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Newfoundland and Labrador Region | **Région de Terre-Neuve et Labrador**

Status of Atlantic salmon (*Salmo salar* L.) stocks of the Newfoundland and Labrador Region (SFAs 1-14A), 2010

État des stocks de saumon atlantique (*Salmo salar* L.) dans la région de Terre-Neuve-et-Labrador (ZPS 1-14A) en 2010

C.E. Bourgeois[1], J.B. Dempson[1], D.G. Reddin[1], G.I. Veinott[1], M.J. Robertson[1], R. Poole[2], and N.M. Cochrane[1]

[1]Fisheries and Oceans Canada
Science Branch
PO Box 5667
St. John's NL A1C 5X1

[2]Fisheries and Oceans Canada
Science Branch
PO Box 7003
Goose Bay NL A0P 1S0

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ABSTRACT

The year 2010 marks the 19th year of the commercial Atlantic salmon fishery moratorium in insular Newfoundland and the 13th year for the Labrador portion of the region. Returns of small salmon in 2010 increased relative to 2009 in 88 % of assessed rivers (14 of 16) and decreased in Campbellton River (SFA 4) and Conne River (SFA 11). Large salmon returns also increased in 2010 in 75 % of assessed rivers (12 of 16). Overall abundance of small salmon in insular Newfoundland (SFA 3-14A) reached record low levels in 2001 and 2007 and very low levels in Labrador in 2009 and 2010. Peaks in small salmon abundance, approaching pre-moratorium levels, occurred in 2004 and 2008 and 2010 in insular Newfoundland 2005-08 in Labrador. In insular Newfoundland these large variations in small salmon abundance have resulted in a long term moratorium mean (1997-2009) that is similar to the initial five year moratorium mean (1992-96) and below pre-moratorium levels (1984-91). In insular Newfoundland as was expected, overall abundance of large salmon returns increased steadily following the commercial moratorium from 1992 to 1998. However, as with small salmon, returns of large salmon experienced low levels in 2001 and 2007 but increased little in 2008. Large salmon returns increased in 2010. Within the Labrador portion of the region large salmon stock abundance has trended downwards since the late 1980's and the 2010 abundance is the lowest observed. Marine survival of smolts continues to vary widely from 11.2 % to 2.5 % in recent years. During the 2010 angling season there were no closures of the recreational fishery for environmental reasons.

RÉSUMÉ

L'année 2010 a marqué le 19e anniversaire de l'imposition d'un moratoire sur la pêche commerciale au saumon atlantique dans l'île de Terre-Neuve et le 13e anniversaire pour la portion du Labrador de cette région. Les remontes de petits saumons observées en 2010 ont augmenté par rapport à celles de 2009 dans 88 p. 100 des cours d'eau évalués (14 sur 16) et ont diminué dans la rivière Campbellton (ZPS 4) et la rivière Conne (ZPS 11). Les remontes de grands saumons ont également augmenté en 2010 dans 75 p. 100 des cours d'eau évalués (12 sur 16). L'abondance globale des petits saumons dans l'île de Terre-Neuve (ZPS 3-14A) a atteint des creux records en 2001 et en 2007, et des niveaux très bas au Labrador en 2009 et en 2010. Des crêtes dans l'abondance des petits saumons avoisinant les niveaux observés avant l'imposition du moratoire sont survenues en 2004, en 2008 et en 2010 dans l'île de Terre-Neuve, et de 2005 à 2008 au Labrador. Dans l'île de Terre-Neuve, ces grandes variations de l'abondance des petits saumons font en sorte que la moyenne à long terme pendant tout le moratoire (1997-2009) est semblable à la moyenne des cinq premières années d'imposition du moratoire (1992-1996) et inférieure aux niveaux antérieurs au moratoire (1984-1991). Comme on s'y attendait dans l'île de Terre-Neuve, l'abondance globale des remontes de grands saumons s'est accrue de façon constante de 1992 à 1998, après l'entrée en vigueur du moratoire sur la pêche commerciale. Cependant, comme dans le cas des petits saumons, les remontes de grands saumons ont été faibles en 2001 et en 2007, mais ont augmenté légèrement en 2008. Les remontes de grands saumons ont augmenté en 2010. Dans la portion du Labrador de cette région, l'abondance des stocks de grands saumons affiche une tendance à la baisse depuis la fin des années 1980, mais l'abondance de 2010 a atteint le niveau le plus bas observé. La survie des saumoneaux en mer a continué de varier considérablement de 11,2 à 2,5 p. 100 au cours des dernières années. Au cours de la saison de pêche à la ligne 2010, il n'y a pas eu de fermeture des pêches sportives pour des raisons environnementales.

INTRODUCTION

A five year Atlantic Salmon Management Plan was introduced in 1984 to rebuild depressed stocks in mainland Canada and southwestern Newfoundland. The main focus of the 1984 plan was to reduce fishing mortality of large salmon (mainly virgin multi-sea-winter salmon) through season changes in the commercial fishery, catch restrictions in the recreational fishery (e.g., grilse-only retention) and a commercial licence retirement program (O'Connell et al. 1992a; May 1993). In an effort to further reduce commercial catches, a quota management system was used in 1990 and 1991 (O'Connell et al. 1992*b*; May 1993). In general, restrictions in the commercial fishery did not result in increased numbers of Atlantic salmon spawners (grilse and large salmon) in Newfoundland or Labrador (O'Connell et al. 1992a) and only 58 % of the 1991 commercial quota was caught (O'Connell et al. 1992*b*).

In 1992, several major changes were introduced to the management of Atlantic salmon (*Salmo salar* L.) in Newfoundland and Labrador. A five-year moratorium was placed on commercial salmon fishing in the island portion of the province. A quota on the number of small salmon (<63 cm fork length, FL) that could be retained in the recreational fishery was introduced in each Salmon Fishing Area (SFA) in 1992 and 1993. Once the quota had been reached only catch-and-release fishing was permitted. Quotas were eliminated in 1994 and the seasonal bag limit for the retention of small salmon was lowered from eight to six fish. In Labrador two of the six fish retained could be large and in 1996 retention of large salmon was reduced to one in Labrador.

As well in 1992 quotas for the Labrador commercial fishery, first introduced in 1990, were further reduced and a voluntary retirement of commercial salmon licenses was instituted for the entire province. Beginning in 1997, the commercial fishery was closed in the Straits area of Labrador in Salmon Fishing Area (SFA) 14B and then in 1998, it was closed in the remaining SFAs 1 and 2 (Fig. 1). Fishers were offered a buyout which most accepted.

In 1997 further restrictions were implemented to manage the recreational Atlantic salmon fishery. Returns of small salmon too many rivers in insular Newfoundland were substantially lower than expected (Dempson et al. 1998; O'Connell et al. 1998*a*). As a result of this and uncertainties regarding levels of future returns, the 1998 management plan was much more conservative than for previous years. The seasonal bag limit for small salmon in insular Newfoundland was initially reduced to one and increased to an additional three following an in-season review. The use of barbless hooks for all angling on scheduled salmon waters was initiated in July 1998 for insular Newfoundland and in 1999 for Labrador. The retention of large salmon (≥63 cm FL) has remained prohibited in all of insular Newfoundland since 1985. Large salmon in insular Newfoundland are comprised mainly of repeat spawning grilse, with the exception of some rivers in SFA 13 (O'Connell et al. 2006*a*).

In 1999, a three year Atlantic salmon management plan introduced an Adaptive Management Strategy and a River Classification System. The classification system was used to develop retention levels based on the health of individual salmon stocks, without jeopardizing conservation goals. This was a major departure from managing salmon on a more regional or SFA basis. Details of the three year plan and a description of the River Classification System are provided in DFO (1999). Five year management plans were introduced in 2002 (DFO 2002) and 2007 (DFO 2007), wherein the River Classification System, though variously modified, was retained. Management measures also included environmental protocols for closures and special management plans developed in consultation with local watershed and stewardship groups (DFO 2007).

The failure of stocks to rebuild to expected levels resulted in a commercial fishery moratorium in 2000 for all eastern Canada.

In 2001, as part of a 2001-05 Management Plan, several additional rivers in southern Labrador crossed by the new Trans Labrador Highway were added to the list of scheduled rivers and restricted to individual bag limits of two small salmon retained.

In 2010 the retention of large salmon was prohibited in Labrador.

In response to the Supreme Court of Canada decision interpreting Section 35 of the Constitution Act of 1982, the Department of Fisheries and Oceans (DFO) provided resource access to Aboriginal groups for food, social and ceremonial purposes (FSC). In 1999-2004, a FSC or subsistence fishery of 10 t was available for members of the Labrador Inuit Association in the north as well as the Lake Melville area, both located in SFA 1. The Innu Nation also fish for salmon in Lake Melville and from the community of Natuashish. They generally restrict themselves to harvests of around 3 t. Beginning in 2000 residents of Labrador were able to fish in the sea for brook trout (*Salvelinus fontinalis* Mitchill) and Arctic charr (*Salvelinus alpinus* L.) with a permitted bycatch of four salmon. This bycatch was reduced to 3 salmon in 2011. In 2004, members of the Labrador Métis Nation (now the Nunatukavut Community Council) on the south coast of Labrador negotiated a subsistence fishery of 10 t with the Department of Fisheries and Oceans in the area between Fish Cove Point and Cape St. Charles (SFA 2).

The West Greenland commercial salmon fishery, which was closed for the 1993 and 1994 fishing seasons, was re-opened in 1995 and closed again in 1999, leaving only a small subsistence fishery in 2000. In 2001, the commercial Greenland fishery was opened with a structured quota system that depended on abundance based on in-season catches and historical averages to determine potential landings. Although there have been no recent tagging studies to document the distribution of Labrador salmon at sea, some Labrador origin multi-sea winter salmon may be caught in the Greenland fishery similar to what was shown for Labrador stocks in earlier studies by Pratt et al. (1974). In 2002-03, the Greenland fishery was restricted to a local fishery of 22 t and in 2004 it was reduced to a subsistence consumption fishery only, estimated to be around 20 t. Since then, landings have remained low averaging about 25 t per year.

The status of Atlantic salmon stocks in the Newfoundland and Labrador Region (SFAs 1-14A) (Fig. 1) are assessed annually based on trends in abundance of various life stages relative to historical values and percent conservation requirement achieved. For the purpose of these assessments, Atlantic salmon stocks have been defined at the individual river level. A summary of the life history and ecology of Atlantic salmon in eastern Canada can be found in O'Connell et al. (2006*a*).

METHODS

In 2010, the status of Atlantic salmon stocks of insular Newfoundland (SFAs 3-14A) were assessed using recreational fishery data derived from the License Stub Return System (O'Connell et al. 1996*a*, 1998*b*) and data collected at monitoring facilities. Given that recreational fishery data have not been finalized for 2010, data are preliminary where appropriate.In Labrador Conservation and Protection (C&P) staff and camp operator data are used for SFA 1. For SFA 2, a blend of License Stub Return System (LSRS) and camp operator data are used; whereby camp operator data are used for Eagle and Sand Hill rivers and LSRS data for all other rivers. The retained catches reported by these two methods were similar. For SFA 14B rivers, the catch statistics are derived from the License Stub Return System.

Numbers of small (<63 cm FL) and large (≥63 cm FL) Atlantic salmon were reported as direct counts from monitoring facilities as well as total returns that included angling removals below the count location. Smolts were assessed at six rivers using counting fences or mark-recapture methods (Dempson and Stansbury 1991; Schwarz and Dempson 1994).

Conservation requirements for Atlantic salmon rivers in insular Newfoundland were calculated based on accessible habitat area and threshold egg deposition rates (O'Connell and Dempson 1995; O'Connell et al. 1996*b*). Egg deposition rates for conservation were set at 2.4 eggs per m^2 of river rearing habitat and 368 eggs per hectare of lake habitat in SFAs 3-13. Lake habitat for SFA 14A was set at a lower rate of 105 eggs per hectare (O'Connell and Dempson 1995; O'Connell et al. 1997). Conservation requirements for Labrador rivers in SFAs 1-2 are based on 1.9 eggs per m^2 of river rearing habitat and in SFA 14B they are based on 2.4 eggs per m^2 of river rearing habitat and 368 eggs per hectare of lacustrine habitat.

Conservation requirements are considered to be a threshold reference point corresponding to a level at which populations should not be allowed to fall below. The consequence of egg depositions below conservation to the long-term sustainability of the stock are unknown but the likelihood of deleterious effects are greater when egg depositions are below conservation.

In most cases, 2010 data were compared to the appropriate pre-moratorium means, initial five year moratorium means, and previous five or six year means as appropriate. Major management changes to the commercial fishery should be kept in mind when evaluating pre-moratorium means (O'Connell et al. 1992*a*; 1992*b*). The initial five year moratorium mean corresponds to the period when fish otherwise caught in the commercial fishery were expected to return to rivers thereby increasing the total number of spawners.

In addition to examining salmon stock abundance in individual rivers, stocks from all monitored rivers were combined to derive composite indices of abundance for Newfoundland. This indicies provide an overall perspective of trends in Atlantic salmon abundance for the region. Trends in abundance were analysed by fitting general linear models (GLM) separately to $\log_e$ transformed total returns of small and large salmon. Data were transformed to provide a standardized metric of relative changes in individual stock sizes. Therefore the unit for the abundance index is not an absolute abundance but is related to a geometric mean of individual river abundances. Details of the methodology used for the composite index are summarized in Dempson et al. (2004). Index values for the pre-moratorium period 1984-91 were adjusted to account for marine exploitation. In all cases, marine exploitation rates used

were the average of the median values obtained from nine rivers as described in Dempson et al. (2001) and were 45.3 % for small salmon and 74.2 % for large salmon.

RESULTS AND DISCUSSION

The most recent CSAS research document published for the status of Atlantic salmon stocks of insular Newfoundland was based on data to 2005 (O'Connell et al. 2006*b*). Therefore, much of the discussion in the current assessment summarized trends from 2006–09.

RECREATIONAL FISHERY DATA

Recreational fishery data were reported for the period 1994-2010. Fishing effort was presented as rod days, defined as any day or part of a day on which each angler fishes. Catch and effort data in 2010 were compared to the long term mean (1994-2010) as well as the previous 5/6 year means The number of angler days lost due to river closures varies from year to year. This variability must be kept in mind when comparing yearly catch and effort information and is why rivers without monitoring facility counts are not routinely assessed. In 2010 there were no closures due to environmental conditions.

Catches of small and large salmon for the region (SFAs 1-14A) are presented in Appendix 1a-b for Labrador and insular Newfoundland respectively. Catch data was also divided into five subdivisions and presented in Appendix 1b-f for (i) Labrador (ii) Northern Peninsula East and Eastern (SFAs 3-8), (iii) South (SFAs 9-11), (iv) Southwest (SFAs 12-13), and (v) Northern Peninsula West (SFA 14A). Data for each individual SFA are shown in Appendix 1g-u. Catch per unit effort (CPUE) was calculated using all retained and released fish.

Labrador (SFAs 1-14B)

Since 2005, the catch of small salmon (retained and released) declined to 2007, peaked above the five year mean in 2008, declined again in 2009 and increased slightly in 2010 but remained below the previous five year mean (Fig. 3). The overall trend is one of decline for the last ten years since the peak in 2000. Effort (rod days) has declined since the peak in 2000 with the 2010 value being the lowest in the time series. CPUE trended upwards from 2000 to 2006 and has trended downwards since (Fig. 3).

Insular Newfoundland (SFAs 3-14A)

Since 2005, the catch of small salmon (retained and released) and large salmon (released) declined to 2007, peaked above the long term mean in 2008 and declined again in 2009,increased in 2010 but remained above the previous five year mean (Fig. 4). Effort (rod days) and CPUE followed similar trends (Fig. 4).

Subdivisions of Insular Newfoundland

The overall trend in the catch of small and large salmon observed in insular Newfoundland (Fig. 4) was similar for SFAs 3-8 and 9-11 and similar for SFAs 12-13 and 14A (Figs. 5-8).

Northern Peninsula East and Eastern (SFAs 3-8): The 2010 catch of small salmon declined from highs observed in 2008 but remained above the five year mean. Large salmon catch increased over the 2009 low and was similar to the previous five mean. Trends in Effort and

CPUE for SFAs 3-8 (Fig. 5) were similar to those observed for insular Newfoundland (Fig. 4) and were at or above the previous five year mean.

South SFAs 9-11: The 2010 catch of small salmon in SFAs 9-11 declined from the previous two years but was at the five year mean. Large salmon catch increased over the 2009 low and was similar to the previous five mean (Fig. 7). Effort declined in 2010 while CPUE for SFAs 9-11 increased above the previous five year mean.

Southwest (SFAs 12-13): Catch of small and large salmon in 2010 continues to fluctuate, and increased over 2009 being similar to the five year mean. Trends in Effort for SFAs 12-13 (Fig. 7) continued to decline from 2009 and remained below the five year mean. CPUE for SFAs 12-13 increased dramatically from 2009 and was above the five year average (Fig. 7).

Northern Peninsula West (SFA 14A): The catch in SFA 14A of small and large salmon increased substantially above the long term mean since 2005 (Fig. 8). Trends in Effort for SFA 14A (Fig. 8) increased over 2009 and were above the five year mean. CPUE for SFA 14A increased dramatically in 2010 and remains well above the long term average (Fig. 8).

Recreational Salmon Fishery Licences

The average number of recreational salmon fishery licences sold in Newfoundland and Labrador was 24,493 for the five year period preceding the commercial moratorium (1987-91) and 19,350 for the moratorium years (1992-2010) (Fig. 9). Since 2007, the number of licences sold has increased such that 2010 was the highest since 1997.

SUBSISTENCE FISHERY DATA

Atlantic salmon harvest

Table 8 details the harvest of Atlantic salmon in the 2010 subsistence fisheries for SFA's 1 and 2. The 2010 harvest was the second highest in the time series.

MONITORING FACILITY DATA

Smolt Production

In 2010, smolts were assessed on six rivers: Sandhill River (SFA 2), Campbellton River (SFA 4), Northeast Brook (Trepassey) (SFA 9), Rocky River (SFA 9), Conne River (SFA 11), and Western Arm Brook (SFA 14A). Counting fences were used at all sites except Conne River where a mark-recapture method was used (Dempson and Stansbury 1991; Schwarz and Dempson 1994). Smolt production increased for four watersheds namely Sandhill River, Campbellton River, Rocky River and Western Arm Brook (Table 1).

Smolt to Adult Survival (Small Salmon)

Smolt to adult survival for Sandhill River in Labrador is based on smolt to small salmon in year X and smolt to large salmon in year X + 1. For the 2009 year class of smolt the sea survival was 3.7 % up from 2008 but down substantially from 2007.

Smolt to adult survival (small salmon) for insular Newfoundland varied widely from 2006 to 2010 (Table 1, Fig. 10). Mean marine survival rates decreased from 7.2 % in 2006 to 3.3 % in 2007, increased to 7.6 % in 2008 and declined again to 4.8 % in 2009. Survival rates experienced during this time period included a record high of 15 % in Western Arm Brook (SFA 14A) in 2006 and a record low of 1.3 % in Rocky River (SFA 9) in 2007 (Table 1, Fig. 10) and a record high in Rocky River in 2010 of 6.8 %. In 2010 smolt to adult survival increased in 4 out of 5 monitored rivers; Conne River experienced one of the lowest values in the time series. Given that the number of small salmon would include a small portion of repeat spawners, marine smolt survival would be slightly underestimated.

Smolt to adult survival rates adjusted for commercial harvest (Dempson et al. 1998) were also included in Fig. 8 for Sandhill River, Conne River, Northeast Brook (Trepassey), and Western Arm Brook. Pre-moratorium marine survival rates approached 15 % for Conne River and Northeast Brook (Trepassey). Marine survival for both of these stocks fell throughout the late 1980s and early 1990s while Rocky River has experienced low survival for most years in the series.

MONITORING FACILITY ADULT COUNTS, TOTAL RETURNS, AND CONSERVATION REQUIREMENT

Total returns of small salmon (Table 2) and large salmon (Table 4) at monitoring facilities in 2010 are compared to the pre-moratorium mean, respective five/six year moratorium mean, and moratorium mean (Tables 4-5). Comparisons are made for proportion of total returns of large salmon (Table 6).

Percent conservation requirement achieved was compared to the respective pre-moratorium mean, 5/6 year moratorium mean, and moratorium mean.

Labrador (SFAs 1-14B)

Abundance Index*:* Figure 11 illustrates the indices of small and large salmon abundance for all of Labrador. When adjusted for marine exploitation, the highest abundances of small salmon occurred during pre-moratorium years (prior to 1998). Since then, overall abundance has increased in 2000, declined through 2004, increased 2005-08 to some of the highest levels observed in the series. The index value for 2008-09 is well below the previous six year mean. Large variations continue in small salmon abundance. There is a continuous declining trend in the abundance index for large salmon which commenced in the early 1980's. The 2010 abundance of large salmon is the lowest in the time series and is below the previous six year mean.

SFA 1

Total Returns*:* Information on total returns of small and large salmon (Tables 2-3, Fig. 13) in 2010 was available for English River. Returns of small salmon rose sharply following 2003 up to and including 2007 and since then have been in decline. The 2010 returns were below the six (previous generation) year mean however returns for 2010 are above the moratorium mean (Table 2). Large salmon returns in 2010 were down significantly from an upwards trend commencing in 2004. The 2010 returns of large salmon were similar to the previous six year and moratorium means.

The proportion of large salmon in total returns in 2010 was above the previous six year and moratorium means. English River does not have a large component of 2SW salmon in its stock composition, it is a grilse river.

Conservation Requirement*:* In 2010 English River achieved 86 % of its conservation requirement. The proportion of the conservation requirement achieved was above the moratorium average but below the previous generation average.

SFA 2

Total Returns*:* Information on total returns of small and large salmon (Tables 2-3, Fig. 13) in 2010 was available for Sandhill River and Southwest Brook. Returns of small salmon rose sharply following 2003 up to and including 2005 and increased in 2010 over 2009. The 2010 returns were below the previous 6 year mean. Large salmon returns in 2010 declined and were below the previous 6 year mean.

The proportion of large salmon in total returns declined in 2010 over 2009. For Southwest Brook the proportion of large salmon in the returns was below the mean whilst for Sandhill River the proportion was above the mean.

Conservation Requirement*:* In 2010 Southwest Brook and Sandhill River achieved 57 % and 54 % of their respective conservation requirements.

SFA 14B

There are no assessment facilities in this SFA.

Insular Newfoundland (SFAs 3-14A)

Abundance Index*:* Figure 12 illustrates the indices of small and large salmon abundance for all of insular Newfoundland. When adjusted for marine exploitation, the highest abundances of small salmon occurred during pre-moratorium years (1984-91). Since then, overall abundance has declined. The index value for 2005, small reversed a trend of steady increase that approached pre-moratorium levels in 2004. For small salmon, the abundance index continued to decline to a record low in 2007, peaked dramatically and returned to 2004 levels in 2008, and declined in 2009. Large variations in small salmon abundance from 1997 to 2008 resulted in a similar mean to that of 1992-96 and below pre-moratorium levels. In 2010 small salmon abundance peaked since the moratorium and approached the pre moratorium mean. As with small salmon, large salmon abundance declined from 2004 to 2007, but increased only slightly in 2008. Large salmon declined in 2009, reaching the lowest level since 1993. Large salmon abundance in 2009 was similar to the 1992-96 mean and below both the pre-moratorium and 1997-2008 means. The 2010 abundance of large salmon was above the previous five year mean.

Subdivisions of Insular Newfoundland:

SFA 4

Total returns: Information on total returns of small (Table 2, Fig. 15) and large (Table 3, Fig. 15) salmon in 2009 was available for Exploits River (Bishop's Falls), Gander River and Campbellton River. Total returns to Gander River have been estimated from counts at Salmon

Brook tributary since 2000. The confidence limits for the Gander estimates were included in (O'Connell et al 2001; O'Connell 2003). Returns of small salmon to these SFA 4 rivers experienced declines in the few years prior to 2007 (Exploits 2003-07, Campbellton 2005-07, Gander River 2004-07) and then increased above the previous 5 year mean in 2008 and 2009 (Table 2, Fig. 15). Small salmon returns to Exploits River and Campbellton River approached or exceeded record highs in 2008 and 2009 and remained greater than the pre-moratorium and 1992-1996 means (Tables 2 and 15). However, returns of small salmon to Gander River in 2009 were less than the 1992-1996 mean (Table 2). In 2010 returns of small salmon was above the five year and moratorium means.

Returns of large salmon to the Exploits River and Campbellton River have generally increased since the early 2000s and are above the pre-moratorium (1984-91 series available for Exploits only) and 1992-96 mean (Table 3, Fig. 15). However, returns of large salmon to the Gander River have declined since 2004 and are well below the 1992-96 mean (Table 3, Fig. 15). In 2010 returns of large salmon increased on all monitored rivers with Exploits and Campbellton being above the previous five and moratorium means whilst Gander was below the previous five year and moratorium means.

The proportion of large salmon in total returns (Table 6, Fig. 15) reflects changes in both the small and large salmon counts. For the Exploits River, the proportion of large salmon increased from 2005 to 2010. For Campbellton River the portion of large has trended upwards since 2005. In 2010, the proportion of large salmon in total return increased for the three monitored rivers. The proportion of large salmon in Gander River has steadily declined since 2006.

Conservation Requirement (Table 7): The percent conservation requirement on Exploits River declined from 49 % in 2005 to 44 % in 2007, and increased in both 2008 (60 %), 2009 (65 %) and 2010 (81 %). The Exploits River was also assessed in three sections. The Lower section has exceeded conservation requirement since 2006 and was 204 % in 2010, the second highest on record, 172 % in 2009. The Middle section declined to 27 % in 2007 and increased in 2008 (60 %) and 2009 (53 %). In 2010 the highest rate was achieved. The Upper section only achieved 1-5 % conservation requirement during the period 2006-10. Values for the Upper Exploits River pre-moratorium mean (1984-91) were the result of artificial stocking. Since 1991, spawning adults were moved through the Red Indian Lake fishway. The Exploits River was the site of major Atlantic salmon enhancement program that were conducted between the late 1950s and early 1990s (O'Connell et al. 1983; O'Connell and Bourgeois 1987; Bourgeois et al. 2001). Egg deposition on Campbellton River has exceeded conservation requirement in all years and reached record levels of 360 % in 2008 and 371 % in 2009 and 381 % in 2010. Conservation requirement on Gander River were not met in 2006 (87 %) or 2007 (72 %), but attained in 2008 (112 %) and 2009 (101 %). The 2010 conservation requirement was the highest in the time series of 131 %.

SFA 5

Total returns: Information on total returns of small (Table 2, Fig. 17) and large (Table 3, Fig. 17) salmon in 2010 was available for Middle Brook, Terra Nova River (Lower), and Northwest River (Port Blandford, Terra Nova National Park). Returns of small salmon to these SFA 5 rivers generally declined from 2004 to 2007, increased above the previous 5 year mean in 2008, declined in 2009 and increased in 2010 (Table 2, Fig. 17). In Middle Brook, small salmon returns in 2009 and 2010 remained above the previous 5 year mean, whereas, Terra Nova River and Northwest River fell below the previous 5 year mean in 2010 (Fig. 17).

Returns of small salmon to Northwest River in 2010 were amongst the highest observed but the 2009 were the lowest recorded since 2001. Small salmon returns to Middle Brook and Terra Nova in 2009 and 2010 were greater than the pre-moratorium mean (1984-1991) and the 1992-09 mean (Table 2) for all three monitored rivers. Large salmon returns to the three SFA 5 rivers increased in 2008 over 2007 but declined in 2009 below the 1992-1996 and previous 5 year mean (Fig. 17) and increased in 2010 to at the level or above the previous means.

The proportion of large salmon in total returns to Middle Brook declined from 2007 to 2010 (Table 6); for Terra Nova River it declined from 2007-09 but increased in 2010, but increased in Northwest Brook from 2007 to 2009 and declined in 2010. The proportions of large salmon for the three SFA 5 rivers are below the 1992-09 mean (Table 6) and the previous five year mean.

Conservation Requirement (Table 7): Middle Brook achieved conservation requirement in all years of the time series. The percent achieved declined from 2008 (232 %) to 2009 (170 %) and increased to 273 % in 2010. Terra Nova River has never attained egg requirement and the percent achieved declined from 2008 (61 %) to 2009 (40 %) and increased to 70 % in 2010. It should be noted that accessible habitat for anadromous Atlantic salmon in Terra Nova River more than doubled with the establishment of fish passage at Mollyguajeck Falls in 1985 (O'Connell et al. 2000). Initial enhancement activity on Terra Nova River started in 1952 with the construction of a fishway around impassable falls in the upper segment (O'Connell et al. 2000; Mullins et al. 2003). Northwest River has never attained egg requirement and the percent achieved declined from 2008 (92 %, second highest on record) to 2009 (37 %) and increased to 67 % in 2010. Enhancement activities have also taken place on Northwest River. In 1948, the area above Northwest Falls (3.2 km from the river mouth) was made accessible to anadromous salmon with the blasting of a fish passage (Cote et al. 2001).

SFA 9

Total returns: Information on total returns of small (Table 2, Fig. 19) and large (Table 3, Fig. 19) salmon to SFA 9 in 2010 was available for Northeast Brook (Trepassey) and Rocky River. As with the East Coast SFA 5 rivers, total returns of small salmon to Northeast Brook and Rocky River declined well below the previous 5 year mean in 2007, increased in 2008, declined in 2009 and increased again in 2010 (Table 2, Fig. 19). Small salmon returns to Northeast Brook in 2010 were below the pre-moratorium and above 1992-2009 means. A record high return of small salmon to Rocky River was recorded in 2010 and returns remained above all means. Returns of large salmon followed a similar pattern from 2007 to 2009, however, the previous 5 year mean has declined since 2005 and numbers are currently below the 1992-2009 mean (Table 3). The lowest return of large salmon to Northeast Brook was recorded in 2009 and the numbers have declined steadily since pre-moratorium years (Fig. 14).

The proportion of large salmon in total returns to Northeast Brook and Rocky River declined from 2007 to 2009 and are below the 1992-09 mean and the previous five year mean (Fig. 20v).

Conservation Requirement (Table 7): Northeast Brook (Trepassey) has achieved conservation requirement in all years. The percent achieved declined from 2008 (232 %) to 2009 (114 %) and increased in 2010 (188 %). Atlantic salmon enhancement initiatives occurred on Rocky River during the period 1984-96. A fishway was constructed to allow access beyond the

impassable waterfall at the river mouth (Bourgeois 1998; Mullins et al. 2003). The percent conservation requirement achieved for Rocky River reached a record high of 98 % in 2010.

SFA 11

Total returns*:* Information on total returns of small (Table 2 and Fig. 19) and large (Table 3 and Fig. 19) salmon is available for Conne River and Little River. As with the SFA 9 rivers, total returns of small and large salmon to Conne River declined below the previous 5 year mean in 2007, increased in 2008, declined again in 2009 and remained similar to 2009 in 2010 (Table 2 and 3, Fig. 19). Numbers of small and large salmon in Conne River remain below the pre-moratorium and 1992-09 means. Returns of small salmon to Little River declined in 2007 and increased in 2008-10. Large salmon have declined in Little River since 2006 and the lowest count was recorded in 2009 (Fig. 14).

The proportion of large salmon in total returns to Conne River and Little River increased in 2010 and are below the pre-moratorium, 1992-09 and five year means (Fig. 20).

Conservation Requirement (Table 17): Percent conservation requirement achieved for Little River increased from 31 % in 2008 to 98 % in 2009 to 118 % in 2009. This system was stocked with swim-up fry in the 1980s and 1990s (Bourgeois et al. 1997) and currently undergoes spawner transfer activities. Percent conservation requirement achieved for Conne River declined from 117 % in 2008 to 72 % in 2009 to 69 % in 2010.

SFA 13

Total returns: Information on total returns of small (Table 2 and Fig. 21) and large (Table 3 and Fig. 21) salmon is available for Harry's River (Gallants Fence). Returns to Harry's River were estimated using a counting fence on the mouth of Pinchgut Brook (a tributary located 48 km upstream) and various spawner surveys from 1992-2002 (Mullins et al. 1996, 1997, 2001; Mullins and Caines 2000). A fence located near the mouth of Harry's River was used from 2003 to 2005. Since 2006, counts on Harry's River have been conducted 25 km upstream near the community of Gallants. A spawner survey (snorkel method) was conducted in the lower reaches of the river below Gallants in 2006, 2007 and 2008. The spawner survey was not conducted in 2009 due poor environmental conditions. The number of spawners below Gallants in 2010 was estimated from snorkel surveys conducted below Gallants counting fence. As with many insular Newfoundland rivers, returns of small salmon to Harry's River declined well below the previous 5 year mean in 2007, peaked in 2008, declined in 2009 and rose again in 2010 (Table 2, Fig. 21). Returns of small and large salmon are currently above the 1992-09 but below the previous five year means respectively (Tables 2 and 3, Fig. 21).

The proportion of large salmon in total returns to Harry's River increased in 2009 and decreased in 2010 and is at the 1992-2009 mean but below the five year mean (Fig. 22).

Conservation Requirement (Table 10)*:* Harry's River met conservation requirement for the first time on record in 2006 (116 %) and again in 2008 (108 %), but declined below conservation in 2009 (90 %) and increased in 2010 (94 %).

Total returns*:* Information on total returns of small (Table 2 and Fig. 21) and large (Table 3 and Fig. 21) salmon is available for Torrent River and Western Arm Brook. As with many insular Newfoundland rivers, returns of small salmon to these two SFA 14A rivers declined

well below the previous 5 year mean in 2007, peaked in 2008, declined in 2009 and increased in 2010 (Table 2, Fig. 21). Returns of small salmon to Torrent River are currently above the 1992-09 mean and the pre-moratorium mean (Table 2, Fig. 21). The five year mean for small salmon returns has generally increased on Western Arm Brook since 1997 and total returns were above the pre-moratorium and 1992-09 means in 2010 (Table 2, Fig. 21). Returns of large salmon to Torrent River were the highest on record in 2006, declined dramatically in 2007, and approached record high levels in 2008, 2009 and 2010 (Table 3, Fig. 21). Returns of large salmon to Western Arm Brook declined from 2006 to 2008, increased slightly in 2009 and in 2010 rose above the 1992-09 mean. Large salmon in Western Arm Brook are currently above the 1992-96 mean but below the five tear mean (Table 3, Fig. 21).

The proportion of large salmon in total returns to Torrent River increased from 2007 to 2009, declined in 2010 and is above the pre-moratorium and 1992-96 means (Fig. 22). Conversely, the proportion of large salmon in Western Arm Brook remains below the 1992-09 mean, decreasing from 2007 to 2008, increasing slightly in 2009 and increasing slightly in 2010 as well (Fig. 22).

Conservation Requirement (Table 10)*:* Torrent River and Western Arm Brook have achieved conservation requirement in all years. Percent achieved declined on both rivers from 2008 to 2009 (Torrent River: 1203 % to 750 %, Western Arm Brook: 611 % to 341 %) and increased to 1063 % and 598 % respectively. Enhancement program were carried out on Torrent River from 1965 to 1976, which included the construction of a fishway around an impassable waterfall located 2 km from the river mouth (Mullins et al. 2003).

SUMMARY AND CONCLUSIONS

Smolt to adult survival in 2010 ranged from 10.3 % for Campbellton River to 2.5 % for Conne River. Smolt production in 2010 decreased from 2009 in two of the five assessed rivers (Northeast Brook and Conne River).

Returns of small salmon in 2010 increased relative to 2009 in 88 % of assessed rivers (14 of 16) and decreased on Campbellton River (SFA 4) and Conne River (SFA 11).

Returns of large salmon in 2010 increased from 2009 in 75 % of assessed rivers (12 of 16). Overall abundance of small salmon in insular Newfoundland (SFA 3-14A) declined dramatically from 2004 to 2007 (reaching record low levels), peaked dramatically and returned to 2004 levels in 2008, and declined in 2009 and increased again in 2010.

Conservation requirements in 2010 were only met in 50 % of assessed rivers (8 of 16). The percent conservation requirement achieved in 2010 increased from 2009 in 13 rivers (81 %).

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Table 1. Atlantic salmon smolt to adult survival for Sand Hill River (SFA 2), Campbellton River (SFA 4), Northeast Brook (Trepassey) and Rocky River (SFA 9), Conne River (SFA 11), and Western Arm Brook (SFA 14A). Repeat spawners are included in counts. Adjusted smolt counts for Rocky River are bold.

	Sand Hill River			Campbellton River			Northeast Brook			Rocky River			Conne River[1]			Western Arm Brook		
Year	Smolts	Sm. sal.	%	Smolts	Sm. sal.	%	Smolts	Sm. sal.	%	Smolts	Sm. sal.	%	Smolts	Sm. sal.	%	Smolts	Sm. sal.	%
(i)	year i	year i + 1	Surv.	year i	year i + 1	Surv.	year i	year i + 1	Surv.	year i	year i + 1	Surv.	year i	year i + 1	Surv.	year i	year i + 1	Surv.
1971																5735	406	7.1
1972																11905	797	6.7
1973																8484	506	6.0
1974																11854	639	5.4
1975																9600	552	5.8
1976																6232	373	6.0
1977																9899	315	3.2
1978																13071	1578	12.1
1979																8349	465	5.6
1980																15665	492	3.1
1981																13981	467	3.3
1982																12477	1141	9.1
1983																10552	235	2.2
1984																20653	467	2.3
1985																13417	527	3.9
1986							1117	91	8.1							17719	437	2.5
1987							1404	97	6.9				74585	7627	10.2	17029	422	2.5
1988							1692	62	3.7				65692	4968	7.6	15321	455	3.0
1989							1708	71	4.2				73724	5368	7.3	11407	444	3.9
1990							1902	99	5.2	8287	211	2.5	56943	2411	4.2	10563	233	2.2
1991							1911	49	2.6	7732	237	3.1	74645	2523	3.4	13453	480	3.6
1992							1674	79	4.7	7813	292	3.7	68208	2703	4.0	15405	947	6.1
1993				31577	2857	9.0	1849	99	5.4	5115	158	3.1	55765	1533	2.7	13435	954	7.1
1994				41663	3035	7.3	944	80	8.5	9781	385	3.9	60762	3502	5.8	9283	823	8.9
1995				39715	3208	8.1	792	73	9.2	7577	356	4.7	57733 *	4154	7.2	15144	1230	8.1
1996				58369	1975	3.4	1749	50	2.9	**14261**	435	3.1	94088	3200	3.4	14502	509	3.5
1997				62050	3275	5.3	1829	91	5.0	**16900**	423	2.5	100983	2931	2.9	23845	1718	7.2
1998				50499	3076	6.1	1727	95	5.5	**12163**	327	2.7	69841	2358	3.4	17139	1046	6.1
1999				47256	1798	3.8	1419	83	5.8	**8625**	277	3.2	63658	5177	8.1	13500	1492	11.1
2000				35596	2151	6.0	1740	56	3.2	**7616**	233	3.1	60777	1503	2.5	12706	563	4.4
2001				37170	1974	5.3	916	65	7.1	**9392**	276	2.9	86898	2573	3.0	16013	1465	9.1
2002				32630	2219	6.8	2076	115	5.5	**10144**	402	4.0	81806	1953	2.4	14999	1406	9.4
2003				35089	2726	7.8	1064	70	6.6	**4440**	169	3.8	71479	3818	5.3	12086	1151	9.5
2004				32780	3746	11.4	1571	69	4.4	13047	427	3.3	79667	1978	2.5	17323	1019	5.9
2005				30123	2768	9.2	1384	76	5.5	15847	352	2.2	66196	2623	4.0	8607	1300	15.1
2006				33304	1850	5.6	1385	37	2.7	13200	174	1.3	35146	1173	3.3	20826	793	3.8
2007	80994	4842	6.0	35742	3998	11.2	1777	97	5.5	12355	695	5.6	63738	2823	4.4	16621	1920	11.6
2008	62985	1605	2.5	40390	3955	9.8	1868	49	2.6	18338	498	2.7	68242	1828	2.7	17444	1063	6.1
2009	59661	2225	3.7	36705	3790	10.3	1600	78	4.9	14041	958	6.8	71085	1762	2.5	18492	1782	9.6
2010	80000			41069			1012			15098			54392			19044		

[1]Includes Native food fishery.

* 57733 excludes 5016 removed to Roti Bay.

4154 small salmon for Conne River 1996 excludes 286 fish from the wild smolt aquaculture experiment.

Table 2. Total returns of small salmon to rivers in Newfoundland and Labrador by Salmon Fishing Area (SFA), 1984-2010. Table includes means and 95% confidence intervals for pre-moratorium, moratorium and previous generation.

	SFA 1	SFA 2		SFA 4			SFA 5			SFA 9		SFA 11		SFA 13	SFA 14A	
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1984				19028			1675	1534		89					1805	235
1985				17555			1283	2012		124					1621	470
1986				10343			1547	1459		158			8302		3155	528
1987				9481			1053	1404		91	80	64	10155		2647	437
1988				9496			1337	2114		97	313	65	7627		2388	422
1989				7577		7743	626	1377		62	168	102	4968		1510	455
1990				6995		7740	1070	1518		71	401	158	5368		2518	444
1991				5659		6745	763	1127		99	211	55	2411		1590	233
1992				13508		18179	1563	1780		49	237	104	2523	888	2829	480
1993				22253	4001	26205	2247	3050		79	292	169	2703	1808	4215	947
1994			2180	17603	2857	18494	1751	1809		99	158	73	1533	1791	3737	954
1995			2796	16226	3035	22432	1390	2515	498	80	385	118	3502	2213	6346	823
1996			3319	30425	3208	24191	2044	2251	593	73	356	674	4440	1798	7475	1230
1997				15263	1975	10637	1352	1732	466	50	435	399	3200	1747	4158	509
1998		110		27093	3275	19060	2625	1868	540	91	423	264	2931	1659	5388	1718
1999	59	331		28802	3076	18742	1948	1892	314	95	327	307	2358	1713	4857	1046
2000	367			12063	1798	14074	1749	1629	272	83	277	564	5177	1271	4154	1492
2001	224	323		19370	2151	12517	1525	2261	102	56	233	125	1503	1028	2637	563
2002	190	235	3141	15589	1974	13444	916	1435	443	65	276	487	2573	1640	4861	1465
2003	133	158	3171	29198	2219	13657	1183	2271	1012	115	402	322	1953	2334	3955	1406
2004	56	615	4008	27195	2726	18521	1520	3006	1207	70	169	656	3818	2828	5110	1151
2005	337	858	7007	28050	3746	17828	1538	2417	1210	69	427	216	1978	2495	4342	1019
2006	484	326	4967	24924	2768	13959	1173	2546	783	76	352	136	2623	3004	4030	1300
2007	498	303	3228	21713	1850	11571	1050	1674	675	37	174	39	1174	1394	2979	793
2008	428	495	4842	31990	3998	22442	2328	3586	1257	97	695	71	2823	3614	5886	1920
2009	280	67	1605	32560	3955	18883	1868	2497	448	49	498	231	1828	2208	2417	1063
2010	300	173	2225	39221	3790	23184	2609	4188	1146	78	941	270	1762	3142	5014	1782
Pre-Moratorium																
Mean			2765	10767		7409	1169	1568		99	235	89	6472		2154	403
95% CI			1416	4100		1429	304	277		25	155	53	2902		507	91
N			3	8		3	8	8		8	5	5	6		8	8
Moratorium																
Mean	278	347	3996	22990	2860	17491	1654	2234	655	74	340	275	2702	1969	4410	1104
95% CI	107	156	1357	3364	398	2225	230	285	202	10	66	101	519	348	659	200
N	11	11	8	18	17	18	18	18	15	18	18	18	18	18	18	18
Previous Generation																
Mean	347	444	4276	27847	3263	16937	1591	2544	875	66	429	139	2085	2543	3931	1219
95% CI	174	289	1910	5743	1160	5287	648	847	434	29	238	106	819	1038	1666	535
N	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5

1. English River
2. Southwest Bk. (Paradise River)
3. Sand Hill River
4. Exploits River (Bishop's Falls)
5. Campbellton River
6. Gander River
7. Middle Brook
8. Terra Nova River (Lower)
9. Northwest River, Port Blandford
10. Northeast Brook, Trepassey
11. Rocky River
12. Little River
13. Conne River
14. Harry's River
15. Torrent River
16. Western Arm Brook

Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)

Table 3. Total returns of large salmon to rivers in Newfoundland and Labrador by Salmon Fishing Area (SFA), 1984-2010. Table includes means and 95% confidence intervals for pre-moratorium, moratorium and previous generation.

	SFA 1	SFA 2		SFA 4			SFA 5			SFA 9		SFA 11		SFA 13	SFA 14A	
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1984				529			57	107		33					288	0
1985				183			27	112		41					30	1
1986				355			15	140		30			412		93	0
1987				310			19	56		30	1	3	516		68	1
1988				147			14	206		19	6	3	420		44	1
1989				89		473	19	142		18	9	5	320		60	0
1990				122		508	13	144		9	17	15	372		82	0
1991				99		670	14	114		13	16	6	89		71	1
1992				314		4162	43	270		10	46	21	159	16	170	8
1993				627	145	1734	88	472		17	72	11	100	115	224	8
1994			730	916	191	1072	91	243		15	19	11	100	128	334	31
1995			560	945	218	1121	169	637	135	12	39	17	110	80	617	33
1996			414	2057	560	1753	161	467	203	15	45	127	179	126	517	50
1997				881	321	1883	262	528	182	9	89	79	185	201	676	55
1998		4		1959	402	3649	196	394	104	11	130	49	294	191	761	128
1999	48	43		2236	493	4815	130	344	93	18	77	49	241	176	421	22
2000	15			684	208	1942	190	232	106	14	104	52	216	49	596	120
2001	41	32		1347	119	1682	62	330	50	8	60	36	140	132	443	28
2002	31	34	561	890	123	1898	69	271	114	2	78	41	167	285	432	48
2003	19	16	627	1336	152	1853	74	330	273	11	73	13	51	422	341	23
2004	25	54	604	949	161	2668	88	397	265	11	235	31	175	498	549	74
2005	28	54	875	1967	276	2461	62	316	305	5	95	15	105	453	780	43
2006	44	35	568	3365	328	1927	115	438	197	5	56	26	170	680	1431	44
2007	42	32	693	3956	487	1243	141	241	94	3	35	8	49	289	519	17
2008	51	35	795	4577	432	1560	143	429	229	4	56	3	144	414	1309	15
2009	105	13	723	5579	433	869	85	224	121	1	34	1	67	371	1400	21
2010	49	17	320	7059	495	1559	115	470	237	4	30	6	91	424	1289	47
Pre-Moratorium																
Mean			568	229		550	22	128		24	10	6	355		92	1
95% CI			393	130		261	12	36		9	8	6	153		68	0
N			3	8		3	8	8		8	5	5	6		8	8
Moratorium																
Mean	41	32	681	1921	297	2127	121	365	165	10	75	33	147	257	640	43
95% CI	16	11	94	746	75	535	29	57	43	3	24	16	32	90	188	17
N	11	11	8	18	17	18	18	18	15	18	18	18	18	18	18	18
Previous Generation																
Mean	49	37	710	3889	391	1612	109	330	189	4	55	11	107	441	1088	28
95% CI	31	16	121	1677	107	763	44	125	105	2	31	13	63	182	513	18
N	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5

1. English River
2. Southwest Bk. (Paradise River)
3. Sand Hill River
4. Exploits River (Bishop's Falls)
5. Campbellton River
6. Gander River
7. Middle Brook
8. Terra Nova River (Lower)
9. Northwest River, Port Blandford
10. Northeast Brook, Trepassey
11. Rocky River
12. Little River
13. Conne River
14. Harry's River
15. Torrent River
16. Western Arm Brook

Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)

Table 4. Percentage change in total returns of small salmon in 2010 in relation to the means for the previous generation, moratorium and pre-moratorium.

Counting Facility	Total Returns Small Salmon 2010*	Percent change from Previous Generation Mean	Moratorium Mean	Pre-Moratorium Mean
LABRADOR				
SFA 1				
English River	306	-12	10	
SFA 2				
Southwest Bk. (Paradise River)	173	-61	-50	
Sand Hill River	2225	-48	-44	-20
INSULAR NEWFOUNDLAND				
SFA 4				
Exploits River	39221	41	71	264
Campbellton River	3790	16	33	
Gander River	23184	37	33	213
SFA 5				
Middle Brook	2609	64	58	123
Terra Nova River (Lower)	4188	65	87	167
Northwest River (TNNP)	1146	31	75	
SFA 9				
Northeast Bk. (Trep.)	78	19	5	-21
Rocky River	941	119	177	301
SFA 11				
Little River	270	95	-2	204
Conne River	1762	-15	-35	-73
SFA 13				
Harry's River	3142	24	60	
SFA 14A				
Torrent River	5014	28	14	133
Western Arm Brook	1782	46	61	342

*preliminary

Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)

Table 5. Percentage change in total returns of large salmon in 2010 in relation to the means for the previous generation, moratorium and pre-moratorium.

Counting Facility	Total Returns Large Salmon 2010*	Percent change from Previous Generation Mean	Moratorium Mean	Pre-Moratorium Mean
LABRADOR				
SFA 1				
English River	50	2	22	
SFA 2				
Southwest Bk. (Paradise River)	17	-54	-47	
Sand Hill River	320	-55	-53	-44
INSULAR NEWFOUNDLAND				
SFA 4				
Exploits River	7059	82	267	2979
Campbellton River	495	27	67	
Gander River	1559	-3	-27	183
SFA 5				
Middle Brook	115	5	-5	417
Terra Nova River (Lower)	470	43	29	268
Northwest River (TNNP)	237	25	44	
SFA 9				
Northeast Bk. (Trep.)	4	11	-58	-83
Rocky River	30	-46	-60	206
SFA 11				
Little River	6	-43	-82	-6
Conne River	91	-15	-38	-74
SFA 13				
Harry's River	424	-4	65	
SFA 14A				
Torrent River	1289	18	101	1301
Western Arm Brook	47	68	10	9300

*preliminary

Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)

Table 6. Proportion of large salmon in total returns to rivers in Newfoundland and Labrador during 1992-2010 and mean proportions for pre-moratorium, moratorium and Previous generation.

	Proportion of Large Salmon																					
River Name	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Mean Pre-Moratorium	Mean Moratorium	Mean Previous Generation
LABRADOR																						
SFA 1																						
English River								0.449	0.039	0.155	0.140	0.125	0.309	0.077	0.083	0.078	0.106	0.273	0.140		0.128	0.124
SFA 2																						
Southwest Bk (Paradise River)							0.035	0.115		0.090	0.126	0.092	0.081	0.059	0.097	0.096	0.066	0.163	0.089		0.084	0.077
Sand Hill River			0.251	0.167	0.111						0.152	0.165	0.131	0.111	0.103	0.177	0.141	0.311	0.126	0.170	0.146	0.142
INSULAR NEWFOUNDLAND																						
SFA 4																						
Exploits River (Bishop's Falls)	0.023	0.027	0.049	0.055	0.063	0.055	0.067	0.072	0.054	0.065	0.054	0.044	0.034	0.066	0.119	0.154	0.125	0.146	0.153	0.021	0.077	0.123
Campbellton River		0.035	0.063	0.067	0.149	0.140	0.109	0.138	0.104	0.052	0.059	0.064	0.056	0.069	0.106	0.208	0.098	0.099	0.116		0.094	0.107
Gander River	0.186	0.062	0.055	0.048	0.068	0.150	0.161	0.204	0.121	0.118	0.124	0.119	0.126	0.121	0.121	0.097	0.065	0.044	0.063	0.069	0.108	0.087
SFA 5																						
Middle Brook	0.027	0.038	0.049	0.108	0.073	0.162	0.069	0.063	0.098	0.039	0.070	0.059	0.055	0.039	0.089	0.118	0.058	0.044	0.042	0.019	0.068	0.064
Terra Nova River	0.132	0.134	0.118	0.202	0.172	0.234	0.174	0.154	0.125	0.127	0.159	0.127	0.117	0.116	0.147	0.126	0.107	0.082	0.101	0.075	0.140	0.115
Northwest River (Port Blandford)				0.213	0.255	0.281	0.161	0.229	0.280	0.329	0.205	0.212	0.180	0.201	0.201	0.122	0.154	0.213	0.171		0.201	0.178
SFA 9																						
Northeast Brook (Trepassey)	0.169	0.177	0.132	0.130	0.170	0.153	0.108	0.159	0.144	0.125	0.030	0.087	0.136	0.068	0.062	0.075	0.040	0.020	0.049	0.196	0.114	0.052
Rocky River	0.163	0.198	0.107	0.092	0.112	0.170	0.235	0.191	0.273	0.205	0.220	0.154	0.582	0.182	0.137	0.167	0.075	0.064	0.031	0.040	0.180	0.114
SFA 11																						
Little River	0.168	0.061	0.131	0.126	0.159	0.165	0.157	0.138	0.084	0.224	0.078	0.039	0.045	0.065	0.160	0.170	0.041	0.004	0.022	0.067	0.106	0.071
Conne River	0.059	0.036	0.061	0.030	0.039	0.055	0.091	0.093	0.040	0.085	0.061	0.025	0.044	0.050	0.061	0.040	0.049	0.035	0.049	0.052	0.052	0.049
SFA 13																						
Harry's River	0.018	0.060	0.067	0.035	0.065	0.103	0.103	0.093	0.037	0.114	0.148	0.153	0.150	0.154	0.185	0.172	0.103	0.144	0.119		0.115	0.148
SFA 14A																						
Torrent River	0.057	0.050	0.082	0.089	0.065	0.140	0.124	0.080	0.125	0.144	0.082	0.079	0.097	0.152	0.262	0.148	0.182	0.367	0.205	0.041	0.127	0.217
Western Arm Brook	0.016	0.008	0.031	0.039	0.039	0.098	0.069	0.021	0.074	0.047	0.032	0.016	0.060	0.040	0.033	0.021	0.008	0.019	0.026	0.001	0.037	0.022

Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)

Table 7. Summary of percentage conservation requirement achieved for various rivers including the means for pre-moratorium, moratorium and previous generation.

	Percentage Conservation Requirement Achieved																				
River	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Pre-moratorium Mean	Moratorium Mean	Previous Generation Mean
LABRADOR																						
SFA 1																						
English River								40	73	63	52	26	26	80	115	115	109	117	86		74	94
SFA 2																						
Southwest Brook							39	139		110	82	52	201	267	110	102	157	26	57		117	144
Sand Hill River			65	70	74						81	82	101	168	118	89	125	59	54	70	103	110
INSULAR NEWFOUNDLAND																						
SFA 4																						
Exploits River	31	43	31	39	69	24	47	44	21	34	25	51	47	49	48	44	60	65	81	32	43	53
Lower	101	157	103	121	210	72	134	116	56	91	56	141	130	83	125	150	111	172	204	67	118	128
Middle	20	23	18	24	43	15	35	35	16	27	23	39	37	51	40	27	60	53	68	14	33	46
Upper	2	6	7	12	26	10	6	7	2	5	3	7	2	4	1	2	5	2	5	73	6	3
Campbellton River		311	216	264	316	180	315	312	152	148	138	191	212	328	273	208	360	371	381		253	308
Gander River	118	128	84	89	115	61	110	121	86	84	91	96	144	120	87	72	112	101	131	39	101	98
SFA 5																						
Middle Brook	148	238	176	116	258	193	301	222	217	132	101	134	162	163	133	126	232	170	273	78	179	165
Terra Nova River	28	53	25	44	35	31	33	33	27	36	28	42	54	42	47	29	61	40	70	19	38	44
Northwest River (TNNP)				37	55	46	42	28	27	11	37	81	92	93	58	50	92	37	67		52	66
SFA 9																						
Northeast Brook (Trep)	126	193	239	194	196	135	256	248	216	157	156	303	198	173	185	101	212	114	188	241	189	157
Rocky River	28	34	25	56	34	56	54	39	34	33	40	50	51	55	42	22	76	54	98	35	44	50
SFA 11																						
Little River	44	80	37	56	288	200	231	38	263	69	224	144	295	99	69	20	31	98	118	54	127	63
Conne River - Conservation	90	110	67	145	206	135	151	122	188	77	110	76	174	92	110	55	117	72	69	238	117	89
Management	50	61	37	81	115	75	84	68	104	43	61	42	97	51	61	31	65	40	39	132	65	50
SFA 13																						
Harry's River	13	41	51	53	46	50	49	49	29	33	60	84	98	89	116	55	108	90	94		62	92
SFA 14A																						
Torrent River	313	538	530	1033	1279	797	924	680	657	400	597	496	686	675	844	458	1203	750	1063	235	714	786
Western Arm Brook	151	288	292	286	415	200	625	370	567	193	510	466	425	355	446	258	611	341	598	100	378	402

Pre-moratorium Means: Labrador (1994-1997), Insular Newfoundland (1984-1991)
Moratorium Means: Labrador (1998-2009), Insular Newfoundland (1992-2009)
Previous Generation Means: Labrador (04-09), Insular Newfoundland (05-09)

Table 8. Harvests of Atlantic salmon in the subsistence and FSC (Food for Social and Ceremonial Purposes) Fishery for SFA 1 and 2, 1999-2010. Small refers to salmon less than 6 lbs. and large are 6 lbs. and greater.

	Small salmon		Large salmon		Total	
	Number	**Weight (kg)**	**Number**	**Weight (kg)**	**Number**	**Weight (kg)**
SFA 1						
1999	2,739	5,580	1,084	4,220	3,824	9,800
2000	4,111	8,111	1,092	4,365	5,203	12,474
2001	3,394	6,995	1,299	5,121	4,708	12,117
2002	3,609	7,386	1,015	4,441	4,624	11,827
2003	4,382	9,094	1,639	7,026	6,021	16,120
2004	4,822	10,038	2,210	8,656	7,032	18,694
2005	4,958	10,116	1,687	6,930	6,644	17,046
2006	5,422	11,189	1,639	6,330	7,061	17,519
2007	4,700	8,306	1,560	5,314	6,261	13,619
2008	5,154	10,342	2,955	13,627	8,109	23,968
2009	3,964	8,173	1,907	8,232	5,871	16,405
2010*	5,957	12,669	2,669	11,141	8,626	23,810
SFA 2						
1999	-	-	-	-	-	-
2000	1,212	2,242	260	897	1,472	3,139
2001	1,396	2,793	374	1,378	1,770	4,172
2002	2,197	4,196	422	1,549	2,619	5,745
2003	2,095	4,102	536	1,885	2,632	5,987
2004	3,480	7,166	1,450	5,480	5,050	12,852
2005	5,479	10,922	1,130	3,946	6,609	14,868
2006	4,955	10,008	1,451	5,193	6,406	15,201
2007	4,507	8,764	1,092	4,073	5,599	12,837
2008	4,680	9,044	954	3,349	5,634	12,393
2009	4,024	7,956	1,437	5,449	5,461	13,405
2010*	4,041	8,033	1,069	3,952	5,110	11,985
All areas						
1999	2,739	5,580	1,084	4,220	3,824	9,800
2000	5,323	10,353	1,352	5,262	6,675	15,613
2001	4,789	9,789	1,673	6,499	6,478	16,288
2002	5,806	11,581	1,437	5,990	7,243	17,572
2003	6,477	13,196	2,175	8,912	8,653	22,108
2004	8,302	17,204	3,660	14,136	12,081	31,546
2005	10,436	21,038	2,817	10,876	13,253	31,914
2006	10,377	21,198	3,090	11,523	13,467	32,721
2007	9,208	17,070	2,652	9,386	11,860	26,456
2008	9,834	19,386	3,909	16,975	13,743	36,361
2009	7,988	16,130	3,344	13,681	11,332	29,810
2010*	9,997	20,702	3,739	15,093	13,736	35,795

* Preliminary

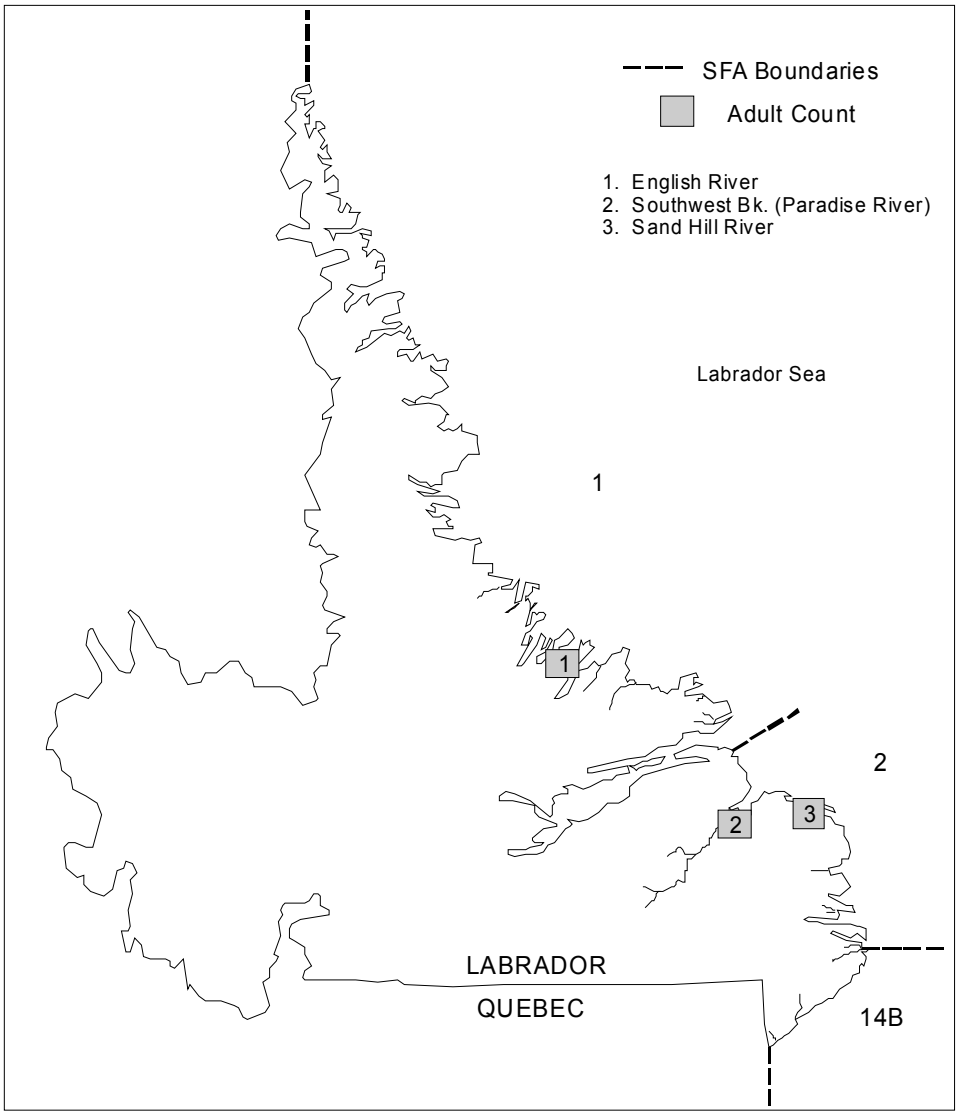


Figure 1. Map showing Salmon Fishing Areas 1, 2 and 14B (SFAs) and locations of counting facilities in Labrador, 2010.

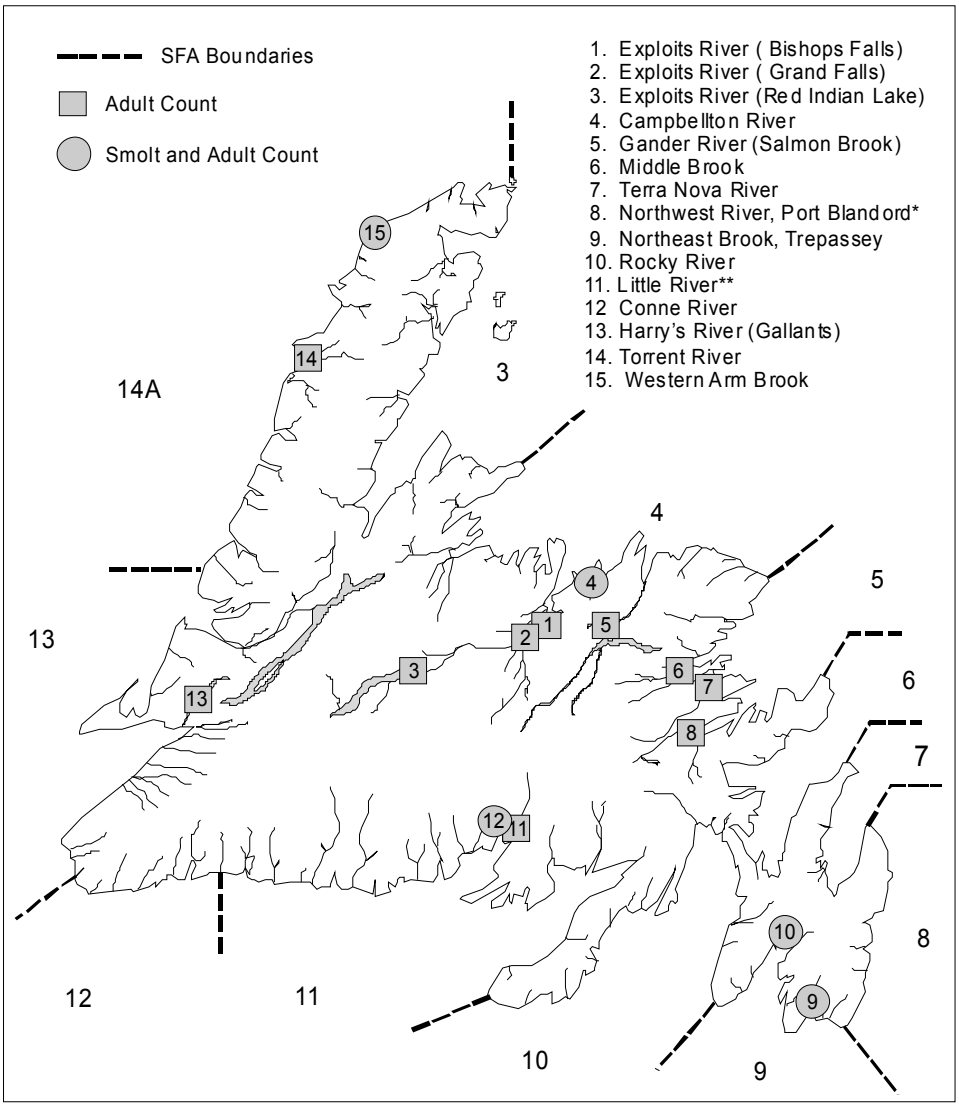


*Figure 2. Map showing Salmon Fishing Areas 3-14A (SFAs) and locations of counting facilities in insular Newfoundland, 2010. *Northwest River (Port Blandford) fence is managed by Terra Nova National Park. **Little River fence is managed by Miawpukek First Nation, Conne River.*

Labrador (SFAs 1, 2 & 14B)

Recreational Fishery

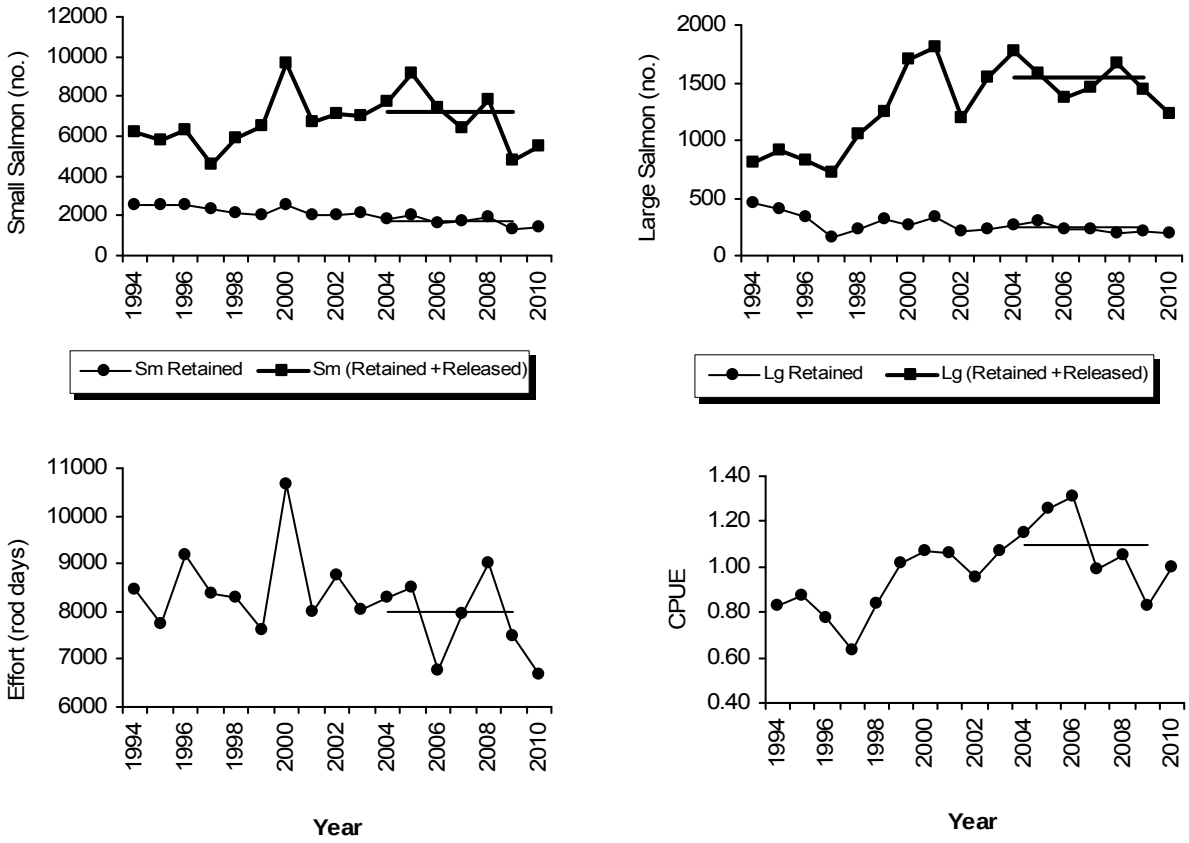


Figure 3. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for Labrador (SFAs1, 2 & 14B). Horizontal lines represent the previous generation mean, 2004-2009.

Insular Newfoundland (SFAs 3 – 14A)

Recreational Fishery

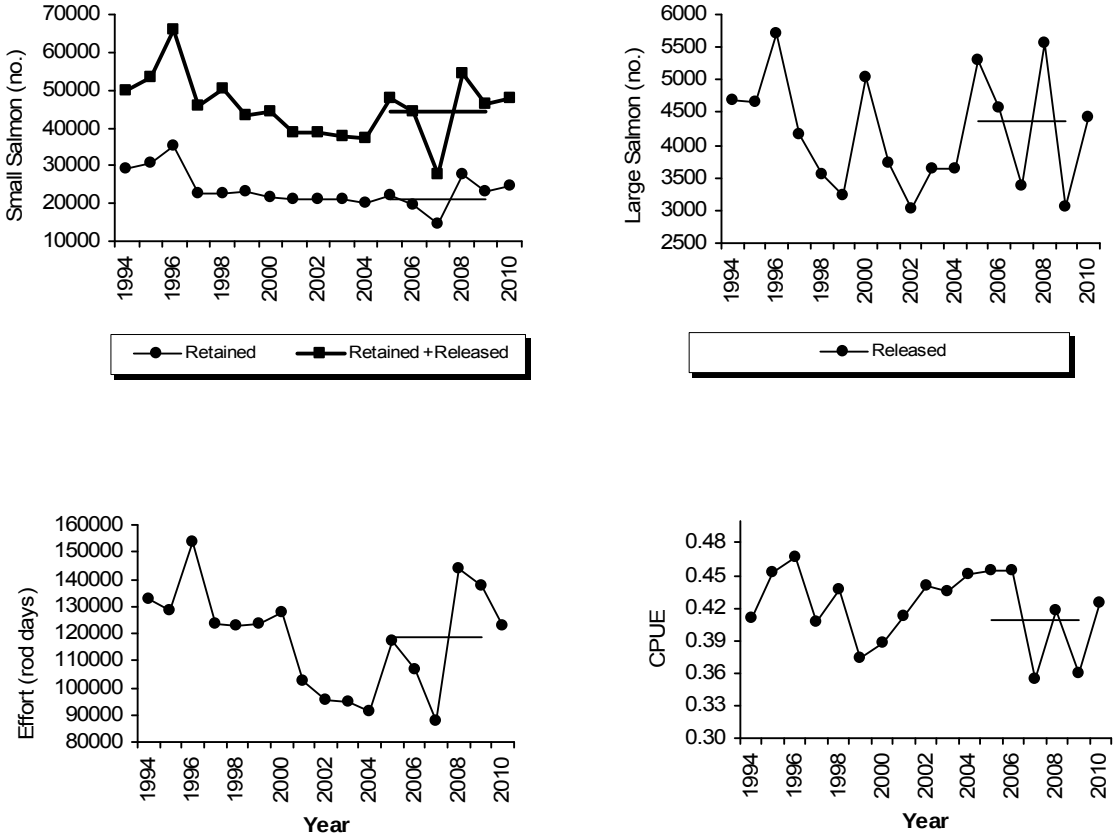


Figure 4. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for insular Newfoundland (SFAs 3 – 14A). Horizontal lines represent the previous generation mean, 2005-2009.

Northern Peninsula East & Eastern (SFAs 3 – 8)

Recreational Fishery

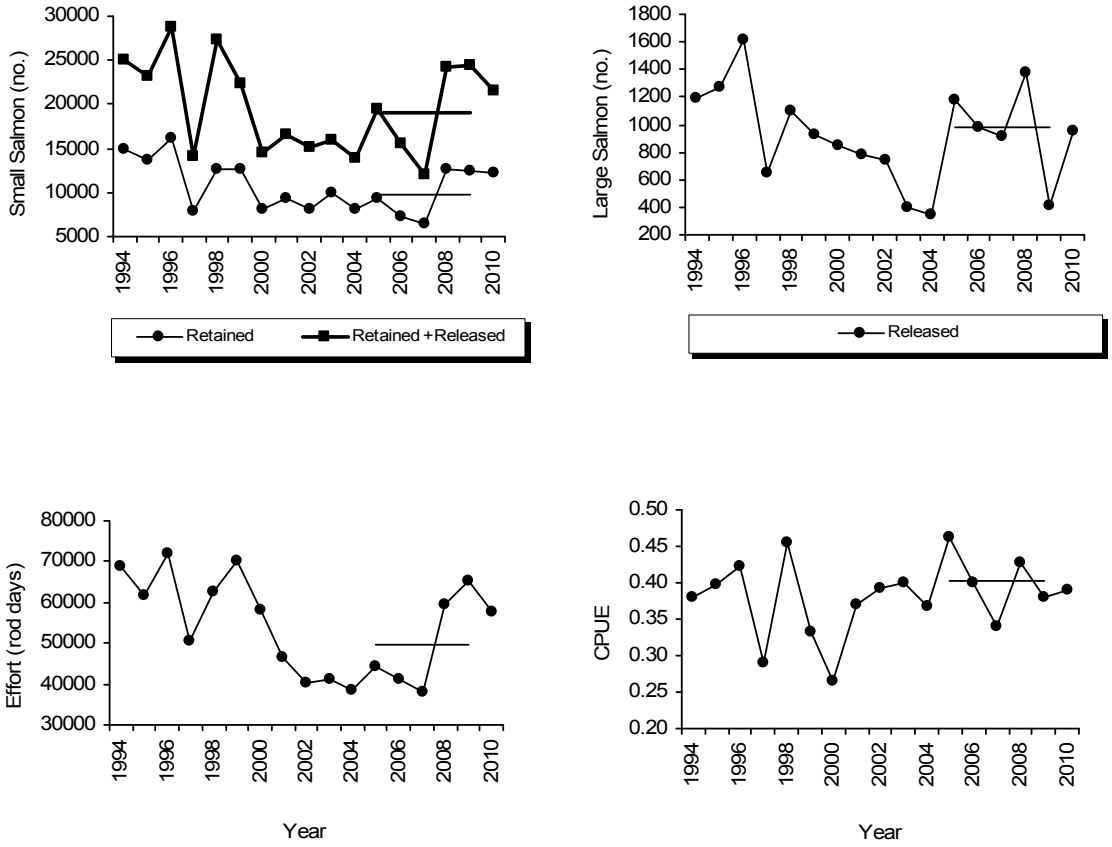


Figure 5. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for Northern Peninsula East & Eastern (SFAs 3 – 8). Horizontal lines represent the previous generation mean, 2005-2009.

South (SFAs 9 – 11)

Recreational Fishery

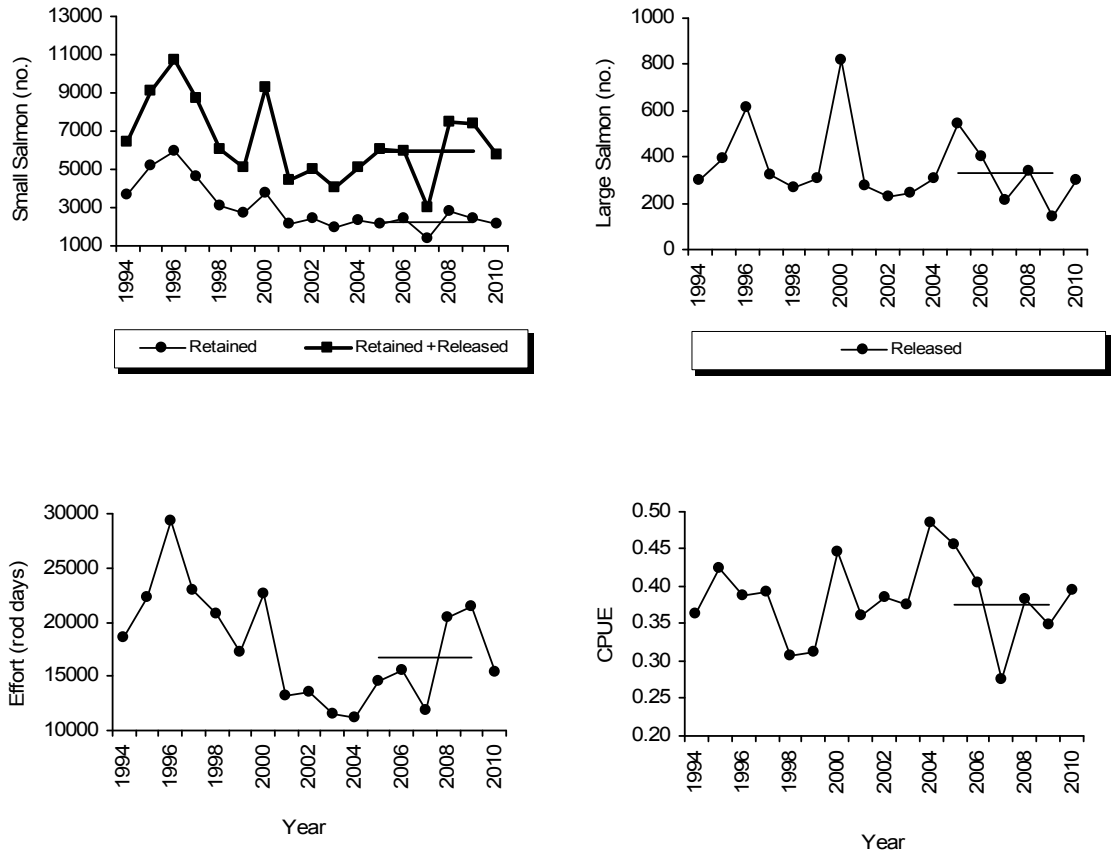


Figure 6. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for South (SFAs 9 – 11). Horizontal lines represent the previous generation mean, 2005-2009.

Southwest (SFAs 12 – 13)

Recreational Fishery

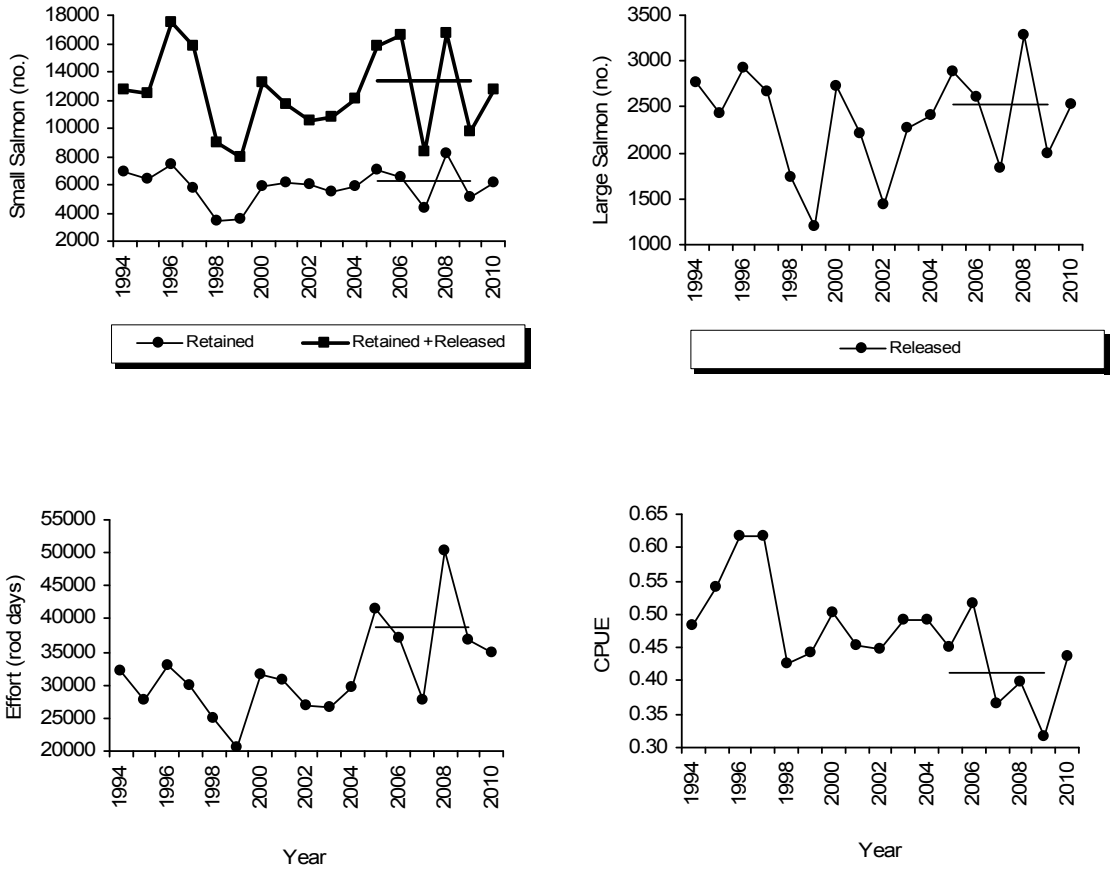


Figure 7. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for Southwest (SFAs 12 – 13). Horizontal lines represent the previous generation mean, 2005-2009.

Northern Peninsula West (SFA 14A)

Recreational Fishery

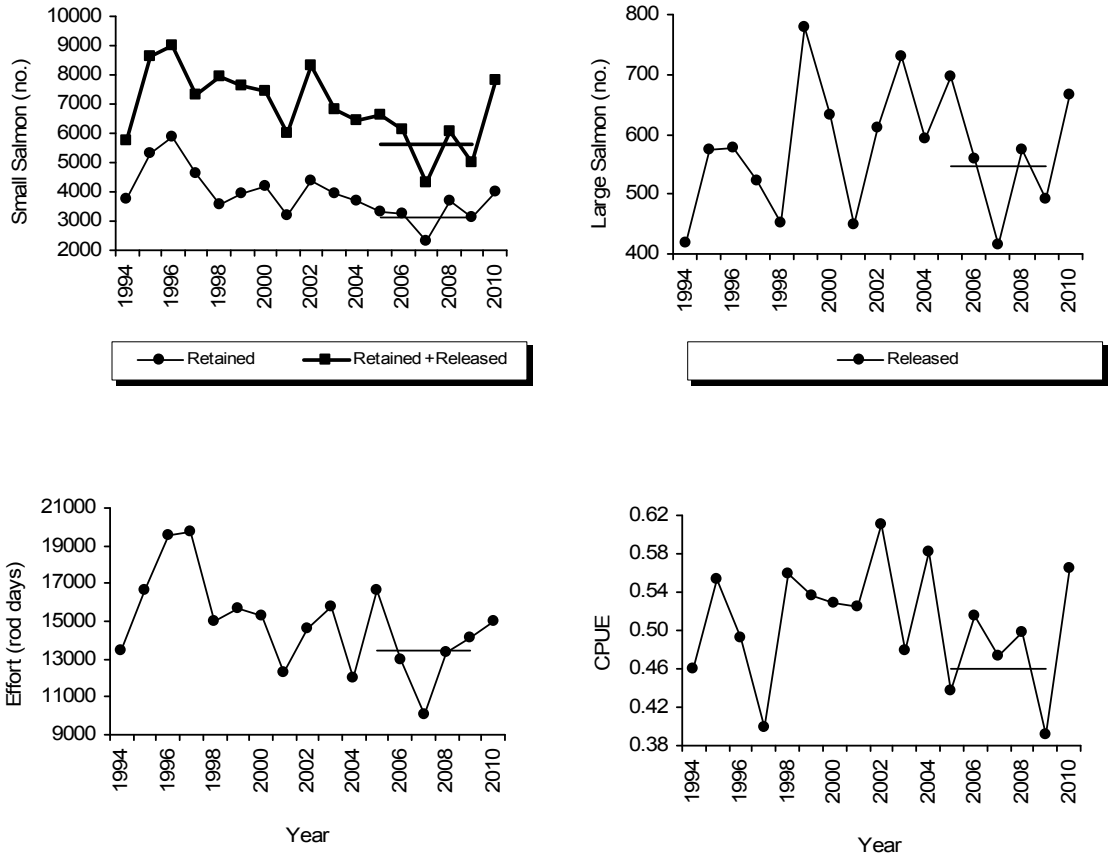


Figure 8. Recreational catch of small and large salmon, effort, and catch per unit of effort (CPUE), 1994-2010 for Northern Peninsula West (SFA 14A). Horizontal lines represent the previous generation mean, 2005-2009.

*Figure 9. Number of recreational Atlantic salmon fishery licenses sold from 1994 – 2010 (*preliminary).*

Marine Survival – Smolt to Adult

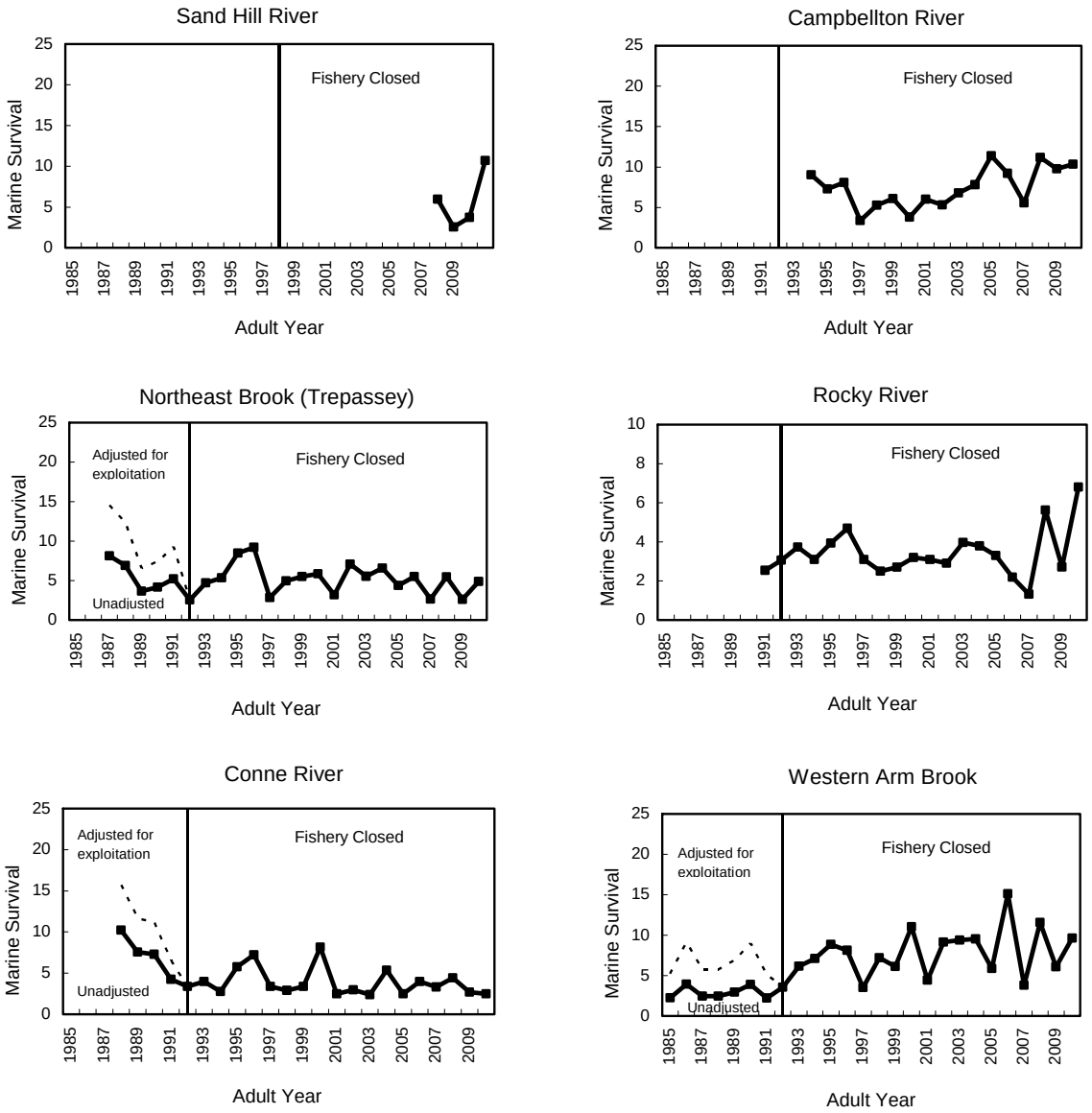


Figure 10. Marine survival (%) of smolts to adults (small salmon). Dashed line represents marine survival adjusted for average marine exploitation rate (Dempson et al. 1998).

Labrador (SFAs 1, 2 & 14B)

Trends in Abundance 1994-2010

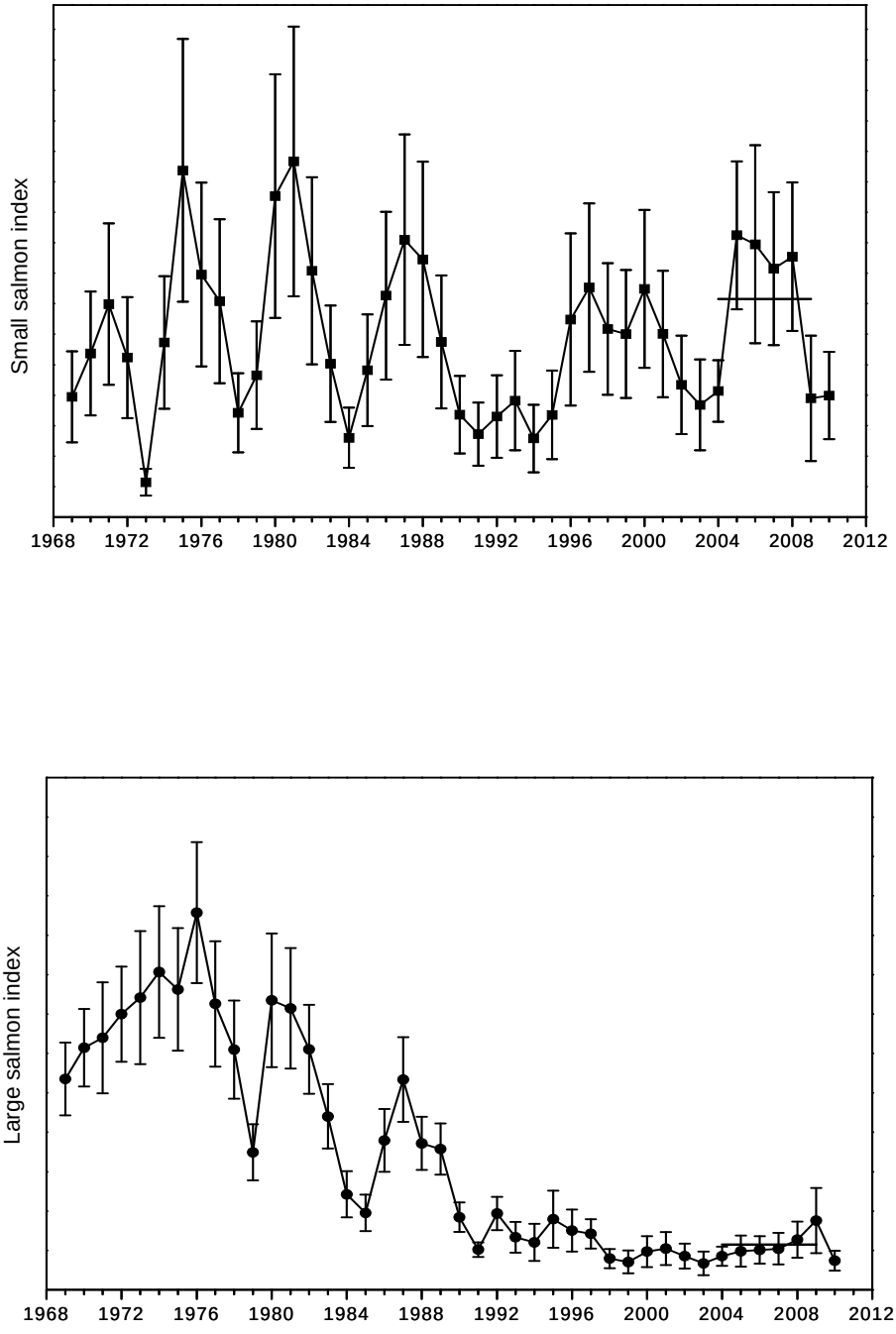
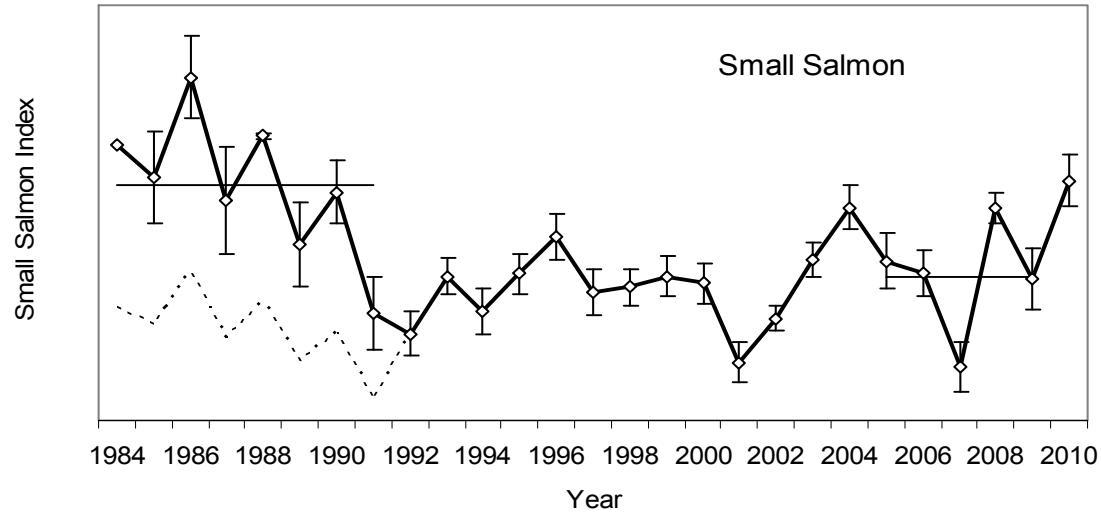


Figure 11. Trends in abundance of small and large salmon for Labrador (SFAs 1,2 & 14B), all rivers combined, from 1968-2010. Horizontal lines illustrate the mean abundance index for the previous six years 2004-2009. Vertical lines represent ± 1 standard error.

Insular Newfoundland (SFAs 3 – 14A)

Trends in Abundance 1984-2010



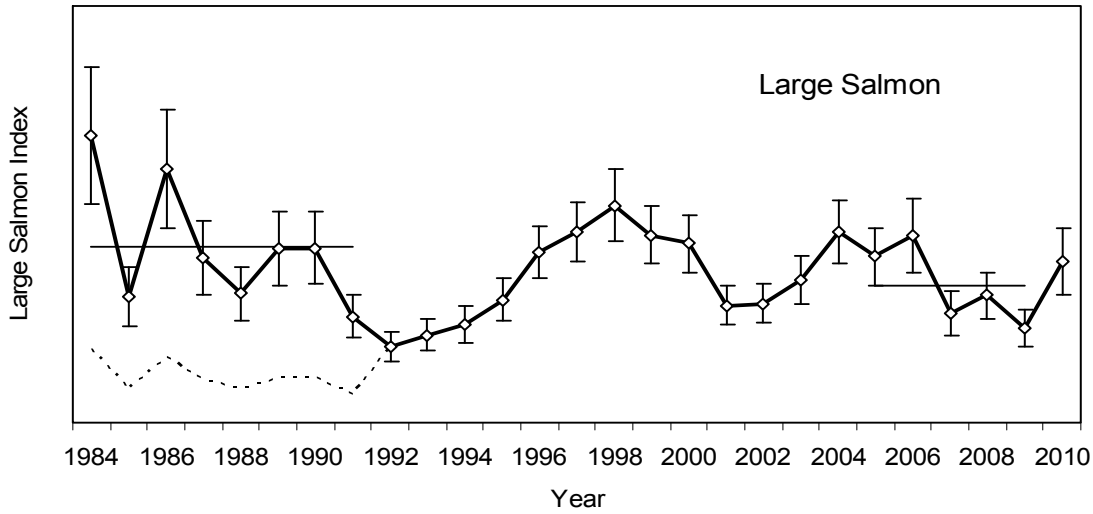


Figure 12. Trends in abundance of small and large salmon for Insular Newfoundland (SFA 3-14A), all rivers combined, from 1984-2010. Horizontal lines illustrate the mean abundance index for the periods 1984-1991, 1992-1996 and 1997-2009. Vertical lines represent ± 1 standard error. Dashed line represents returns unadjusted for marine exploitation for the period 1984-1991.

Labrador

Total Returns

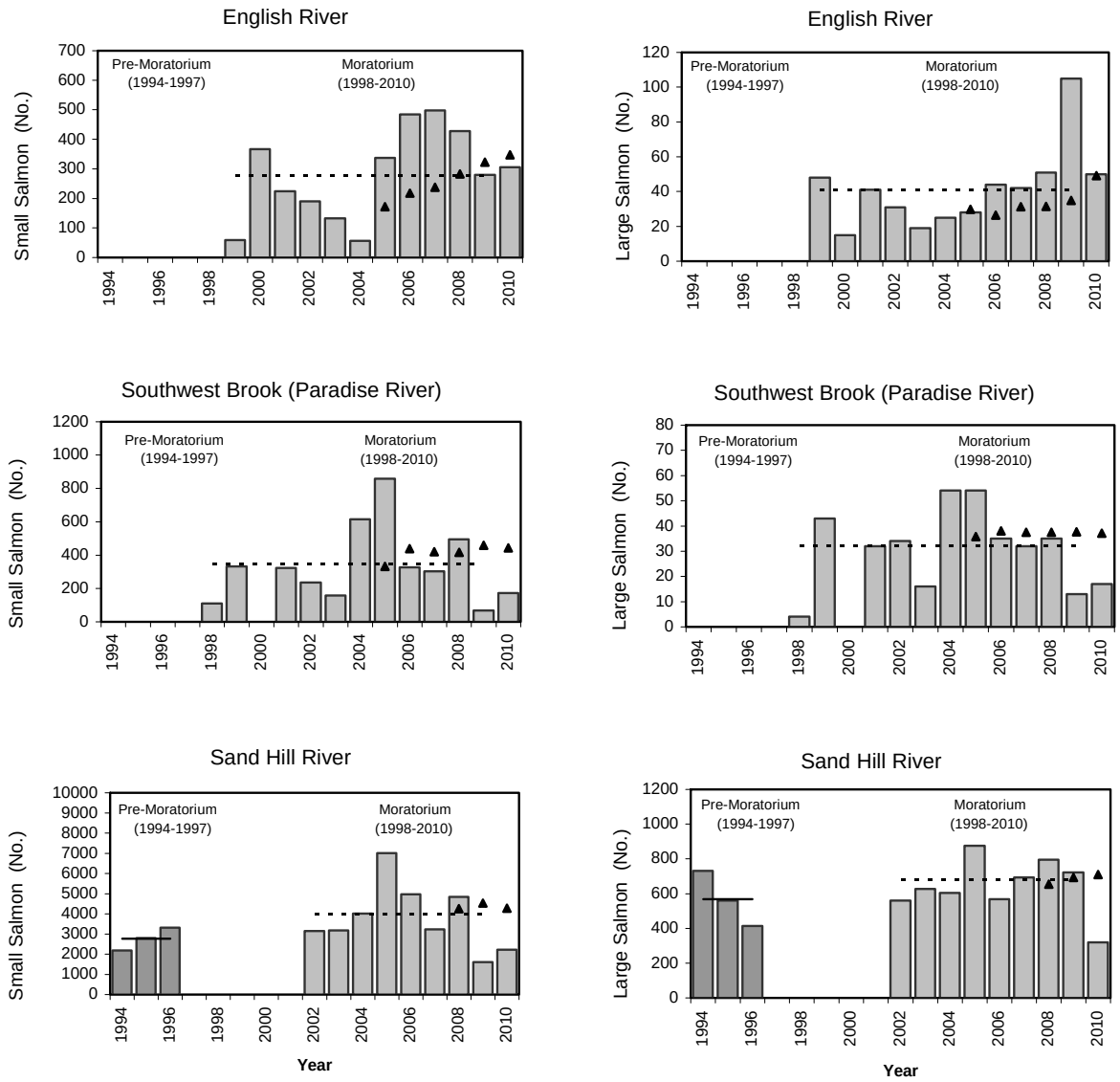


Figure 13. Total returns of small and large salmon to English River, Southwest Brook (Paradise River), and Sand Hill River, Labrador, 1994-2010. The solid horizontal line represents the pre-moratorium mean, the broken line the moratorium mean and the triangles represent the 6 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Labrador

Proportion Large Salmon in Total Returns

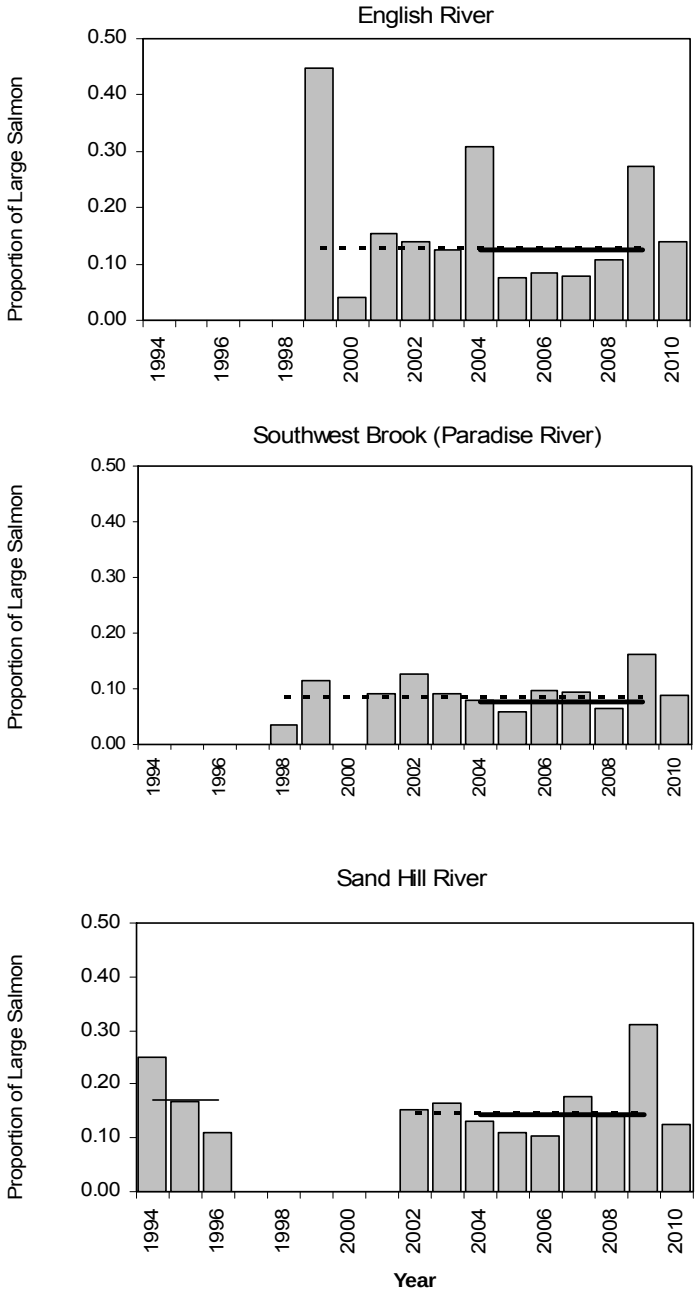


Figure 14. Proportion of large salmon in total returns to English River, Southwest Brook (Paradise River), and Sand Hill River, Labrador, 1994-2010. The thin solid horizontal line represents the pre-moratorium mean, the broken line the moratorium mean and the thick solid line the previous 6 year mean.

Insular Newfoundland - Northeast Coast

Total Returns

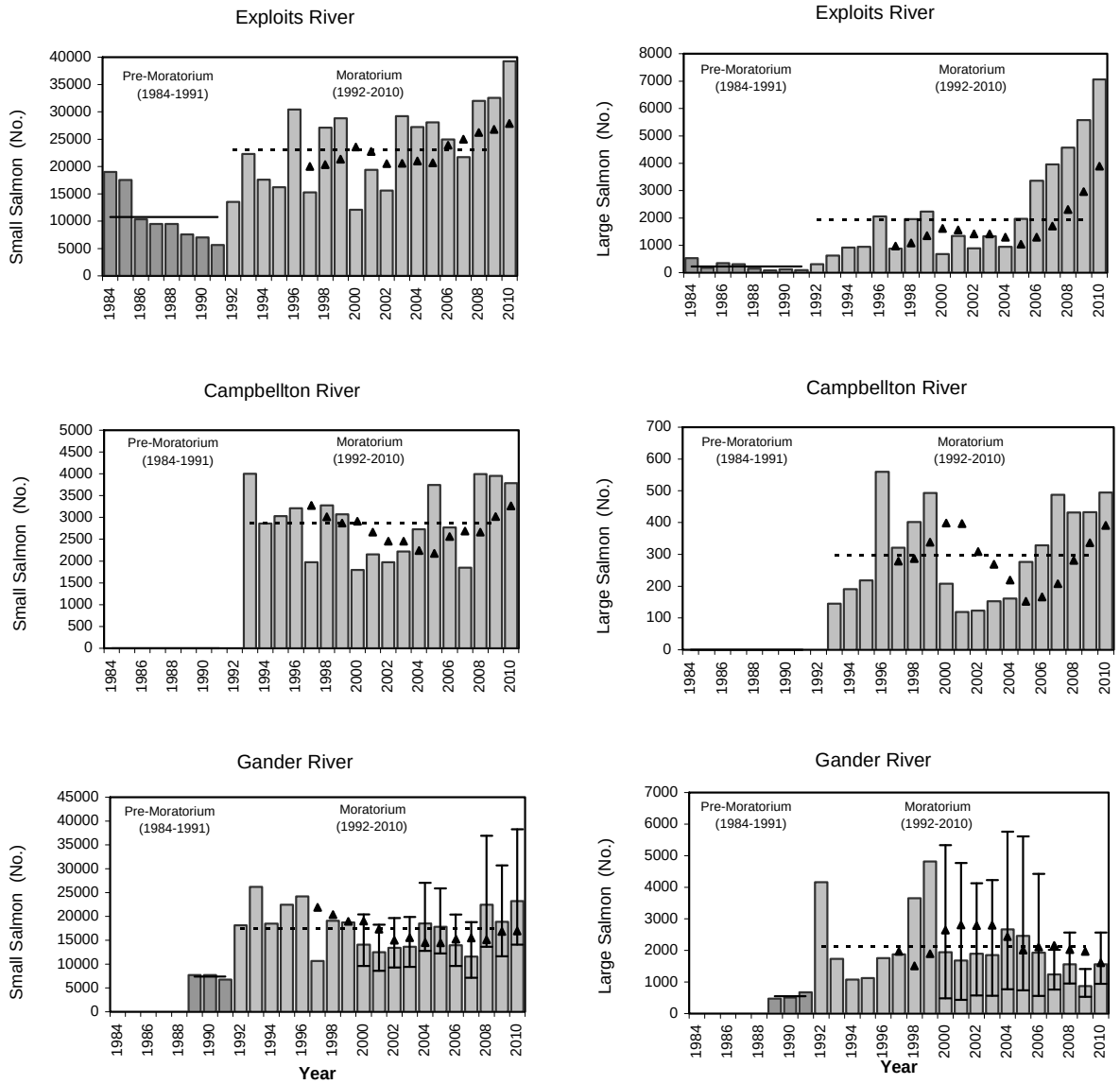


Figure 15. Total returns of small and large salmon to Exploits River, Campbellton River and Gander River, northeast coast Insular Newfoundland, 1984-2010. The horizontal solid line represents the pre-moratorium mean 1984-1991, the dotted line the moratorium mean 1992-2009 and the triangles the 5 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Insular Newfoundland - Northeast Coast

Proportion Large Salmon in Total Returns

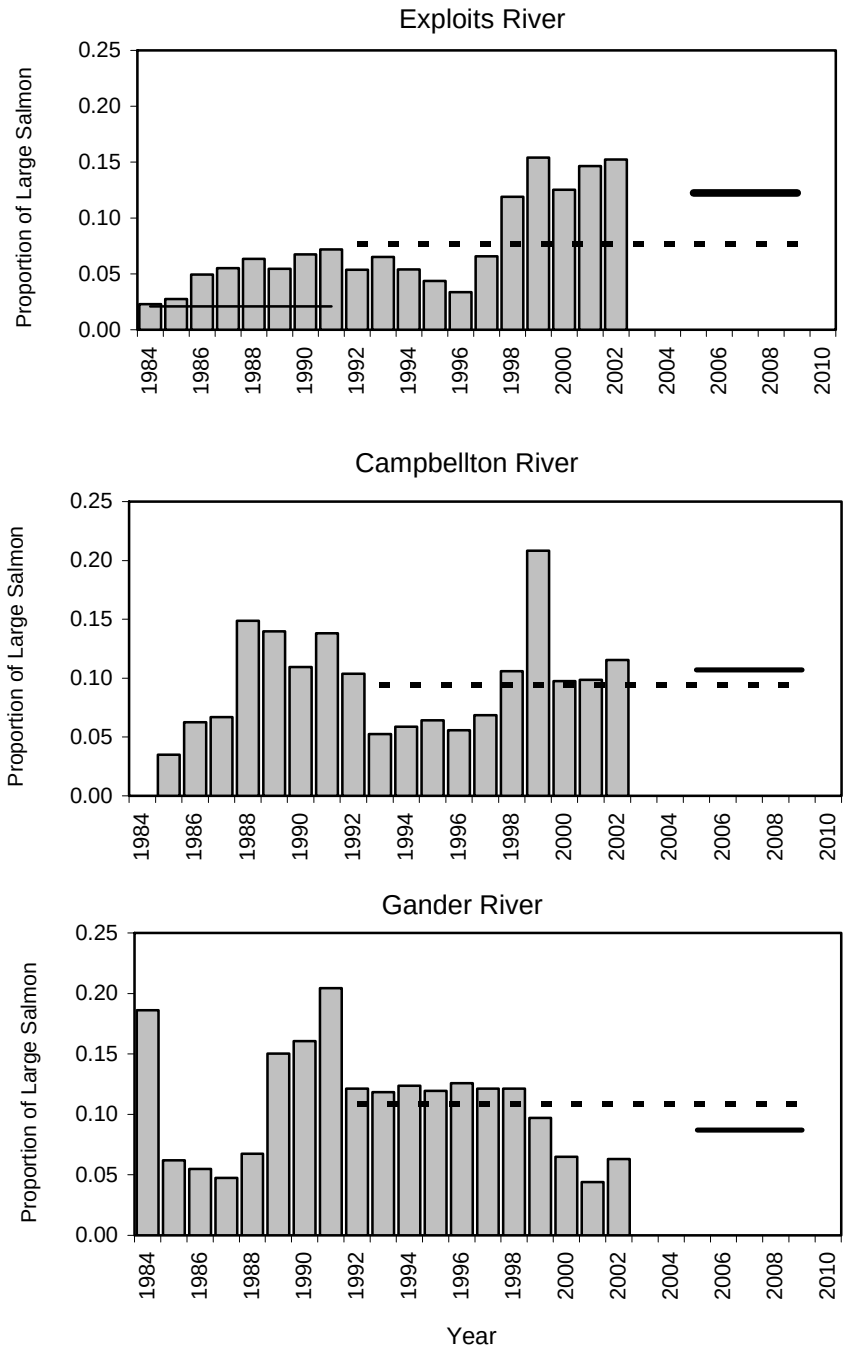


Figure 16. Proportion of large salmon in total returns to Exploits River, Campbellton River, and Gander River, northeast coast Insular Newfoundland, 1984-2010. The thin solid horizontal line represents the pre-moratorium mean 1984-1991, the broken line the moratorium mean 1992-2009 and the thick solid line the previous 5 year mean, 2005-2009.

Insular Newfoundland - East Coast

Total Returns

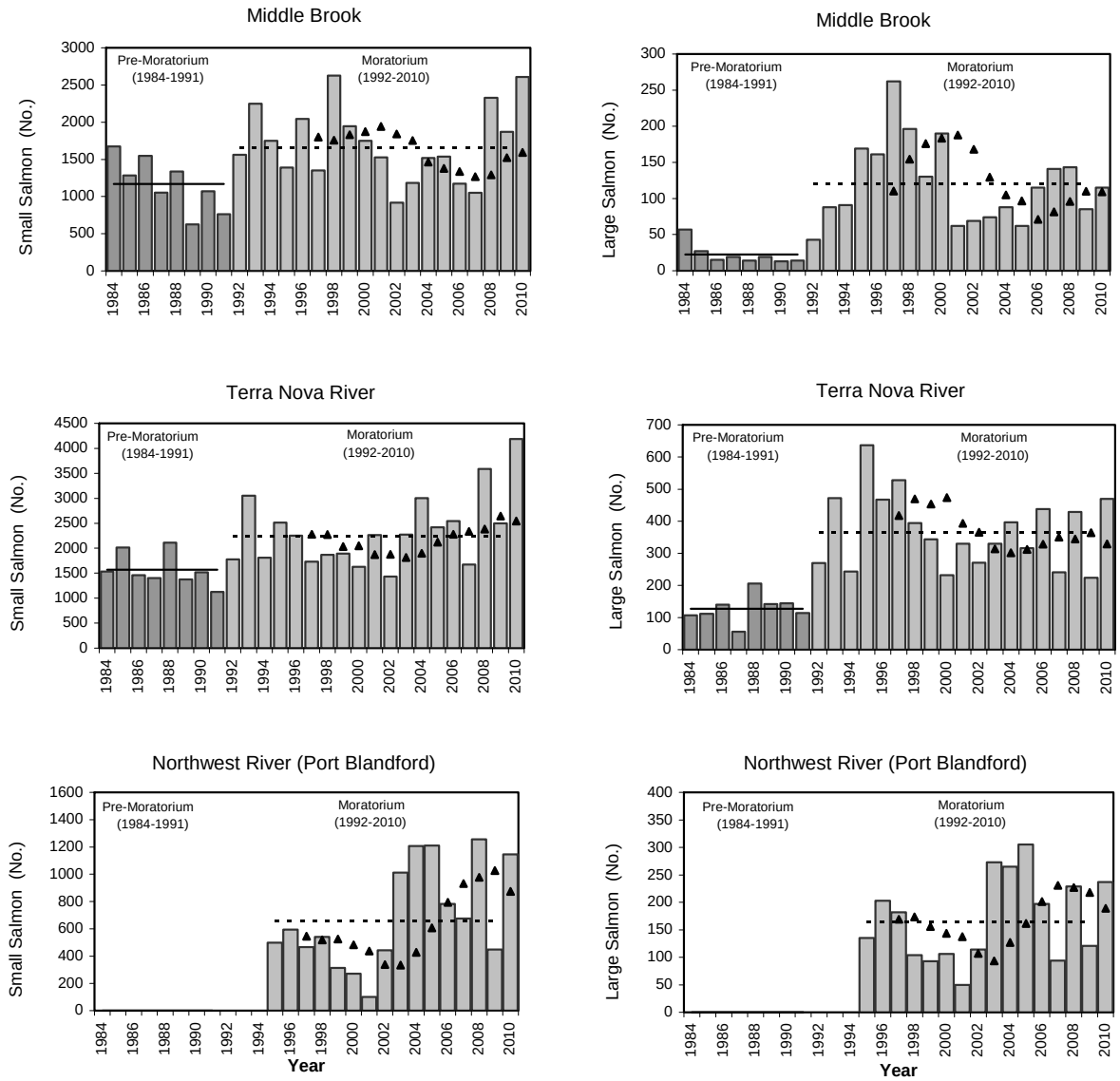


Figure 17. Total returns of small and large salmon to Middle Brook, Terra Nova River and Northwest River (Port Blandford), east coast Insular Newfoundland, 1984-2010. The horizontal solid line represents the pre-moratorium mean 1984-1991, the dotted line the moratorium mean 1992-2009 and the triangles the 5 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Insular Newfoundland - East Coast

Proportion Large Salmon in Total Returns

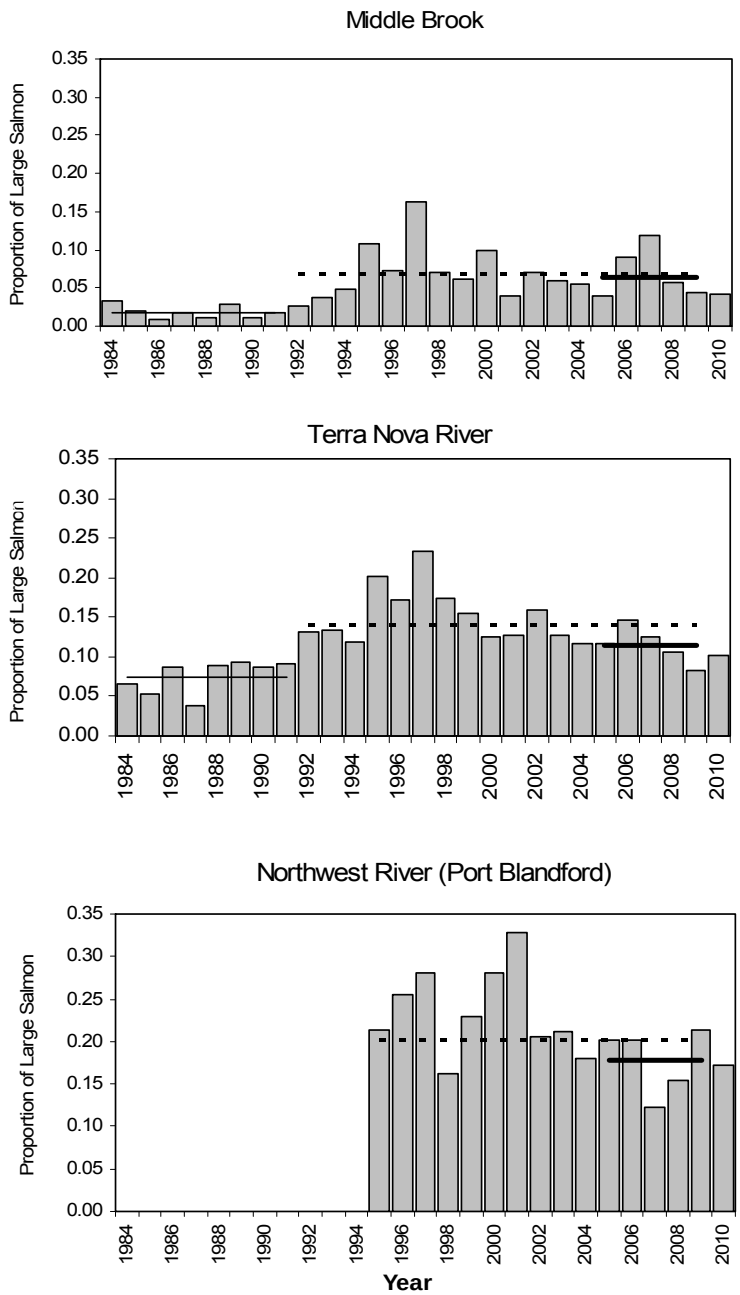


Figure 18. Proportion of large salmon in total returns to Middle Brook, Terra Nova River, and Northwest River (Port Blandford), east coast Insular Newfoundland, 1984-2010. The thin solid horizontal line represents the pre-moratorium mean 1984-1991, the broken line the moratorium mean 1992-2009 and the thick solid line the previous 5 year mean, 2005-2009.

Insular Newfoundland - South Coast

Total Returns

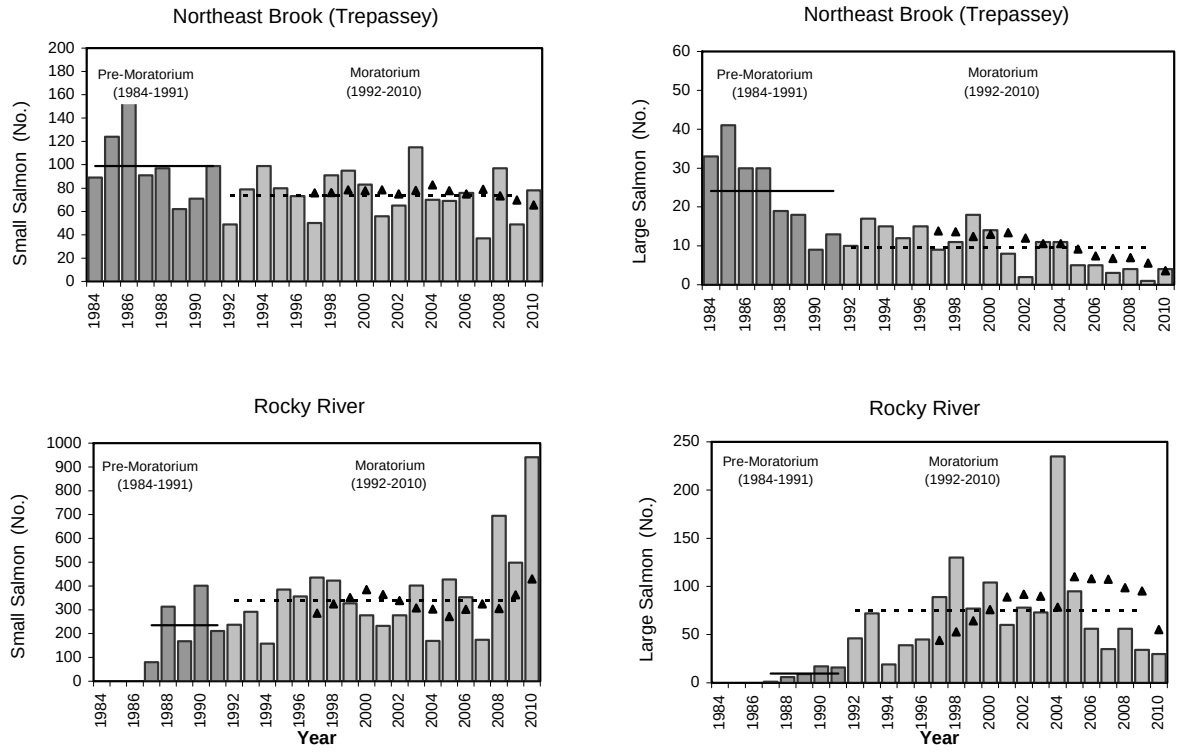


Figure 19. Total returns of small and large salmon to Northeast Brook (Trepassey), and Rocky River, South coast Insular Newfoundland, 1984-2010. The horizontal solid line represents the pre-moratorium mean 1984-1991, the dotted line the moratorium mean 1992-2009 and the triangles the 5 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Insular Newfoundland - South Coast

Total Returns

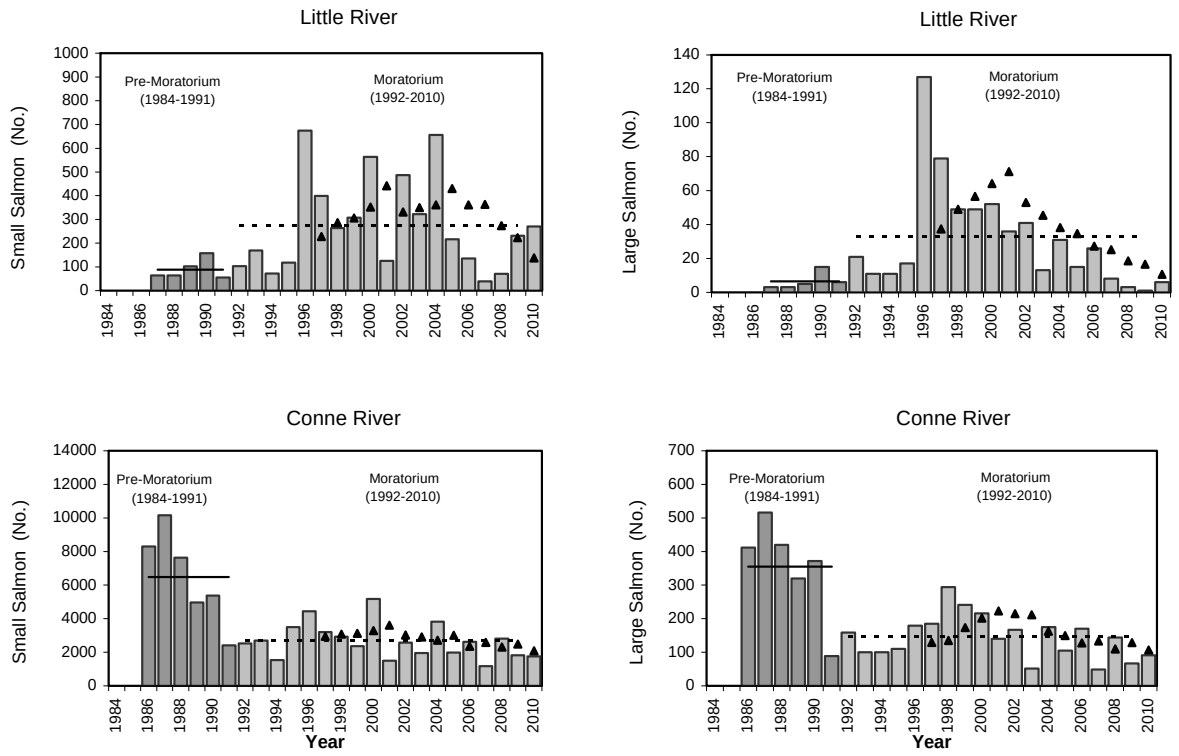


Figure 19 (cont'd). Total returns of small and large salmon to Northeast Brook (Trepassey), and Rocky River, South coast Insular Newfoundland, 1984-2010. The horizontal solid line represents the pre-moratorium mean 1984-1991, the dotted line the moratorium mean 1992-2009 and the triangles the 5 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Insular Newfoundland - South Coast

Proportion Large Salmon in Total Returns

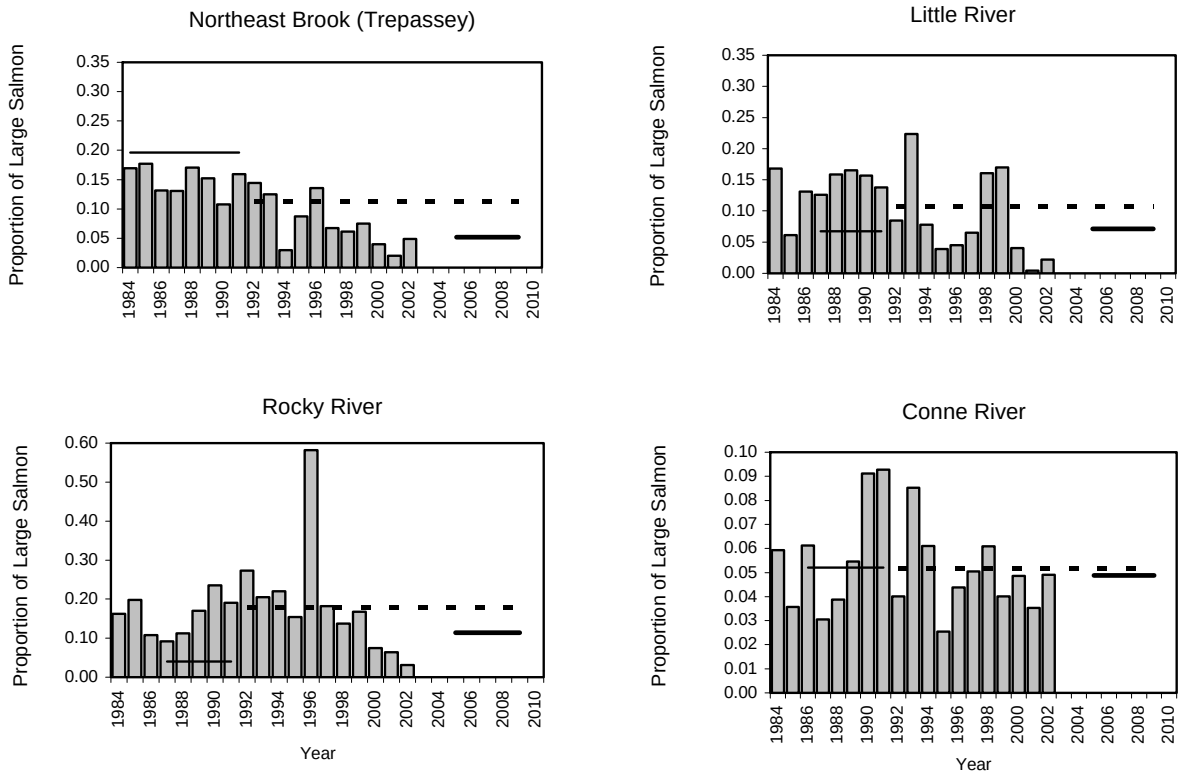


Figure 20. Proportion of large salmon in total returns to Northeast Brook (Trepassey), Rocky River, Little River and Conne River, South coast Insular Newfoundland, 1984-2010. The thin solid horizontal line represents the pre-moratorium mean 1984-1991, the broken line the moratorium mean 1992-2009 and the thick solid line the previous 5 year mean, 2005-2009.

Insular Newfoundland - Southwest & Northwest Coasts

Total Returns

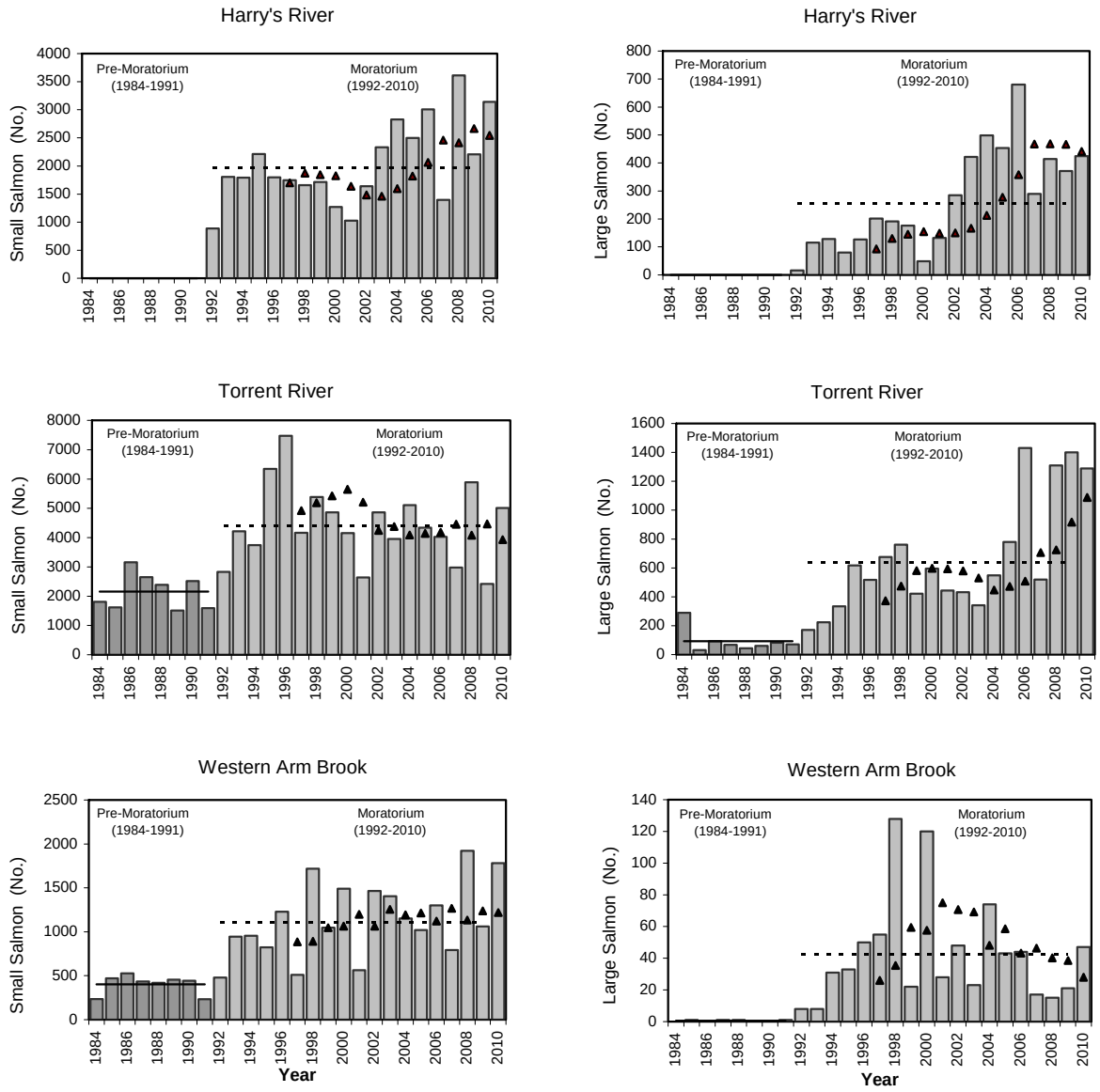


Figure 21. Total returns of small and large salmon to Harry's River (southwest coast), Torrent River and Western Arm Brook (northwest coast), Insular Newfoundland, 1984-2010. The horizontal solid line represents the pre-moratorium mean 1984-1991, the dotted line the moratorium mean 1992-2009 and the triangles the 5 year mean previous to each year. The dark gray bars are the pre-moratorium years and the lighter gray bars the moratorium years.

Insular Newfoundland – Southwest & Northwest Coasts

Proportion Large Salmon in Total Returns

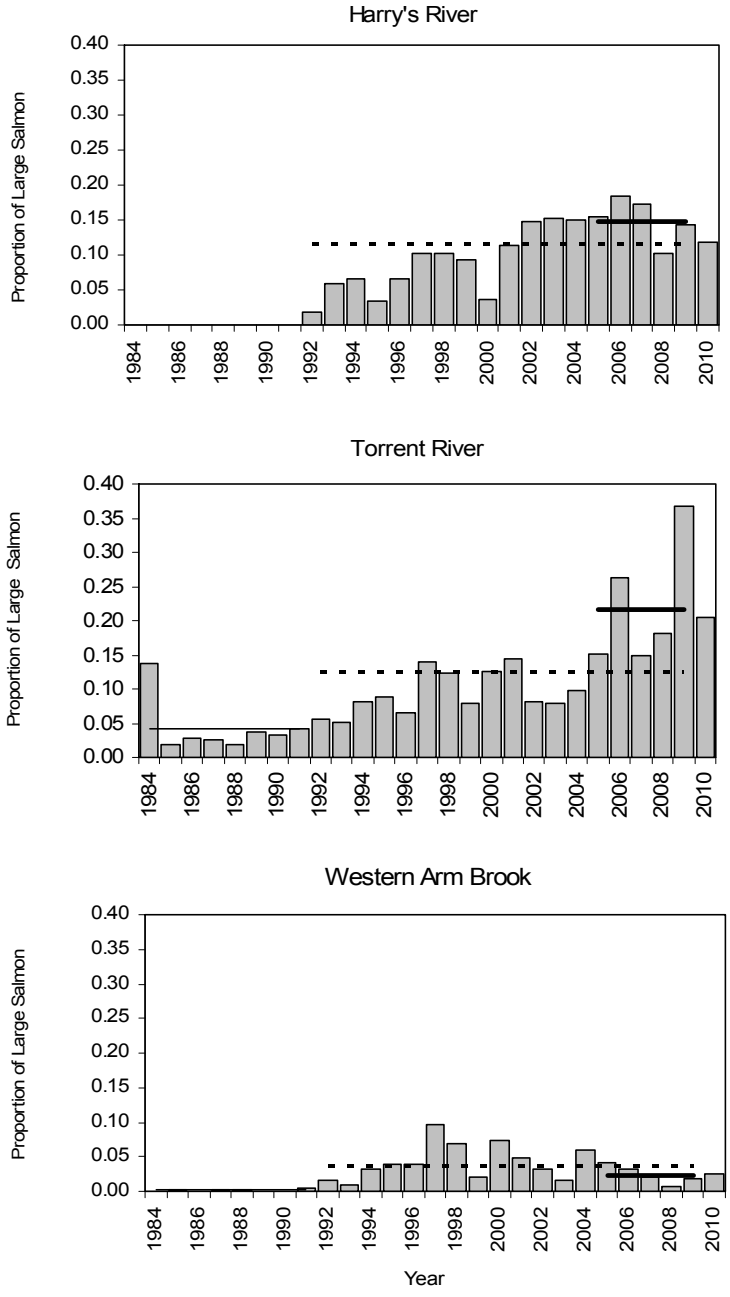


Figure 22. Proportion of large salmon in total returns to Harry's River (southwest coast),Torrent River and Western Arm Brook (northwest coast), Insular Newfoundland, 1984-2010. The thin solid horizontal line represents the pre-moratorium mean 1984-1991, the broken line the moratorium mean 1992-2009 and the thick solid line the previous 5 year mean, 2005-2009.

Labrador

Conservation Requirement Achieved 1994-2010

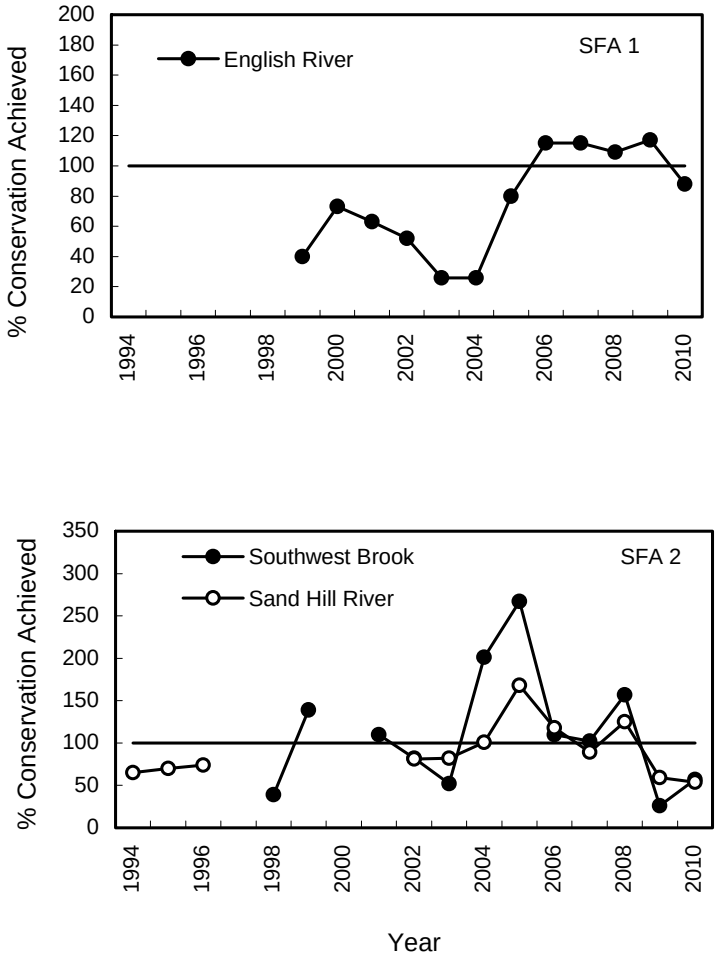


Figure 23. Percentage of conservation requirement achieved from1994-2010 for rivers In Labrador by SFA (Salmon Fishing Area). The horizontal line represents 100% conservation requirement.

Insular Newfoundland

Conservation Requirement Achieved 1984-2010

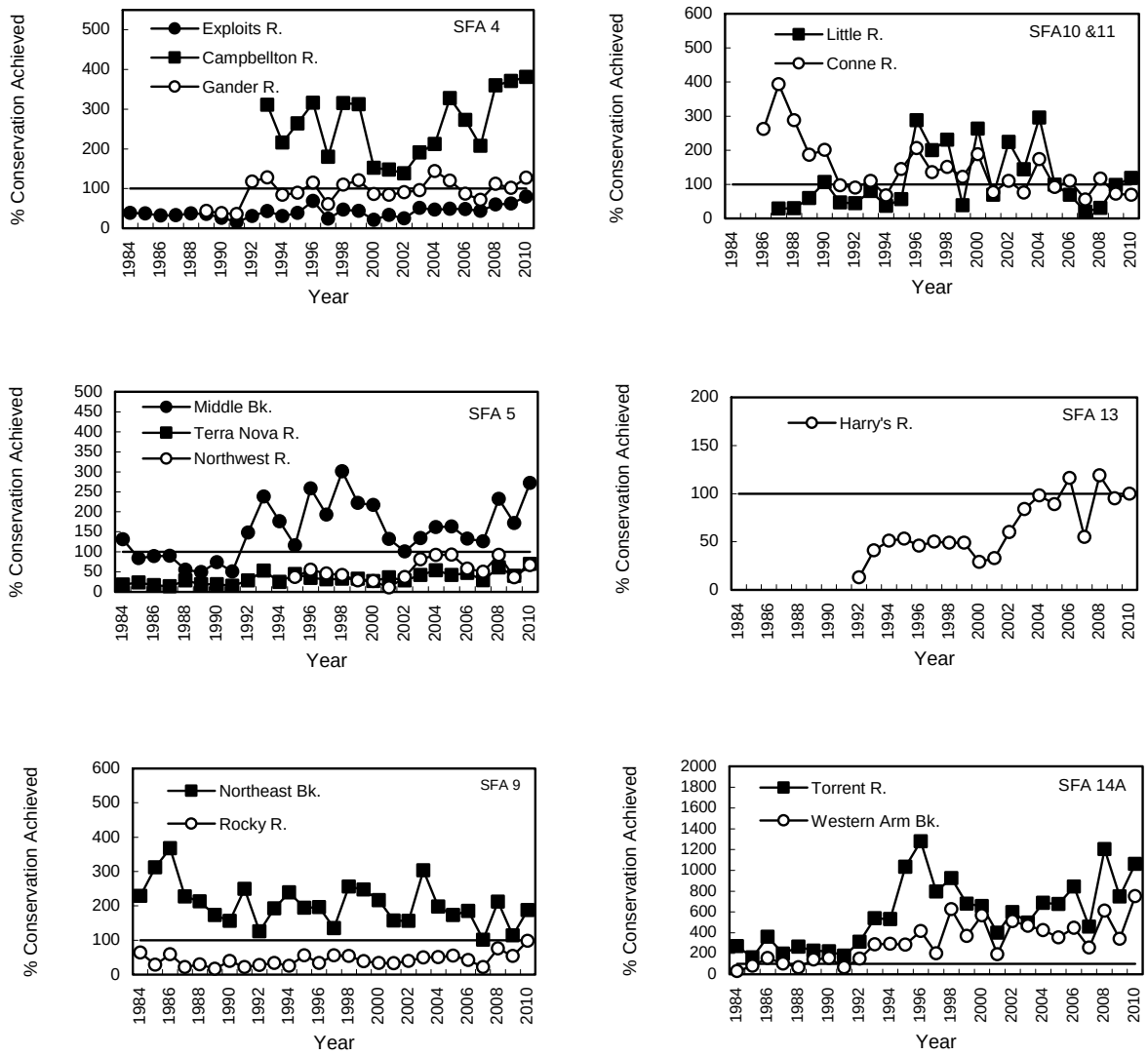


Figure 24. Percentage of conservation requirement achieved from1984-2010 for rivers in insular Newfoundland by SFA (Salmon Fishing Area). The horizontal line represents 100% conservation requirement.

Appendix 1a. Atlantic salmon recreational fishery catch and effort data for Labrador (SFAs 1, 2, and 14B), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	8449	2549	3681	6230	455	347	802	3004	4028	7032	0.83
1995	7719	2493	3302	5795	408	508	916	2901	3810	6711	0.87
1996	9193	2565	3776	6341	334	489	823	2899	4265	7164	0.78
1997	8394	2365	2187	4552	158	566	724	2523	2753	5276	0.63
1998	8288	2131	3758	5889	231	814	1045	2362	4572	6934	0.84
1999	7592	2076	4407	6483	320	931	1251	2396	5338	7734	1.02
2000	10645	2561	7095	9656	262	1446	1708	2823	8541	11364	1.07
2001	7986	2049	4640	6689	338	1468	1806	2387	6108	8495	1.06
2002	8751	2071	5052	7123	207	978	1185	2278	6030	8308	0.95
2003	8053	2112	4924	7036	222	1326	1548	2334	6250	8584	1.07
2004	8302	1808	5968	7776	259	1519	1778	2067	7487	9554	1.15
2005	8499	2007	7120	9127	291	1290	1581	2298	8410	10708	1.26
2006	6743	1656	5815	7471	227	1133	1360	1883	6948	8831	1.31
2007	7930	1762	4631	6393	235	1222	1457	1997	5853	7850	0.99
2008	9025	1936	5917	7853	200	1461	1661	2136	7378	9514	1.05
2009	7466	1355	3396	4751	216	1219	1435	1571	4615	6186	0.83
2010	6682	1375	4081	5456	200	1020	1220	1575	5101	6676	1.00
2004-2009 mean	7994	1754	5475	7229	238	1307	1545	1992	6782	8774	1.10
95% CL	848	243	1352	1570	34	159	165	261	1415	1656	0.18
N	6	6	6	6	6	6	6	6	6	6	6

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
DATA ARE A COMBINATION OF LICENSE STUB DATA AND CAMP DATA.

Appendix 1b. Atlantic salmon recreational fishery catch and effort data for Insular Newfoundland (SFAs 3 – 14A), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	132935	29225	20761	49986	*	4685	4685	29225	25446	54671	0.41
1995	128309	30512	22971	53483	*	4658	4658	30512	27629	58141	0.45
1996	153759	35440	30566	66006	*	5720	5720	35440	36286	71726	0.47
1997	123165	22819	23129	45948	*	4154	4154	22819	27283	50102	0.41
1998	123041	22668	27610	50278	*	3561	3561	22668	31171	53839	0.44
1999	123840	22870	20160	43030	*	3222	3222	22870	23382	46252	0.37
2000	127639	21808	22610	44418	*	5033	5033	21808	27643	49451	0.39
2001	102768	20977	17708	38685	*	3716	3716	20977	21424	42401	0.41
2002	95143	20913	18019	38932	*	3014	3014	20913	21033	41946	0.44
2003	94862	21226	16455	37681	*	3639	3639	21226	20094	41320	0.44
2004	91151	19946	17462	37408	*	3649	3649	19946	21111	41057	0.45
2005	117114	21869	26009	47878	*	5308	5308	21869	31317	53186	0.45
2006	106900	19394	24676	44070	*	4561	4561	19394	29237	48631	0.45
2007	87655	14577	13088	27665	*	3385	3385	14577	16473	31050	0.35
2008	143674	27497	26870	54367	*	5573	5573	27497	32443	59940	0.42
2009	137465	23103	23285	46388	*	3053	3053	23103	26338	49441	0.36
2010	122943	24621	23175	47796	*	4438	4438	24621	27613	52234	0.42
2005-2009 mean	118562	21288	22786	44074	.	4376	4376	21288	27162	48450	0.41
95% CL	28318	5915	6938	12337	.	1397	1397	5915	7959	13288	0.06
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1c. Atlantic salmon recreational fishery catch and effort data for Northern Peninsula East and Eastern, Insular Newfoundland (SFAs 3 – 8), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	68793	14838	10145	24983	*	1196	1196	14838	11341	26179	0.38
1995	61670	13587	9693	23280	*	1269	1269	13587	10962	24549	0.40
1996	71876	16179	12604	28783	*	1611	1611	16179	14215	30394	0.42
1997	50451	7790	6253	14043	*	648	648	7790	6901	14691	0.29
1998	62367	12606	14742	27348	*	1103	1103	12606	15845	28451	0.46
1999	70198	12708	9651	22359	*	925	925	12708	10576	23284	0.33
2000	57989	8021	6480	14501	*	848	848	8021	7328	15349	0.26
2001	46684	9441	7096	16537	*	780	780	9441	7876	17317	0.37
2002	40296	8128	6992	15120	*	737	737	8128	7729	15857	0.39
2003	40957	9929	6075	16004	*	397	397	9929	6472	16401	0.40
2004	38454	8076	5743	13819	*	345	345	8076	6088	14164	0.37
2005	44349	9360	10021	19381	*	1184	1184	9360	11205	20565	0.46
2006	41161	7241	8238	15479	*	983	983	7241	9221	16462	0.40
2007	38113	6538	5497	12035	*	917	917	6538	6414	12952	0.34
2008	59648	12747	11388	24135	*	1376	1376	12747	12764	25511	0.43
2009	65084	12476	11853	24329	*	417	417	12476	12270	24746	0.38
2010	57782	12330	9192	21522	*	949	949	12330	10141	22471	0.39
2005-2009 mean	49671	9672	9399	19072	.	975	975	9672	10375	20047	0.40
95% CL	14838	3574	3222	6680	.	447	447	3574	3226	6668	0.05
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1d. Atlantic salmon recreational fishery catch and effort data for South, Insular Newfoundland (SFAs 9 – 11), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	18587	3700	2772	6472	*	298	298	3700	3070	6770	0.36
1995	22293	5188	3863	9051	*	391	391	5188	4254	9442	0.42
1996	29290	5939	4772	10711	*	617	617	5939	5389	11328	0.39
1997	22978	4630	4088	8718	*	325	325	4630	4413	9043	0.39
1998	20708	3120	2957	6077	*	271	271	3120	3228	6348	0.31
1999	17294	2735	2368	5103	*	311	311	2735	2679	5414	0.31
2000	22674	3717	5592	9309	*	820	820	3717	6412	10129	0.45
2001	13118	2186	2282	4468	*	279	279	2186	2561	4747	0.36
2002	13447	2429	2536	4965	*	228	228	2429	2764	5193	0.39
2003	11526	1940	2152	4092	*	244	244	1940	2396	4336	0.38
2004	11139	2365	2731	5096	*	310	310	2365	3041	5406	0.49
2005	14570	2115	3969	6084	*	545	545	2115	4514	6629	0.45
2006	15576	2409	3509	5918	*	403	403	2409	3912	6321	0.41
2007	11809	1338	1692	3030	*	212	212	1338	1904	3242	0.27
2008	20371	2831	4636	7467	*	335	335	2831	4971	7802	0.38
2009	21409	2391	4949	7340	*	145	145	2391	5094	7485	0.35
2010	15328	2137	3633	5770	*	299	299	2137	3932	6069	0.40
2005-2009 mean	16747	2217	3751	5968	.	328	328	2217	4079	6296	0.38
95% CL	5018	688	1590	2219	.	196	196	688	1616	2248	0.07
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1e. Atlantic salmon recreational fishery catch and effort data for Southwest, Insular Newfoundland (SFAs 12 and 13), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	32127	6953	5816	12769	*	2774	2774	6953	8590	15543	0.48
1995	27696	6450	6066	12516	*	2425	2425	6450	8491	14941	0.54
1996	33068	7461	10022	17483	*	2915	2915	7461	12937	20398	0.62
1997	30041	5790	10063	15853	*	2660	2660	5790	12723	18513	0.62
1998	24986	3374	5560	8934	*	1735	1735	3374	7295	10669	0.43
1999	20635	3499	4419	7918	*	1206	1206	3499	5625	9124	0.44
2000	31679	5891	7278	13169	*	2733	2733	5891	10011	15902	0.50
2001	30709	6188	5509	11697	*	2207	2207	6188	7716	13904	0.45
2002	26834	5950	4613	10563	*	1437	1437	5950	6050	12000	0.45
2003	26630	5440	5343	10783	*	2268	2268	5440	7611	13051	0.49
2004	29523	5838	6247	12085	*	2402	2402	5838	8649	14487	0.49
2005	41517	7056	8761	15817	*	2882	2882	7056	11643	18699	0.45
2006	37218	6481	10069	16550	*	2617	2617	6481	12686	19167	0.51
2007	27686	4383	3886	8269	*	1840	1840	4383	5726	10109	0.37
2008	50338	8242	8467	16709	*	3288	3288	8242	11755	19997	0.40
2009	36841	5099	4595	9694	*	1998	1998	5099	6593	11692	0.32
2010	34817	6158	6536	12694	*	2525	2525	6158	9061	15219	0.44
2005-2009 mean	38720	6252	7156	13408	.	2525	2525	6252	9681	15933	0.41
95% CL	10206	1911	3402	5072	.	751	751	1911	4040	5774	0.09
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1f. Atlantic salmon recreational fishery catch and effort data for Northern Peninsula West, Insular Newfoundland (SFA 14A), 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	13428	3734	2028	5762	*	417	417	3734	2445	6179	0.46
1995	16650	5287	3349	8636	*	573	573	5287	3922	9209	0.55
1996	19525	5861	3168	9029	*	577	577	5861	3745	9606	0.49
1997	19695	4609	2725	7334	*	521	521	4609	3246	7855	0.40
1998	14980	3568	4351	7919	*	452	452	3568	4803	8371	0.56
1999	15713	3928	3722	7650	*	780	780	3928	4502	8430	0.54
2000	15297	4179	3260	7439	*	632	632	4179	3892	8071	0.53
2001	12257	3162	2821	5983	*	450	450	3162	3271	6433	0.52
2002	14566	4406	3878	8284	*	612	612	4406	4490	8896	0.61
2003	15749	3917	2885	6802	*	730	730	3917	3615	7532	0.48
2004	12035	3667	2741	6408	*	592	592	3667	3333	7000	0.58
2005	16678	3338	3258	6596	*	697	697	3338	3955	7293	0.44
2006	12945	3263	2860	6123	*	558	558	3263	3418	6681	0.52
2007	10047	2318	2013	4331	*	416	416	2318	2429	4747	0.47
2008	13317	3677	2379	6056	*	574	574	3677	2953	6630	0.50
2009	14131	3137	1888	5025	*	493	493	3137	2381	5518	0.39
2010	15016	3996	3814	7810	*	665	665	3996	4479	8475	0.56
2005-2009 mean	13424	3147	2480	5626	.	548	548	3147	3027	6174	0.46
95% CL	2960	626	715	1146	.	129	129	626	832	1270	0.06
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1g. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 1, Labrador, 1994-2010. Ret. = retained fish; Rel. = released fish.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	1036	453	933	1386	114	96	210	567	1029	1596	1.54
1995	880	500	854	1354	92	97	189	592	951	1543	1.75
1996	879	260	62	322	50	17	67	310	79	389	0.44
1997	1266	300	133	433	46	25	71	346	158	504	0.40
1998	813	256	448	704	61	109	170	317	557	874	1.08
1999	954	350	353	703	109	97	206	459	450	909	0.95
2000	1103	363	801	1164	79	232	311	442	1033	1475	1.34
2001	962	352	681	1033	75	130	205	427	811	1238	1.29
2002	651	129	482	611	28	140	168	157	622	779	1.20
2003	1032	174	777	951	36	633	669	210	1410	1620	1.57
2004	768	116	1152	1268	24	582	606	140	1734	1874	2.44
2005	986	192	1044	1236	36	192	228	228	1236	1464	1.48
2006	961	170	1156	1326	28	357	385	198	1513	1711	1.78
2007	907	185	1276	1461	36	240	276	221	1516	1737	1.92
2008	931	153	890	1043	34	438	472	187	1328	1515	1.63
2009	907	207	877	1084	48	347	395	255	1224	1479	1.63
2010	959	205	1010	1215	50	261	311	255	1271	1526	1.59
2004-2009 mean	910	171	1066	1236	34	359	394	205	1425	1630	1.79
95% CL	80	34	167	163	9	147	143	42	208	176	0.32
N	6	6	6	6	6	6	6	6	6	6	6

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
SFA 1 IS CAMP DATA ONLY.

Appendix 1h. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 2, Labrador, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	3296	1437	2242	3679	263	201	464	1700	2443	4143	1.26
1995	3221	1232	2005	3237	234	256	490	1466	2261	3727	1.16
1996	3966	1405	2591	3996	210	324	534	1615	2915	4530	1.14
1997	3688	1335	1293	2628	112	123	235	1447	1416	2863	0.78
1998	3941	1011	2201	3212	170	354	524	1181	2555	3736	0.95
1999	4529	1329	3229	4558	211	496	707	1540	3725	5265	1.16
2000	5332	1480	4169	5649	183	461	644	1663	4630	6293	1.18
2001	4635	1151	2984	4135	263	891	1154	1414	3875	5289	1.14
2002	4754	1328	3050	4378	179	377	556	1507	3427	4934	1.04
2003	3885	1274	3022	4296	186	398	584	1460	3420	4880	1.26
2004	4786	1228	3836	5064	235	698	933	1463	4534	5997	1.25
2005	4653	1377	4273	5650	255	574	829	1632	4847	6479	1.39
2006	3240	977	3258	4235	199	395	594	1176	3653	4829	1.49
2007	3539	1088	2492	3580	199	385	584	1287	2877	4164	1.18
2008	5349	1247	3469	4716	166	676	842	1413	4145	5558	1.04
2009	4043	927	1952	2879	168	622	790	1095	2574	3669	0.91
2010	3519	862	2337	3199	150	516	666	1012	2853	3865	1.10
2004-2009 mean	4268	1141	3213	4354	204	558	762	1344	3772	5116	1.20
95% CL	843	182	902	1060	37	144	149	207	953	1141	0.22
N	6	6	6	6	6	6	6	6	6	6	6

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
SFA 2 IS A COMBINATION OF LICENSE STUB, AND CAMP DATA.

Appendix 1i. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 14B, Labrador, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	4117	659	506	1165	78	50	128	737	556	1293	0.31
1995	3618	761	443	1204	82	155	237	843	598	1441	0.40
1996	4348	900	1123	2023	74	148	222	974	1271	2245	0.52
1997	3440	730	761	1491	*	418	418	730	1179	1909	0.55
1998	3534	864	1109	1973	*	351	351	864	1460	2324	0.66
1999	2109	397	825	1222	*	338	338	397	1163	1560	0.74
2000	4210	718	2125	2843	*	753	753	718	2878	3596	0.85
2001	2389	546	975	1521	*	447	447	546	1422	1968	0.82
2002	3346	614	1520	2134	*	461	461	614	1981	2595	0.78
2003	3136	664	1125	1789	*	295	295	664	1420	2084	0.66
2004	2748	464	980	1444	*	239	239	464	1219	1683	0.61
2005	2860	438	1803	2241	*	524	524	438	2327	2765	0.97
2006	2542	509	1401	1910	*	381	381	509	1782	2291	0.90
2007	3484	489	863	1352	*	597	597	489	1460	1949	0.56
2008	2745	536	1558	2094	*	347	347	536	1905	2441	0.89
2009	2516	221	567	788	*	250	250	221	817	1038	0.41
2010	2204	308	734	1042	*	243	243	308	977	1285	0.58
2004-2009 mean	2816	443	1195	1638	*	390	390	443	1585	2028	0.72
95% CL	370	120	491	572	*	152	152	120	562	645	0.23
N	6	6	6	6	*	6	6	6	6	6	6

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
SFA 14B IS LICENSE STUB DATA ONLY.

Appendix 1j. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 3, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	11809	3667	2690	6357	*	201	201	3667	2891	6558	0.56
1995	8920	2589	2069	4658	*	293	293	2589	2362	4951	0.56
1996	10947	3492	2981	6473	*	267	267	3492	3248	6740	0.62
1997	7925	2148	1938	4086	*	164	164	2148	2102	4250	0.54
1998	10152	2917	3092	6009	*	229	229	2917	3321	6238	0.61
1999	8557	2037	1393	3430	*	75	75	2037	1468	3505	0.41
2000	9772	2192	1179	3371	*	168	168	2192	1347	3539	0.36
2001	7591	1789	1043	2832	*	151	151	1789	1194	2983	0.39
2002	5036	1742	1386	3128	*	125	125	1742	1511	3253	0.65
2003	7235	2075	1536	3611	*	70	70	2075	1606	3681	0.51
2004	3766	975	747	1722	*	57	57	975	804	1779	0.47
2005	4814	1236	1290	2526	*	141	141	1236	1431	2667	0.55
2006	4626	1250	1054	2304	*	230	230	1250	1284	2534	0.55
2007	4289	1210	652	1862	*	104	104	1210	756	1966	0.46
2008	6289	1981	1209	3190	*	174	174	1981	1383	3364	0.53
2009	6962	1975	1330	3305	*	78	78	1975	1408	3383	0.49
2010	6980	2152	1712	3864	*	96	96	2152	1808	3960	0.57
2005-2009 mean	5396	1530	1107	2637	.	145	145	1530	1252	2783	0.52
95% CL	1443	508	342	754	.	74	74	508	351	745	0.05
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1k. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 4, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	39900	8241	5837	14078	*	847	847	8241	6684	14925	0.37
1995	36736	7976	5904	13880	*	755	755	7976	6659	14635	0.40
1996	44128	9395	7746	17141	*	1138	1138	9395	8884	18279	0.41
1997	31462	4396	3697	8093	*	420	420	4396	4117	8513	0.27
1998	40632	7784	10040	17824	*	588	588	7784	10628	18412	0.45
1999	50159	9054	6975	16029	*	674	674	9054	7649	16703	0.33
2000	35213	4262	4097	8359	*	474	474	4262	4571	8833	0.25
2001	28090	6073	4637	10710	*	571	571	6073	5208	11281	0.40
2002	28340	5692	5186	10878	*	581	581	5692	5767	11459	0.40
2003	29042	7163	4258	11421	*	305	305	7163	4563	11726	0.40
2004	28128	6051	4437	10488	*	255	255	6051	4692	10743	0.38
2005	31193	7075	7825	14900	*	942	942	7075	8767	15842	0.51
2006	29411	4967	6227	11194	*	464	464	4967	6691	11658	0.40
2007	25987	4288	4028	8316	*	660	660	4288	4688	8976	0.35
2008	41443	9046	8393	17439	*	1062	1062	9046	9455	18501	0.45
2009	45039	8835	8392	17227	*	275	275	8835	8667	17502	0.39
2010	38680	8255	5932	14187	*	698	698	8255	6630	14885	0.38
2005-2009 mean	34615	6842	6973	13815	.	681	681	6842	7654	14496	0.42
95% CL	10172	2700	2321	4929	.	405	405	2700	2423	5020	0.07
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1l. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 5, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	14727	2730	1547	4277	*	131	131	2730	1678	4408	0.30
1995	13557	2818	1672	4490	*	210	210	2818	1882	4700	0.35
1996	14328	3110	1786	4896	*	185	185	3110	1971	5081	0.35
1997	9690	1181	589	1770	*	58	58	1181	647	1828	0.19
1998	9683	1764	1556	3320	*	276	276	1764	1832	3596	0.37
1999	9591	1526	1156	2682	*	170	170	1526	1326	2852	0.30
2000	9581	1409	1080	2489	*	191	191	1409	1271	2680	0.28
2001	10257	1523	1392	2915	*	54	54	1523	1446	2969	0.29
2002	5799	642	338	980	*	23	23	642	361	1003	0.17
2003	4019	632	255	887	*	18	18	632	273	905	0.23
2004	5943	1023	551	1574	*	31	31	1023	582	1605	0.27
2005	7232	1022	872	1894	*	91	91	1022	963	1985	0.27
2006	6552	996	809	1805	*	275	275	996	1084	2080	0.32
2007	6998	1014	790	1804	*	126	126	1014	916	1930	0.28
2008	9854	1633	1571	3204	*	88	88	1633	1659	3292	0.33
2009	11793	1574	2079	3653	*	53	53	1574	2132	3706	0.31
2010	10803	1839	1460	3299	*	152	152	1839	1612	3451	0.32
2005-2009 mean	8486	1248	1224	2472	.	127	127	1248	1351	2599	0.31
95% CL	2799	404	717	1103	.	108	108	404	656	1039	0.03
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1m. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 6, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	1772	151	63	214	*	15	15	151	78	229	0.13
1995	1505	98	14	112	*	5	5	98	19	117	0.08
1996	1561	115	59	174	*	16	16	115	75	190	0.12
1997	923	43	21	64	*	2	2	43	23	66	0.07
1998	947	80	33	113	*	4	4	80	37	117	0.12
1999	1382	59	28	87	*	4	4	59	32	91	0.07
2000	2744	128	63	191	*	11	11	128	74	202	0.07
2001	550	45	3	48	*	2	2	45	5	50	0.09
2002	648	40	19	59	*	6	6	40	25	65	0.10
2003	533	44	24	68	*	4	4	44	28	72	0.14
2004	529	22	0	22	*	2	2	22	2	24	0.05
2005	510	22	0	22	*	3	3	22	3	25	0.05
2006	275	8	0	8	*	3	3	8	3	11	0.04
2007	428	9	3	12	*	3	3	9	6	15	0.04
2008	1104	47	85	132	*	30	30	47	115	162	0.15
2009	934	72	15	87	*	2	2	72	17	89	0.10
2010	804	48	31	79	*	0	0	48	31	79	0.10
2005-2009 mean	650	32	21	52	.	8	8	32	29	60	0.09
95% CL	437	34	45	68	.	15	15	34	60	81	0.07
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1n. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 7, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	290	18	6	24	*	0	0	18	6	24	0.08
1995	624	59	6	65	*	3	3	59	9	68	0.11
1996	543	27	0	27	*	0	0	27	0	27	0.05
1997	179	11	0	11	*	4	4	11	4	15	0.08
1998	661	37	0	37	*	2	2	37	2	39	0.06
1999	166	10	3	13	*	0	0	10	3	13	0.08
2000	199	18	6	24	*	0	0	18	6	24	0.12
2001	179	8	21	29	*	2	2	8	23	31	0.17
2002	187	0	9	9	*	0	0	0	9	9	0.05
2003	104	10	2	12	*	0	0	10	2	12	0.12
2004	26	0	0	0	*	0	0	0	0	0	0.00
2005	562	0	7	7	*	7	7	0	14	14	0.02
2006	70	0	40	40	*	11	11	0	51	51	0.73
2007	317	15	21	36	*	24	24	15	45	60	0.19
2008	755	12	36	48	*	22	22	12	58	70	0.09
2009	174	0	0	0	*	0	0	0	0	0	0.00
2010	341	24	22	46	*	0	0	24	22	46	0.13
2005-2009 mean	376	5	21	26	.	13	13	5	34	39	0.10
95% CL	349	9	22	26	.	13	13	9	31	38	0.12
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1o. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 8, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	295	31	2	33	*	2	2	31	4	35	0.12
1995	328	47	28	75	*	3	3	47	31	78	0.24
1996	369	40	32	72	*	5	5	40	37	77	0.21
1997	272	11	8	19	*	0	0	11	8	19	0.07
1998	292	24	21	45	*	4	4	24	25	49	0.17
1999	343	22	96	118	*	2	2	22	98	120	0.35
2000	480	12	55	67	*	4	4	12	59	71	0.15
2001	17	3	0	3	*	0	0	3	0	3	0.18
2002	286	12	54	66	*	2	2	12	56	68	0.24
2003	24	5	0	5	*	0	0	5	0	5	0.21
2004	62	5	8	13	*	0	0	5	8	13	0.21
2005	38	5	27	32	*	0	0	5	27	32	0.84
2006	227	20	108	128	*	0	0	20	108	128	0.56
2007	94	2	3	5	*	0	0	2	3	5	0.05
2008	203	28	94	122	*	0	0	28	94	122	0.60
2009	182	20	37	57	*	9	9	20	46	66	0.36
2010	174	12	35	47	*	3	3	12	38	50	0.29
2005-2009 mean	149	15	54	69	.	2	2	15	56	71	0.47
95% CL	99	14	56	68	.	5	5	14	55	67	0.24
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1p. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 9, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	5708	843	403	1246	*	48	48	843	451	1294	0.23
1995	7194	1350	843	2193	*	138	138	1350	981	2331	0.32
1996	7701	1076	704	1780	*	123	123	1076	827	1903	0.25
1997	5928	664	452	1116	*	65	65	664	517	1181	0.20
1998	5104	698	592	1290	*	100	100	698	692	1390	0.27
1999	5034	585	291	876	*	103	103	585	394	979	0.19
2000	6611	891	458	1349	*	147	147	891	605	1496	0.23
2001	3161	311	237	548	*	64	64	311	301	612	0.19
2002	2751	318	364	682	*	63	63	318	427	745	0.27
2003	2112	214	306	520	*	40	40	214	346	560	0.27
2004	1520	235	172	407	*	40	40	235	212	447	0.29
2005	3612	375	954	1329	*	182	182	375	1136	1511	0.42
2006	5271	506	575	1081	*	89	89	506	664	1170	0.22
2007	3248	276	386	662	*	61	61	276	447	723	0.22
2008	6116	562	962	1524	*	85	85	562	1047	1609	0.26
2009	6032	511	981	1492	*	56	56	511	1037	1548	0.26
2010	4869	528	930	1458	*	121	121	528	1051	1579	0.32
2005-2009 mean	4856	446	772	1218	.	95	95	446	866	1312	0.27
95% CL	1674	146	340	443	.	63	63	146	368	461	0.08
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1q. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 10, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	4872	713	270	983	*	56	56	713	326	1039	0.21
1995	5921	1109	446	1555	*	82	82	1109	528	1637	0.28
1996	10641	1475	825	2300	*	161	161	1475	986	2461	0.23
1997	6723	926	588	1514	*	95	95	926	683	1609	0.24
1998	9425	1163	525	1688	*	88	88	1163	613	1776	0.19
1999	5903	745	552	1297	*	151	151	745	703	1448	0.25
2000	7434	867	1077	1944	*	454	454	867	1531	2398	0.32
2001	3731	445	432	877	*	104	104	445	536	981	0.26
2002	5172	616	477	1093	*	105	105	616	582	1198	0.23
2003	3552	362	411	773	*	54	54	362	465	827	0.23
2004	3200	451	359	810	*	56	56	451	415	866	0.27
2005	5132	535	734	1269	*	167	167	535	901	1436	0.28
2006	5280	621	965	1586	*	196	196	621	1161	1782	0.34
2007	4533	406	437	843	*	100	100	406	537	943	0.21
2008	7415	682	1325	2007	*	152	152	682	1477	2159	0.29
2009	8200	762	1811	2573	*	55	55	762	1866	2628	0.32
2010	6425	791	1118	1909	*	107	107	791	1225	2016	0.31
2005-2009 mean	6112	601	1054	1656	.	134	134	601	1188	1790	0.29
95% CL	1983	170	662	828	.	70	70	170	636	805	0.05
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1r. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 11, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	8007	2144	2099	4243	*	194	194	2144	2293	4437	0.55
1995	9178	2729	2574	5303	*	171	171	2729	2745	5474	0.60
1996	10948	3388	3243	6631	*	333	333	3388	3576	6964	0.64
1997	10327	3040	3048	6088	*	165	165	3040	3213	6253	0.61
1998	6179	1259	1840	3099	*	83	83	1259	1923	3182	0.51
1999	6357	1405	1525	2930	*	57	57	1405	1582	2987	0.47
2000	8629	1959	4057	6016	*	219	219	1959	4276	6235	0.72
2001	6226	1430	1613	3043	*	111	111	1430	1724	3154	0.51
2002	5524	1495	1695	3190	*	60	60	1495	1755	3250	0.59
2003	5862	1364	1435	2799	*	150	150	1364	1585	2949	0.50
2004	6419	1679	2200	3879	*	214	214	1679	2414	4093	0.64
2005	5826	1205	2281	3486	*	196	196	1205	2477	3682	0.63
2006	5025	1282	1969	3251	*	118	118	1282	2087	3369	0.67
2007	4028	656	869	1525	*	51	51	656	920	1576	0.39
2008	6840	1587	2349	3936	*	98	98	1587	2447	4034	0.59
2009	7177	1118	2157	3275	*	34	34	1118	2191	3309	0.46
2010	4034	818	1585	2403	*	71	71	818	1656	2474	0.61
2005-2009 mean	5779	1170	1925	3095	.	99	99	1170	2024	3194	0.55
95% CL	1609	419	754	1142	.	79	79	419	794	1179	0.13
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1s. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 12, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	2665	774	385	1159	*	88	88	774	473	1247	0.47
1995	2119	582	232	814	*	67	67	582	299	881	0.42
1996	2750	899	439	1338	*	119	119	899	558	1457	0.53
1997	3199	832	699	1531	*	110	110	832	809	1641	0.51
1998	2456	351	415	766	*	108	108	351	523	874	0.36
1999	1304	166	151	317	*	26	26	166	177	343	0.26
2000	1859	299	440	739	*	45	45	299	485	784	0.42
2001	2062	335	485	820	*	80	80	335	565	900	0.44
2002	1803	385	395	780	*	42	42	385	437	822	0.46
2003	2773	568	666	1234	*	110	110	568	776	1344	0.48
2004	1666	382	450	832	*	58	58	382	508	890	0.53
2005	3030	517	1065	1582	*	133	133	517	1198	1715	0.57
2006	2176	402	716	1118	*	101	101	402	817	1219	0.56
2007	1521	326	400	726	*	49	49	326	449	775	0.51
2008	2193	372	603	975	*	69	69	372	672	1044	0.48
2009	1491	259	369	628	*	36	36	259	405	664	0.45
2010	1444	309	299	608	*	34	34	309	333	642	0.44
2005-2009 mean	2082	375	631	1006	.	78	78	375	708	1083	0.52
95% CL	781	119	350	467	.	49	49	119	399	516	0.07
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1t. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 13, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	29462	6179	5431	11610	*	2686	2686	6179	8117	14296	0.49
1995	25577	5868	5834	11702	*	2358	2358	5868	8192	14060	0.55
1996	30318	6562	9583	16145	*	2796	2796	6562	12379	18941	0.62
1997	26842	4958	9364	14322	*	2550	2550	4958	11914	16872	0.63
1998	22530	3023	5145	8168	*	1627	1627	3023	6772	9795	0.43
1999	19331	3333	4268	7601	*	1180	1180	3333	5448	8781	0.45
2000	29820	5592	6838	12430	*	2688	2688	5592	9526	15118	0.51
2001	28647	5853	5024	10877	*	2127	2127	5853	7151	13004	0.45
2002	25031	5565	4218	9783	*	1395	1395	5565	5613	11178	0.45
2003	23857	4872	4677	9549	*	2158	2158	4872	6835	11707	0.49
2004	27857	5456	5797	11253	*	2344	2344	5456	8141	13597	0.49
2005	38487	6539	7696	14235	*	2749	2749	6539	10445	16984	0.44
2006	35042	6079	9353	15432	*	2516	2516	6079	11869	17948	0.51
2007	26165	4057	3486	7543	*	1791	1791	4057	5277	9334	0.36
2008	48145	7870	7864	15734	*	3219	3219	7870	11083	18953	0.39
2009	35350	4840	4226	9066	*	1962	1962	4840	6188	11028	0.31
2010	33373	5849	6237	12086	*	2491	2491	5849	8728	14577	0.44
2005-2009 mean	36638	5877	6525	12402	.	2447	2447	5877	8972	14849	0.41
95% CL	9809	1845	3146	4743	.	723	723	1845	3746	5412	0.09
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 1u. Atlantic salmon recreational fishery catch and effort data for Salmon Fishing Area 14A, Insular Newfoundland, 1994-2010. Ret. = retained fish; Rel. = released fish. 2010 data are preliminary.

	Effort	Small (<63 cm)			Large (≥63 cm)			Total (Small + Large)			
Year	Rod Days	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	Ret.	Rel.	Tot.	CPUE
1994	13428	3734	2028	5762	*	417	417	3734	2445	6179	0.46
1995	16650	5287	3349	8636	*	573	573	5287	3922	9209	0.55
1996	19525	5861	3168	9029	*	577	577	5861	3745	9606	0.49
1997	19695	4609	2725	7334	*	521	521	4609	3246	7855	0.40
1998	14980	3568	4351	7919	*	452	452	3568	4803	8371	0.56
1999	15713	3928	3722	7650	*	780	780	3928	4502	8430	0.54
2000	15297	4179	3260	7439	*	632	632	4179	3892	8071	0.53
2001	12257	3162	2821	5983	*	450	450	3162	3271	6433	0.52
2002	14566	4406	3878	8284	*	612	612	4406	4490	8896	0.61
2003	15749	3917	2885	6802	*	730	730	3917	3615	7532	0.48
2004	12035	3667	2741	6408	*	592	592	3667	3333	7000	0.58
2005	16678	3338	3258	6596	*	697	697	3338	3955	7293	0.44
2006	12945	3263	2860	6123	*	558	558	3263	3418	6681	0.52
2007	10047	2318	2013	4331	*	416	416	2318	2429	4747	0.47
2008	13317	3677	2379	6056	*	574	574	3677	2953	6630	0.50
2009	14131	3137	1888	5025	*	493	493	3137	2381	5518	0.39
2010	15016	3996	3814	7810	*	665	665	3996	4479	8475	0.56
2005-2009 mean	13424	3147	2480	5626	.	548	548	3147	3027	6174	0.46
95% CL	2960	626	715	1146	.	129	129	626	832	1270	0.06
N	5	5	5	5	.	5	5	5	5	5	5

CPUE IS IN TERMS OF SMALL AND LARGE SALMON COMBINED (RETAINED + RELEASED FISH).
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.