

**North American Commission**

**NAC(01)5**

***Report of Activities 2000/2001  
NAC Scientific Working Group on Salmonid  
Introductions and Transfers***



## NAC(01)5

### *Report of Activities - 2000 /2001* *NAC Scientific Working Group on Salmonid* *Introductions and Transfers*

#### **Members:**

Rex Porter (Canada Co-chair)  
Shane O'Neil (Canada)  
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Dan Kimball (USA Co-chair)  
Chris Mantzaris (USA)  
Mary Colligan (USA)

The Scientific Working Group (SWG) did not formally meet during this reporting period, but rather conducted its business through telephone and e-mail. The SWG addressed three tasks: (1) update of the database for the inventory of introductions and transfers of salmonids within the NAC area; (2) update the status table for salmonid disease occurrences in the NAC area; and (3) update the database on aquaculture escapees initiated the previous year. No new work was done relative to the proposed revisions (June 1998) to the Protocols for the Introduction and Transfer of Salmonids [NAC (92)24 and (94)14]. The SWG is waiting for direction from Canada.

#### **1. Update of the databases for the inventory of introductions and transfers of salmonids within the NAC area.**

A summary of the information received to date on introductions and transfers occurring during 2000 is provided in Table 1; and a list of the individual introductions and transfers is in Appendix I. Transfer data for the period 1986-1999 are available in previous SWG reports. The total number of shipments (110) in 2000 was slightly less than the 116 shipments in 1999. There was no reported importation of eggs or milt from Europe. The number of Atlantic salmon eggs imported into Canada from the USA more than doubled in 2000 compared to 1999, probably related to the ISA problems in Bay of Fundy. The number rainbow trout eggs imported that crossed Provincial or State boundaries decreased by more than 50% in 2000.

Reproductively viable European strains ("Landcatch" or "Bolak") or hybrids continue to be farmed in the US, which is contrary to the NAC Protocols. As noted in last year's SWG report, the National Marine Fisheries Service and the US Fish and Wildlife Service made a formal joint recommendation to US Army Corps of Engineers, which is the Federal permitting agency in the US for sea pen placements, to address the use of reproductively viable non-North American salmon stocks in sea pens. In the few permit applications acted upon during the past year, the placement of reproductively viable salmon of non-North American genetic origin in sea pens was prohibited. To date no actions on pre-existing permits have been taken in this regard. However, at least one major US producer has voluntarily phased out the use of non-North American stock from their operation. Wild US Atlantic salmon populations were listed as "endangered" under the US Endangered Species Act on December 17, 2000. The US has indicated that it anticipates that this listing will result in further recommendations to the US Federal aquaculture permitting agencies to address the continued use of non-North American genetic salmon stock.

Reproductively viable both-sex diploid rainbow trout continue to be used in marine aquaculture sites in Nova Scotia contrary to the NAC Protocols. These sites may be the origin of the both-sex diploid rainbow trout recently observed along the south and west coasts of Newfoundland.

## **2. Update of the databases for fish disease occurrences within the NAC area**

The matrix displaying historic occurrences of fish pathogens in the NAC area has been updated for 2000 in Table 2. The only noteworthy change from the disease occurrences reported in 1999 is the detection of the ISA virus in Prince Edward Island by “Reverse Transcriptase Polymerase Chain Reaction” (RT-PCR). However, there was no confirmation using cell culture techniques, and there have been no clinical symptoms of the ISA disease. A significant change in salmonid disease status in the US that has occurred since 2000 (therefore not reflected in table) is the discovery of active ISA disease in US salmon pens. The disease has been identified and confirmed at three pen sites within the Cobscook Bay area of eastern Maine since January of 2001.

## **3. Update database of numbers of aquaculture escapees reported in NAC rivers.**

The SWG compiled the most recent information available to the Group on occurrences of Atlantic salmon and rainbow trout aquaculture escapees in rivers within the NAC Area. In 2000, Atlantic salmon escapees were reported from rivers in New Brunswick, Nova Scotia, Newfoundland and Maine (Table 3). The greatest concentrations were near aquaculture sites. The salmon sampled in the Dennys River, Maine, consisted of 94% aquaculture origin fish, which was the highest proportion for all rivers where aquaculture escapees were observed. Aquaculture escapees have been reported annually in recent years on the Conne River (NF), Magaguadavic River (NB), St. Croix (NB/ME), and the Dennys and Narraguagus rivers (ME).

Information on observations of rainbow trout escapees in rivers is only available for Newfoundland (Table 4, Fig 1). It is apparent that rainbow trout have dispersed considerable distances from aquaculture sites. Rainbow trout have been observed on the Northwest coast of NF, more than 500 km from the nearest marine aquaculture pens. Both-sex diploid rainbow trout have been confirmed from visual observation of the gonads and DNA volumetric analysis. Also, a spent female rainbow was captured in River of Ponds (west coast) and a ripe male was angled in Grandys River (southwest coast). Since NF aquaculture used only all- female triploid rainbow trout prior to 2000, and all-female diploid trout in 2000, it would appear that these fish originated from Cape Breton, NS, the only other marine sites rearing both-sex diploid rainbow trout.

As a result of the listing of wild Atlantic salmon as endangered in the US, there is considerable effort directed at improving containment of aquaculture fish, inventory records and reporting numbers of escaped salmon. Though not yet required by regulation to be reported, Maine aquaculture operators have started to voluntarily report significant escape episodes. In November of 2000 a boat-pen collision resulted in an estimated 13,100 salmon escaping in the Deep Cove area. A month later storm damage resulted in the escape of approximately 100,000 salmon an average of 5 pounds in size in the Stone Island area.

The aquaculture industry in Newfoundland has adopted a Code of Containment and it now forms part of their aquaculture license.

Table 1. Summary of Total Reported Numbers of Eggs and Fish

**Transferred into the NAC Area and between Provinces and States in 110 shipments during CY2000.**

<b>ARTIC CHAR</b>		Number of Shipments =	4
	CANADA	93,000	
	USA	0	
	<b>TOTAL</b>	<u>93,000</u>	
<b>ATLANTIC SALMON</b>		Number of Shipments =	55
	CANADA	48,456,500	
	USA 1	<u>7,393,297</u>	
	<b>TOTAL</b>	65,849,797	
<b>BROOK TROUT</b>		Number of Shipments =	2
	CANADA	22,700	
	USA	0	
	<b>TOTAL</b>	<u>22,700</u>	
<b>COHO SALMON</b>		Number of Shipments =	1
	CANADA	299,902	
	USA	0	
	<b>TOTAL</b>	<u>299,902</u>	
<b>KOKANEE SALMON</b>		Number of Shipments =	2
	CANADA	0	
	USA	<u>347,700</u>	
	<b>TOTAL</b>	347,700	
<b>LANDLOCKED ATLANTIC</b>		Number of Shipments =	4
	CANADA	0	
	USA	<u>119,046</u>	
	<b>TOTAL</b>	119,046	
<b>RAINBOW TROUT</b>		Number of Shipments =	42
	CANADA	6,394,500	
	USA	<u>1,917,254</u>	
	<b>TOTAL</b>	8,311,754	

**Table 2. Summary Table of Fish Disease Occurrence in NAC Area at End of Calendar Year 2000**

State or Province	Fish Disease or Agent with Occurrence Codes for each State and Province (See footer for explanation of "occurrence Codes" ✖ )											
	Bacterial Kidney Disease (BKD)	Ceratomyxosis ✖	Enteric Redmouth (ERM)	Furunculosis	Infectious Hematopoietic Necrosis (IHN) ✖	Infectious Pancreatic Necrosis (IPN)	Infectious Salmon Anemia (ISA)	Oncorhynchus Masou Virus ✖	Viral Hemorrhagic Septicemia (VHS) ✖	Whirling Disease	Other CPE viruses (except IPN) ✖	Salmon Swimbladder Sarcoma**
CT	1	0	1	3	0	0	0	0	3	0	0	
LAB	0	0	0	0	0	0	0	0	0	0	0	
MA	3	0	1	2	0	3	0	0	1	0	2	
ME	1	0	2	3	0	3	0	0	0	3	3*	
NB	2	0	2	3	0	2	3	0	0	3	0	
NFLD	1	0	1	3	0	2	0	0	0	0	0	
NH	2	0	1	3	0	3	0	0	1	0	0	
NJ	1	0	0	1	0	1	0	0	1	3	0	
NS	2	0	3	3	0	3	3	0	0	3	0	
NY	1	0	0	2	1	1	0	0	3	0	0	
ONT	3	0	3	3	0	1	0	0	0	2	0	
PEI	1	0	0	0	0	1	3*	0	0	0	0	
QUE	3	0	2	3	0	3	0	0	0	0	0	
RI	0	0	0	2	0	3	0	0	3	0	0	
VT	3	0	0	3	0	1	0	0	0	0	0	
Occurrence	0 = No known historical occurrence within State/ Province 1 = Historical occurrence but no known occurrence within the last 5 years 2 = Has occurred during the past 5 years but not during the last Calendar Year 3 = Verified occurrence during the last Calendar Year within State/Province											

✖ indicates an "EMERGENCY DISEASE" under NAC Protocols for the Introduction and Transfer of NAC protocols "Emergency" and "Restricted" lists

\* Virus found present, but no disease symptoms ever detected

\*\* New virus: not currently included on the NAC Protocol

Table 3. Known occurrences of Atlantic salmon aquaculture escapees in salmon rivers within the NAC area.

River (St/Prov)	Number of escapees (escapees as percent of total sample)							Life Stage	
	Prior to 1990	1990 - 1995	1996	1997	1998	1999	2000		
<b>CANADA</b>									
Annapolis (NS)			1			R*****	15	MSW	
Baddeck (NS)		23 (6)***			5 (3)			1SW & MSW	
Bear (NS)	Many angled in early 1990's								1SW & MSW
Big Salmon (NB)	1							1SW & MSW	
Conne (NF)		3		10(2)	2(1)	1(>1)	5(2.3)	1SW & MSW	
Conne (NF)		12	59					smolt	
Dennis (NB)	R*****							1SW & MSW	
Digdeguash (NB)	below hatchery							0	juveniles
Gaspereau (NS)		5			1 (4)		1(2)	MSW	
Indian Brook (NS)							1	1SW & MSW	
La Have (NS)	1 (<1)	0	0	0				1SW & MSW	
Magaguadavic (NB)		2,106	195 (7)	82 (58)	223 (8)	79(77)	30(68)	1SW & MSW	
Mersey (NS)							1	1SW & MSW	
Meteghan (NS)							1	1SW & MSW	
Middle (NS)					9 (4)			1SW & MSW	
North (NS)		14 (8)***			55 (11)			1SW & MSW	
Saint John (NB)		several in 1990, Belle Isle Bay				R*****	R*****	1SW & MSW	
Salmon Digby (NS)						2	0	1SW & MSW	
St. Croix (NB/ME) *		111	20(13)	27 (39)	25 (38)	23(64)	30(60)	1SW & MSW	
Tusket (NS)					2 (<1)			MSW	
Waewig (NB)	Juveniles below hatch. 1 adult								Juveniles and adults
Stewiacke (NS)		7 (33)	0					MSW	
<b>UNITED STATES</b>									
Dennys (ME)**		46	21 (68)	2 (100)	1(100)		29(94)	Sexually mature & immature	
Narraguagus (ME)		1(2)***	8 (22)	0	0	3 (9)	0		
Union (ME)						63(90)*** *	6(75)		
Other Maine Rivers	Unofficial reports of escapes in various eastern coastal rivers, especially Cobscook Bay area								

\* 1994-96 aquaculture fish were estimated to be 13-54% of the run.

\*\* Partial counts in Dennys

\*\*\* Includes 1995 only; no earlier data

\*\*\*\* based on scale samples from 11 of 22 adults

\*\*\*\*\* R = escapees reported but number or presence not confirmed

Table 4. Known occurrences of rainbow trout aquaculture escapees in Newfoundland rivers.

River (St/Prov)	Number of escapees (escapees as percent of total sample)							Life Stage
	Prior to 1990	1990 - 1995	1996	1997	1998	1999	2000	
Watts Bight Bk (NF)	3							adult
River of Ponds (NF)	1+	4+*				24	2****	adult
Portland Creek (NF)						1		adult
Parsons Pond (NF)		1						adult
Trout River (NF)	4			1+	1+	1+**	2***	adult
Humber River (NF)						3	1**	adult
Serpentine (NF)	2							adult
Flat Bay Brook (NF)		1*				2		adult
Robinsons River (NF)						2		adult
Crabbes R (NF)							2	immature
La Poila River (NF)						3		adult
Garia Brook (NF)						3		adult
Grandys River (NF)						2	3*****	adult
Grey River (NF)							1	immature
Northwest Bk							3	adult
Jeddore lake							3	juvenile
Conne River (NF)		116	41	61	27	21	45	adult
Little River (NF)			5			1		adult
Garnish River (NF)					2+			
Long Harbour R (NF)					1+			adult
Grand Bank Bk (NF)					1+			adult
Lawn Bk (NF)							1	adult
Holyrood Pond							3	adult
Biscay Bay Bk (NF)					2			adult

\* 1 Male (internally sexed)

\*\* 1 Female (internally sexed)

\*\*\* 2 females, immature

\*\*\*\* 1 was a spent female, and 1 was a male

\*\*\*\*\* 1 was a ripe male



# **APPENDIX I**

## **SUMMARY OF SALMONID INTRODUCTIONS AND TRANSFERS IN THE NORTH AMERICAN COMMISSION AREA**

2000

**Prepared by the**

North American commission (NASCO)  
Scientific Working Group on Introductions and Transfers

**File #Facility Of Origin****Stock/Strain****LifeStage****Reprod.****Number Shipped****Receiving Facility Type****Planned Use****CONNECTICUT****ATLANTIC SALMON**

812	Richard Cronin NFH (MA)	Penobscot R.	Eggs	Y	30,676	Gov-State	Pop. Enhanc. (sea-run)
781	White River NFH (VT)	Penobscot R.	Eggs	Y	200,904	Gov-State	Pop. Enhanc. (sea-run)

**MAINE****ATLANTIC SALMON**

794	Green Lake NFH (ME)	Penobscot R.	Smolt	Y	22,622	Final Disp. (ME)	Pop. Enhanc. (sea-run)
793	Green Lake NFH (ME)	Penobscot R.	Smolt	Y	19,984	Final Disp. (ME)	Pop. Enhanc. (sea-run)
792	Green Lake NFH (ME)	Penobscot R.	Parr	Y	48,222	Final Disp. (ME)	Pop. Enhanc. (sea-run)
791	Green Lake NFH (ME)	Penobscot R.	Parr	Y	289,459	Final Disp. (ME)	Pop. Enhanc. (sea-run)
796	Green Lake NFH (ME)	Penobscot R.	Smolt	Y	564,227	Final Disp. (ME)	Pop. Enhanc. (sea-run)
788	Green Lake NFH (ME)	Penobscot R.	Smolt	Y	889	Final Disp. (ME)	Unspecified
789	Green Lake NFH (ME)	Penobscot R.	Adults	Y	1,382	Final Disp. (ME)	Brood Stock Dev.
790	Green Lake NFH (ME)	Dennys wild	Parr	Y	30,457	Final Disp. (ME)	Pop. Enhanc. (sea-run)
787	Green Lake NFH (ME)	Penobscot R.	Eggs	Y	146,466	Private	Pop. Enhanc. (sea-run)
786	Green Lake NFH (ME)	Penobscot R.	Eggs	Y	715,210	Private	Pop. Enhanc. (sea-run)
806	Atlantic Salmon of Maine-Cross Island	Machias wild	Adults	Y	268	Research/Educ.	Pop. Enhanc. (sea-run)
807	Atlantic Salmon of Maine-Cross Island	East Machias	Adults	Y	251	Research/Educ.	Pop. Enhanc. (sea-run)
805	Atlantic Salmon of Maine-Cross Island	Dennys wild	Adults	Y	201	Research/Educ.	Pop. Enhanc. (sea-run)
808	Atlantic Salmon of Maine-Cross Island	Various	Adults	Y	334	Research/Educ.	Pop. Enhanc. (sea-run)

**RAINBOW TROUT**

<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
811	Trout Lodge (WA)	Kamloops	Eggs	N	85,000	Private	Bio-monitoring

## **MASSACHUSETTS**

### **ATLANTIC SALMON**

795	Green Lake NFH (ME)	Penobscot R.	Smolt	Y	52,886	Final Disp. (MA)	Pop. Enhanc. (sea-run)
767	Nashua NFH (NH)	Penobscot R.	Sub-Adult	Y	728	Final Disp. (MA)	Pop. Enhanc. (sea-run)
814	Richard Cronin NFH (MA)	Penobscot R.	Adults	Y	36	Gov-Federal (US)	Unspecified
765	Nashua NFH (NH)	Penobscot R.	Eggs	Y	2,645,498	Gov-Federal (US)	Pop. Enhanc. (sea-run)
783	White River NFH (VT)	Penobscot R.	Eggs	Y	724,140	Gov-State	Pop. Enhanc. (sea-run)

### **RAINBOW TROUT**

804	White Sulphur Springs (WV)	Erwin	Eggs	Y	905,827	Gov-State	Pop. Enhanc. (Inland)
802	White Sulphur Springs (WV)	Erwin	Eggs	Y	200,652	Gov-State	Pop. Enhanc. (Inland)

## **NEW BRUNSWICK**

### **ARTIC CHAR**

725	Dover Hatchery (PEI)	Labrador	Juveniles	Y	23,000	Private	Aquaculture (sea pen)
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### **ATLANTIC SALMON**

733	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	200,000	Private	Aquaculture (sea pen)
731	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (sea pen)
757	Glance Bay Hatchery, Arichat (NS)	St John R	Smolt	Y	300,000	Private	Aquaculture (sea pen)
748	Gardner Lake Hatchery (ME)	St John R	Fry	Y	50,000	Private	Aquaculture (sea pen)
749	Merlin Fish Farms (NS)	St John R	Fry	Y	600,000	Private	Aquaculture (sea pen)
753	Broad Cove Cage Site (ME)	St John R	Eggs	Y	500,000	Private	Aquaculture (sea pen)
729	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	2,600,000	Private	Aquaculture (sea pen)
730	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (sea pen)

<b>File #</b>	<b>Facility Of Origin</b>	<b>Stock/Strain</b>	<b>LifeStage</b>	<b>Reprod.</b>	<b>Number Shipped</b>	<b>Receiving Facility Type</b>	<b>Planned Use</b>
727	Scotia Rainbow	St John R	Smolt	Y	550,000	Private	Aquaculture (sea pen)
726	A&M Harris (NS)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (sea pen)
738	Connors Aquaculture (ME)	St John R	Smolt	Y	75,000	Private	Aquaculture (sea pen)
739	Connors Aquaculture (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
745	Gardner Lake Hatchery (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
732	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	100,000	Private	Aquaculture (sea pen)
754	Broad Cove Cage Site (ME)	St John R	Eggs	Y	750,000	Private	Aquaculture (sea pen)
751	Merlin Fish Farms (NS)	St John R	Fry	Y	600,000	Private	Aquaculture (sea pen)
736	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	150,000	Private	Aquaculture (sea pen)
747	Gardner Lake Hatchery (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
742	Gardner Lake Hatchery (ME)	St John R	Smolt	Y	50,000	Private	Aquaculture (sea pen)
743	Gardner Lake Hatchery (ME)	St John R	Fry	Y	600,000	Private	Aquaculture (sea pen)
734	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	100,000	Private	Aquaculture (sea pen)
744	Gardner Lake Hatchery (ME)	St John R	Fry	Y	600,000	Private	Aquaculture (sea pen)
740	Connors Aquaculture (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
756	Broad Cove Cage Site (ME)	St John R	Eggs	Y	11,000,000	Private	Aquaculture (sea pen)
741	Connors Aquaculture (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
755	Broad Cove Cage Site (ME)	St John R	Eggs	Y	5,000,000	Private	Aquaculture (sea pen)
728	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	3,000,000	Private	Aquaculture (sea pen)
752	Broad Cove Cage Site (ME)	St John R	Eggs	Y	500,000	Private	Aquaculture (sea pen)
750	Merlin Fish Farms (NS)	St John R	Smolt	Y	50,000	Private	Aquaculture (sea pen)
735	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	100,000	Private	Aquaculture (sea pen)
746	Gardner Lake Hatchery (ME)	St John R	Fry	Y	250,000	Private	Aquaculture (sea pen)
737	Cascade Aqua Farms (WA)	Gaspe'	Eggs	N	100,000	Research/Educ.	Aquaculture (sea pen)

### BROOK TROUT

758	Pisciculture Alleghanys (QUE)		Juveniles	Y	20,000	Private	Aquaculture (misc. inland)
762	Pisciculture Alleghanys (QUE)		Juveniles	Y	2,700	Private	Aquaculture (misc. inland)

<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
<b><u>RAINBOW TROUT</u></b>							
760	Rainbow Springs Hatchery (ONT)		Juveniles	Y	15,000	Gov-Federal (Can)	Aquaculture (misc. inland)
759	Rainbow Springs Hatchery (ONT)		Eggs	Y	8,000	Gov-Federal (Can)	Aquaculture (misc. inland)
761	Trout Lodge (WA)	Triploid	Eggs	N	10,000	Private	Aquaculture (misc. inland)

## **NEW HAMPSHIRE**

### **ATLANTIC SALMON**

766	Nashua NFH (NH)	Penobscot R.	Adults	Y	1,507	Final Disp. (NH)	Pop. Enhanc. (sea-run)
768	Nashua NFH (NH)	Penobscot R.	Fry	Y	17,776	Final Disp. (NH)	Pop. Enhanc. (sea-run)
799	North Attleboro NFH (MA)		Fry	Y	697,031	Final Disp. (NH)	Pop. Enhanc. (sea-run)
798	North Attleboro NFH (MA)	Penobscot R.	Eggs	Y	1,517,078	Gov-State	Pop. Enhanc. (sea-run)
764	Nashua NFH (NH)	Penobscot R.	Adults	Y	1,328	Gov-State	Pop. Enhanc. (sea-run)

### **RAINBOW TROUT**

803	White Sulphur Springs (WV)	Shasta / Erwin	Eggs	Y	725,775	Gov-State	Pop. Enhanc. (Inland)
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## **NEW YORK**

### **ATLANTIC SALMON**

797	North Attleboro NFH (MA)		Fry	Y	31,914	Research/Educ.	Research/Education
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### **KOKANEE SALMON**

809	Burlington Hatchery (CT)		Eggs	Y	200,000	Gov-State	Pop. Enhanc. (Inland)
810	Burlington Hatchery (CT)		Eggs	Y	147,700	Gov-State	Pop. Enhanc. (Inland)

### **LANDLOCKED**

771	Pittsford NFH (VT)	Little Clear LK	Smolt	Y	48,200	Final Disp. (NY)	Pop. Enhanc. (Inland)
773	Pittsford NFH (VT)	Little Clear LK	Parr	Y	4,100	Final Disp. (NY)	Pop. Enhanc. (Inland)

<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
774	Pittsford NFH (VT)	Magog	Parr	Y	12,046	Final Disp. (NY)	Pop. Enhanc. (Inland)

## **NEWFOUNDLAND**

### **ARTIC CHAR**

660	Pisciculture Alleghanys (QUE)	Unknown	Eggs	Y	10,000	Private	Aquaculture (Unspecified)
661	Icy Waters (YUK)	Unknown	Fry	Y	10,000	Private	Aquaculture (Unspecified)

### **ATLANTIC SALMON**

659	Atlantic Sea Smolt (PEI)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (sea pen)
658	Aqua Bounty Farms (PEI)	St John R	Eggs	Y	40,000	Research/Educ.	Research/Education
657	Aqua Bounty Farms (PEI)	Transgenic	Unknown	Y	300	Research/Educ.	Research/Education

### **RAINBOW TROUT**

668	Big Falls Fish Growers (NS)	All Female	Parr	Y	50,000	Private	Aquaculture (sea pen)
664	Trout Lodge (WA)	All Female	Eggs	Y	500,000	Private	Aquaculture (sea pen)
667	Big Falls Fish Growers (NS)	All Female	Parr	Y	180,000	Private	Aquaculture (sea pen)
675	Big Falls Fish Growers (NS)	All Female	Parr	Y	500,000	Private	Aquaculture (sea pen)
676	Big Falls Fish Growers (NS)	All Female	Parr	Y	250,000	Private	Aquaculture (Unspecified)
670	Sugarloaf Fish Farm (NS)	Triploid	Adults	N	2,300	Private	Aquaculture (misc. inland)
669	Atlantic Sea Smolt (PEI)	All Female	Eggs	Y	150,000	Private	Aquaculture (Unspecified)
662	Rainbow Springs Hatchery (ONT)	Triploid	Fry	N	10,000	Private	Aquaculture (misc. inland)
673	Rainbow Springs Hatchery (ONT)	Triploid	Fry	N	20,000	Private	Bio-monitoring
672	Atlantic Sea Smolt (PEI)	Unknown	Unknown	Y	1,000	Private	Bio-monitoring
671	AKM Fisheries (NS)	All Female	Parr	Y	50,000	Private	Aquaculture (Unspecified)
665	Big Falls Fish Growers (NS)	All Female	Parr	Y	65,000	Private	Aquaculture (sea pen)
666	Big Falls Fish Growers (NS)	All Female	Parr	Y	200,000	Private	Aquaculture (sea pen)
678	Pisciculture St Damien (QUE)	Triploid	Eggs	N	15,000	Private	Aquaculture (Unspecified)
674	Atlantic Sea Smolt (PEI)	Triploid	Parr	N	1,200	Private	Aquaculture (Unspecified)

<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
677	Trout Lodge (WA)	All Female	Eggs	Y	350,000	Private	Aquaculture (sea pen)
663	Atlantic Sea Smolt (PEI)	Unknown	Eggs	Y	10,000	Research/Educ.	Research/Education

## **NOVA SCOTIA**

### **ARTIC CHAR**

698	Pisciculture Alleghanys (QUE)	Unknown	Eggs	Y	50,000	Private	Aquaculture (misc. inland)
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### **ATLANTIC SALMON**

709	Fundy Aquaculture (NB)	St John R	Eggs	Y	1,500,000	Private	Aquaculture (misc. inland)
710	Atlantic Sea Smolt (PEI)	St John R	Adults	Y	200	Private	Aquaculture (misc. inland)
714	Huntsman Marine Lab. (NB)	St John R	Fry	Y	100,000	Private	Aquaculture (misc. inland)
715	Atlantic Sea Smolt (PEI)	St John R	Fry	Y	50,000	Private	Aquaculture (misc. inland)
711	Springdale (NB)	St John R	Fry	Y	400,000	Private	Aquaculture (misc. inland)
707	Broad Cove Cage Site (ME)	St John R	Eggs	Y	500,000	Private	Aquaculture (misc. inland)
724	Tay Falls Cooke Aquaculture (NB)	St John R	Smolt	Y	300,000	Private	Aquaculture (sea pen)
706	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	500,000	Private	Aquaculture (misc. inland)
701	Atlantic Salmon of Maine-Embden (ME)	St John R	Eggs	Y	1,200,000	Private	Aquaculture (misc. inland)
719	Oak Bay Hatchery (NB)	St John R	Eggs	Y	750,000	Private	Aquaculture (misc. inland)
700	Chamcook-ASF (NB)	St John R	Parr	Y	200,000	Private	Aquaculture (misc. inland)
704	Doctors Cove Salmon (NB)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (misc. inland)
716	Chamcook-ASF (NB)	St John R	Smolt	Y	60,000	Private	Aquaculture (sea pen)
702	Doctors Cove Salmon (NB)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (misc. inland)
708	Fundy Aquaculture (NB)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (misc. inland)
713	Bingham Aquaculture Ltd. (ME)	St John R	Smolt	Y	16,000	Private	Aquaculture (sea pen)
705	Harbour Deloutre (NB)	St John R	Eggs	Y	400,000	Private	Aquaculture (misc. inland)
703	Oak Bay Hatchery (NB)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (misc. inland)
718	Oak Bay Hatchery (NB)	St John R	Smolt	Y	350,000	Private	Aquaculture (sea pen)

<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
717	Chum Creek Hatchery (NB)	St John R	Smolt	Y	15,000	Private	Aquaculture (sea pen)
<b><u>RAINBOW TROUT</u></b>							
720	Rainbow Springs Hatchery (ONT)	Unknown	Eggs	Y	100,000	Gov-Provincial	Aquaculture (misc. inland)
721	Trout Lodge (WA)	Unknown	Eggs	Y	950,000	Private	Aquaculture (misc. inland)
722	Atlantic Sea Smolt (PEI)	Unknown	Fry	Y	150,000	Private	Aquaculture (misc. inland)
723	Trout Lodge (WA)	Unknown	Eggs	Y	800,000	Private	Aquaculture (misc. inland)

## **ONTARIO**

### **COHO SALMON**

679	Salmon River (NY)	Salmon	Eggs	Y	299,902	Gov-Provincial	Pop. Enhanc. (Grt Lks)
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### **RAINBOW TROUT**

691	Troutsprings (WA)	Unknown	Eggs	Y	250,000	Private	Aquaculture (FW pen)
692	Troutsprings (WA)	Unknown	Eggs	Y	108,000	Private	Aquaculture (FW pen)
696	Troutsprings (WA)	Unknown	Eggs	Y	194,000	Private	Aquaculture (FW pen)
680	Troutsprings (WA)	Unknown	Eggs	Y	113,000	Private	Aquaculture (FW pen)
682	Troutsprings (WA)	Unknown	Eggs	Y	226,000	Private	Aquaculture (FW pen)
684	Troutco (Tacoma)	Unknown	Eggs	Y	70,000	Private	Aquaculture (FW pen)
688	Troutsprings (WA)	Unknown	Eggs	Y	50,000	Private	Aquaculture (FW pen)
683	Troutco (Tacoma)	Unknown	Eggs	Y	113,000	Private	Aquaculture (FW pen)
689	Troutco (Tacoma)	Unknown	Eggs	Y	134,000	Private	Aquaculture (FW pen)
687	Troutco (Tacoma)	Unknown	Eggs	Y	104,000	Private	Aquaculture (FW pen)
694	Pisciculture St Damien (QUE)	Unknown	Eggs	Y	200,000	Private	Aquaculture (misc. inland)
685	Pisciculture Alleghany (QUE)	Unknown	Eggs	Y	60,000	Private	Aquaculture (misc. inland)
681	Pisciculture Alleghany (QUE)	Unknown	Eggs	Y	50,000	Private	Aquaculture (misc. inland)
693	Pisciculture St Damien (QUE)	Unknown	Eggs	Y	120,000	Private	Aquaculture (misc. inland)
695	Pisciculture St Damien (QUE)	Unknown	Eggs	Y	60,000	Private	Aquaculture (misc. inland)



<i>File #</i>	<i>Facility Of Origin</i>	<i>Stock/Strain</i>	<i>LifeStage</i>	<i>Reprod.</i>	<i>Number Shipped</i>	<i>Receiving Facility Type</i>	<i>Planned Use</i>
686	Atlantic Sea Smolt (PEI)	Unknown	Eggs	Y	20,000	Private	Aquaculture (misc. inland)
690	Troutco (Tacoma)	Unknown	Eggs	Y	134,000	Private	Aquaculture (FW pen)

## **QUEBEC**

### **RAINBOW TROUT**

763	Aqua Farm (AB)	Unknown	Fry	Y	1,000	Research/Educ.	Bio-monitoring
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## **RHODE ISLAND**

### **ATLANTIC SALMON**

800	North Attleboro NFH (MA)	Penobscot R.	Fry	Y	340,455	Final Disp. (RI)	Pop. Enhanc. (sea-run)
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## **VERMONT**

### **ATLANTIC SALMON**

770	Pittsford NFH (VT)	Penobscot R.	Fry	Y	28,620	Final Disp. (VT)	Pop. Enhanc. (sea-run)
784	White River NFH (VT)	Penobscot R.	Parr	Y	2,996	Final Disp. (VT)	Pop. Enhanc. (sea-run)
785	White River NFH (VT)	Penobscot R.	Fry	Y	6,897,442	Final Disp. (VT)	Pop. Enhanc. (sea-run)
778	Roger Reed SFH (MA)	Penobscot R.	Eggs	Y	0	Gov-Federal (US)	Pop. Enhanc. (sea-run)
801	North Attleboro NFH (MA)	Penobscot R.	Eggs	Y	860,000	Gov-Federal (US)	Pop. Enhanc. (sea-run)
813	Richard Cronin NFH (MA)	Penobscot R.	Eggs	Y	269,661	Gov-Federal (US)	Pop. Enhanc. (sea-run)
779	Kensington SFH (CT)	Penobscot R.	Eggs	Y	64,400	Gov-Federal (US)	Pop. Enhanc. (sea-run)
782	White River NFH (VT)	Penobscot R.	Eggs	Y	180,769	Gov-Federal (US)	Pop. Enhanc. (sea-run)
777	Whittemore SFH (CT)	Penobscot R.	Eggs	Y	396,600	Gov-Federal (US)	Pop. Enhanc. (sea-run)
775	White River NFH (VT)	Penobscot R.	Eggs	Y	322,871	Gov-State	Pop. Enhanc. (sea-run)
776	Roxbury SFH (VT)	Connecticut R.	Eggs	Y	54,212	Gov-State	Pop. Enhanc. (sea-run)
780	White River NFH (VT)	Penobscot R.	Eggs	Y	213,797	Gov-State	Pop. Enhanc. (sea-run)

**File # Facility Of Origin**

**Stock/Strain**

**LifeStage**

**Reprod.**

**Number  
Shipped**

**Receiving  
Facility Type**

**Planned Use**

LANDLOCKED

772 Pittsford NFH (VT)

Magog

Smolt

Y

54,700

Final Disp. (VT)

Pop. Enhanc. (Inland)