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November, 1964

RESOURCE MANAGEMENT REPORT

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ONTARIO

DEPARTMENT OF LANDS AND FORESTS

Hon. A. Kelso Roberts, Q.C.
Minister

F.A. MacDougall
Deputy Minister

(These Reports are for Intra-Departmental Information
and not for Publication)

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Fish and Wildlife Branch

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RESOURCE MANAGEMENT REPORT

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No. 78 November, 1964

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(THESE REPORTS ARE FOR INTRA-DEPARTMENTAL
INFORMATION AND NOT FOR PUBLICATION)

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The Use of
to Describe
American
Erie.

Winter
Port

Report on
1963

(THESE
INFORMATION)

WOOD DUCK BANDING PROJECT, LAKE ERIE DISTRICT, 1963

by
D. M. Brooks, Biologist

Abstract

One thousand one hundred and thirty-eight ducks and three Canada Geese were leg banded between July 13 and September 22, 1963. One thousand and fifty-nine of these were banded in South Walsingham Township, including Long Point, and 82 were banded in Yarmouth Township in Elgin County. Included in this number were 132 wood ducks. This was a contribution to a project initiated by the Mississippi Flyway Council to band wood ducks. Banding was conducted with the authority of Canadian Wildlife Service, using U. S. Fish and Wildlife bands and a record of band numbers and other pertinent data are on file at District Office at Aylmer.

Purpose

The Mississippi Flyway Council has placed special emphasis on the study of wood ducks. One phase of this study is the banding of wood ducks during the summer and fall. In an effort to ensure that sufficient birds are banded to make a reliable study, a goal or quota was set for each province and state within the Flyway where wood ducks could be captured. The goal for Ontario was set at 500 birds. The Lake Erie District co-operated in this program during the summer of 1963.

Methods

Three part-time employees hired during the summer conducted the field work under direction of Departmental personnel. Mr. Ted Hart, a University student was employed from June 15 to August 30. Mr. Ted Ackert, a recent graduate of the Ontario Forest Ranger School, was assigned to this project from August 6 to September 15. Mr. Marshall Field, an experienced bird bander from St. Thomas, Ontario, assisted during week-ends and other times during this program and participated in all banding done after September 15.

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Six portable traps were constructed, three of these, six foot square and four feet high, while the other three were cubical in shape having each side four feet long. The sides were formed of one-by-two inch mesh, 16 gauge, welded wire, the bottoms of two inch mesh poultry netting covered with burlap to retain and make bait available. One inch mesh fish netting was used for the tops of the traps, a precaution to prevent trapped birds from scalping themselves when attempting to fly. A single funnel-type entrance, 14 inches deep, tapering from 18 to three inches, was made at the front of each trap. Removal of captured birds was accomplished by loosening a portion of the roof netting and scooping them up in a long-handled dip net.

The portable traps were set in four ponds on private property in South Walsingham Township of Norfolk County and in ponds on Long Point Provincial Park.

A permanent trap 20' x 20' square, located at a feeding sanctuary on Long Point Provincial Park was also operated during the late summer.

Traps were baited with shelled corn, wheat and barley. Captured birds were examined to determine species, sex and age, were banded and then liberated.

Results

A total of 1,056 ducks was banded during the 1963 wood duck banding program in Lake Erie District at Long Point Provincial Park and vicinity. Table 1 shows the catch by species, sex and age composition of these birds by semi-monthly periods.

The 47 adult males banded constituted 45.6 per cent of the catch of 103 wood ducks taken from July 16 to September 22, 1963; nine adult females, 8.7 per cent, 29 immature males, 28.2 per cent and 18 immature females, 17.5 per cent. In all there were 56 or 54.3 per cent adult wood ducks and 47 or 45.7 per cent immatures banded during this period. The high percentage of adult males probably is a result of a catch from a flock of males which were together during the post nuptial period and as yet had not joined with a migration group.

Although the primary objective of the program was to trap and band wood ducks a total of 947 other ducks was also captured. There were 685 blue-winged teal banded, 8 green-winged teal, 200 mallards, 56 black ducks, one American widgeon (baldpate) and one pintail. In addition three Canada geese which had been raised in the sanctuary at Long Point were also banded.

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Records were not maintained showing days when traps were set or run. However, the portable traps were used exclusively from July 13 to August 30. During this period 89 ducks were banded of which 51 were wood ducks. The permanent sanctuary trap was the only trap operated from August 31 to September 22. A total of 54 wood ducks or 51.4 per cent of the total wood ducks banded were taken in this trap. These 54 wood ducks were all taken during the period August 31 to September 15. Excessive baiting or heavy feeding at or in the vicinity of the trap site may have been responsible for the poor trapping success of wood ducks in the period of September 16 to 22. In all 89 or 8.4 per cent of all ducks banded were taken in the portable traps while 967 ducks, 91.6 per cent were taken in the permanent trap. Table 2 shows the catch by species between the portable traps and the permanent sanctuary trap.

An additional 82 ducks were banded by Mr. R. A. Hubert under the direction of Mr. Marshall Field, an Ontario Bird Bander Association member at Corner's Pond, Lot 15, Concession IV, Yarmouth Township, Elgin County. Species composition of these birds was 27 wood ducks, 22 blue-winged teal, 8 green-winged teal, 20 mallards, 3 black ducks and 2 pintails.

All birds banded in this program at Long Point Provincial Park and vicinity and at Corner's Pond were banded under the authority of a banding permit, held by Mr. Marshall Field of St. Thomas, Ontario.

A mortality of 18 ducks lost in trapping operation was reported. Eleven were killed by raccoons, three by mink or weasel, two were trampled to death by other ducks in the trap, one was lost to a snapping turtle and one sustained a broken neck in the trap.

Conclusion and Recommendations

Trapping of local wood ducks on their rearing ponds is usually expensive and time consuming. Greater numbers could probably be taken by restricting trapping to locales when migrant groups gather.

It is recommended that future waterfowl banding conducted or sponsored by the Department of Lands and Forests be done under a banding permit issued to a member of the district staff. This would ensure that all banding records would be maintained in a uniform manner since the employee holding the banding permit would be responsible for submitting banding schedules to the Fish and Wildlife Branch. The District Office would receive reports of subsequent recaptures or recoveries of birds banded under authority of permit issued to a staff member.*

* Please refer to Circular F.W. 12-2, dated August 18, 1964.

Acknowledgments

The valuable contribution to this project of the following participants is gratefully acknowledged: Mr. Marshall Field and Mr. R. A. Hubert of St. Thomas, Mr. Hart and Mr. Edward Ackert, summer assistants in biology, and Mr. T. L. Beck, Superintendent of Long Point Provincial Park.

The following table shows the results of the regression analysis. The dependent variable is the log of the number of employees. The independent variables are the log of the number of sales, the log of the number of assets, and the log of the number of liabilities. The R-squared value is 0.85, indicating a strong fit. The F-statistic is 123.45, which is highly significant. The p-values for all three variables are less than 0.001, indicating that they are all statistically significant.

Variable	Coefficient	Standard Error	t-statistic	p-value
Log Sales	0.75	0.02	37.5	< 0.001
Log Assets	0.15	0.01	15.0	< 0.001
Log Liabilities	0.10	0.01	10.0	< 0.001

- 2 -

TABLE 1 SPECIES, SEX AND AGE COMPOSITION BY SEMI-MONTHLY PERIODS OF 1,056 DUCKS BANDED AT LONG POINT PROVINCIAL PARK, 1963

	Jul.16-31	Aug.1-15	Aug.16-31	Sep.1-15	Sep.16-22	Total	Per Cent
<u>Wood duck</u>							
Ad. ♂♂	-	-	11	36	-	47	45.6
Ad. ♀♀	-	-	4	5	-	9	8.7
Im. ♂♂	11	10	3	5	-	29	28.2
Im. ♀♀	4	8	5	1	-	18	17.5
Total	15	18	23	47	-	103*	
<u>B.W. Teal</u>							
Ad. ♂♂	-	-	9	15	4	28	4.1
Ad. ♀♀	-	-	2	63	19	84	12.3
Im. ♂♂	-	-	35	187	88	310	45.2
Im. ♀♀	-	-	29	155	79	263	38.4
Total	-	-	75	420	190	685	
<u>G.W. Teal</u>							
Ad. ♂♂	-	-	-	-	-	-	0.0
Ad. ♀♀	-	-	-	-	1	1	12.5
Im. ♂♂	-	-	-	-	1	1	12.5
Im. ♀♀	-	1	-	3	2	6	75.0
Total	-	1	-	3	4	8	
<u>Mallard</u>							
Ad. ♂♂	-	-	3	30	3	36	18.0
Ad. ♀♀	-	-	1	14	-	15	7.5
Im. ♂♂	-	-	6	45	9	60	30.0
Im. ♀♀	-	-	14	57	18	89	44.5
Total	-	-	24	146	30	200	
<u>Black Duck</u>							
Ad. ♂♂	-	-	-	2	-	2	3.6
Ad. ♀♀	-	-	-	4	-	4	7.1
Im. ♂♂	-	-	1	22	4	27	48.2
Im. ♀♀	-	-	3	16	4	23	41.1
Total	-	-	4	44	8	56	
Total Ducks	15	19	126	660	232	1052**	

* One additional immature male wood duck banded July 13, 1963.
One additional wood duck banded July 30, 1963, sex and age not determined.

** One immature male baldpate and one immature female pintail also banded in the program.

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CHICAGO, ILL. 60637

PHYSICS 351
LECTURE 10

1. Introduction

2. The Hamiltonian

3. The Schrödinger Equation

4. Summary

TABLE 2 **COMPARISON OF CATCH BY SPECIES OF 1,056 DUCKS
BETWEEN PORTABLE AND SANCTUARY TRAPS AT
LONG POINT PROVINCIAL PARK, 1963**

	Portable Traps (July 13 to Aug. 30)		Sanctuary Trap (Aug. 21 to Sept. 22)		TOTAL
	NO.	PER CENT	NO.	PER CENT	
Wood duck	51	48.6	54	51.4	105
Blue-winged teal	34	5.0	651	95.0	685
Green-winged teal	1	12.5	7	87.5	8
Mallard	3	1.5	197	98.5	200
Black	-	-	56	100.0	56
Pintail	-	-	1	100.0	1
American widgeon (Baldpate)	-	-	1	100.0	1
Total	89	8.4	967	91.6	1,056

Faint, illegible text, possibly bleed-through from the reverse side of the page. The text is arranged in several lines and appears to be a list or a set of instructions, but the characters are too light and blurry to transcribe accurately.

GERALDTON DISTRICT RUFFED GROUSE STUDIES - 1963

by
B. H. Gibson, Biologist

Abstract

Ruffed grouse production appeared to be lower in 1963 than in 1962. A summer average brood size of 5.4 chicks was recorded. This was the lowest average during the last four years. Predictions of poor to fair hunting from 1963 resulted. Hunting success on foot increased from the 16.5 birds shot per 100 man-hours in 1962 to 25.0 grouse in 1963. A continued decline in grouse shot per 100 car-miles by automobile hunters was noted. This group shot only 1.2 birds in 1963 compared with 2.3 for each 100 car-miles driven in 1962.

Ruffed Grouse Production Studies

Thirty broods of ruffed grouse were recorded by conservation officers between June and September 1963 during regular patrols. The number of broods recorded between 1960 and 1963 has varied from the low of 27 in 1962 to the high of 39 observed in 1961.

The average brood size of 8.0 chicks for June, 1963 is not significant because only three broods were recorded for this month. For July, the average brood size was 4.1 juveniles. For the same month of 1962, the average was 6.3 young per brood. This would indicate that survival was poorer for June of 1963. In August of 1963, broods averaged 4.3 young, while in 1962, for the same month, a brood average of 5.7 chicks was observed. The average brood size for September, 1963 is not likely significant because of the small number of broods (3) sighted.

It appears that ruffed grouse production in the Geraldton District decreased in 1963. The 1963 brood size average of 5.4 grouse suggested an average decrease of .5 grouse per brood over 1962 and was the lowest average during the last four years. In 1962, only five out of 18 districts recorded summer averages less than 5.4 chicks per brood (Roseborough, 1963).

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There does not appear to be any clearly defined trend in annual brood production in the District. As Table I shows, the highest average summer production between 1960 and 1963 occurred in 1960. In that year, the broods averaged 6.0 chicks; the average dropped to 5.6 for 1961; it rose to 5.9 in 1962, before dropping to the new four year low of 5.4 in 1963.

The small number of broods sighted and the reduced average brood size during the summer of 1963 indicated that hunting would be poor to fair. The August brood size average of only 4.3 chicks verified that hunting prospects were not good. After studying the hunter success data, our predictions of a poor to fair grouse hunt were confirmed.

Hunter Success for Ruffed Grouse During 1963

As was previously mentioned, pre-season predictions of a poor to fair hunt for grouse were verified by a study of the hunt data. The data were again collected on H-50 cards. Conservation officers collected this information in the field; selected grouse hunters also contributed to the study.

A total of 61 hunter study cards was received for the 1963 hunt. Of these, 27 or 44.3 per cent were from hunters on foot. Thirty-four or 55.7 per cent indicated hunting from cars.

(a) Hunting on Foot - 1963

Hunters on foot saw an average of 38.8 grouse and shot 25.0 birds for each 100 man-hours in the field during the 1963 hunting season. A 66.0 per cent increase in grouse shot occurred over 1962 when 27.5 birds were seen and 16.5 were harvested per 100 man-hours. This closely approximates the lowest hunter success found in Ontario during 1962 in the Cochrane District where 13.0 grouse were shot for each 100 man-hours of hunting according to Roseborough, (op.cit.).

It appears as if the three year decline in hunter success experienced between 1960 and 1962 has ended. Hunter success may be on the upswing. The success figures for hunters on foot compare favourably with the averages of between 25 and 35 grouse shot for much of Ontario during 1962 in Roseborough's studies. Table II illustrates the hunter success data for hunters on foot during 1963.

- - -

In 1963, only one of the 27 parties (3.1%) indicated using a dog. This is greatly reduced from the three year average of 23.7 per cent who used dogs between 1960 and 1962 (Gibson 1962). In Table IV, hunter success on foot is compared for the years 1960 to 1963 inclusive.

(b) Hunting by Car - 1963

In contrast with hunting on foot, hunting from an auto in 1963 was less rewarding than at any time since 1959. This year, 1.2 grouse were shot and 2.3 were seen for each 100 car-miles; in 1962 2.3 birds were shot while 3.0 were sighted in that distance. It is not known why hunting from a car was less fruitful in 1963, while hunting on foot was better. The data for the years 1960 to 1963 inclusive for car hunters are compared in Table V.

Discussion

I believe that the hunter success data for 1963 reflect accurately the quality of the hunt. Efforts to convince selected hunters to report on all hunts are meeting more response. As Tables IV and V show, the number of birds shot per 100 man-hours in 1960 appeared to be almost 400 per cent greater than for 1962 for hunters on foot. Similarly, for hunters using cars, success appeared to be almost 200 per cent greater for 1961 than 1962.

These apparent declines in hunter success rates in 1963, except for road hunters, are believed to result from increasing co-operation from hunters in reporting non-successful hunts. Previous to 1962, it appeared that only successful parties submitted H-50 cards. Only a small number of these cards indicated hunters had not seen or shot a grouse prior to 1962.

In 1962, however, 31 of 51 study forms indicated that hunters had not seen or shot a grouse. Thirty cards for 1963 reported hunters had not seen or shot a grouse. We asked the selected grouse hunters in 1962 and 1963 to report all hunts to us, whether successful or not in bagging birds. Evidently this has been partially successful, for hunting success appeared to drop for these two years. This is probably a reflection of a less biased sample rather than a reduced quality hunt. Consequently the data for 1960 and 1961 probably cannot be compared reliably with that for 1962 and 1963.

There is confusion on the part of hunters in filling out the H-50 cards. For instance, some hunters continue to report that they record mileages driven to an area where they plan to hunt, although actual hunting does not occur until they reach the hunting locality.

Some hunters are unsure if they should report on grouse shot while moose hunting. Others are uncertain of the term "man-hours" as used on the H-50 cards. Some hunters simply record time in hours. This makes it difficult to analyze the data in some cases as it is hard to tell if man-hours or hours hunting is designated. This could be simplified by reverting to the original H-50 card where actual hours hunting rather than man-hours was recorded.

Summary and Conclusions

Thirty broods of ruffed grouse were recorded by conservation officers during the summer of 1963. The 5.4 chicks per brood average for the summer was the lowest since 1959. Hunting success was poor to fair for the district. Hunters on foot increased their success over that of 1962. In 1963, 25.0 grouse were shot for each 100 man-hours expended by this group. Hunters using automobiles experienced reduced success, bagging only 1.2 grouse per 100 car-miles.

Literature Cited

- Gibson, B. H. 1963. Ruffed Grouse in the Geraldton District 1962. Resource Mgt. Rept., 69:44-50.
- Roseborough, J. D. 1963. Ruffed Grouse Studies 1962. Ontario Dept. of Lands & Forests, Fish and Wildlife Branch, 5 pp.

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TABLE I - Ruffed Grouse Brood Counts 1960 to 1963

<u>Month</u>	<u>1963 No. of Broods</u>	<u>1962 No. of Broods</u>	<u>1961 No. of Broods</u>	<u>1960 No. of Broods</u>	<u>1963 Aug. brood size</u>	<u>1962 Aug. brood size</u>	<u>1961 Aug. brood size</u>	<u>1960 Aug. brood size</u>
June	3	8	14	5	8.0	6.6	6.1	7.4
July	17	12	15	20	4.1	6.3	4.9	6.0
August	7	6	10	7	4.3	5.7	5.7	4.6
September	3	1	0	0	5.3	5.0	0	0
Totals	<u>30</u>	<u>27</u>	<u>39</u>	<u>32</u>	Avg.5.4	<u>5.9</u>	<u>5.6</u>	<u>6.0</u>

TABLE II - Ruffed Grouse Hunter Success on Foot During 1963

<u>Period</u>	<u>No. of Parties</u>	<u>Total Hunters</u>	<u>Hours Hunting</u>	<u>Man- hours</u>	<u>Ruffed Grouse Seen</u>	<u>Ruffed Grouse Shot</u>	<u>Dog Used</u>	<u>Dog Not Used</u>
Sept. 14-15	3	5	9.5	17	6	3	1	2
Sept. 16-22	3	3	7	7	2	1	0	3
Sept. 23-29	2	2	6	6	0	0	0	2
Sept. 30-Oct.6	2	3	6	8	4	3	0	2
Oct. 7-13	9	17	25.5	50.5	27	16	0	9
Oct. 14-20	5	11	9	19	3	3	0	5
Leaf Fall								
Oct. 21-27	1	1	2	2	0	0	0	1
Oct. 28-Nov.3	2	2	6.5	6.5	3	3	0	2
Totals	<u>27</u>	<u>44</u>	<u>71.5</u>	<u>116.0</u>	<u>45</u>	<u>29</u>	<u>1</u>	<u>26</u>

TABLE III - Ruffed Grouse Hunter Success by Automobile during 1963

<u>Period</u>	<u>Number of Parties</u>	<u>Total Hunters</u>	<u>Total Car-miles</u>	<u>Ruffed Grouse Seen</u>	<u>Ruffed Grouse Shot</u>
Sept. 14-15	4	7	150	7	6
Sept. 16-22	10	14	759	7	2
Sept. 23-29	8	18	155	0	0
Sept. 30-Oct. 6	2	3	40	2	1
Oct. 7-13	5	10	395	7	3
Oct. 14-20	-	-	-	-	-
Leaf Fall					
Oct. 21-27	-	-	-	-	-
Oct. 28-Nov. 3	2	2	37	3	1
Nov. 4-10	1	3	25	2	1
Nov. 11-17	-	-	-	-	-
Nov. 18-24	1	2	15	3	2
Nov. 25-Dec. 1	1	4	55	7	3
Totals	34	63	1631	38	19

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by proper documentation and receipts.

3. Regular audits should be conducted to verify the accuracy of the records and identify any discrepancies.

4. The second part of the document outlines the procedures for handling disputes and resolving conflicts.

5. It is important to establish clear communication channels and protocols for addressing any issues that arise.

6. The document also provides guidance on how to maintain confidentiality and protect sensitive information.

7. Finally, it emphasizes the need for ongoing training and education for all staff members involved in the process.

8. The document concludes by reiterating the importance of transparency and accountability in all business operations.

9. It is the responsibility of all employees to adhere to these guidelines and ensure the highest level of integrity.

10. The document is intended to serve as a comprehensive guide for all staff members and is subject to periodic updates.

11. For more information, please contact the relevant department or refer to the attached documents.

12. Thank you for your attention and cooperation in maintaining the highest standards of our organization.

TABLE IV - Comparison of Hunter Success On Foot For Years 1960 to 1963 Inclusive

<u>Year</u>	<u>Total Hunters</u>	<u>Man-hours</u>	<u>Birds seen per 100 man-hours</u>	<u>Birds shot per 100 man-hours</u>
1960	43	124	84.2	60.1
1961	35	70	75.7	35.7
1962	38	109	27.5	16.5
1963	44	116	38.8	25.0

TABLE V - Comparison of Hunter Success by Auto For Years 1960 to 1963 Inclusive

<u>Year</u>	<u>Total Hunters</u>	<u>Total Car-miles</u>	<u>Birds seen per 100 car-miles</u>	<u>Birds shot per 100 car-miles</u>
1960	66	1348	6.6	5.7
1961	41	990	7.9	4.1
1962	103	2549	3.0	2.3
1963	63	1631	2.3	1.2

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial data and for facilitating the audit process. It is noted that any discrepancies or errors in the records can lead to significant complications and may result in the disallowance of certain expenses.

2. The second part of the document addresses the issue of proper documentation for all claims. It is emphasized that every claim must be supported by appropriate evidence, such as receipts, invoices, and other relevant documents. Failure to provide adequate documentation can result in the claim being denied, and the taxpayer may be liable for the amount claimed.

3. The third part of the document discusses the requirements for the preparation and filing of tax returns. It is noted that taxpayers must ensure that their returns are prepared accurately and filed by the prescribed deadline. Any late filings or inaccuracies can result in penalties and interest charges. Additionally, it is advised that taxpayers should consult with a qualified professional to ensure compliance with all applicable tax laws and regulations.

4. The fourth part of the document discusses the importance of maintaining proper records for the period specified in the regulations. It is noted that taxpayers must retain all records related to their tax returns for a minimum of six years. This includes all supporting documents, such as receipts, invoices, and other records that substantiate the information reported on the return. Failure to maintain these records can result in the disallowance of certain deductions and credits.

THE 1963 DEER SEASON, SAULT STE. MARIE DISTRICT

by
N. R. Payne
Biologist

Abstract

This report summarizes effort, success and age composition data obtained in the field and from camp and hunter questionnaires. It provides an interpretation of the observed changes from the previous year in light of hunting conditions. Despite poor hunting weather, hunter success improved slightly. A success of 13.0, 16.4 and 29.8 per cent is indicated, for resident, farmer and non-resident hunter, respectively. Only 32 camps reported in 1963, less than half the number in the 1962 sample. The records for hunters occupying camps show that they required 20.8 man-days of hunting per deer, two more than in 1962. Two out of four hunting zones received 69 per cent of the hunting effort and yielded 89 per cent of the total kill, which is estimated to have been 339 deer. Of these, 100 were aged and an additional 12 were classified as adults. Fawns comprised 32.1 per cent of this sample, an improvement over 1962. It is recommended that the season for St. Joseph Island be extended to two weeks and be timed to coincide with the season on the mainland.

Introduction

Hunting, in addition to providing enjoyment to the hunter, offers a means by which vital information on the relative abundance (other factors being constant), reproduction and survival of deer can be obtained. This information is necessary for a proper program of deer management.

Changes in the availability of deer to the hunter from one year to the next depend on the proportion of deer escaping the hunters during the previous season, the survival of these deer in the intervening year, and the number of offspring which they produce. The proportion of deer escaping the hunters, especially in Sault Ste. Marie District where hunter densities are light, is usually large and year to year variations in this proportion can be considered of minor significance. Survival and reproduction, however, are important and both are greatly influenced by a combination of

climatic and range conditions. Severe winters confine deer to areas where cover requirements are met and in these areas the food supply can become exhausted, especially if the period of confinement is lengthy. When this happens starvation depletes the herd and, equally important, death is caused to many fawns of undernourished does. Fawns of the previous spring are less able to compete for food than mature deer and, therefore, suffer first when the supply of browse becomes critical. Thus two successive year-classes can be seriously affected by one bad winter.

Spring surveys, conducted annually, assess the effects of winter on the deer population, in addition to providing information on range condition and deer density. The 1963 survey revealed that starvation was not an important mortality factor over the winter of 1962-63, although certain yarding areas were browsed to a degree considered injurious to future food production. On the basis of this survey and field observations which indicated the deer were in satisfactory condition at the end of the winter, improved hunter success for the 1963 season was forecast.

Methods

Information on hunter effort and success was again collected by means of a questionnaire sent out to random samples of resident, farmer and non-resident licencees. Those hunters in the sample who were residing locally and whose telephone numbers were given were questioned by telephone. Approximately 20 per cent of the resident and 33 per cent each of the farmer and non-resident hunters were contacted either by mail or by telephone.

Checking stations were not operated as this method has proven ineffective in obtaining the required age composition information in this area. Instead, the members of the field staff concentrated on contacting hunters both in the field and at the camps. This deployment of conservation officers (including special appointees) yields larger samples of aged deer than by other methods and at the same time allows these men to function more effectively as enforcement officers.

A hunt camp report form was circulated to each organized camp by the conservation officers, who requested that one member of the camp record daily the number of men hunting and deer killed. These reports were to be returned upon termination of the season. In this way a further assessment of the hunt was obtained, which could serve as a cross check on the mail survey results.

Two methods of estimating total kill have been employed. The first method involves the application of the estimated rate of hunter success to the estimated number of active licences. The second method is based on the Lincoln index principle. The officers recorded the licence numbers of successful hunters, when possible, and these numbers served as marks in the population of individuals who took deer. Later sampling of this population was done by means of the hunter questionnaire. The estimate of total kill was then derived through the use of the following equation:

$$\text{Total kill} = \frac{\text{No. of successful hunters in survey sample}}{\text{No. of above whose licence numbers were noted in the field}} \times \text{Total no. of licences recorded in the field.}$$

This latter method was applied independently to resident, farmer and non-resident hunters.

Results

Total licence sales in the Sault Ste. Marie District in 1963 climbed slightly to 2780* from 2697* in 1962, an increase of 3.1 per cent. It appears from this small increase that 1962 climaxed the period of decline in the number of hunters in the Algoma District. Licence sales to farmers showed the most marked change, increasing by 10 per cent. This may be due largely to the warm fall which facilitated the harvesting of crops. Residents and non-residents purchased 1.3 and 6.2 per cent more licences, respectively.

Questionnaires were returned from only 32 organized camps, fewer than half of the number which reported in 1962.¹ Dissolution of some camps and amalgamation of others reduced the number of active camps but not to the extent indicated by the decline in camp questionnaires. It is obvious that a smaller proportion of the camps was contacted in 1963. The information gathered from the camp questionnaires is presented in Table I, along with corresponding data for 1962. A breakdown of the camp hunter success by area was not considered feasible because of the small number of camps in the sample.

The 303 hunters occupying the 32 camps killed 38 deer for an overall success of 29.0 per cent. These hunters expended 1828 man-days, indicating that, on the average, 20.8 man-days were required to shoot one deer. In 1962, camp hunters spent 18.8 man-days per deer, so it would appear that those hunting in camps experienced slightly poorer hunting in 1963. However, the smaller sample of camps detracts from the reliability of the man-days per deer estimates as an indication of the trend in hunting.

*As indicated by the licence book covers returned to District Office.

[The page contains extremely faint and illegible text, likely bleed-through from the reverse side of the document. The text is too light to transcribe accurately.]

TABLE I

Organized Camp Hunter Success for Sault
Ste. Marie District, 1962 and 1963

	1963 Organized Camps		Organized Camps with & without dogs	
	with dogs	without dogs	1962	1963
No. of Camps	11	21	74	32
No. of Licences	135	168		303
No. of Deer	56	32	177	88
% hunter success	41.4	19.1		29.0
Total days hunted	918	910	3317	1828
Man-days per deer	16.4	28.4	18.8	20.8

You will note that no comparison has been made of the estimates for per cent hunter success in 1962 and 1963. For 1963 the total number of licences which could have been filled has been used in calculating the rate of hunter success whereas in the previous year the mean number of hunters operating from the camp over the camping duration was used to arrive at an estimate of hunter success. Therefore, the reported camp hunter success in the two years cannot be compared.

Camp hunters using dogs again enjoyed better success than those hunting without dogs. With dogs, hunters were 41.4 per cent successful and required only 16.4 man-days of hunting per deer. Those not using dogs hunted 28.4 man-days per deer and only 19.1 per cent of this group took deer.

A summary of the findings of the deer hunter questionnaire sent out to resident, farmer and non-resident hunters appears in Table II. The return of book covers was not complete at the time of the survey so the actual per cent sampled is somewhat less than the 20 and 33 per cent indicated earlier.

TABLE II

Results of the Hunter Questionnaire
Sault Ste. Marie District - 1963

	Resident	Farmer	Non-Resident
Licences Sold	1988	350	442
% increase from 1962	1.3	10.0	6.2
% sample	18.5	28.0	25.8
No. in sample	368	98	114
No. returned	236	77	83
% returned	77.8	85.7	72.7
% not hunting	4.2	6.1	2.4
% hunting out of District	20.3	0	29.0
Est. No. hunting in District	1501	328	303
% hunter success	13.0	16.4	29.8
Man-days per deer	32.5	28.3	19.4
Average no. days hunted	4.2	3.8	5.8
Estimated total kill	195	54	90

Estimated kill for District = 339 deer

A better response to the questionnaire was received from farmers and non-residents who increased their returns by 29.9 and 7.1 per cent over 1962. Resident returns, in contrast, dropped from 88.8 to 77.8 per cent.

Of the resident licence holders in the sample, 4.2 per cent failed to hunt and an additional 20.3 per cent hunted in other Districts. Those hunting in Sault Ste. Marie District reported a success of 13.0 per cent, 1.0 per cent better than in 1962. An estimated 1501 resident licencees hunted an average of 4.2 days in the District and they harvested an estimated 195 deer.

The farmer hunters, whose success according to the sample increased sharply from 5.0 per cent in 1962 to 16.4 per cent in 1963, took an estimated 54 deer. This segment of the hunter population averaged 3.8 days of hunting and spent 28.3 man-days afield for each deer taken.

The non-residents, who largely hunted in organized camps, experienced the most successful hunting, 29.8 per cent of their numbers taking deer for an estimated kill of 90 deer. This success was 6.7 per cent better than in 1962. They averaged 5.8 days of hunting, more than any other group, and required fewer days to fill a licence (19.4 man-days per deer). The similarity of this non-resident success rate (29.8%) to that reported for organized camps (29.0%) gives support to the statement that non-residents largely hunt out of organized camps.



The estimated total kill for the District of Sault Ste. Marie is 339 deer, 58 more than was estimated as being taken in 1962. This increase of 20.6 per cent in the deer kill under unfavourable hunting conditions and with an increase of only 3.1 per cent in licence sales can only mean that there has been an increase in the size of the available deer population.

Not included in the above estimate is the deer kill by residents who purchased their licences in other Districts but who hunted in Sault Ste. Marie District and by non-residents who purchased a \$100 moose-deer-bear licence. However, such deer hunters are believed to be few in number.

TABLE III

Success of Hunters With and Without Dogs
Sault Ste. Marie District
1963

	Residents	Farmers	Non-residents
% using dogs	19.2	35.6	14.7
% success with dogs	25.6	18.2	37.5
% success without dogs	10.4	14.0	24.1

Table III shows the percentage of hunters using dogs and compares their success with those hunting without this aid. As you would expect, dogs improved the hunting for all groups. The farmers, who are best able to keep dogs, used them to the greatest extent, but they also appear to have benefitted least from their use.

As indicated earlier, estimates of total kill have also been arrived at through a technique essentially the same as the marking-recapture method of estimating population size. The estimates thus derived are shown in Table IV, along with the values used in the calculations. The total kill estimates based on hunter success and total effort estimates, which were presented earlier, also appear in Table IV for comparison.

TABLE IV

Derivation of Total Kill Estimates Using
The Lincoln Index Method

	Residents	Farmers	Non-Residents
(a) No. of successful hunters whose licence numbers were recorded in the field.	31	10	30
(b) No. of successful hunters in mail survey.	28	13	17
(c) No. of successful hunters in survey whose numbers were recorded in the field.	4	4	8
Total kill - $\frac{a \times b}{c}$	217	33	51
Total kill calculated from hunter success and effort estimates.	195	54	90

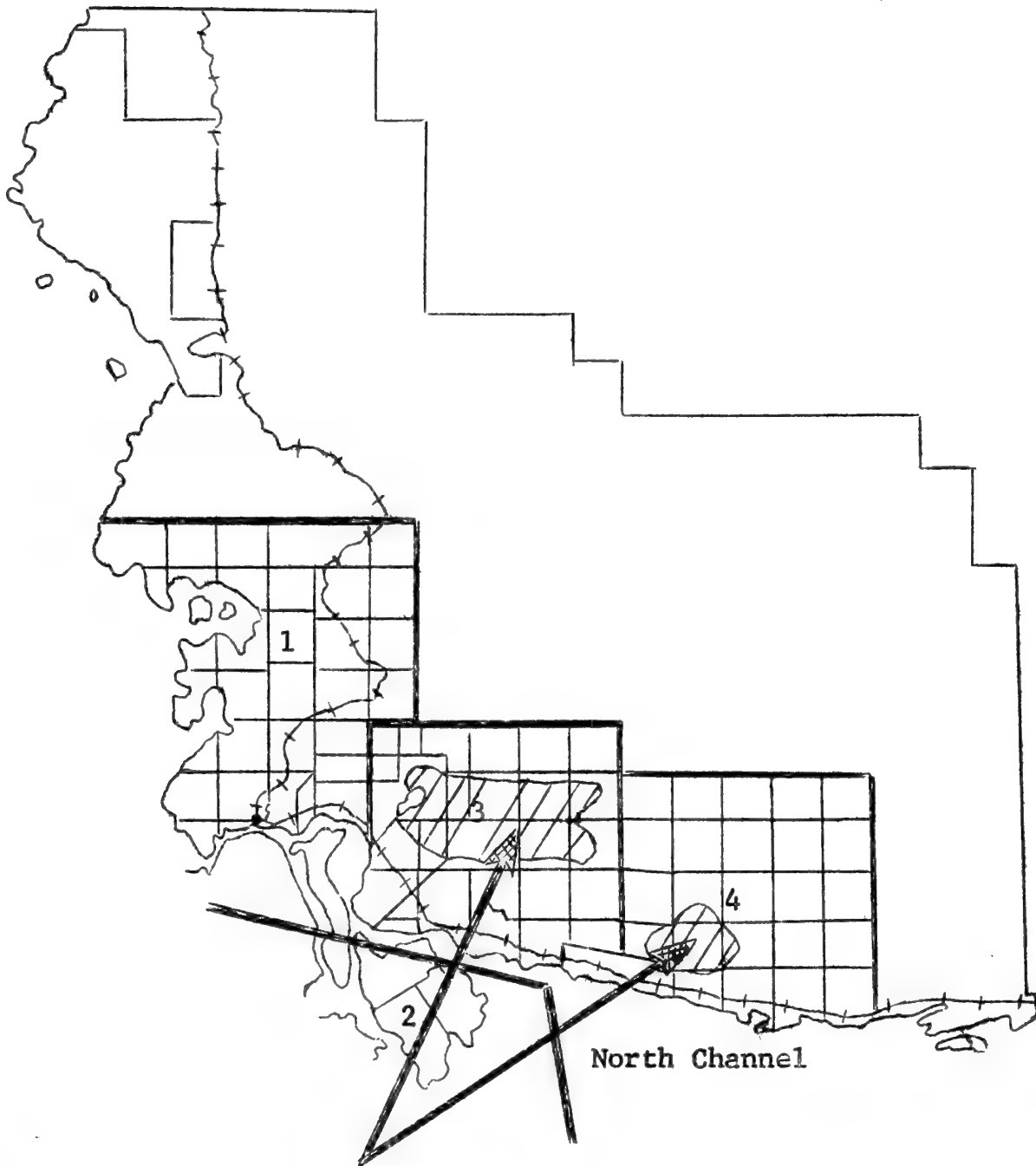
The estimates for total kill by residents are in quite good agreement, the difference being only 22 deer or 10 per cent. However, in the case of non-residents and farmers, the estimates obtained by the Lincoln index method are substantially lower than those obtained from the success and effort data. In evaluating the hunt only those estimates derived from success and effort data should be regarded as they are based on more extensive data. The estimates obtained by the Lincoln index method have been included to demonstrate the method as its use may be warranted where some means other than the hunter questionnaire can be used in the follow-up sampling.

The practice of selecting names from the licence book covers at constant intervals introduces a bias to both methods of estimating total kill. For a sample of hunters thus drawn to be completely random the hunters whose names appear on a given book cover or on consecutive book covers would have to be independent of one another. This, however, is not always the case. Party hunters occasionally purchase their licences at the same place and at the same time and such groups generally have a rate of success greater than that of the average hunter. By sampling names at a fixed interval, as was done, the possibility of selecting two or more names of hunters from a single party of hunters could be excluded. Should this occur, estimates of total kill which are low would be obtained.

FIGURE I

SAULT STE. MARIE DISTRICT

DEER HUNTING ZONES



Major Winter Range
1961-1962
1962-1963

11

11



A second known bias again applies to both methods of estimating kill. Questionnaires were not sent out to the farmer and non-resident hunters who were recorded in the field as having killed deer. In the case of resident hunters, the names of known successful hunters were unintentionally not deleted from the list of those who were to receive questionnaires (although this worked to our advantage). By withholding the questionnaires for which the answers were already known, we, in effect, were assuring ourselves of a complete return from that group of successful hunters. Unless a 100 per cent return of questionnaires was achieved this could result in an over-estimation of hunter success and total kill when the total kill is worked out using the success rate. The effect with the Lincoln index method would be the reverse unless all of the successful hunters who received a questionnaire made a return. If the returns from these hunters were incomplete the proportion of marks (recorded licence numbers) in the survey sample would be high and this would yield a low estimate of total kill. Thus, a bias of this nature could widen the gap between the total kill estimates obtained by the two methods of calculation.

As indicated earlier, a high percentage of the questionnaires was returned so it is doubtful that this latter bias has introduced a serious error.

The difference existing between the estimates for total kill are thought to arise principally from sampling error. The fact that the differences were greater when the sample size was small would tend to support this view.

The greater part of the Sault Ste. Marie deer range is divided into four zones, the boundaries of which appear in Figure I. In the winter of 1961-62, observers in aircraft plotted the distribution of deer tracks in these zones, thus delineating the wintering or "yarding" areas.² It was found at that time that nearly all of the deer were concentrated in two areas, one each in zones 3 and 4. The aerial survey was repeated during the winter of 1962-63³ revealing that the two major wintering areas had remained virtually unchanged. The limits of these are plotted in Figure I. Cover, to a very great extent, determines the winter distribution of deer and in these wintering areas good cover is found. It must be pointed out that stands of cover constitute only a small percentage of the areas indicated on the map, topography being a factor limiting this percentage.

The hunting pressure in terms of man-days as reported on the returned questionnaires and the reported and observed deer kills are broken down by zone and township and shown in tabular form in the appendix. A summary of this information is presented in Table V.

TABLE V

Hunting Pressure and Deer Kill, by Zone,
in Sault Ste. Marie District

Zone	Reported man-days	Reported deer kill	Known deer kill	% of reported man-days	% of re- ported deer kill
1	155	2	2	11.6	3.6
2	151	2	15*	11.3	3.6
3	558	27	68	41.8	48.2
4	366	23	72	27.4	41.0
Elsewhere	<u>105</u>	<u>2</u>	<u>2</u>	<u>7.9</u>	<u>3.6</u>
	1335	56	163	100.0	100.0

*All or nearly all of the total kill.

The information reported on the questionnaire forms provides a relatively unbiased picture of the geographical distribution of hunting effort and deer kill. Zones 3 and 4, the areas most densely populated with deer, received 69 per cent of the hunting pressure and yielded 89 per cent of the deer. Zone 1, the most westerly of the four zones, has heavy snowfall annually and thus the deer population in this area has been very slow to recover after the heavy starvation losses suffered in the winters of 1958-59 and 1959-60. It is therefore understandable that only 11.6 per cent of the hunting effort was expended in this zone, resulting in 3.6 per cent of the total kill. St. Joseph Island (Zone 2) also contributed little to the overall kill as the regulation forbidding the use of dogs handicaps the hunting in that area. Recently, there has been some criticism by the public of the Department policy of allowing hunting to continue in areas with low deer densities. It is clearly evident that hunting in such areas is having very little effect on deer numbers, as has been our argument in support of the general open season.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented, including the date, amount, and purpose of the transaction. This ensures transparency and allows for easy reconciliation of accounts.

Additionally, it is noted that regular audits are essential to identify any discrepancies or errors. By reviewing the records frequently, potential issues can be caught early, preventing them from escalating into larger problems. This proactive approach is crucial for maintaining the integrity of the financial system.

Furthermore, the document highlights the need for clear communication between all parties involved. Regular meetings and reports should be provided to keep everyone informed of the current financial status and any upcoming obligations. This fosters a sense of accountability and ensures that all stakeholders are aligned with the organization's financial goals.

In conclusion, the document stresses that a robust financial management system is the foundation of a successful organization. By adhering to the principles outlined here, businesses can ensure their financial health and long-term sustainability. Consistent record-keeping, regular audits, and transparent communication are the key elements that drive financial success.

It is recommended that these practices be implemented as a standard operating procedure for all departments. This will not only improve the accuracy of financial reporting but also enhance the overall efficiency and reliability of the organization's financial operations.

The document concludes with a call to action, urging all employees to take ownership of their financial responsibilities and contribute to the overall success of the organization through diligent financial management.

TABLE VI

Age Composition of the 1961, 1962 and 1963 Deer Kills,
in Sault Ste. Marie District

Age	1961		1962		1963	
	No.	% of total	No.	% of total	No.	% of total
1/2	49	45.0	32	27.6	36	32.1
1-1/2	24	22.0	21	18.1	14	12.5
2-1/2	11	10.1	17	14.6	24	21.4
3-1/2	11	10.1	14	12.1	15	13.4
4-1/2	6	5.5	10	8.6	6	5.4
5-1/2	5	4.6	11	9.5	5	4.5
6-1/2	3	2.7	9	7.8		
7-1/2			1	.9		
Unaged adults			1	.9	12	10.7
Total	109		116		112	

A total of 100 deer were aged by qualified personnel and an additional 12 deer were classified as being adult. Adult bucks, adult does and fawns made up 35.7, 32.1 and 32.1 per cent of this sample of 112 deer, respectively. Hunters, on the questionnaire forms, reported a kill consisting of 34.7 per cent fawns so it would appear that, with respect to the fawn composition, the aged sample reliably represents the total kill.

Table VI gives the frequency of deer in each age group for the 1963 season and also for the two previous years. Several features of the tabulation are noteworthy, the first being the increase in the percentage of fawns over 1962. The contribution of fawns to the 1963 kill, although 4.5 per cent better than in the previous year, still remained lower than the 45 per cent observed in 1961. The appearance of the 2-1/2 year old deer in strength (21.4%) in the 1963 sample indicates that the survival of the strong 1961 year-class has been better than the 1962 age information would suggest. Yearlings comprised only 12.5 per cent of aged deer, further emphasizing the detrimental affect which the severe winter of 1961-62 had on reproduction.

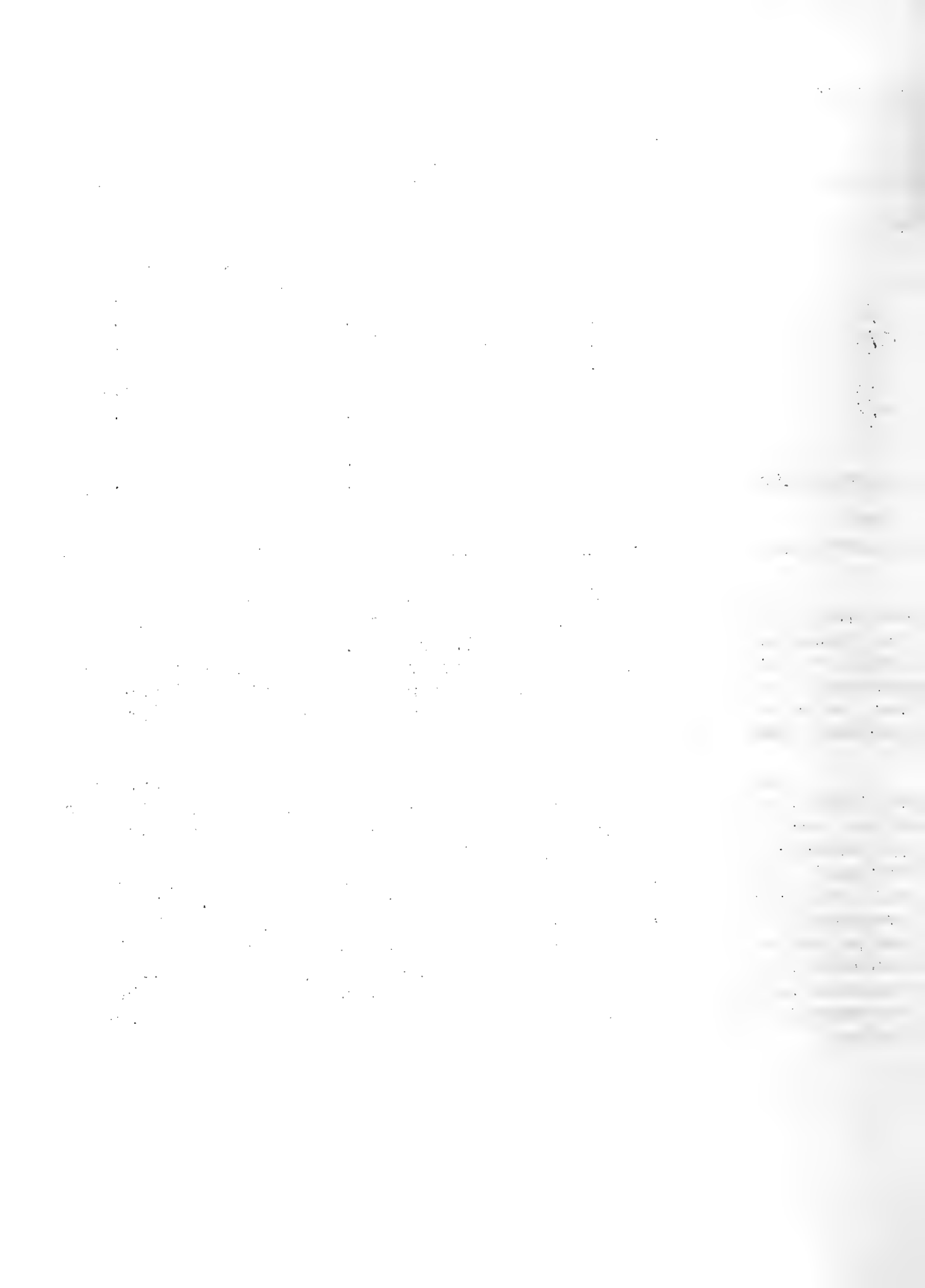


TABLE VII

Temporal Distribution of the 1963 Deer Kill -
Determined from Camp and Hunter Questionnaires

		November												
		4	5	6	7	8	9	10	11	12	13	14	15	16
Camps	Kill	14	5	12	7	6	11	1	2	4	7	8	8	3
	Accumulated %	16	22	35	43	50	63	64	66	71	79	88	97	100
All Hunters	Kill	11	1	2	8	2	6	3	1	2	1	4	2	4
	Accumulated %	23	26	30	47	51	64	70	72	77	79	87	92	100

The temporal distribution of the deer kill as indicated by the dates of kill reported on the hunter and camp questionnaire forms is shown in Table VII. The percentages shown at each date represent the accumulated percentage of the total kill to that date. The initial day of the season produced the largest kill, as is usual, and by the end of the fifth day, half of the total kill had been taken. Of interest is the effect which rainfall had on the level of harvest. One-half inch of rain fell over the two days, November 4th and 5th, and on these days the reported kill was low, especially for the organized camps. A comparison of the kill on the two mid-weekend days further demonstrates the adverse effect of rain. Camp hunters reported taking 11 deer on Saturday when .10 inches of rain fell, and only 1 deer on Sunday when the rainfall amounted to .42 inches. The hunter questionnaires show six and three deer being taken on Saturday and Sunday, respectively.

A synopsis of the weather and ground conditions which existed during the deer season appears in the appendix. In general, conditions were very unfavourable. Below normal precipitation during the autumn months coupled with a complete lack of rain or snow during the first five days of the season resulted in extremely dry ground conditions which made quiet travel and tracking difficult. The .70 inches of rain which fell over the following three days served as a deterrent to the normally large group of weekend hunters and provided only temporary relief from the handicapping effect of dryness. By Thursday of the second week dry conditions again existed and this state continued throughout the remainder of the season. Mid-day temperatures during the first week ranged between 50 and 57 degrees, making outdoor storage of venison risky.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories for housing, utilities, food, and entertainment. The goal is to identify areas where spending can be reduced without affecting the quality of life.

The third section focuses on investment strategies. It suggests diversifying the portfolio to include both stocks and bonds. The author also mentions the importance of regular contributions to retirement funds, such as a 401(k) or IRA, to take full advantage of employer matching and tax benefits.

Finally, the document concludes with a summary of key financial goals for the year. These include paying off high-interest debt, increasing the emergency fund, and starting to save for a major purchase. The author encourages a disciplined and proactive approach to personal finance.

Conclusion

Hunter success improved slightly in 1963, but not sufficiently enough to make the average hunter aware of any difference. In view of the poor hunting weather, this small increase in success can only mean that there has been an increase in the deer population. Fortunately, some hunters noted an increase in the number of deer tracks, despite the dry ground conditions which prevailed, and therefore are in agreement with this conclusion. The preceding winter was only moderately severe and this and an improved fawn crop are considered responsible for the change. A large number of 2-1/2 year-old deer in the sample of aged deer indicates that the 1961 year-class, which was extremely strong in its first year, has had a better survival rate than the 1962 age composition data led us to believe. Licence sales which had been declining in recent years increased very slightly in 1963, suggesting that a measure of stability has come to hunting pressure.

It is recommended that the deer season on St. Joseph Island be extended to two weeks and be timed to coincide with the season on the mainland. This will give the hunters on the island, who are forced to hunt without dogs, a better chance to harvest deer. It is doubtful the annual kill with the present season exceeds 5 or 10 per cent of the island's deer population.

It is also recommended that the Canadian Customs officers at the International Bridge be asked to collect information on deer kills in 1964. Such information was collected in 1963 by Customs Officers but unfortunately the data sheet was misplaced at their office.

Acknowledgments

A great many individuals, conservation officers, rangers, and hunters, contributed to this report both in time and information and for their participation and continued good co-operation we extend our most sincere thanks. Mr. Grant Denley provided able assistance by sending out the questionnaires and filing the returns.

References

1. Lewis, C. A. 1962. The 1962 Deer Season, Sault Ste. Marie District, Unpublished Report, Ont. Dept. of Lands & Forests.
2. Lewis, C. A. 1962. Sault Ste. Marie District Spring Deer Surveys, 1962. Unpublished Report, Ont. Dept. of Lands & Forests.
3. Payne, N. R. 1963. Spring Deer Surveys, Sault Ste. Marie District, 1963. Unpublished Report, Ont. Dept. of Lands & Forests.

The following table shows the results of the experiment. The first column is the number of trials, the second column is the number of correct responses, and the third column is the percentage of correct responses.

Number of trials	Number of correct responses	Percentage of correct responses
10	7	70%
20	14	70%
30	21	70%
40	28	70%
50	35	70%
60	42	70%
70	49	70%
80	56	70%
90	63	70%
100	70	70%

As can be seen from the table, the percentage of correct responses is constant at 70% for all numbers of trials. This suggests that the subject is performing at a level of 70% accuracy.

APPENDIX I

Hunting Pressure and Deer Kill by
Zone and Township - 1963

ZONE 1	Township	Man-days * of Hunting	Reported * Deer Kill	Known Deer** Kill
	Archibald	0	0	0
	Aweres	42	0	
	Dennis	1	1	1
	Deroche	5		
	Fenwick	44		
	Fisher	0		
	Gaudette	3	1	1
	Herrick	0		
	Hodgins	16		
	Havilland	0		
	Jarvis	13		
	Kars	0		
	Korah	8		
	Ley	2		
	Marne	0		
	Palmer	1		
	Prince	19		
	Ryan	1		
	Total	<u>155</u>	<u>2</u>	<u>2</u>
ZONE 2				
	Hilton	26		2
	Jocelyn	94	2	11
	St. Joseph	29		4
	Unknown	2		2
	Total	<u>151</u>	<u>2</u>	<u>19</u>

* From Hunter Questionnaires

** Reported & examined kills

The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

Furthermore, it highlights the need for regular audits and reviews to identify any discrepancies or areas for improvement. This process should be conducted in a systematic and thorough manner to ensure the highest level of accuracy.

In addition, the document stresses the importance of clear communication and collaboration between all departments. This will help to ensure that everyone is working towards the same goals and objectives.

Overall, the document provides a comprehensive overview of the organization's current state and outlines the key areas for improvement. It is intended to serve as a guide for all employees and management alike.

The second part of the document details the specific steps and procedures that should be followed to implement the recommendations. This includes a clear timeline and assignment of responsibilities.

It is important to note that these steps should be followed in a sequential and logical order to ensure the most effective implementation. Any deviations should be reported immediately to the relevant authority.

The document also includes a section on the expected outcomes and benefits of the proposed changes. This is intended to provide a clear understanding of the value that can be realized through the implementation of these measures.

Finally, the document concludes with a call to action, urging all employees to take ownership of their roles and contribute to the overall success of the organization. It is a collective effort that will lead to a brighter future.

The document is intended to be a living document, subject to regular updates and revisions as the organization's needs and circumstances evolve. It is the responsibility of all employees to stay informed and engaged in the process.

For more information or to provide feedback, please contact the relevant department. We are committed to continuous improvement and the highest standards of performance.

This document is the property of the organization and should be handled with care. It is not to be distributed or shared without the appropriate authorization. Thank you for your attention and cooperation.

APPENDIX I Cont'd

Hunting Pressure and Deer Kill by
Zone and Township - 1963

ZONE 3	Township	Man-days * of Hunting	Reported * Deer Kill	Known ** Deer Kill
	Aberdeen	50	3	9
	Anderson	2		
	Bridgland	13	1	1
	Chesley	13	1	1
	Chesley Add.	0		
	Duncan	51	2	5
	Galbraith	23	3	5
	Gillmor	0		
	Haughton	30		1
	Johnson	24	4	8
	Kehoe	57	4	11
	Kirkwood	17		
	Laird	27	1	1
	Lefroy	7	1	2
	McMahon	17	1	1
	MacDonald	20	1	1
	Meredith	32	4	12
	Morin	44	1	1
	Otter	14		
	Plummer	78		
	Plummer Add.	3		
	Rose	17		
	Tarbutt	4		
	195	13		9
	201	2		
	Total	<u>553</u>	<u>27</u>	<u>68</u>

* From Hunter Questionnaires

** Reported and examined kills

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial data and for providing a clear audit trail. The records should be kept up-to-date and should be accessible to all relevant parties.

2. The second part of the document outlines the procedures for handling any discrepancies or errors that may arise. It is important to identify the source of the error and to take appropriate steps to correct it. This may involve reviewing the original documents and consulting with the relevant staff members.

3. The third part of the document describes the process for reconciling the accounts. This involves comparing the internal records with the external statements and ensuring that they match. Any differences should be investigated and resolved as soon as possible.

4. The fourth part of the document discusses the importance of regular reviews and audits. This helps to ensure that the financial system is operating effectively and that any potential risks are identified and managed. Regular audits also provide an opportunity to improve the system and to ensure compliance with relevant regulations.

5. The fifth part of the document outlines the responsibilities of the staff members involved in the financial process. It is important that all staff are aware of their roles and responsibilities and that they are trained to perform their duties effectively. This includes maintaining accurate records, handling discrepancies, and reconciling accounts.

6. The sixth part of the document discusses the importance of communication and collaboration between all parties involved in the financial process. This includes the staff, the management, and the external auditors. Regular communication helps to ensure that everyone is aware of the current status of the system and any potential issues.

7. The seventh part of the document outlines the overall objectives of the financial system. These include ensuring the accuracy and integrity of the financial data, providing a clear audit trail, and ensuring compliance with relevant regulations. The system should be designed to meet these objectives and to provide a reliable and efficient financial process.

APPENDIX I Cont'd

Hunting Pressure by Zone and Township
1963

ZONE 4	Township	Man-days * of Hunting	Reported * Deer Kill	Known ** Deer Kill
	Bright	39	3	3
	Cobden	10	1	9
	Day	9	1	1
	Gould	33	4	5
	Grasset	28	1	5
	Gladstone	62	2	11
	Mack	1		1
	Montgomery	16	3	15
	Parkinson	30	1	1
	Patton	26	3	11
	Scarfe	19		1
	Striker	21		
	Thompson	16	2	3
	Wells	8		
	161	8	1	1
	162	0		
	163	8		
	167	3		4
	168	23		
	169	0		
	188	6	1	1
	Total	<u>366</u>	<u>23</u>	<u>72</u>

* From Hunter Questionnaires

** Reported & examined kills

APPENDIX 1 Cont'd

Hunting Pressure by Zone and Township
1963

OTHER THAN IN ZONES 1-4			
Township	Man-days * of Hunting	Reported * Deer Kill	Known ** Deer Kill
Curtis	2		
Whitman	15		
Ester	4	1	1
Lewis			
Long	9		
McGivern			
Proctor	4	1	1
Spragge	1		
1D	1		
2A	2		
2E	2		
3B	6		
3E	2		
4D	6		
7D	1		
143	10		
150	12		
155	16		
157	7		
28 R XVI	5		
Total	<u>105</u>	<u>2</u>	<u>2</u>

* From Hunter Questionnaires

** Reported & examined kills

Section 1: Introduction

The following information is provided for your reference. It is intended to assist you in understanding the scope and objectives of the project.

The project is designed to evaluate the effectiveness of the proposed system. The results will be used to inform future decision-making.

The project will be conducted in accordance with the following schedule. The timeline is subject to change based on the progress of the work.

The project will be completed by the end of the fiscal year. The final report will be submitted to the relevant stakeholders.

The project is expected to have a positive impact on the organization's operations. The results will be shared with the relevant departments.

The project is a high priority for the organization. It is essential for the success of our strategic goals.

The project is being managed by a dedicated team. The team will work closely with the relevant departments.

The project is being funded by the organization. The budget is subject to change based on the progress of the work.

The project is being implemented in a phased manner. The first phase will be completed by the end of the quarter.

The project is being monitored on a regular basis. The progress will be reported to the relevant stakeholders.

The project is being evaluated against the following criteria. The results will be used to inform future decision-making.

The project is being implemented in a timely manner. The results will be used to inform future decision-making.

The project is being implemented in a cost-effective manner. The results will be used to inform future decision-making.

The project is being implemented in a high-quality manner. The results will be used to inform future decision-making.

APPENDIX II

Deer Season Weather Report
 Station S.S. Marie District S.S. Marie

Cloud Cover Code
 Overcast - O
 Partly Cloudy - P
 Clear - C

Date	Weather Conditions					Ground Conditions		
	Cloud Cover	In. Rain Falling	In. Snow Falling	Max. Temp.	Min. Temp.	%Snow Cover	Avg. Snow Depth	Ground wet, dry, frozen
Nov. 4	P	0	none	55	39	none	0	dry
5	O	trace	none	53	43	none	0	dry
6	P	0	none	57	39	none	0	dry
7	P	0	none	56	39	none	0	dry
8	C	0	none	50	39	none	0	dry
9	O	.10	none	50	35	none	0	dry
10	P	.42	none	52	36	none	0	wet
11	P	.18	none	43	36	none	0	wet
12	O	.08	none	43	35	none	0	wet
13	P	trace	none	44	30	none	0	wet
14	O	0	none	37	33	none	0	dry
15	P	0	none	46	32	none	0	dry
16	P	0	none	54	40	none	0	dry

November 18th, 1963.

SAULT STE. MARIE
Deer Hunter Questionnaire:

Resident _____
Non-resident _____
Farmer _____
Licence Number _____

Dear Hunter:

You have been selected as part of a sample of persons who purchased a deer licence this fall. Your promptness and accuracy in returning the following questionnaire will be very useful to us. We need your co-operation in order to make suitable management recommendations for next season. Please return TODAY.

<u>Nov.</u>	<u>Township Hunted</u>	1. Did you hunt this past deer season? YES _____ NO _____
Mon. Nov. 4	_____	2. At left list TOWNSHIPS you hunted in, opposite dates hunted.
Tues. Nov. 5	_____	3. Was a deer taken on your licence? Yes _____ No _____ If you answered yes check one: Buck _____ Buck fawn _____ Doe _____ Doe fawn _____
Wed. Nov. 6	_____	4. On what day of the month was it killed? _____
Thurs. Nov. 7	_____	5. Where was it killed? (Give as nearly as possible in miles and direction from nearest town. Example: 10 miles N.W. of Thessalon _____ _____ _____
Fri. Nov. 8	_____	
Sat. Nov. 9	_____	6. Did you use dogs? Yes _____ No _____
Sun. Nov. 10	_____	
Mon. Nov. 11	_____	7. Non-residents: At what point did you cross the Ontario border when returning home?
Tues. Nov. 12	_____	
Wed. Nov. 13	_____	
Thurs. Nov. 14	_____	
Fri. Nov. 15	_____	
Sat. Nov. 16	_____	

Sincerely,

J.W. Lockwood,
District Forester.

1963 DEER HUNT - SAULT STE. MARIE DISTRICT

Name of person recording _____

Address _____

Exact location of hunt camp _____

What is the total number of licences that could be filled in your
Camp? _____

Do you use dogs? Yes _____ No _____

Please enter daily hunting record below: No. of 1963 hunt reports
wanted _____

Day	No. of men hunting	Deer killed			Township where deer killed
		Buck	Doe	Fawn	
Mon. Nov. 4					
Tues. Nov. 5					
Wed. Nov. 6					
Thurs. Nov. 7					
Fri. Nov. 8					
Sat. Nov. 9					
Sun. Nov. 10					
Mon. Nov. 11					
Tues. Nov. 12					
Wed. Nov. 13					
Thurs. Nov. 14					
Fri. Nov. 15					
Sat. Nov. 16					

RESIDENTS: We need deer jaws for ageing!

THE USE OF DAILY COMMERCIAL FISHING RECORDS TO DESCRIBE THE SEASONAL DISTRIBUTION OF THE AMERICAN SMELT IN THE CENTRAL BASIN OF LAKE ERIE*

by
R. D. Thomasson
Graduate Student, Department of Zoology
University of Guelph, Guelph, Ontario

Abstract

An analysis of the compulsory daily fishing reports of trawl and pound net fishermen has provided a picture of the seasonal movement and distribution of the American Smelt, Osmerus mordax (Mitchill), in a portion of the central basin of Lake Erie. The reports of the mobile trawl fishery, in particular, provide an available and potentially useful source of information on the abundance and distribution of Smelt.

Introduction

A major fishery for the American Smelt, Osmerus mordax (Mitchill), is located in the northwest portion of the central basin of Lake Erie. Commercial harvests from this area chosen for study made up 30.4 per cent of the 12,834,588 millions of pounds of the species harvested from the Canadian waters of Lake Erie during 1961.

The study area of 1,100 square miles is bounded on the north by the Ontario shoreline and on the south by the Canada-United States boundary (Figure 1). The lake bottom is typically flat with deposits of silt, sand, or clay and lends itself favourably to fishing with either trawl or pound net. Water depths reach 80 feet in offshore waters.

This paper describes the seasonal distribution of smelt within the study area as determined by an analysis and interpretation of the daily catch statistics of the commercial fishermen. The study is based on smelt harvests by 13 trawlers and 60 pound nets, collectively responsible for the total commercial catch from the area during 1961.

*Extracted from Master's Thesis, Department of Zoology,
University of Guelph.

Methods

The commercial fishing records used in the study were provided by the Commercial Fish Section of the Ontario Department of Lands and Forests. Two types of data were made available: statistics compiled by that Department, and the daily compulsory reports of the commercial fishermen. However, the picture of the fishery has been developed only from the daily fishing reports.

Catch per unit effort data (Hile, 1962) were used to determine the relative abundance of smelt and, if present, to describe the location of smelt concentrations. Smelt concentrations were defined arbitrarily as those areas where one-third of the daily catches by trawls exceeded 500 pounds per trawl-hour. Daily catch statistics were grouped on a weekly or bi-weekly basis for the subsequent description of seasonal smelt distribution.

Because of the mobility of trawlers and their ability to fish at all depths for smelt detected by echo sounder, the picture of seasonal smelt distribution was derived largely from the trawl fishery rather than the more-or-less sedentary pound net fishery. As the trawlers normally located smelt concentrations by running a transect from their home port with echo sounder in operation, the nearest smelt population to the home port of either Wheatley or Erieau was usually fished. The absence of harvests closer to the home port indicated that the echo sounder had not detected smelt in sufficient abundance to justify fishing. The location of Wheatley and Erieau at the extreme western and eastern limits, respectively, of the study area ensured a fair sampling of the area by trawlers working out of these ports.

The pound net fishery provided data on the onshore fishery to depth of 30 feet and gave valuable supplemental information to that of the trawl fishery by indicating the relative seasonal abundance of smelt in shoal waters.

Both the pound net and trawl fisheries were selective in capturing smelt commonly with a fork length greater than 5.5 inches.

Summer limnological conditions within the study area were obtained during cruises of the research vessel Keenosay operated by the Wheatley Laboratory of the Fisheries Section of the Research Branch, Ontario Department of Lands and Forests.

Smelt Harvests

Commercial smelt harvests from the study area during 1961 totalled 3,897,039 pounds. Trawls operating 3152.5 hours were responsible for 56.9 per cent of the harvest. The balance of the catch was taken by pound nets set for 4,749 net-days.

Harvest statistics are summarized in Table I on the basis of bi-weekly intervals and shown graphically in Figure 2. Reference to the total catch shows that two major peaks occurred in the fishery. The first peak was between late February and early May, the second from mid-June to early September.

Pound net catches were at a maximum only from mid-April to early May, reflecting substantial numbers of smelt in shoal waters during the spawning period. Only at that time of year did pound net catches exceed those of the trawlers. Trawl catches were large during late February and March indicating the availability of substantial numbers of smelt to the trawl fishery immediately preceding the spawning season. A second major trawl fishery for smelt occurred during the summer extending from the latter part of June through August. The spring fishery by pound nets and trawls (February 26 to May 6) made up 25.6 per cent and the summer fishery (June 18 to September 9) 61.0 per cent of the total annual catch.

Fishing quality by pound nets averaged 1,175 pounds of smelt per net-day between April 9th and May 6th and the harvest during this period made up 85.1 per cent of the total pound net catch for the year. During the peak period of the Spring trawl fishery from February 26th to March 25th, a harvest of 2,184,029 pounds was taken at a rate of 970 pounds per trawl-hour. The summer trawl fishery harvested 1,310,523 pounds at a rate of 632 pounds per trawl-hour between June 13th and August 26th and was responsible for 59.1 per cent of the annual trawl harvest of smelt.

Although catch per unit effort (Table I) exceeded 500 pounds per trawl-hour during bi-weekly intervals other than those within the two peak periods just described, the actual numbers of smelt caught were relatively low and represented catches by trawlers fortunate enough to locate sufficient quantities of smelt to justify trawling.

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Seasonal Distribution of Smelt

The location of smelt concentrations during 1961, as determined by an analysis of the daily records of trawlers operating from the ports of Wheatley and Erieau are given in Table II.

No indication of any concentrations was evident from fishing records prior to mid-February nor after mid-September. Smelt were found to be concentrated in comparatively shallow water when first located in February, particularly in the Pte. aux Pins area, but moved into deeper water during March. Onshore concentrations in less than 40 feet of water were fished during April concurrent with the major pound net fishery in shoal waters at spawning time.

Following spawning, no further concentration of smelt was located by the trawl fishery from the end of April until the middle of June. A substantial concentration was located in mid-June which by late June exceeded an estimated area of 200 square miles at an average depth of approximately 60 feet. This concentration contributed a significant harvest.

During July and August, offshore concentrations of smelt at an average water depth of 66 feet provided a worthwhile summer fishery. The identity of these concentrations had disappeared by early September and, although a concentration was located briefly again during the week of September 17th, the analysis of fishing data indicated a general dispersal of the summer smelt concentration in September followed by a random distribution through the study area during the remainder of the year.

In Figure III are plotted the approximate locations of smelt concentrations as derived by an analysis of the trawl fishery for early March shortly after the formation of the spring onshore concentrations, and for late August shortly before the autumn dispersal of smelt from the offshore hypolimnion.

Summer Limnological Conditions

Evidence in support of the observation of Sand and Gordon (1960) that smelt frequent bottom waters during daylight hours has been provided for the central basin of Lake Erie by firstly, a study of echo tracings provided by commercial fishermen and, secondly, the experience of trawl fishermen in reaping their harvests from bottom waters. An analysis of trawl records has shown the catch of smelt to have come entirely from within the hypolimnion of offshore waters during the summer months.

A summary of minimum water temperatures and dissolved oxygen levels within the hypolimnion during the summer months is given in Table III. The hypolimnion during that period averaged 25.5 feet in thickness and was as thin as 5 feet at at least two locations in late August. Average minimum water temperatures increased from 11.3° C. in June to 14.0° C. by mid-August at the stations sampled. Dissolved oxygen concentrations in bottom waters decreased from an average of 6.8 ppm. in June to 3.9 ppm. by late August.

Smelt concentrations on the dates of the limnological surveys were detected at 10 sampling stations within the hypolimnion at bottom depths ranging from 48 to 80 feet, water temperatures of 12.2 to 15.6° C., and dissolved oxygen levels of 2.4 to 9.0 ppm. The hypolimnion at these stations averaged 28.1 feet and was as thin as 13.0 feet.

Although the limited data precludes any significant correlation between smelt distribution and either water temperature or dissolved oxygen levels, both of these factors tended to become more critical for smelt survival as the summer progressed.

Discussion

The primary purpose of this paper has been to report on a study to determine the usefulness of the compulsory daily reports of commercial fishermen as a basis for describing the seasonal movement and distribution of fish. The study has shown that by analysis of trawling statistics supplemented by those of the pound net fishery, it has been possible to provide a reasonably sound account of the distributional pattern of adult smelt in a portion of the central basin of lake Erie during 1961.

The major limitations in the use of these data include, firstly, the accuracy of the commercial fishermen in recording location, fishing effort, and harvest; secondly, the adequacy of the sampling of the study area by the commercial operations; and thirdly, the ability of the investigator to translate and interpret the information recorded by the fishermen. In spite of these inherent sources of error, the compulsory daily commercial reports have provided useful and reasonably reliable biological information on the American Smelt and are a readily available source of potentially useful data for future studies.

Acknowledgments

The author expresses his thanks to the Commercial Fish Section of the Fish and Wildlife Branch of the Ontario Department of Lands and Forests for making commercial fishing records available for analysis, and to the Fisheries Section of the Research Branch of the same Department for the use of the research facilities at their Wheatley Station.

References

- Hile, Ralph, 1962. Collection and Analysis of Commercial Fishery Statistics in the Great Lakes. Tech. Rept. No. 5, December: 11-16.
- Sand, R. F. and W. B. Gordon, 1960. Exploratory Fishing in Lake Erie, September, 1958 - November, 1959. *Comm. Fish Review*, 22(c): 1-12.

The first part of the document discusses the importance of maintaining accurate records. It highlights the need for regular updates and the role of technology in streamlining the process. The text emphasizes that proper record-keeping is essential for compliance and operational efficiency.

In the second section, the author explores various methods for data collection and analysis. It compares traditional manual entry with modern digital solutions, noting the benefits of automation in reducing errors and saving time. The text also touches upon the importance of data security and access control.

The final part of the document provides a summary of key findings and offers recommendations for future improvements. It suggests implementing standardized protocols and investing in training for staff to ensure the highest quality of data management. The author concludes by reiterating the value of a robust record-keeping system.

TABLE I
Catch Statistics for the American Smelt During 1961 as Derived by
An Analysis of Compulsory Daily Commercial Fishing Reports.

Two Week Period	Pound-Net Harvests			Trawl Harvests			
	Net-days	Catch in Pounds	C.U.E.	Trawl-hour	Catch in Pounds	C.U.E.	Total Catch
Jan. 1	0	-		8.0	1,871	234	1,871
15	0	-		21.0	2,854	136	2,854
29	0	-		5.0	4,925	985	4,925
Feb. 12	0	-		28.0	12,342	441	12,342
26	0	-		240.0	141,046	587	141,046
Mar. 12	4	2,045	511	275.2	248,631	903	250,676
26	25	7,426	297	163.1	268,171	1,644	275,597
April 9	520	543,002	1,044	106.8	54,089	506	597,091
23	696	886,163	1,273	27.0	33,456	1,240	919,619
May 7	838	186,711	223	17.0	4,349	256	191,060
21	740	7,261	10	29.1	3,875	133	11,136
June 4	362	5,075	14	9.0	650	72	5,725
18	216	9,419	22	274.5	137,630	501	147,049
July 2	145	573	40	459.9	251,786	547	252,359
16	339	15,718	46	558.3	354,280	635	369,998
30	70	577	8	538.3	410,376	762	410,953
Aug. 13	0	-	-	243.0	156,451	644	156,451
27	0	-	-	85.4	70,478	825	70,478
Sept. 10	210	50	0.3	0	-	-	50
24	87	1,322	15	65.9	57,525	-	58,847
Oct. 8	76	288	4	0	-	-	288
22	207	5,977	29	4.0	2,332	583	8,309
Nov. 5	154	3,215	21	0	-	-	3,215
19	60	5,100	85	0	-	-	5,100
TOTAL	4,749	1,679,922	354	3,158.5	2,217,117	702	3,897,039

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Third main section of faint text, possibly a summary or concluding remarks.

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TABLE II

The Weekly Location of Concentrations of American Smelt During 1961 as Determined by An Analysis of Compulsory Daily Commercial Trawl Reports.

Weeks of	Location From				Water Depth (ft.)	Approx. Area (sq.miles)
	Erieau Course (0)	Miles	Wheatley Course (0)	Miles		
Previous to Feb. 19	no concentration indicated					
Feb. 19	83	6	69	38	38	9
Feb. 26	80	8	70	40	40	30
March 5	82	9	70	41	40	29
"	233	27	118	10	60	3
March 12	98	7	73	39	66	19
"	210	29	129	20	72	166
March 19	229	27	118	12	60	19
March 26	217	30	132	16	66	47
April 2	219	25	116	16	66	58
April 9	no concentration indicated					
April 16	160	1	67	32	30	1
April 23	147	3	71	33	36	2
April 30 to June 4	no concentration indicated					
June 11	226	31	140	12	54	21
June 18	222	29	128	14	60	119
June 25	221	26	119	15	66	231
July 2	222	25	115	14	66	137
"	150	11	85	36	72	1
July 9	223	25	115	14	66	131
"	216	10	79	24	66	1
July 16	224	28	127	19	60	36
"	219	19	86	22	66	96
July 23	227	19	91	17	66	203
July 30	228	23	76	13	60	23
"	225	10	101	23	66	55
August 6	224	22	101	17	66	85
"	184	12	89	24	66	12
August 13	196	25	117	26	72	74
August 20	196	23	111	26	72	75
August 27 to Sept. 10	no concentration indicated					
Sept. 17	238	21	84	12	60	19
Rest of Year	no concentration indicated					

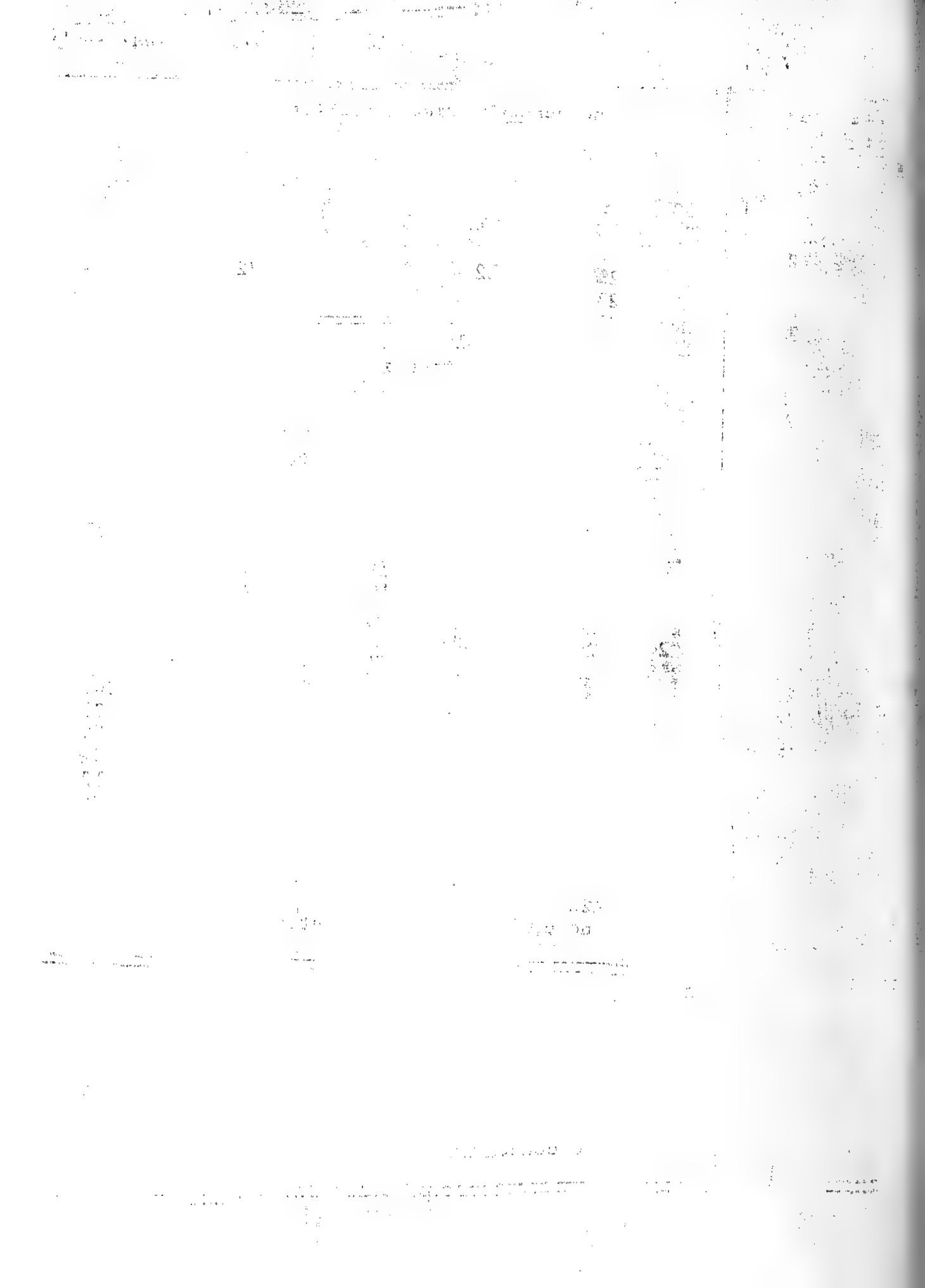
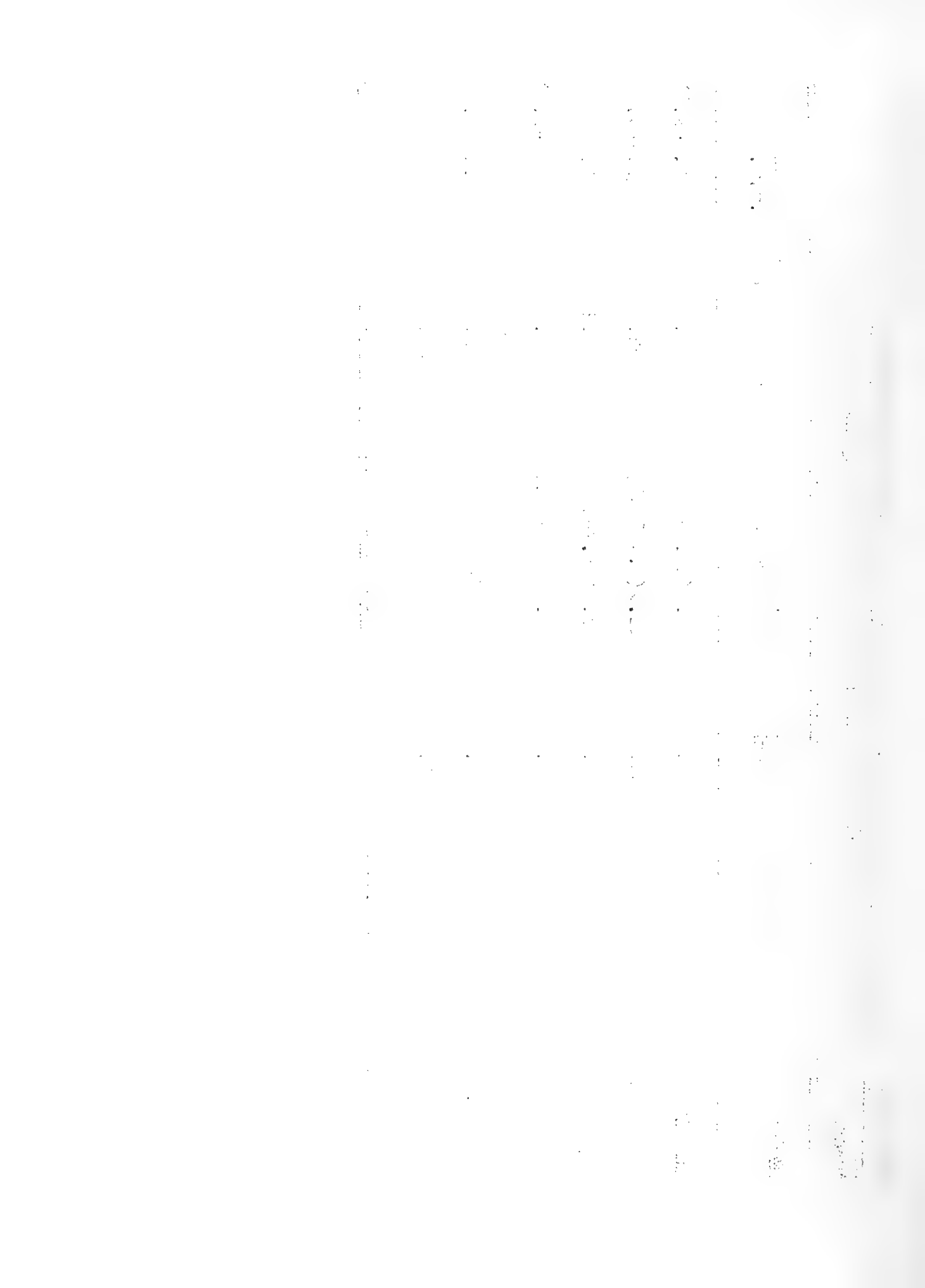


TABLE III Summary of Data on Water Temperature and Dissolved Oxygen
Within the Hypolimnion of the Study Area During 1961

Survey	No. of Stations	Av. Water Depth	Av. Minimum Water Temp.	Sample Depth (ft)	Dissolved Oxygen p.p.m.
June 22	8	69.0	11.3(10.3-12.8)	62.5	6.8(4.1-9.4)
July 17-21	20	65.5	12.9(8.9-16.1)	62.0	6.0(2.2-9.0)
July 18-19	8	64.0	12.6(11.7-14.4)	59.2	5.9(3.1-7.1)
August 14-16	20	63.5	14.2(12.8-16.7)	61.0	5.4(3.0-9.4)
August 28 - Sept. 1	15	68.0	14.0(13.0-16.7)	65.0	3.9(1.6-7.5)
Average	81	66.3	13.2	60.5	5.0



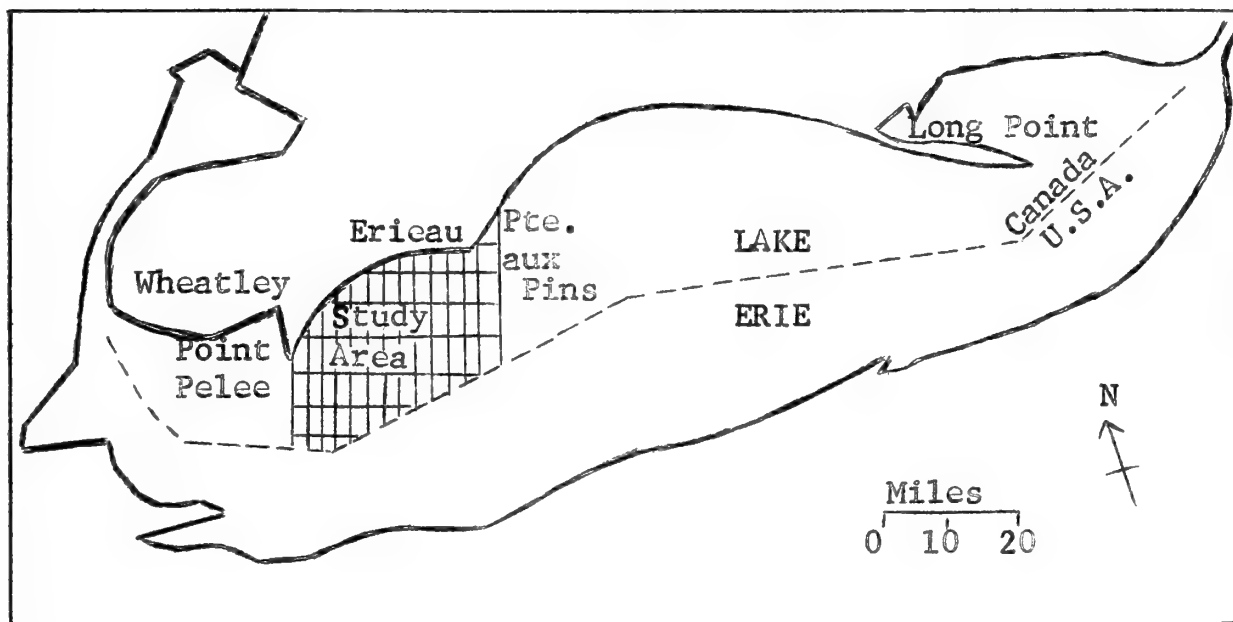


Figure I

Location of the Study Area Within the Central Basin of Lake Erie.



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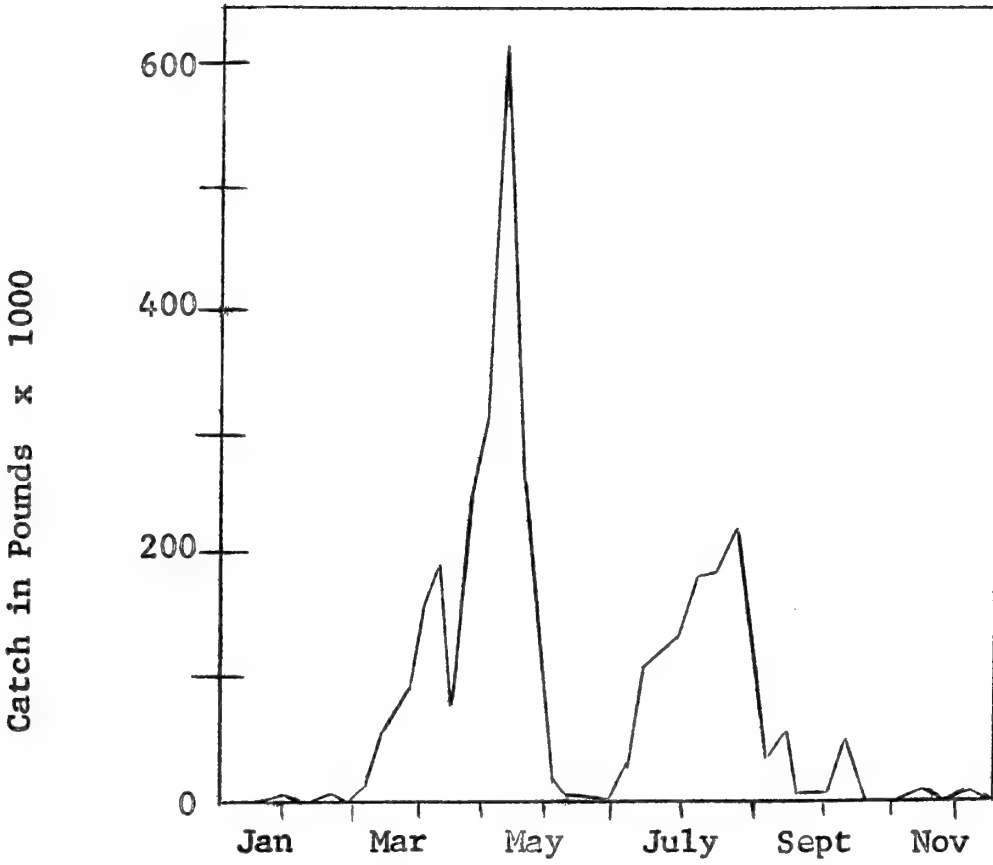


Figure II Total Commercial Harvest of Smelt by Trawls and Pound Nets Within the Study Area During 1961.

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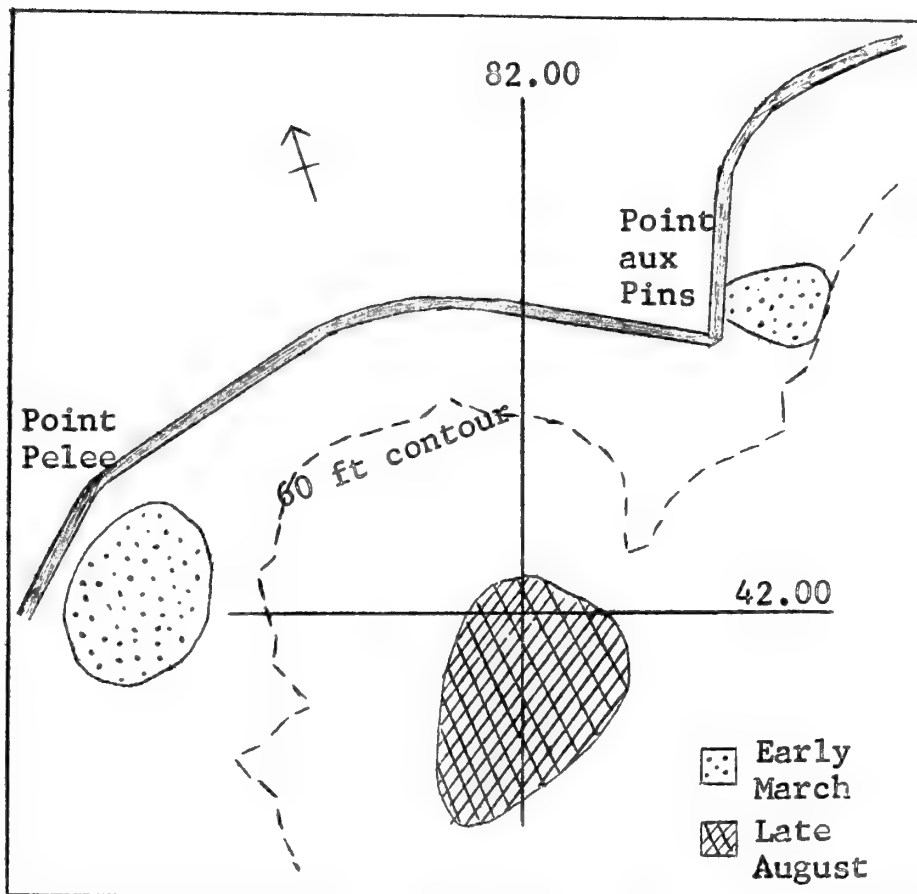


Figure III Concentrations of Smelt Within the Study Area During Early March and Late August As Derived From an Analysis of Trawl Records.

WINTER ANGLING FOR BROOK TROUT IN THE PORT ARTHUR FOREST DISTRICT

by
P. Nunan
Conservation Officer

Abstract

A survey of the effects of winter fishing on brook trout (Salvelinus fontinalis) was conducted by Fish and Wildlife staff in the months of February to April, 1964. Angling success was .49 fish per hour. This was considered good enough to justify an earlier opening but not heavy enough to cause any concern to summer anglers. It was concluded that any lake receiving exceptionally heavy winter angling could be stocked with catchable sized fish shortly after break-up.

Introduction

The open season for angling brook trout (Salvelinus fontinalis) in the Port Arthur Forest District has been, traditionally, from May 1 to September 15 each year. In the early months of the winter of 1963 - 1964 there was a fairly large number of requests for winter angling. We were not in a position to advise anglers what they could expect so tests were arranged to determine:

- (a) is it possible to catch enough brook trout to make winter fishing worthwhile?
- (b) is it possible that winter fishing could be successful enough to seriously affect open water fishing?
- (c) to determine the reaction of the public to winter fishing.

Methods

Our program was widely announced to conservation clubs, service clubs and other organizations as well as to the press through News Releases.

Fishing was restricted to Fish and Wildlife staff so that we would have control of all activities.

Tests were run on Sunset Lake in Lismore Township and Echo (Strange) Lake in Strange Township. These lakes were chosen because they had been heavily stocked in 1963 and because access was relatively easy.

The first part of the report deals with the general situation in the country. It is noted that the economy is in a state of depression, and that the government is unable to meet its obligations. The report also mentions the need for international assistance and the importance of maintaining law and order.

CONCLUSIONS

1945-1946

The second part of the report discusses the financial situation. It is stated that the government's revenue is insufficient to cover its expenses, and that the deficit is increasing. The report also mentions the need for a more efficient tax system and the importance of reducing government expenditure.

The third part of the report deals with the social situation. It is noted that the standard of living is low, and that there is widespread poverty. The report also mentions the need for social reforms and the importance of improving the education system.

The fourth part of the report discusses the political situation. It is stated that the government is weak and that there is a need for a more stable and democratic government. The report also mentions the need for a more active role for the opposition.

The fifth part of the report deals with the international situation. It is noted that the country is in a difficult position, and that it needs the support of the international community. The report also mentions the need for a more active role in international affairs.

The sixth part of the report discusses the future of the country. It is stated that the country has a bright future, and that it needs to continue to reform and improve itself. The report also mentions the need for a more active role for the people.

The seventh part of the report deals with the recommendations of the committee. It is stated that the government should take immediate steps to address the economic, social, and political problems. The report also mentions the need for a more active role for the people.

The eighth part of the report discusses the conclusions of the committee. It is stated that the country is in a state of crisis, and that it needs a more stable and democratic government. The report also mentions the need for a more active role for the people.

Baits and methods were any that winter anglers might be expected to use, from pieces of freshly cut up minnows to various jigs. Lines were either hand held or set and attended.

Results

There was a total of 222 man-hours of fishing and 109 fish were landed for an average of .49 fish per man-hour -- Table I.

Fishing was most successful in February and April. It was very slow in March.

The largest number of fish taken was on April 8 at Echo Lake when 22 fish were taken in 20 man-hours of angling.

It was not possible to detect a difference in the effectiveness of baits or to prove that hand held lines were better than set lines.

Angling was most effective on warm days or when the weather was turning from cold to warm. It was poor in cold weather or while the weather was turning cold.

Angler reaction was, unfortunately, not recorded on forms set up for the purpose and we are unable to produce figures. There has, however, been almost no opposition to the idea of winter fishing. Some anglers were uncertain about it being good or bad. They wanted to see the results of the study first. The majority (and it appears to be large) of the comments were in favour of ice fishing and two or three were emphatic in their feeling.

Conclusions

1. The public generally favours an extension of the present trout season.
2. Angling was successful enough to justify having an open season.
3. Angling was not so successful that open water fishing would be seriously affected. Since brook trout fishing in lakes is maintained through hatchery stocking, lakes subjected to heavy winter fishing could be restocked with catchable sized fish shortly after break-up in the spring. This would be one of the best possible uses for hatchery trout.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and analysis, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure.

5. The fifth part of the document discusses the importance of data governance and the role of various stakeholders in ensuring that data is used ethically and in compliance with relevant regulations.

6. The sixth part of the document provides a summary of the key findings and recommendations. It emphasizes the need for a holistic approach to data management that integrates all aspects of the organization's operations.

7. The seventh part of the document concludes with a call to action, urging the organization to implement the recommended practices and to continue to monitor and improve its data management processes over time.

Acknowledgments

Several members of the Fish and Wildlife staff assisted in the fishing and I wish to thank William Sameluk, John Morton, Vern Sheeler, Paul Bougie, Emil Ostrum and Arnold Draves.

Mr. C. A. Eelsey helped to set up the program and gave assistance in preparing the report as well as guidance as the survey progressed.

TABLE I

Angling Success

	<u>February</u>	<u>March</u>	<u>April</u>	<u>Total</u>
No. of Man-hrs. Fished	30	121	71	222
No. of Fish Landed	18	47	44	109
No. of Fish Taken per Hr. Per Angler	.60	.39	.63	

Average number of fish taken
per hour per angler .49

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial data and for facilitating the audit process. The records should be kept in a secure and accessible format, and should be updated regularly to reflect any changes in the data.

2. The second part of the document outlines the procedures for conducting a thorough audit of the financial records. This involves a detailed review of all transactions, including a check of the supporting documentation. The auditor should also verify the accuracy of the calculations and the overall balance of the accounts. Any discrepancies should be identified and investigated immediately.

3. The third part of the document provides a summary of the findings of the audit. This includes a list of all identified errors and a description of the steps that have been taken to correct them. The summary should also include a statement of the overall accuracy of the financial records and a recommendation for any further actions that may be required.

4. The fourth part of the document contains a detailed list of all the transactions that were audited. This list should include the date of each transaction, the amount, and the account to which it was credited or debited. It should also include a reference to the supporting documentation for each transaction.

5. The fifth part of the document provides a final summary of the audit results. This includes a statement of the total amount of the transactions audited, the total amount of errors identified, and the total amount of corrections made. It also includes a statement of the overall accuracy of the financial records and a recommendation for any further actions that may be required.

REPORT ON THE WHITE LAKE FISHERY PROJECT, 1963

by
D. J. Rice
Conservation Officer
White River District

Abstract

This is the third year report of a four year study undertaken to determine over a prolonged period of time the effect of intense angling pressure on a lake hitherto unexploited. Results showed a sharp drop in angling success between 1961 and 1962. Although 1963 angling pressure decreased considerably from that of 1961 and 1962 angling success indicated a levelling off. Tables and graphs showing angling success by months over the summer period are presented.

Introduction

During the summer of 1961, an intensive creel census survey was begun on White Lake in this District. At that time a census technique was established which was felt to be sufficiently accurate to give a true picture of angling success without unduly taxing personnel. This method proved satisfactory and was continued in 1962 and 1963. The method was fully described in the report for 1961 (Wilton, 1961) and will not be mentioned here.

Methods

The methods used in collecting the creel census data were exactly the same as those used in 1962 which varied only slightly from those used in 1961. The method of tabulating the data was exactly the same as in 1961 and 1962.

The census period extended from the opening of walleye season, May 12, until September 15, at which time all heavy angling pressure had ceased.

Results

Table 1 shows the angling success results derived from actual information before any conversions of any kind were made.

Graphs 1 to 4 show the differential angling success on a monthly basis.

CHICAGO, ILLINOIS
JANUARY 1964

Dear Mr. [Name]:
I have received your letter of the 12th and am pleased to hear that you are interested in the [Project Name]. The [Project Name] is a [description of the project] and we are currently [status of the project]. I would be happy to provide you with more information and to discuss the project in more detail. Please let me know if you have any questions or if you would like to schedule a meeting.

Sincerely,
[Name]

Enclosed for you are [list of items enclosed]. I hope these will be helpful to you. If you need any further assistance, please do not hesitate to contact me. I am looking forward to hearing from you again.

[Name]

I am sure that you will find the information provided here to be of interest. I am available to discuss the project at any time. Please feel free to call me at [phone number] or write to me at [address].

Very truly yours,
[Name]

[Name]

I am sure that you will find the information provided here to be of interest. I am available to discuss the project at any time. Please feel free to call me at [phone number] or write to me at [address].

Very truly yours,
[Name]

TABLE 1

Angling Success Derived from Information Received Before Any Conversions Were Made.

	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>
No. Pickerel caught per rod-hour	0.85	0.45	0.52	0.50
No. Pike Caught per rod-hour	0.07	0.13	0.18	0.37
No. Fish caught per rod-hour	0.92	0.58	0.70	0.87
No. Pickerel retained per rod-hour	0.50	0.29	0.33	0.33
No. Pike retained per rod-hour	0.04	0.08	0.12	0.27
No. Fish retained per rod-hour	0.54	0.37	0.45	0.60
Lbs. Pickerel retained per rod-hour	0.60	0.38	0.32	0.43
Lbs. Pike retained per rod-hour	0.05	0.08	0.22	0.44
Lbs. Fish retained per rod-hour	0.65	0.46	0.54	0.87
Av. Wt. in lbs. per pickerel retained	1.21	1.32	0.98	1.29
Av. Wt. in lbs. per pike retained	1.41	1.81	1.82	1.64
Av. Wt. in lbs. per fish retained	1.22	1.42	1.20	1.45

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include direct observation, interviews, and the use of statistical techniques. Each method has its own strengths and limitations, and it is important to choose the most appropriate one for the specific situation.

3. The third part of the document describes the process of identifying and measuring the variables of interest. This involves defining the variables in terms of measurable terms and then developing a plan to collect data on these variables.

4. The fourth part of the document discusses the importance of controlling for confounding variables. These are variables that can affect the relationship between the independent and dependent variables, and it is important to control for them to ensure the validity of the results.

5. The fifth part of the document describes the various statistical techniques used to analyze the data. These techniques include descriptive statistics, inferential statistics, and regression analysis. Each technique is used to answer different types of questions about the data.

6. The sixth part of the document discusses the importance of interpreting the results of the analysis. This involves understanding the meaning of the statistical results and how they relate to the research question.

7. The seventh part of the document describes the various ways in which the results of the analysis can be presented. These include tables, graphs, and written reports. Each method has its own advantages and disadvantages, and it is important to choose the most appropriate one for the specific situation.

8. The eighth part of the document discusses the importance of communicating the results of the analysis to the relevant stakeholders. This involves writing clear and concise reports that are easy to understand and that provide the information needed to make decisions.

9. The ninth part of the document describes the various ways in which the results of the analysis can be used. These include identifying trends, testing hypotheses, and making predictions. Each use has its own requirements and limitations, and it is important to understand these before using the results.

10. The tenth part of the document discusses the importance of evaluating the quality of the research. This involves assessing the reliability and validity of the data and the methods used to collect and analyze the data.

11. The eleventh part of the document describes the various ways in which the results of the analysis can be used to inform decision-making. This involves identifying the key findings of the analysis and then using these to make decisions about the future.

12. The twelfth part of the document discusses the importance of monitoring and evaluating the impact of the research. This involves tracking the progress of the research and assessing the extent to which the research has achieved its objectives.

13. The thirteenth part of the document describes the various ways in which the results of the analysis can be used to improve the quality of the research. This involves identifying areas where the research could be improved and then implementing changes to address these areas.

14. The fourteenth part of the document discusses the importance of maintaining the confidentiality of the data. This involves ensuring that the data is only accessible to those who need it and that it is protected from unauthorized access.

15. The fifteenth part of the document describes the various ways in which the results of the analysis can be used to promote transparency and accountability. This involves making the results of the analysis available to the public and providing a clear explanation of how the results were obtained.

16. The sixteenth part of the document discusses the importance of ensuring the ethical integrity of the research. This involves following the principles of research ethics and ensuring that the research is conducted in a way that respects the rights and dignity of the participants.

17. The seventeenth part of the document describes the various ways in which the results of the analysis can be used to advance the field of research. This involves identifying new areas for research and developing new methods for collecting and analyzing data.

18. The eighteenth part of the document discusses the importance of staying up-to-date on the latest research in the field. This involves reading the latest journals and articles and attending conferences and seminars.

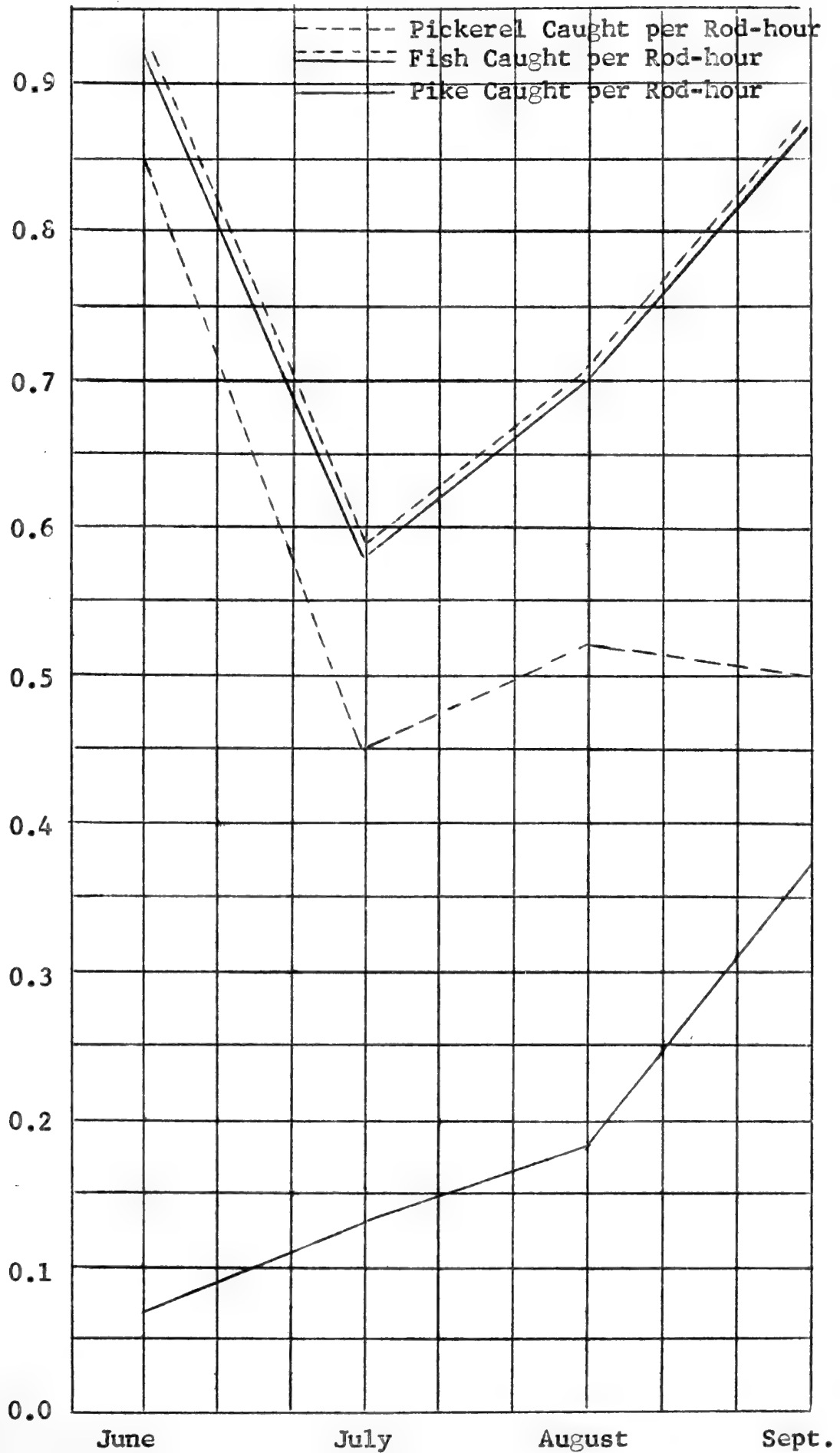
19. The nineteenth part of the document describes the various ways in which the results of the analysis can be used to inform policy-making. This involves identifying the key findings of the analysis and then using these to inform the development of policies.

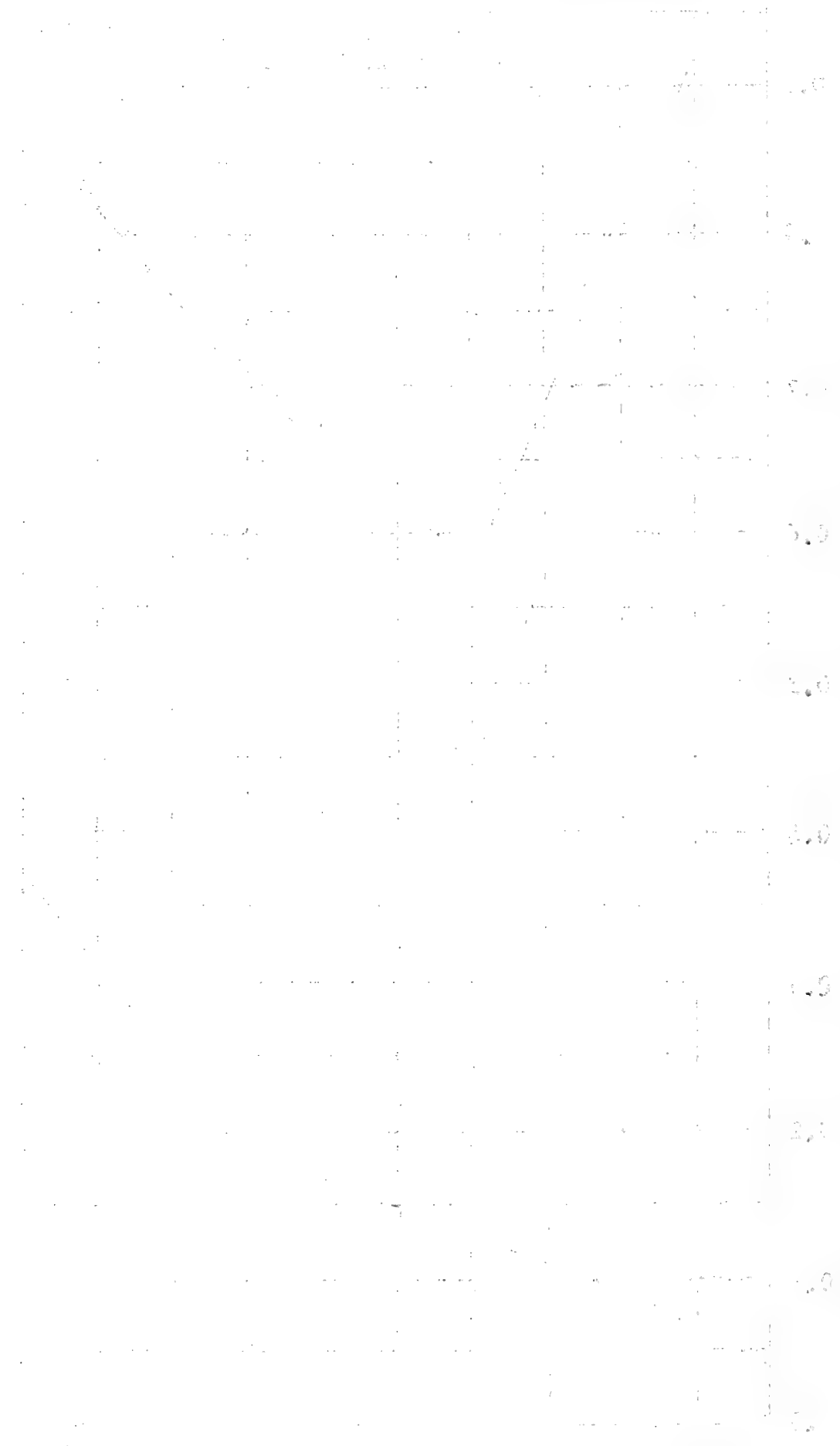
20. The twentieth part of the document discusses the importance of collaborating with other researchers. This involves working with other researchers to share ideas and resources and to conduct joint research projects.

Graph #1

Fish Caught Per Rod-hour by Months

Fish Caught per Rod-hour



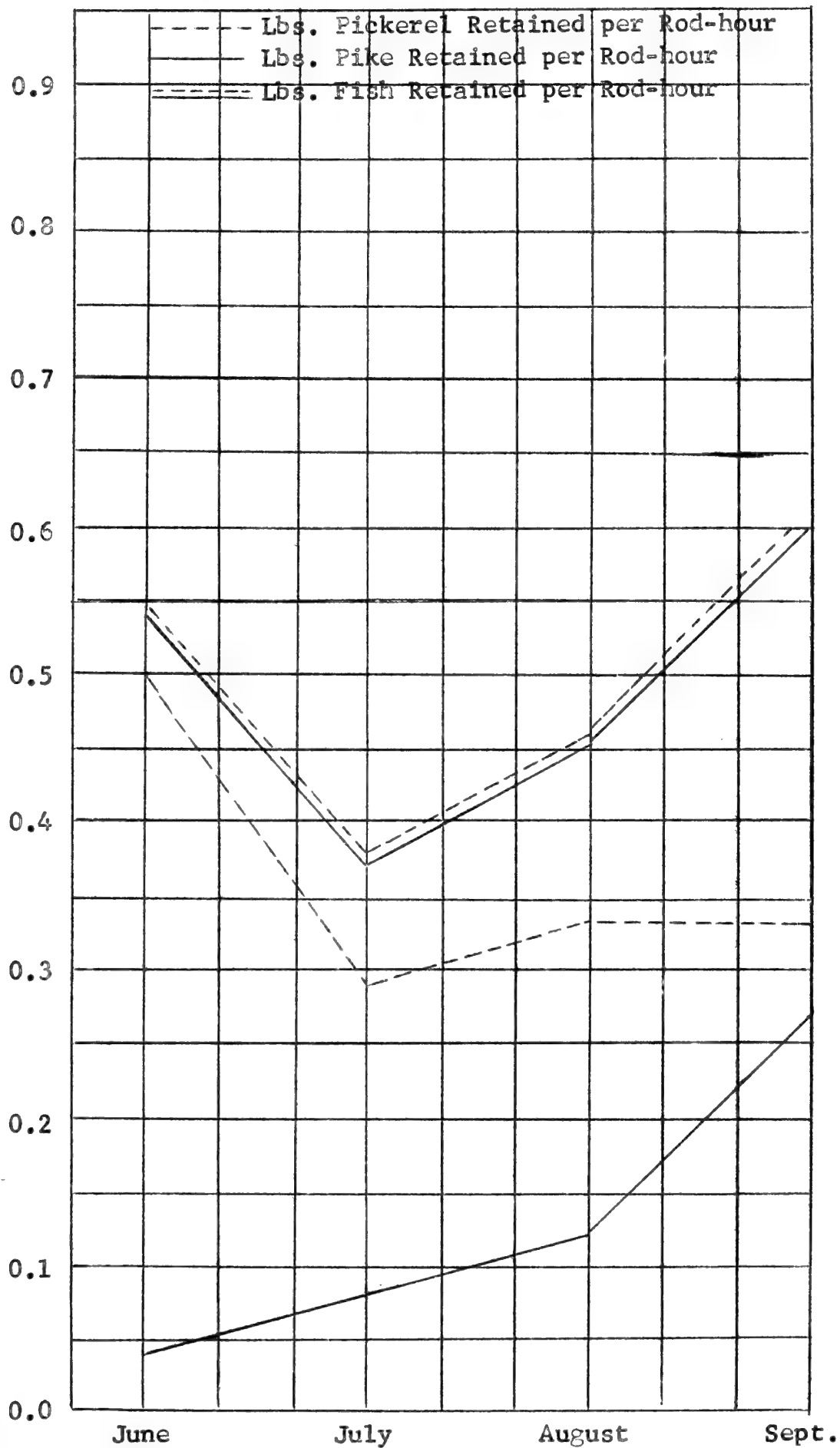


UNIVERSITY OF CHICAGO

Graph #2

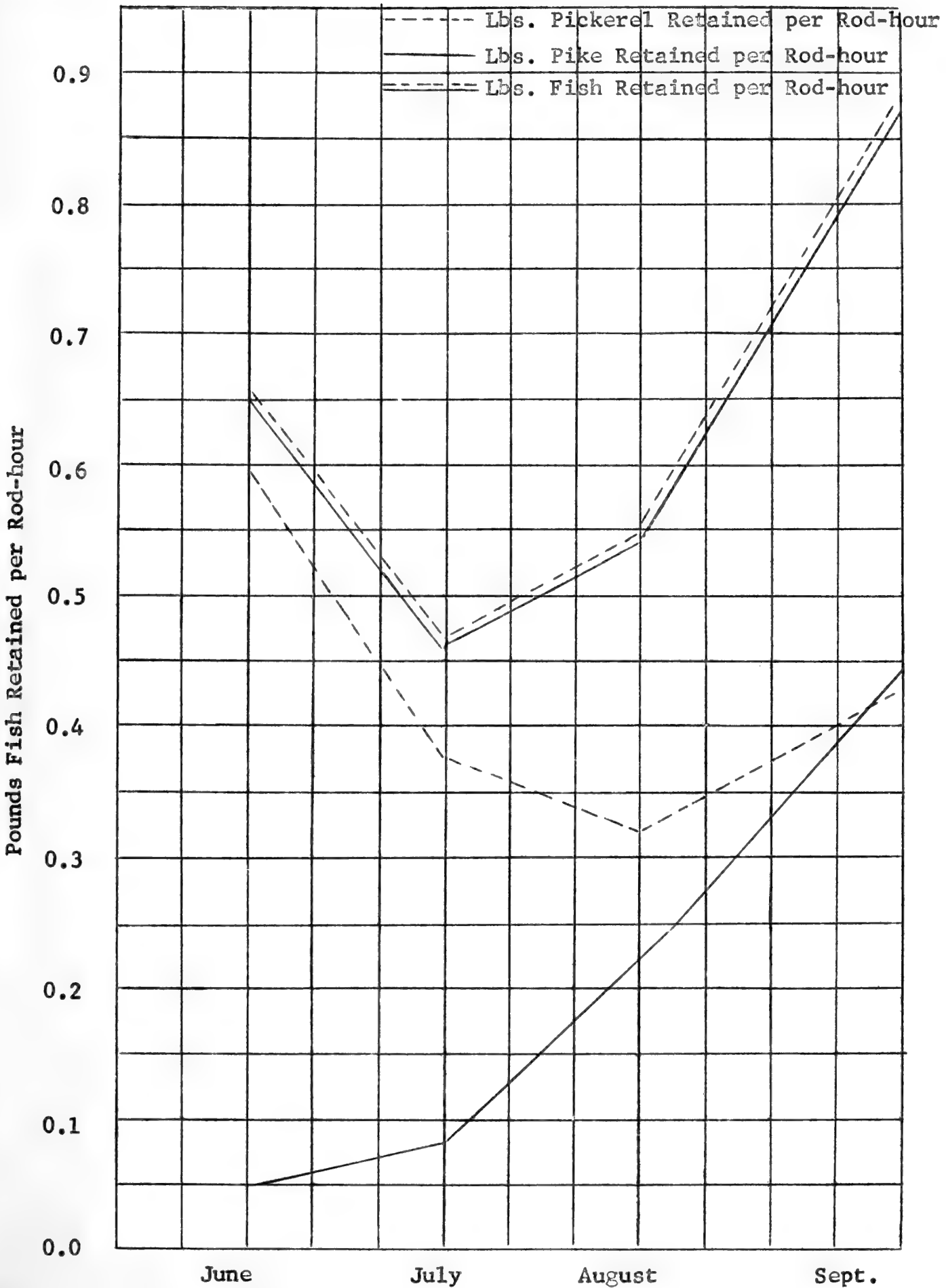
Fish Retained Per Rod-hour by Months

Fish Retained per Rod-hour



Graph #3

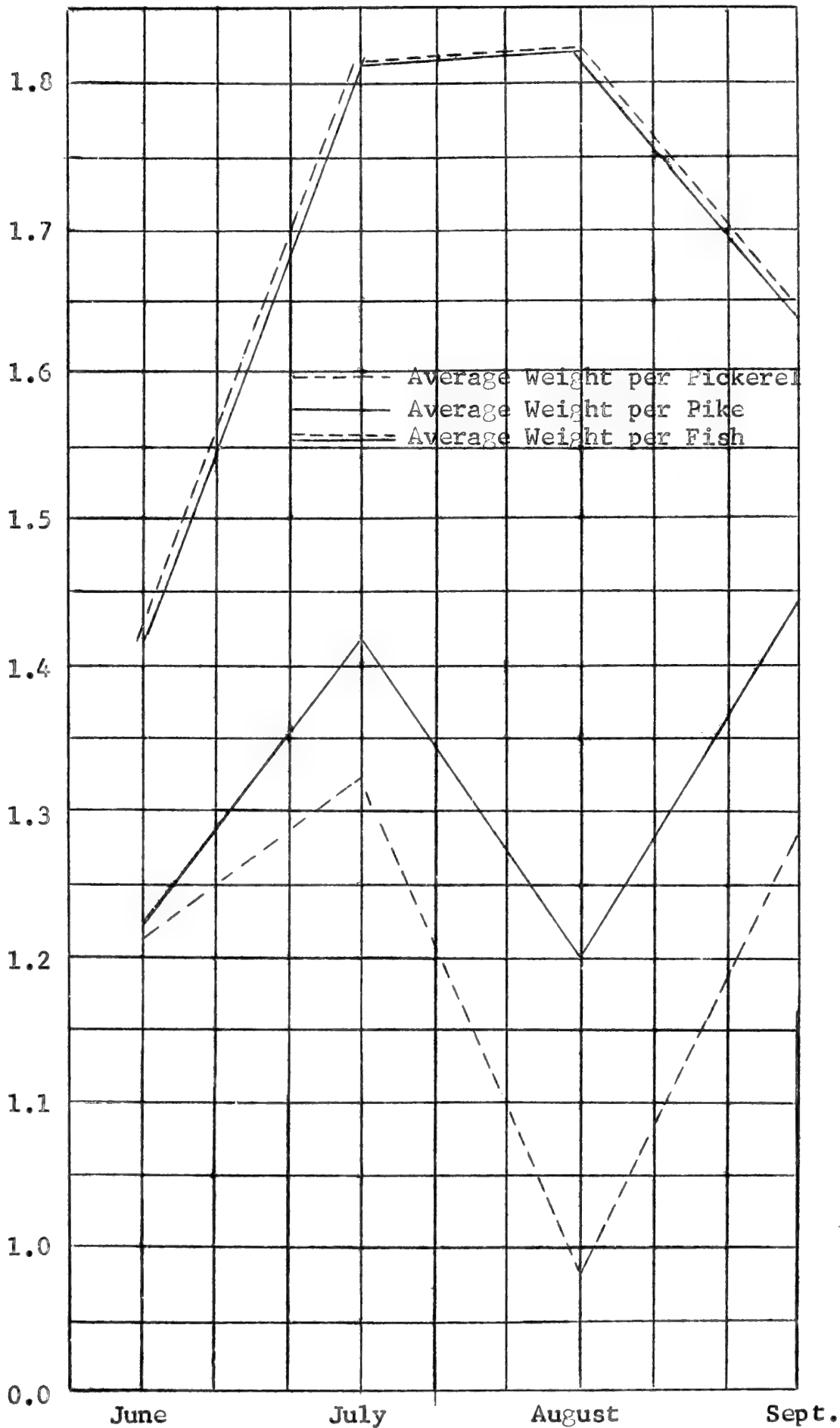
Lbs. Fish Retained Per Rod-hour by Months



Graph #4

Av. Wt. in Lbs. Per Fish Retained by Months

Average Weight in Lbs. per Fish



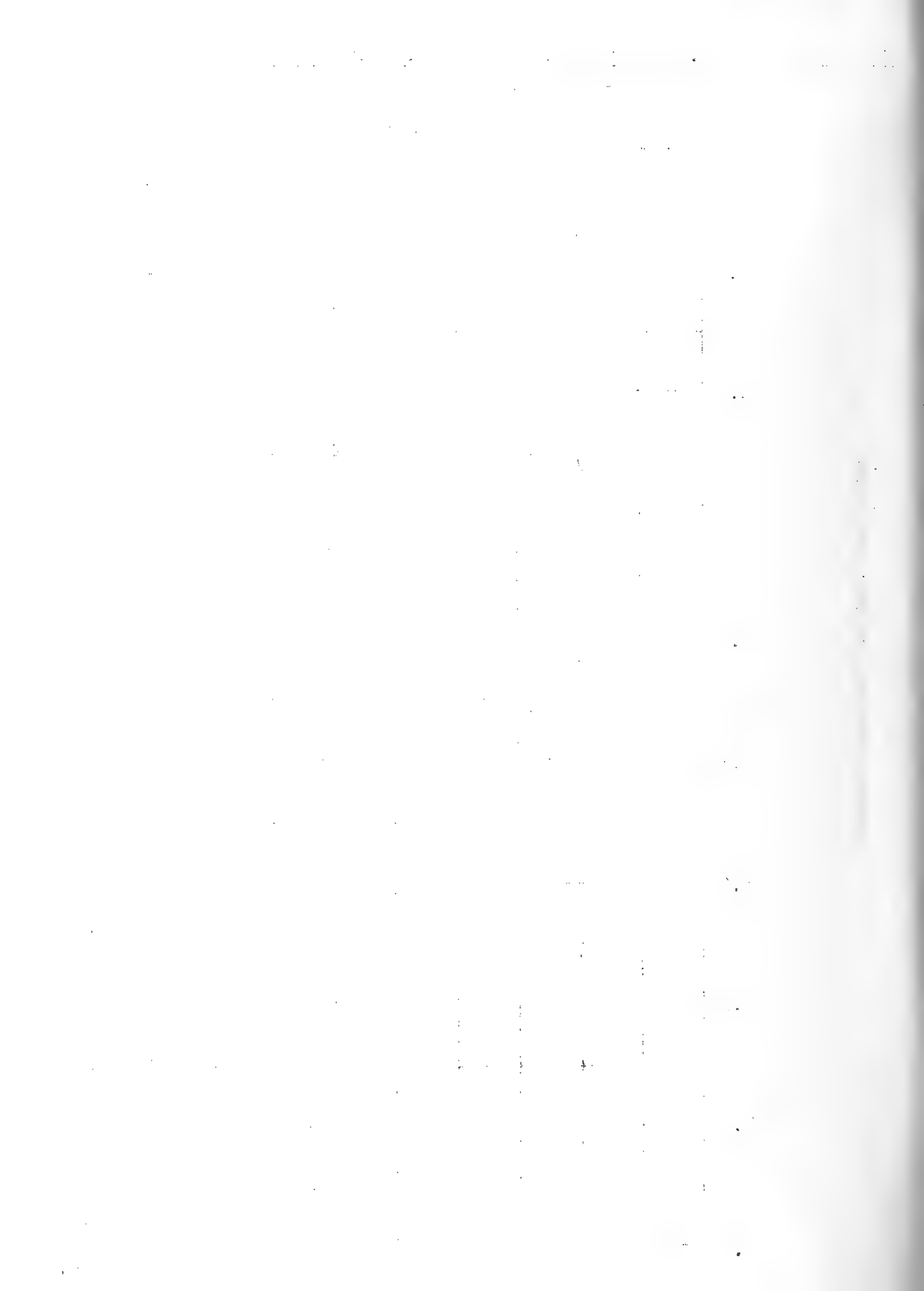


Table 2 shows the calculated angling success stratified on a monthly basis.

Table 3 shows the calculated angling success on a summer basis.

Table 4 shows the comparison of angling pressure and success on a summer basis for the years 1961, 1962 and 1963.

The figures shown represent the data collected for the months of June, July, August and September only. Due to the absence of staff, no information was obtained for the month of May of 1963, therefore May has not been included in the comparison.

Discussion of Results

The comparison of angling success between 1961 and 1962 indicated a sharp drop. In the comparison of the 1962 and 1963 data, although the amount of angling pressure has decreased considerably from that of 1961 and 1962, the angling success would indicate a levelling off. However, no conclusions will be drawn until one more year's data have been collected and tabulated.

Acknowledgments

Thanks are due to the members of the Fish and Wildlife staff of the White River District for their willing co-operation in this study.

References

- Rice, D. J., 1962. A Report on the White Lake Fishery. Unpublished Report, Ontario Dept. of Lands & Forests, White River.
- Wilton, M. L., 1962. A Preliminary Report on the White Lake Fishery, 1961. Resource Mgt. Report No. 61, January.

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TABLE 2

Calculated Angling Success on a Monthly Basis

Month	Number of Parties	Number of Anglers	Total Hours	Number Pickerel Caught	Number Pickerel Retained	Pounds Pickerel Retained	Number Pike Caught	Number Pike Retained	Pounds Pike Retained
June	589	1697	8473	7154	4224	5083	644	304	416
July	874	2658	9955	4404	2816	3701	1432	845	1566
Aug.	592	1660	5754	2531	1712	1691	897	607	1087
Sept.	96	216	676	338	224	298	243	180	240

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
...

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TABLE 3 Calculated Angling Success - Summer Totals

Month	Number of Parties	Number of Anglers	Total Hours	Number Pickerel Caught	Number Pickerel Retained	Pounds Pickerel Retained	Number Pike Caught	Number Pike Retained	Pounds Pike Retained
Summer Totals	2151	6231	24858	14427	8976	10773	3216	1936	3309

TABLE 4

Comparison of Angling Pressure and Success on a Summer Basis for the Years 1961, 1962 and 1963

Year	Number of Parties	Number of Anglers	Hours	Number Pickerel Caught	Number Pickerel Retained	Pounds Pickerel Retained	Number Pike Caught	Number Pike Retained	Pounds Pike Retained
1961	4087	11914	49777	31798	20011	34482	5206	2433	6839
1962	3949	11175	50550	24114	16162	24055	3771	1524	3204
1963	2151	6231	24858	14427	8976	10773	3216	1936	3309

The following table shows the number of bicycles and motorcycles registered in the State of California for the year 1960. The data is presented in a table with columns for the type of vehicle, the number of vehicles, and the number of motorcycles. The total number of bicycles and motorcycles is 1,000,000.

Month	Number of Bicycles	Number of Motorcycles	Total	Number of Bicycles	Number of Motorcycles	Total	Number of Bicycles	Number of Motorcycles	Total
January	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
February	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
March	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
April	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
May	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
June	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
July	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
August	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
September	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
October	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
November	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
December	100,000	50,000	150,000	100,000	50,000	150,000	100,000	50,000	150,000
Total	1,000,000	500,000	1,500,000	1,000,000	500,000	1,500,000	1,000,000	500,000	1,500,000

TABLE 3
 Bicycles and Motorcycles Registered in California - 1960

