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# **The Lake O'Law Project, Cape Breton, Nova Scotia: 1989-1993**

**K. Davidson, M. Niles, P. Swan, and L. Forsyth**

**Science Branch**

**Department of Fisheries and Oceans**

**Gulf Region**

**C.P. 5030, Moncton (Nouveau-Brunswick), Canada E1C 9B6**

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by

**K. Davidson, M. Niles, P. Swan, and L. Forsyth**

Diadromous Fish Division  
Gulf Fisheries Centre  
Department of Fisheries and Oceans  
P.O. Box 5030, Moncton, New Brunswick, CANADA E1C 9B6

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**ABSTRACT**

Davidson, K., M. Niles, P. Swan, and L. Forsyth. 1995. The Lake O'Law Project, Cape Breton, Nova Scotia: 1989-1993. Can. Tech. Rep. Fish. Aquat. Sci. 2053: 96 p.

Counting fences were operated on the Lake O'Law Brook (Cape Breton, Nova Scotia) from 1989 to 1993 to monitor upstream and downstream fish movement and abundance. Also, each year from 1990 to 1992, 1800 hatchery salmon smolt were released in order to evaluate the effects of stocking in the brook and in First Lake O'Law. The dominant fish species in this system are gaspereau (*Alosa pseudoharengus*), Atlantic salmon (*Salmo salar*), brook trout (*Salvelinus fontinalis*), and white sucker (*Catostomus commersoni*). Fish movements were predominantly restricted to the spring/early summer and fall periods. The sole exceptions to this trend were mid-summer upstream migrations of brook trout which were presumably seeking thermal refuge in the cooler water of Lake O'Law Brook when water temperatures in the main Northeast Margaree River are at their maximum. Gaspereau were the most abundant species caught at the Lake O'Law fences with an average upstream migration of 679 adults per year. Gaspereau, white suckers, and brook trout were observed to make extensive use of lacustrine habitat (First Lake O'Law). Juvenile recruitment included, there was a net movement into Lake O'Law Brook for the latter two species.

Limited usage of lacustrine habitat was observed for wild Atlantic salmon. An average of 1785 wild Atlantic salmon smolt per year (range= 1038-2627) migrated downstream during the 1989-1993 period. This translates into an average smolt production of 2.0 smolt/100 m<sup>2</sup> of rearing habitat. Upstream counts of wild Atlantic salmon adults averaged 51 large salmon per year (range=29 per year to 71 per year) and 15 small salmon per year (range=3 per year to 29 per year) and spawning requirements for the Lake O'Law system were met for all years except 1990. Large salmon were predominantly 2 SW maiden fish. Estimates of average smolt to adult survival ranged from 3.0% to 5.0% for wild smolts and was 0.5% for hatchery smolts. Reasons for this difference in survival are postulated.

Results indicate that stocking smolts into headwater lakes may provide an alternative to brook stocking and that the best period for stocking smolt in the Lake O'Law system is late May.

**RÉSUMÉ**

Davidson, K., M. Niles, P. Swan, L. Forsyth. 1995. The Lake O'Law Project, Cape Breton, Nova Scotia: 1989-1993. Can. Tech. Rep. Fish. Aquat. Sci. 2053: 96 p.

Afin de déterminer les mouvements et l'abondance des différentes espèces de poissons, des barrières de dénombrement furent érigées dans le Ruisseau Lake O'Law (Cape Breton, Nouvelle-Écosse) de 1989 à 1993. Aussi, à chaque année, de 1990 à 1992, 1800 saumoneaux d'écloserie ont été ensemencés dans le ruisseau et dans First Lake O'Law afin d'évaluer les bienfaits de l'ensemencement. Les espèces dominantes dans ce système sont le gaspareau (*Alosa pseudoharengus*), le saumon de l'Atlantique (*Salmo salar*), la truite mouchetée (*Salvelinus fontinalis*) et le meunier noir (*Catostomus commersoni*). Le mouvement des poissons fut important surtout au printemps, au début de l'été et à l'automne. La seule exception est la migration en amont des truites mouchetées en été. Il est probable que les truites évitent les températures élevées de la rivière Northeast Margaree en migrant dans le ruisseau Lake O'Law. Le gaspareau est l'espèce la plus abondante à la barrière de dénombrement de Lake O'Law avec une migration en amont moyenne de 679 adultes par an. Il fut observé que l'habitat de First Lake O'Law est grandement utilisé par le gaspareau, le meunier noir et la truite mouchetée. Ces dernières deux espèces font une migration nette dans le ruisseau.

L'habitat du lac fut très peu utilisé par le saumon de l'Atlantique. De 1989 à 1993, en moyenne, 1753 saumoneaux sauvages par an ont migré en aval (varie de 1010 à 2626 par an). Ceci se traduit par une production moyenne de 2 saumoneaux/100 m<sup>2</sup> d'aire d'élevage. En moyenne, 51 grands saumons par an ont migré en amont (varie de 29 par an à 71 par an) et 15 petits saumons par an (varie de 3 par an à 29 par an). Ainsi, le niveau de frai requis pour le système Lake O'Law fut atteint tous les ans, sauf en 1990. Les grands saumons étaient, en majorité, dibermarins vierges. La survie de saumoneaux à adulte était de 5% pour les saumoneaux sauvages et de 0.5% pour les saumoneaux d'écloserie. Des raisons pour cette différence sont postulées.

Les résultats montrent que l'ensemencement de saumoneaux dans les lacs peut servir d'alternative à l'ensemencement dans les ruisseaux. Les résultats signalent aussi que la fin mai est la meilleure période d'ensemencer dans le système Lake O'Law.

## INTRODUCTION

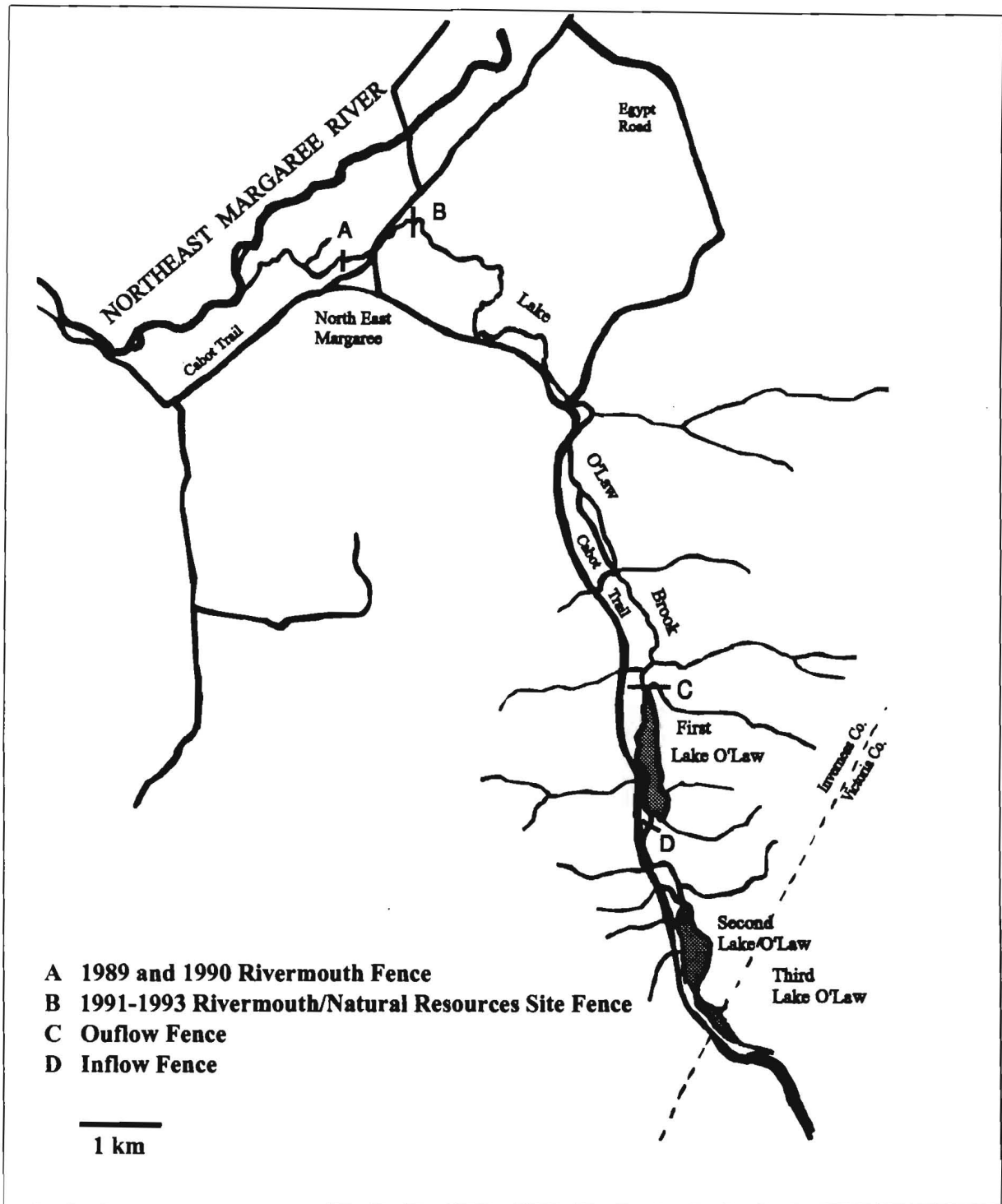
Increasing demand for Atlantic salmon (*Salmo salar*) enhancement activities in western Cape Breton Island and mainland Nova Scotia rivers initiated interest into exploring and developing alternative enhancement techniques which could increase the production potential of the Margaree Salmonid Enhancement Centre and its effectiveness in dealing with program demands. The success of stocking juvenile Atlantic salmon in Newfoundland lakes (Pepper, 1985, 1987) combined with the results of research on Prince Edward Island on the semi-natural rearing of salmon in large ponds (Davidson and Bielak, 1993) indicate that juvenile salmon successfully utilize lacustrine habitats and that lake stocking and lake-cage rearing could provide an alternative to more "classical" hatchery based enhancement practices.

The Lake O'Law project was initiated in 1989 as an investigation into the potential for stocking juvenile Atlantic salmon in lacustrine habitats in western Cape Breton Island and to compare the survival of smolts reared in lake cages to that of wild smolts. In its first two years, the project also had a habitat research component whereby the lacustrine and riverine production of all fish species present in the system was to be quantified.

The following report summarizes the activities and data collected by the Lake O'Law project over the 1989-1993 period and compares some of these data to those collected for other systems in Atlantic Canada.

### 1. The Lake O'Law System

The Lake O'Law system (N4622 WO6102/N4530 N4705 WO5945 WO6133) empties into the Northeast Margaree River above its confluence with the Southwest Margaree River (Figure 1). It has a drainage basin of 4531 ha with a fluvial rearing habitat of 97,200 m<sup>2</sup> (Chaput et al., 1992). The system is composed of a series of three headwater lakes fed by numerous small, high gradient mountain streams and drained by Lake O'Law Brook which runs from its source at First Lake O'Law approximately 9.5 km to its confluence with the Northeast Margaree River. The Lakes O'Law are easily accessible via the Cabot Trail which borders their southwestern shores. They are bordered to the northeast by steeply ascending mountains. First Lake O'Law is the largest of the three lakes with a surface area of 28.4 ha and a maximum depth of 16 m. Water quality data for this lake are provided in Table 1 (Alan McNeill, pers. comm.). Second Lake O'Law is separated from Third Lake O'Law by a short (114 m) narrow neck. It has a surface area of 23.4 ha and a maximum depth of 30 m. Third Lake O'Law is the smallest of the three lakes with a surface area of 3.1 ha and a maximum depth of 10.5 m.



**Figure 1. Map of the Lake O'Law system in Inverness and Victoria Counties, Cape Breton, Nova Scotia.**

## MATERIAL AND METHODS

### 1. Fish Counting Fence (1989-1993)

From 1989 to 1993, counting fences with upstream and downstream traps similar to that described by Mullins et al. (1991) were installed in the spring, as soon as weather conditions would permit and were removed in the fall (Table 2). Fish caught at the counting fences were identified for species and life stage, enumerated, observed for distinguishing characteristics, and released in the direction of migration. Samples of fish were measured for fork length and weight (depending on the availability of a balance) and in 1989 and 1990, salmon, trout and suckers were marked with a Panjet dye-inoculator to indicate their site of capture and direction of movement (Table 3). Adult salmon were identified as being small (<63 cm fork length) or large ( $\geq$  63 cm fork length). Differentiation between parr and smolt was based on the presence or absence of parr marks, darkness of fins and silvery colour. The fences were checked at least twice each day at which time water temperature and water level were recorded. Water levels are relative as the location of the meter varied between years. They are therefore expressed as the deviation in centimetres from the lowest water level recorded during a given year.

In 1989 and 1990, three fish counting fences were installed; one at the Inflow to First Lake O'Law, one at the Outflow to First Lake O'Law, and one on Lake O'Law Brook (Rivermouth) toward its confluence with the Northeast Margaree River (Figure 1).

In 1991, the Rivermouth fence was moved upstream to a site adjacent to the Nova Scotia Natural Resources Office (Figure 1), approximately 6.8 km from First Lake O'Law, in order to improve its efficiency during spring high water levels. Due to the loss of the habitat research component of the project, the Inflow and Outflow fences were not installed in subsequent years (1991-1993).

In 1993, further resource reductions resulted in a reduction in the period of operation of the fence to monitoring the downstream smolt migration from May 10 to June 18 and to enumerating returning adults from September 30 to November 15.

Yearly totals for all species caught at the three fences (Inflow, Outflow, and Rivermouth) were tabulated for 1989 and 1990 (Tables 4 and 5). Weekly counts of all species caught for the Inflow and Outflow fences for these years are summarized in Appendices I and II. Weekly totals (1989-93) for each species for upstream and downstream movement at the Rivermouth/Natural Resources are presented in Appendices III and IV respectively. Calendar dates corresponding to standard weeks are available in Appendix V. Yearly totals of fish moving upstream and downstream through the Rivermouth/Natural Resources fence were summarized by species for the 1989-1993 period (Tables 6 and 7).

In addition to the yearly summaries, the following were prepared for 1989-1993 data collected at the Rivermouth/Natural Resources fence:

- a) Histograms of weekly counts and size distributions of lake-cage-reared/hatchery (hereafter referred to as hatchery) and wild smolt, and salmon (Figures 2-5).
- b) Histograms of weekly counts and size distributions of brook trout (Figures 6-8)

- c) Histograms of weekly counts of juvenile and adult gaspereau, and white suckers (Figures 9, 10 and 11).

Water temperature (1989-1993) and water level (1991-1993) profiles were included in histograms of weekly counts. Analysis of variance methods (SAS-GLM©) and Duncan's new multiple range test were used to compare size variation (fork length) between years for wild and hatchery salmon smolt and parr and for small and large salmon.

## 2. Atlantic salmon stocking

### 2.1 Stocking History

Atlantic salmon were stocked into the Lake O'Law system from 1987 to 1993 (Table 8). In 1987, 5300 1+ salmon parr from the Margaree SEC were released into First Lake O'Law. No evaluation was made of smolt production from this initial stocking. In the fall of 1988, 10 000 fall fingerling (0+) parr were stocked into the Lakes O'Law (4500 into the first lake, 3000 into the second lake and 2500 into the third lake). As part of the present project, from 1990 to 1992, 900 2+ smolt reared in lake cages (15m long x 5m wide x 3.5m deep) in First Lake O'Law were released in Lake O'Law Brook and 900 in First Lake O'Law. Also, 4655 2+ smolt escaped from First Lake O'Law rearing cages in 1993. In addition, between 1976 and 1994, 46 923 brook trout (*Salvelinus fontinalis*) fingerling, yearling (1-2 years of age), trophy-G (2-3 years of age) and trophy-H (more than three years of age) were stocked in First Lake O'Law (McNeill, pers. comm., Table 8).

### 2.2 Effect of release date and site on run-timing study (1990-1992)

Atlantic salmon parr (1+) reared at the Margaree SEC were transferred in late August to the lake cages in First Lake O'Law where they were reared overwinter through to the 2+ smolt stage. After the application of hot brands which distinguished the site and date of release (Tables 3 and 9), 300 2+ smolt were released in First Lake O'Law and another 300 in Lake O'Law Brook. This protocol was repeated on three consecutive weeks in the spring of each year (1990, 1991, and 1992; Table 9).

Recaptures were graphed in relation to date (standard week) of capture (Figures 12-14). Water temperature and water level are plotted on the same graphs. Water levels for 1990 are those recorded at the Outflow fence. Weekly cumulative recapture proportions were calculated by dividing the number of smolt recaptured that week by the total number of smolt released (300) (Figure 15). Total recaptures for each year were summarized by site and date of release (Table 10). A Chi-squared analysis was used to determine the effect of site and date of release on recapture rate.

## RESULTS AND DISCUSSION

### 1. Fish Counting Fence (1989-1993)

Nine fish species were caught at the Lake O'Law fence traps : Atlantic salmon (*Salmo salar*), brook trout (*Salvelinus fontinalis*), white sucker (*Catostomus commersoni*), gaspereau (*Alosa pseudoharengus*), creek chub (*Semotilus atromaculatus*), american eel (*Anguilla rostrata*), banded killifish (*Fundulus diaphanus*), mummichog (*Fundulus heteroclitus*), and three spine stickleback (*Gasterosteus aculeatus*).

Gaspereau was the most abundant species caught at the Lake O'Law fences. The upstream migration of adults occurred between May 21 and June 17 when water temperatures were above 10°C (Figure 9). Numbers of adult gaspereau migrating upstream averaged 679 per year and varied from 152 in 1989 (3833 at the Outflow fence) to 2119 in 1992. There is a large commercial fishery for gaspereau on the Southwest Margaree and the lower portion of the main Margaree River but there is no apparent correlation between the estimated pre-fishery population escapement for this fishery (Chaput, 1993) and the gaspereau run on the Lake O'Law Brook. The trapability of both upstream and downstream migrating adult gaspereau varied between fence locations. For 1989 and 1990 when three fences were in operation, the trapability of upstream migrating adults was lower than that of spent, downstream migrants (Tables 4 and 5) supporting the contention that counting fences are more efficient at catching downstream migrants than fish moving upstream (Cunjak et al., 1989, 1993; Symons, 1979). During this period, the only instances of upstream counts exceeding downstream counts occurred at the Outflow fence (the most efficient fence in terms of capturing adult gaspereau) in 1989 (Table 4) and at the Rivermouth fence in 1990 (Table 5). Upstream counts of adult gaspereau exceeded downstream counts for the 1991-1993 period indicating that the trapability of adult gaspereau was higher for the fence operated at the Natural Resources site than it was at any of the previous sites.

The size of juvenile gaspereau is much smaller than the counting fences were designed to capture therefore, although large numbers of juvenile gaspereau were observed migrating downstream on some years (particularly 1990), their trapability was very poor. The numbers presented in Tables 4-7 therefore give relative comparisons rather than exact quantities. Downstream counts of juveniles increased from 1652 in 1989 to 4414 in 1991, then decreased to 450 in 1992. Each year, juvenile migration occurred after July 30 (Figure 10).

Downstream migration was dominated by Atlantic salmon smolt with an average of 3359 per year (includes wild and hatchery smolt). Peak downstream movement of smolt varied between years from May 21 to June 24 (Figure 2). Cunjak et al. (1993) suggest that salmon smolt movement is stimulated by a combination of water temperatures above 5°C and an increase in water discharge. In Lake O'Law Brook, although high water levels coincide with smolt movement, particularly in 1992, water temperature plays a more important role in initiating smolt movement. Peak smolt runs in all years were associated with increases in water temperatures of 9°C or greater. Downstream movement of wild and hatchery smolt are synchronous for 1989, 1990, and 1993. There was a one week delay in hatchery smolt



movement in relation to wild smolt movement in 1991 and 1992.

Hatchery smolt counts increased over the years, ranging from 692 in 1989 to 3522 in 1993. Many of the smolt stocked in a particular year did not emigrate until the following year. The percentage of hatchery smolt recaptured at the fences in relation to the number stocked was lowest in 1989 and 1990. In 1989, only 692 of the 3,000 smolt stocked (23.1%) were recaptured at the Rivermouth fence and 293 of the 1,500 smolt stocked into the First Lake O'Law (19.3%) were counted downstream through the Outflow fence (Tables 4 and 8). In 1990, although 1,798 hatchery smolt were counted downstream at the Rivermouth fence (Table 5), only 505 of these (28.1%, Table 10) were from the 1,800 smolt stocked that year (Table 8) indicating that the majority of the smolt were from previous stockings. Furthermore, of the 174 smolt counted downstream at the Outflow fence (Table 5), only 74 were from the 900 smolt stocked into the First Lake O'Law that year. This result indicated that the Outflow fence was impeding the migration of smolt from the First Lake O'Law. From 1991-1993, after the removal of the Outflow fence, the percentage of hatchery smolt which emigrated (were counted downstream at the Natural Resources fence) in the same year as they were stocked increased from 36.4% in 1991 to over 55% in 1993 (Tables 7, 8, and 10).

Downstream counts of wild smolts at the Rivermouth/Natural Resources Fence averaged 1785 and ranged from 1038 and 2627 per year (Table 7). Given an upstream rearing area of 91,800 m<sup>2</sup> for the Rivermouth fence (1989 & 1990) and 86,200 m<sup>2</sup> for the Natural Resources fence (1991-1993), these counts translate into an average smolt production of 2.0 smolt/100 m<sup>2</sup> (range = 1.1-3.0 smolt/100 m<sup>2</sup>). It should however be noted that much higher numbers of parr were counted downstream in 1989 and 1990 than in subsequent years bringing into question the differentiation between parr and smolt caught during these two time periods. The consensus of the staff who worked at the fence for the entire time period was that, if corrections are to be made, then the parr ratio (mean=3%) observed in 1991 through 1993 should be applied to the 1989 and 1990 data. If this is done, downstream smolt counts in 1989 and 1990 would be adjusted to 2124 and 2357 respectively. This in turn would raise the 1989 to 1993 average downstream smolt count to 2207 (range= 1513 to 2627) and increase the average smolt production to 2.5 smolt/100 m<sup>2</sup> (range= 1.8-3.0 smolt/100 m<sup>2</sup>). Smolt production estimates calculated by either of the above methods are slightly higher than those quoted for New Brunswick's Pollet River (1.4 smolt/100 m<sup>2</sup>; Elson, 1975) and Catamaran Brook (1.3 smolt/100 m<sup>2</sup>), and lower than those quoted for the Miramichi River (2-5 smolt/100 m<sup>2</sup>, Symons, 1979; 3.9 smolt/100 m<sup>2</sup>, Elson, 1975). In 1989 and 1990, over 1000 wild smolt/year were counted downstream at the Rivermouth fence (Table 7) whereas downstream counts recorded at the Outflow and Inflow fences were very low (13 and 0 smolt in 1989, and 10 and 1 smolt in 1990 respectively - Tables 4 and 5). This indicates that there is limited use of the Lakes O'Law for wild Atlantic salmon rearing. The bias imposed on this observation due to obstruction of migration by the Outflow fence is unknown but it should be noted that counts of wild smolt increased from 1991-1993 after removal of the Outflow fence. Hatchery smolt were significantly longer than wild smolt ( $F_{3,1}=507.2$ ,  $p < 0.05$ ; Figure 3). For the years where data was collected (1989-1991), mean fork length of hatchery smolt decreased significantly (19.7 cm in 1989 to 15.48 in 1991;  $F_{2,133}=25.85$ ,  $p < 0.05$ ; Figure 3). Wild smolt are significantly smaller in 1989 (mean fork length=12.46) than

in other years ( $F_{3,357}=16.76$ ,  $p < 0.05$ ; Figure 3).

Adult salmon were caught at the Rivermouth/Natural Resources fence, but not at the Inflow or Outflow fences (Tables 4-7) which were in operation until October 28 in 1989 and until September 30 in 1990. Peak upstream salmon migration occurred between October 29 and November 18 (Figure 4). At the Rivermouth/Natural Resources fence, wild, large salmon counts averaged 51/year (range = 29/year to 71/year; Table 6). Spawning requirements for the Natural Resources Fence location (36 large salmon, Chaput et al. 1992) were met for all years except 1990. Counts of wild small salmon were consistently lower than those for large salmon each year averaging 15/year (range = 3/year to 29/year; Table 6). Counts of both small and large hatchery return salmon were low averaging only 2/year (range = 0/year to 5/year) and 5/year (range = 2/year to 9/year) respectively (Table 6).

Mean fork lengths of small salmon were not significantly different between years ( $F_{3,76}=1.64$ ,  $p < 0.05$ )(Fig. 5). The same is true for large salmon ( $F_{3,174}=1.25$ ,  $p > 0.05$ ). In their study of the length-age relationship of Atlantic salmon from the Miramichi River, Moore et al. (1995) define 2+ salmon as "Maiden 2SW salmon having spent two winters at sea and spawning for the first time". According to their results, 2+ salmon have fork lengths between 69.3 and 77.1 cm. Large salmon from Lake O'Law Brook have mean fork lengths in this range. It is reasonable to presume that the majority of Lake O'Law large salmon are maiden 2SW salmon. This has also been confirmed by the ageing of 14 large salmon scales in 1992 which classed 12 of them as 2+ salmon (R. Jones, pers. comm.).

For the 1989-1991 smolt year classes, an average smolt to adult survival for wild salmon was 5.0% based on the observed smolt counts and 3.0% based on corrected smolt counts (see discussion above) compared to an average survival rate of only 0.5% for hatchery salmon (Table 11). This difference in survival rate could be due in part to the high angling exploitation rate to which the predominantly early-run hatchery salmon are subjected (angling exploitation rate on hatchery small salmon is generally twice as high as that on wild small salmon; Chaput et al., 1994). This, coupled with a higher grilsification rate in hatchery salmon (80% for hatchery versus 35% for wild, Chaput et al. 1994) would bias comparisons between the survival of hatchery and wild smolt. If smolt-to-adult survival rates of hatchery smolt stocked into the Lake O'Law system were corrected for differences in exploitation rate compared to their wild counterparts (ie. doubled to tripled) they would more closely approximate the 1.2-1.3% hatchery smolt-to-adult survival rates calculated for the Margaree system (Chaput et al. 1994) but would still be 60-80% lower than the wild survival rates. The remaining (majority of) difference in smolt-to-adult survival between hatchery and wild salmon is therefore attributable to behavioral and quality differences between hatchery and wild smolt.

At the Rivermouth/Natural Resources fences, large numbers of brook trout (368) were trapped downstream in 1989, while numbers were below 52 for the following four years (Table 6). Upstream movement of adult brook trout was high in 1991 and 1992, with counts of 237 and 113 individuals respectively (Table 7). A large percentage of this movement occurred in mid-to-late July in both years when flow levels are lowest and water temperatures are highest in the Northeast Margaree River. Brook trout downstream migration was limited when water temperatures exceeded 15°C (Figure 7). These observations corroborate the contention of Cunjak et al. (1993) that when faced with temperature stresses in main rivers,

brook trout seek thermal refuge in smaller tributaries where water temperatures may be (in the case of Lake O'Law Brook) 2-5 °C cooler and offer more shade. In 1992, high water levels prevailed during the trout migration but only moderate water levels were associated with trout movements in 1992 and 1993 (Figure 7).

In 1989 and 1990 there was a net downstream movement of trout at the Inflow and Outflow fences (Tables 4 and 5). In fact, the largest numbers of trout counted at any of the fences over the 1989 to 1993 period were at the Outflow fence in 1989 where there was a net downstream movement of almost 1000 adult trout (Table 4).

Trout length frequency data indicate that trout captured in 1989 were predominantly of a single yearclass (Figure 8). In 1990, brook trout numbers were too low for length frequency analysis. For 1991 and 1992, the length frequency data (Figure 8) indicate two yearclasses; one ranging in size from 10 cm to 25 cm fork length and a second from 25 cm to 50 cm fork length.

White sucker counts at the Rivermouth/Natural Resources fence increased over the 1989 to 1992 period (Tables 6 and 7). For each year, downstream numbers which ranged from 18 to 209 were greater than upstream numbers which varied from 6 to 123 (Tables 6 and 7). Both upstream and downstream movements occurred in the spring/early summer and early fall of the 1989 and 1990 seasons but were limited to the spring and early summer in 1991 and 1992 (Figure 11). In 1989 and 1990, when all three fences were in operation, the majority of the white sucker movement observed occurred at the Inflow and Outflow fences on First Lake O'Law with a net downstream movement at both sites in both years (Tables 4 and 5).

Unlike wild Atlantic salmon, gaspereau, suckers, three spine stickleback, and brook trout were found to make extensive use of lacustrine (First Lake O'Law) habitat. A net emigration (downstream movement) is evident for these species.

The 1993 data for species other than salmon is difficult to compare to that of other years as the counting fence was operated primarily for enumerating spring smolt and fall salmon movements (not in operation between June 18 and September 30).

## **2. Effect of release date and site on run-timing study (1990-1992)**

The recapture rate for smolt stocked in the brook versus those stocked in the lake differed significantly ( $\chi^2_{3\text{df}}$ ,  $p < 0.01$ ) for each of the 3 years. However, although recapture rates differed, the pattern (timing) of recapture (cumulative recapture rate) was similar in any given year (Figure 15).

In 1990, 481(53%) of smolt released from the brook were recaptured versus only 24(3%) of the smolt released in the lake (Figure 12, Table 10) which, as previously noted, indicated that the Outflow fence was a deterrent to smolt movement. Recapture rates for both brook and lake stocked smolt released on different dates differed significantly ( $\chi^2_{2\text{df}}=24.0$ ,  $p < 0.01$ ). Between week 23 (June 4) and week 25 (June 24), there is a gradual increase in number of fish recaptured which coincides with an increase in water temperature (Figure 11).

In 1991, 229(25%) and 426(47%) of the smolt released at the brook and the lake respectively were recaptured (Figure 13, Table 10). There was no significant difference in

recapture rate for either brook or lake stocked smolt released on different dates ( $\chi^2_{2,df}=0.2$ ). The water temperatures and water levels were relatively constant during the recapture season (week 22 to week 29; Figure 12).

Recapture rate for brook and lake stocked smolt released on different dates differed significantly ( $\chi^2_{2,df}=38.7$ ,  $p<0.01$ ) in 1992. Five hundred and fourteen (57%) and 358(40%) of the smolt released at the brook and the lake respectively were recaptured (Figure 14, Table 10). High water levels may have stimulated migration of most brook released smolt between week 21 (or May 21) and week 23 (or June 10). Smolt released from the lake were recaptured over the same time period as the brook released smolt (week 21 to week 29), but their pattern of recapture indicates that high water levels were not as an important influence in initiating migration (Figure 141).

Overall, approximately 37% of marked and released smolt were recaptured at the Lake O'Law counting fence (Table 10). Forty-five percent of the 2700 smolt released at Lake O'Law Brook and 30% of the 2700 smolt released at First Lake O'Law were recaptured. This comparison is biased by the 1990 data where the Outflow fence impeded downstream migration of lake stocked smolt. If only 1991 and 1992 data are compared then, the recapture rate of the smolt stocked into the brook (1,800) and the lake (1,800) are virtually the same (743(41.3%) and 784(43.6%) respectively; Table 10). Recapture rates were similar for smolt stocked in the first and second week (the last 2 weeks in May) and lowest for smolt stocked in the third week (Table 10).

In summation, although our results are not conclusive in determining whether brook or lake stocking of smolts gives better results, they do indicate that the stocking of smolts into headwater lakes such as Lake O'Law can provide an alternative to brook or river stocking. They also indicate that on the Lake O'Law system, maximum smolt migration can be achieved by stocking in late May.

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**Table 1. Water quality data on First Lake O'Law, Cape Breton, N.S., collected by the Nova Scotia Department of Fisheries, Pictou, 1989.**

Parameter	Concentration
Sodium	6.2 mg/L
Potassium	0.60 mg/L
Calcium	6.1 mg/L
Magnesium	1.1 mg/L
Hardness (CaCO <sub>3</sub> )	19.8 mg/L
Alkalinity (CaCO <sub>3</sub> )	12.0 mg/L
Sulphate	5.4 mg/L
Chloride	11.0 mg/L
Silica	3.5 mg/L
Ortho-Phosphorus (P)	< 0.01 mg/L
Nitrate, Nitrite (N)	0.12 mg/L
Ammonia (N)	< 0.05 mg/L
Iron	0.09 mg/L
Manganese	0.05 mg/L
Copper	0.01 mg/L
Zinc	< 0.01 mg/L
Colour	9.4 T.C.U.
Turbidity	0.9 J.T.U.
Conductivity	81.0 µmhos/cm
pH	7.40 units
Total Organic Carbon	2.0 mg/L

**Table 2. Dates of operation of the Lake O'Law Counting Fences (Outflow, Inflow, and Rivermouth) from 1989 to 1993.**

Counting Fence	1989	1990	1991 <sup>1</sup>	1992 <sup>1</sup>	1993 <sup>1</sup>
Inflow	May 12 - Oct. 28	May 10 - Sep. 30	N/A	N/A	N/A
Outflow	May 12 - Oct. 28	May 10 - Sep. 30	N/A	N/A	N/A
Rivermouth	May 12 - Nov. 18	May 7 - Nov. 11	May 10 - Nov. 18	May 21 - Dec. 2	May 10 - June 18 Sep. 30 - Nov. 15

<sup>1</sup>Rivermouth/Natural Resources Site

**Table 3. Marking codes used on fish at the Lake O'Law counting fence and the SEC from 1989 to 1992.**

Year	C o d e			Mark on fish	Translation
1989	H			adipose clip	hatchery
	L			panjet dot left side	upstream
	R			panjet dot right side	downstream
		C		on caudal fin	Outflow fence
		P		near pectoral fin	Inflow fence
		V		near ventral fin	Rivermouth fence
1990	L		D	panjet dot left side	wild, downstream
	L		U	panjet dot left side	wild, upstream
	R		D	hot brand $\nabla$	release at brook
	R		U	hot brand $\wedge$	release at lake
		A		anterior position	first release
		M		mid position	second release
		P		posterior position	third release
			D	near dorsal fin	
			P	near pectoral fin	
1991	H			horizontal bar hot brand	release at lake
	V			vertical bar hot brand	release at brook
		A	D	anterior to dorsal fin	first release
		M	D	below mid dorsal fin	second release
		P	D	posterior to dorsal fin	third release
1992	H			horizontal bar hot brand	release at brook
	V			vertical bar hot brand	release at lake
		A	D	anterior to dorsal fin	first release
		M	D	below mid dorsal fin	second release
		P	D	posterior to dorsal fin	third release

**Table 4. Yearly totals of fish migrating upstream and downstream (mortalities are in parenthesis) at the three Lake O'Law Fish Counting Fences (Inflow, Outflow and Rivermouth) in 1989.**

Species	Life Stage	INFLOW*		OUTFLOW*		RIVERMOUTH	
		Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Wild Atlantic Salmon	Fry	2	1		3	17	29
	Parr	2	4	26	80	262	857(2)
	Smolt				13		1288(45)
	Small					3	5
	Large					64	14
Hatchery Atlantic Salmon	Parr				1		40
	Smolt			20	293	2	692(28)
	Large					9	14
Brook Trout	Fry		1			1	2
	Parr					48	1396
	Smolt					23	34
	Adult	44	238	36	1113	26	368
White Sucker	Juvenile						12
	Adult	83	317	783	1167	6	18
Gaspereau	Juvenile		56217		208419		1652
	Adult	639	829	3833	2484	152	308
Creek Chub					1		1
American Eel			2	1	24	8	23
Banded Killifish			2		5		
Mummichog			2		2		
Three Spine Stickleback		2	28		13		

\* Inflow and Outflow Counting Fences were in operation in 1989 and 1990 only.



**Table 5. Yearly totals of fish migrating upstream and downstream (mortalities are in parenthesis) at the three Lake O'Law Fish Counting Fences (Inflow, Outflow and Rivermouth) in 1990.**

Species	Life Stage	INFLOW*		OUTFLOW*		RIVERMOUTH	
		Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Wild	Fry					18	18 (10)
Atlantic Salmon	Parr	2	8	31	50	61 (1)	1420 (96)
	Smolt			1	10	10	1010 (28)
	Small					3	
	Large					29	
Hatchery	Parr	1	2	2	4	2	11
	Smolt		4	6	174	44 (6)	1798 (68)
	Large					2	
Brook Trout	Fry					1	53
	Parr	14	92	5	60	4	68 (9)
	Adult	1	6	5	19	13	22 (7)
White Sucker	Juvenile	7	119	7	172	1	95 (21)
	Adult		22	92	219	29	104 (28)
Gaspereau	Juvenile			243	109653		2684 (342)
	Adult		1	216	317	181 (4)	55 (17)
American Eel			39	5	4		65
Banded Killifish					1		1
Three Spine Stickleback		20	447	10	151		8

\* Inflow and Outflow Counting Fences were in operation in 1989 and 1990 only.

**Table 6. Yearly totals of fish migrating upstream (mortalities are in parenthesis) at the Lake O'Law Fish Counting Fence (Rivermouth / Natural Resources location) from 1989 to 1993.**

Species	Life Stage	1989 <sup>1</sup>	1990 <sup>2</sup>	1991 <sup>2</sup>	1992 <sup>2</sup>	1993 <sup>2*</sup>
Wild Atlantic Salmon	Fry	17	18	1	5	
	Parr	262	61 (1)	23	56	
	Smolt		10	229		
	Small	3	3	29	14	26
	Large	64	29	71	38	54
Hatchery Atlantic Salmon	Parr		2			
	Smolt	2	44 (6)	38	1	
	Small			5		5
	Large	9	2	4	7	4
Brook Trout	Fry	1	1	28		
	Parr	48	4	4	2	
	Smolt	23		8		
	Adult	26	13	237	113	8
White Sucker	Juvenile		1	6	59	
	Adult	6	29	78	123	8
Gaspereau	Adult	152	181 (4)	263	2119 (3)	1066
American Eel		8		1		
Three Spine Stickleback				2		

<sup>1</sup> Rivermouth Counting Fence

<sup>2</sup> Natural Resources Site Fence

\* In 1993, the counting fence was not in operation between June 18 and September 30.

**Table 7. Yearly totals of fish migrating downstream (mortalities are in parenthesis) at the Lake O'Law Fish Counting Fence (Rivermouth / Natural Resources location) from 1989 to 1993.**

Species	Life Stage	1989 <sup>1</sup>	1990 <sup>2</sup>	1991 <sup>2</sup>	1992 <sup>2</sup>	1993 <sup>2*</sup>
Wild Atlantic Salmon	Fry	29	18 (10)	3		2
	Parr	857 (2)	1420 (96)	27 (7)	89 (12)	76
	Smolt	1288 (45)	1010 (28)	2626 (1)	2328 (88)	1513
	Small	5			2	3
	Large	14			26 (1)	5
Hatchery Atlantic Salmon	Fry		1			
	Parr	40	10			1
	Smolt	692 (28)	1798 (68)	1843 (2)	1851 (51)	3522
	Large	14			5	
Brook Trout	Fry	2	53	28	47 (7)	62
	Parr	1396	68 (9)	7		
	Smolt	34		1	2	
	Adult	368	22 (7)	19	52 (2)	4
White Sucker	Juvenile	12	95 (21)	130 (20)	620 (10)	317 (19)
	Adult	18	104 (28)	143	209	101
Gaspereau	Juvenile	1652	2684 (342)	4414	450 (135)	
	Adult	308	55 (17)	56 (6)	435 (41)	32
Creek Chub		1				
American Eel		23	65	9	6	6
Banded Killifish			1			
Three Spine Stickleback			8			

<sup>1</sup> Rivermouth Counting Fence

<sup>2</sup> Natural Resources Site Fence

\* In 1993, the counting fence was not in operation between June 18 and September 30.

**Table 8. Atlantic salmon and brook trout stocking in the Lake O'Law System from 1976 to 1994.**

STOCKING LOCATION	DATE	HATCHERY (origin of stock)	SPECIES	STAGE	MARK	NUMBER
Lake O'Law Brook	1987 (spring)	COBEQUID (wild Margaree stock)	salmon	2+ smolt	adipose clip / nose tag	3066
Lake O'Law Brook	1987 (spring)	MARGAREE (hatchery return stock)	salmon	1+ smolt	adipose clip / nose tag	2505
First Lake O'Law	1987 (fall)	MARGAREE (wild Margaree stock)	salmon	1+ parr	adipose clip / nose tag	5300
Outflow to First Lake O'Law	1988 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	adipose and left ventral clip / nose tag	4700
Third Lake O'Law	1988 (fall)	MARGAREE (wild Margaree stock)	salmon	0+ fingerling	adipose clip	2500
Second Lake O'Law	1988 (fall)	MARGAREE (wild Margaree stock)	salmon	0+ fingerling	adipose clip	3000
First Lake O'Law	1988 (fall)	MARGAREE (wild Margaree stock)	salmon	0+ fingerling	adipose clip	4500
Outflow to First Lake O'Law	1989 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	adipose clip / nose tag	1500
Outflow to First Lake O'Law	1989 (spring)	LAKE CAGE (wild Margaree stock)	salmon	2+ smolt	adipose clip	1500
First Lake O'Law	1990 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	RDU brand	900
Lake O'Law Brook	1990 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	RDD brand	900
First Lake O'Law	1991 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	HD brand	900
Lake O'Law Brook	1991 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	VD brand	900
First Lake O'Law	1992 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	VD brand	900
Lake O'Law Brook	1992 (spring)	MARGAREE (wild Margaree stock)	salmon	2+ smolt	HD brand	900
First Lake O'Law	1993	MARGAREE (wild Margaree stock)	salmon	2+ smolt	adipose clipped	4655

...continued on next page

Table 8. ...continued.

STOCKING LOCATION	DATE	HATCHERY (origin of stock)	SPECIES	STAGE	MARK	NUMBER
First Lake O'Law	31/05/76	MARGAREE (domestic stock)	brook trout	fingerling	adipose clip	4990
First Lake O'Law	09/10/80	MARGAREE (Fraser Mills domestic stock)	brook trout	fingerling	none	3000
First Lake O'Law	03/06/82	MARGAREE (Fraser Mills domestic stock X wild Ingram Brook)	brook trout	yearling	none	498
First Lake O'Law	17/05/82	MARGAREE (Fraser Mills domestic stock X wild Ingram Brook)	brook trout	trophy-H	adipose clip	383
First Lake O'Law	31/05/83	MARGAREE (F1 progeny of wild Ingram female X Fraser Mills domestic male (020))	brook trout	trophy-G	adipose clip	524
First Lake O'Law	23/09/83	MARGAREE (F1 progeny of wild Ingram female X Fraser Mills domestic male (020))	brook trout	fingerling	none	12080
First Lake O'Law	02/10/84	MARGAREE (Fraser Mills domestic stock X wild Ingram Brook)	brook trout	fingerling	none	4989
First Lake O'Law	23/05/85	MARGAREE (Fraser Mills domestic stock X wild Ingram Brook)	brook trout	trophy-H	none	183
First Lake O'Law	26/09/85	MARGAREE (F1 progeny of wild Ingram female X Fraser Mills domestic male (020))	brook trout	fingerling	none	9154
First Lake O'Law	28/10/87	MARGAREE (Fraser Mills domestic stock)	brook trout	fingerling	none	5422
First Lake O'Law	30/10/91	FRASER MILLS (F2B progeny of domestic female X Flat Lake male)	brook trout	fingerling	right pelvic clip	1500
First Lake O'Law	30/10/91	FRASER MILLS (Fraser Mills domestic stock)	brook trout	fingerling	left pelvic clip	2100
First Lake O'Law	28/09/94	FRASER MILLS (Fraser Mills domestic stock)	brook trout	fingerling	none	2100

**Table 9. Summary of smolt stocking for the run-timing study from the Margaree Salmon Enhancement Centre (Lake O'Law cage nets) from 1990 to 1992.**

Release Date	Release Location	Number of Fish Released	Dorsal Mark Code
23/05/90	Brook	300	RADD
	Lake	300	RADU
29/05/90	Brook	300	RMDD
	Lake	300	RMDU
06/06/90	Brook	300	RPDD
	Lake	300	RPDU
23/05/91	Brook	300	VAD
	Lake	300	HAD
30/05/91	Brook	300	VMD
	Lake	300	HMD
05/06/91	Brook	300	VPD
	Lake	300	HPD
21/05/92	Brook	300	HAD
	Lake	300	VAD
28/05/92	Brook	300	HMD
	Lake	300	VMD
03/06/92	Brook	300	HPD
	Lake	300	VPD

**Table 10. Summary of recaptures by date and site of release for smolt stocked from Lake O'Law cages in 1990-1992.**

Date of release	1990			1991			1992			Overall		
	Brook	Lake	Total (%)	Brook	Lake	Total (%)	Brook	Lake	Total (%)	Brook (%)	Lake (%)	Total (%)
First week	133	5	138 (23%)	79	143	222 (37%)	206	146	352 (59%)	418 (46%)	294 (33%)	712 (40%)
Second week	209	11	220 (37%)	80	133	213 (36%)	169	144	313 (52%)	458 (51%)	288 (32%)	746 (41%)
Third week	139	8	147 (36%)	70	150	220 (37%)	139	68	207 (35%)	348 (39%)	226 (25%)	574 (32%)
Total (%)	481 (53%)	24 (3%)	505 (28%)	229 (25%)	426 (47%)	655 (36%)	514 (57%)	358 (40%)	872 (48%)	1224 (45%)	808 (30%)	2032 (37%)

**Table 11. Smolt to adult survival for Atlantic salmon counted in Lake O'Law Brook, 1989-1993.**

Year(Y)	Origin	Smolt Counts	Small Salmon Returns Year=Y+1	Large Salmon Returns Year=Y+2	Total Returns	%Smolt to Adult Survival
1989	Wild	observed 1288 corrected* 2080	3	71	74	5.7 3.6
	Hatchery	692	0	4	4	0.6
1990	Wild	observed 1010 corrected* 2357	29	38	67	6.6 2.8
	Hatchery	1798	5	7	12	0.7
1991	Wild	2626	14	54	68	2.6
	Hatchery	1843	0	4	4	> 0.1
Average	Wild	observed 1641 corrected* 2354	15	54	70	5.0 3.0
	Hatchery	1444	2	5	7	0.5

\* - total parr and smolt counts (Table 7) corrected to reflect the average parr ratio (3%) observed for the 1991 to 1993 period

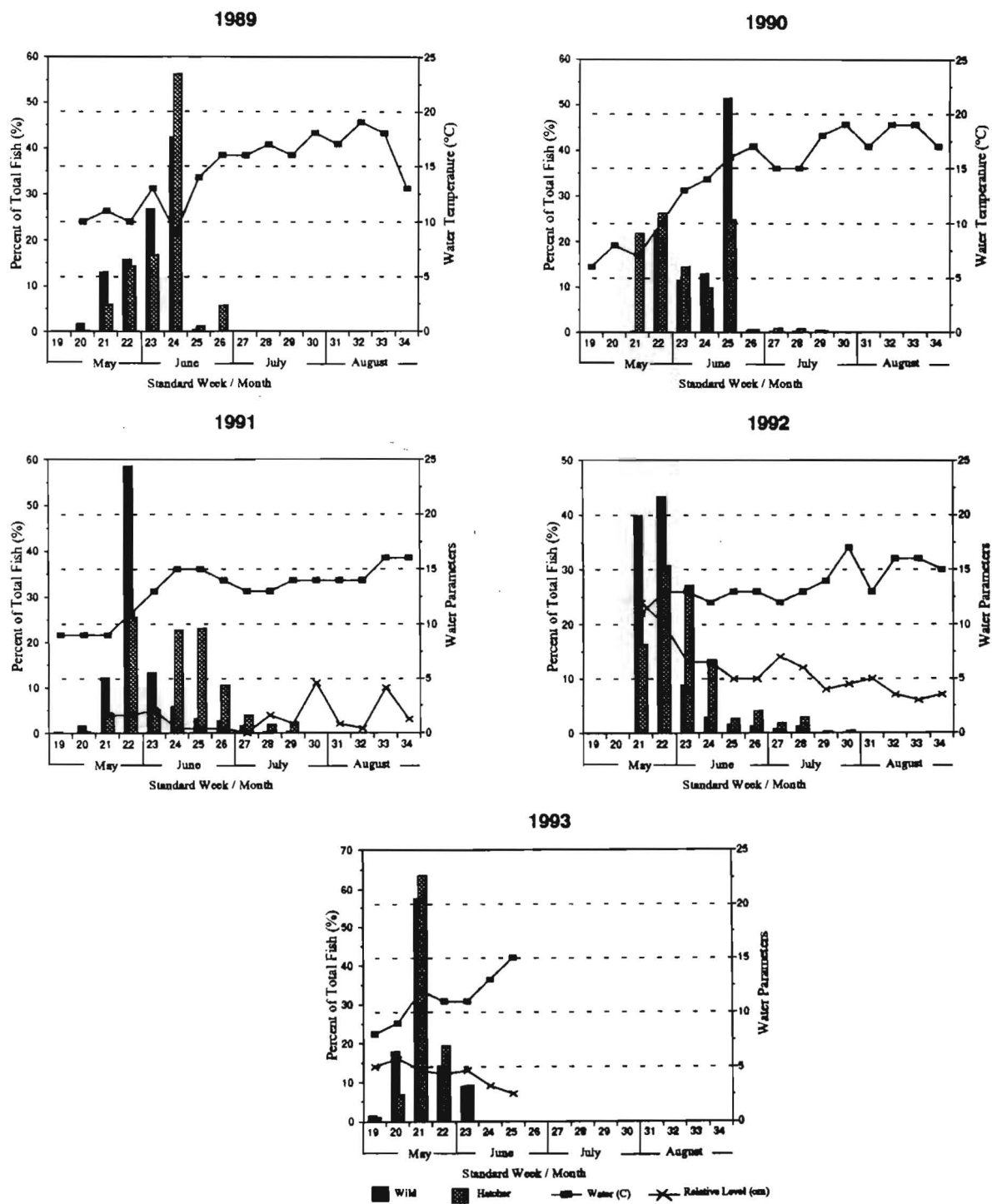


Figure 2. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence downstream movement of wild and hatchery salmon smolt (%) from 1989 to 1993.



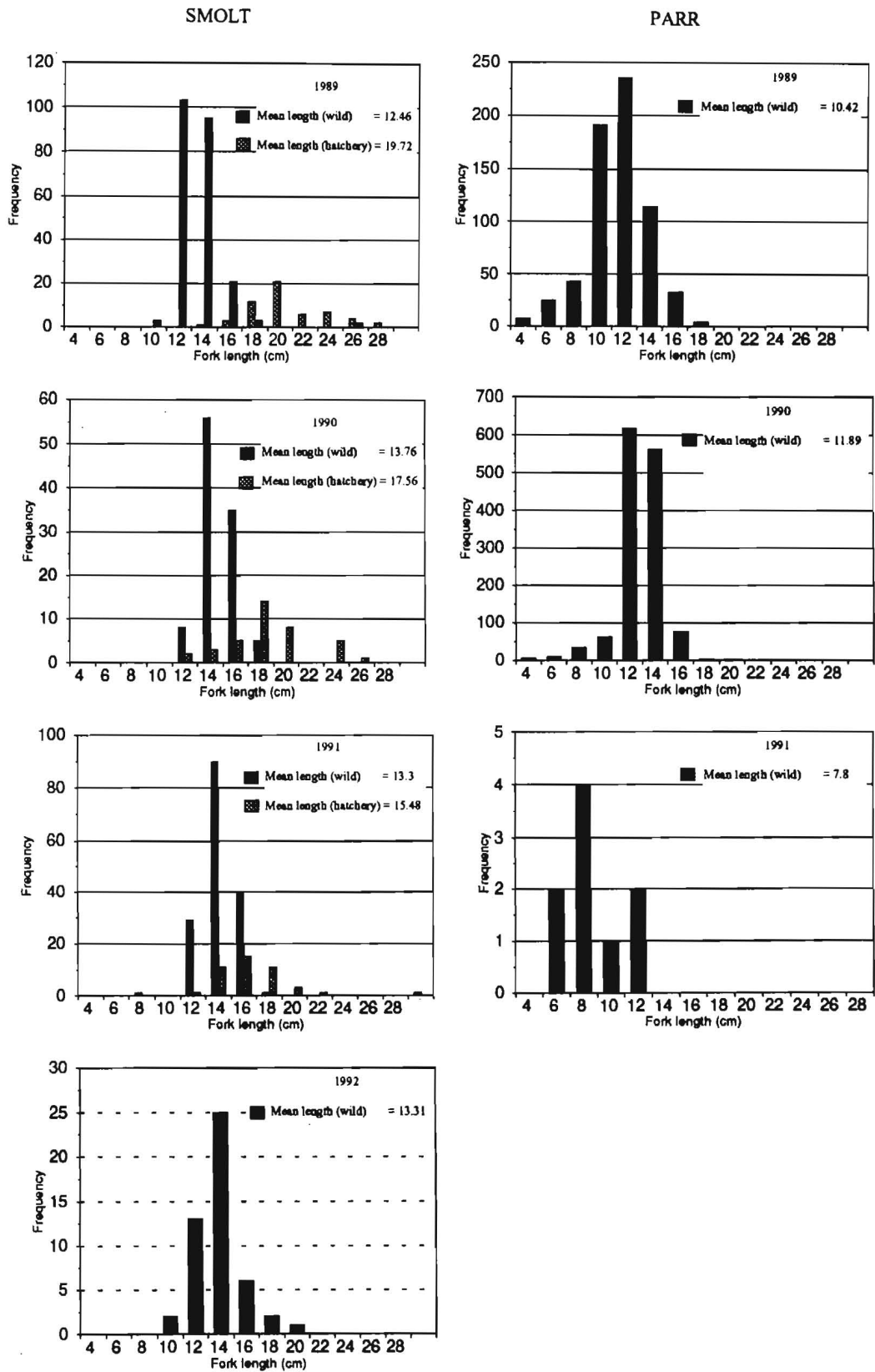


Figure 3. Length frequencies of wild and hatchery salmon smolt (left) and wild parr (right) from 1989 to 1992.

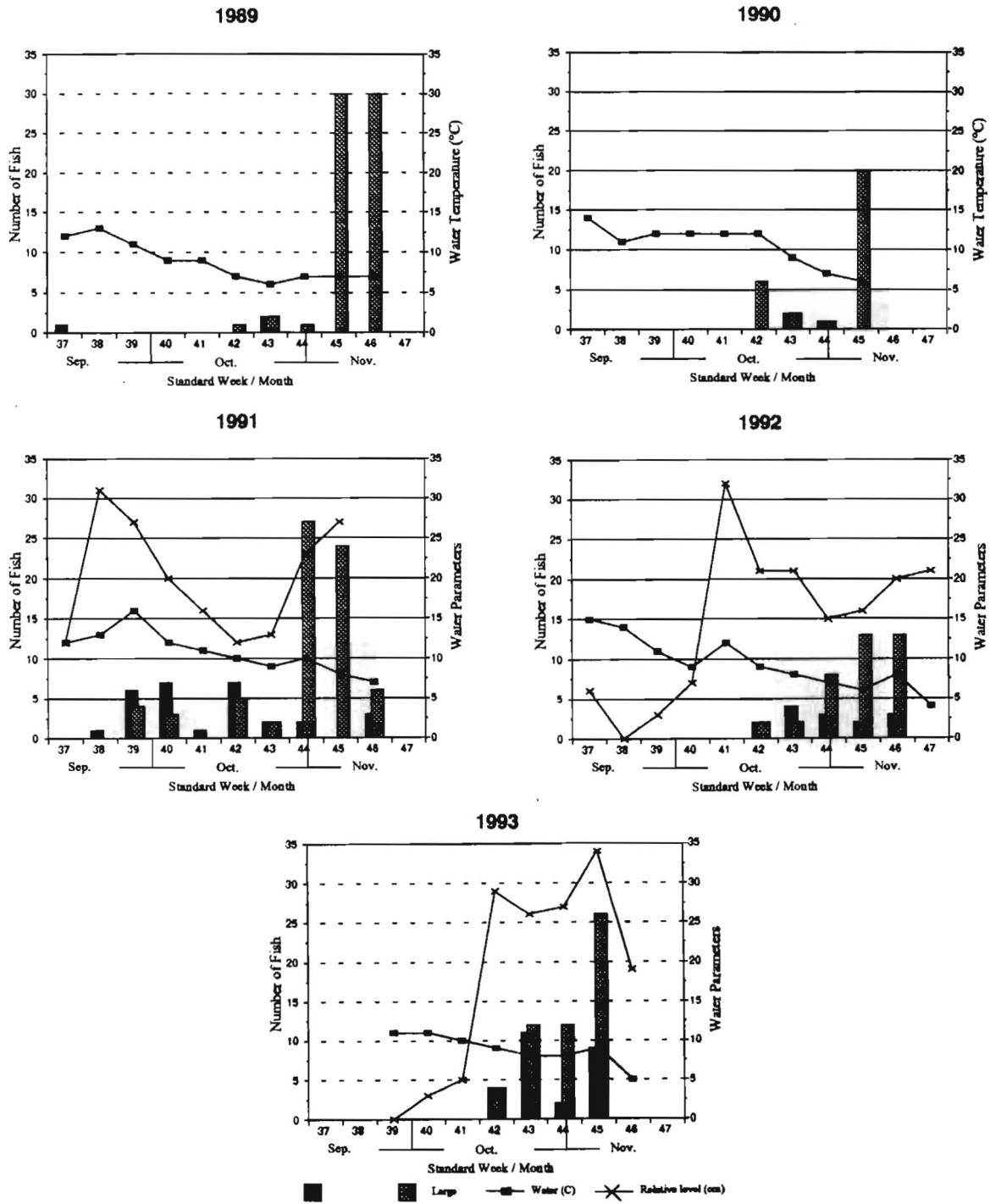


Figure 4. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence upstream movement of small and large salmon from 1989 to 1993.

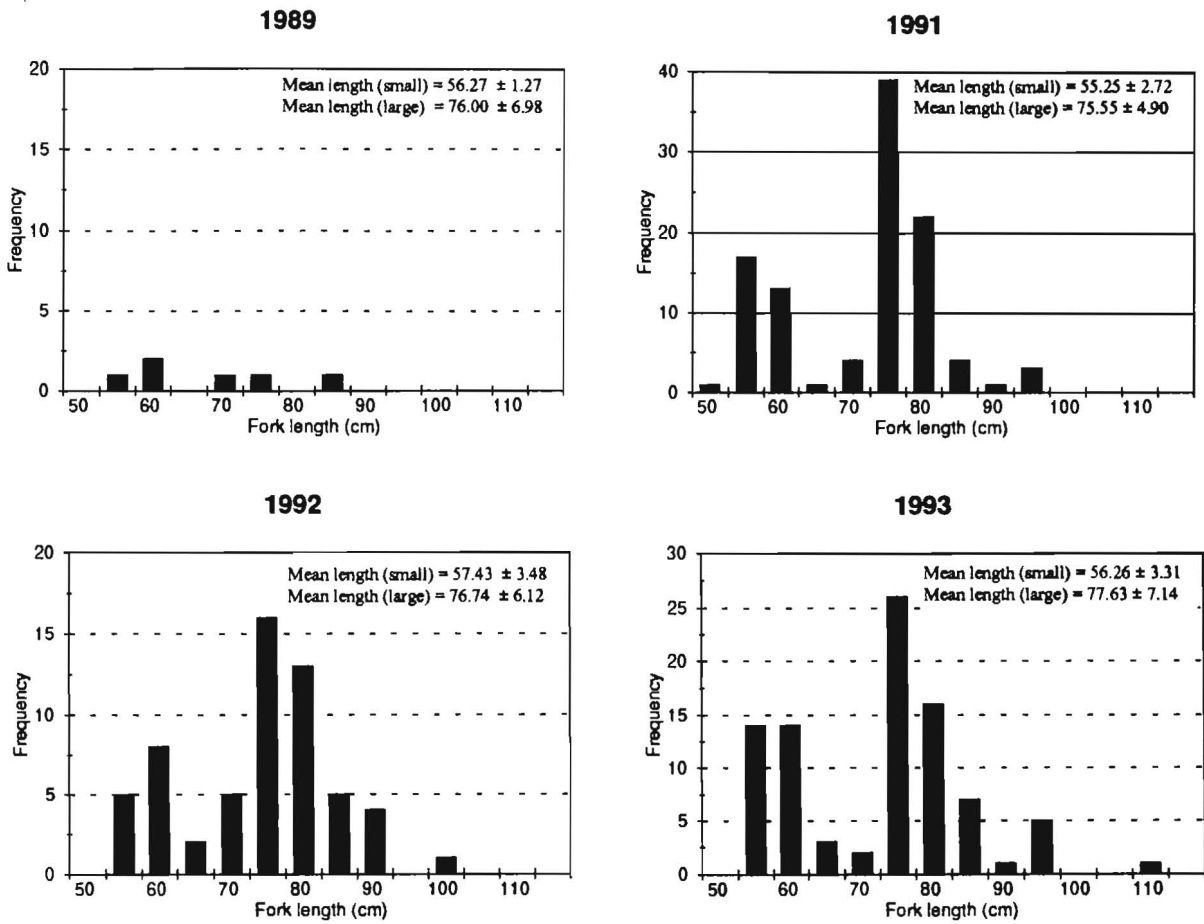


Figure 5. Length frequencies of large and small salmon from 1989, 1991 - 1993 (length frequency data were not available for 1990).

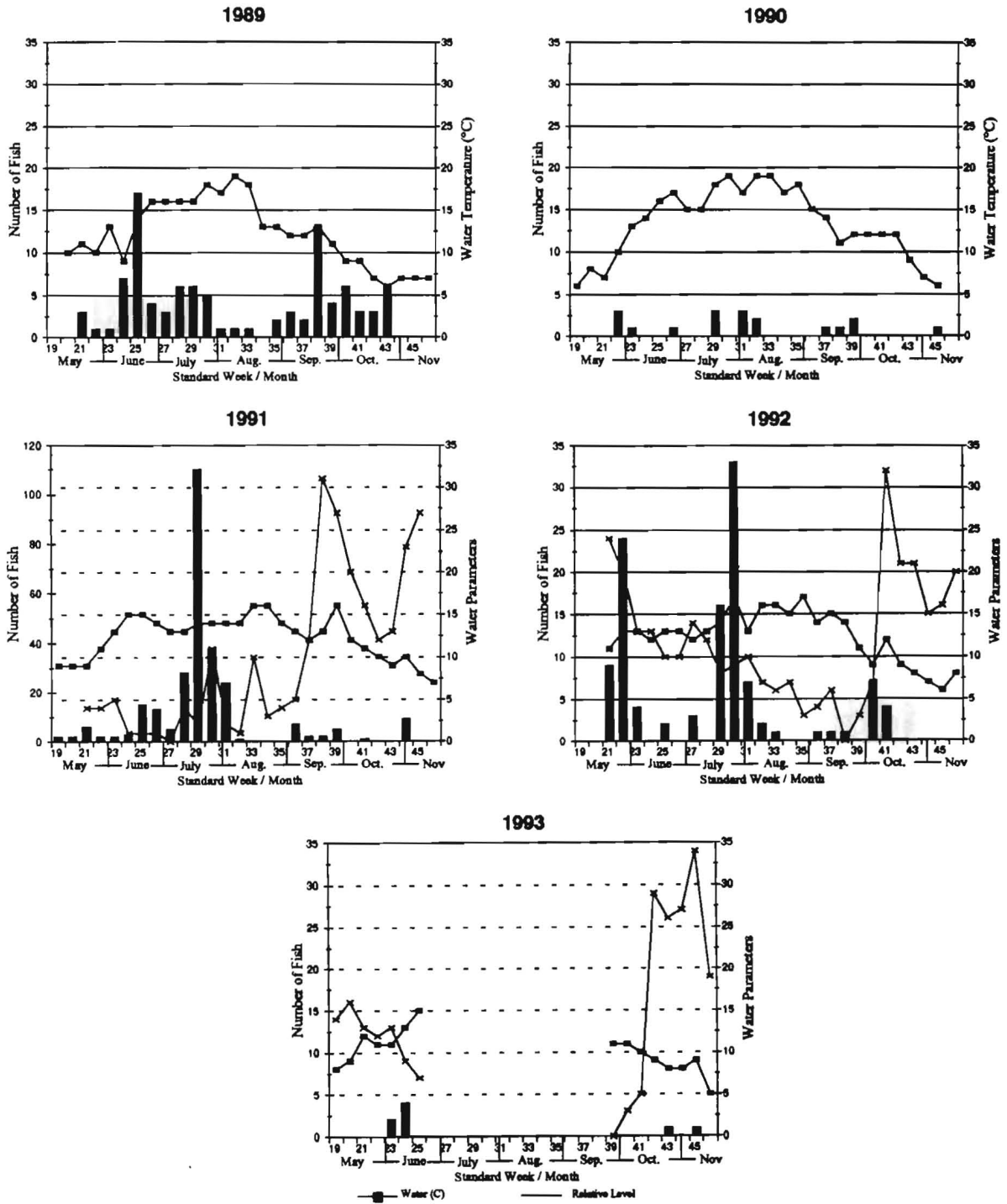


Figure 6. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence upstream movement of all brook trout from 1989 to 1993.

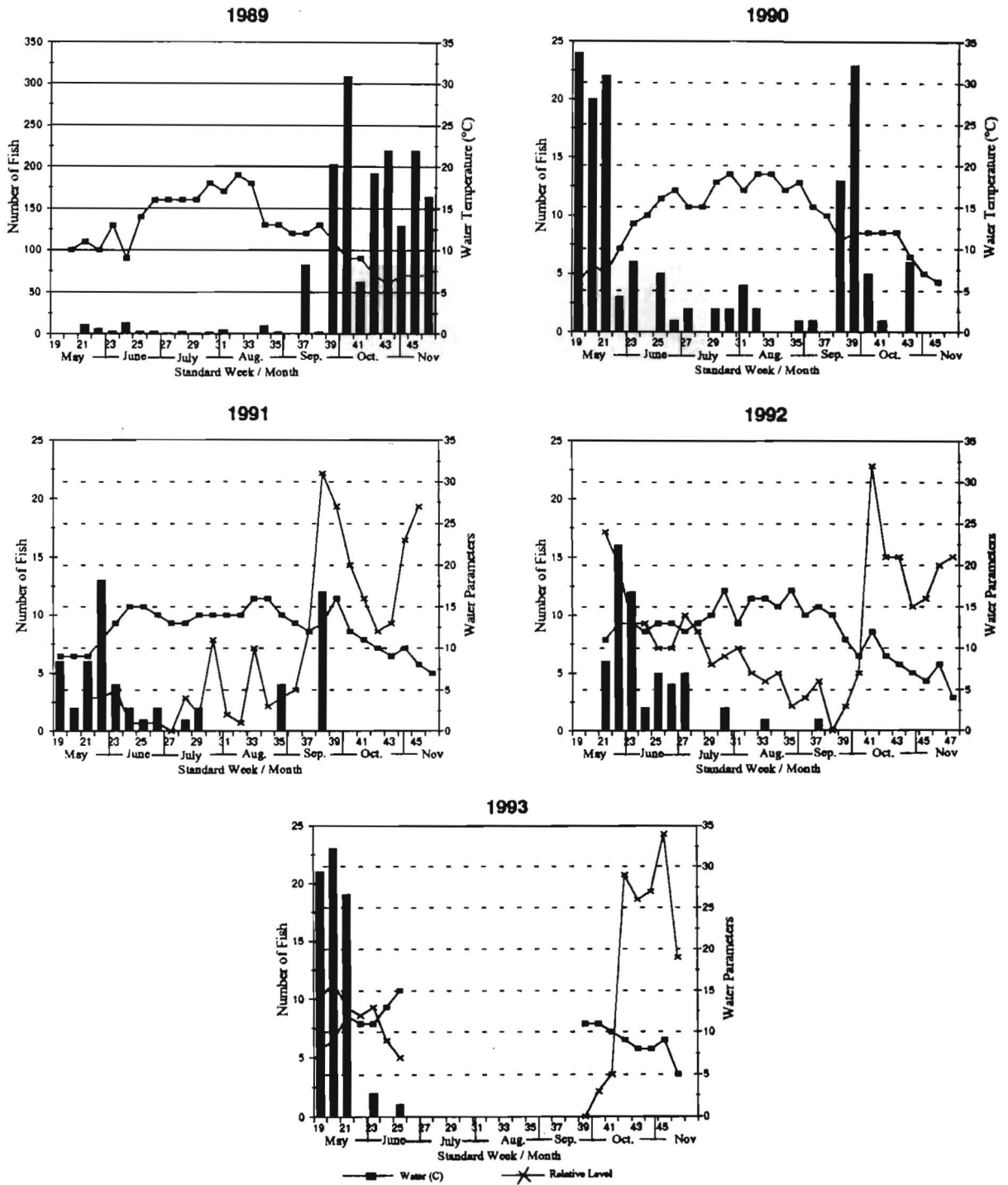


Figure 7. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence downstream movement of all brook trout from 1989 to 1993.

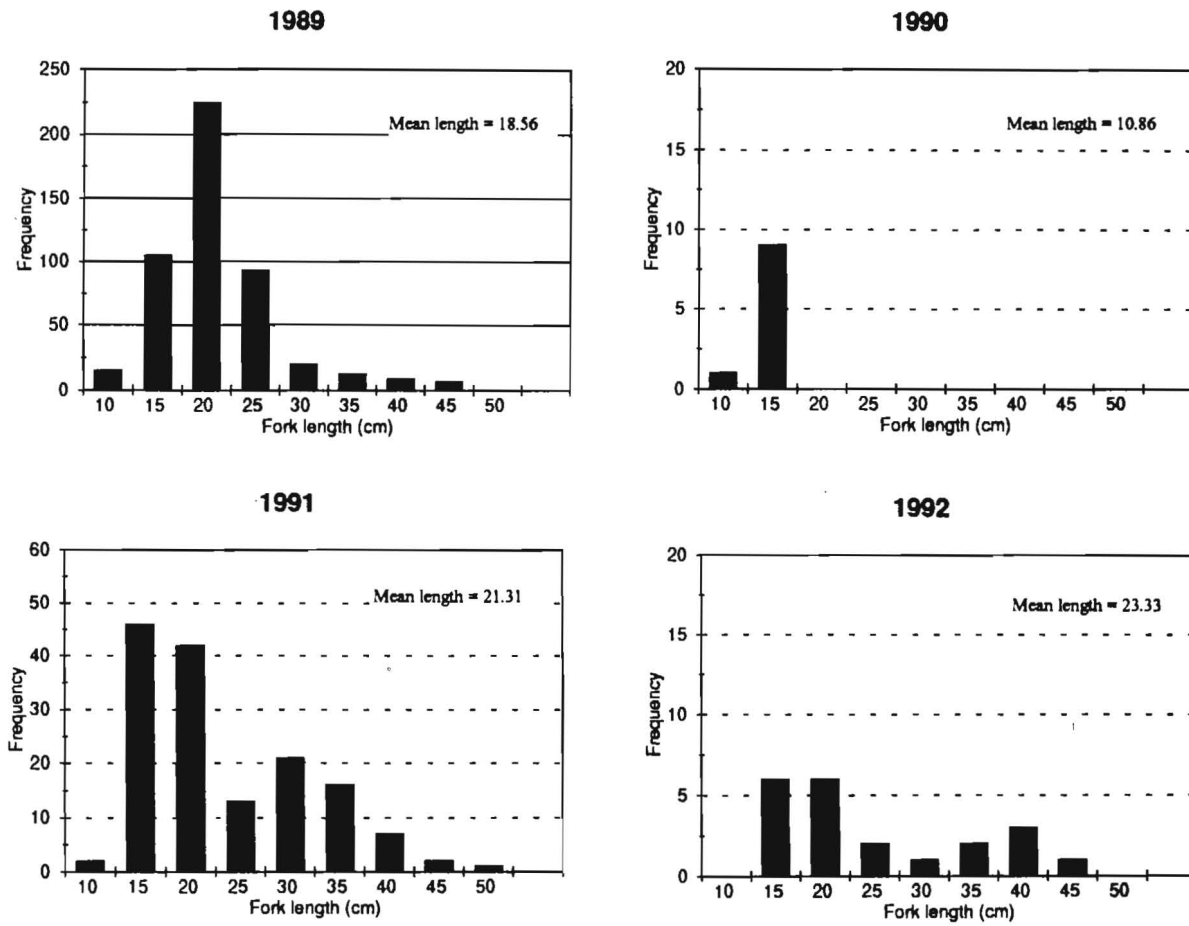


Figure 8. Length frequencies of brook trout from 1989 to 1992.

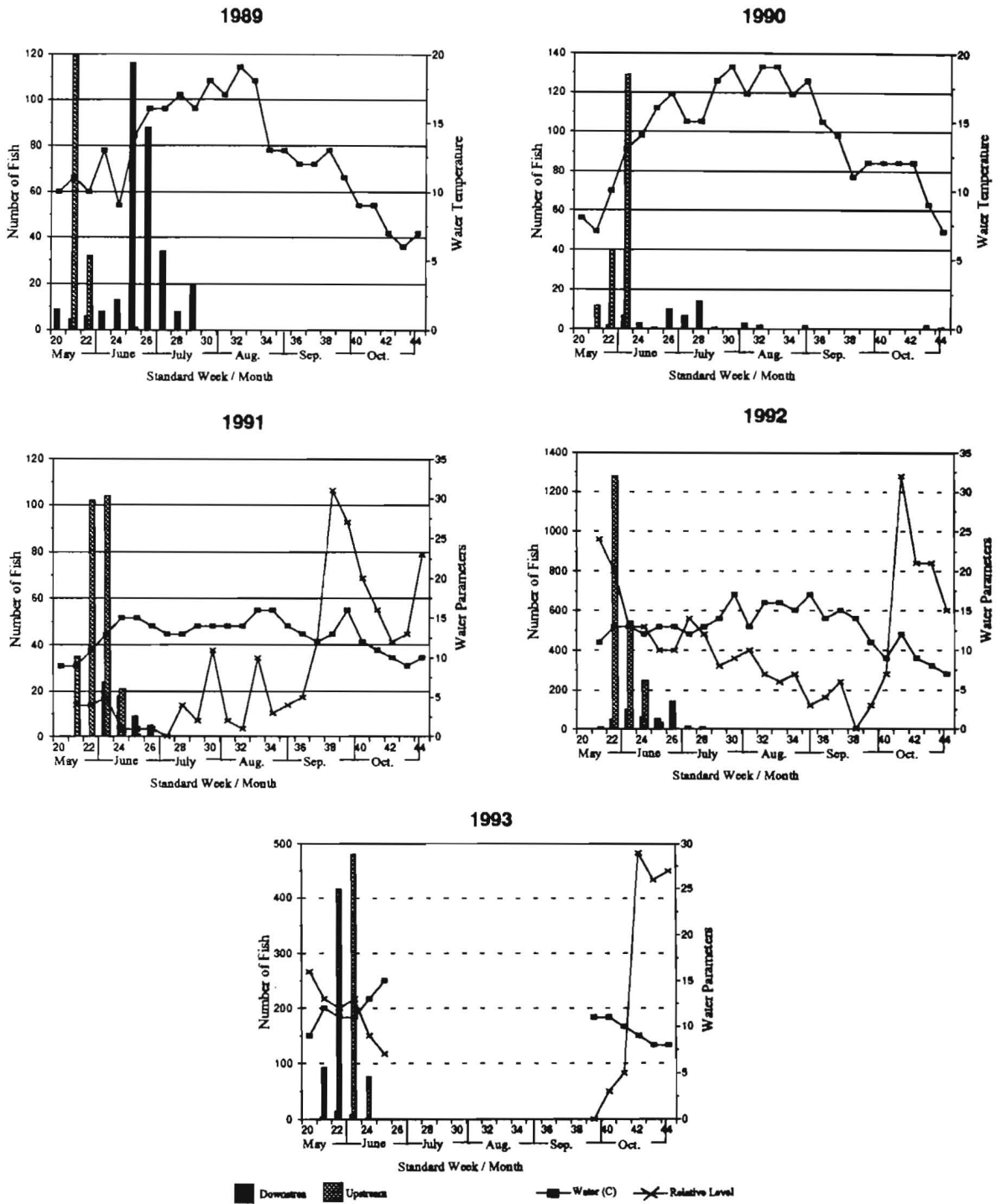


Figure 9. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence downstream and upstream movement of gaspereau from 1989 to 1993.

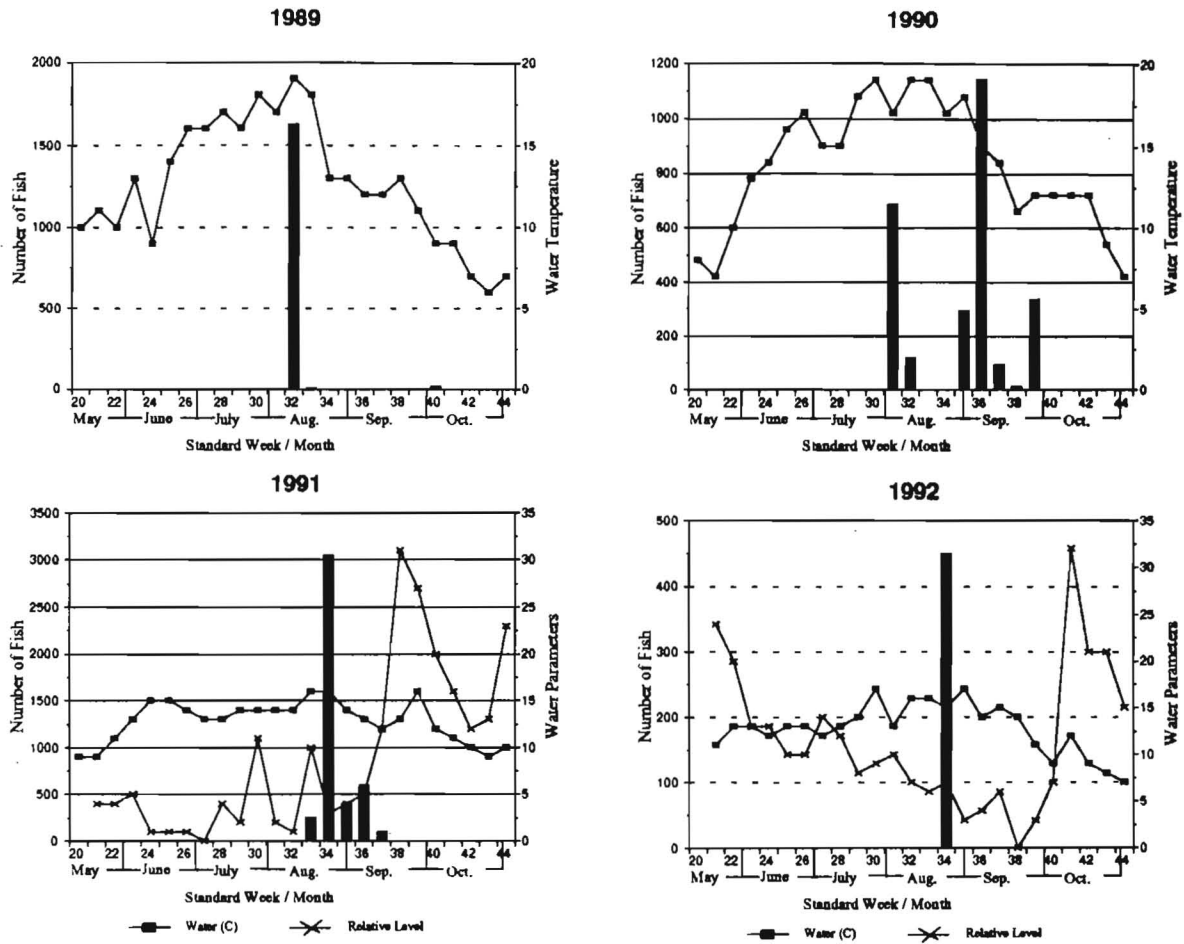


Figure 10. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence downstream movement of juvenile gaspereau from 1989 to 1992.



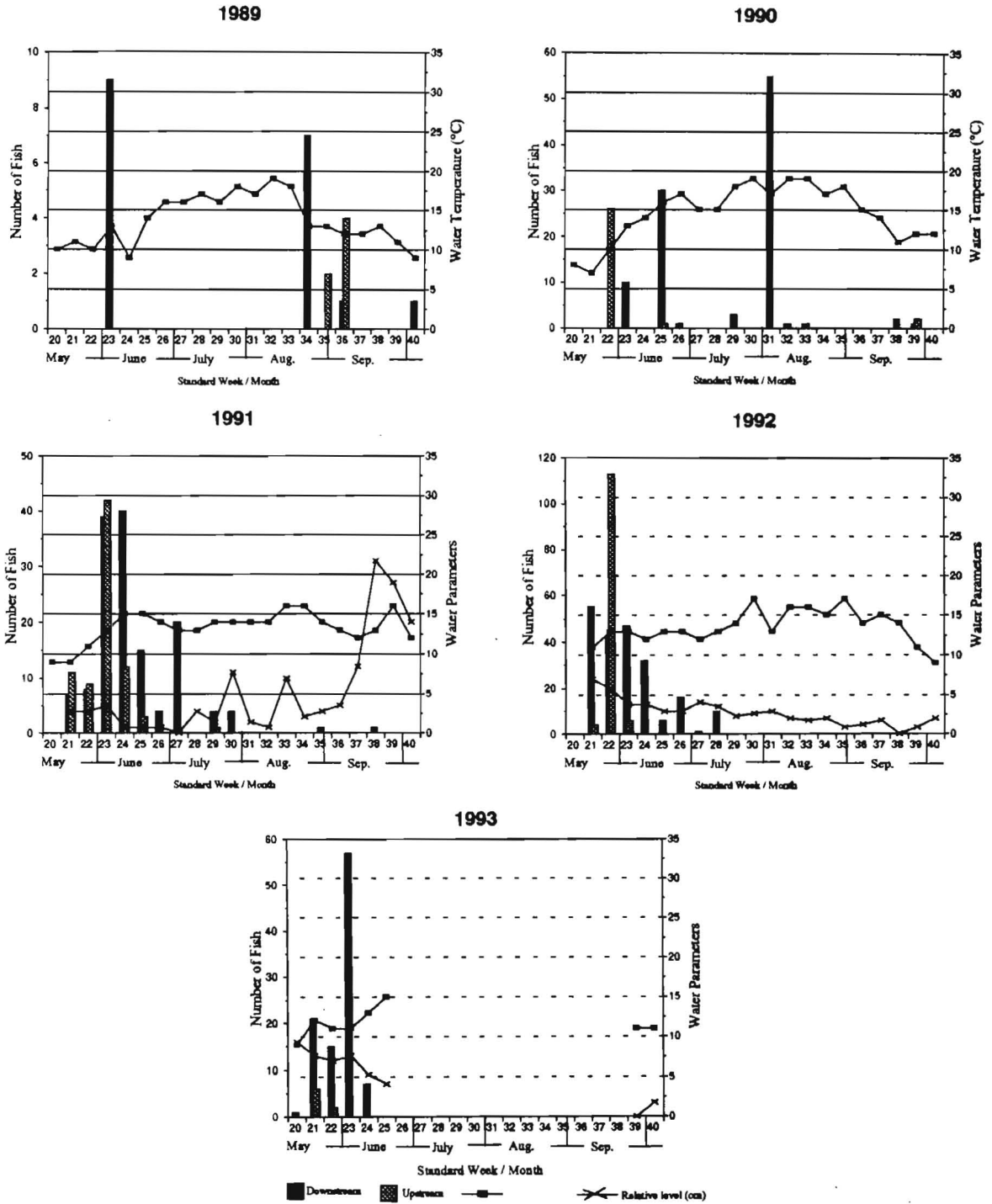


Figure 11. Lake O'Law Brook Rivermouth/Natural Resources Counting Fence downstream and upstream movement of white sucker from 1989 to 1993.

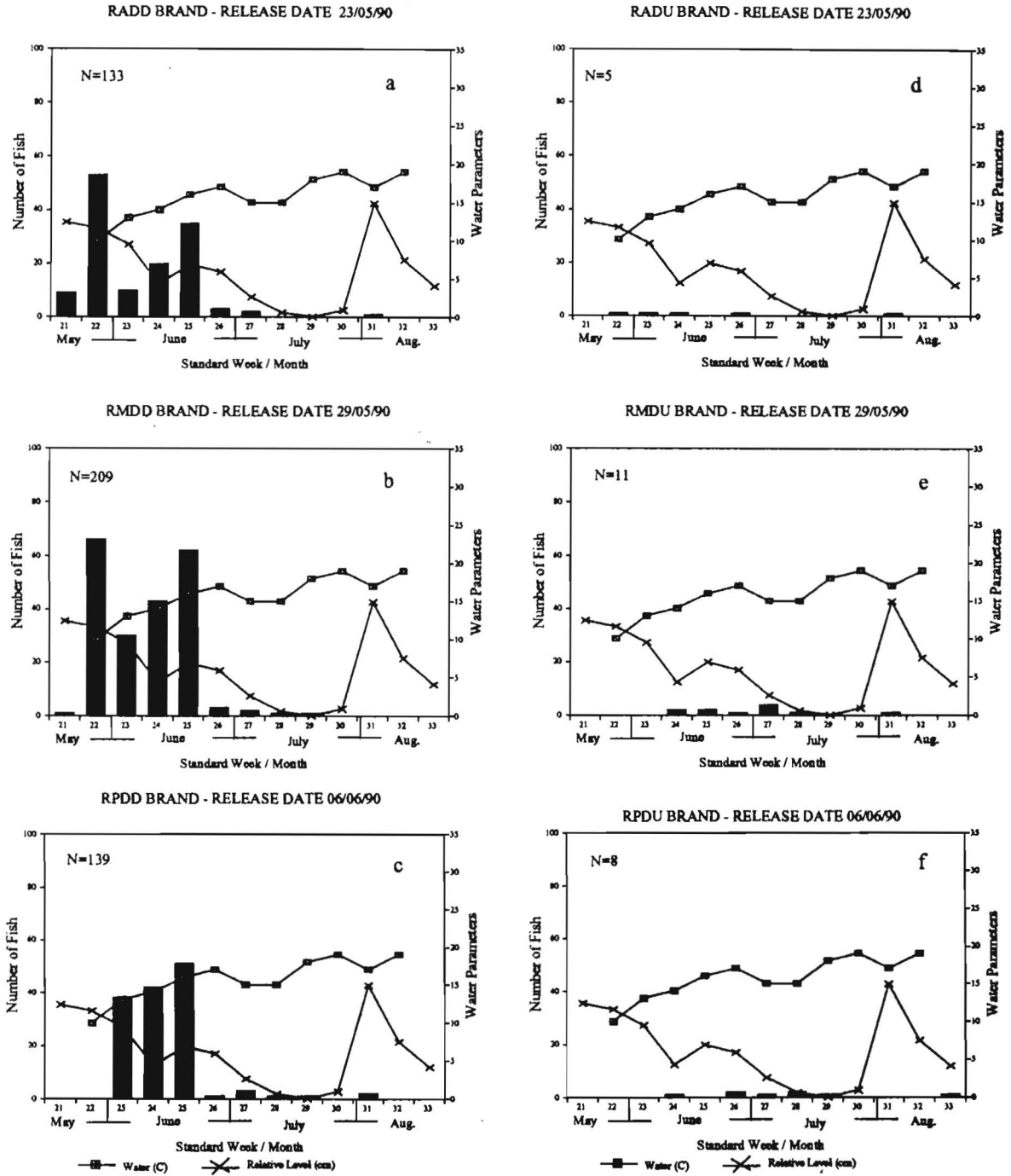


Figure 12. Recapture of smolt released from Lake O'Law Brook (a,b, and c) and First Lake O'Law (d,e, and f) in 1990.

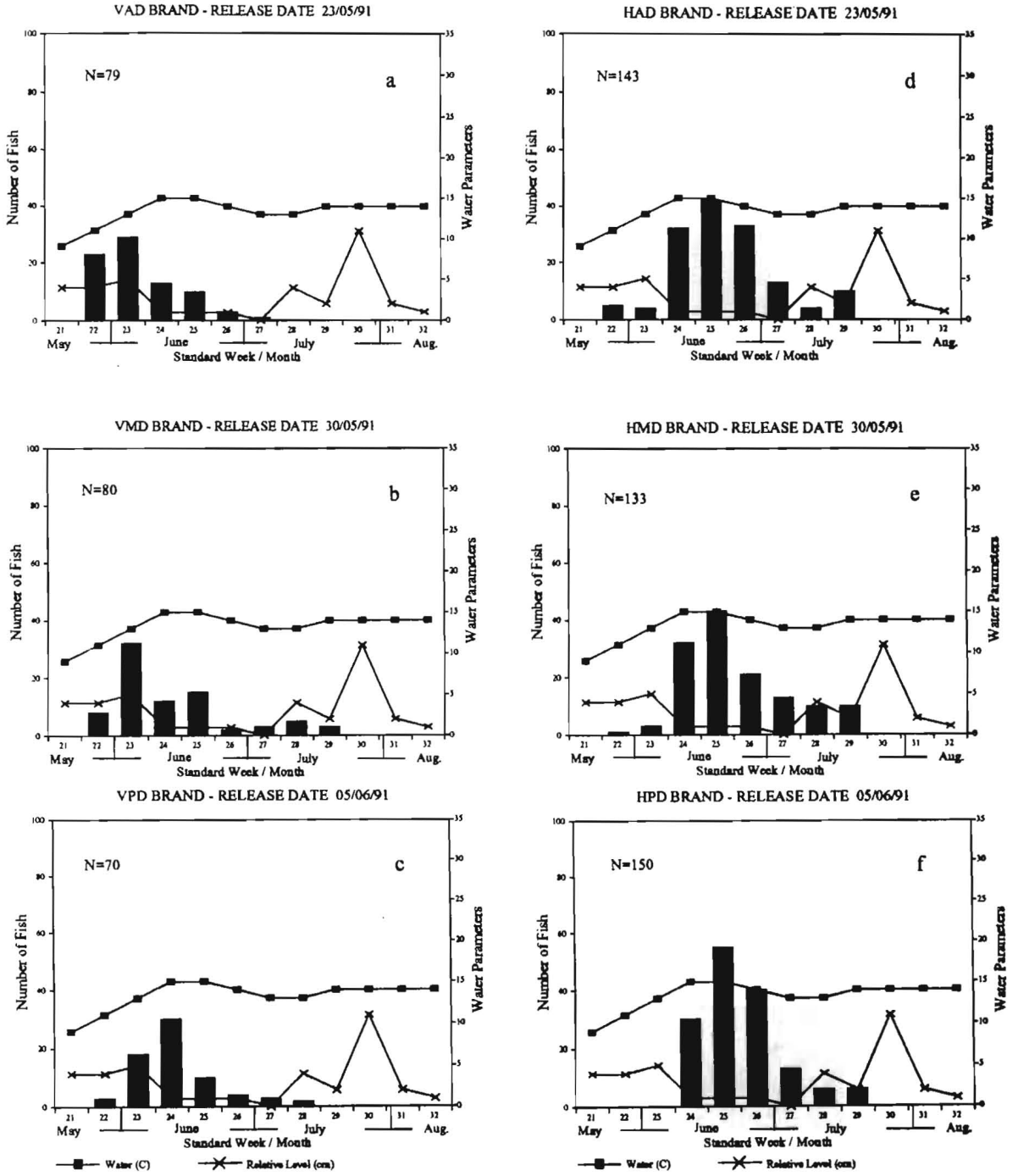


Figure 13. Recapture of smolt released from Lake O'Law Brook (a,b, and c) and First Lake O'Law (d,e, and f) in 1991.

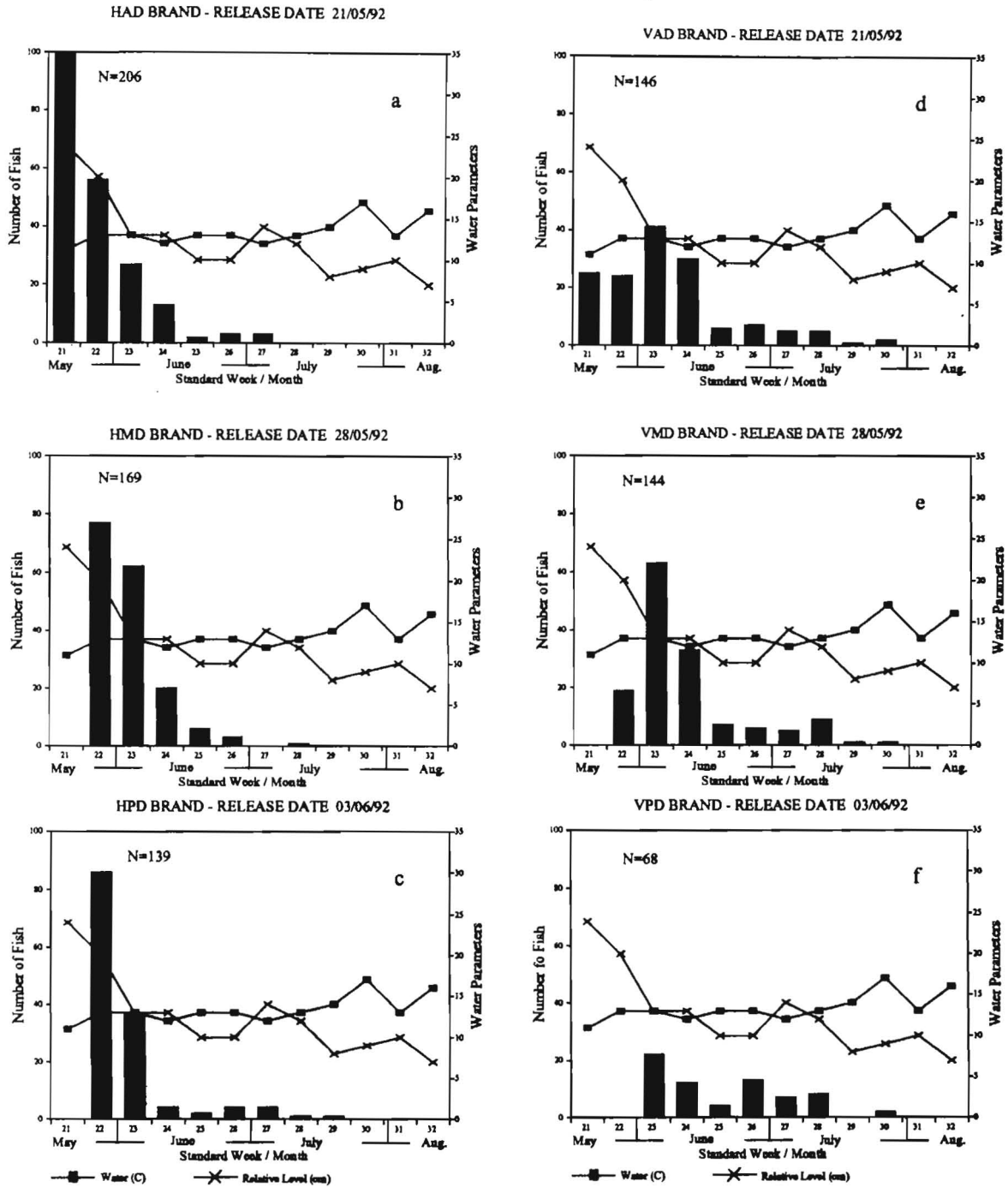


Figure 14. Recapture of smolt released from Lake O'Law Brook (a,b, and c) and First Lake O'Law (d,e, and f) in 1992.

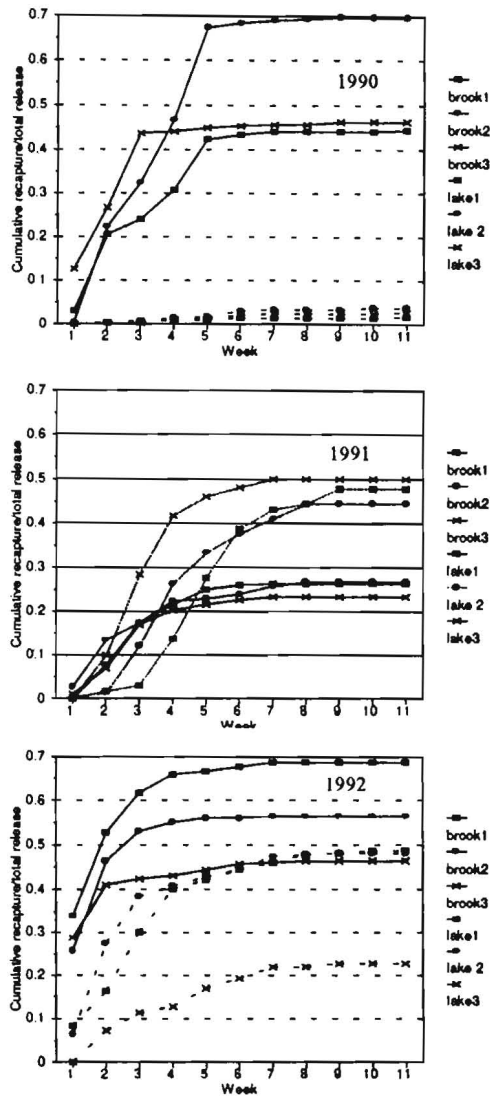


Figure 15. Cumulative recapture proportions of smolt released in Lake O'Law Brook and First Lake O'Law on weeks 1, 2, and 3 in 1990, 1991, and 1992.

**Appendix I. Weekly and cumulative counts of all fish species at the Lake O'Law Outflow and Inflow Counting Fences, 1989.**

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY Wild Salmon Parr	CUMUL Wild Salmon Parr	WEEKLY Wild Salmon Parr	CUMUL Wild Salmon Parr	WEEKLY Wild Salmon Parr	CUMUL Wild Salmon Parr	WEEKLY Wild Salmon Parr	CUMUL Wild Salmon Parr
19					0	0		
20	0	0	0	0	5	5	0	0
21	0	0	0	0	5	10	0	0
22	0	0	0	0	7	17	0	0
23	1	1	1	1	12	29	0	0
24	0	1	0	1	5	34	0	0
25	10	11	1	2	10	44	1	1
26	6	17	0	2	9	53	1	2
27	0	17	0	2	3	56	0	2
28	4	21	0	2	8	64	0	2
29	4	25	0	2	4	68	0	2
30	0	25	1	3	2	70	2	4
31	1	26	1	4	5	75	0	4
32	0	26	0	4	0	75	0	4
33	0	26	0	4	0	75	0	4
34	0	26	0	4	0	75	0	4
35	0	26	0	4	0	75	0	4
36	0	26	0	4	0	75	0	4
37	0	26	0	4	0	75	0	4
38	0	26	0	4	0	75	0	4
39	0	26	0	4	0	75	0	4
40	0	26	0	4	0	75	0	4
41	0	26	0	4	1	76	0	4
42	0	26	0	4	4	80	0	4
43	0	26	0	4	2	82	1	5

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild	Wild	Wild	Wild	Wild	Wild	Wild	Wild
Salmon	Salmon	Salmon	Salmon	Salmon	Salmon	Salmon	Salmon	
Smolt	Smolt	Smolt	Smolt	Smolt	Smolt	Smolt	Smolt	
19					0	0		
20	0	0	0	0	4	4	0	0
21	0	0	0	0	1	5	0	0
22	0	0	0	0	0	5	0	0
23	0	0	0	0	1	6	0	0
24	0	0	0	0	2	8	0	0
25	0	0	0	0	0	8	0	0
26	0	0	0	0	0	8	0	0
27	0	0	0	0	0	8	0	0
28	0	0	0	0	0	8	0	0
29	0	0	0	0	0	8	0	0
30	0	0	0	0	1	9	0	0
31	0	0	0	0	0	9	0	0
32	0	0	0	0	0	9	0	0
33	0	0	0	0	0	9	0	0
34	0	0	0	0	0	9	0	0
35	0	0	0	0	0	9	0	0
36	0	0	0	0	0	9	0	0
37	0	0	0	0	1	10	0	0
38	0	0	0	0	0	10	0	0
39	0	0	0	0	0	10	0	0
40	0	0	0	0	1	11	0	0
41	0	0	0	0	0	11	0	0
42	0	0	0	0	2	13	0	0
43	0	0	0	0	0	13	0	0

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr
19					0	0		
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0
28	0	0	0	0	1	1	0	0
29	0	0	0	0	0	1	0	0
30	0	0	0	0	0	1	0	0
31	0	0	0	0	0	1	0	0
32	0	0	0	0	0	1	0	0
33	0	0	0	0	0	1	0	0
34	0	0	0	0	0	1	0	0
35	0	0	0	0	0	1	0	0
36	0	0	0	0	0	1	0	0
37	0	0	0	0	0	1	0	0
38	0	0	0	0	0	1	0	0
39	0	0	0	0	0	1	0	0
40	0	0	0	0	0	1	0	0
41	0	0	0	0	0	1	0	0
42	0	0	0	0	0	1	0	0
43	0	0	0	0	0	1	0	0



Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt
19					0	0		
20	0	0	0	0	0	0	0	0
21	5	5	0	0	48	48	0	0
22	0	5	0	0	1	49	0	0
23	0	5	0	0	3	52	0	0
24	0	5	0	0	2	54	0	0
25	0	5	0	0	69	123	0	0
26	1	6	0	0	21	144	0	0
27	5	11	0	0	24	168	0	0
28	1	12	0	0	54	222	0	0
29	3	15	0	0	44	266	0	0
30	1	16	0	0	4	270	0	0
31	1	17	0	0	1	271	0	0
32	1	18	0	0	1	272	0	0
33	0	18	0	0	1	273	0	0
34	0	18	0	0	2	275	0	0
35	0	18	0	0	4	279	0	0
36	0	18	0	0	0	279	0	0
37	0	18	0	0	0	279	0	0
38	1	19	0	0	2	281	0	0
39	0	19	0	0	5	286	0	0
40	1	20	0	0	4	290	0	0
41	0	20	0	0	1	291	0	0
42	0	20	0	0	2	293	0	0
43	0	20	0	0	0	293	0	0

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout
19					18	18		
20	0	0	3	3	139	157	51	51
21	25	25	1	4	67	224	30	81
22	0	25	3	7	22	246	8	89
23	1	26	1	8	40	286	5	94
24	2	28	1	9	5	291	3	97
25	3	31	0	9	14	305	5	102
26	0	31	1	10	27	332	9	111
27	0	31	0	10	23	355	4	115
28	0	31	1	11	24	379	20	135
29	0	31	1	12	2	381	0	135
30	0	31	1	13	1	382	3	138
31	0	31	0	13	0	382	3	141
32	0	31	0	13	0	382	3	144
33	0	31	0	13	0	382	0	144
34	0	31	0	13	0	382	1	145
35	0	31	0	13	1	383	0	145
36	0	31	0	13	0	383	0	145
37	0	31	0	13	1	384	1	146
38	0	31	1	14	2	386	0	146
39	1	32	0	14	7	393	30	176
40	3	35	0	14	7	400	8	184
41	7	42	0	14	6	406	2	186
42	2	44	15	29	567	973	14	200
43	1	45	7	36	140	1113	38	238

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY White Sucker	CUMUL White Sucker	WEEKLY White Sucker	CUMUL White Sucker	WEEKLY White Sucker	CUMUL White Sucker	WEEKLY White Sucker	CUMUL White Sucker
19					24	24		
20	26	26	1	1	7	31	3	3
21	78	104	34	35	429	460	2	5
22	1	105	11	46	171	631	4	9
23	14	119	24	70	152	783	84	93
24	31	150	0	70	34	817	116	209
25	15	165	0	70	65	882	17	226
26	8	173	2	72	18	900	54	280
27	0	173	0	72	5	905	4	284
28	12	185	0	72	230	1135	6	290
29	18	203	0	72	0	1135	0	290
30	10	213	0	72	8	1143	2	292
31	6	219	1	73	1	1144	2	294
32	8	227	0	73	3	1147	2	296
33	0	227	0	73	1	1148	0	296
34	3	230	0	73	0	1148	1	297
35	52	282	0	73	0	1148	1	298
36	50	332	0	73	0	1148	0	298
37	11	343	0	73	19	1167	4	302
38	198	541	0	73	0	1167	3	305
39	167	708	10	83	0	1167	7	312
40	72	780	0	83	0	1167	0	312
41	3	783	0	83	0	1167	0	312
42	0	783	0	83	0	1167	3	315
43	0	783	0	83	0	1167	2	317

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau
19					0	0		
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0
30	0	0	0	0	1581	1581	5922	5922
31	0	0	0	0	43136	44717	11904	17826
32	0	0	0	0	44318	89035	8407	26233
33	0	0	0	0	43351	132386	15987	42220
34	0	0	0	0	42023	174409	9766	51986
35	0	0	0	0	5209	179618	2096	54082
36	0	0	0	0	3829	183447	64	54146
37	0	0	0	0	4700	188147	17	54163
38	0	0	0	0	7408	195555	1676	55839
39	0	0	0	0	9235	204790	339	56178
40	0	0	0	0	3114	207904	39	56217
41	0	0	0	0	510	208414	0	56217
42	0	0	0	0	5	208419	0	56217
43	0	0	0	0	0	208419	0	56217

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY Gaspereau	CUMUL Gaspereau	WEEKLY Gaspereau	CUMUL Gaspereau	WEEKLY Gaspereau	CUMUL Gaspereau	WEEKLY Gaspereau	CUMUL Gaspereau
19					0	0		
20	625	625	42	42	0	0	24	24
21	1797	2422	515	557	0	0	19	43
22	66	2488	0	557	3	3	3	46
23	35	2523	25	582	6	9	5	51
24	6	2529	0	582	26	35	3	54
25	60	2589	0	582	813	848	450	504
26	58	2647	6	588	465	1313	251	755
27	48	2695	2	590	576	1889	40	795
28	17	2712	1	591	373	2262	25	820
29	9	2721	0	591	72	2334	8	828
30	0	2721	14	605	12	2346	0	828
31	336	3057	13	618	13	2359	0	828
32	345	3402	0	618	5	2364	0	828
33	146	3548	16	634	21	2385	0	828
34	0	3548	0	634	0	2385	0	828
35	0	3548	0	634	6	2391	0	828
36	120	3668	5	639	1	2392	0	828
37	0	3668	0	639	3	2395	0	828
38	160	3828	0	639	0	2395	0	828
39	5	3833	0	639	4	2399	1	829
40	0	3833	0	639	1	2400	0	829
41	0	3833	0	639	83	2483	0	829
42	0	3833	0	639	1	2484	0	829
43	0	3833	0	639	0	2484	0	829

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel
19					11	11		
20	0	0	0	0	2	13	0	0
21	0	0	0	0	0	13	0	0
22	0	0	0	0	0	13	0	0
23	0	0	0	0	0	13	0	0
24	0	0	0	0	1	14	0	0
25	0	0	0	0	2	16	0	0
26	0	0	0	0	1	17	0	0
27	0	0	0	0	1	18	0	0
28	0	0	0	0	0	18	0	0
29	0	0	0	0	0	18	0	0
30	0	0	0	0	0	18	0	0
31	0	0	0	0	0	18	0	0
32	0	0	0	0	0	18	0	0
33	0	0	0	0	0	18	0	0
34	0	0	0	0	0	18	0	0
35	0	0	0	0	0	18	0	0
36	0	0	0	0	0	18	0	0
37	0	0	0	0	0	18	0	0
38	1	1	0	0	1	19	0	0
39	0	1	0	0	5	24	2	2
40	0	1	0	0	0	24	0	2
41	0	1	0	0	0	24	0	2
42	0	1	0	0	0	24	0	2
43	0	1	0	0	0	24	0	2

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY Stickleback	CUMUL Stickleback	WEEKLY Stickleback	CUMUL Stickleback	WEEKLY Stickleback	CUMUL Stickleback	WEEKLY Stickleback	CUMUL Stickleback
19					1	1		
20	0	0	1	1	0	1	1	1
21	0	0	0	1	0	1	0	1
22	0	0	0	1	0	1	3	4
23	0	0	0	1	0	1	0	4
24	0	0	1	2	1	2	0	4
25	0	0	0	2	0	2	0	4
26	0	0	0	2	0	2	2	6
27	0	0	0	2	1	3	0	6
28	0	0	0	2	0	3	3	9
29	0	0	0	2	0	3	0	9
30	0	0	0	2	0	3	0	9
31	0	0	0	2	1	4	0	9
32	0	0	0	2	2	6	0	9
33	0	0	0	2	1	7	0	9
34	0	0	0	2	1	8	0	9
35	0	0	0	2	0	8	0	9
36	0	0	0	2	2	10	0	9
37	0	0	0	2	1	11	0	9
38	0	0	0	2	0	11	0	9
39	0	0	0	2	0	11	15	24
40	0	0	0	2	2	13	4	28
41	0	0	0	2	0	13	0	28
42	0	0	0	2	0	13	0	28
43	0	0	0	2	0	13	0	28

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish
19					0	0		
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	1	1
23	0	0	0	0	0	0	1	2
24	0	0	0	0	0	0	0	2
25	0	0	0	0	0	0	0	2
26	0	0	0	0	0	0	0	2
27	0	0	0	0	0	0	0	2
28	0	0	0	0	0	0	0	2
29	0	0	0	0	0	0	0	2
30	0	0	0	0	0	0	0	2
31	0	0	0	0	0	0	0	2
32	0	0	0	0	4	4	0	2
33	0	0	0	0	1	5	0	2
34	0	0	0	0	0	5	0	2
35	0	0	0	0	0	5	0	2
36	0	0	0	0	0	5	0	2
37	0	0	0	0	0	5	0	2
38	0	0	0	0	0	5	0	2
39	0	0	0	0	0	5	0	2
40	0	0	0	0	0	5	0	2
41	0	0	0	0	0	5	0	2
42	0	0	0	0	0	5	0	2
43	0	0	0	0	0	5	0	2



Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY creek chub	CUMUL creek chub	WEEKLY creek chub	CUMUL creek chub	WEEKLY creek chub	CUMUL creek chub	WEEKLY creek chub	CUMUL creek chub
19					1	1		
20	0	0	0	0	0	1	0	0
21	0	0	0	0	0	1	0	0
22	0	0	0	0	0	1	0	0
23	0	0	0	0	0	1	0	0
24	0	0	0	0	0	1	0	0
25	0	0	0	0	0	1	0	0
26	0	0	0	0	0	1	0	0
27	0	0	0	0	0	1	0	0
28	0	0	0	0	0	1	0	0
29	0	0	0	0	0	1	0	0
30	0	0	0	0	0	1	0	0
31	0	0	0	0	0	1	0	0
32	0	0	0	0	0	1	0	0
33	0	0	0	0	0	1	0	0
34	0	0	0	0	0	1	0	0
35	0	0	0	0	0	1	0	0
36	0	0	0	0	0	1	0	0
37	0	0	0	0	0	1	0	0
38	0	0	0	0	0	1	0	0
39	0	0	0	0	0	1	0	0
40	0	0	0	0	0	1	0	0
41	0	0	0	0	0	1	0	0
42	0	0	0	0	0	1	0	0
43	0	0	0	0	0	1	0	0

Appendix I. ...Lake O'Law Outflow and Inflow Counting Fences, 1989.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY mummichog	CUMUL mummichog	WEEKLY mummichog	CUMUL mummichog	WEEKLY mummichog	CUMUL mummichog	WEEKLY mummichog	CUMUL mummichog
19					0	0		
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	1	1	1	1
23	0	0	0	0	1	2	1	2
24	0	0	0	0	0	2	0	2
25	0	0	0	0	0	2	0	2
26	0	0	0	0	0	2	0	2
27	0	0	0	0	0	2	0	2
28	0	0	0	0	0	2	0	2
29	0	0	0	0	0	2	0	2
30	0	0	0	0	0	2	0	2
31	0	0	0	0	0	2	0	2
32	0	0	0	0	0	2	0	2
33	0	0	0	0	0	2	0	2
34	0	0	0	0	0	2	0	2
35	0	0	0	0	0	2	0	2
36	0	0	0	0	0	2	0	2
37	0	0	0	0	0	2	0	2
38	0	0	0	0	0	2	0	2
39	0	0	0	0	0	2	0	2
40	0	0	0	0	0	2	0	2
41	0	0	0	0	0	2	0	2
42	0	0	0	0	0	2	0	2
43	0	0	0	0	0	2	0	2

**Appendix II.**

**Weekly and cumulative counts of all fish species at the Lake O'Law Outflow and Inflow Counting Fences, 1990.**

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr
19	0	0	0	0	0	0	0	0
20	0	0	0	0	1	1	1	1
21	0	0	0	0	2	3	0	1
22	1	1	0	0	4	7	0	1
23	2	3	0	0	7	14	2	3
24	17	20	0	0	10	24	0	3
25	2	22	0	0	14	38	1	4
26	5	27	1	1	5	43	3	7
27	0	27	0	1	1	44	0	7
28	0	27	1	2	3	47	0	7
29	0	27	0	2	0	47	0	7
30	1	28	0	2	0	47	0	7
31	2	30	0	2	1	48	1	8
32	1	31	0	2	2	50	0	8
33	0	31	0	2	0	50	0	8
34	0	31	0	2	0	50	0	8
35	0	31	0	2	0	50	0	8
36	0	31	0	2	0	50	0	8
37	0	31	0	2	0	50	0	8
38	0	31	0	2	0	50	0	8
39	0	31	0	2	0	50	0	8

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	1	1	0	0	8	8	0	0
24	0	1	0	0	0	8	0	0
25	0	1	0	0	1	9	0	0
26	0	1	0	0	1	10	0	0
27	0	1	0	0	0	10	0	0
28	0	1	0	0	0	10	0	0
29	0	1	0	0	0	10	0	0
30	0	1	0	0	0	10	0	0
31	0	1	0	0	0	10	0	0
32	0	1	0	0	0	10	0	0
33	0	1	0	0	0	10	0	0
34	0	1	0	0	0	10	0	0
35	0	1	0	0	0	10	0	0
36	0	1	0	0	0	10	0	0
37	0	1	0	0	0	10	0	0
38	0	1	0	0	0	10	0	0
39	0	1	0	0	0	10	0	0

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0
25	0	0	0	0	1	1	0	0
26	1	1	0	0	1	2	2	2
27	1	2	0	0	0	2	0	2
28	0	2	0	0	1	3	0	2
29	0	2	0	0	0	3	0	2
30	0	2	0	0	0	3	0	2
31	0	2	1	1	0	3	0	2
32	0	2	0	1	1	4	0	2
33	0	2	0	1	0	4	0	2
34	0	2	0	1	0	4	0	2
35	0	2	0	1	0	4	0	2
36	0	2	0	1	0	4	0	2
37	0	2	0	1	0	4	0	2
38	0	2	0	1	0	4	0	2
39	0	2	0	1	0	4	0	2

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt
19	0	0	0	0	0	0	0	0
20	0	0	0	0	2	2	0	0
21	0	0	0	0	8	10	0	0
22	0	0	0	0	10	20	1	1
23	0	0	0	0	47	67	0	1
24	1	1	0	0	3	70	0	1
25	1	2	0	0	19	89	1	2
26	0	2	0	0	12	101	2	4
27	0	2	0	0	8	109	0	4
28	0	2	0	0	6	115	0	4
29	0	2	0	0	1	116	0	4
30	0	2	0	0	5	121	0	4
31	2	4	0	0	43	164	0	4
32	1	5	0	0	4	168	0	4
33	0	5	0	0	3	171	0	4
34	0	5	0	0	1	172	0	4
35	1	6	0	0	2	174	0	4
36	0	6	0	0	0	174	0	4
37	0	6	0	0	0	174	0	4
38	0	6	0	0	0	174	0	4
39	0	6	0	0	0	174	0	4

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr	Brook Trout Parr
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	10	10
21	0	0	0	0	6	6	1	11
22	1	1	0	0	2	8	3	14
23	2	3	0	0	19	27	0	14
24	1	4	0	0	2	29	1	15
25	0	4	0	0	14	43	3	18
26	0	4	4	4	15	58	11	29
27	0	4	0	4	0	58	4	33
28	0	4	2	6	0	58	8	41
29	0	4	1	7	0	58	5	46
30	0	4	4	11	1	59	11	57
31	0	4	2	13	0	59	29	86
32	0	4	1	14	1	60	1	87
33	0	4	0	14	0	60	1	88
34	0	4	0	14	0	60	0	88
35	0	4	0	14	0	60	1	89
36	0	4	0	14	0	60	0	89
37	0	4	0	14	0	60	0	89
38	0	4	0	14	0	60	3	92
39	1	5	0	14	0	60	0	92

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout	WEEKLY Brook Trout	CUMUL Brook Trout
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	5	5	0	0
23	0	0	0	0	2	7	0	0
24	1	1	0	0	1	8	0	0
25	0	1	0	0	7	15	0	0
26	0	1	0	0	2	17	1	1
27	0	1	0	0	0	17	1	2
28	0	1	0	0	0	17	0	2
29	0	1	0	0	0	17	0	2
30	0	1	0	0	0	17	0	2
31	0	1	1	1	2	19	2	4
32	0	1	0	1	0	19	1	5
33	1	2	0	1	0	19	0	5
34	0	2	0	1	0	19	1	6
35	0	2	0	1	0	19	0	6
36	0	2	0	1	0	19	0	6
37	0	2	0	1	0	19	0	6
38	0	2	0	1	0	19	0	6
39	3	5	0	1	0	19	0	6



Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	hatchery brook parr	hatchery brook parr	hatchery brook parr	hatchery brook parr	hatchery brook parr	hatchery brook parr	hatchery brook parr	hatchery brook parr
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	5	5	0	0
24	0	0	0	0	0	5	0	0
25	0	0	0	0	0	5	0	0
26	0	0	0	0	0	5	0	0
27	0	0	0	0	0	5	0	0
28	0	0	0	0	0	5	1	1
29	0	0	0	0	0	5	0	1
30	0	0	0	0	0	5	0	1
31	0	0	0	0	0	5	0	1
32	0	0	0	0	0	5	0	1
33	0	0	0	0	0	5	0	1
34	0	0	0	0	0	5	0	1
35	0	0	0	0	0	5	0	1
36	0	0	0	0	0	5	0	1
37	0	0	0	0	0	5	0	1
38	0	0	0	0	0	5	0	1
39	0	0	0	0	0	5	0	1

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
White	White	White	White	White	White	White	White	
Sucker	Sucker	Sucker	Sucker	Sucker	Sucker	Sucker	Sucker	
Juvenile	Juvenile	Juvenile	Juvenile	Juvenile	Juvenile	Juvenile	Juvenile	
19	0	0	0	0	0	0	0	0
20	0	0	0	0	14	14	14	14
21	0	0	0	0	1	15	0	14
22	1	1	0	0	2	17	1	15
23	0	1	0	0	70	87	1	16
24	2	3	0	0	10	97	0	16
25	3	6	2	2	45	142	22	38
26	0	6	0	2	1	143	20	58
27	0	6	0	2	0	143	1	59
28	0	6	0	2	0	143	3	62
29	0	6	0	2	1	144	0	62
30	1	7	0	2	0	144	7	69
31	0	7	4	6	10	154	49	118
32	0	7	1	7	3	157	0	118
33	0	7	0	7	0	157	0	118
34	0	7	0	7	5	162	0	118
35	0	7	0	7	10	172	1	119
36	0	7	0	7	0	172	0	119
37	0	7	0	7	0	172	0	119
38	0	7	0	7	0	172	0	119
39	0	7	0	7	0	172	0	119

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	9	9	0	0	0	0	0	0
23	28	37	0	0	103	103	0	0
24	4	41	0	0	18	121	0	0
25	10	51	0	0	60	181	4	4
26	6	57	0	0	4	185	0	4
27	0	57	0	0	1	186	5	9
28	0	57	0	0	0	186	0	9
29	0	57	0	0	0	186	0	9
30	0	57	0	0	0	186	0	9
31	0	57	0	0	33	219	12	21
32	3	60	0	0	0	219	1	22
33	0	60	0	0	0	219	0	22
34	0	60	0	0	0	219	0	22
35	0	60	0	0	0	219	0	22
36	0	60	0	0	0	219	0	22
37	0	60	0	0	0	219	0	22
38	26	86	0	0	0	219	0	22
39	6	92	0	0	0	219	0	22

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau	juvenile gaspereau
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0
30	0	0	0	0	1888	1888	0	0
31	0	0	0	0	33275	35163	0	0
32	0	0	0	0	99	35262	0	0
33	15	15	0	0	2297	37559	0	0
34	0	15	0	0	2244	39803	0	0
35	0	15	0	0	8042	47845	0	0
36	228	243	0	0	17847	65692	0	0
37	0	243	0	0	8547	74239	0	0
38	0	243	0	0	16912	91151	0	0
39	0	243	0	0	18502	109653	0	0

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0
22	57	57	0	0	0	0	0	0
23	144	201	0	0	0	0	1	1
24	11	212	0	0	0	0	0	1
25	1	213	0	0	6	6	0	1
26	2	215	0	0	11	17	0	1
27	0	215	0	0	50	67	0	1
28	0	215	0	0	25	92	0	1
29	0	215	0	0	76	168	0	1
30	0	215	0	0	34	202	0	1
31	1	216	0	0	111	313	0	1
32	0	216	0	0	4	317	0	1
33	0	216	0	0	0	317	0	1
34	0	216	0	0	0	317	0	1
35	0	216	0	0	0	317	0	1
36	0	216	0	0	0	317	0	1
37	0	216	0	0	0	317	0	1
38	0	216	0	0	0	317	0	1
39	0	216	0	0	0	317	0	1

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel	WEEKLY eel	CUMUL eel
19	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	2	2
21	0	0	0	0	0	0	1	3
22	0	0	0	0	0	0	0	3
23	0	0	0	0	0	0	0	3
24	0	0	0	0	0	0	0	3
25	0	0	0	0	0	0	0	3
26	0	0	0	0	0	0	0	3
27	0	0	0	0	0	0	0	3
28	0	0	0	0	0	0	0	3
29	0	0	0	0	0	0	0	3
30	0	0	0	0	0	0	0	3
31	1	1	0	0	3	3	35	38
32	0	1	0	0	0	3	0	38
33	1	2	0	0	0	3	0	38
34	1	3	0	0	0	3	0	38
35	2	5	0	0	1	4	0	38
36	0	5	0	0	0	4	0	38
37	0	5	0	0	0	4	1	39
38	0	5	0	0	0	4	0	39
39	0	5	0	0	0	4	0	39

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Stickleback	Stickleback	Stickleback	Stickleback	Stickleback	Stickleback	Stickleback	Stickleback
19	0	0	0	0	0	0	0	0
20	0	0	0	0	2	2	0	0
21	0	0	0	0	0	2	0	0
22	0	0	1	1	0	2	3	3
23	1	1	1	2	0	2	3	6
24	1	2	0	2	1	3	3	9
25	0	2	0	2	3	6	8	17
26	0	2	0	2	0	6	16	33
27	0	2	0	2	0	6	21	54
28	0	2	0	2	0	6	7	61
29	0	2	2	4	2	8	27	88
30	0	2	0	4	3	11	7	95
31	0	2	5	9	0	11	8	103
32	0	2	11	20	2	13	5	108
33	0	2	0	20	2	15	14	122
34	3	5	0	20	5	20	7	129
35	0	5	0	20	5	25	3	132
36	2	7	0	20	16	41	2	134
37	0	7	0	20	65	106	104	238
38	0	7	0	20	18	124	115	353
39	3	10	0	20	27	151	94	447

Appendix II. ...Lake O'Law Outflow and Inflow Counting Fences, 1990.

WEEK	UPSTREAM				DOWNSTREAM			
	Outflow		Inflow		Outflow		Inflow	
	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish	WEEKLY killifish	CUMUL killifish
19	0	0	0	0	0	0	0	0
20	0	0	0	0	1	1	0	0
21	0	0	0	0	0	1	0	0
22	0	0	0	0	0	1	0	0
23	0	0	0	0	0	1	0	0
24	0	0	0	0	0	1	0	0
25	0	0	0	0	0	1	0	0
26	0	0	0	0	0	1	0	0
27	0	0	0	0	0	1	0	0
28	0	0	0	0	0	1	0	0
29	0	0	0	0	0	1	0	0
30	0	0	0	0	0	1	0	0
31	0	0	0	0	0	1	0	0
32	0	0	0	0	0	1	0	0
33	0	0	0	0	0	1	0	0
34	0	0	0	0	0	1	0	0
35	0	0	0	0	0	1	0	0
36	0	0	0	0	0	1	0	0
37	0	0	0	0	0	1	0	0
38	0	0	0	0	0	1	0	0
39	0	0	0	0	0	1	0	0



Appendix III. Weekly and cumulative counts of all fish species at the Lake O'Law Counting Fence (Upstream), Cape Breton, N.S., from 1989 to 1993.

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr
19	.	.	0	0	2	2	.	.	.	.
20	.	.	1	1	1	3	.	.	.	.
21	74	74	1	2	3	6	1	1	0	0
22	2	76	5	7	2	8	0	1	0	0
23	2	78	0	7	0	8	0	1	0	0
24	3	81	0	7	0	8	0	1	0	0
25	2	83	3	10	0	8	0	1	.	.
26	2	85	0	10	0	8	1	2	.	.
27	2	87	0	10	0	8	0	2	.	.
28	27	114	1	11	1	9	0	2	.	.
29	13	127	2	13	1	10	1	3	.	.
30	36	163	22	35	2	12	2	5	.	.
31	16	179	5	40	1	13	3	8	.	.
32	9	188	10	50	2	15	5	13	.	.
33	8	196	1	51	2	17	2	15	.	.
34	3	199	1	52	1	18	4	19	.	.
35	0	199	4	56	0	18	1	20	.	.
36	9	208	0	56	0	18	5	25	.	.
37	2	210	3	59	0	18	0	25	.	.
38	19	229	19	78	0	18	1	26	.	.
39	11	240	1	79	0	18	9	35	.	.
40	3	243	0	79	0	18	8	43	.	.
41	3	246	0	79	0	18	3	46	.	.
42	13	259	0	79	0	18	2	48	0	0
43	15	274	0	79	0	18	3	51	0	0
44	0	274	0	79	0	18	10	61	0	0
45	3	277	0	79	6	24	0	61	0	0
46	2	279	.	.	0	24	0	61	.	.
47	.	.	.	.	.	.	0	61	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	12	12	0	0	0	0
22	0	0	1	1	215	227	0	0	0	0
23	0	0	1	2	0	227	0	0	0	0
24	0	0	0	2	0	227	0	0	0	0
25	0	0	8	10	0	227	0	0	.	.
26	0	0	0	10	0	227	0	0	.	.
27	0	0	0	10	0	227	0	0	.	.
28	0	0	0	10	0	227	0	0	.	.
29	0	0	0	10	0	227	0	0	.	.
30	0	0	0	10	2	229	0	0	.	.
31	0	0	0	10	0	229	0	0	.	.
32	0	0	0	10	0	229	0	0	.	.
33	0	0	0	10	0	229	0	0	.	.
34	0	0	0	10	0	229	0	0	.	.
35	0	0	0	10	0	229	0	0	.	.
36	0	0	0	10	0	229	0	0	.	.
37	0	0	0	10	0	229	0	0	.	.
38	0	0	0	10	0	229	0	0	.	.
39	0	0	0	10	0	229	0	0	.	.
40	0	0	0	10	0	229	0	0	.	.
41	0	0	0	10	0	229	0	0	.	.
42	0	0	0	10	0	229	0	0	0	0
43	0	0	0	10	0	229	0	0	0	0
44	0	0	0	10	0	229	0	0	0	0
45	0	0	0	10	0	229	0	0	0	0
46	0	0	.	.	0	229	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	1	1	0	0	0	0	0	0	.	.
38	0	1	0	0	1	1	0	0	.	.
39	0	1	0	0	6	7	0	0	.	.
40	0	1	0	0	7	14	0	0	.	.
41	0	1	0	0	1	15	0	0	.	.
42	0	1	0	0	7	22	2	2	4	4
43	2	3	2	2	2	24	4	6	11	15
44	0	3	1	3	2	26	3	9	2	17
45	0	3	0	3	0	26	2	11	9	26
46	0	3	.	.	3	29	3	14	.	.
47	.	.	.	.	.	.	0	14	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	0	0	0	0	0	0	0	0	.	.
38	0	0	0	0	0	0	0	0	.	.
39	0	0	0	0	4	4	0	0	.	.
40	0	0	0	0	3	7	0	0	.	.
41	0	0	0	0	0	7	0	0	.	.
42	1	1	6	6	5	12	2	2	4	4
43	2	3	2	8	2	14	2	4	12	16
44	1	4	1	9	27	41	8	12	12	28
45	30	34	20	29	24	65	13	25	26	54
46	30	64	.	.	6	71	13	38	.	.
47	.	.	.	.	.	.	0	38	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr
19	.	.	0	0	0	0	.	.	.	.
20	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	1	1	0	0	0	0	.	.
31	0	0	0	1	0	0	0	0	.	.
32	0	0	0	1	0	0	0	0	.	.
33	0	0	0	1	0	0	0	0	.	.
34	0	0	0	1	0	0	0	0	.	.
35	0	0	0	1	0	0	0	0	.	.
36	0	0	0	1	0	0	0	0	.	.
37	0	0	0	1	0	0	0	0	.	.
38	0	0	1	2	0	0	0	0	.	.
39	0	0	0	2	0	0	0	0	.	.
40	0	0	0	2	0	0	0	0	.	.
41	0	0	0	2	0	0	0	0	.	.
42	0	0	0	2	0	0	0	0	0	0
43	0	0	0	2	0	0	0	0	0	0
44	0	0	0	2	0	0	0	0	0	0
45	0	0	0	2	0	0	0	0	0	0
46	0	0	.	.	0	0	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt
19	.	.	0	0	1	1	.	.	.	.
20	.	.	0	0	0	1	.	.	.	.
21	2	2	0	0	1	2	0	0	0	0
22	0	2	39	39	34	36	0	0	0	0
23	0	2	1	40	2	38	0	0	0	0
24	0	2	0	40	0	38	0	0	0	0
25	0	2	3	43	0	38	0	0	.	.
26	0	2	1	44	0	38	0	0	.	.
27	0	2	0	44	0	38	0	0	.	.
28	0	2	0	44	0	38	0	0	.	.
29	0	2	0	44	0	38	0	0	.	.
30	0	2	0	44	0	38	0	0	.	.
31	0	2	0	44	0	38	0	0	.	.
32	0	2	0	44	0	38	0	0	.	.
33	0	2	0	44	0	38	0	0	.	.
34	0	2	0	44	0	38	0	0	.	.
35	0	2	0	44	0	38	0	0	.	.
36	0	2	0	44	0	38	0	0	.	.
37	0	2	0	44	0	38	0	0	.	.
38	0	2	0	44	0	38	0	0	.	.
39	0	2	0	44	0	38	0	0	.	.
40	0	2	0	44	0	38	0	0	.	.
41	0	2	0	44	0	38	1	1	.	.
42	0	2	0	44	0	38	0	1	0	0
43	0	2	0	44	0	38	0	1	0	0
44	0	2	0	44	0	38	0	1	0	0
45	0	2	0	44	0	38	0	1	0	0
46	0	2	.	.	0	38	0	1	.	.
47	.	.	.	.	.	.	0	1	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon	Hatchery Small Salmon
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	0	0	0	0	0	0	0	0	.	.
38	0	0	0	0	0	0	0	0	.	.
39	0	0	0	0	1	1	0	0	.	.
40	0	0	0	0	1	2	0	0	.	.
41	0	0	0	0	0	2	0	0	.	.
42	0	0	0	0	3	5	0	0	1	1
43	0	0	0	0	0	5	0	0	0	1
44	0	0	0	0	0	5	0	0	1	2
45	0	0	0	0	0	5	0	0	3	5
46	0	0	.	.	0	5	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	1	1	.	.
32	0	0	0	0	0	0	0	1	.	.
33	0	0	0	0	0	0	0	1	.	.
34	0	0	0	0	0	0	0	1	.	.
35	0	0	0	0	0	0	0	1	.	.
36	0	0	0	0	0	0	0	1	.	.
37	0	0	0	0	0	0	0	1	.	.
38	0	0	0	0	0	0	0	1	.	.
39	0	0	0	0	0	0	0	1	.	.
40	0	0	0	0	2	2	0	1	.	.
41	0	0	0	0	0	2	0	1	.	.
42	0	0	1	1	0	2	2	3	1	1
43	0	0	1	2	0	2	2	5	1	2
44	1	1	0	2	0	2	0	5	0	2
45	6	7	0	2	2	4	0	5	2	4
46	2	9	.	.	0	4	2	7	.	.
47	.	.	.	.	.	.	0	7	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.



Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr
19	.	.	0	0	1	1	.	.	.	.
20	.	.	0	0	1	2	.	.	.	.
21	3	3	0	0	1	3	0	0	0	0
22	0	3	1	1	0	3	0	0	0	0
23	0	3	1	2	0	3	0	0	0	0
24	0	3	0	2	1	4	0	0	0	0
25	0	3	0	2	0	4	0	0	.	.
26	0	3	0	2	0	4	0	0	.	.
27	3	6	0	2	0	4	0	0	.	.
28	6	12	0	2	0	4	0	0	.	.
29	6	18	1	3	7	11	0	0	.	.
30	5	23	0	3	6	17	0	0	.	.
31	1	24	1	4	5	22	0	0	.	.
32	1	25	0	4	0	22	1	1	.	.
33	1	26	0	4	0	22	0	1	.	.
34	0	26	0	4	0	22	0	1	.	.
35	0	26	0	4	0	22	0	1	.	.
36	0	26	0	4	0	22	1	2	.	.
37	2	28	1	5	1	23	0	2	.	.
38	5	33	0	5	0	23	0	2	.	.
39	3	36	0	5	0	23	0	2	.	.
40	6	42	0	5	0	23	0	2	.	.
41	3	45	0	5	0	23	0	2	.	.
42	2	47	0	5	0	23	0	2	0	0
43	2	49	0	5	0	23	0	2	0	0
44	0	49	0	5	9	32	0	2	0	0
45	0	49	0	5	0	32	0	2	0	0
46	0	49	.	.	0	32	0	2	.	.
47	.	.	.	.	.	.	0	2	.	.
48	.	.	.	.	.	.	0	2	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	1	1	0	0	0	0	0	0	0	0
23	1	2	0	0	0	0	0	0	0	0
24	7	9	0	0	0	0	0	0	0	0
25	10	19	0	0	0	0	0	0	.	.
26	4	23	0	0	8	8	0	0	.	.
27	0	23	0	0	0	8	0	0	.	.
28	0	23	0	0	0	8	0	0	.	.
29	0	23	0	0	0	8	0	0	.	.
30	0	23	0	0	0	8	0	0	.	.
31	0	23	0	0	0	8	0	0	.	.
32	0	23	0	0	0	8	0	0	.	.
33	0	23	0	0	0	8	0	0	.	.
34	0	23	0	0	0	8	0	0	.	.
35	0	23	0	0	0	8	0	0	.	.
36	0	23	0	0	0	8	0	0	.	.
37	0	23	0	0	0	8	0	0	.	.
38	0	23	0	0	0	8	0	0	.	.
39	0	23	0	0	0	8	0	0	.	.
40	0	23	0	0	0	8	0	0	.	.
41	0	23	0	0	0	8	0	0	.	.
42	0	23	0	0	0	8	0	0	0	0
43	0	23	0	0	0	8	0	0	0	0
44	0	23	0	0	0	8	0	0	0	0
45	0	23	0	0	0	8	0	0	0	0
46	0	23	.	.	0	8	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Leary Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout
19	.	.	0	0	1	1	.	.	.	.
20	.	.	0	0	1	2	.	.	.	.
21	0	0	0	0	5	7	9	9	0	0
22	0	0	2	2	2	9	24	33	0	0
23	0	0	0	2	2	11	4	37	2	2
24	0	0	0	2	2	13	0	37	4	6
25	7	7	0	2	15	28	2	39	.	.
26	0	7	1	3	5	33	0	39	.	.
27	0	7	0	3	5	38	3	42	.	.
28	0	7	0	3	28	66	0	42	.	.
29	0	7	2	5	103	169	16	58	.	.
30	0	7	0	5	32	201	33	91	.	.
31	0	7	2	7	19	220	7	98	.	.
32	0	7	2	9	1	221	1	99	.	.
33	0	7	0	9	0	221	1	100	.	.
34	0	7	0	9	0	221	0	100	.	.
35	2	9	0	9	0	221	0	100	.	.
36	3	12	0	9	7	228	0	100	.	.
37	0	12	0	9	1	229	1	101	.	.
38	8	20	1	10	2	231	1	102	.	.
39	1	21	2	12	5	236	0	102	.	.
40	0	21	0	12	0	236	7	109	.	.
41	0	21	0	12	1	237	4	113	.	.
42	1	22	0	12	0	237	0	113	0	6
43	4	26	0	12	0	237	0	113	1	7
44	0	26	0	12	0	237	0	113	0	7
45	0	26	1	13	0	237	0	113	1	8
46	0	26	.	.	0	237	0	113	.	.
47	.	.	.	.	.	.	0	113	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	51	51	0	0
22	0	0	0	0	3	3	0	51	0	0
23	0	0	0	0	0	3	0	51	0	0
24	0	0	0	0	0	3	0	51	0	0
25	0	0	0	0	0	3	0	51	.	.
26	0	0	0	0	0	3	0	51	.	.
27	0	0	0	0	0	3	0	51	.	.
28	0	0	0	0	0	3	0	51	.	.
29	0	0	0	0	0	3	0	51	.	.
30	0	0	0	0	0	3	0	51	.	.
31	0	0	1	1	0	3	0	51	.	.
32	0	0	0	1	1	4	0	51	.	.
33	0	0	0	1	0	4	0	51	.	.
34	0	0	0	1	0	4	0	51	.	.
35	0	0	0	1	0	4	2	53	.	.
36	0	0	0	1	2	6	0	53	.	.
37	0	0	0	1	0	6	4	57	.	.
38	0	0	0	1	0	6	0	57	.	.
39	0	0	0	1	0	6	0	57	.	.
40	0	0	0	1	0	6	1	58	.	.
41	0	0	0	1	0	6	1	59	.	.
42	0	0	0	1	0	6	0	59	0	0
43	0	0	0	1	0	6	0	59	0	0
44	0	0	0	1	0	6	0	59	0	0
45	0	0	0	1	0	6	0	59	0	0
46	0	0	.	.	0	6	0	59	.	.
47	.	.	.	.	.	.	0	59	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	11	11	4	4	6	6
22	0	0	26	26	9	20	113	117	2	8
23	0	0	0	26	42	62	6	123	0	8
24	0	0	0	26	12	74	0	123	0	8
25	0	0	1	27	3	77	0	123	.	.
26	0	0	0	27	0	77	0	123	.	.
27	0	0	0	27	0	77	0	123	.	.
28	0	0	0	27	0	77	0	123	.	.
29	0	0	0	27	1	78	0	123	.	.
30	0	0	0	27	0	78	0	123	.	.
31	0	0	0	27	0	78	0	123	.	.
32	0	0	0	27	0	78	0	123	.	.
33	0	0	0	27	0	78	0	123	.	.
34	0	0	0	27	0	78	0	123	.	.
35	2	2	0	27	0	78	0	123	.	.
36	4	6	0	27	0	78	0	123	.	.
37	0	6	0	27	0	78	0	123	.	.
38	0	6	0	27	0	78	0	123	.	.
39	0	6	0	27	0	78	0	123	.	.
40	0	6	2	29	0	78	0	123	.	.
41	0	6	0	29	0	78	0	123	.	.
42	0	6	0	29	0	78	0	123	0	8
43	0	6	0	29	0	78	0	123	0	8
44	0	6	0	29	0	78	0	123	0	8
45	0	6	0	29	0	78	0	123	0	8
46	0	6	.	.	0	78	0	123	.	.
47	.	.	.	.	.	.	0	123	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Leary Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	119	119	12	12	35	35	11	11	93	93
22	32	151	40	52	102	137	1280	1291	416	509
23	0	151	129	181	104	241	545	1836	480	989
24	0	151	0	181	21	262	250	2086	77	1066
25	1	152	0	181	1	263	33	2119	.	.
26	0	152	0	181	0	263	0	2119	.	.
27	0	152	0	181	0	263	0	2119	.	.
28	0	152	0	181	0	263	0	2119	.	.
29	0	152	0	181	0	263	0	2119	.	.
30	0	152	0	181	0	263	0	2119	.	.
31	0	152	0	181	0	263	0	2119	.	.
32	0	152	0	181	0	263	0	2119	.	.
33	0	152	0	181	0	263	0	2119	.	.
34	0	152	0	181	0	263	0	2119	.	.
35	0	152	0	181	0	263	0	2119	.	.
36	0	152	0	181	0	263	0	2119	.	.
37	0	152	0	181	0	263	0	2119	.	.
38	0	152	0	181	0	263	0	2119	.	.
39	0	152	0	181	0	263	0	2119	.	.
40	0	152	0	181	0	263	0	2119	.	.
41	0	152	0	181	0	263	0	2119	.	.
42	0	152	0	181	0	263	0	2119	0	1066
43	0	152	0	181	0	263	0	2119	0	1066
44	0	152	0	181	0	263	0	2119	0	1066
45	0	152	0	181	0	263	0	2119	0	1066
46	0	152	.	.	0	263	0	2119	.	.
47	.	.	.	.	.	.	0	2119	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Leary Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	7	7	0	0	0	0	0	0	0	0
22	1	8	0	0	0	0	0	0	0	0
23	0	8	0	0	0	0	0	0	0	0
24	0	8	0	0	0	0	0	0	0	0
25	0	8	0	0	0	0	0	0	.	.
26	0	8	0	0	0	0	0	0	.	.
27	0	8	0	0	0	0	0	0	.	.
28	0	8	0	0	0	0	0	0	.	.
29	0	8	0	0	1	1	0	0	.	.
30	0	8	0	0	0	1	0	0	.	.
31	0	8	0	0	0	1	0	0	.	.
32	0	8	0	0	0	1	0	0	.	.
33	0	8	0	0	0	1	0	0	.	.
34	0	8	0	0	0	1	0	0	.	.
35	0	8	0	0	0	1	0	0	.	.
36	0	8	0	0	0	1	0	0	.	.
37	0	8	0	0	0	1	0	0	.	.
38	0	8	0	0	0	1	0	0	.	.
39	0	8	0	0	0	1	0	0	.	.
40	0	8	0	0	0	1	0	0	.	.
41	0	8	0	0	0	1	0	0	.	.
42	0	8	0	0	0	1	0	0	0	0
43	0	8	0	0	0	1	0	0	0	0
44	0	8	0	0	0	1	0	0	0	0
45	0	8	0	0	0	1	0	0	0	0
46	0	8	.	.	0	1	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Upstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck
19	.	.	0	0	0	0	.	.	.	.
20	.	.	0	0	0	0	.	.	.	.
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	.	.
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	1	1	0	0	.	.
33	0	0	0	0	1	2	0	0	.	.
34	0	0	0	0	0	2	0	0	.	.
35	0	0	0	0	0	2	0	0	.	.
36	0	0	0	0	0	2	0	0	.	.
37	0	0	0	0	0	2	0	0	.	.
38	0	0	0	0	0	2	0	0	.	.
39	0	0	0	0	0	2	0	0	.	.
40	0	0	0	0	0	2	0	0	.	.
41	0	0	0	0	0	2	0	0	.	.
42	0	0	0	0	0	2	0	0	0	0
43	0	0	0	0	0	2	0	0	0	0
44	0	0	0	0	0	2	0	0	0	0
45	0	0	0	0	0	2	0	0	0	0
46	0	0	.	.	0	2	0	0	.	.
47	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.



Appendix IV. Weekly and cumulative counts of all fish species at the Lake O'Law Counting Fence (Downstream), Cape Breton, N.S., from 1989 to 1993.

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr	Wild Salmon Parr
19	.	.	39	39	10	10	.	.	9	9
20	1	1	716	755	3	13	.	.	40	49
21	110	111	315	1070	4	17	44	44	26	75
22	105	216	273	1343	1	18	24	68	3	78
23	48	264	4	1347	1	19	5	73	0	78
24	13	277	1	1348	2	21	0	73	0	78
25	6	283	6	1354	2	23	0	73	0	78
26	0	283	8	1362	2	25	0	73	.	.
27	2	285	2	1364	1	26	3	76	.	.
28	8	293	2	1366	0	26	0	76	.	.
29	3	296	8	1374	0	26	0	76	.	.
30	12	308	9	1383	0	26	0	76	.	.
31	23	331	4	1387	0	26	0	76	.	.
32	12	343	19	1406	0	26	1	77	.	.
33	13	356	3	1409	0	26	2	79	.	.
34	10	366	7	1416	0	26	0	79	.	.
35	1	367	7	1423	0	26	1	80	.	.
36	9	376	3	1426	2	28	0	80	.	.
37	4	380	3	1429	0	28	1	81	.	.
38	4	384	4	1433	2	30	0	81	.	.
39	4	388	4	1437	0	30	0	81	.	.
40	33	421	0	1437	0	30	0	81	.	.
41	1	422	0	1437	0	30	0	81	.	.
42	96	518	0	1437	0	30	1	82	.	.
43	142	660	1	1438	0	30	1	83	.	.
44	59	719	0	1438	0	30	3	86	0	78
45	55	774	.	.	0	30	3	89	0	78
46	112	886	.	.	0	30	0	89	0	78
47	.	.	.	.	.	.	0	89	.	.
48	.	.	.	.	.	.	0	89	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt	Wild Salmon Smolt
19	.	.	0	0	6	6	.	.	22	22
20	21	21	1	1	43	49	.	.	272	294
21	167	188	2	3	320	369	928	928	869	1163
22	205	393	227	230	1540	1909	1008	1936	216	1379
23	345	738	116	346	348	2257	207	2143	134	1513
24	544	1282	130	476	152	2409	67	2210	0	1513
25	5	1287	519	995	86	2495	39	2249	0	1513
26	1	1288	5	1000	71	2566	30	2279	.	.
27	0	1288	3	1003	43	2609	19	2298	.	.
28	0	1288	2	1005	7	2616	29	2327	.	.
29	0	1288	4	1009	10	2626	0	2327	.	.
30	0	1288	0	1009	0	2626	1	2328	.	.
31	0	1288	0	1009	0	2626	0	2328	.	.
32	0	1288	0	1009	0	2626	0	2328	.	.
33	0	1288	0	1009	0	2626	0	2328	.	.
34	0	1288	0	1009	0	2626	0	2328	.	.
35	0	1288	1	1010	0	2626	0	2328	.	.
36	0	1288	0	1010	0	2626	0	2328	.	.
37	0	1288	0	1010	0	2626	0	2328	.	.
38	0	1288	0	1010	0	2626	0	2328	.	.
39	0	1288	0	1010	0	2626	0	2328	.	.
40	0	1288	0	1010	0	2626	0	2328	.	.
41	0	1288	0	1010	0	2626	0	2328	.	.
42	0	1288	0	1010	0	2626	0	2328	.	.
43	0	1288	0	1010	0	2626	0	2328	.	.
44	0	1288	0	1010	0	2626	0	2328	0	1513
45	0	1288	.	.	0	2626	0	2328	0	1513
46	0	1288	.	.	0	2626	0	2328	0	1513
47	.	.	.	.	.	.	0	2328	.	.
48	.	.	.	.	.	.	0	2328	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon	Wild Small Salmon
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	0	0	0	0	0	0	0	0	.	.
38	0	0	0	0	0	0	0	0	.	.
39	0	0	0	0	0	0	0	0	.	.
40	0	0	0	0	0	0	0	0	.	.
41	0	0	0	0	0	0	0	0	.	.
42	1	1	0	0	0	0	0	0	.	.
43	4	5	0	0	0	0	0	0	.	.
44	0	5	0	0	0	0	0	0	2	2
45	0	5	.	.	0	0	0	0	0	2
46	0	5	.	.	0	0	0	0	1	3
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	2	2	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon	Wild Large Salmon
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	1	1
21	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	0	0	0	0	0	0	0	0	.	.
38	0	0	0	0	0	0	0	0	.	.
39	0	0	0	0	0	0	0	0	.	.
40	0	0	0	0	0	0	0	0	.	.
41	0	0	0	0	0	0	0	0	.	.
42	0	0	0	0	0	0	0	0	.	.
43	1	1	0	0	0	0	1	1	.	.
44	0	1	0	0	0	0	1	2	1	2
45	0	1	.	.	0	0	0	2	1	3
46	13	14	.	.	0	0	0	2	2	5
47	.	.	.	.	.	.	1	3	.	.
48	.	.	.	.	.	.	23	26	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr	Hatchery Salmon Parr
19	.	.	3	3	0	0	.	.	0	0
20	0	0	3	6	0	0	.	.	1	1
21	0	0	1	7	0	0	0	0	0	1
22	0	0	0	7	0	0	0	0	0	1
23	0	0	0	7	0	0	0	0	0	1
24	0	0	0	7	0	0	0	0	0	1
25	0	0	1	8	0	0	0	0	0	1
26	3	3	0	8	0	0	0	0	.	.
27	1	4	1	9	0	0	0	0	.	.
28	14	18	0	9	0	0	0	0	.	.
29	3	21	0	9	0	0	0	0	.	.
30	0	21	1	10	0	0	0	0	.	.
31	0	21	0	10	0	0	0	0	.	.
32	1	22	0	10	0	0	0	0	.	.
33	0	22	0	10	0	0	0	0	.	.
34	2	24	0	10	0	0	0	0	.	.
35	0	24	0	10	0	0	0	0	.	.
36	0	24	0	10	0	0	0	0	.	.
37	5	29	0	10	0	0	0	0	.	.
38	0	29	0	10	0	0	0	0	.	.
39	2	31	0	10	0	0	0	0	.	.
40	0	31	0	10	0	0	0	0	.	.
41	1	32	0	10	0	0	0	0	.	.
42	1	33	0	10	0	0	0	0	.	.
43	0	33	1	11	0	0	0	0	.	.
44	5	38	0	11	0	0	0	0	0	1
45	0	38	.	.	0	0	0	0	0	1
46	2	40	.	.	0	0	0	0	0	1
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt	Hatchery Salmon Smolt
19	.	.	1	1	1	1	.	.	38	38
20	1	1	1	2	8	9	.	.	240	278
21	41	42	393	395	78	87	302	302	2238	2516
22	99	141	471	866	470	557	568	870	680	3196
23	116	257	259	1125	97	654	504	1374	324	3520
24	388	645	177	1302	419	1073	248	1622	2	3522
25	8	653	446	1748	425	1498	49	1671	0	3522
26	39	692	11	1759	195	1693	76	1747	.	.
27	0	692	15	1774	73	1766	36	1783	.	.
28	0	692	12	1786	35	1801	53	1836	.	.
29	0	692	5	1791	42	1843	5	1841	.	.
30	0	692	2	1793	0	1843	7	1848	.	.
31	0	692	2	1795	0	1843	1	1849	.	.
32	0	692	2	1797	0	1843	0	1849	.	.
33	0	692	1	1798	0	1843	1	1850	.	.
34	0	692	0	1798	0	1843	1	1851	.	.
35	0	692	0	1798	0	1843	0	1851	.	.
36	0	692	0	1798	0	1843	0	1851	.	.
37	0	692	0	1798	0	1843	0	1851	.	.
38	0	692	0	1798	0	1843	0	1851	.	.
39	0	692	0	1798	0	1843	0	1851	.	.
40	0	692	0	1798	0	1843	0	1851	.	.
41	0	692	0	1798	0	1843	0	1851	.	.
42	0	692	0	1798	0	1843	0	1851	.	.
43	0	692	0	1798	0	1843	0	1851	.	.
44	0	692	0	1798	0	1843	0	1851	0	3522
45	0	692	.	.	0	1843	0	1851	0	3522
46	0	692	.	.	0	1843	0	1851	0	3522
47	.	.	.	.	.	.	0	1851	.	.
48	.	.	.	.	.	.	0	1851	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon	Hatchery Large Salmon
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	0	0	0	0	0	0	.	.
37	0	0	0	0	0	0	0	0	.	.
38	0	0	0	0	0	0	0	0	.	.
39	1	1	0	0	0	0	0	0	.	.
40	0	1	0	0	0	0	0	0	.	.
41	0	1	0	0	0	0	0	0	.	.
42	1	2	0	0	0	0	0	0	.	.
43	0	2	0	0	0	0	0	0	.	.
44	0	2	0	0	0	0	0	0	0	0
45	1	3	.	.	0	0	0	0	0	0
46	11	14	.	.	0	0	0	0	0	0
47	.	.	.	.	.	.	1	1	.	.
48	.	.	.	.	.	.	4	5	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr	Brook Trout	Brook Parr
19	.	.	24	24	5	5	.	.	21	21
20	0	0	20	44	1	6	.	.	23	44
21	0	0	22	66	4	10	0	0	17	61
22	4	4	3	69	6	16	0	0	0	61
23	0	4	6	75	4	20	0	0	1	62
24	1	5	0	75	2	22	0	0	0	62
25	0	5	4	79	0	22	0	0	0	62
26	0	5	1	80	1	23	0	0	.	.
27	1	6	1	81	0	23	0	0	.	.
28	3	9	0	81	0	23	0	0	.	.
29	1	10	1	82	0	23	0	0	.	.
30	2	12	2	84	0	23	0	0	.	.
31	5	17	0	84	0	23	0	0	.	.
32	1	18	0	84	0	23	0	0	.	.
33	1	19	0	84	0	23	0	0	.	.
34	10	29	0	84	0	23	0	0	.	.
35	2	31	1	85	0	23	0	0	.	.
36	0	31	1	86	0	23	0	0	.	.
37	16	47	0	86	0	23	0	0	.	.
38	2	49	0	86	12	35	0	0	.	.
39	203	252	23	109	0	35	0	0	.	.
40	278	530	5	114	0	35	0	0	.	.
41	58	588	1	115	0	35	0	0	.	.
42	155	743	0	115	0	35	0	0	.	.
43	159	902	6	121	0	35	0	0	.	.
44	113	1015	0	121	0	35	0	0	0	62
45	219	1234	.	.	0	35	0	0	0	62
46	164	1398	.	.	0	35	0	0	0	62
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.



Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt	Brook Trout Smolt
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	11	11	0	0	1	1	0	0	0	0
22	2	13	0	0	0	1	0	0	0	0
23	3	16	0	0	0	1	0	0	0	0
24	12	28	0	0	0	1	0	0	0	0
25	3	31	0	0	0	1	0	0	0	0
26	3	34	0	0	0	1	2	2	.	.
27	0	34	0	0	0	1	0	2	.	.
28	0	34	0	0	0	1	0	2	.	.
29	0	34	0	0	0	1	0	2	.	.
30	0	34	0	0	0	1	0	2	.	.
31	0	34	0	0	0	1	0	2	.	.
32	0	34	0	0	0	1	0	2	.	.
33	0	34	0	0	0	1	0	2	.	.
34	0	34	0	0	0	1	0	2	.	.
35	0	34	0	0	0	1	0	2	.	.
36	0	34	0	0	0	1	0	2	.	.
37	0	34	0	0	0	1	0	2	.	.
38	0	34	0	0	0	1	0	2	.	.
39	0	34	0	0	0	1	0	2	.	.
40	0	34	0	0	0	1	0	2	.	.
41	0	34	0	0	0	1	0	2	.	.
42	0	34	0	0	0	1	0	2	.	.
43	0	34	0	0	0	1	0	2	.	.
44	0	34	0	0	0	1	0	2	0	0
45	0	34	.	.	0	1	0	2	0	0
46	0	34	.	.	0	1	0	2	0	0
47	.	.	.	.	.	.	0	2	.	.
48	.	.	.	.	.	.	0	2	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout	Brook Trout
19	.	.	0	0	1	1	.	.	0	0
20	0	0	0	0	1	2	.	.	0	0
21	0	0	0	0	1	3	6	6	2	2
22	0	0	0	0	7	10	16	22	0	2
23	0	0	0	0	0	10	12	34	1	3
24	0	0	0	0	0	10	2	36	0	3
25	0	0	1	1	1	11	5	41	1	4
26	0	0	0	1	1	12	2	43	.	.
27	0	0	1	2	0	12	5	48	.	.
28	0	0	0	2	1	13	0	48	.	.
29	0	0	1	3	2	15	0	48	.	.
30	0	0	0	3	0	15	2	50	.	.
31	0	0	4	7	0	15	0	50	.	.
32	0	0	2	9	0	15	0	50	.	.
33	0	0	0	9	0	15	1	51	.	.
34	0	0	0	9	0	15	0	51	.	.
35	0	0	0	9	4	19	0	51	.	.
36	0	0	0	9	0	19	0	51	.	.
37	74	74	0	9	0	19	1	52	.	.
38	0	74	13	22	0	19	0	52	.	.
39	0	74	0	22	0	19	0	52	.	.
40	60	134	0	22	0	19	0	52	.	.
41	8	142	0	22	0	19	0	52	.	.
42	74	216	0	22	0	19	0	52	.	.
43	120	336	0	22	0	19	0	52	.	.
44	32	368	0	22	0	19	0	52	0	4
45	0	368	.	.	0	19	0	52	0	4
46	0	368	.	.	0	19	0	52	0	4
47	.	.	.	.	.	.	0	52	.	.
48	.	.	.	.	.	.	0	52	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile	White Sucker Juvenile
19	.	.	3	3	1	1	.	.	3	3
20	0	0	34	37	10	11	.	.	8	11
21	1	1	12	49	19	30	78	78	26	37
22	0	1	16	65	34	64	43	121	107	144
23	0	1	19	84	16	80	88	209	141	285
24	11	12	1	85	13	93	172	381	32	317
25	0	12	4	89	4	97	17	398	0	317
26	0	12	0	89	0	97	79	477	.	.
27	0	12	0	89	4	101	133	610	.	.
28	0	12	0	89	0	101	8	618	.	.
29	0	12	0	89	0	101	1	619	.	.
30	0	12	0	89	0	101	1	620	.	.
31	0	12	0	89	13	114	0	620	.	.
32	0	12	0	89	0	114	0	620	.	.
33	0	12	0	89	0	114	0	620	.	.
34	0	12	0	89	0	114	0	620	.	.
35	0	12	0	89	1	115	0	620	.	.
36	0	12	0	89	13	128	0	620	.	.
37	0	12	0	89	0	128	0	620	.	.
38	0	12	6	95	2	130	0	620	.	.
39	0	12	0	95	0	130	0	620	.	.
40	0	12	0	95	0	130	0	620	.	.
41	0	12	0	95	0	130	0	620	.	.
42	0	12	0	95	0	130	0	620	.	.
43	0	12	0	95	0	130	0	620	.	.
44	0	12	0	95	0	130	0	620	0	317
45	0	12	.	.	0	130	0	620	0	317
46	0	12	.	.	0	130	0	620	0	317
47	.	.	.	.	.	.	0	620	.	.
48	.	.	.	.	.	.	0	620	.	.

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\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker	White Sucker
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	1	1
21	0	0	0	0	7	7	55	55	21	22
22	0	0	0	0	8	15	42	97	15	37
23	9	9	10	10	39	54	47	144	57	94
24	0	9	0	10	40	94	32	176	7	101
25	0	9	30	40	15	109	6	182	0	101
26	0	9	1	41	4	113	16	198	.	.
27	0	9	0	41	20	133	1	199	.	.
28	0	9	0	41	0	133	10	209	.	.
29	0	9	3	44	4	137	0	209	.	.
30	0	9	0	44	4	141	0	209	.	.
31	0	9	55	99	0	141	0	209	.	.
32	0	9	1	100	0	141	0	209	.	.
33	0	9	1	101	0	141	0	209	.	.
34	7	16	0	101	0	141	0	209	.	.
35	0	16	0	101	1	142	0	209	.	.
36	1	17	0	101	0	142	0	209	.	.
37	0	17	0	101	0	142	0	209	.	.
38	0	17	2	103	1	143	0	209	.	.
39	0	17	1	104	0	143	0	209	.	.
40	1	18	0	104	0	143	0	209	.	.
41	0	18	0	104	0	143	0	209	.	.
42	0	18	0	104	0	143	0	209	.	.
43	0	18	0	104	0	143	0	209	.	.
44	0	18	0	104	0	143	0	209	0	101
45	0	18	.	.	0	143	0	209	0	101
46	0	18	.	.	0	143	0	209	0	101
47	.	.	.	.	.	.	0	209	.	.
48	.	.	.	.	.	.	0	209	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile	Gaspereau Juvenile
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	688	688	0	0	0	0	.	.
32	1625	1625	119	807	0	0	0	0	.	.
33	5	1630	2	809	257	257	0	0	.	.
34	0	1630	0	809	3051	3308	450	450	.	.
35	1	1631	293	1102	406	3714	0	450	.	.
36	0	1631	1143	2245	600	4314	0	450	.	.
37	0	1631	92	2337	100	4414	0	450	.	.
38	1	1632	12	2349	0	4414	0	450	.	.
39	0	1632	335	2684	0	4414	0	450	.	.
40	20	1652	0	2684	0	4414	0	450	.	.
41	0	1652	0	2684	0	4414	0	450	.	.
42	0	1652	0	2684	0	4414	0	450	.	.
43	0	1652	0	2684	0	4414	0	450	.	.
44	0	1652	0	2684	0	4414	0	450	0	0
45	0	1652	.	.	0	4414	0	450	0	0
46	0	1652	.	.	0	4414	0	450	0	0
47	.	.	.	.	.	.	0	450	.	.
48	.	.	.	.	.	.	0	450	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau	Gaspereau
19	.	.	0	0	0	0	.	.	0	0
20	9	9	0	0	0	0	.	.	0	0
21	5	14	0	0	0	0	0	0	5	5
22	6	20	2	2	0	0	51	51	15	20
23	8	28	7	9	24	24	101	152	9	29
24	13	41	3	12	18	42	61	213	2	31
25	116	157	1	13	9	51	53	266	1	32
26	88	245	10	23	5	56	140	406	.	.
27	34	279	7	30	0	56	15	421	.	.
28	8	287	14	44	0	56	12	433	.	.
29	20	307	1	45	0	56	2	435	.	.
30	0	307	0	45	0	56	0	435	.	.
31	0	307	3	48	0	56	0	435	.	.
32	0	307	2	50	0	56	0	435	.	.
33	0	307	0	50	0	56	0	435	.	.
34	0	307	0	50	0	56	0	435	.	.
35	0	307	0	50	0	56	0	435	.	.
36	0	307	2	52	0	56	0	435	.	.
37	0	307	0	52	0	56	0	435	.	.
38	0	307	0	52	0	56	0	435	.	.
39	0	307	0	52	0	56	0	435	.	.
40	0	307	0	52	0	56	0	435	.	.
41	0	307	0	52	0	56	0	435	.	.
42	0	307	0	52	0	56	0	435	.	.
43	0	307	2	54	0	56	0	435	.	.
44	0	307	1	55	0	56	0	435	0	32
45	0	307	.	.	0	56	0	435	0	32
46	1	308	.	.	0	56	0	435	0	32
47	.	.	.	.	.	.	0	435	.	.
48	.	.	.	.	.	.	0	435	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel	American Eel
19	.	.	1	1	0	0	.	.	0	0
20	0	0	1	2	0	0	.	.	4	4
21	7	7	1	3	1	1	3	3	2	6
22	2	9	4	7	0	1	1	4	0	6
23	1	10	1	8	0	1	0	4	0	6
24	1	11	1	9	0	1	1	5	0	6
25	0	11	0	9	0	1	0	5	0	6
26	0	11	0	9	0	1	1	6	.	.
27	0	11	0	9	0	1	0	6	.	.
28	1	12	0	9	0	1	0	6	.	.
29	0	12	3	12	0	1	0	6	.	.
30	0	12	4	16	0	1	0	6	.	.
31	0	12	28	44	1	2	0	6	.	.
32	0	12	0	44	0	2	0	6	.	.
33	0	12	2	46	0	2	0	6	.	.
34	8	20	0	46	0	2	0	6	.	.
35	0	20	0	46	0	2	0	6	.	.
36	0	20	0	46	7	9	0	6	.	.
37	1	21	0	46	0	9	0	6	.	.
38	1	22	19	65	0	9	0	6	.	.
39	1	23	0	65	0	9	0	6	.	.
40	0	23	0	65	0	9	0	6	.	.
41	0	23	0	65	0	9	0	6	.	.
42	0	23	0	65	0	9	0	6	.	.
43	0	23	0	65	0	9	0	6	.	.
44	0	23	0	65	0	9	0	6	0	6
45	0	23	.	.	0	9	0	6	0	6
46	0	23	.	.	0	9	0	6	0	6
47	.	.	.	.	.	.	0	6	.	.
48	.	.	.	.	.	.	0	6	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck	Three Spine Stickleba-ck
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	.	.
27	0	0	0	0	0	0	0	0	.	.
28	0	0	0	0	0	0	0	0	.	.
29	0	0	0	0	0	0	0	0	.	.
30	0	0	0	0	0	0	0	0	.	.
31	0	0	0	0	0	0	0	0	.	.
32	0	0	0	0	0	0	0	0	.	.
33	0	0	0	0	0	0	0	0	.	.
34	0	0	0	0	0	0	0	0	.	.
35	0	0	0	0	0	0	0	0	.	.
36	0	0	6	6	0	0	0	0	.	.
37	0	0	2	8	0	0	0	0	.	.
38	0	0	0	8	0	0	0	0	.	.
39	0	0	0	8	0	0	0	0	.	.
40	0	0	0	8	0	0	0	0	.	.
41	0	0	0	8	0	0	0	0	.	.
42	0	0	0	8	0	0	0	0	.	.
43	0	0	0	8	0	0	0	0	.	.
44	0	0	0	8	0	0	0	0	0	0
45	0	0	.	.	0	0	0	0	0	0
46	0	0	.	.	0	0	0	0	0	0
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.



Lake O'Law Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub	Creek Chub
19	.	.	0	0	0	0	.	.	0	0
20	0	0	0	0	0	0	.	.	0	0
21	1	1	0	0	0	0	0	0	0	0
22	0	1	0	0	0	0	0	0	0	0
23	0	1	0	0	0	0	0	0	0	0
24	0	1	0	0	0	0	0	0	0	0
25	0	1	0	0	0	0	0	0	0	0
26	0	1	0	0	0	0	0	0	.	.
27	0	1	0	0	0	0	0	0	.	.
28	0	1	0	0	0	0	0	0	.	.
29	0	1	0	0	0	0	0	0	.	.
30	0	1	0	0	0	0	0	0	.	.
31	0	1	0	0	0	0	0	0	.	.
32	0	1	0	0	0	0	0	0	.	.
33	0	1	0	0	0	0	0	0	.	.
34	0	1	0	0	0	0	0	0	.	.
35	0	1	0	0	0	0	0	0	.	.
36	0	1	0	0	0	0	0	0	.	.
37	0	1	0	0	0	0	0	0	.	.
38	0	1	0	0	0	0	0	0	.	.
39	0	1	0	0	0	0	0	0	.	.
40	0	1	0	0	0	0	0	0	.	.
41	0	1	0	0	0	0	0	0	.	.
42	0	1	0	0	0	0	0	0	.	.
43	0	1	0	0	0	0	0	0	.	.
44	0	1	0	0	0	0	0	0	0	0
45	0	1	.	.	0	0	0	0	0	0
46	0	1	.	.	0	0	0	0	0	0
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

Lake O'Leary Counting Fence (Downstream)

WEEK	YEAR									
	89		90		91		92		93*	
	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL	WEEKLY	CUMUL
	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish	Banded Killifish
19	.	.	1	1	0	0	.	.	0	0
20	0	0	0	1	0	0	.	.	0	0
21	0	0	0	1	0	0	0	0	0	0
22	0	0	0	1	0	0	0	0	0	0
23	0	0	0	1	0	0	0	0	0	0
24	0	0	0	1	0	0	0	0	0	0
25	0	0	0	1	0	0	0	0	0	0
26	0	0	0	1	0	0	0	0	.	.
27	0	0	0	1	0	0	0	0	.	.
28	0	0	0	1	0	0	0	0	.	.
29	0	0	0	1	0	0	0	0	.	.
30	0	0	0	1	0	0	0	0	.	.
31	0	0	0	1	0	0	0	0	.	.
32	0	0	0	1	0	0	0	0	.	.
33	0	0	0	1	0	0	0	0	.	.
34	0	0	0	1	0	0	0	0	.	.
35	0	0	0	1	0	0	0	0	.	.
36	0	0	0	1	0	0	0	0	.	.
37	0	0	0	1	0	0	0	0	.	.
38	0	0	0	1	0	0	0	0	.	.
39	0	0	0	1	0	0	0	0	.	.
40	0	0	0	1	0	0	0	0	.	.
41	0	0	0	1	0	0	0	0	.	.
42	0	0	0	1	0	0	0	0	.	.
43	0	0	0	1	0	0	0	0	.	.
44	0	0	0	1	0	0	0	0	0	0
45	0	0	.	.	0	0	0	0	0	0
46	0	0	.	.	0	0	0	0	0	0
47	.	.	.	.	.	.	0	0	.	.
48	.	.	.	.	.	.	0	0	.	.

\* In 1993, the counting fence was not in operation between June 18 and September 30.

## Appendix V . Actual dates corresponding to standard weeks 18 to 45.

Standard Week	Corresponding Calendar Dates (inclusive)	
	Week starting	Week ending
18	April 30	May 6
19	May 7	may 13
20	May 14	May 20
21	May 21	May 27
22	May 28	June 3
23	June 4	June 10
24	June 11	June 17
25	June 18	June 24
26	June 25	July 1
27	July 2	July 8
28	July 9	July 15
29	July 16	July 22
30	July 23	July 29
31	July 30	August 5
32	August 6	August 12
33	August 13	August 19
34	August 20	August 26
35	August 27	September 2
36	September 3	September 9
37	September 10	September 16
38	September 17	September 23
39	September 24	September 30
40	October 1	October 7
41	October 8	October 14
42	October 15	October 21
43	October 22	October 28
44	October 29	November 4
45	November 5	November 11
46	November 12	November 18
47	November 19	November 26