

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF BIOLOGICAL SURVEY

OFFICE OF REGIONAL DIRECTOR

3174 PLANKINTON BUILDING

MILWAUKEE, WISCONSIN

ADDRESS REPLY TO  
REGIONAL DIRECTOR  
AND REFER TO

REGION No. 6

MICHIGAN  
WISCONSIN  
ILLINOIS  
INDIANA  
OHIO  
KENTUCKY  
WEST VIRGINIA

May 19, 1939

Chief, Bureau of Biological Survey

Washington, D. C.

Dear Sir:

Attached you will find a quarterly report on the Necedah  
Migratory Waterfowl Refuge covering the period February 1 to  
April 30, 1939.

We have no particular comment to make regarding this report. We are giving the question of grazing, hay permits, road closing and similar matters careful study but are not yet in a position to make definite recommendations as to specific regulations we desire for this unit. Mr. Kreager plans to spend most of next week on the area studying the situation, after which we will be in a better position to make the necessary recommendations.

Very truly yours,

*Daniel H. Janzen*

D. H. Janzen,  
Regional Director

Enclosure:

Necedah Quarterly Report, 2/1/39 to 4/30/39

*JWC  
BWM*



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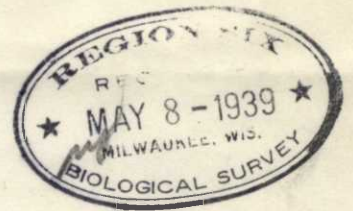




Necedah Migratory Waterfowl Refuge

Quarterly Report

February 1, 1939 -- April 30, 1939



I General Weather Conditions

Snow depth at no time during the month of February exceeded six inches, and from February 20th until the present date the ground has been practically bare.

The entire month of March was quite warm, the average temperature being well above freezing during the day, but usually dropping to 25°- 30° above zero over night.

A heavy rain (2 inches) during the week of March 20 to March 27 created near flood conditions in the Yellow River, and ditches were running almost to capacity. A sudden cold snap, however, allowed excess water to get away without additional water from melting snow to the north of the Refuge.

Emergency spillways were not in sound enough condition to allow passage of flood waters. Sufficient stop-logs were pulled to take care of excess water, and were gradually replaced as the head receded.

The month of April, on the other hand has been unusually cold- the growing season has been set back perhaps two to three weeks; pools froze over to a slight extent during short periods, and migration was noticeably effected.

No fires have occurred in the Refuge area to date. The writer accompanied the State Ranger on a small brush fire near the Refuge boundaries- no damage was done on Refuge property. This fire occurred on April 25.

The fire situation in surrounding areas has not been at all serious although conditions were hazardous during the latter part of April, due to dry vegetation, high winds and comparatively low humidity.

II Wildlife

A. Waterfowl

The following table summarizes observations on waterfowl through this period. Regular observations were commenced March 15th and continued on to May 1st. The writer, and Soil Conservation Service personnel assigned to special work on migration observations, were able to make daily trips to all of the flowages and complete records were kept by species, number and locations.



Species	Actual Count	Est. Total Migration	First Appearance	Peak Migration	New Records
Common Mallard ✓	3,883	5,000	Mar. 20	April 21	.
Black Duck ✓	49	300	Apr. 1	Apr. 7-11	
Gadwall ✓	2	50	Mar. 29	Mar. 29	
Baldpate ✓	2	50	Apr. 11	Apr. 11	x
Green-Wing Teal ✓	75	200	Apr. 7	Apr. 8 & Apr. 21	
Blue-Wing Teal ✓	290	500	Apr. 5	Apr. 19-25	
Shoveller ✓	6	70	Apr. 13	Apr. 13	
Pintail ✓	306	1,000	Mar. 29	Apr. 5-6 & Apr. 21	
Wood Duck ✓	7	50	Apr. 13	Apr. 19	
Red-Head ✓	0	0	--	--	
Canvas Back ✓	0	0	--	--	
Scaup ✓	415	900	Apr. 1	Apr. 7-10 & Apr. 25	
Ring-Neck ✓	890	2,000	Apr. 5	Apr. 7-12 & Apr. 19-25	
Golden-Eye ✓	69	200	Mar. 27	Apr. 10-13	x
Buffle Head ✓	17	100	Apr. 1	Apr. 7-12	x
Ruddy Duck ✓	6	70	Apr. 13	Apr. 21	
Snow Goose ✓	2	20	Apr. 11	Apr. 11-13	
Blue Goose ✓	2	20	Apr. 11	Apr. 11-13	
Canada Goose ✓	32	400	Apr. 11	Apr. 11-13	
Coot ✓	40	200	Apr. 7	Apr. 10	
Pied-billed Grebe ✓	5	40	Apr. 5	Apr. 20	
American Merganser ✓	107	220	Mar. 26	Mar. 26 & Apr. 2	x
Red-breasted Merganser ✓	15	100	Apr. 7	Apr. 7-Apr. 12	x
Hooded Merganser ✓	23	120	Mar. 26	Mar. 26	x
Common Loon ✓	7	40	Apr. 19	Apr. 19-21	
Double Crested Cormorant ✓	28	60	Apr. 25	Apr. 25-28	x
Herring Gull ✓	3	20	Mar. 14	Mar. 20-26	
Ring-billed Gull ✓	9	60	Apr. 25	Apr. 25	
Jack Snipe ✓ <i>Wilson's</i>	11	70	Mar. 20	?	
Lesser Yellow-Legs ✓	20	100	?	?	
American Bittern ✓	16	100	Apr. 15	Apr. 15-25	
Great Blue Heron ✓	31	50	Mar. 20	Mar. 25-Apr. 10	
TOTAL	6,358	12,110			

*Carded  
BWM*



The figures under "Actual Count" represent total counts on species through the period March 15th to May 1st. These counts were made daily (excepting a few days when other duties prevented complete coverage of pools). They are in fact actual counts of what was observed but naturally every acre of flowage could not be covered, and the figures were totaled simply for obtaining some data on which to base the estimated figures in the column "Estimated Total Migration". These have been further broken down into migration by flowage areas to complete Refuge records.

Without actual examination of stomach contents it is difficult to judge food preferences or habits.

✓  
Food Habits  
over  
(Examinations of several fresh droppings from where large flocks of mallards were flushed, revealed that a large portion of the food consisted of smartweed (*P. lapathifolium*).

(Mallards and black ducks showed decided preference to old millet, smartweed and sedge areas. They were also flushed (in smaller numbers) from ditches wherein aquatic animal life evidently supplied food items.

(Scaup and Ring-neck were observed chiefly in the deeper water, and the writer believes that last year's celery beds, and aquatic animal life was the chief attraction.) Frequent observations of these species in the flooded aspen types indicated that these ducks might also have been attracted by the presence of duck meats (*Lemna* spp.) which plant had spread widely from 1938 plantings.)

(Blue-wing teal also were flushed from areas wherein the *Lemna* had commenced growth.)

(Pintails were often flushed along with mallards, which would again indicate possibilities of this species feeding on the same items-smartweed, sedge, and old millet.

The presence of (all three species of mergansers in the same general localities would indicate the same general feeding preferences and habits- namely aquatic animal life, dace, shiners, Johnny darters, etc.)

The two Ryneerson flowages supported approximately 90% of the total migration for the entire area.

Flowage No. 19 was the next heaviest used water area.

Below is a table indicating usage of the smaller flowages.



Flowage	Common Mallard	Black Duck	Blue-wing Teal	Green wing Teal	Ring-Neck	Scaup	Buffle Head	Coot	Pied B. Grebe	Pin-Tail	Ruddy
No. 10	33	-	-	-	-	-	-	-	-	20	-
No. 13	2	-	2	-	-	-	-	-	-	-	-
No. 18	17	-	5	2	-	-	-	-	-	-	-
No. 19	138	2	4	-	59	18	4	1	1	1	1
No. 27	4	-	-	-	-	-	-	-	-	-	-
No. 28	-	-	-	-	-	-	-	-	-	-	-
Flumeway	2	-	-	-	-	-	-	-	-	-	-

2 wood ducks also seen in flowage No. 19.

This should illustrate quite clearly the comparative value of the flowages.

No. 10 contains not more than 5-10 acres of water and no aquatic foods other than sedge.

No. 13 is a very shallow flowage, with flooded stands of dense aspen, willow, etc.

No. 18, contains excellent possibilities, but the water area and food types are very limited at the present.

No. 19 contains the best habitat- good cover and fairly large areas of open water, but food types are limited- cattails taken over much of flowage.

No. 27- almost a solid stand of cattail.

No. 28- shallow, contains dense stand of flooded aspen, willow, etc.

Flumeway- about 5 acres of dense marsh plants with very limited patches of open water, and no desirable foods.

The geese never were observed in the act of grazing, but their preference to one single bay during their period of rest on Ryneerson, seemed to indicate that the adjacent upland pasture areas were the food source.



The remaining species as listed were not observed frequently enough to make any definite statements as to probable food habits.

Mallards, black ducks, pintails and both species of teal ran fairly true to characteristic habitat preference and were invariably flushed from the marsh fringe and pothole types occurring in the north extremities of the flowages. Blue-wing teal were also flushed quite regularly from the numerous small coves and bays where duck meats were thriving.

Scaup and Ring-neck seemed to prefer either the deeper more open water, or shallow areas where the shore lines were free of brush and timber. Flooded aspen (2-4 ft.) seemed to be fairly attractive to these species, the birds frequently being seen along the peripheries, but not so often within the stand proper. (Note: a detailed report on migration will be prepared as a separate paper).

Predation. Up to April 30th two mallard kills were observed.

One of these kills was definitely the work of a horned owl, and the other looked very much like hawk or owl, although so little of the body remained it was difficult to determine accurately.

Sickness. No evidence.

Parasites. No evidence.

#### B. Upland Game Birds

1. Important species of upland game remain in about the same number as the preceding period:

*Carved  
Broom*

Ruffed grouse-	370	Figures based on strip counts
Sharptail grouse-	1370	and flushing distances, on
Pinnated grouse-	330	about 35 miles of line.
Ring-neck pheasant-	220	
Bob-white quail-	60	Estimate based on count of
		only covies seen.

The main exception has been the occasional observation of Sandhill Cranes; observations of this species however, have all been of a transient nature. As yet there is no indication of nesting within the Refuge boundaries.

Ruffed grouse have not yet begun to move out in to deciduous cover. The abnormally late spring has retarded growth of leaves and vegetation and as a result little more protection is afforded in the deciduous stands than was true during the winter.



Drumming has been heard at various times, and in practically all sections of the Refuge. With the grouse on the upswing of the cycle, the Refuge may be a big factor in a faster increase. Nesting has very likely begun.

Sharptail booming was first heard in the last week of February. Regular dancing on the booming grounds commenced approximately March 15th, several grounds in regular use have been located and observed on various occasions.

Large flocks are no longer seen and nesting is evidently in progress as activity on the dancing grounds has ceased.

Arrangements have been made with Mr. Fred Hamerstrom, of the University of Wisconsin, to co-operate in nesting studies on the Refuge areas, and it is hoped that data will be obtained for future management purposes.

Prairie Chicken. This species still exists in the same ratio as reported for the preceding quarter- about one chicken to ten sharptail grouse. Local opinion is that the chicken increases during the summer and late fall, and then leaves this region for the better farming districts- yet to be proven.

(Shelters and feeding stations were not maintained this past quarter, as natural foods such as ragweed, smartweed, acorns, and various types of buds and catkins were readily available.)

Ring-neck pheasant. This species has been observed occasionally during this period, and is evidently holding its own. If the pheasant can adopt itself to the use of acorns as a food staple, it might prove a serious food competitor to the detriment of the sharptail grouse and prairie chicken. Several pheasants were observed, by the writer, scratching through several inches of snow for fallen acorns, during the past winter.

C. Predator and rodent control.

1. Three snapping turtles have been caught and disposed of during this quarter. All three turtles were caught during the period of April 24-30th.

D. Fur take by refuge personnel.

No fur taken.

E. Fur take by other trappers.

None taken to writer's knowledge.



F. Other animals.

Species	Status of Population	Remarks
Deer ✓	Increasing	Deer were very scarce following hunting season, but are coming back into area.
Beaver ✓	Same	Some signs of activity.
Muskrat ✓	Same	Observed frequently since break-up.
Coyote ✓	Decreasing	No signs since February.
Red Fox ✓	Same	No signs observed this period.
Gray Fox ✓	Same	No signs observed this period.
Raccoon ✓	Same	No signs observed this period.
Skunk ✓	Same	Present, but not very active as yet.
Mink ✓	Same	Signs fairly common.
Weasel ✓	Same	Signs quite numerous.
Badger ✓	Same	Have observed several new holes.
Marsh Hawk	Increasing	This species very numerous- have been <i>feeding a great deal on frogs.</i>
Other Hawks	---	One Cooper's hawk observed during March.
Great Horned Owls ✓	Same	Two mallard ducks were perhaps killed by this predator- far from common.
Other Owls	---	No observations.
Crows ✓	Increasing	Crows increased very much- may need control work- some nesting also.
Snapping Turtles ✓	Increasing	This predator is very common and may prove a serious predator.
Painted Turtle	---	Common but harmless.
Snakes	---	No snakes of any kind observed.

*checked  
Bum*



G. Bird banding operations.

Following is a summary of banding operations undertaken by Soil Conservation Service personnel during this quarter:

Pheasants-	2
Pheasant retake-	2- 1936; 1- 1939
Sharptail-	10
Sharptail retake-	14- 1937; 12- 1938; 26- 1939.
Pinnate-	1
Pinnate retake-	1- 1939

All above birds were trapped during the month of February. Trapping conditions during March were very poor, as there was little snow on the ground, and heavy baiting failed to induce the birds into entering the traps. Trapping was stopped entirely on March 15th.

III Refuge Development and Maintenance.

A. Physical developments.

Following is the report of the Project Engineer, Stanley X. Kriz, on construction work performed by Soil Conservation Service personnel on the Refuge area:

"Job No. 210 - Biological Survey Service Building

This building has shown considerable progress. The reason for so much accomplishment is that the major part of the crew was concentrated on this building, while the residence is being held up pending delivery of material. The basement walls for the office section were poured this period. In addition, the floor joists were placed, the forms for the steel wall of the garage were placed, the basement walls were backfilled, and the brick partition wall was bricked up.

Construction Units:

24  $\frac{2}{3}$  cu. yds. concrete poured in basement walls.  
14 ft. x 7 ft. brick wall was laid.



Units initiated to date..... 1.0  
Units completed to date..... 0.25  
Units completed this period..... 0.20  
Percent of physical completion..... 25%

Job No. 212 - Biological Survey Residence

As previously stated in this report, work on this structure was limited to laying up the chimney, and pouring concrete for the areaways and basement steps. The outside sheathing and roof boards are placed and the inside partition walls are constructed. Delivery of material has delayed work to some extent.

Units initiated to date..... 1.0  
Units completed to date..... 0.29  
Units completed this period..... 0.03  
Percent of physical completion..... 29%

Job No. 221 - Biological Survey Equipment Shed

This job was initiated on the last day of our work period and the labor was used in hauling sand and gravel to the site, and erecting a tool shed and shelter shanty. No actual work was done on the shed.

Units initiated to date..... 1  
Units completed to date..... 0  
Units completed this period..... 0  
Percent of physical completion..... 0

Job No. 236 - Levees, Dikes and Jetties

General - Dike Patrol

This period Mr. A. Fowler has been appointed as our dam and dike patrolman. His duties are to check dikes as to condition and dams as to the flow. His judgment in regard to placing or pulling logs has been relied on for making decisions. His knowledge of the drainage area and his access to daily observations made by the cooperative observer of the U. S. Dept. of Agriculture Weather Bureau, are valuable to our organization.

Through his reports we find that small repairs are necessary on some of our dikes.



236-4 - East Dike of Rynearson Flowage

Work continued this period on raising the dike to a 3 ft. freeboard. The fill was completed up to station 22+00 above the Becker road. This work was all a 6 ft. top width. There are 3300 ft. more to go of a 4 ft. top width. The dike south of the Becker road is completed.

Construction Units:

1025 cu. yds. of fill placed.  
625 cu. yds. of sod placed on dike.

Stanley X. Kriz  
Jr. Engineer  
LD-WI-5"

At this writing the status of the Rynearson No. 2 spillway is as follows: The downstream row of Wakefield sheeting has been placed (112 linear feet); 17 cubic yards of excavation has been made, and 5 logs placed for trash racks. This spillway will need additional large rock before it can be considered satisfactory.

The open spillway on Rynearson No. 1 is completed but will also need additional large rock to put the structure in good safe condition.

Mr. Taylor's recommendations made during an inspection trip in the fall of 1938, have been followed fairly well. The use of larger rock has been delayed due to impassable condition of roads for heavy traffic.

B. Plantings.

1. Aquatic and marsh plants.

<u>Species</u>	<u>Location</u>	<u>Amount</u>	<u>Results</u>
Bushy Pondweed ✓	Rynearson Flowage	6 acres	?

This aquatic was planted April 20, and 21, by Soil Conservation Service personnel under the writer's supervision. The seed was that stock received during the fall of 1938 and stored dry over winter. The entire plants were submerged in a ditch for 48 hours, mixed in clay and planted in about 3 feet of water. The site planted had been plowed prior to the flooding of the flowage and a good germination and growth is expected.



Further planting of waterfowl foods is in progress at this writing.

2. Cultivated crops. No grain crops were planted during this year. Field preparation is under way at the present time for planting of corn and buckwheat.

3. Trees and shrubs. No plantings contemplated for this season.

4. Grasses. No plantings accomplished or contemplated. Barren dikes are being planted to rye and millet at the present time.

C. Collection. Nothing accomplished.

D. Distribution of seed and nursery stock.

1. Receipts.

Species	Amount	Where Secured	Delivery
Sago Pondweed	202 lbs. ✓	Bear River Migratory Bird Refuge	Freight
Hardstem Bulrush	150 lbs. ✓	Bismark, North Dakota Arrowood Migratory	Freight
Wild Millet	366 lbs. ✓	Waterfowl Refuge	Freight
Smartweed	300 lbs. ✓	Swan Lake Wildlife Refuge	Freight
TOTAL	1018 lbs.		

This seed is being treated and planted according to recent planting instructions from the Washington Office. Planting is being done by Soil Conservation Service labor and supervised by the writer.

2. Transfer to other places. Nothing.

#### IV Public Relations

A. Recreational uses.

1. No public camp facilities.

2. Fishing prohibited by State law until May 15.

3. Hunting prohibited by State law.

4. Visitors. Visitors on the Refuge area are as follows:



Class of Visitors	No.	Residence or Office	Nature of Visit	Total Length of stay
Soil Conservation Service Officials	8	Milwaukee, Wisconsin	Inspection	60 hours
U. S. Biological Survey Officials	4	Milwaukee, St. Paul, Des Moines	Inspection Co-operation	22 "
Conservation Dept. Officials	3	Necedah, New Lisbon, Friendship	Co-operation	5 "
Local Residents	30	Necedah	Sightseeing Information	90 "
State Residents	12	Nearby Counties	Sightseeing Information	30 "
TOTAL	57			207 hours

#### B. Refuge violations.

Livestock trespass has occurred regularly since this area was first under development. Warnings are wasted and the owners do not attempt to restrict the wanderings of their cattle, horses, and sheep in any sense of the word.

In as much as the Refuge boundaries are neither posted, or fenced the livestock owner has a pretty sound argument as to his innocence of any violation. Owners have been contacted in an attempt to stop trespass and a decrease is expected.

There has been no theft of timber or building materials as far as the writer is aware.

The local warden spent several nights near Rynearson dam No. 2 to apprehend reported violators of State fishing laws.

No waterfowl shooting has occurred to the writer's knowledge.

A large number of deer hides were found recently near Mather, Wisconsin (about 4 miles west of the Refuge boundaries). The local warden spent several days on this case and has a possible "lead" that may bring about several convictions. It is not believed any of the deer were shot on the Refuge area.

#### V Economic Uses of Refuge

##### A. Grazing

1. Grazing within Refuge boundaries up-to-date has been in the form of stray livestock, whose owners make no attempt at confining the wanderings of their herds. Several grazing permits were issued by the Soil Conservation Service during 1938, and one individual has applied for a permit during this period.



Although there are several areas that would permit satisfactory pasturage, the writer believes that very little grazing under permit be granted until sufficient personnel for supervision becomes available. It would also be advisable to defer such permits until the boundaries are properly posted and fenced.

- B. Sale of hay by permit is a possibility, but will be quite limited. No sales have been made to-date, pending approval by the Milwaukee and Washington Offices on the policy to be followed for this area.

The Soil Conservation Service sold hay at \$.50 per ton during 1938, and one individual has already requested a similar contract on areas in the Refuge. It is believed that limited sales can be made without detriment to the general management program.

- C. Timber removal. Nothing.
- D. Share cropping. Nothing accomplished or contemplated.

#### VI Other Items

Road system. The writer is now engaged in determining the status of town and county roads in order to make definite plans as to fencing, posting, and gate locations.

Acquisition. Private tracts of land within proposed Refuge boundaries present a problem in posting and fencing work. All private tracts will be excluded in these jobs. The Soil Conservation Service recently informed the writer that they were planning on purchasing these tracts if sufficient funds became available.

Blocking out the area will be almost a necessity if proper and efficient management is to be possible in the future. Until such a process is completed, all private tracts will be excluded.

Drainage problems. The existing authority of the local drainage commissioners over control of dams and water levels in the Refuge is still unsettled. The Biological Survey must retain complete control, or at least sufficient authority over control structures to maintain the flowage at a level that will provide optimum habitat for waterfowl.

Boundary survey. Mr. Conrardy and crew are now at work on this job and are almost finished with preliminary work on records, status, etc. Field work is under way and will progress rapidly after crews are broken in and the men become oriented.



Mr. Conrardy has informed the writer that posting and fencing may be begun at any time, where roads act as Refuge boundaries. Boundary lines occurring in heavier timbered or brushy country are being cut clearly enough so that future fencing crews will have no difficulty in locating lines, corners, etc.

Labor-patrolman. The writer has recently furnished information concerning applicants for the job, and is in hopes that an appointment can be made in the near future.

Proper supervision is difficult considering the jobs now in progress, or to be initiated in the near future. Supervision of these jobs along with patrol of the Refuge area for trespass, fire, and general observations, plus an increasing amount of office work and public relations, make it difficult to perform efficient work on all.

N. Y. A. One N. Y. A. clerk, and one N. Y. A. draftsman have been assigned to the Necedah Refuge. There are good possibilities of obtaining more help in the future. An average of 39 working hours per month, per man, limit accomplishments, but with additional experience these workers will prove of considerable help.

Research. Fifty stomachs of waterfowl shot on Ryneerson flowage were recently given to the writer by a former employee of the Soil Conservation Service. These stomachs will be sent to the Washington Office (Food Habits) and the data obtained should be of value in determining future planting practices.

Three duck traps have been constructed and placed in the flowages in preparation for summer banding work.

Additional N. Y. A. employees will be used for constructing more duck, turtle, and crow traps, and also construction and placing of nesting boxes.

Public Relations. Opposition to the Refuge has gone beyond the confines of Juneau County. In the past period the writer has spoken at the following meetings:

<u>Location</u>	<u>Sponsor</u>	<u>Attendance</u>	<u>Date</u>
Union Center, Wis.	Monroe Co. Sportsmen	30	March 21
Mauston, Wisconsin	Kiwaniis Club	20	April 18
Necedah, Wisconsin	American Legion	20	April 25



Opposition is still strong, but did decrease somewhat upon announcement of opening certain areas to upland game hunting. The local American Legion are going to officially endorse the establishment of the Refuge, and local business men (majority) will follow suit in the near future.

During Wildlife Conservation Week, over 40 students of the Necedah Public School took part in a contest which included essay writing on wildlife topics, making of bird and mammal lists, and poster work for primary grades.

Topics were assigned and essays judged by the writer, and the school principal, Mr. Armand Ketterer, assisted in many ways in obtaining a large field of contestants. Prize winning essays were printed in the local paper.

Cover mapping. The accompanying map shows the progress of the cover mapping project to-date.

The entire Ryneerson flowage was mapped during this period, by the gridiron system. Strip lines were run 5 chains apart, thus enabling mappers to do an accurate job on every irregularity in the shore line, and include all of the small islands and potholes. Overlay maps will be made up during the summer to show cover types, aquatic vegetation, nest locations, etc. Such large scale maps (8" to the mile) are a necessity if accurate locations are to be platted of plantings, etc.

This work should be continued during the winter of 1939-1940 to include all flowages.



NECEDAH MIGRATORY WATERFOWL REFUGE  
 REGION 6 STATE OF WISCONSIN  
 BUREAU OF BIOLOGICAL SURVEY  
 SCALE 1/2" = 1 MILE  
 MARCH 1939

