

2023 Annual Management Plan
Snettisham Hatchery
Douglas Island Pink and Chum, Inc.

This Annual Management Plan (AMP) plan is prepared to fulfill the requirements of 5 AAC 40.840. This plan must organize and guide the hatchery's operations, for each calendar year, regarding production goals, broodstock development, and harvest management of hatchery returns. Egg take through release details are included in planning for succeeding calendar years. Inseason assessments and project alterations by the Douglas Island Pink and Chum (DIPAC) or Alaska Department of Fish and Game (ADF&G) may result in changes to this AMP in order to reach or maintain program objectives. DIPAC will notify the ADF&G private nonprofit (PNP) hatchery program coordinator in a timely manner of any departure from the AMP. The ADF&G PNP coordinator will advise as to whether an amendment, exception report, or other action is warranted. No variation or deviation will be implemented until an AMP amendment has been approved or waived by both the department and DIPAC. This policy applies to all hatchery operations covered under the AMP.

1.0 Executive Summary

1.1 Introduction

In 1979, the State of Alaska constructed Snettisham Hatchery (SNT). The hatchery was originally intended to produce chum, Chinook, and coho salmon for common property fisheries. In 1988, the State of Alaska began a sockeye salmon program. As the sockeye salmon program grew, other production was discontinued or moved to other locations. In 1996, DIPAC was issued PNP hatchery permit #39 for SNT. DIPAC operates SNT exclusively as a sockeye salmon facility. The sockeye salmon production at SNT can be broken into two categories: A) Alaska Production – sockeye salmon reared for release at the hatchery, as well as supporting several lake-stocking programs in Southeast Alaska, and B) Transboundary River (TBR) Production – incubate and thermal mark eggs for several TBR drainages in British Columbia. Alaska production falls under standard hatchery protocols and is addressed in Section A of this management plan. TBR production is part of the Pacific Salmon Treaty (PST); details such as permitted capacity, egg take goals, egg take guidelines, and stocking locations fall under review by the Pacific Salmon Commission and are subject to change. TBR production information can be found in Section B of this plan and should be considered “for informational purposes only.”

1.2 New This Year (production, harvest management, culture techniques, etc.)

No program changes are planned for this year.

1.3 New permits or permit amendments

All fish transport permits (FTPs) are current for 2023. No new programs are anticipated at this time.

1.4 *Expected Returns*

Return Site	Common Property Harvest ^a	Hatchery Escapement		Total Return
		Broodstock	Cost Recovery	
Sweetheart Lake	4,400	0	0	4,400
SNT	100,800	6,800	43,200	150,800

^a Commercial and personal use.

1.5 *Production Summary*

Snettisham Hatchery has six incubation modules, each capable of incubating 2.5 to 3.0 million sockeye salmon eggs for lake-stocking programs. There are a total of 12 incubation/rearing modules that can be utilized for the smolt-rearing program; two large modules provide space for 16 start-tanks and 10 smaller modules provide an additional 32 start-tanks. Facility capacity is as follows:

Alaska Production			
Source	Species	Modules	Maximum Egg Number
SNT (Speel Lake stock)	sockeye salmon	10–12	12,500,000 ^a
Crescent Lake	sockeye salmon	outside modules	3,000,000
Speel Lake	sockeye salmon	outside modules	5,000,000
Transboundary Production			
Source	Species	Modules	Maximum Egg Number
Tahltan Lake	sockeye salmon	2	6,000,000
Tatsamenie Lake	sockeye salmon	2	5,000,000
Little Trapper Lake	sockeye salmon	1	1,000,000
King Salmon Lake	sockeye salmon	1	250,000
Total		16–18	32,750,000

^a Includes 600,000 fry released at Sweetheart Lake

1.6 *Current Permitting*

The permitted capacity at SNT is 33,500,000 sockeye salmon green eggs for all projects. The release at SNT is the equivalent of 12.5 million eggs; however, the current operating limit is 9.0 million smolts, which is equivalent to approximately 10.3 million green eggs, assuming low mortality due to infectious hematopoietic necrosis virus (IHNV). The SNT basic management plan calls for a review of this egg take limitation to be conducted annually during drafting of the *Snettisham Hatchery Annual Management Plan*. Snettisham Hatchery sockeye salmon stock will be used to stock Sweetheart Lake with up to 600,000 unfed fry. If escapement goal levels are not reached in Speel Lake, ADF&G may arrange to have SNT take up to 5.0 million sockeye salmon eggs from returns to Speel Lake for back-planting into Speel Lake. Additionally, up to 3.0 million sockeye salmon eggs may be collected from returns to Crescent Lake for back-planting into Crescent Lake, if necessary for maintenance or enhancement of natural production. Adequate natural production

at Crescent Lake is determined by the Division of Commercial Fisheries Area Management Biologist.

Snettisham Hatchery also incubates eggs for a joint fisheries enhancement program between Canada and the U.S. The maximum number of eggs to be incubated is defined in the PST.

Section A: Alaska Production

2.0 Snettisham Hatchery sockeye salmon

2.1 Program details

The egg take goal is 11.8 million sockeye salmon eggs. The egg take goal provides enough eggs to produce 9 million smolt for release at SNT, 0.6 million fry for Sweetheart Lake stocking, and provides a contingency amount of eggs to mitigate potential IHNV losses. If actual IHNV losses are less than the contingent amount, surplus will be discarded to meet release goals. The SNT sockeye salmon broodstock was developed using Speel Lake stock. Speel Lake is a backup brood source for SNT.

Adult sockeye salmon returns to SNT support common property harvests (including the Sweetheart Creek personal use fishery), cost recovery harvest, and broodstock for the hatchery. Since 1997, enough broodstock have returned to the hatchery to meet the egg take goal. It is anticipated the egg take goal will be reached again this year.

2.2 Egg takes

Program Name	Ancestral Stock	Egg take Site, Stat Area	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Snettisham sockeye salmon	Speel Lake	Snettisham Hatchery, 111-33	Primary	11,800,000	12,500,000

2.3 Broodstock capture method

Returning broodstock are captured in the hatchery fish ladder, graded for quality, sorted by sex, and held in segregated raceways until fully mature.

2.4 Spawning

Individual fish are dispatched with a blow to the head. Gamete collection, fertilization, water hardening, and disinfection are done in accordance with ADF&G sockeye salmon culture protocol. Fertilized eggs are placed in Kitoi boxes. Emergent fry volitionally emigrate to fry start-tanks to begin rearing.

2023 Snettisham Hatchery Annual Management Plan

2.5 *Egg take schedule*

Egg takes occur in September through October.

2.6 *Carcass disposal*

Broodstock carcasses will be collected at the end of each egg take and transported to marine waters with a minimum depth of 70 fathoms in Speel Arm for disposal.

2.7 *Planned releases this calendar year of previous brood years' production*

In 2023, SNT has designated 507,800 brood year 2022 (BY22) unfed sockeye salmon fry for planting into Sweetheart Lake. These fish will contribute to commercial fisheries and the Sweetheart Creek personal use fishery. Target dates for stocking unfed fry into Sweetheart Lake are May 15 to June 15.

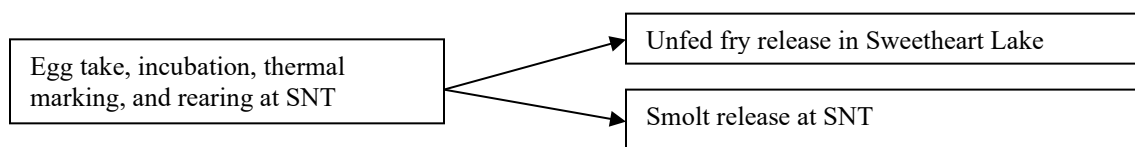
In 2023, the entire SNT production of approximately 9 million BY21 sockeye salmon smolt are planned to be released at the hatchery.

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % to Mark
Sweetheart Lake	2022	May 20–June 20	507,800	Unfed fry	100% TM
SNT Direct Saltwater	2021	May 20–June 20	9,000,000	Smolt	100% TM
Total released			9,507,800		

2.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release (Date)
SNT	2022	11,459,000	Eyed egg / Alevin	100% TM	9,508,000 (2023/2024)

2.9 *Operational diagram*



2.10 *Fish transport permits*

FTP #	Egg take, transport, or release	Transport from To	Maximum #, Life Stage	Expires
07J-1021	Egg take and release	SNT to SNT	12,500,000 green egg, 9,000,000 smolt	6/30/2027
05J-1014	Transport and release	SNT to Sweetheart Lake	600,000 fry	6/30/2027

3.0 **Speel Lake sockeye salmon**3.1 *Program details*

An adult weir will be installed at Speel Lake to aid in determination of sockeye salmon escapement. The Speel Lake sockeye salmon escapement goal is 4,000–9,000 adults. Weir counts should be provided to the Juneau area commercial fisheries management biologist, or a designee, on at least a weekly basis. A goal of 800 age-sex-length (ASL) samples will be taken proportionately throughout the run timing.

If Speel Lake escapement is below 4,000 adults for two consecutive years, DIPAC will consult with ADF&G about possible enhancement/mitigation projects to increase returns to Speel Lake. Up to 5 million eggs may be collected at Speel Lake and reared at SNT. No more than 50% of the escapement to Speel Lake can be used for broodstock. No egg take will occur if escapement is less than 400 fish. Progeny of the Speel Lake eggs are to be released at Speel Lake.

3.2 *Egg takes*

Program Name	Ancestral Stock	Egg take Site, Stat Area	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Speel Lake sockeye salmon	Speel Lake	Speel Lake, 111-33	Primary	0	5,000,000

3.3 *Broodstock capture method*

Ripe adults will be captured at the weir.

3.4 *Spawning*

Egg takes are conducted at the lake and fertilized eggs are transported to SNT.

3.5 *Egg take schedule*

Egg takes will occur as fish ripen, approximately mid-September to mid-October.

3.6 Carcass disposal

This is a remote egg take. All carcasses will be disposed of in Speel Lake.

3.7 Planned releases this calendar year of previous brood years' production

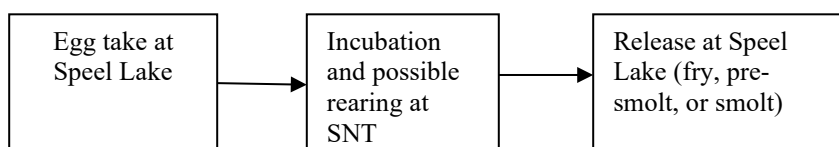
Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Speel Lake sockeye salmon	None	None	0	None	None

Release timing depends on the life stage at release. Pre-smolt releases will be in October or November. Smolt releases take place from May 15 to June 15.

3.8 Previous brood years that will remain in culture during the entire calendar year

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
Speel Lake sockeye salmon	None	0	None	None	0

3.9 Operational diagram



3.10 Fish transport permits

FTP #	Egg take, transport, or release	Transport from To	Maximum #, Life Stage	Expires
07J-1022	Egg take, transport, and release	Speel Lake to SNT to Speel Lake	5,000,000 eggs	6/30/2027

4.0 Harvest Management

4.1 *Special harvest area (SHA)*

The Speel Arm Special Harvest Area (SHA) is described in regulation 5 AAC 40.032(a)(4) as the waters of Speel Arm north of 58°03.42' N lat (a point ≈0.5 nautical miles south of Bogert Point, Figure 1). The commissioner shall open and close, by emergency order, fishing periods during which the hatchery permit holder may harvest salmon within the special harvest area.

4.2 *Projected sockeye salmon return this year*

Return Site	Common Property Harvest ^a	Hatchery Escapement		Total Return
		Broodstock	Cost Recovery	
Sweetheart Lake	4,400	0	0	4,400
SNT	100,800	6,800	43,200	150,900

^a Commercial and personal use.

4.3 *Common property fisheries management*

5 AAC 33.378. District 11: Snettisham Hatchery Salmon Management Plan.

(a) The department shall manage the enhanced sockeye salmon production and returns from Port Snettisham to meet the following objectives, in order of priority:

- (1) Sustainable production of wild sockeye salmon from Crescent and Speel Lakes.
- (2) Management of Snettisham enhanced sockeye salmon returns may not prevent achieving escapement goals or PST harvest sharing agreements for Taku River salmon stocks.
- (3) Assessment programs shall be conducted frequently during harvest and annually to estimate Snettisham wild sockeye salmon stock escapements and contributions of enhanced sockeye salmon to the District 11 commercial fisheries.
- (4) Common property harvests in the SHA shall be conducted by limiting time and area to protect the wild sockeye salmon runs.

Commercial fisheries

In 2023, ADF&G anticipates taking the following management measures in District 11 during the fishing season, although inseason assessment of run sizes will dictate which measures are employed and to what extent. Management of the Stephens Passage area will focus on conservation of Port Snettisham wild stock sockeye salmon runs, particularly during July. ADF&G may implement a 6-inch minimum mesh size restriction in Section 11-B south of Circle Point to limit harvest of wild stock sockeye salmon runs, while allowing harvest of hatchery-produced chum salmon returning to Limestone Inlet. If implemented, the mesh restriction is expected to be relaxed in early August. Port Snettisham will remain closed inside a line from Point Anmer to Point Styleman through late July or early August. Commercial openings inside Port Snettisham may occur after this time if wild stock escapements are developing adequately.

Commercial openings in the Speel Arm SHA will depend on sockeye salmon escapement into Speel Lake and DIPAC's progress toward broodstock goals. Fishery management decisions for this area will be made jointly by ADF&G and DIPAC.

Personal Use Fishery:

In 2023, a personal use fishery will be allowed in Sweetheart Creek to offer Alaska residents an opportunity to harvest sockeye salmon and to promote a more complete harvest of the limited returns expected at this site. The personal use fishery will be open 7 days per week from June 1 to October 31. The fishery will occur in waters of Sweetheart Creek upstream from an ADF&G regulatory marker located near the stream mouth.

Sport Fishery:

There are sport fishery closures for Chinook salmon in SNT sockeye return areas that will not impact the sport fishery for sockeye salmon. The department may use emergency order authority to address issues as they arise in season.

4.4 *Cost recovery Harvest Management:*

For the 2023 fishing season, DIPAC management has no cost recovery goal for sockeye salmon returns to SNT. DIPAC's chum salmon cost recovery is expected to fulfill the budgetary needs of the SNT sockeye salmon smolt program. A limited area in the SHA near the mouth of the Speel River will be closed to fishing for a portion or the entire season to allow a milling area for wild stock Speel Lake returns; the boundaries of the area may be modified depending on results of stock identification sampling. Fish may be harvested 7 days per week after they enter the terminal freshwater area north of the south end of the airstrip at SNT. The number of harvest days per week in the remainder of the SHA may be limited to provide for Speel Lake wild stock escapement needs. The hatchery operator harvesting salmon within the SHA is exempt from the provisions of 5 AAC 33.310. Fishing seasons and periods for net gear. Notwithstanding 5 AAC 33.330, all types of legal gear may be used for this activity.

5.0 **Additional Information**

5.1 *Donor Stock Management*

Port Snettisham Sockeye Salmon

Returning Snettisham sockeye salmon will be harvested by drift gillnet gear in Section 11-B. Except for the Speel Arm SHA, Port Snettisham is expected to remain closed during the month of July and portions of Port Snettisham may remain closed into August to protect wild stock sockeye salmon returning to Speel and Crescent Lakes. Common property fishery openings in Port Snettisham may occur after this time if wild stock escapements are developing adequately. Common property openings inside the Speel Arm SHA may occur if a surplus to DIPAC's cost recovery and broodstock requirements of hatchery-produced sockeye salmon is identified and

wild stock escapements are developing adequately; fishery management decisions for the Speel Arm SHA will be made jointly by the ADF&G and DIPAC.

5.2 *Marking objectives*

All sockeye salmon will be otolith marked. Hatchery water temperatures are manipulated to create mark patterns on the otoliths of the fish to aid in assessment of project success, management of enhanced returns, and compilation of harvest-sharing performance. Each sockeye salmon release group will have a different mark for future identification and discrimination from natural stocks. Determination of otolith mark patterns is made each year by the ADF&G otolith lab, through consultation with a small group including representatives of the lab, DIPAC, and department biologists. A well-defined and identifiable otolith mark is critical to evaluation of various programs, and the otolith lab supervisor will define the marking parameters (e.g., temperature change, cycle times, time of initiation of mark, etc.). Every reasonable effort will be made to accommodate concerns of the hatchery operator.

Mark-recovery programs are operated to provide contribution estimates by release group in Districts 6, 8, and 11 drift gillnet fisheries, Hawk Inlet shoreline test and traditional purse seine fisheries, Canadian in-river fisheries on the Taku and Stikine Rivers, and cost recovery fisheries in Port Snettisham. Sockeye salmon spawners are also sampled at fry plant locations and nearby sites to assess contribution of release groups to escapements. Sample sizes for mark–recovery efforts are determined through consultation with ADF&G otolith lab staff, fishery managers, stock assessment biologists, and hatchery staff. Such data allows hatchery managers to assess the success and harvest contributions of their program and provides information to managers on effects of management actions and contributions of wild stocks and hatchery stocks, which is important for comparison with historical data for management of wild stocks.

5.3 *Facility Summary*

See attached tables for sockeye salmon summary information.

Section B: Transboundary River Production

6.0 Tahltan Lake (Canada)

6.1 Program details

This program is part of a joint U.S./Canada sockeye salmon fisheries enhancement plan on the transboundary Stikine and Taku Rivers. The Transboundary Technical Committee (TTC) to the PSC reviews all aspects of the Tahltan and Tuya Lakes projects. A Stikine Enhancement Production Plan (SEPP) is prepared annually by the TTC and approved by the Transboundary Panel (Table 12). Tahltan Lake is used as an egg source for fry back-planting into Tahltan Lake, and fry out-planting into Tuya Lake (fry plants into Tuya Lake were discontinued in 2014). Canada conducts egg takes and transports fertilized eggs to SNT, where the eggs are incubated and otolith marked over the winter months. The fry are transported back to the recipient lakes and released.

6.2 Egg takes

Program Name	Ancestral Stock	Egg take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Tahltan Lake sockeye salmon	Tahltan Lake	Tahltan Lake, Canada	Primary	2,500,000 to 3,500,000	6,000,000

6.3 Broodstock capture method

Broodstock will be captured by the Canadians. The primary method of collection is beach seining. Fish are sorted into holding pens and held until ripe.

6.4 Spawning

The egg takes will be conducted by the Canadians and fertilized eggs will be transported to SNT.

6.5 Egg take schedule

Egg takes will occur as fish ripen. Tahltan Lake sockeye salmon tend to ripen in late August through early September.

6.6 Carcass disposal

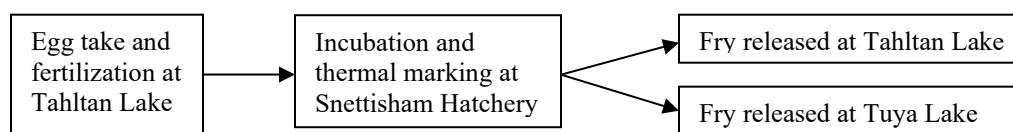
Carcasses are disposed in the remote Tahltan Lake.

6.7 *Planned releases this calendar year of previous brood years' production*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Tahltan Lake	2022	May 15–May 25	1,783,000	Fry	TM, 100%
Tuya Lake	None	None	0	None	None

6.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
Tahltan Lake sockeye salmon	None	N/A	None	None	0

6.9 *Operational diagram*6.10 *Fish transport permits*

FTP #	Egg take, transport, or release	Transport from To	Maximal #, Life Stage ¹	Expires
97J-1015	Egg take, transport, and release	Tahltan Lake to SNT to Tahltan Lake	6,000,000 eggs	6/30/2027
97J-1016	Egg take, transport, and release	Tahltan Lake to SNT to Tuya Lake	6,000,000 eggs	6/30/2027

¹ 6 million eggs may be collected at Tahltan Lake; the resultant fry are released in one or both of the two lakes.

7.0 **Tatsamenie Lake (Canada)**7.1 *Program details*

This program is part of a joint U.S./Canada sockeye salmon fisheries enhancement plan on the transboundary Stikine and Taku Rivers. The TTC reviews all aspects of the Tatsamenie Lake project. A Taku Enhancement Production Plan (TEPP) is prepared annually by the TTC and approved by the Transboundary Panel (Table 12). Tatsamenie Lake is an approved egg source for a fry back-planting program in Tatsamenie Lake. Canada conducts egg takes and transports fertilized eggs to SNT, where eggs are incubated and otolith marked over the winter months. The fry are transported back to Tatsamenie Lake and released.

7.2 *Egg takes*

The egg take will be conducted by the Canadians and fertilized eggs will be transported to SNT.

Program Name	Ancestral Stock	Egg take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Tatsamenie Lake sockeye salmon	Tatsamenie Lake	Tatsamenie Lake (Canada)	Primary	2,500,000 (30% of estimated available broodstock)	6,000,000

7.3 *Broodstock capture method*

Broodstock capture will be conducted by the Canadians and held in pens until ripe. The primary collection site will be the weir.

7.4 *Spawning*

The egg takes will be conducted by the Canadians and fertilized eggs will be transported to SNT.

7.5 *Egg take schedule*

Egg takes will be conducted by the Canadians as the fish ripen. Generally, Tatsamenie Lake sockeye salmon ripen in mid- to late-September.

7.6 *Carcass disposal*

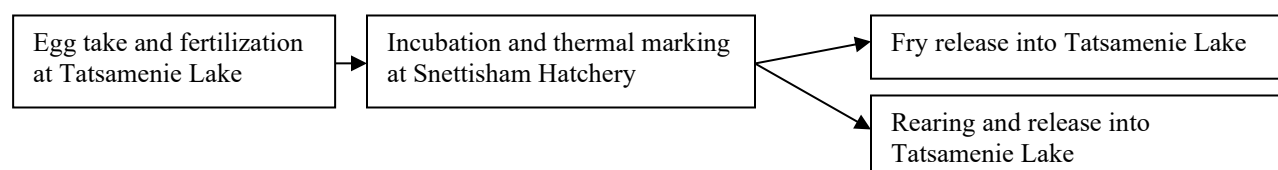
Carcasses will be disposed in the remote Tatsamenie Lake.

7.7 *Planned releases this calendar year of previous brood years' production*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Tatsamenie Lake sockeye salmon	2022	May 15 to June 15	1,755,000	fry	TM, 100%

7.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
Tatsamenie Lake sockeye salmon	None	N/A	None	None	0

7.9 *Operational diagram*7.10 *Fish transport permits*

FTP #	Egg take, transport, or release	Transport from To	Maximal #, Life Stage	Expires
97J-1017	Egg take, transport, and release	Tatsamenie Lake to SNT to Tatsamenie Lake	6,000,000 eggs	6/30/2027

8.0 **Trapper Lake (Canada)**8.1 *Program details*

This program is part of a joint U.S./Canada sockeye salmon fisheries enhancement plan on the transboundary Stikine and Taku Rivers. The TTC reviews all aspects of the Trapper Lake project. A TEPP is prepared annually by the TTC and approved by the Transboundary Panel (Table 12). Little Trapper Lake is an approved egg source for a fry back-planting program in Trapper Lake. This program is an evaluation segment of the Trapper Lake Sockeye Access Improvement Project as supported by the Northern Fund of the PSC. Canada conducts egg takes and transports fertilized eggs to SNT, where the eggs are incubated and otolith marked over the winter months. The fry will be transported to Trapper Lake and released. Canada studies freshwater survival, smolt outmigration, and monitors zooplankton populations and limnologic conditions in the lakes.

8.2 *Egg takes*

No egg takes occurred from 2008–2015 or 2018. The 2022 egg take was contingent on approval of the Canadian permit to remove a fish passage barrier. Returning adults will be used to help assess the success of the barrier modification. The 2023 egg take goal is 1,000,000 green eggs.

Program Name	Ancestral Stock	Egg take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Trapper Lake sockeye program	Little Trapper Lake	Little Trapper Lake (Canada)	Primary	1,000,000	1,000,000

8.3 *Broodstock capture method*

Broodstock will be captured by the Canadians and held in pens until ripe. The primary collection area is the weir.

8.4 *Spawning*

The egg takes will be conducted by the Canadians and fertilized eggs will be transported to SNT.

8.5 *Egg take schedule*

Eggs will be collected as fish ripen.

8.6 *Carcass disposal*

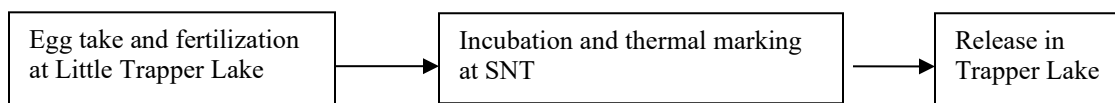
Carcasses will be disposed in the remote Little Trapper Lake.

8.7 *Planned releases this calendar year of previous brood years' production*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Trapper Lake sockeye salmon	2022	May 15–May 25	518,800	fry	TM, 100%

8.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
Trapper Lake sockeye salmon	None	N/A	None	None	0

8.9 *Operational diagram*8.10 *Fish transport permits*

FTP #	Egg take, transport or release	Transport from To	Maximum #, Life Stage	Expires
16J-1007	Egg take, transport, and release	L. Trapper Lake to SNT to Trapper Lake	1,000,000 eggs	5/30/2026

9.0 **King Salmon Lake (Canada)**9.1 *Program details*

This program is part of a joint U.S./Canada sockeye salmon fisheries enhancement plan on the transboundary Stikine and Taku Rivers. The TTC reviews all aspects of the King Salmon Lake project. A TEPP is prepared annually by the TTC and approved by the Transboundary Panel (Table 11). King Salmon Lake is an approved egg source for a fry back-planting program in King Salmon Lake. Canada conducts egg takes and transports fertilized eggs to SNT, where the eggs are incubated over the winter months. Hatchery water temperatures are manipulated to create mark patterns on the otoliths of the fish to aid in assessment of project success, management of enhanced returns, and compilation of harvest-sharing performance. The fry will be transported to King Salmon Lake and released. Canada studies freshwater survival, smolt outmigration, and monitors zooplankton populations and limnological conditions in the lakes.

9.2 *Egg takes*

Program Name	Ancestral Stock	Egg take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
King Salmon Lake sockeye salmon	King Salmon Lake	King Salmon Lake (Canada)	Primary	0	250,000

9.3 *Broodstock capture method*

Broodstock will be captured by the Canadians.

9.4 *Spawning*

Egg takes will be conducted by the Canadians. Fertilized eggs will be transferred to SNT.

9.5 *Egg take schedule*

Eggs will be collected as fish ripen.

9.6 *Carcass disposal*

Carcasses will be disposed in the remote King Salmon Lake.

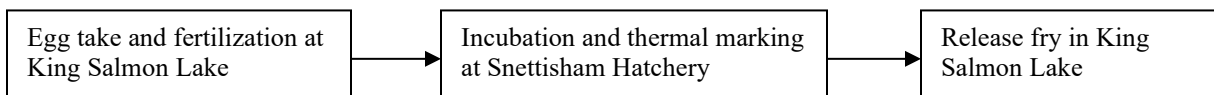
9.7 *Planned releases this calendar year of previous brood years' production*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
King Salmon Lake sockeye salmon	None	None	0	None	None

9.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
King Salmon Lake sockeye salmon	None	N/A	None	None	0

9.9 *Operational diagram*



9.10 *Fish transport permits*

FTP #	Egg take, transport or release	Transport from To	Maximum #, Life Stage	Expires
18J-1006	Egg take, transport, and release	King Salmon Lake to SNT to King Salmon Lake	250,000 green eggs	6/30/2028

10.0 Harvest Management

10.1 *Projected return this year*

Projected return estimates for Stikine and Taku Rivers projects are produced by ADF&G and Canadian Department of Fisheries and Oceans, published in the current year *TTC Management Plan*. TTC Management Plans may be found at the following address:
http://www.psc.org/publications_tech_techcommitteereport.htm#TCDS

10.2 *Donor stock management of Stikine and Taku River sockeye salmon*

Harvest management strategies for Taku and Stikine Rivers sockeye salmon stocks are developed in U.S./Canada Treaty negotiations and within the TTC of the PSC.

11.0 APPROVAL

Recommendation for Approval:

Katie Harms, Executive Director, DIPAC 4/6/2023

Dan Teske, Area Management Biologist, Division of Sport Fish 4/7/2023

Scott Forbes, Area Management Biologist, Division of Commercial Fisheries 4/7/2023

Matt Catterson for Judy Lum, Regional Supervisor, Division of Sport Fish 4/7/2023

Lowell Fair, Regional Supervisor, Division of Commercial Fisheries 4/7/2023

Lorraine Vercessi, PNP Hatchery Program Coordinator, Div. of Commercial Fisheries 4/13/2023

Approval:

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12.0 ATTACHMENTS

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Table 1.–Required sockeye salmon planting levels for Speel Lake prior to the utilization of this stock for other fisheries enhancement projects, 2023.

For the following naturally-spawning escapements, stocking of Speel Lake at one of the prescribed levels is required before the Speel Lake stock may be used for alternative purposes.

Naturally Spawning Escapement ¹	<u>Speel Lake Planting Schedule</u>	
	Presmolt	Smolt
400–1,000	133,000	80,000
1,001–2,000	117,000	70,000
2,001–3,000	83,000	50,000
3,001–4,000	50,000	30,000
> 4,000	none	none

¹ The naturally-spawning escapement is the estimated number of fish that are available to spawn in the wild. It is determined by taking the estimated escapement to the system, minus any utilized for egg takes and mortalities associated with egg take activities.

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Table 2: Release summary for Snettisham Hatchery sockeye salmon.

Brood Year	Broodstock Source	Green Eggs*	Eyed Eggs*	Green to Eye Survival*	Smolt Released	Green to Smolt Survival*	Release Date	Size (g)	Release Strategy	Otolith Mark
1992	Speel Lake	2,730,709	2,169,484	79.4%	1,116,756	73.5%	6/6-10/94	5.5	Freshwater	5,3H / 5H3
					<u>889,823</u>	<u>73.5%</u>	6/6-10/94	5.5	Saltwater	3,3H / 3H3
					2,006,579	73.5%				
1993	Speel Lake	1,596,945	1,323,423	82.9%	507,000	53.9%	6/6-10/95	12.2	Freshwater	3,3n,3H5
					<u>353,000</u>	<u>53.9%</u>	6/6-10/96	11.6	Saltwater	3,3n,4H5
					860,000	53.9%				
1994**	Speel Lake	1,130,000	1,028,178	91.0%	202,996	45.5%	5/31/96	11.1	Freshwater	3,2n,4H
	Sweetheart Lake	<u>257,808</u>	<u>155,513</u>	<u>60.3%</u>	<u>174,475</u>	<u>45.5%</u>	6/1/96	12.0	Saltwater	3,2n,3H
		1,387,808	1,183,691	85.3%	377,471	45.5%				
(**Part of combined production of Speel & Sweetheart stock eggs that included releases at Snettisham & Speel Lake. See also Table 7).										
1995	Speel Lake	3,065,454	2,615,664	85.3%	No release - IHN outbreak					
1996	Speel Lake	1,754,435	1,624,334	92.6%	1,484,145	84.6%	5/20/98	9.5	Early/Large	3,3nH
		<u>1,714,478</u>	<u>1,649,281</u>	<u>96.2%</u>	<u>1,580,886</u>	<u>92.2%</u>	6/10/98	9.6	Late/Large	4,4H
		3,468,913	3,273,615	94.4%	3,065,031	88.4%				
1996	Snettisham	1,868,836	1,649,520	88.3%	1,288,987	69.0%	6/10/98	5.8	Late/Small	4,3H
		<u>1,758,040</u>	<u>1,651,840</u>	<u>94.0%</u>	<u>1,275,781</u>	<u>72.6%</u>	5/19/98	6.1	Early/Small	4,4nH
		3,626,876	3,301,360	91.0%	2,564,768	70.7%				
1997	Snettisham	1,639,375	1,571,408	95.9%	768,528	46.9%	5/21/99	11.7	Early/Large	3,3H
		1,717,345	1,642,711	95.7%	1,387,277	80.8%	5/20/99	8.1	Early/Small	4,4H
		1,520,079	1,435,948	94.5%	1,265,774	83.3%	6/8/99	9.7	Late/Large	3,4nH
		<u>1,563,334</u>	<u>1,486,972</u>	<u>95.1%</u>	<u>1,608,385</u>	<u>102.9%</u>	6/7/99	6.4	Late/Small	4,3nH
		6,440,133	6,137,039	95.3%	5,029,964	78.1%				
1998	Snettisham	1,795,231	1,710,471	95.3%	828,959	46.2%	5/27/00	10.3	Late/Large	3,4H
		1,773,266	1,707,929	96.3%	1,319,936	74.4%	5/27/00	6.3	Late/Small	4,4nH
		1,802,072	1,753,317	97.3%	1,653,871	91.8%	5/17/00	10.5	Early/Large	4,3H
		<u>1,763,288</u>	<u>1,702,424</u>	<u>96.5%</u>	<u>1,382,674</u>	<u>78.4%</u>	5/17/00	6.5	Early/Small	3,3nH
		7,133,857	6,874,141	96.4%	5,185,440	72.7%				
1999	Snettisham	1,865,003	1,653,809	88.7%	1,598,234	85.7%	5/28/01	9.7	Early/Large	3,3nH
		1,914,582	1,652,151	86.3%	1,343,106	70.2%	5/28/01	5.9	Early/Small	4,4H
		1,852,232	1,653,381	89.3%	1,331,263	71.9%	6/14/01	9.8	Late/Large	3,4nH
		<u>1,800,448</u>	<u>1,654,101</u>	<u>91.9%</u>	<u>532,923</u>	<u>29.6%</u>	4/29/01	5.2	Late/Small	4,3nH
		7,432,265	6,613,442	89.0%	4,805,526	64.7%				
2000	Snettisham	1,627,088	1,564,580	96.2%	1,436,522	88.3%	5/29/02	10.4	Early/Large	3,3nH3
		1,571,282	1,526,968	97.2%	1,474,866	93.9%	5/29/02	6.4	Early/Small	4,4nH
		1,579,659	1,530,419	96.9%	1,467,652	92.9%	6/7/02	9.7	Late/Large	3,4H
		<u>1,597,354</u>	<u>1,547,938</u>	<u>96.9%</u>	<u>1,481,947</u>	<u>92.8%</u>	6/7/02	6.1	Late/Small	4,3H
		6,375,382	6,169,906	96.8%	5,860,987	91.9%				

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Table 2: continued.

Brood Year	Broodstock Source	Green Eggs*	Eyed Eggs*	Green to Eye Survival*	Smolt Released	Green to Smolt Survival*	Release Date	Size (g)	Release Strategy	Otolith Mark
2001	Snettisham	1,689,481	1,650,141	97.7%	1,060,943	62.8%	5/28/03	11.6	Early/Large	3,3H
		1,693,645	1,650,145	97.4%	1,592,117	94.0%	5/28/03	6.4	Early/Small	4,4H
		1,701,490	1,650,073	97.0%	1,576,685	92.7%	6/9/03	12.0	Late/Large	3,4nH
		<u>1,723,414</u>	<u>1,650,065</u>	<u>95.7%</u>	<u>1,585,885</u>	<u>92.0%</u>	6/9/03	6.3	Late/Small	4,3nH
		6,808,030	6,600,424	97.0%	5,815,630	85.4%				
2002	Snettisham	1,774,841	1,651,923	93.1%	1,490,555	84.0%	5/28/04	12.3		3,3nH3
		1,759,986	1,659,931	94.3%	1,518,802	86.3%	5/28/04	8.4	Early/Small	4,4nH
		1,746,968	1,672,133	95.7%	1,540,961	88.2%	6/9/04	12.3	Late/Large	3,4H
		<u>1,653,957</u>	<u>1,581,884</u>	<u>95.6%</u>	<u>1,421,716</u>	<u>86.0%</u>	6/9/04	8.4	Late/Small	4,3H
		6,935,752	6,565,871	94.7%	5,972,034	86.1%				
2003	Snettisham	1,765,614	1,498,735	84.9%	922,870	52.3%	5/29/05	13.3	Direct Hatchery	3,3H
		1,801,395	1,693,736	94.0%	1,069,297	59.4%	5/29/05	13.0	Direct Hatchery	4,4H
		1,858,918	1,752,882	94.3%	1,101,124	59.2%	5/31/05	12.9	Direct Hatchery	3,4nH
		<u>1,776,208</u>	<u>1,680,304</u>	<u>94.6%</u>	<u>1,052,486</u>	<u>59.3%</u>	5/31/05	13.3	Direct Hatchery	4,3nH
		7,202,135	6,625,657	92.0%	4,145,777	57.6%				
2004	Snettisham	10,812,732	10,386,838	96.1%	7,590,864	70.2%	5/29 - 5/31/06	10.1	Direct Hatchery	3,3nH
2005	Snettisham	9,371,974	8,518,381	90.9%	6,025,789	64.3%	6/4 - 6/6/07	10.4	Direct Hatchery	3,4nH
2006	Snettisham	10,907,354	10,586,751	97.1%	7,123,374	65.3%	6/6 - 6/7/08	8.0	Direct Hatchery	4n,3H
2007	Snettisham	9,931,028	8,938,212	90.0%	7,836,596	78.9%	6/11 - 6/12/09	8.4	Direct Hatchery	3,3nH
		<u>1,646,568</u>	<u>1,540,735</u>	<u>93.6%</u>	<u>731,237</u>	<u>44.4%</u>	6/11 - 6/12/09	8.4	Direct Hatchery	3,4nH
		11,577,596	10,478,947	91.8%	8,567,833	74.0%				
2008	Snettisham	9,740,249	9,208,104	94.5%	7,730,998	79.4%	5/24/10	9.7	Direct Hatchery	5H
		<u>1,552,601</u>	<u>1,489,242</u>	<u>95.9%</u>	<u>1,204,915</u>	<u>77.6%</u>	5/3 - 5/28/10	10.2	Saltwater Reared	3n,4H
		11,292,850	10,697,346	94.7%	8,935,913	79.1%				
2009	Snettisham	10,802,000	10,470,000	96.9%	7,140,000	66.1%	6/1-6/8/11	10.7	Direct Hatchery	3,2nH
		<u>1,711,000</u>	<u>1,666,000</u>	<u>97.4%</u>	<u>1,220,000</u>	<u>71.3%</u>	6/3/2011	10.5	Saltwater Reared	7H
		12,513,000	12,136,000	97.0%	8,360,000	66.8%				
2010	Snettisham	2,797,200	2,711,400	96.9%	2,571,300	91.9%	6/4/12	9.5	Direct Hatchery	4,4nH
		4,353,500	4,164,600	95.7%	3,856,300	88.6%	6/6-6/8/12	9.9	Direct Saltwater	3,3nH & 4,4nH
		1,435,500	1,357,100	94.5%	1,285,200	89.5%	6/10-6/13/12	9.6	Port Snett. Entrance	4n,3H
		<u>1,536,200</u>	<u>1,479,800</u>	<u>96.3%</u>	<u>1,284,400</u>	<u>83.6%</u>	6/7/12	9.6	Saltwater Reared	3,4nH & 4,3nH
		10,122,400	9,712,900	96.0%	8,997,200	88.9%				
2011	Snettisham	3,435,300	3,350,500	97.5%	3,203,000	93.2%	6/5/13	9.3	Direct Hatchery	4,6H
		3,438,500	3,349,500	97.4%	3,210,900	93.4%	6/5-6/7/13	10.2	Direct Saltwater	5H & 5,4nH
		1,382,900	1,342,500	97.1%	1,284,200	92.9%	6/11-6/14/13	9.9	Port Snett. Entrance	3n,4H
		<u>1,371,500</u>	<u>1,333,800</u>	<u>97.3%</u>	<u>1,276,000</u>	<u>93.0%</u>	6/6/13	9.6	Saltwater Reared	4n,4H
		9,628,200	9,376,300	97.4%	8,974,100	93.2%				

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Table 2: continued.

Brood Year	Broodstock Source	Green Eggs*	Eyed Eggs*	Green to Eye Survival*	Smolt Released	Green to Smolt Survival*	Release Date	Size (g)	Release Strategy	Otolith Mark
2012	Snettisham	4,824,200	4,590,400	95.2%	4,374,000	90.7%	6/2/14	11.0	Direct Hatchery	5n,3H
		2,172,000	2,020,800	93.0%	1,932,200	89.0%	6/2-6/4/14	10.9	Direct Saltwater	3,2nH
		1,468,000	1,353,700	92.2%	1,288,700	87.8%	6/7-6/10/14	10.4	Port Snett. Entrance	7H
		<u>1,422,800</u>	<u>1,357,000</u>	<u>95.4%</u>	<u>1,283,400</u>	<u>90.2%</u>	6/5/14	12.6	Saltwater Reared	4,3nH
		9,887,000	9,321,900	94.3%	8,878,300	89.8%				
2013	Snettisham	4,723,800	4,294,000	90.9%	3,853,700	81.6%	5/27/2015	10.80	Direct Hatchery	4,6nH
		3,140,700	2,845,500	90.6%	2,565,500	81.7%	5/28 - 5/29/15	10.90	Direct Saltwater	3,3nH
		1,519,900	1,422,600	93.6%	1,283,900	84.5%	6/3 - 6/6/15	10.60	Port Snett. Entrance	3,7H
		<u>1,515,900</u>	<u>1,402,200</u>	<u>92.5%</u>	<u>1,276,500</u>	<u>84.2%</u>	5/29/2015	12.40	Saltwater Reared	4,4nH
		10,900,300	9,964,300	91.4%	8,979,600	82.4%				
2014	Snettisham	3,547,100	3,387,500	95.5%	3,214,400	90.6%	5/27/2016	11.5	Direct Hatchery	5,4nH
		2,875,500	2,731,700	95.0%	2,570,900	89.4%	5/28 - 5/29/16	11.3	Direct Saltwater	5H
		1,417,200	1,370,400	96.7%	1,285,300	90.7%	6/3 - 6/6/16	10.8	Port Snett. Entrance	3n,4,3H
		<u>1,409,300</u>	<u>1,368,400</u>	<u>97.1%</u>	<u>1,284,700</u>	<u>91.2%</u>	5/29/2016	12.7	Saltwater Reared	4n,4H
		9,249,100	8,858,000	95.8%	8,355,300	90.3%				
2015	Snettisham	4,805,000	4,540,700	94.5%	3,758,300	78.2%	6/1 - 6/3/17	10.6	Direct Saltwater	5n,3H
		3,233,300	3,042,500	94.1%	2,381,500	73.7%	6/6 - 6/10/17	11.0	Port Snett. Entrance	3,2nH
		1,542,400	1,463,700	94.9%	1,254,200	81.3%	6/2	12.1	Saltwater Reared	7H
		<u>1,612,100</u>	<u>1,523,400</u>	<u>94.5%</u>	<u>643,700</u>	<u>39.9%</u>	6/1	11.0	Direct Hatchery	4,3nH
		11,192,800	10,570,300	94.4%	8,037,700	71.8%				
2016	Snettisham	4,671,900	4,483,200	96.0%	3,842,800	82.3%	5/31/2018	10.8	Direct Saltwater	3,3nH
		3,399,600	3,271,900	96.2%	2,560,000	75.3%	6/6 - 6/8/18	10.9	Port Snett. Entrance	3,6H
		1,808,100	1,732,000	95.8%	1,279,800	70.8%	5/30/2018	12.3	Saltwater Reared	4,6nH
		<u>1,534,000</u>	<u>1,473,900</u>	<u>96.1%</u>	<u>1,282,100</u>	<u>83.6%</u>	5/30/2018	10.6	Direct Hatchery	4,4nH
		11,413,600	10,961,000	96.0%	8,964,700	78.5%				
2017	Snettisham	3,245,000	3,131,000	96.5%	0	0.0%				
		3,559,000	3,398,000	95.5%	644,200	18.1%	5/30/2019	11.7	Direct Saltwater	3n,4,3H
		3,634,000	3,387,000	93.2%	0	0.0%				
		<u>1,613,000</u>	<u>1,554,000</u>	<u>96.3%</u>	<u>0</u>	<u>0.0%</u>				
		12,051,000	11,470,000	95.2%	644,200	5.3%				

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Table 2: continued.

Brood Year	Broodstock Source	Green Eggs*	Eyed Eggs*	Green to Eye Survival*	Smolt Released	Green to Smolt Survival*	Release Date	Size (g)	Release Strategy	Otolith Mark
2018	Snettisham	2,964,000	2,853,000	96.3%	2,475,000	83.5%	6/2-6/8/20	9.9	Direct Saltwater	3,2nH
		3,192,000	3,066,000	96.1%	2,523,000	79.0%	6/2-6/8/20	10.3	Direct Saltwater	5n,3H
		2,465,000	2,363,000	95.9%	1,941,000	78.7%	6/2-6/8/20	10.6	Direct Saltwater	7H
		<u>2,222,000</u>	<u>2,148,000</u>	<u>96.7%</u>	<u>1,933,000</u>	<u>87.0%</u>	6/1/20	9.8	Direct Hatchery	4,3nH
		10,843,000	10,430,000	96.2%	8,872,000	81.8%				
2019	Snettisham	2,688,000	2,618,000	97.4%	1,928,000	93.6%	5/24-5/25/21	10.8	Direct Saltwater	3,6H
		3,184,000	3,105,000	97.5%	2,562,000	93.2%	5/25-5/26/21	10.6	Direct Saltwater	3,3nH
		2,419,000	2,370,000	98.0%	1,920,000	93.3%	5/26-2/28/21	11.0	Direct Saltwater	4,4nH
		<u>3,447,000</u>	<u>3,369,000</u>	<u>97.7%</u>	<u>2,566,000</u>	<u>93.2%</u>	6/2-6/7/21	10.5	Port Snett. Entrance	4,6nH
		11,738,000	11,462,000	97.6%	8,872,000	93.3%				
2020	Snettisham	2,822,000	2,745,000	97.3%	2,574,000	94.0%	6/3 - 6/9/22	9.8	Direct Saltwater	3,3,3nH
		4,503,000	4,368,000	97.0%	2,574,000	93.9%	6/3 - 6/9/22	10.0	Direct Saltwater	4n,4H
		<u>3,067,000</u>	<u>2,977,000</u>	<u>97.0%</u>	<u>2,501,000</u>	<u>91.1%</u>	6/4 - 6/5/22	10.1	Direct Saltwater	5,4nH
		10,392,000	10,090,000	97.1%	7,649,000	93.0%				
Totals / Averages		248,097,000	234,475,000	93.3%	178,274,000	74.4%				

*Beginning with the 2010 brood year, green & eyed egg numbers & survival rates are reported in relation to the number of eggs associated with the actual release. Not included are the number of eggs associated with culled IHN+ or excess production lots.

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Table 3: Transport summary for Tahltan Lake hatchery-produced sockeye salmon.

Brood Year	Broodstock Source	Green to Eye		Green to Fry		Release Date	Size (g)	Otolith Mark
		Green Eggs	Eyed Eggs	Survival	Fry Released	Survival		
1989	Tahltan Lk.	2,995,440	2,080,900	69.5%	1,041,744	34.8%	6/6-6/25/90	4H
1990	Tahltan Lk.	4,510,605	3,718,585	82.4%	3,584,658	79.5%	6/4-6/21/91	3H
1991	Tahltan Lk.	1,513,520	1,436,835	94.9%	1,415,459	93.5%	6/9-10/92	4H
1992	Tahltan Lk.	2,153,996	1,979,907	91.9%	1,947,207	90.4%	6/14-20/93	4H3
1993	Tahltan Lk.	968,752	916,408	94.6%	903,908	93.3%	6/24;28/94	6H5n
1994	Tahltan Lk.	1,418,013	1,316,682	92.9%	1,142,856	80.6%	6/26-7/3/95	6H
1995	Tahltan Lk.	3,007,955	2,725,043	90.6%	2,296,152	76.3%	6/15-25/96	H7
1996	Tahltan Lk.	3,168,947	2,924,351	92.3%	2,247,730	70.9%	6/16 - 6/27/97	6H
1997	Tahltan Lk.	2,700,359	2,191,515	81.2%	1,900,417	70.4%	6/7 - 6/13/98	H6
1998	Tahltan Lk.	1,997,918	1,820,107	91.1%	1,670,615	83.6%	5/29 - 6/2/1999	7H
1999	Tahltan Lk.	2,772,973	2,496,689	90.0%	2,228,339	80.4%	5/20 - 27/2000	H6
2000	Tahltan Lk.	2,387,590	2,196,254	92.0%	1,872,611	78.4%	5/25 & 6/6/2001	7H
2001	Tahltan Lk.	3,305,851	2,740,980	82.9%	2,532,920	76.6%	6/3 - 6/12/2002	H6
2002	Tahltan Lk.	2,779,807	2,574,888	92.6%	2,622,535	94.3%	5/21 - 28/2003	7H
2003	Tahltan Lk.	2,660,675	2,391,748	92.6%	2,225,916	83.7%	5/20-5/28/2004	6H/5,4H
2004	Tahltan Lk.	1,966,375	1,578,274	80.3%	1,226,478	62.4%	5/17 - 5/20/05	6H6
2005	Tahltan Lk.	1,808,767	1,441,984	79.7%	1,280,322	70.8%	6/2 - 6/7/06	4,2H
2006	Tahltan Lk.	2,954,490	2,681,930	90.8%	2,465,749	83.5%	5/31 - 6/4/07	3n,2H
2007	Tahltan Lk.	2,208,640	1,670,063	75.6%	1,539,675	69.7%	5/28 - 6/6/08	1,2n,3H
2008	Tahltan Lk.	2,398,069	2,034,614	84.8%	1,394,758	58.2%	5/31 - 6/6/09	1,4H
2009	Tahltan Lk.	2,607,000	2,020,000	77.5%	1,828,000	70.1%	5/18 - 5/19/10	5,2H
2010	Tahltan Lk.	3,097,000	2,552,000	82.4%	1,234,000	39.8%	5/25 - 5/26/11	4,3H
2011	Tahltan Lk.	3,383,000	2,887,800	85.4%	2,125,700	62.8%	5/29-5/30/12	3,2n,2H
2012	Tahltan Lk.	3,673,500	2,438,700	66.4%	1,349,400	36.7%	5/29-6/1/13	1,4H
2013	Tahltan Lk.	3,516,900	2,666,200	75.8%	2,066,000	58.7%	5/27-5/29/14	4,3H/6,3H
2014	Tahltan Lk.	3,897,800	2,944,700	75.5%	2,683,900	68.9%	5/18-5/23/15	3,2n,2H/2H3
2015	Tahltan Lk.	4,509,000	3,780,100	83.8%	3,399,500	75.4%	5/9-5/13/16	1,4H/1,4H4
2016	Tahltan Lk.	5,310,400	4,021,800	75.7%	3,136,400	59.1%	5/23,5/25-5/28/17	4,3H/3n,3H
2017	Tahltan Lk.	3,849,400	3,047,700	79.2%	2,634,200	68.4%	5/30,6/3,6/5/18	3,2n,2H
2018	Tahltan Lk.	2,251,000	2,112,000	93.8%	1,858,000	82.5%	5/16,5/18/19	1,4H
2019	Tahltan Lk.	4,401,000	3,524,000	80.1%	2,685,000	61.0%	5/2,5/27,5/28,5/30,6/9	4,3H
2020	Tahltan Lk.	502,200	433,900	86.4%	329,700	65.7%	6/7/21	6H
2021	Tahltan Lk.	1,457,000	1,245,500	85.5%	1,079,300	74.1%	5/30/22	1,4H
Totals / Averages		92,134,000	76,592,000	84.6%	63,949,000	71.3%		0.14

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Table 4: Transport summary for Tuya Lake hatchery-produced sockeye salmon.

Brood Year	Broodstock		Green to Eye		Green to Fry		Release Date	Size (g)	Otolith Mark
	Source	Green Eggs	Eyed Eggs	Survival	Fry Released	Survival			
1991	Tahltan Lk.	2,732,137	2,578,191	94.4%	1,632,083	59.7%	6/17-21/92	0.13	6H
1992	Tahltan Lk.	2,747,144	2,550,870	92.9%	1,990,370	72.5%	6/16-7/6/93	0.13	7H
1993	Tahltan Lk.	5,170,772	4,711,733	91.1%	4,690,833	90.7%	6/24,28,30	0.13	4H5n
1994	Tahltan Lk.	2,764,530	2,404,533	87.0%	2,267,443	82.0%	6/21,25-7/3/95	0.13	4H
1995	Tahltan Lk.	3,882,653	3,086,238	79.5%	2,473,742	63.7%	6/21 - 7/3/96	0.11	4,4H
1996	Tahltan Lk.	3,232,816	3,012,867	93.2%	2,610,838	80.8%	6/24 - 7/1/97	0.14	4H
1997	Tahltan Lk.	520,809	474,355	91.1%	432,651	83.1%	6/26/1998	0.12	H4
1998	Tahltan Lk.	2,024,284	1,856,122	91.8%	1,603,441	79.2%	6/21 - 7/2/1999	0.12	4H
1999	Tahltan Lk.	1,053,345	1,008,308	95.7%	866,530	82.3%	6/23 - 26/2000	0.12	H4
2002	Tahltan Lk.	1,270,656	1,149,224	90.4%	1,124,248	88.5%	6/12/2003	0.16	7H3
2003	Tahltan Lk.	2,730,376	2,530,384	92.7%	2,444,671	89.5%	6/16 - 6/20/2004	0.18	4H
2004	Tahltan Lk.	3,734,408	3,440,623	92.1%	2,751,541	73.7%	6/8 -6/15/05	0.14	6H4
2005	Tahltan Lk.	2,743,693	2,476,240	90.3%	2,137,548	77.9%	9/19 - 6/23/06	0.13	4H4
2006	Tahltan Lk.	1,409,801	1,291,719	91.6%	1,201,470	85.2%	6/19 - 6/20/07	0.13	3,3H
2007	Tahltan Lk.	1,851,648	1,584,206	85.6%	1,536,887	83.0%	6/15 - 6/16/08	0.15	2,1,3H
2008	Tahltan Lk.	987,881	843,202	85.4%	831,627	84.2%	6/14/09	0.14	6H
2009	Tahltan Lk.	1,860,000	1,478,000	79.5%	976,000	52.5%	6/2/10	0.15	3,4H
2010	Tahltan Lk.	2,852,000	2,335,000	81.9%	1,244,000	43.6%	6/10 - 6/12/11	0.15	3n,3H
2011	Tahltan Lk.	3,098,200	2,678,700	86.5%	1,596,300	51.5%	6/20-6/21/12	0.16	6H
2012	Tahltan Lk.	1,924,000	1,569,900	81.6%	755,300	39.3%	6/17-6/18/13	0.15	4n,3H
2013	Tahltan Lk.	700,900	516,900	73.7%	462,100	65.9%	6/12/14	0.15	3n,3H
2014 - 2022	Tahltan Lk.	No Eggtake							
Totals / Averages		49,292,000	43,577,000	88.0%	35,630,000	72.8%		0.14	

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Table 5: Transport summary for Tatsamenie Lake hatchery-produced sockeye salmon.

Brood Year	Broodstock Source	Green to Eye			Green to Fry		Release Date	Size (g)	Release Strategy	Otolith Mark
		Green Eggs	Eyed Eggs	Survival	Fry Released	Survival				
1990	L. Tatsamenie Lk.	984,681	762,965	77.5%	673,236	68.4%	6/22/91	0.17	Standard Release	3H
1991	L. Tatsamenie Lk.	1,359,751	1,260,494	92.7%	1,231,894	90.6%	6/22,24,26/1992	0.15	Standard Release	4H / H4
1992	L. Tatsamenie Lk.	1,486,091	1,275,238	85.8%	909,452	61.2%	7/9,14/1993	0.13	Standard Release	5H / H5
1993	Tatsamenie Lk.	1,143,857	708,574	61.9%	520,947	45.5%	7/14/94	0.15	Standard Release	H5
1994	Tatsamenie Lk.	1,228,541	984,165	80.1%	897,500	73.1%	7/18,21/1995	0.15	Standard Release	5H
1995	Tatsamenie Lk.	2,406,707	2,028,504	84.3%	1,724,228	71.6%	6/16-25/1996	0.11	Standard Release	H5
1996	Tatsamenie Lk.	4,933,509	4,188,259	84.9%	3,940,933	79.9%	6/16-27/1997	0.17	Standard Release	5H & 5H3
1997	Tatsamenie Lk.	4,650,517	4,232,964	91.0%	3,596,593	77.3%	6/15-29/1998	0.14	Standard Release	H5
1998	Tatsamenie Lk.	2,414,494	2,166,262	89.7%	751,043	73.3%	6/01-09/1999	0.15	Standard Release	4H5 & 4H3
1999	Tatsamenie Lk.	461,436	435,104	94.3%	350,139	75.9%	6/1/00	0.15	Standard Release	H5
2000	Tatsamenie Lk.	2,571,502	2,425,341	94.3%	1,054,092	90.2%	6/4-16/2001	0.18	Standard Release	5H
					1,265,496					5H3
2001	Tatsamenie Lk.	3,499,157	3,148,097	90.0%	727,425	63.8%	5/30-6/17/2002	0.16	Standard Release	H5
					1,505,775					H5,3n
2002	Tatsamenie Lk.	2,301,546	1,893,884	82.3%	911,378	58.8%	5/21-27/2003	0.17	Standard Release	4H3
					442,035					4H3
2003	Tatsamenie Lk.	1,292,852	1,190,095	92.1%	1,135,995	87.9%	5/24/04	0.17	Standard Release	5H
		1,158,833	1,062,238	91.7%	1,004,962	86.7%	5/27/04	0.16	Standard Release	5H3
2004	Tatsamenie Lk.	319,100	292,475	91.7%	261,279	81.9%	5/20/05	0.20	Standard Release	4H3,3
		430,945	407,014	94.4%	366,778	85.1%	5/20/05	0.17	Standard Release	4H5n
2005	Tatsamenie Lk.	942,571	873,063	92.6%	775,377	82.3%	6/1-6/8/06	0.18	Standard Release	4H3
		868,086	822,142	94.7%	696,120	80.2%	6/1-6/8/06	0.17	Standard Release	4H5
2006	Tatsamenie Lk.	2,283,456	2,101,447	92.0%	1,808,492	79.2%	5/31-6/7/07	0.16	North Release	2,1,2H
		1,495,211	1,345,616	90.0%	1,103,734	73.8%	6/2-6/7/07	0.17	"Alternate" Release	2,2,1H
		1,031,603	994,432	96.4%	792,910	76.9%	6/3-6/13/07	0.16	South Release	2,2,3H
2007	Tatsamenie Lk.	1,544,101	1,345,057	87.1%	1,150,471	74.5%	5/28 & 6/5/08	0.16	North Release	2,3n,1H & 2n,3H
		1,670,237	1,494,297	89.5%	971,188	58.1%	6/6/08	0.16	Mid-lake Release	1,3n,2H
		458,903	409,752	89.3%	400,365	87.2%	6/8/08	0.58	Extended Rearing	3,2n,1H
2008	Tatsamenie Lk.	4,784,793	4,256,490	89.0%	3,756,252	78.5%	5/30-6/3/09	0.21	Standard Release	3,2H
		116,985	116,985	100.0%	116,905	99.9%	6/6/09	0.43	Extended Rearing	3,3H
2009	Tatsamenie Lk.	992,700	827,000	83.3%	506,000	51.0%	5/22/10	0.19	Standard Release	6,2H
		231,400	216,400	93.5%	211,700	91.5%	6/10/10	0.62	Extended Rearing	3n,2H
2010	Tatsamenie Lk.	1,677,700	1,539,700	91.8%	1,398,000	83.3%	5/29/11	0.18	Standard Release	2,1,2H
		218,600	203,600	93.1%	198,000	90.6%	6/7/11	0.72	Extended Rearing	2,2,3H
2011	Tatsamenie Lk.	1,927,800	1,752,300	90.9%	1,649,000	85.5%	5/25-5/29/12	0.21	Standard Release	3n,5H
		261,800	245,300	93.7%	243,300	92.9%	6/12/12	0.57	Extended Rearing	6,2H

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Table 5: continued.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye Survival	Fry Released	Green to Fry Survival	Release Date	Size (g)	Release Strategy	Otolith Mark
2012	Tatsamenie Lk.	1,599,900	1,530,300	95.6%	1,419,500	88.7%	5/30-6/1/13	0.19	Standard Release	3n,2H
		236,000	223,300	94.6%	216,800	91.9%	6/9-6/10/13	0.65	Extended Rearing	3,3H
2013	Tatsamenie Lk.	1,598,400	1,404,300	87.9%	1,136,400	71.1%	5/29-6/6/14	0.20	Standard Release	2,1,2H
		213,800	190,300	89.0%	188,300	88.1%	6/11/14	1.12	Extended Rearing	2,2,3H
2014	Tatsamenie Lk.	1,079,800	927,500	85.9%	730,600	67.7%	5/22/15	0.20	Standard Release	3n,5H
		208,800	192,100	92.0%	187,000	89.6%	5/30/15	0.99	Extended Rearing	6,2H
2015	Tatsamenie Lk.	523,800	407,800	77.9%	384,300	73.4%	5/14/16	0.18	Standard Release	3n,2H
		206,700	177,400	85.8%	86,200	41.7%	5/27/16	0.48	Extended Rearing	3,3H
2016	Tatsamenie Lk.	1,567,000	1,114,400	71.1%	1,018,700	65.0%	5/28-5/29/17	0.21	Standard Release	2,1,2H
		206,000	187,100	90.8%	183,000	88.8%	6/19-6/20/17	0.80	Extended Rearing	2,2,3H
2017	Tatsamenie Lk.	1,701,400	1,384,400	81.4%	1,263,500	74.3%	5/29,5/30,5/31/18	0.24	Standard Release	3n,5H
		257,500	219,100	85.1%	214,300	83.2%	5/29,5/30/18	0.63	Extended Rearing	6,2H
2018	Tatsamenie Lk.	1,840,000	1,497,000	81.4%	1,390,000	75.5%	5/19/19	0.19	Standard Release	3n,2H
		464,200	378,700	81.6%	370,900	79.9%	5/19,5/25,6/14/19	0.55	Extended Rearing	4,4H/8H
2019	Tatsamenie Lk.	2,078,000	1,529,000	73.6%	1,411,000	67.9%	6/4,6/5,6/10	0.16	Standard Release	2,1,2H
		246,900	213,000	86.3%	210,100	85.1%	6/10,6/11	0.52	Extended Rearing	6H
2020	Tatsamenie Lk.	1,428,000	1,180,000	82.6%	1,039,000	72.8%	5/27-6/6/21	0.19	Standard Release	3n5H
		287,100	246,700	85.9%	241,900	84.3%	6/7-6/8/21	0.59	Extended Rearing	7H
2021	Tatsamenie Lk.	1,913,200	1,523,500	79.6%	1,362,100	71.2%	5/31/22	0.16	Standard Release	3n,2H
		451,400	372,100	82.4%	352,700	78.1%	6/1 & 6/7/22	0.56	Extended Rearing	8H
Totals / Averages		71,257,000	61,903,000	87.5%	52,455,000	77.3%		0.17 0.62	unfed extended rearing	

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Table 6: Transport summary for Little Trapper Lake hatchery-produced sockeye salmon.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye % Survival	Fry Release	Green to Release Survival	Release Date	Size (g)	Otolith Mark
1990	L. Trapper Lk.	2,313,686	2,020,843	87.3%	933,791	40.4%	6/8-6/22/91	0.16	5H
1991	L. Trapper Lk.	2,952,934	1,862,662	63.1%	1,810,998	61.3%	6/5-6/11/92	0.16	H6 / 6H
1992	L. Trapper Lk.	2,520,953	2,054,881	81.5%	1,113,128	54.2%	6/13-22/93	0.15	7H3
1993	L. Trapper Lk.	1,173,660	950,853	81.0%	916,083	78.1%	6/16;24/94	0.16	5H5n
1994	L. Trapper Lk.	1,117,249	837,316	74.9%	773,375	69.2%	6/21,28 - 7/3/95	0.16	7H
1995 - 2005	L. Trapper Lk.	No eggtake							
2006	L. Trapper Lk.	1,109,386	994,747	89.7%	896,842	80.8%	6/19 - 6/20/07	0.19	6H
2007	L. Trapper Lk.	899,604	543,202	60.4%	353,175	39.3%	6/5/2007	0.18	4,2nH
2008 - 2015	L. Trapper Lk.	No eggtake							
2016	L. Trapper Lk.	270,700	231,300	85.4%	211,800	78.2%	5/29/2017	0.20	4,4n,3H
2017	L. Trapper Lk.	280,200	210,300	75.1%	187,700	67.0%	5/29/2018	0.28	4,2,3H
2018	L. Trapper Lk.	No eggtake							
2019	L. Trapper Lk.	406,500	278,800	68.6%	263,200	64.7%	6/11/2020	0.18	4,4n,3H
2020	L. Trapper Lk.	467,300	357,400	76.5%	319,400	68.4%	6/7/2021	0.19	4,2,3H
2021	L. Trapper Lk.	923,500	425,800	46.1%	188,600	20.4%	6/2/2022	0.16	2,4H
Totals / Averages		14,436,000	10,768,000	74.1%	7,968,000	60.2%		0.18	

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Table 7: Transport summary for King Salmon Lake hatchery-produced sockeye salmon.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye % Survival	Fry Release	Green to Release Survival	Release Date	Size (g)	Otolith Mark
2012	King Salmon Lk.	232,100	207,900	89.6%	197,400	85.0%	6/2/2013	0.13	6,2H3
2013	King Salmon Lk.	No eggtake							
2014	King Salmon Lk.	204,000	182,100	89.3%	169,400	83.0%	5/23/2015	0.17	6,3H
2015 - 2022	King Salmon Lk.	No eggtake							
Totals / Averages		436,100	390,000	89.4%	366,800	84.0%		0.15	

Table 8: Release summary for hatchery-produced sockeye salmon in Speel Lake.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye Survival	Life Stage	Fish Released	Green to Release Survival	Release Date	Size (g)	Otolith Mark
1988	Speel Lake	295,245	251,400	85.1%	Fry	226,622	76.8%	6/25-7/02/89	0.18	5H
1993	Speel Lake	276,680	229,291	82.9%	Smolt	149,000	53.9%	5/26-29/95	10.4	3,3n,3nH5
1994*	Speel Lake	1,130,000	1,028,178	91.0%	Pre-smolts	253,750	45.5%	10/20/1995	2.40	3,2n,3nH
	Sweetheart Lake	257,808	155,513	60.3%	Pre-smolts					
(*Part of combined production of Speel & Sweetheart stock eggs that included releases at Snettisham & Speel Lake. See also Table 2).										
1995	Speel Lake	3,065,454	2,615,664	85.3%			No release - IHN outbreak			4,3nH
1996	Speel Lake	(Eggtake conducted but all production allocated to Snettisham releases. See Table 2.)								
1997-2022	Speel Lake	No eggtakes								
Totals / Averages		5,025,000	4,280,000	80.9%		629,400	58.7%			

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Table 9: Release summary for hatchery-produced sockeye salmon in Crescent Lake.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye Survival	Life Stage	Fish Released	Green to Release Survival	Release Date	Size (g)	Otolith Mark
1989	Crescent Lake	547,054	394,271	72.1%	Fry	215,556	39.4%	6/08/90	0.23	6H
1990	Crescent Lake	813,298	526,876	64.8%	Fry	388,460	56.3%	6/23-30/91	0.20	9H
					Pre-smolt	69,193	56.3%	11/3/91	1.20	9H
1991	Crescent Lake	986,701	738,480	83.0%	Fry	551,556	62.6%	6/24-25/92	0.18	4,5H & 4H5
			80,970	83.0%	Smolt	65,717	62.6%	5/23-24/93	6.30	4,4,3H & 4,4H3
1994	Crescent Lake	127,000	95,704	75.4%	Pre-smolt	82,885	65.3%	10/20/92	1.55	4,3H & 4H3
	Crescent Lake	296,766	265,122	89.3%	Pre-smolt	234,080	78.9%	10/21/1995	3.70	H4,2n,3n
1996 - 2022	Crescent Lake	No eggtake								
Totals / Averages		2,771,000	2,101,000	77.9%		1,607,000	60.2%			

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Table 10: Release summary for hatchery-produced sockeye salmon in Sweetheart Lake.

Brood Year	Broodstock Source	Green Eggs	Eyed Eggs	Green to Eye Survival	Fry Released	Green to Release Survival	Release Date	Size (g)	Otolith Mark
1989	Speel Lake	3,698,485	3,017,158	81.6%	2,465,844	66.7%	6/15-6/27/90	0.20	8H
1990	Speel Lake	2,337,735	2,098,948	89.8%	1,310,104	56.0%	7/15/91	0.20	7H
1992	Crescent Lake	1,585,553	1,319,510	83.2%	766,908	48.4%	6/14/1993	0.21	3,5H
1993	Crescent Lake	2,204,542	2,072,748	94.0%	1,739,605	78.9%	5/11,24/94	0.19	H4,4
1995	Crescent Lake	1,059,036	870,519	82.2%	728,798	68.8%	6/7-6/13/96	0.18	4H
1996	No eggtake								
1997	Snettisham	293,284	279,975	95.5%	275,801	94.0%	6/29/98	0.13	5,3H
1998	Snettisham	536,259	519,346	96.8%	518,033	96.9%	7/2/99	0.13	5,3nH
1999	Snettisham	544,588	522,207	95.9%	520,778	95.6%	6/1/00	0.15	5,3nH
2000	Snettisham	540,234	521,514	96.5%	532,431	98.6%	6/1/01	0.16	5,3H
2001	Snettisham	564,465	521,514	92.4%	510,062	90.4%	6/17/02	0.16	5,3nH
2002	Snettisham	548,512	532,335	97.1%	525,790	95.9%	5/28/03	0.16	5,2H
2003	Snettisham	562,142	529,988	94.3%	266,355	47.4%	5/27/04	0.13	5n,3H
2004	Snettisham	573,190	541,488	94.5%	546,485	95.3%	5/17/05	0.15	5,3nH
2005	Snettisham	507,680	485,591	95.6%	240,120	47.3%	6/9/06	0.13	5,2H
2006	Snettisham	508,622	499,332	98.2%	486,630	95.7%	6/19/07	0.15	3,2nH
2007	Snettisham	526,119	463,374	88.1%	453,437	86.2%	6/15/08	0.15	5,3nH
2008	Snettisham	527,352	503,621	95.5%	482,000	91.4%	6/17/09	0.13	5,2H
2009	Snettisham	556,000	533,000	95.9%	528,000	95.0%	6/3/10	0.14	2,5H
2010	Snettisham	554,000	541,000	97.7%	544,000	98.2%	6/10/11	0.15	5,3nH
2011	Snettisham	527,200	516,800	98.0%	499,600	94.8%	6/23/12	0.15	5,2H
2012	Snettisham	579,600	550,300	94.9%	540,800	93.3%	6/17/13	0.14	2,5H
2013	Snettisham	573,200	530,500	92.6%	492,100	85.9%	6/11/14	0.15	5,3nH
2014	Snettisham	566,800	530,000	93.5%	514,800	90.8%	5/24/15	0.18	5,2H
2015	Snettisham	543,200	508,900	93.7%	467,900	86.1%	5/14/16	0.15	2,5H
2016	Snettisham	537,700	518,000	95.7%	508,700	94.6%	5/28/17	0.16	5,3nH
2017	Snettisham	529,100	507,600	95.7%	487,900	92.2%	6/5/18	0.20	5,2H
2018	Snettisham	511,400	495,500	96.9%	469,200	91.7%	5/17/19	0.21	2,5H
2019	Snettisham	556,700	549,700	98.7%	508,700	91.4%	5/30/20	0.18	5,3nH
2020	Snettisham	476,600	458,700	96.2%	424,000	89.0%	6/8/21	0.17	5,2H
2021	Snettisham	532,400	508,200	95.5%	246,200	46.2%	6/1/22	0.13	2,5H
Totals / Averages		24,162,000	22,047,000	93.9%	18,601,000	83.4%		0.16	

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Table 11.–2023 TEPP and SEPP final.


2023 Taku Enhancement Production Plan (TEPP) – Taku River Sockeye Salmon			
Enhancement Project	Activities ¹	Expected Production	Egg to Adult Survival
Tatsamenie Lake	Egg Take: target of 30% of available adult brood stock (up to 2.5 million eggs).	8,000 adults from direct release	Direct Release: 0.4% ²
	Outplant: Progeny (fry) from 500,000 eggs will be held for in-lake “extended rearing” and fry from the remaining 2 million eggs will be for “direct release” into the lake ³ .	4,000 adults from extended rearing	Extended Rearing: 0.8% ²
Trapper Lake	Egg Take: target of 1,000,000 eggs from Little Trapper Lake (pending broodstock availability). Outplant: All fry to be “direct release” into Trapper Lake. Future program continuation/ expansion contingent on adult sockeye salmon passage remediation.	1,000 adults	Direct Release: 0.1% ⁴
		Expected Total Production 13,000	

¹ All hatchery production will be thermal marked.

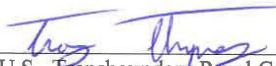
² Adult production estimates based on extended rearing program results from brood years 2008 through 2016. Green egg to fry survival is 77%. Fry to adult survival is 1.0% extended rearing and 0.5% direct release.

³ Adjustments to fry release strategy may be made if fry production results are lower than targeted.

⁴ Adult production estimates based on results from brood years 1990 through 1994, 2006 through 2007, and 2016. Green egg to fry survival is low at 55%. Fry to adult survival is 0.2%.


Canada, Transboundary Panel Co-Chair

FEBRUARY 16, 2023
Date


U.S., Transboundary Panel Co-Chair

2/16/2023
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2023 Stikine Enhancement Production Plan (SEPP) – Stikine River Sockeye Salmon			
Enhancement Project	Activities ¹	Expected Production ²	Egg to Adult Survival ³
Tahltan Lake	<p>Expected Egg Take Range: 2.5–3.5 million eggs</p> <p>Egg Take: maximum of 5.0 million eggs</p> <p>Guideline for last adult broodstock collection day is September 25</p> <p>Outplant: All fry to be “direct release” into Tahltan Lake⁴.</p>	<p>Expected: 32,500–45,500 resulting from direct release in Tahltan Lake</p> <p>Expected maximum: 65,000 adults resulting from direct release in Tahltan Lake</p>	Direct Release: 1.3%

¹ All hatchery production will be thermal marked.

² Prior year SEPPs were developed to comply with the Chapter 1, paragraph 3(a)(i)(C)(i). Those estimates were based upon assumed survivals different that observed long-term averages as well as the intended stocking of both Tahltan and Tuya lakes. The Panel recognizes the result of this SEPP is unlikely to achieve 100,000 enhanced sockeye salmon as identified in Chapter 1, paragraph 3(a)(i)(C)(i) because: Canada is withdrawing Tuya Lake for stocking; biological constraints associated with enhancement of Tahltan Lake; the practicality and achievability of Tahltan Lake sockeye salmon egg takes; and there being no other identified enhancement projects.

³Survivals based on historical data starting with brood years 1989 through 2016. Green egg to fry survival is 71%. Fry to adult survival is 1.7%.

⁴ Actual eggs taken will be based on escapement data into Tahltan Lake and matching enhanced smolt production to expected wild smolt production.



Canada, Transboundary Panel Co-Chair

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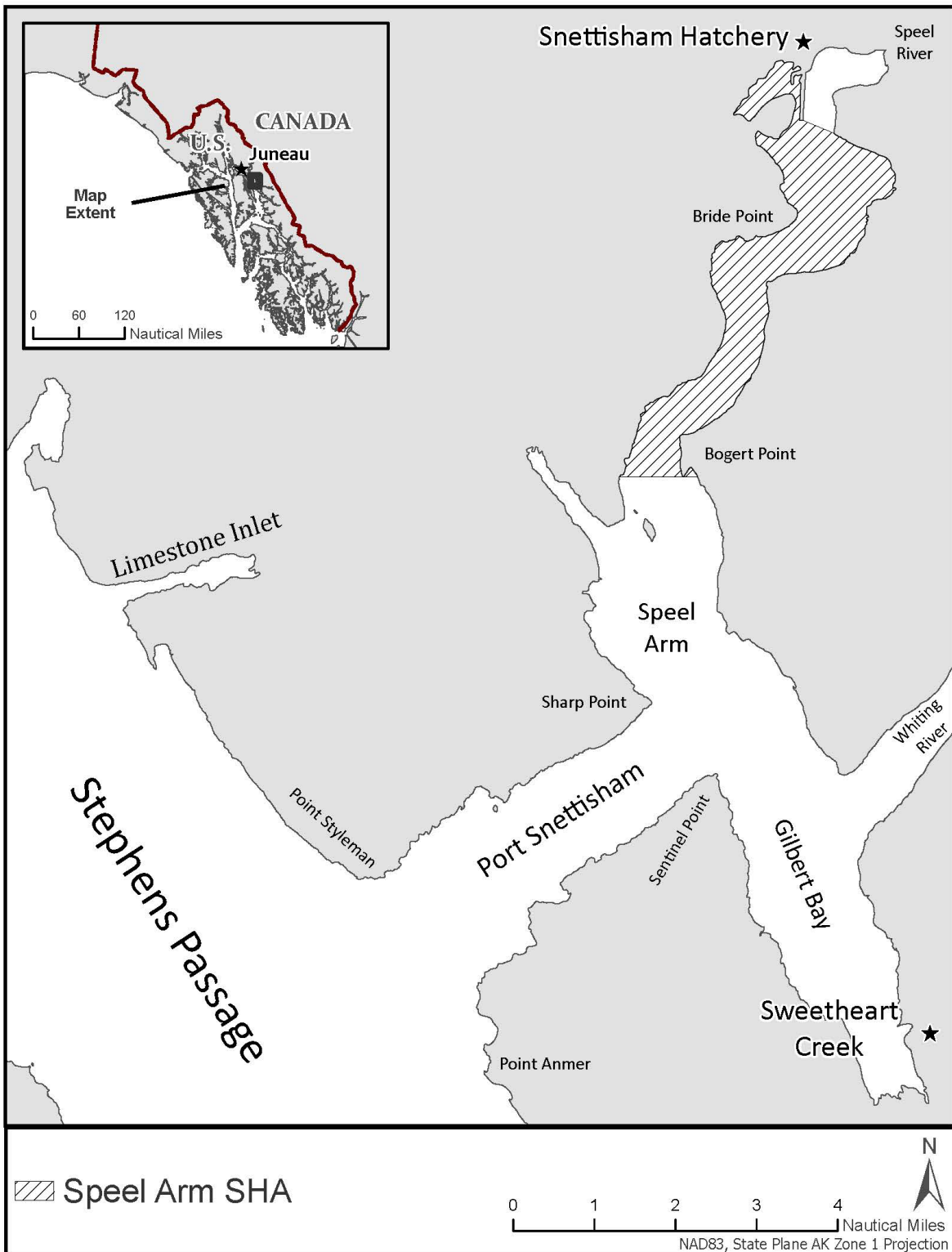


Figure 1.—Speel Arm Special Harvest Area.