iowa Spring Law Enforcement Conference at Burlington, Iowa.
- 3/10 : Garnaville Isaac Walton League.
- 3/20 : Took group of Explorer Scouts to La Crosse to swim.

Several hours were spent in discussion with local sportsmen in various business houses and on the street.

## Prairie du Chien District

The Refuge Manager gave talks on conservation to the Prairie du Chien Girl Scout organization, to the Garnaville Isaac Walton League, and to the Fennimore High School and acted as an official at the Prairie du Chien V.W.W. Fisheree. He attended the Iowa (Conservation) Law Enforcement Conference at Burlington, Iowa in early February.

## Dubuque District

Continued association with conservation groups in connection with their plans for recreational developments.



### Savanna District

The cracker barrel discussions continue as there is no local active sportsman's club in Savanna. However, the refuge manager attended meetings at neighboring towns of Lanark and Milledgeville, where very active groups exist, and was called upon for information on several occasions.

A law enforcement meeting was attended at Burlington, Iowa, in February, along with other refuge personnel.

### Clinton District

The refuge manager attended a Sportsmen's Club meeting at Morrison, Illinois, and talked with the group concerning a habitat restoration program. The group voted to purchase a planting machine for the spring planting season.

The refuge manager became a member of the Clinton Chapter of the Isaac Walton League and attended meetings bi-monthly. This group is interested in an anti-pollution program. Fifty wood duck boxes were put out by the club.

#### D. Hunting:

There was no open hunting season on the refuge during the past report period, and no legal hunting was done on the refuge.

#### E. Fishing:

### Winona District

#### Sport:

As usual, a large number of fishermen used the district, but the number decreased over last year. At the first part of the season some good catches of pan fish were made. During February a large number of fishermen who used this district shifted to the La Crosse district, where they seemed to have better success. Some good catches of wall-eye pike were taken from Alma and Whitman dams at times. On the whole, fishing was not as good during this period as it was last year. Several fishing contests were held, but as a rule very few fish were caught. The most success was had at one held just below the spillway in 5A dike.

#### Commercial:

Considerable gill netting is done during the winter months, as well as seining. The success was about average with that of last year. Several fair seine hauls were made of carp and buffalo. Most fishing operations are done in 5 and 5A pools.

## La Crosse District

Sport:

The sport of taking fish through the ice appears to be gaining in popularity in this area. A check of our weekly reports indicates that there were approximately 37,000 man days of sport fishing in this district. While no figures are available to compare with previous years, it is felt that this was an increase.

Species of fish being taken include large mouth bass, wall-eyed, sand, and northern pike, also crappies, bluegills, perch and bullheads. It is estimated that more bluegills were taken than all other species combined. They are the choice of the pan fishermen or worm-dunkers. Saugers or sand pike lead the list of the larger game fish, with the bass, wall-eyed pike and northerns following in that order.

Most of the pike were taken in the fast waters below the dams, while the pan fish and the bass were taken in such areas as the Black River along Brice's Prairie, the sand pits, Lawrence Lake, Blue Lake and at least a dozen other places. There were probably less pike taken the past season since the ice did not freeze up very close to the dams and it was necessary to use boats for fishing in these areas. Thus it is estimated that only about 15,000 pike were taken, while an estimated 200,000 pan fish were harvested.

Commercial:

The commercial fishermen operating in Pools 7 and 8 harvested approximately 650,000 lbs. of rough fish during the past period. This is a slight increase over the corresponding period of 1951, when about 500,000 lbs. were harvested. The above figures are based on the figures of the three fish markets operating in this territory, which are as follows: The Stoddard Market, 114,156 lbs.; Harrison's Market, 234,614 lbs.; Epstein's Market, 304,240 lbs. However, a breakdown of the above totals is available from only the Stoddard Market and it is as follows: carp - 61,940; buffalo - 38,688; sheephead - 5310; catfish - 4692; miscellaneous - 3562 lbs. At the time this catch was made there were about 40 Wisconsin and 20 Minnesota licensed commercial operators working in this territory.

## Lansing District

Sport:

An estimated 4500 visitor days of fishing produced excellent catches of pan fish through the ice. A few pike were taken



below the dams in the open water. Fishermen risked going through the ice long after the refuge manager stopped going on the ice.

The current high water has ended sport fishing temporarily.

Commercial:

Commercial fishing conditions have been adverse all this period because of bad ice and the now high water. A few good seine hauls under the ice this winter resulted in some good catches of rough fish.

Prairie du Chien District

Sport:

An estimated 5,000 ice-fishermen days were spent on the refuge during the past 4 months.

About 1,000 fishermen participated in the V.F.W. Ice-fisheree on Gremore Lake on February 14 and 24. Good fishing was encountered, with the largest fish taken being a 5 lb. 3 oz. bass and an 11 lb. northern pike.

Wall-eye and sand pike fishing in the open water and through the ice below Dam #9 has again been very popular during the past period.

Ice fishing for crappies, bluegills, bass, and pickerel has also been quite popular on Gremore Lake, Waukon Junction Slough, Dick's Bay, and Fleming's Bay.

Commercial:

Commercial fishing during this reporting period is almost entirely gill netting and has generally been poor. During April fishing picked up and commercial outfits in operation increased from 12 to 25 outfits in Pool #10.

Dubuque District

Sport:

Quite heavy pressure during January and early February at both the Dubuque and Guttenberg dams and in the spring shore section south of Bertram Lake. Fishing at the dams was for wall-eyed pike and for bluegills near the springs. The thawing weather during February brought fishing for bluegills at an end because of the ice opening up at those points, but the fishing at the dams has continued through the period. Some excellent takes were made at all locations and some near-record pike were taken at Dubuque.

Commercial:

Heavy pressure was maintained throughout the period and some very good hauls were made of rough fish, particularly in the upper parts of the pool in the 12 Mile Slough section. No phenomenal hauls were made, but good hauls were made consistently.

## Savanna District

Sport:

Sport fishing has been discussed under recreational uses to some extent. High flood waters predict no improvement in the main river, but bullhead fishing should continue good in Spring Lake.

Commercial:

Quite a considerable amount of commercial fishing was done on the refuge this period, as usual. The refuge manager attended seine hauls through the ice on a couple of occasions, in which hundreds of pounds of carp and buffalo were harvested.

## Clinton District

Sport:

Sport fishing during this period was unusually popular and successful. This may be attributed to the heavy ice which formed below the navigation dams and permitted fishermen to reach the favorable spots. Safe ice conditions prevailed for only two weeks, but a remarkable number of wall-eyed pike and sauger were taken during this time. Several eight to ten pounders were landed and one lucky fellow caught five wall-eyes, which weighed 28 pounds. A majority of the fish taken were in the 2 lb. class.

The pike fishing slacked off after the ice break-up and the local anglers lost interest until the middle of March, when mild weather brought them out for a try at bullheads. The bullhead fishing was beginning to pick up during March, when high water seemed to stop most of the sportsmen.

Commercial:

Some of the more energetic commercial fishermen in the area usually look forward to winter fishing as a means of making some good catches when the price of fish is at its maximum. However, good ice conditions did not prevail long enough for them to capitalize this year. Small hauls of 500 to 1000 pounds were made but could not be classified as too profitable.



At this writing all of the commercial fishermen are ready to fish the regular spring rise. A report of the number of pounds taken in the district will accompany the next period report.

F. Violations:

Winona District

No apprehensions were made during the period. Some shady cases were had but did not warrant prosecution. There were some instances of minors shooting at or otherwise molesting muskrats forced to the rim of the refuge by high water. These were given a good talking to, but because of their ages, no prosecutions were attempted.

La Crosse District

Wisconsin:

One youth apprehended shooting muskrats was turned over to the probation department.

Two youths apprehended shooting jacksnipe were not prosecuted due to age, being only 12 and 13 years of age.

One youth apprehended with a .22 cal. rifle on the refuge after the season for the taking of migratory waterfowl was not prosecuted due to age.

One individual apprehended trapping during closed season was fined \$25.00 plus \$5.89 costs in State Court.

Minnesota:

One individual apprehended dipping fish was fined \$10.00 plus \$3.05 costs in State Court.

Two individuals apprehended taking fish by illegal methods. Cases are pending in State Court.

There has again been an excessive amount of the shooting of muskrats and beaver during the period of extreme high water, but we have been unfortunate in making apprehensions. Five operators so engaged were able to get away either by the use of more speedy equipment or by disposing of all evidence. It is unfortunate that the time spent issuing beaver permits and writing reports could not have been spent on patrol, with the hope of "knocking off" a few more of these dirty chisellers.

## Lansing District

## Iowa:

The apprehension for illegal trapping of muskrats pending in last report resulted in a fine of \$10.00 in State Court.

## Wisconsin:

One case for trapping within 30 feet of a beaver dam is pending.

## Minnesota:

None.

## Prairie du Chien District

## Wisconsin:

One muskrat trapper was apprehended for trapping without State tags, and the case lost in State justice court.

Two beaver trappers were apprehended for neglecting to operate their trap lines and having improperly tagged traps. Their cases are pending in Federal Court.

## Iowa:

There was no apprehension made in Iowa during the reporting period.

## Dubuque District

None found or reported during the period.

## Savanna District

Jerome Ritenour and Melvin Roberts, both of Savanna, Illinois, were apprehended April 12 attempting to take coots in closed season with .22 rifles. Both plead guilty in State Court the same day before Judge E. E. Engleking and were each fined \$25.00 plus \$4.00 costs.

## Clinton District

No violations were noted during this period.



### Summary

Three apprehensions for fishing violations were made in cooperation with respective State Wardens. One case has been settled, with a fine and costs of \$13.05 in State Court. The other two are still pending.

Seven trapping violators were apprehended this period. One case was lost in State Court. Two were closed, with fines and costs of \$40.89. Three are still pending. One was not prosecuted due to age.

Two apprehensions for coot shooting were made. These resulted in fines and costs of \$58.00 in State Court.

Three apprehensions were made for shooting snipe, but the three were minors and were not prosecuted because of age.

### VII. OTHER ITEMS

#### A. Items of Interest:

Refuge Manager Carl E. Pospichal returned to duty from military furlough on January 21, 1952 and resumed his station at Savanna, Illinois.

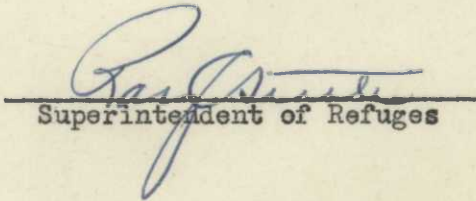
Refuge Manager Carter, formerly at the Savanna station, moved to the Clinton, Iowa station on February 4, 1952 to replace Refuge Manager St. Ores, who is filling Mr. Frerichs' position at Lansing, Iowa.

The floating boathouse at Bellevue, Iowa, has been sitting high and dry for several years. This winter new barrels were placed under it, and with high water this spring it was floated to Sabula, Iowa, where it will again see duty as a bona fide floating type boathouse. It will be anchored in the vicinity of the Iowa Fisheries Station, where it will be available for the use of both Pospichal of Savanna, Illinois, and Carter of Clinton, Iowa.

#### B. Photographs:

See attached pages.

May 7 , 1952.

  
Superintendent of Refuges

  
Acting Regional Director

MAY 9 1952



Fishing Boat Concentration  
Foot of Lake Pepin  
September, 1951





Batchtown Closed Area  
Showing effects of drawdown at  
at opening of waterfowl season  
October 27, 1951



U. S. Coast Guard Cutter "Fern"  
Breaking Ice on Lake Pepin  
March 22, 1952







Locks awash at Lock & Dam #4  
Alma, Wisconsin  
April 12, 1952



April 12, 1952  
Locks at Dam #4, Alma, Wisconsin  
Locks awash from high water







Nelson-Wabasha Road Under Water April 12, 1952





Nelson-Wabasha Road Under Water April 12, 1952







Muskrats forced to margins by high water  
Paul's Pond, Pool 5  
April 12, 1952



## WATERFOWL

Refuge Upper MississippiMonths of Januaryto April19 52

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u>									
Whistling swan	1	3/13	400	4/4	still here				600
II. <u>Geese:</u>									
Canada goose	100	2/12	7,000	3/12	10	4/18			10,000
Cackling goose									
Brant									
White-fronted goose									
Snow goose	None								
Blue goose	30	3/14	30	3/14	3	4/1			100
Hutchins goose	17	3/12	75	3/14	75	3/14			400
III. <u>Ducks:</u>									
Mallard	1	1/31	55,000	3/31	still here				150,000
Black duck	50	3/11	3,000	4/1	still here				10,000
Gadwall	15	3/25	5,000	4/17	still here				6,000
Baldpate	2	3/12	8,000	4/1	still here				20,000
Pintail	50	3/11	10,000	3/31	still here				20,000
Green-winged teal	14	3/14	500	4/10	still here				1,000
Blue-winged teal	5	3/29	1,000	4/20	still here				1,500
Cinnamon teal									
Shoveller	2	3/25	400	3/31	still here				1,000
Wood duck	15	3/14	2,000	4/10	still here				7,000
Redhead	2	3/7	6,000	4/16	still here				15,000
Ring-necked duck	100	3/21	6,000	4/17	still here				20,000
Canvas-back	4	2/12	1,500	4/8	still here				8,400
Scaup	30	3/7	50,000	4/20	still here				100,000
Golden-eye	Winter resident		2,000	4/4	still here				9,000
Buffle-head	2	3/12	150	4/4	still here				500
Ruddy duck	1	3/7	100	4/1	still here				200
IV. <u>Coot:</u>	4	3/21	30,000	4/17	still here				40,000



SUMMARIES

Dates waterfowl counts made \_\_\_\_\_

Percent of waterfowl area covered \_\_\_\_\_

Dates brood counts made \_\_\_\_\_

Percent of area covered in brood counts \_\_\_\_\_

Total production:

Geese \_\_\_\_\_

Ducks \_\_\_\_\_

Coots \_\_\_\_\_

Total waterfowl usage during period 420,700

Peak waterfowl numbers 180,000

Areas used by concentrations \_\_\_\_\_

well scattered throughout Refuge

Principal nesting areas this season \_\_\_\_\_

Reported by Ray C. Steele

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 the data are necessarily based on an analysis of the rest of the form.



3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)Refuge Upper MississippiMonths of January to April 194 52

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Double-crested Cormorant	20	2-7	3000	4-26	Summer	resident				5,000
Great Blue Heron	1	3-18	1000	4-26	Summer	resident				2,000
Pied-billed Grebe	2	3-21	600	4-26	Summer	resident				1,000
American Egret	1	4-9	15	4-26	Summer	resident				15
American Bittern	1	4-19	200	4-26	Summer	resident				200
Little Green Heron	1	4-27	100	4-26	Summer	resident				100
II. <u>Shorebirds, Gulls and Terns:</u>										
Killdeer	8	3-10			Summer	resident				5,000
Wilson's Snipe	2	3-12	5000	4-13	Summer	resident				4,000
Solitary Sandpiper	1	4-20	200	4-26	Summer	resident				200
Spotted Sandpiper	1	4-28	150	4-26	Summer	resident				200
Yellow-legs	9	4-9	600	4-19	Summer	resident				1000
Upland Plover	7	4-9	100	4-26	Summer	resident				100
Herring Gull	Resident				Summer	resident				30,000
Common Tern	6	4-8	20	4-20	Summer	resident				25
Rig-billed Gull	Resident				Summer	resident				25,000

(over)



(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons:					
Mourning dove	Winter resident	150	4-14	Still here	500
White-winged dove					
IV. Predaceous Birds:					
Golden eagle	1	3-28	1	3-28	1
Duck hawk	1	3-27	10	4-30	Still here
Horned owl					
Magpie					
Raven					
Crow	Resident	4000	4-20	Still here	28,000
Osprey	1	4-10	50	4-30	50
Bald Eagle	Resident	100	3-17		160
Marsh Hawk	Resident				500
Barred Owl	1	2-15			100
Red-tail Hawk	2	2-25			200
Red-shouldered Hawk	1	3-17			50
Reported by.....					

#### 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.



## UPLAND GAME BIRDS

1613

Months of January to April, 1945

(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.
Ring-neck pheasant	5,000								133	
Bob-white quail	5,000								163	
Ruffed grouse	1,000								70	
Note: Flood waters started rising the first week in April and most upland game was forced from the refuge. They had not returned by the end of this report period.										



Form NR-4  
(June 1945)

SMALL MAMMALS

Refuge Upper Mississippi

Year ending April 30, 1952

(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				42000										19700
Mink				700										781
Beaver				778*										5065
Otter														100
*Includes 43 taken during Iowa Season; 7 taken during Illinois Season; 528 taken during Wisconsin Season; and an estimated 200 during Minnesota season, from which returns are not yet complete.														
* List removals by Predator Animal Hunter														

REMARKS:

See Special Reports on Fur Harvests submitted for the Muskrat-Mink Season, and Beaver Seasons in Iowa, Illinois, Wisconsin, and Minnesota.

Reported by

Ray C. Steele



# 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.