# Giroux Lake

## (a.k.a. Big Lake)
**Wallbridge Geographic Township**

## Synoptic Trapnet Survey Report
## Summer, 2001

Eric McIntyre
Fisheries Biologist
OMNR Parry Sound Area

**November, 2001**

## Executive Summary:

During the summer of 2001 a synoptic trapnet was conducted on Giroux Lake. The primary purpose of the survey was to assess the status of the walleye and smallmouth bass populations and secondarily, that of other species in the near-shore fish community.

We present a 'theoretical' report card on the fish community of Giroux Lake and accord it a passing grade of "B". Indices of abundance indicate that walleye are doing very well in this lake, pike – good and smallmouth bass – poor. We ascribe the poor showing of smallmouth bass to sub-optimal habitat conditions for this species. Giroux Lake has a relatively simple fish community that appears to be in a very healthy and stable condition at this time.

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# 1.0 Introduction:

Giroux Lake in Wallbridge Township is also locally known as "Big Lake". It is a moderate size lake at 115.6 hectares (285 acres) (OMNR, 1976). It is relatively shallow with a maximum depth of 5.8 metres (19 feet) and a mean depth of 2.9 metres (9.5 feet) . Due to the shallow depth of the lake it does not thermally stratify in the summer. The lake is best described as mesotrophic (TDS 37 ppm; OMNR, 1976) with low light transparency – secchi readings of less than 2 metres (OMNR, 1976 and 2001). These characteristics are ideal for walleye (Kerr, et al. 1997).

Giroux Lake is a long, slender lake running on a northwest – southeast axis. It is lightly developed with only 5 cottages being reported present in the 1976 *Aquatic Habitat Inventory Survey* (OMNR, 1976). It has one commercial resort – Ge-Kay-Da. Approximately 95% of the 11.7 kilometers of shoreline is Crown Land. The lake is readily accessible to the public with a public access point at the south end immediately adjacent to Highway 529. The lake is somewhat of an anomaly in that it has no major inlet and receives run-off water only from the surrounding watershed. Water exits the lake via the Giroux River at the north end on its short journey to Georgian Bay, approximately 7 kilometers to the west.

The Ontario Department of Lands and Forest (L & F) first conducted a rudimentary lake survey in 1953. Game fish listed as present at that time were northern pike and smallmouth bass. Other species listed included 'suckers' (undoubtedly common white), yellow perch, rock bass, pumpkinseed and brown bullhead (OMNR, 1953). No walleye were captured, suggesting they were not present at that time.

It is unclear if smallmouth bass was an indigenous fish species. Stocking of smallmouth bass fingerlings commenced in 1940 (OMNR, undated). Additional regular plantings continued throughout the 1950's and two plantings were made in each decade of the 1960's and '70's. No MNR plantings of walleye have ever been made (or at least recorded) for this lake.

In 1976, a Provincially standard – *Aquatic Habitat Inventory Survey* (lake survey) was conducted on the lake. Much of the data describing Lake Characteristics above, were derived from that survey. This survey adds walleye, golden shiner and johnny darter as inhabiting fish species. It would appear that some time between 1953 and 1976, an unauthorized but highly successful introduction of walleye was made to the lake.

The purpose of this survey was primarily to assess the current status of the walleye and smallmouth bass populations and secondarily that of other species in the near-shore fish community.

# 2.0 Methods:

*Synoptic surveys* are intended to provide a 'snapshot in time' of the status of the fish community and individual populations that comprise it. We used 8' trapnets due to the non-lethal nature of the gear and it's proven effectiveness at capturing walleye and smallmouth bass – that were the particular species of interest in this survey. Results must be viewed in light *of 'species selectivity*' of the gear. This is further discussed in the *Results and Discussion* section of the report.

Due to severe limitations that the gear imposes on set location, netting sites were not pre-determined. Site selection was at the discretion of the field crew. However, site selection was based on the following guidelines:

- The site had to be suitable for the net to fish effectively. (Consequently – factors such as: contours of the lake bottom, absence of obstructions, depth, sufficient lead length, etc. were to be considered.)
- Nets were to fish all habitat types in approximate proportion to their abundance on the lake in order that the catch would reflect the 'whole lake' as accurately as possible.
- Nets were to be set far enough apart such that they were not competing with each other.
- Nets were to be approximately randomly distributed throughout the study area.

We completed 12 over-night, trapnet sets that met the above guidelines. Nets set locations and orientation are indicated in Figure 1.

Field operations were conducted from July 16 - 20, 2001.

In this report the unit of effort is recorded as a "net set" – and approximates a set of 24 hours duration. Nets were relocated daily.

Complete catch enumeration was conducted for all sets (Appendix A).

Biosampling data collection for all game fish included total length, fork length and round weight determination (Appendix B – D). Scale samples were also collected for age determination of walleye (Appendix B). For non-game fish, round weights were recorded in order that *total weight captured* and *mean weight* for non-game fish species could be determined (Appendix A).

Age determination for walleye was by the scale reading method. As there were no *known-age* walleye in Gibson Lake – we had no method of validating the accuracy of our scale aging. Campbell and Babaluk (1979) concluded that scale aging consistently underestimate the true age of walleye – particularly in older age classes. The reader should bear in mind, that our mean age determination (Appendix B) may underestimate the true mean age of walleye that we sampled.

**Relative Abundance Analysis and Comparison with other Surveys:**

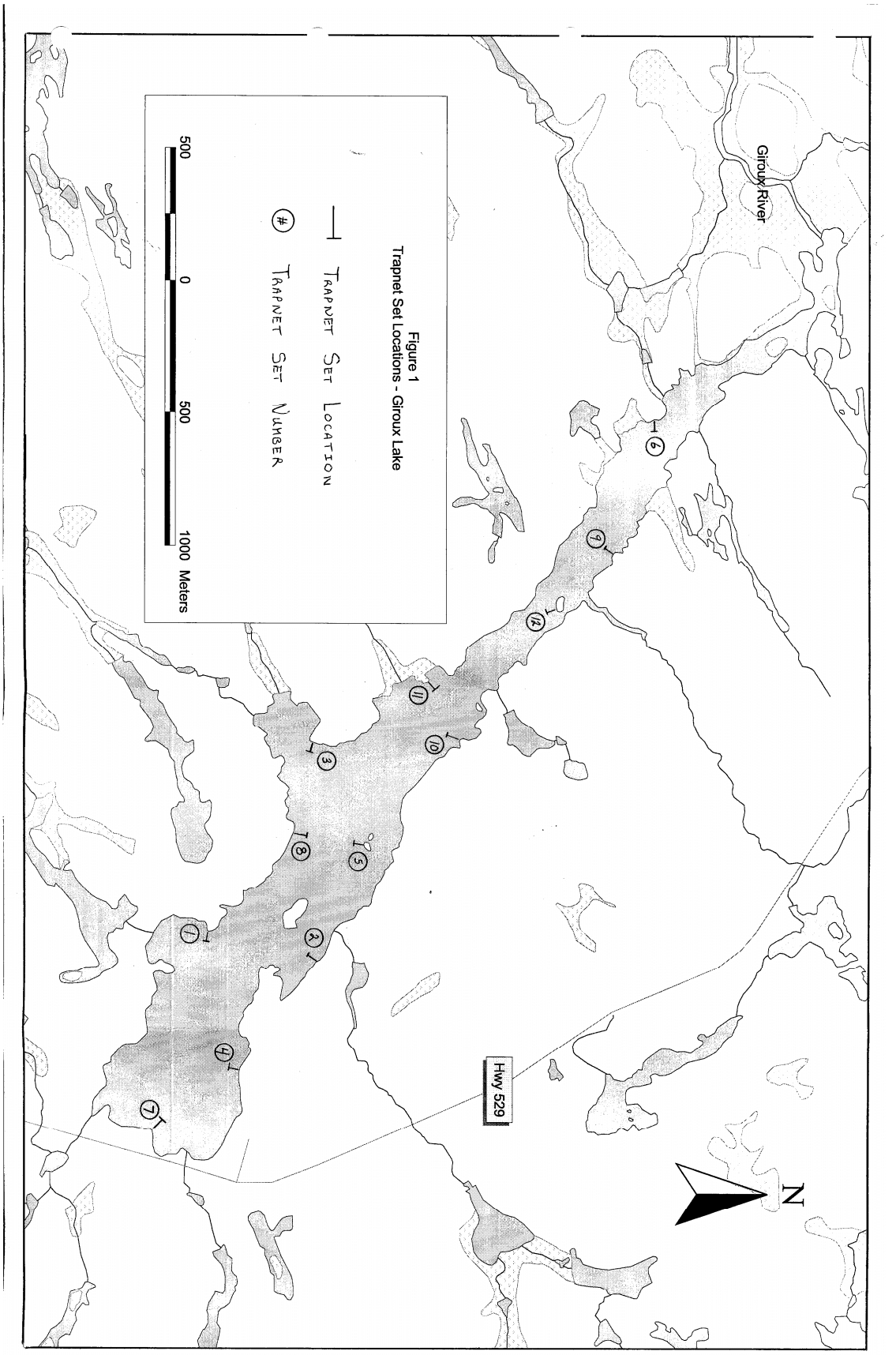
Since 1982, the Ministry of Natural Resources has conducted over 30 synoptic trapnet surveys on various lakes throughout the Parry Sound Area. The primary focus of these investigations has been to assess the status of walleye and smallmouth bass populations and secondarily those of other species in the near-shore fish community.

We use the catch rate or *Catch-Per-Unit-Effort by number (CPUE-no)* as an index of abundance of a particular fish species in the lake community. We also use the *Catch-Per-Unit Effort by weight (CPUE-wt)* as an index of fish productivity. We discuss both statistics in conjunction with one another because independently they can be misleading. (For instance: A high *CPUE-wt* could be the result of a small number of very large fish being caught or a large number of very small fish being caught. This is clarified when we consider the *CUE-no.)*

We call these "*indices of relative abundance*" because they do not specifically tell us the actual size of a population. Rather the *CPUE* statistics for a particular species generated on one lake is compared "relative" to that generated on a number of other lakes. Hence the abundance of a fish species on one lake is based on its position relative to a host of other lakes similarly surveyed.

We use size and age distribution data of various game fish species to help give us some insight regarding reproductive, recruitment and mortality rates. We acknowledge that we do not know actual reproductive, recruitment or mortality rates. We simply draw inferences about these rates based on the abundance of size and age classes.

The reader will note that when we make species specific comparisons with previous surveys, the number of reference surveys vary. This is because we only make comparisons with previous surveys that caught the same species. Also, surveys conducted prior to 1994 did not calculate Catch-Per-Unit-Effort by weight (*CPUE-wt*), and we therefor did not make any comparisons with these surveys when talking about this statistic.


Giroux River
Hwy 529
N
Figure 1
Trapnet Set Locations - Giroux Lake
Trapnet Set Location
(#) Trapnet Set Number
500 0 500 1000 Meters

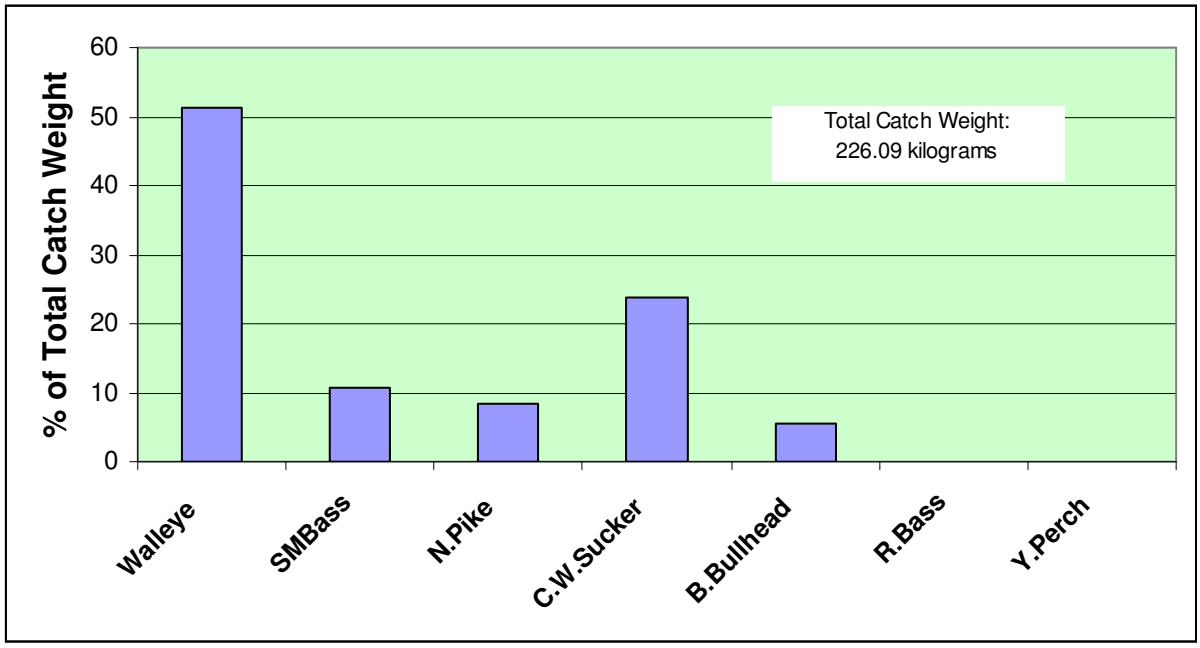
# 3.0 Results and Discussion:

## 3.1 Catch Composition and Productivity:

A grand total of 226.09 kilograms of fish, comprising 7 species was caught in 12 over-night trapnet sets (Appendix A). The Catch-Per-Unit-Effort by weight (CPUE-wt) was 18.84 kilograms / net set (Appendix A). Relative to 16 synoptic trapnet surveys recently conducted in the Parry Sound Area (since 1994), this index of productivity ranks 6th and is essentially equivalent to the average of 17.741 kg. / net set (Appendix G) .

The capture of 7 different fish species is typical of Parry Sound Area lakes. Game fish (walleye, smallmouth bass and northern pike) comprised 70.5% of the total biomass of fish captured (Appendix G). Coarse fish comprised (common white sucker and brown bullhead) comprised 29.3% and pan fish (rock bass and yellow perch) a meagre 0.2%. Although the percentage of game fish in the catch was only slightly above the average of 62.3% for the above mentioned 16 surveys, what was most impressive is that walleye alone accounted for 51.3% of the weight of all fish caught (see Appendix G and Figure 2).

**Figure 2. Catch Composition (by weight) for the Giroux Lake Synoptic Trapnet Survey, Summer 2001.**



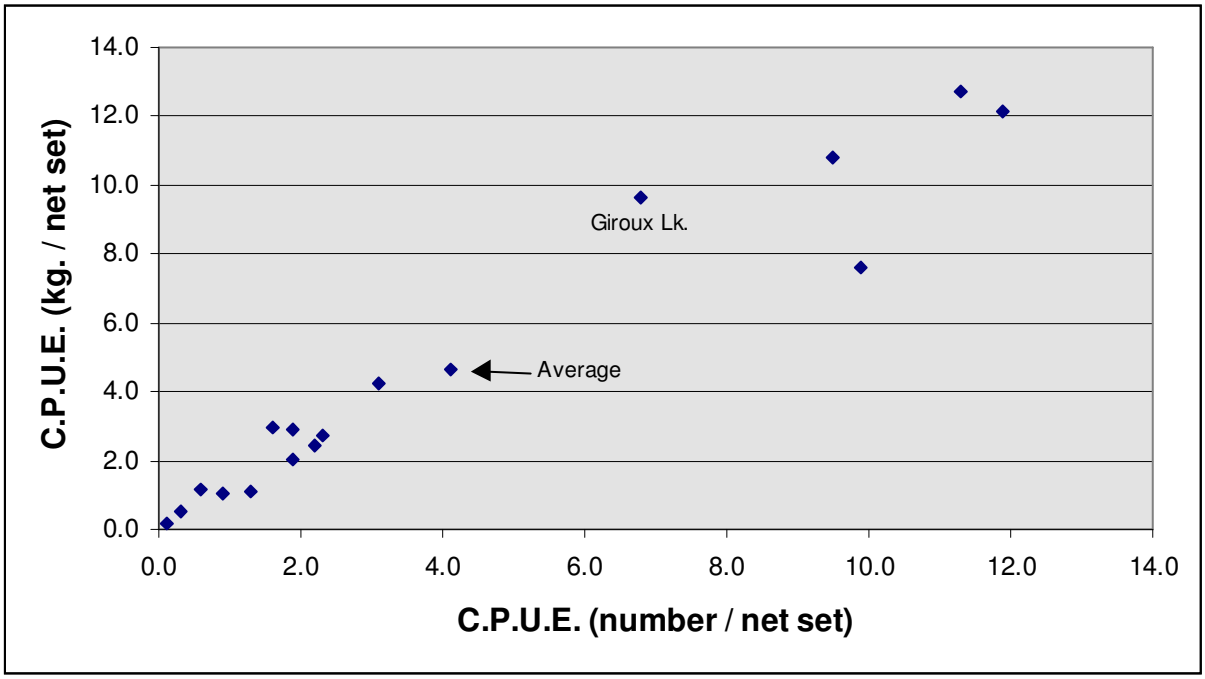

(For specific values – see Appendix A.)

## 3.2 Walleye

From 12 over-night trapnet sets, our CPUE-no was 6.8 walleye / set (standard error – 1.58) (Appendix A). Relative to 16 recently completed trapnet surveys in the Parry Sound Area, this value ranks 5th and well the average of 4.1 walleye / net set (Figure 3).

Our walleye CPUE-wt was 9.670 kg. / net set (Appendix A) ranking it 4th and again well above the average of 4.649 for recently completed surveys (Appendix G and Figure 3).

**Figure 3. Walleye CPUE-no versus walleye CPUE-wt for 16 synoptic trapnet surveys recently conducted (since 1994) in the Parry Sound Area.**




Our walleye lakes seem to sort out into two distinct groupings – those 'above average' in walleye abundance, and those 'below average' (Figure 3). We have few data points that are close to the 'average reading'. The abundance of walleye in Giroux Lake fall into the 'above average' category.

We sampled all 82 walleye captured in the survey. Mean total length was 48.5 cm. (approx. 19") and mean weight 1415 grams (3.1 lbs.) (Appendix B and Figure 4). Size distribution indicated moderate rates of recruitment and likewise moderate mortality in the adult population. The size distribution appears healthy for an exploited population.

**Figure 4. Size Distribution of walleye sampled from Giroux Lake, summer 2001.**

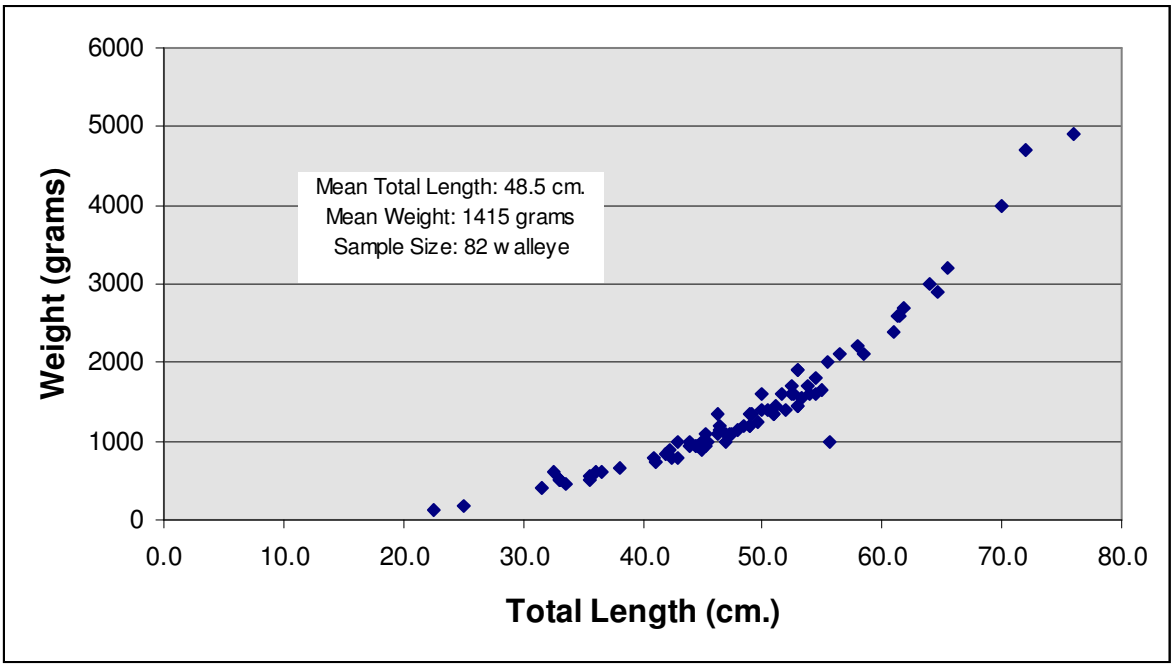
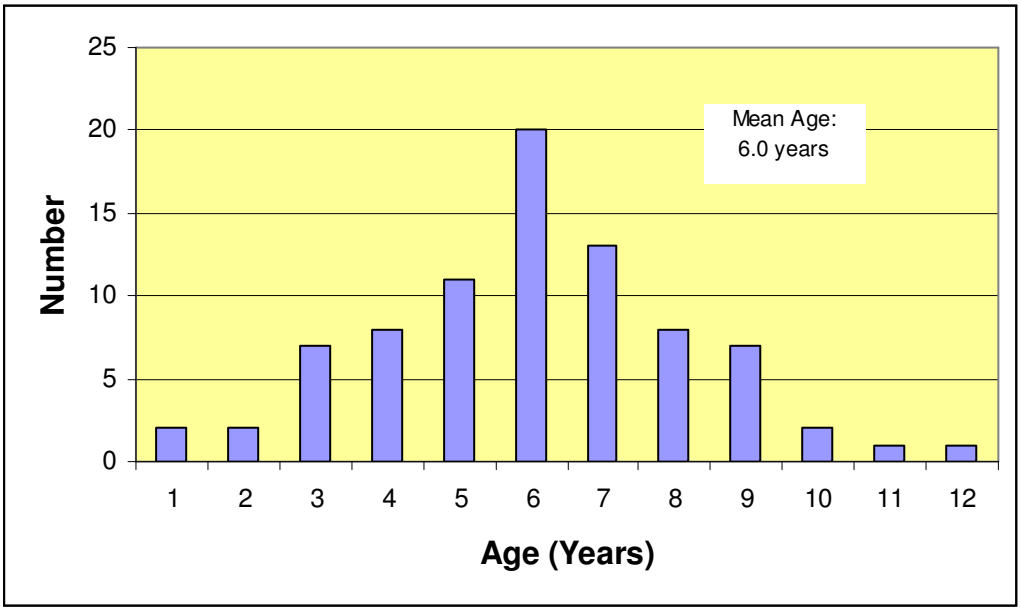



**Figure 5. Age Class distribution of walleye sampled from Giroux Lake, summer 2001.**




Mean age of our walleye sample was 6.0 years (Appendix B and Figure 5). The age distribution suggests that the 1998, '97 and '96 year classes (age 3, 4 and 5 respectively) are rather week.

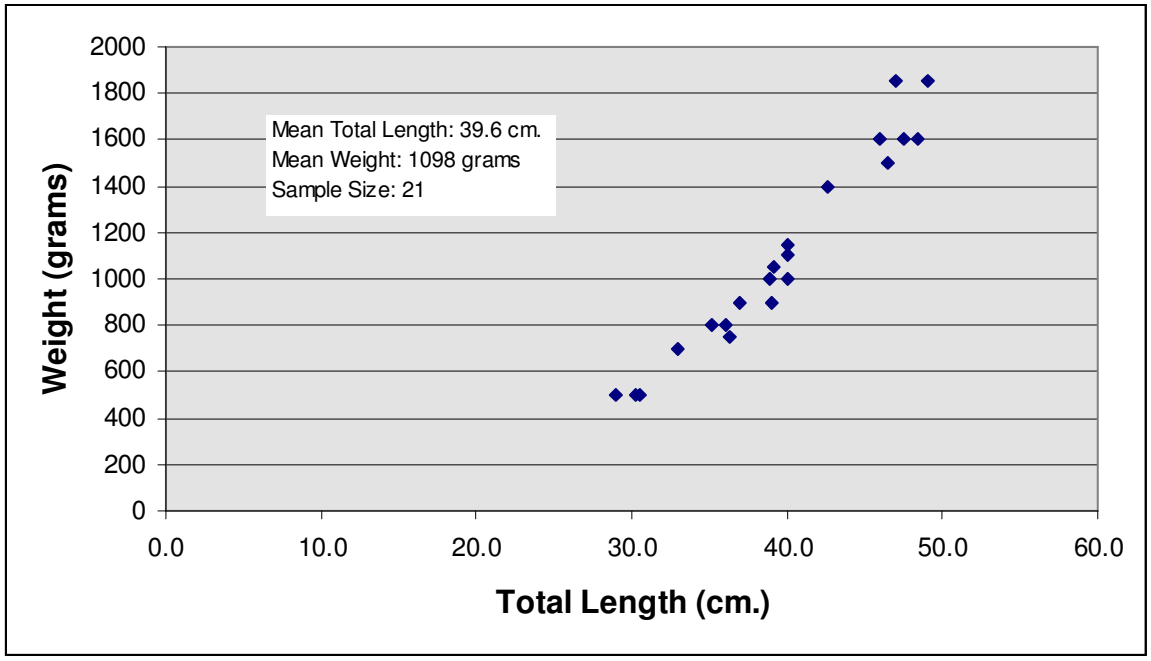
This is of some concern, but nonetheless typical of walleye in which multiple poor year-classes are occasionally interspersed by good ones. Mortality rate in the adult population does not appear unduly high with somewhere in the neighbourhood of a 30% successive reduction in year class abundance (Figure 5).

### 3.3 Smallmouth Bass

Our smallmouth bass *CPUE-no* was 1.8 bass per net set (standard error 1.57) (Appendix A). The huge variation in the catch (i.e. large standard error) is due to the fact that 19 of 22 smallmouth bass captured came from a single net set (Appendix A). This index of smallmouth bass abundance is well below the average of 5.0 bass / net set from 24 *'smallmouth / walleye'* lakes similarly surveyed in the Parry Sound Area since 1986 (Appendix E). Similarly, our smallmouth bass CPUE-wt was 2.01 kg. / net set (Appendix A), also well below the average of 3.43 kg. / net set from 15 recently surveyed lakes (since 1994) for which this statistic is available (Appendix F). **Smallmouth bass abundance on Giroux Lake is "below average" for comparable type lakes in the Parry Sound Area that have recently been similarly surveyed.**

We sampled all 21 smallmouth bass captured in the survey. Mean total length was 39.6 cm. (approx. 15 ½ ") and mean weight 1098 grams (2.4 lbs.) (Appendix C and Figure 6). Recruitment to the adult population appears poor, but adult mortality rate appears to be low.

**Figure 6. Smallmouth bass size distribution, Giroux Lake – summer, 2001.**




This appears to be a small but stable population with low levels of productivity and 'turn-over' in the population. It is probable that the population is languishing due to sub-optimal habitat conditions. In fact, the dystrophic nature of the water (i.e. brownish colour; high humic matter) was very reminiscent of a similar survey conducted on Bear Lake (Monteith Twp.) – also during

the summer of 2001. This lake also had a languishing smallmouth bass population but with a very healthy walleye population (McIntyre, 2001).

### 3.4 Northern Pike:

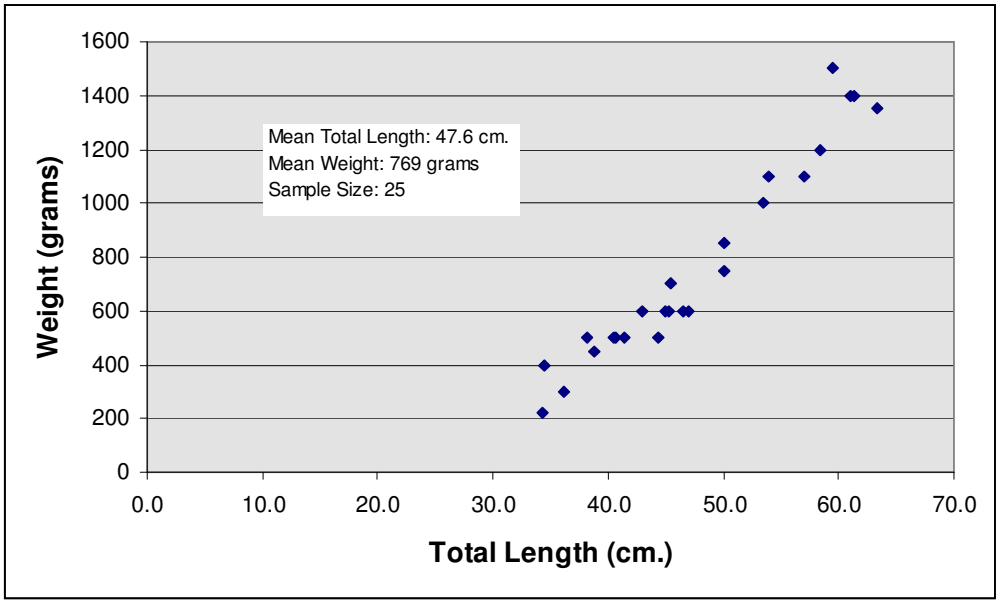
Indices of abundance for northern pike must be viewed in light of the fact that this species is under represented in the catch relative to its abundance in the lake. Northern pike are "ambush feeders" that wait for their prey to come to them. Because trapnets rely on fish to actively swim into them, more sedentary species such as pike are not as vulnerable to the gear. Due to low catch rate for this species, it is more difficult to ascertain what constitutes a high or low abundance.

Our CPUE-no for northern pike was 2.1 fish / net set (standard error 0.15) (Appendix A). This ranks 3rd out of 22 recently conducted synoptic trapnet surveys (since 1986) conducted on Parry Sound Area lakes containing both pike and walleye in the fish community (Appendix E). It is well above the average pike CPUE-no for these surveys of 1.1 per net set. **Notwithstanding gear selectivity issues discussed in the previous chapter, the abundance of pike on Giroux Lake appears quite high.**

Interestingly however, our CUPE-wt was 1.600 kg. / net set, which is slightly below the average of 1.736 kg. / net set for 16 recently conducted surveys for which this statistic is available (Appendix F). Even though the abundance of pike on Giroux Lake appears very high, the size of the fish is well below the average caught on other Parry Sound Area lakes.

We sampled all 25 northern pike captured in the survey. Mean total length was 47.6 cm. (18 ¾ ") and mean weight 769 grams (1.7 lbs.) (Appendix D and Figure 7).

**Figure 7. Size distribution of northern pike captured in Giroux Lake from a synoptic trapnet survey conducted during the summer of 2001.**



We are somewhat perplexed by the size distribution of northern pike sampled. Recruitment appears to be good and mortality is not unduly high, but we are at a loss to explain the absence of large sized pike in the catch. The pike population appears quite healthy, but for whatever reason, there appears to be a scarcity of large size pike in the lake.

### 3.5 Non-game species:

The abundance of common white sucker and brown bullhead is typical of Parry Sound Area lakes containing these species as well as walleye (Appendix E). Due to gear selectivity that results in very low catches of rock bass and yellow perch, we make no comment on the abundance of these species.

## 3.6 Results Summary and Fishery Status Report Card:

We present a "hypothetical" report card for the Giroux Lake fishery in which we give an over-all passing grade of "B". (We caution readers that the 'grading' in this report card is somewhat arbitrary in that we have no specified criteria as to what constitutes an "A" or "D". We do use 'reference values' to indicate "average" conditions where this statistic is available.)

The walleye population is doing very well in this lake, pike – good and smallmouth bass – poor. We ascribe the poor showing of smallmouth bass to sub-optimal habitat conditions for this species. Giroux Lake has a relatively healthy fish community that appears to be in a stable condition at this time.

## Giroux Lake Fisheries Report Card

| Index / Parameter | 2001 Survey | Reference Value (Average) | Grade | Comments / Interpretation |
|---|---|---|---|---|
| Overall Productivity (All Species CPUE-wt) | 18.84 kg. / net set | 17.741 kg. / net set | C | Average Productivity |
| Game Fish - % of Catch Biomass | 70.5% | 62.3% | C+ | Approx. Average Game fish abundance |
| Walleye - % of Catch Biomass | 51.3% | 24.8% | A+ | Fish community is dominated by walleye |
| Walleye CPUE-no. (no. / net set) | 6.8 | 4.1 | B | High walleye abundance And productivity |
| Walleye CPUE- wt. (kg. / net set) | 9.670 | 4.649 | A | |
| Walleye Size Distribution (Mean Length) | 48.5 cm | - | C+ | Moderate rates of recruitment and mortality |
| Walleye Age Distribution (Mean Age) | 6.0 years | - | C- | Weak recruitment but mortality moderate |
| Smallmouth bass CPUE-no | 1.8 | 5.0 | D | Low abundance |
| Smallmouth bass CPUE-wt | 2.01 | 3.43 | D | |
| Smallmouth bass Size Distribution (Mean Length) | 39.6 cm. | - | C | Low productivity but stable population |
| Northern pike CPUE-no | 2.1 | 1.1 | B | Above Average Abundance |
| Northern pike CPUE-wt | 1.600 | 1.736 | C | Small size fish, but good recruitment |
| Northern pike size distribution (Mean Length) | 47.6 cm. | - | C+ | |

**Overall Grade: B**

Walleye are doing very well in this lake, pike – good, and smallmouth bass – poor. This is predominantly a walleye / pike lake. The only indicator that causes us some concern – we would like to see better recruitment to the walleye population.

# 4.0 Acknowledgements:

Field operations were well supervised by Jim Palmer. Staff providing able assistance included Heather Stoneman, Andrew Johnson, Miles Seegmiller and Eric McIntyre.

Special thanks to Ge-Kay-Da Resort for providing secure over-night dockage of our boat during the survey.

# 5.0 Literature Cited:

Campbell, J.S. and J.A. Babaluk. 1979. Age determination of walleye, Stizostedion vitreum vitreum (Mitchell) based on the examination of eight different structures. Fisheries & Marine Service Technical Report No. 849, Department of Fisheries and the Environment, Winnipeg, Manitoba. 23 p.

Kerr, S.J., B.w. Corbett, N.J. Hutchinson, D. Kinsman, J.H. Leach, D Puddister, L. Stanfield and N. Ward. 1977. Walleye habitat: A synthesis of current knowledge with guidelines for conservation. Percid Community Synthesis, Walleye Habitat Working Group, Ontario Ministry of Natural Resources, Peterborough, Ontario. 82 p.

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OMNR, undated. Parry Sound District Office stocking record file card.

OMNR, 1953. Lake survey report. OMNR Parry Sound District Office fisheries files.

OMNR, 1976. Aquatic Habitat Inventory Survey (lake survey) Report. Parry Sound District Office fisheries files.

# Appendix A

## Catch Summary for Giroux Lake Synoptic Trapnet Survey, Summer 2001

| Net Set Number | Effort (Net Nights) | Net Depth (meters) | Catch | | | | | | | Grand Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Walleye | S.M. Bass | N. Pike | C.W. Sucker | Brown Bullhead | Rock Bass | Yellow Perch | |
| 1 | 1 | 4.0 | 12 | 1 | 2 | 13 | 5 | 0 | 0 | |
| 2 | 1 | 3.4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3 | 1 | 3.9 | 2 | 1 | 5 | 2 | 0 | 0 | 0 | |
| 4 | 1 | 4.3 | 4 | 0 | 1 | 9 | 0 | 1 | 0 | |
| 5 | 1 | 4.3 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | |
| 6 | 1 | 3.1 | 14 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 7 | 1 | 2.6 | 17 | 19 | 4 | 7 | 36 | 2 | 0 | |
| 8 | 1 | 5.5 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | |
| 9 | 1 | 2.6 | 10 | 1 | 2 | 0 | 2 | 0 | 0 | |
| 10 | 1 | 4.8 | 3 | 0 | 5 | 6 | 1 | 0 | 0 | |
| 11 | 1 | 4.2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 12 | 1 | nr * | 10 | 0 | 3 | 0 | 0 | 0 | 0 | |
| Total | | | 82 | 22 | 25 | 42 | 44 | 3 | 1 | 219 |
| CUE (number / net set) | | | 6.8 | 1.8 | 2.1 | 3.5 | 3.7 | 0.3 | 0.1 | |
| Standard Error | | | 1.58 | 1.57 | 0.53 | 1.24 | 2.97 | 0.18 | 0.08 | |
| Confidence Level(95.0%) | | | 3.468 | 3.447 | 1.164 | 2.729 | 6.538 | 0.395 | 0.183 | |
| Standard Deviation | | | 5.458 | 5.424 | 1.832 | 4.296 | 10.290 | 0.622 | 0.289 | |
| Sample Variance | | | 29.788 | 29.424 | 3.356 | 18.455 | 105.879 | 0.386 | 0.083 | |
| Total Weight (kg.) | | | 116.04 | 24.15 | 19.22 | 53.85 | 12.3 | 0.33 | 0.2 | 226.09 |
| % of Total Catch Weight | | | 51.32% | 10.68% | 8.50% | 23.82% | 5.44% | 0.01% | 0.01% | 99.78% |
| CUE (wt) (kg./net set) | | | 9.67 | 2.01 | 1.6 | 4.49 | 1.02 | 0.02 | 0.01 | 18.84 |
| Mean Weight (grams) | | | 1141 | 1097 | 769 | 1282 | 279 | 110 | 200 | |
| Sample Size | | | 82 | 21 | 25 | 42 | 44 | 3 | 1 | |

nr * - denotes not recorded

# Appendix B

## Walleye Biosampling Data – Giroux Lake Synoptic Trapnet Survey, Summer 2001

| Total Lg. (cm.) | Fork Lg. (cm.) | Weight (grams) | Age (yr.) | Total Lg. (cm.) | Fork Lg. (cm.) | Weight (grams) | Age (yr.) | Total Lg. (cm.) | Fork Lg. (cm.) | Weight (grams) | Age (yr.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49.0 | 46.5 | 1350 | 6 | 35.5 | 33.4 | 550 | 3 | 52.5 | 49.8 | 1600 | 7 |
| 44.0 | 41.5 | 1000 | 6 | 53.0 | 51.0 | 1900 | 6 | 44.0 | 41.4 | 950 | 5 |
| 54.5 | 52.0 | 1600 | 8 | 52.5 | 50.0 | 1700 | 7 | 45.2 | 42.6 | 1000 | 4 |
| 46.5 | 44.0 | 1200 | 5 | 50.0 | 47.5 | 1600 | 6 | 58.0 | 54.7 | 2200 | 8 |
| 35.5 | 34.4 | 500 | 3 | 45.0 | 43.0 | 950 | 3 | 45.0 | 42.6 | 1000 | 6 |
| 48.5 | 45.6 | 1200 | 6 | 45.0 | 43.0 | 900 | 4 | 51.0 | 49.3 | 1350 | 6 |
| 46.3 | 44.0 | 1350 | 7 | 50.0 | 47.5 | 1400 | 7 | 45.5 | 43.0 | 1000 | 5 |
| 55.5 | 53.0 | 2000 | 9 | 56.5 | 54.0 | 2100 | 8 | 53.0 | 50.6 | 1450 | 9 |
| 49.0 | 46.8 | 1200 | 7 | 47.5 | 44.7 | 1100 | 5 | 51.0 | 48.4 | 1350 | 8 |
| 55.0 | 52.3 | 1650 | 8 | 72.0 | 70.0 | 4700 | 8 | 63.9 | 60.2 | 3000 | 11 |
| 55.6 | 53.5 | 1000 | 6 | 70.0 | 67.5 | 4000 | 10 | 48.0 | 45.3 | 1150 | 7 |
| 44.6 | 42.0 | 950 | 5 | 38.0 | 33.6 | 650 | 4 | 54.0 | 50.8 | 1600 | 6 |
| 31.5 | 30.3 | 400 | 2 | 65.5 | 62.0 | 3200 | 9 | 41.9 | 39.5 | 850 | 5 |
| 36.6 | 34.6 | 600 | 3 | 42.5 | 39.7 | 800 | 5 | 76.0 | 73.5 | 4900 | 12 |
| 33.6 | 32.0 | 450 | 2 | 32.6 | 31.1 | 600 | 5 | 61.0 | 58.0 | 2400 | 7 |
| 33.0 | 31.0 | 500 | 3 | 46.2 | 44.9 | 1100 | 6 | 53.0 | 50.0 | 1450 | 7 |
| 53.0 | 50.4 | 1900 | 7 | 44.5 | 41.5 | 950 | 5 | 58.5 | 55.0 | 2100 | 6 |
| 61.5 | 58.6 | 2600 | 9 | 46.5 | 44.5 | 1150 | 6 | 50.5 | 48.0 | 1400 | 6 |
| 25.0 | 23.6 | 170 | 1 | 47.0 | 44.5 | 1100 | 6 | 52.0 | 49.3 | 1400 | 6 |
| 61.3 | 58.0 | 2600 | 9 | 22.5 | 21.0 | 120 | 1 | 43.0 | 40.7 | 800 | 4 |
| 51.1 | 48.5 | 1450 | 7 | 54.5 | 52.7 | 1800 | 8 | 36.0 | 34.2 | 600 | 4 |
| 53.2 | 51.0 | 1550 | 7 | 49.0 | 46.2 | 1200 | 6 | 51.6 | 49.5 | 1600 | 7 |
| 53.8 | 51.1 | 1700 | 9 | 45.2 | 42.8 | 1100 | 6 | 41.0 | 39.0 | 800 | 3 |
| 64.6 | 61.6 | 2900 | 10 | 41.1 | 38.6 | 750 | 4 | 42.2 | 40.0 | 900 | 4 |
| 61.8 | 58.8 | 2700 | 9 | 45.2 | 42.6 | 950 | 5 | 33.0 | 31.0 | 500 | 3 |
| 47.0 | 44.5 | 1000 | 6 | 49.6 | 46.5 | 1250 | 7 | 49.1 | 46.2 | 1350 | 6 |
| 33.0 | 31.2 | 500 | 4 | 52.6 | 49.4 | 1600 | 8 | 43.0 | 40.3 | 1000 | 5 |
| 47.2 | 44.5 | 1100 | 6 | | | | | | | | |

| | | | | |
|---|---|---|---|---|
| Mean | 48.5 | 46.0 | 1415.1 | 6.0 |
| Confidence Level(95.0%) | 2.167 | 2.105 | 194.332 | 0.481 |
| Standard Error | 1.089 | 1.058 | 97.669 | 0.242 |
| Standard Deviation | 9.862 | 9.581 | 884.434 | 2.191 |
| Sum | | | 116040 | |
| Count | 82 | 82 | 82 | 82 |

# Appendix C

## Smallmouth Bass Biosampling Data – Giroux Lake Synoptic Trapnet Survey, Summer 2001

| Net Set Number | Date Sampled July, 01 | Total Length (cm) | Fork Length (cm) | Round Weight (grams) |
|---|---|---|---|---|
| 1 | 17 | 48.4 | 46.0 | 1600 |
| 3 | 17 | 39.0 | 36.7 | 900 |
| 7 | 19 | 39.2 | 36.8 | 1050 |
| 7 | 19 | 30.3 | 28.6 | 500 |
| 7 | 19 | 35.2 | 33.4 | 800 |
| 7 | 19 | 36.3 | 34.0 | 750 |
| 7 | 19 | 46.5 | 43.8 | 1500 |
| 7 | 19 | 49.0 | 46.3 | 1850 |
| 7 | 19 | 40.0 | 38.0 | 1100 |
| 7 | 19 | 30.5 | 28.8 | 500 |
| 7 | 19 | 40.0 | 37.7 | 1000 |
| 7 | 19 | 42.6 | 40.5 | 1400 |
| 7 | 19 | 46.0 | 43.6 | 1600 |
| 7 | 19 | 38.9 | 36.2 | 1000 |
| 7 | 19 | 36.0 | 33.8 | 800 |
| 7 | 19 | 47.5 | 44.0 | 1600 |
| 7 | 19 | 40.0 | 38.5 | 1150 |
| 7 | 19 | 37.0 | 35.0 | 900 |
| 7 | 19 | 29.0 | 27.4 | 500 |
| 7 | 19 | 47.0 | 45.0 | 1850 |
| 7 | 19 | 33.0 | 32.0 | 700 |
| Mean | | 39.6 | 37.4 | 1098 |
| Confidence Level(95.0%) | | 2.801 | 2.643 | 197.692 |
| Standard Error | | 1.343 | 1.267 | 94.773 |
| Standard Deviation | | 6.153 | 5.806 | 434.303 |
| Sample Variance | | 37.861 | 33.713 | 188619.048 |
| Sum | | | | 23050 |
| Count | | 21 | 21 | 21 |

# Appendix D

## Northern Pike Biosampling Data – Giroux Lake Synoptic Trapnet Survey, Summer 2001

| Net Set Number | Total Length (cm.) | Fork Length (cm.) | Round Weight (grams) |
|---|---|---|---|
| 1 | 46.5 | 43.8 | 600 |
| 1 | 47.0 | 43.8 | 600 |
| 3 | 59.5 | 56.0 | 1500 |
| 3 | 57.0 | 54.4 | 1100 |
| 3 | 50.1 | 47.3 | 850 |
| 3 | 43.0 | 40.3 | 600 |
| 3 | 36.1 | 34.3 | 300 |
| 4 | 44.4 | 42.0 | 500 |
| 5 | 54.0 | 50.3 | 1100 |
| 5 | 45.5 | 42.7 | 700 |
| 7 | 53.5 | 50.5 | 1000 |
| 7 | 45.0 | 42.0 | 600 |
| 7 | 61.0 | 57.3 | 1400 |
| 7 | 45.3 | 42.4 | 600 |
| 8 | 40.5 | 38.0 | 500 |
| 9 | 63.3 | 59.9 | 1350 |
| 9 | 34.5 | 31.6 | 400 |
| 10 | 38.8 | 36.5 | 450 |
| 10 | 61.3 | 57.9 | 1400 |
| 10 | 34.3 | 31.9 | 220 |
| 10 | 38.2 | 36.0 | 500 |
| 10 | 41.4 | 38.6 | 500 |
| 12 | 40.6 | 38.0 | 500 |
| 12 | 58.4 | 55.6 | 1200 |
| 12 | 50.1 | 47.1 | 750 |
| Mean | 47.6 | 44.7 | 768.8 |
| Confidence Level(95.0%) | 3.656 | 3.515 | 155.412 |
| Standard Error | 1.771 | 1.703 | 75.300 |
| Standard Deviation | 8.856 | 8.516 | 376.501 |
| Sample Variance | 78.435 | 72.521 | 141752.667 |
| Sum | | | 19220 |
| Count | 25 | 25 | 25 |

# Appendix E

## Catch-Per-Unit-Effort (no. / net set) for synoptic trapnet surveys conducted in the Parry Sound Area.

| Species (Code): | 334 | 316 | 317 | 131 | 132 | 163 | 233 | 234 | 311 | 313 | 319 | 331 | 51 | 177 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ahmic Lk. (1987) | 6.6 | 3.7 | 0.0 | 0.9 | | 0.9 | 5.1 | | | 4.3 | | 0.1 | | |
| Bear Lake (2001) | 9.9 | 1.6 | | 2.6 | | 2.1 | 4.5 | | 2.6 | 0.2 | | | | |
| Blackstone Lk. (1993) | 2.5 | 3.8 | 0.1 | 0.4 | 0.2 | 1.3 | 0.1 | | 1.1 | 0.1 | | | | |
| Bolger L. (1999) | 9.5 | 9.5 | 0.1 | 0.7 | | 0.1 | 1.0 | | 3.1 | 0.6 | | | | |
| Cecebe Lk. (2000) | 11.9 | 5.2 | | 2.5 | | 3.4 | 6.4 | | 2.3 | 5.3 | | | | |
| Crane Lk (1997) | 1.6 | 7.1 | | 0.1 | 0.6 | | | | 0.7 | 0.1 | | | | |
| Doe Lk. (1998) | 11.3 | 13.0 | | 0.7 | | 4.5 | 3.9 | | 17.8 | 11.1 | | | | |
| Dollar's Lake (2000) | 1.3 | 3.1 | 2.3 | 0.8 | | 2.4 | 23.8 | | 1.2 | 1.1 | 1.9 | 0.8 | 1.5 | 0.3 |
| Gibson Lake (2001) | 3.1 | 6.7 | 0.9 | 1.0 | | 2.3 | 12.7 | | 0.7 | 0.1 | 9.1 | | 0.7 | 5.3 |
| Giroux Lake (2001) | 6.8 | 1.8 | | 2.1 | | 3.5 | 3.7 | | 0.3 | | | 0.1 | | |
| Harris Lk. (1994) | 1.9 | 1.1 | 0.5 | 0.7 | | 7.8 | 1.8 | | 1.0 | 2.3 | | 0.0 | | |
| Isabella Lake (1997) | 0.3 | 7.0 | 1.2 | | | 5.1 | 1.5 | | 5.7 | 0.2 | | | | |
| Kashegaba L. (1999) | 0.9 | 10.9 | 0.9 | 0.7 | | 0.0 | 1.9 | | 10.3 | 3.0 | | | | |
| L. Pick. R. (1986) | 1.2 | 0.4 | | | | | | | | | | | | |
| McDougall L. (2000) | 2.2 | 1.5 | | 1.3 | | 1.5 | 1.6 | | 0.4 | | 0.8 | | | 0.6 |
| Manitouwabing L. ('88) | 3.7 | 3.5 | 0.5 | 2.0 | | 1.5 | 107 | | 2.7 | 0.6 | | 0.2 | | |
| Mill Lake (1991) | 3.8 | 5.8 | | 0.7 | | 3.0 | 5.2 | | 4.3 | 0.5 | | | | |
| Pakeshkag Lk (2001) | 0.1 | | | 2.0 | | 1.8 | 13.5 | | 0.8 | 0.3 | | 0.1 | | |
| Portage Lake (1986) | 0.6 | 0.7 | 0.4 | 1.9 | | 1.6 | 3.2 | | 0.6 | 3.8 | | 0.0 | | |
| Poverty Bay (1999) | 2.3 | 12.1 | 4.6 | 0.3 | | 7.0 | 3.8 | | 2.4 | 1.4 | | | | |
| S. Mag. R. (1994) | 1.9 | 2.3 | 0.1 | 0.7 | | 2.6 | 1.5 | | 1.3 | 2.1 | | 0.0 | | |
| Six-Mile L. (1999) | 0.6 | 5.9 | 4.6 | 0.8 | 0.1 | 1.7 | 9.4 | 2.2 | 2.0 | 4.4 | 4.7 | | 1.2 | 0.3 |
| Squaw Lake (1990) | 0.4 | 0.8 | 0.0 | | | | | | 0.3 | 0.2 | | | | |
| U. Pick. R. (1989) | 4.2 | 7.0 | 0.7 | 0.8 | | 3.9 | 3.4 | | 2.5 | 2.1 | | | | |
| Whitestone L. (1982) | 11.2 | 6.2 | 0.0 | 1.5 | | 1.2 | 1.2 | | 5.7 | 0.2 | | 0.5 | | |
| Mean | 4.0 | 5.0 | 1.1 | 1.1 | 0.3 | 2.7 | 9.8 | 2.2 | 3.0 | 2.0 | 4.1 | 0.2 | 1.1 | 1.6 |
| Standard Error | 0.776 | 0.750 | 0.377 | 0.153 | 0.153 | 0.427 | 4.780 | 0.000 | 0.828 | 0.557 | 1.853 | 0.091 | 0.233 | 1.227 |
| Median | 2.3 | 4.5 | 0.5 | 0.815 | 0.2 | 2.2 | 3.75 | 2.2 | 2 | 0.85 | 3.2875 | 0.1 | 1.2 | 0.45 |
| Standard Deviation | 3.878 | 3.674 | 1.507 | 0.720 | 0.265 | 2.002 | 22.420 | | 3.972 | 2.611 | 3.706 | 0.274 | 0.404 | 2.454 |
| Count | 25 | 24 | 16 | 22 | 3 | 22 | 22 | 1 | 23 | 22 | 4 | 9 | 3 | 4 |
| Confidence Level(95.0%) | 1.601 | 1.551 | 0.803 | 0.319 | 0.657 | 0.888 | 9.941 | | 1.718 | 1.157 | 5.897 | 0.211 | 1.004 | 3.905 |

# Appendix F

## Catch-Per-Unit-Effort by weight (kg. / net set) for synoptic trapnet surveys recently conducted (since 1994) in the Parry Sound Area.

| | Walleye | S.M. Bass | L.M. Bass | Bl. Crappie | N.Pike | C.W. Sucker | Br. Bullhd. | Rock Bass | Pump-kseed | Total # Species |
|---|---|---|---|---|---|---|---|---|---|---|
| Bear Lake (2001) | 7.619 | 1.268 | | | 3.547 | 1.443 | 2.609 | 0.383 | 0.061 | 7 |
| Bolger Lake (1999) | 10.790 | 4.250 | 0.050 | | 1.290 | 0.030 | 0.270 | 0.220 | 0.030 | 8 |
| Cecebe Lake (2000) | 12.154 | 4.700 | | | 3.990 | 3.636 | 4.727 | 0.254 | 1.200 | 7 |
| Crane Lk. 1997) | 2.986 | 2.443 | | | 0.136 | | | 0.064 | | 5 |
| Doe Lake (1998) | 12.727 | 11.115 | | | 0.954 | 5.573 | 1.521 | 1.530 | 2.336 | 7 |
| Dollar's Lake (2000) | 1.112 | 1.503 | 1.994 | 0.661 | 1.621 | 2.869 | 8.479 | 0.136 | 0.107 | 12 |
| Harris Lake (1994) | 2.909 | 0.722 | 0.485 | | 0.752 | 7.783 | 0.481 | 0.184 | 0.144 | 8 |
| Gibson Lake (2001) | 4.265 | 4.866 | 0.738 | 3.255 | 1.097 | 2.683 | 3.952 | 0.089 | 0.016 | 11 |
| Giroux Lake (2001) | 9.670 | 2.010 | | | 1.600 | 4.490 | 1.020 | 0.020 | | 7 |
| Isabella Lk. (1997) | 0.530 | 4.203 | | | 3.630 | 5.895 | 0.415 | 0.620 | 0.050 | 7 |
| Kashegaba Lk. (1999) | 1.060 | 4.880 | 0.480 | | 1.340 | | 0.530 | 0.740 | 0.180 | 7 |
| McDougall Lk. (2000) | 2.460 | 0.961 | | 0.291 | 1.948 | 2.358 | 0.685 | 0.028 | | 8 |
| Pakeshkag Lk. (2001) | 0.167 | | | | 3.508 | 0.892 | 2.375 | 0.061 | 0.014 | 7 |
| Six Mile Lake (1999) | 1.145 | 3.242 | 2.044 | 1.140 | 1.133 | 2.350 | 2.538 | 0.211 | 0.513 | 14 |
| S. Magnetawan R (1994) | 2.035 | 1.355 | 0.112 | | 1.067 | 3.708 | 0.214 | 0.137 | 0.342 | 8 |
| Poverty Bay (1999) | 2.757 | 3.976 | 2.871 | | 0.164 | 3.150 | 0.920 | 0.113 | 0.098 | 8 |
| | | | | | | | | | | |
| Mean | 4.649 | 3.433 | 1.097 | 1.337 | 1.736 | | | | | 8.2 |
| Standard Error | 1.098 | 0.675 | 0.373 | 0.663 | 0.312 | | | | | |
| Median | 2.833 | 3.242 | 0.612 | 0.901 | 1.315 | | | | | |
| Standard Deviation | 4.391 | 2.613 | 1.056 | 1.325 | 1.248 | | | | | |
| Confidence Level(95.0%) | 2.340 | 1.447 | 0.882 | 2.109 | 0.665 | | | | | |
| Count | 16 | 15 | 8 | 4 | 16 | | | | | |

Note: Not all species captured are listed here. Obscure species omitted.

# Appendix G

**Catch-Per-Unit-Effort by weight (CPUE-wt) (kg. / net set) for various categories of fish captured from synoptic trapnet surveys recently (since 1994) conducted in the Parry Sound Area.**

| | Rank | **CUE wt All Species** | N = (no. sets) | | % of total catch weight: Game fish | Coarse fish | Pan fish | Walleye |
|---|---|---|---|---|---|---|---|---|
| Bear Lake (2001) | 8 | 16.896 | 17 | | 73.4 | 23.9 | 2.3 | 45.1 |
| Bolger Lake (1999) | 7 | 16.99 | 17 | | 96.6 | 1.8 | 1.5 | 63.5 |
| Cecebe Lake (2000) | 3 | 30.7 | 11 | | 68.1 | 27.2 | 4.7 | 39.6 |
| Crane Lk. 1997) | 13 | 9.369 | 18 | | 100 | 0 | 0 | 31.9 |
| Doe Lake (1998) | 1 | 35.767 | 33 | | 69.4 | 19.8 | 10.8 | 35.6 |
| Dollar's Lake (2000) | 5 | 21.61 | 24 | | 32.3 | 66.5 | 1.2 | 5.1 |
| Harris Lake (1994) | 10 | 13.487 | 31 | | 36.1 | 61.3 | 2.5 | 21.6 |
| Gibson Lake (2001) | 2 | 32.968 | 15 | | 43.14 | 56.55 | 0.3 | 12.9 |
| Giroux Lake (2001) | 6 | 18.84 | 12 | | 70.5 | 29.26 | 0.2 | 51.3 |
| Isabella Lk. (1997) | 9 | 15.343 | 10 | | 54.5 | 41.1 | 4.4 | 3.5 |
| Kashegaba Lk. (1999) | 14 | 9.236 | 15 | | 84.2 | 5.8 | 9.2 | 11.5 |
| McDougall Lk. (2000) | 12 | 10.061 | 13 | | 56.1 | 43.5 | 0.3 | 24.4 |
| Pakeshkag Lk. (2001) | 16 | 7.027 | 12 | | 52.3 | 46.5 | 1.1 | 2.4 |
| Six Mile Lake (1999) | 4 | 23.228 | 29 | | 40.7 | 56.1 | 3.1 | 4.9 |
| S. Magnetawan R (1994) | 15 | 9.018 | 49 | | 50.5 | 43.5 | 5.3 | 22.6 |
| Poverty Bay (1999) | 11 | 13.31 | 7 | | 69.5 | 29 | 1.5 | 20.7 |
| | | | | | | | | |
| Mean | | 17.741 | | | 62.334 | 34.488 | 3.025 | 24.788 |
| Standard Error | | 2.244 | | | 5.067 | 5.231 | 0.798 | 4.604 |
| Median | | 16.120 | | | 62.100 | 35.180 | 1.900 | 22.100 |
| Standard Deviation | | 8.974 | | | 20.269 | 20.924 | 3.193 | 18.418 |
| Confidence Level(95.0%) | | 4.782 | | | 10.800 | 11.150 | 1.701 | 9.814 |
| Count | | 16 | | | 16 | 16 | 16 | 16 |