

2023 ANNUAL MANAGEMENT PLAN
Medvejie Creek Hatchery and Sawmill Creek Hatchery
Northern Southeast Regional Aquaculture Association

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 Northern Southeast Regional Aquaculture Association (NSRAA) or Alaska Department of Fish and Game (ADF&G) may result in changes to this AMP in order to reach or maintain program objectives. NSRAA 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 NSRAA. This policy applies to all hatchery operations covered under the AMP.

1.0 Executive Summary

1.1 Introduction

Medvejie Creek Hatchery (MCH) is owned and operated by Northern Southeast Regional Aquaculture Association (NSRAA). The hatchery is in Bear Cove, Silver Bay, near Sitka. The hatchery is designed as a central incubation facility, with isolation capability for one major and one minor stock of fish. Additional stocks to be released in the local area can be cultured using conventional incubation methods. NSRAA is permitted to take 77 million chum salmon green eggs for MCH chum salmon programs; up to 63 million fall chum salmon green eggs from returns to MCH, and up to 44 million summer chum salmon eggs shipped to MCH from Hidden Falls Hatchery (HFH), but no more than 77 million green eggs in combination. In addition, MCH is permitted to take 3.3 million coho salmon green eggs (2.89 million eggs for HFH Coho Lake Rearing (CLR) program, plus 410,000 for release at MCH); 5.2 million green Chinook salmon eggs; and 300,000 green pink salmon eggs. In addition to MCH permitted production, MCH may conditionally collect up to 12 million fall chum salmon green eggs for Sheldon Jackson Hatchery (SJH) of which 9 million may be incubated and hatched at MCH and released on behalf of SJH; and collect up to 50 million fall chum salmon green eggs and 4.332 million coho salmon green eggs for Sawmill Creek Hatchery (SCH).

Sawmill Creek Hatchery is owned and operated by NSRAA. SCH is in Sawmill Cove Industrial Park in Sitka (Figure 1). Constructed in 2002-2003, SCH was designed primarily as an incubation and rearing facility for coho salmon. Chum salmon production was added in 2014 and Chinook salmon production was added in 2019. The hatchery is currently permitted to incubate up to 4.332 million coho salmon green eggs; 2 million Chinook salmon green eggs; 30 million chum salmon green eggs for SCH and 20 million chum salmon green eggs taken on behalf of MCH for release at Deep Inlet for a total of 50 million chum salmon green eggs on site. The hatchery is a satellite facility of MCH as no egg takes or releases occur at SCH. Gametes are collected at MCH and transported to SCH for fertilization and incubation. Coho salmon incubated and reared at SCH are

7released in Deep Inlet, Chinook salmon incubated and reared at SCH are released at Crawfish Inlet, and chum salmon incubated at SCH are released at Crawfish Inlet and Deep Inlet.

1.2 *New this year (production, harvest management, culture techniques, etc.)*

In June 2019, a PAR for SCH adding 2 million Andrew Creek Chinook salmon to be released at Crawfish Inlet was approved. The MCH permit was amended to match in 2020, increasing its maximum transport and release at Crawfish Inlet. The full SCH Chinook salmon production will likely be realized as release in 2026. The new facility is currently under final design and approximately 95% of the total estimated project cost has been funded to date through the Pacific Salmon Treaty Mitigation Program. A portion (360,000 eggs) of the SCH permitted capacity for Chinook salmon green eggs was again collected at MCH in 2022. Eggs collected in 2020 and 2021 were raised as zero check smolts to maximize release numbers with available rearing space. Rearing of zero check Chinook salmon in the ambient temperature water supply from Blue Lake was not conducive to the required early growth for success of that program. The eggs collected in 2022 will be reared as yearling smolt for releases in 2024. Thus, there are no planned Chinook salmon releases from SCH in 2023.

The zero check Chinook salmon production at MCH was scaled back from a planned 600,000 release to 400,000 for 2023 and NSRAA is trailing different procedures for increasing efficacy. Details are in section 4.1.1.

MCH has plans to trial collecting fall chum salmon green eggs from fish captured during cost recovery operations. This will involve gamete removal and fertilization from fish that have been in a post-mortem state for various lengths of time under varying conditions. The purpose of these trials is to determine a possible viability window to utilize cost recovery fish for future egg take needs without having to shut down fisheries for traditional backup broodstock operations. Current fish transport permits (FTP) exist to both collect gametes and transport adults at/from existing cost recovery sites. NSRAA is also considering collecting eggs at the cost recovery receiving processor. This will require a new FTP to utilize the processing facility as a step in the transport plan.

1.3 *New permits or permit amendments*

22J-1008: A one-year FTP was approved to allow the temporary transport and rearing of brood year (BY) 21 zero check Chinook SCH production from Sawmill to Medvejie, with possible rearing at Green Lake, and resultant release from Crawfish Inlet. This was requested due to reduced osmocompetency and a planned water shutdown at SCH to accommodate construction activities.

22J-1011: A three-year FTP was approved to allow SCH Chinook production to be transported to MCH during future water emergencies or planned shutdowns to accommodate expansion construction. A portion could be transported and released at Crawfish Inlet (under separate FTP) or transported back to SCH for yearling rearing.

92J-1015: This FTP for green egg collection from returns to Deep Inlet was amended from a maximum of 20,000,000 with final release at Deep Inlet to a maximum of 63,000,000 (the MCH

permitted capacity) covering only transport to MCH with final release location covered under other existing FTPs.

SCH has applied for a new FTP to cover the egg take of Salmon Lake stock coho salmon at MCH with resultant release at Bear Cove. This is a housekeeping FTP to allow for proper release reporting of the SCH Salmon Lake stock coho. During the broodstock development phase of the SCH program, the original FTPs were issued to MCH as the donor stock eggs were incubated, reared, and released from that location until adequate returns allowed for production releases from Deep Inlet.

MCH may apply for a FTP for Nakwasina River stock chum to be captured in a THA (Crawfish Inlet or Deep Inlet) and transported to a processor, with gamete collection onsite and subsequent transport to MCH for fertilization.

1.4 *Expected Returns*

The chum salmon forecast for Bear Cove and Deep Inlet is a combined return of NSRAA and SJH fish. The age-3 chum salmon forecast is calculated by multiplying the release number by the 5-year average marine survival and by the average percentage of a brood class that return as age-3 fish. The age-4 through age-6 forecasts are calculated by linear regression to the returns of the previous age class (sibling-based models).

The Chinook salmon forecast is calculated similar to the chum salmon forecast. Ocean age-2 returns are calculated by multiplying the release number by the 5-year average marine survival and then by the percentage of a brood class that return as ocean-age 2. The ocean-age 3 through ocean-age 5 forecasts are calculated by linear regression to the returns of previous age class (sibling-based models).

The coho salmon forecast is calculated using the previous 5 years' average marine survival by release site.

A detailed table of return estimates (Table 1) and production summary (Appendix D) can be found in the attachments.

1.6 *Egg-take goals*

Program Name (permitted hatchery, species)	Ancestral Stock(s)	Egg-take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
MCH Chinook salmon	Andrew Creek	MCH	Primary	5,200,000	5,200,000
MCH Chinook salmon	Andrew Creek	HFH	Alternate	0	5,200,000 ¹
MCH Chinook salmon	Andrew Creek	CLH	Alternate	0	5,200,000 ¹
MCH Chinook salmon	Andrew Creek	MSH	Alternate	0	5,200,000 ¹
SCH Chinook salmon	Andrew Creek	MCH	Primary	360,000	2,000,000

Program Name (permitted hatchery, species)	Ancestral Stock(s)	Egg-take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
MCH chum salmon	Nakwasina River	MCH	Primary	53,000,000	63,000,000 ²
MCH chum salmon	Nakwasina River	SJH	Alternate	0	9,000,000 ³
MCH DI chum salmon	Nakwasina River	Deep Inlet	Alternate	0	24,000,000
MCH chum salmon	Nakwasina River	Crawfish Inlet	Alternate	0	63,000,000
MCH chum salmon	Kadashan River	HFH	Primary	44,000,000	44,000,000 ⁴
MCH chum salmon	Kadashan River	MCH	Alternate	0	44,000,000
MCH chum salmon	Kadashan River	Deep Inlet	Alternate	0	24,000,000
HFH chum salmon	Kadashan River	MCH	Alternate	22,500,000	101,000,000
SJH chum salmon	Nakwasina River	MCH	Primary	9,000,000	12,000,000 ⁵
SCH chum salmon	Nakwasina River	MCH	Primary	30,000,000	30,000,000
SCH chum salmon	Nakwasina River	Crawfish Inlet	Alternate	0	30,000,000
SCH coho salmon	Salmon Lake	MCH	Primary	4,000,000	4,332,000
MCH pink salmon	Medvejie Creek	MCH	Primary	300,000	300,000

¹ MCH is permitted for 5.2 million Chinook salmon eggs. The eggs may be collected at either site up to the permitted level.

² MCH is permitted for up to 63 million Nakwasina stock fall chum salmon eggs where the additional 10 million would be a substitute for Kadashan stock summer chum salmon green eggs (for release at Deep Inlet). Cannot exceed 77 million chum salmon eggs in combination of the two stocks.

³ Up to 9 million backup eggs may be collected at SJH for MCH.

⁴ The chum salmon transport limit from HFH to MCH is 44 million green eggs. Fry from up to 24 million green eggs may be released only in Deep Inlet and fry from up to 20 million eggs may be released at Bear Cove.

⁵ SJH is permitted for 12 million chum salmon eggs and may utilize MCH as a backup broodstock. Fry of 9 million eggs may be released at Deep Inlet and fry of 3 million eggs may be released at SJH.

2.0 Chum Salmon Production

2.1 Program details

NSRAA has chum salmon production at all three hatchery sites. MCH acts as a central incubation facility by collecting all of NSRAA's fall (Nakwasina River) chum salmon eggs, including the 50 million eggs for SCH. In addition, MCH may also take up to 12 million green fall chum salmon eggs for SJH. In addition to fall chum salmon, MCH receives 24 million summer chum (Kadashan River) salmon eggs from HFH for release in Deep Inlet and an additional 20 million summer chum salmon for release at Bear Cove. Starting in 2020, MCH began collecting summer stock eggs for incubation at MCH or transfer to HFH. For mitigation purposes to maintain a naturally spawning population, 300 fall chum salmon will be placed in the north and south forks of Medvejie Creek.

2.2 This Year's Planned Egg Takes

Project Name	Ancestral Stock(s)	Egg-Take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
MCH chum salmon	Nakwasina River	MCH	Primary	53,000,000	63,000,000 ¹
MCH chum salmon	Nakwasina River	SJH	Alternate	0	9,000,000
MCH chum salmon	Nakwasina River	Crawfish Inlet	Alternate	0	63,000,000
MCH/HFH chum salmon	Kadashan River	HFH	Primary	44,000,000	44,000,000 ²

MCH/HFH chum salmon	Kadashan River	MCH	Alternate	0	44,000,000
HFH chum salmon	Kadashan River	MCH	Alternate	22,500,000	101,000,000
MCH/HFH chum salmon	Kadashan River	DI	Alternate	0	24,000,000 ³
DI/MCH chum salmon	Nakwasina River	DI/MCH ²	Alternate	0	24,000,000
SJH chum salmon	Nakwasina River	MCH	Primary	9,000,000	12,000,000 ⁴
SCH chum salmon	Nakwasina River	MCH	Primary	30,000,000	30,000,000
SCH chum salmon	Nakwasina River	Crawfish Inlet	Alternate	0	30,000,000

¹ MCH is permitted for up to 63 million Nakwasina stock fall chum salmon eggs where 10 million would be a substitute for Kadashan stock summer chum salmon green eggs (for release at Deep Inlet). Cannot exceed 77 million chum salmon eggs in combination of the two stocks.

² The chum salmon transport limit from HFH to MCH is 44 million green eggs. Fry from up to 24 million eggs may be released only in Deep Inlet and fry from up to 20 million eggs may be released in Bear Cove.

³ These are fish that are collected in DI, transferred to MCH, and the eggs taken at MCH.

⁴ SJH is permitted for 12 million chum salmon green eggs and may utilize MCH returns as backup broodstock; fry of 9 million chum salmon green eggs are designated for release in Deep Inlet and fry of 3 million chum salmon are designated for release at SJH for future broodstock.

2.3 *Broodstock capture method*

Chum salmon returning to MCH are directed to a fish ladder by a barrier net blocking access to the north and south forks of Medvejie Creek. Broodstock will be taken from holding ponds above the fish ladder. Three hundred chum salmon (150 females/150 males) will be transported to the north and south fork of Medvejie Creek and released there to spawn naturally. Permanent weirs are in place in the north and south forks of Medvejie Creek (113-41-028) to prevent migration of fish above the hatchery water intakes.

NSRAA is anticipating a shortfall in the number of fall chum salmon to return to Bear Cove for broodstock. If in-season estimates support this assumption, NSRAA intends to close the Deep Inlet THA for a minimum of one stat week and to coordinate with ADF&G to close Sitka Sound to chum trolling during the coho closure to allow Bear Cove broodstock to pass through to the hatchery. If broodstock needs are not being met at Bear Cove, the Alaska Board of Fisheries (BOF) has adopted a regulation (5 AAC 33.375) directing the department to manage the waters of Silver Bay, east of a line from Entry Point to Silver Point, to ensure chum salmon broodstock needs at MCH (Figure 1).

Primarily Medvejie/Nakwasina stock chum salmon returning to Deep Inlet, or starting in 2020 to Crawfish Inlet, are used as a backup broodstock source for either MCH, SCH, or up to 10 million eggs of the HFH portion of the Deep Inlet release. In the event that chum salmon returning to Deep Inlet or Crawfish Inlet are needed for broodstock, a vessel operating purse seine gear will either capture and transfer live fish into 40-ft x 40-ft x 20-ft deep adult holding pens or fish will be pumped directly to the hold of a vessel. Each pen can hold up to 10,000 adults. Either a skiff will tow the pens 12 miles to Bear Cove (from Deep Inlet), or fish will be loaded from the pens to the hold of a vessel for transport to Bear Cove. Chum salmon are held for several days and then released to migrate up the fish ladder and into the adult raceways for spawning. This system was used successfully each year from 2008 through 2011, and, more recently, vessels were used successfully in 2020. Alternately, if eggs are to be collected on-site and transported green to MCH, broodstock will be placed in pens as above and allowed to mature prior to egg take. In order to avoid using stray Deep Inlet-released HFH stock for broodstock, no Nakwasina stock chum salmon egg takes will be conducted at either MCH or Deep Inlet prior to August 21. NSRAA may consult with department area biologists and obtain a waiver of this requirement if information indicates that an earlier egg take would not include HFH-origin chum salmon. In 2020 Bear Cove received its first return of 3-year old Kadashan River stock chum salmon; 8 million eggs were collected for HFH programs. In

2021, due to a missed release year from a HFH broodstock shortfall, a 4 year old only return produced 17.5 million Kadashan River stock chum eggs for HFH. The 3 and 5 year old return in 2022 came in under forecast and only produced 6 million green eggs. The 2023 Kadashan stock chum salmon return to Bear Cove is only forecasted at 29,000 and comprised of only 3, 4, and 6 year old chum. Half of those are expected to be intercepted in the Deep Inlet THA fisheries. Otolith sampling will occur at the rack during the course of the Kadashan stock egg take to limit potential for stock mixing.

2.4 *Spawning, incubation, and rearing*

If summer stock egg takes occur at MCH either proactively or as a result of an anticipated shortfall at HFH or GCH, they will begin in mid to late July and will be completed by early August. Eggs will either be taken at MCH and transferred to SCH for initial incubation or will be eyed at MCH for transfer to HFH or GCH in early September.

Fall stock egg takes usually start in late-August and are completed by the end of September. Fertilization, water hardening, and egg surface disinfection will occur at the hatchery. Chum salmon eggs will be eyed in R-48-style incubators and transferred to NOPAD-style incubators for hatching and fry development. Eggs for the Crawfish Inlet release will be transferred to SCH once eyed. Eggs may be otolith marked at either facility. Fungal growth in incubators will be controlled by hatching screens, egg sorting, salt water and chemical treatments.

Chum salmon fry are ponded into freshwater holding ponds. Chum salmon to be released at the hatchery are transferred directly to net pens in Bear Cove. Chum salmon to be released at Deep Inlet or Crawfish Inlet are transferred via boat to the net pen sites. Fry are normally released from mid- to late-April when estuarine conditions are optimal for plankton abundance. The target release size of fry is two and four grams with a roughly fifty-fifty split by group.

Carcasses will be taken offsite by a local fish processor for disposal or sale or discharged into the facility's DEC authorized discharge location in Bear Cove.

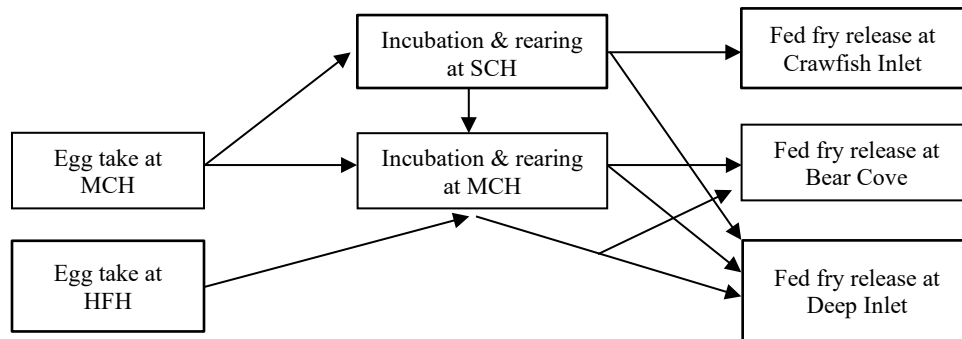
2.5 *Planned releases this calendar year*

Program Name	Brood Year	Release Date	Number to Release ¹	Life Stage	Type of Mark, % Marked
HFH Deep Inlet	2022	April 2023	24,000,000	Fed fry	100% Otolith
MCH Deep Inlet	2022	April 2023	33,000,000	Fed fry	100% Otolith
SJH Deep Inlet	2022	April 2023	9,000,000	Fed fry	100% Otolith
MCH Bear Cove	2022	April 2023	20,000,000	Fed fry	100% Otolith
HFH Bear Cove	2022	April 2023	20,000,000	Fed fry	100% Otolith
SCH Crawfish Inlet	2022	May 2023	30,000,000	Fed fry	100% Otolith

¹Numbers in permitted capacity and not inventory on hand.

No previous brood year chum salmon are held over for additional rearing.

2.6 Operational diagram



3.0 Coho Salmon Production

3.1 Program details

NSRAA has coho salmon production at all three of their hatchery sites. Sashin Creek and Deep Cove stock coho salmon eggs are collected at HFH and used in NSRAA's Coho Lake Rearing (CLR) program. Prior to 2005, eyed eggs were moved from HFH to MCH for incubation and initial rearing before being transferred to release sites. MCH remains a backup incubation facility for the CLR program.

MCH acts as a central incubation facility by collecting all of NSRAA's Salmon Lake stock coho salmon eggs, including the 4.332 million eggs permitted for SCH. Coho salmon incubated and reared at SCH are released in Deep Inlet. Coho salmon incubated and reared at MCH are released at Bear Cove, which provides returns of adult coho salmon for broodstock.

Since 2014, the egg-take goal has been 3 million Salmon Lake stock coho salmon eggs, with the plan of releasing 1.8 million smolt at Deep Inlet and 200,000 smolt at Bear Cove.

In 2023, the egg-take goal will increase to 4 million eggs as the facility transitions to 100% family tracking, which will allow the release of 200,000 Salmon Lake stock coho salmon at MCH. All 200,000 hatchery-produced coho salmon released at Bear Cove will be otolith marked with a MCH code and 20,000 will be marked with a coded wire tag (CWT).

Full production goals for SCH, as stated in the Basic Management Plan (BMP), are production of 2.2 million Salmon Lake stock coho salmon smolt, with 2.0 million smolt released at Deep Inlet and 200,000 smolt released at Bear Cove. The number of eggs necessary to obtain these smolt production levels is 4.3 million due to the potential high incidence of bacterial kidney disease. The goal for smolt releases at Bear Cove is to provide sufficient adult returns to achieve egg-take targets necessary for smolt production goals. The BMP allows Bear Cove release numbers to increase to levels necessary to provide adequate broodstock, provided stray rates are demonstrated to be within levels that will not impact wild stocks. Salmon Lake stock coho salmon were chosen as the donor source for MCH and SCH production to minimize genetic impacts if straying occurs to Salmon Lake.

3.2 *Egg takes*

Program Name	Ancestral Stock(s)	Egg-Take Site, Stat Area	Primary (P) or (A) Alternate Source?	Current Year Egg Goal	Permitted Maximum
SCH coho salmon	Salmon Lake	MCH	Primary	4,000,000 ¹	4,332,000
SCH coho salmon	Salmon Lake	Deep Inlet	Alternate	0	4,330,000

¹ Includes 300,000 eggs for SCH/MCH release of 200,000 smolt.

3.3 *Broodstock capture method*

Coho salmon returning to MCH are led to a fish ladder by a barrier net blocking access to the north and south forks of Medvejie Creek. Broodstock will be taken directly from holding ponds above the fish ladder. An additional net may be placed downstream of the access canal leading to the fish ladder to prevent coho salmon broodstock from backing out. Some broodstock may be held in a marine enclosure pen to segregate those fish from cost-recovery harvesting activities. Some broodstock may be collected in Bear Cove by beach/purse seine and transferred to holding raceways to minimize sea lion predation.

If coho salmon returning to Deep Inlet are needed for broodstock, a beach seine or purse seine will be used to capture and transfer live fish into 40-ft x 40-ft x 20-ft deep holding pens. Each pen can hold up to 10,000 adults. A skiff will tow the pens 12 miles to Bear Cove. Coho salmon will be transferred to the adult freshwater raceways for maturation. Small numbers of captured broodstock will be transported by skiff and transfer tote with oxygen supplementation to MCH and placed into the freshwater raceways for maturation.

In 2023, MCH will require approximately 3,000 adult Salmon Lake stock coho salmon to reach the egg-take goal. MCH returns for the first ten years of the Salmon Lake stock coho salmon program have had an average marine survival of 7.2%, with an average common property contribution rate of 75%. If a similar marine survival and contribution rate occur this year, the estimated coho salmon return to the MCH rack will be 3,000 adults. A closure of Bear Cove may be needed to protect broodstock, if NSRAA is in jeopardy of not achieving broodstock needs.

There are no current plans for excess broodstock management. If a larger than anticipated return occurs, and excess fish are available at Bear Cove, a cost-recovery cleanup harvest may be necessary (see section 6.3 below, Cost recovery harvest in the special harvest area).

3.4 *Spawning, incubation and rearing*

Coho salmon egg takes at MCH begin around the last week of October and are completed by late November. Water hardened eggs and/or separate gametes may be taken to SCH for egg-surface disinfection with Iodophor. Separate gametes will also include fertilization and water hardening. Eggs are incubated in Heath trays. Fry are ponded into linear raceways for initial swim-up and feeding. Fry are then split out to round ponds until transfer to Deep Inlet for short-term rearing and release.

Coho salmon eggs for the MCH broodstock program will be fertilized, water hardened, and disinfected with Iodophor at MCH. Each family will be kept separate to enable BKD screening. Eggs

from high-titer BKD-positive parents will be discarded. Fungal growth in incubators will be controlled by egg sorting and chemical means.

The developing fish from up to 300,000 eggs will be ponded into aluminum raceways at MCH for initial swim-up and rearing. In May, these fish are transferred to salt water in Bear Cove for short-term rearing (3 weeks) and released at MCH to provide future broodstock. The goal is to produce 200,000 smolt.

All carcasses will be taken offsite by a local fish processor for disposal or sale. If the processor is closed for the season, the carcasses will be offered for human or animal consumption. Remaining carcasses will be disposed of in the Medvejie, Bear Cove, DEC disposal area.

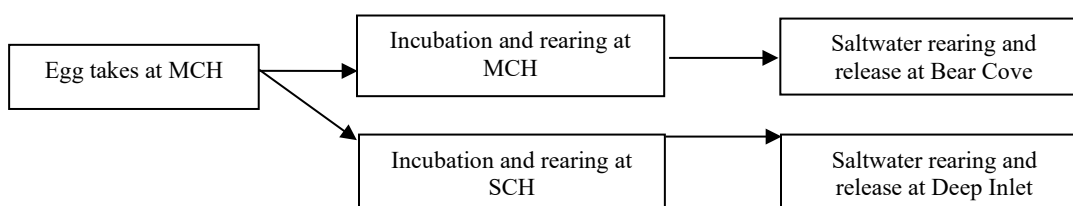
3.5 *Planned releases this calendar year*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
SCH coho salmon-Deep Inlet	2021	May 2023	1,800,000	smolt	120,000 CWT and 100% otolith
SCH coho salmon-Bear Cove	2021	May 2023	200,000	smolt	20,000 CWT and 100% otolith
Total			2,000,000		

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

Program Name	Brood Year	Number Live (April 1 st)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
SCH coho salmon-Deep Inlet	2022	2,238,000	alevin	120,000 CWT and 100% otolith	1,800,000 May 2024
SCH coho salmon-Bear Cove	2022	228,000	alevin	20,000 CWT and 100% otolith	200,000 May 2024
Total					2,000,000

3.7 *Operational diagram*



4.0 **Chinook salmon production**

4.1 *Program details*

NSRAA produces Andrew Creek stock Chinook salmon at MCH. Crystal Lake Hatchery and Macaulay Hatchery can be used as backup egg sources.

There are three yearling Chinook salmon programs at MCH, one zero-check program at MCH, and one yearling program at SCH. The annual production goal is to release approximately 3.5 million Andrew Creek stock Chinook salmon. Fry for all MCH programs are ponded into raceways at MCH

for initial swim-up and rearing. Approximately 400,000 are released as zero-check smolt, 1.7 million are short-term reared at Green Lake, 800,000 are reared in raceways as the traditional MCH program, and 600,000 are reared in raceways as the fresh water overwinter (FWOW) MCH program. The SCH Chinook salmon production is collected as eggs at MCH and transferred as gametes to SCH. Ponding occurs in outside aluminum raceways, with transfer to Crawfish Inlet in April or May.

The MCH zero-check program: approximately 400,000 Chinook salmon eggs/fry are reared in raceways at MCH. In March–May, fish will be transferred to saltwater net pens at SJH, Bear Cove, or Crawfish Inlet for short-term rearing. In late May or early June they will be released.

Green Lake yearling program: approximately 1.7 million Chinook salmon will be moved to Green Lake to rear in net pens, traditionally from late June to early October. In fall, these fish return to MCH and are transferred to saltwater net pens. In the following spring, the smolt will be released at Bear Cove. The target release size is 55 to 75 grams.

The MCH traditional yearling program: approximately 800,000 Chinook salmon eggs/fry are reared in raceways at MCH. In early October, these fish will be transferred to saltwater net pens at Bear Cove for saltwater overwinter rearing. In the following spring, the smolt will be released at Bear Cove. The target release size is 55 to 75 grams.

The MCH FWOW yearling program: approximately 600,000 Chinook salmon eggs/fry are reared in raceways at MCH. In late April, fish will be transferred to saltwater net pens at SJH and Bear Cove or Crawfish Inlet, for short-term rearing. In May, after a three-week imprinting period, approximately 400,000 will be released at SJH and 200,000 will be released at Bear Cove or Crawfish Inlet.

All hatchery-produced Chinook salmon will be otolith marked with a MCH code. See Appendix D for detailed summaries on coded wire tagging.

4.1.1 Zero check trials

The zero-check program has shifted from a production approach to more developmental due to minimal marine survival of recent brood years and the ability to allow for additional rearing trials at the reduced level. In addition to photomanipulation and salinity exposure, MCH will be trailing broodstock in 2023. Incubation and rearing of zero check Chinook are inherently accelerated as much as possible to allow for optimal release size and timing as an age-0 smolt. Without the ability to manipulate raceway rearing temperature at MCH, acceleration during incubation is the most viable option. MCH has the ability to recirculate and heat the incubation water, which has been historically utilized to varying degrees. To accelerate further, egg take must be advanced. Early Chinook returns will be captured by beach or small purse seine in the vicinity of the hatchery fish ladder. The fish will be collected over approximately 2 weeks in mid-June and transported to freshwater holding raceways at the time of capture. Once sufficient broodstock are captured (~280 fish), they will be anesthetized and 3 experimental groups will receive discrete floy tags. Group 1 (~40 female, ~40 male) will be injected with the spawning inducer hormone Ovaplant. Group 2 (~40 female, ~40 male) will be injected with an alternate inducer, GnRH IIa. Group 3 (~40 female, ~40 male) will be injected with an additional alternate inducer, Chorulon. Group 4 (~20 female,

~20 male) will be a control group. NSRAA has experience with Ovaplant, an INAD drug, which was used on Salmon Lake stock coho salmon during the broodstock development phase. GnRH IIa is derived from chicken gonadotropin and is approved through an INAD for use on catfish. NSRAA would utilize the hormone via veterinary prescribed research use. The manufacturer of GnRH IIa is interested in expanding the INAD use to include salmonids. Chorulon is the only FDA approved spawning hormone on the market and is a freeze dried preparation of human Chorionic Gonadotropin. The goal is to advance the egg take of the zero-check Chinook program by approximately 1 month. Prior use of Ovaplant with coho salmon resulted in ripe broodstock approximately 14 days post injection. The Chinook salmon will likely be injected ~June 26th with first evaluation of ripeness ~ July 10th. Traditional first egg take timing for Chinook salmon at MCH is mid-August. Some of the proposed hormones have a wide range of approved doses. This first year is a pilot project to investigate potential differences in effectiveness of the various compounds. Subsequent years will likely expand on a single product and aim to identify the ideal dosing to achieve maturation of Chinook salmon broodstock. The results of these trials will likely be used to facilitate the success of future zero-check Chinook salmon programs with the Keta River stock of Chinook being cooperatively developed at Little Port Walter.

4.2 *Egg takes*

The primary Chinook salmon egg source is intended to be MCH which is projected to produce 5.2 million eyed eggs for MCH programs. MCH will also collect the Chinook eggs for the SCH program. HFH has been unable to be the primary egg source for the last six years due to the poor Chinook salmon marine survival and MCH will be the primary egg take location for the HFH program in 2023.

Program Name	Ancestral Stock(s)	Egg-Take Site, Stat Area	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
MCH-Chinook salmon	Andrew Creek	MCH	Primary	5,200,000	5,200,000 ¹
MCH-Chinook salmon	Andrew Creek	HFH	Alternate	0	5,200,000
MCH-Chinook salmon	Andrew Creek	CLH	Alternate	0	5,200,000
MCH-Chinook salmon	Andrew Creek	MSH	Alternate	0	5,200,000
SCH-Chinook salmon	Andrew Creek	MCH	Primary	360,000	2,000,000
HFH-Chinook salmon	Andrew Creek	MCH	Primary	800,000	1,000,000

¹ MCH is permitted for 5.2 million Chinook salmon eggs. The eggs may be collected at either site up to the permitted level.

4.3 *Broodstock capture method*

Chinook salmon are led to a fish ladder by a barrier net blocking access to the north and south forks of Medvejie Creek. Broodstock will be taken directly from holding ponds above the fish ladder. An additional net may be placed downstream of the access canal leading to the fish ladder to prevent Chinook salmon broodstock from backing out. Some broodstock may be held in a marine enclosure pen to segregate those fish from cost-recovery harvesting activities. Some broodstock may be collected by beach or purse seine and transported to holding raceways.

4.4 *Spawning, incubation, and rearing*

Egg takes at MCH begin around the middle of August and stop by the first week of September. Adult Chinook salmon will be collected from the adult holding raceways at the hatchery above the fish ladder. All eggs will be disinfected with Iodophor. Each family will be separated in Heath trays to enable BKD screening. Eggs from high-titer BKD-positive parents will be discarded. Lowering the water temperature may be used to reduce the development rate of Chinook salmon for the Green Lake and FWOV rearing program. The zero-check program may receive heated water to accelerate development in incubation. Recycled water will be treated with ultraviolet light to eliminate fungal and bacterial buildup. Fungal growth in incubators will be controlled by egg sorting and chemical means. Carcasses will be disposed of in the Medvejie Bear Cove, DEC disposal area or will be taken offsite by a local fish processor for disposal or sale.

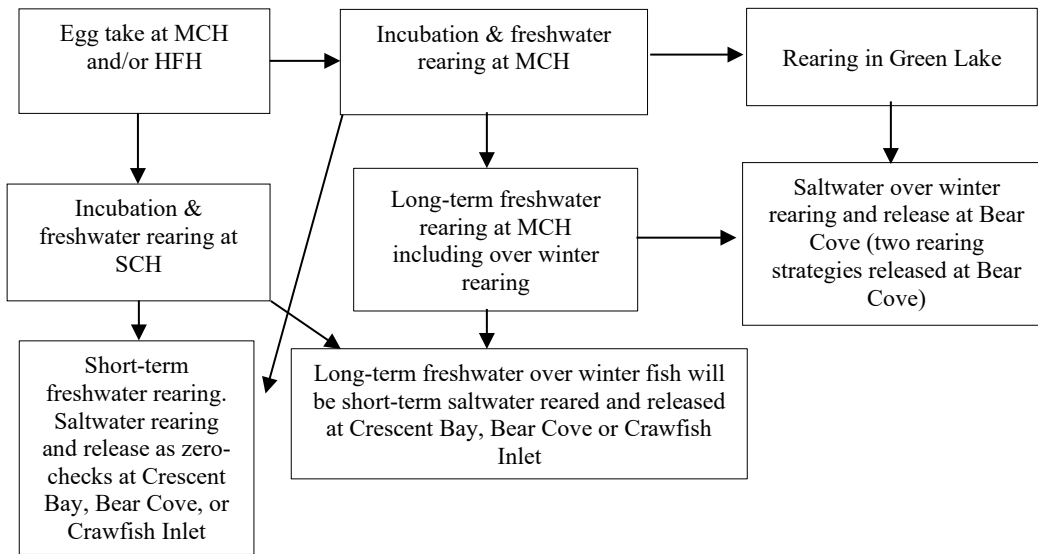
4.5 *Planned releases this calendar year*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
SWOV Bear Cove	2021	May 2023	2,100,000	Smolt	7% CWT and 100% otolith
FWOV Crawfish Inlet	2021	May 2023	160,000	Smolt	22% CWT and 100% otolith
FWOV Crescent Bay	2021	May 2023	300,000	Smolt	12% CWT and 100% otolith
Zero check Bear Cove	2022	June 2023	400,000	Smolt	10% CWT and 100% otolith
Total			2,960,000		

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

Program Name	Brood Year	Number Live (April 1)	Life Stage	Type of Mark, % Marked	Number to Release, Date
SWOV Bear Cove	2022	3,070,000	Fry	10% CWT and 100% otolith	2,500,000 May 2024
FWOV Crawfish Inlet	2022	240,000	Fry	15% CWT and 100% otolith	200,000 May 2024
FWOV Crescent Bay	2022	466,000	Fry	10% CWT and 100% otolith	400,000 May 2024
Total		3,776,000			3,100,000

4.7 *Operational diagram*



5.0 **Pink salmon production**

5.1 *Program details*

For mitigation purposes, 300,000 pink salmon eggs will be collected from adults entering the MCH raceways. The progeny may be released directly into the north fork of Medvejie Creek as unfed fry or held for short term rearing prior to release. Additionally, up to 800 pink salmon adults (400 females/400 males) will be placed in the north and south forks of Medvejie Creek above the barrier net and below the weirs.

5.2 *Egg takes*

Program Name	Ancestral Stock(s)	Egg-Take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
MCH-pink salmon	Medvejie Creek	MCH	Primary	300,000	300,000

5.3 *Broodstock capture method*

Pink salmon eggs will be collected from fish that volitionally enter the raceways at MCH. Measures used to protect returning chum salmon will also serve to protect returning Medvejie Creek pink salmon. Up to 800 pink salmon adults (400 females/400 males) will be placed in the north and south forks of Medvejie Creek above the barrier net and below the weirs. Surplus carcasses will be disposed of in the Medvejie, Bear Cove, DEC disposal area or will be taken offsite by a local fish processor for disposal or sale.

5.4 *Spawning, incubation, and rearing*

Pink salmon egg takes occur concurrently with chum salmon egg takes and are completed by mid-September. Adult pink salmon will be collected from adult raceways at the hatchery above the fish ladder. Pink salmon will be removed concurrently with Chinook and chum salmon. Fertilization, water hardening, and egg surface disinfection will occur at the hatchery. Pink salmon will be incubated in Heath-style incubators. Fungal growth in incubators will be controlled by egg sorting and chemical means.

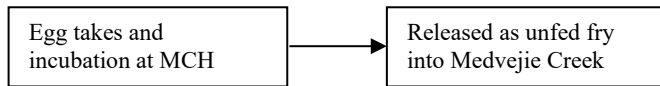
Carcasses will be disposed of in the Medvejie, Bear Cove, DEC disposal area or will be taken offsite by a local fish processor for disposal or sale.

5.5 *Planned releases this calendar year*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
MCH-pink salmon	2022	April 2023	270,000	Fed fry	No Mark

No previous brood years of pink salmon are held over for additional rearing.

5.6 *Operational diagram*



6.0 HARVEST MANAGEMENT

6.1 *Projected return this year*

Species	Program Name	Projected Common Property Harvest	Other ¹	Total Projected Return, Current Year
Chum salmon	Deep Inlet	755,000		755,000
Chum salmon	Bear Cove	73,000	120,000	193,000
Chum salmon	Crawfish Inlet	476,000	391,000	867,000
Coho salmon	Deep Inlet	26,000		26,000
Coho salmon	Bear Cove	9,000	3,000	12,000
Chinook salmon	Bear Cove	7,000	6,000	13,000
Chinook salmon	Crescent Bay	1,400	400	1,800
Chinook salmon	Crawfish Inlet	250		250

¹Other includes broodstock, cost recovery, escapement, etc. Total of Projected Common Property Harvest and Other may exceed Total Projected Return as Other includes Broodstock and cost recovery goals which may not be met.

6.2 *Common property fisheries management*

6.2.1 Deep Inlet THA Chinook and chum salmon

6.2.1.1 Commercial fisheries

The Deep Inlet THA is defined in 5 AAC 33.376(b) Deep Inlet THA and will be modified by emergency order (1E0823) for the 2023 season as follows: Deep Inlet, Aleutkina Bay, and contiguous waters south of a line from a point west of Pirate Cove at 56°59.35' N lat, 135°22.63' W long to the westernmost tip of Long Island at 56°59.98' N lat, 135°21.93' W long to the easternmost tip of Long Island at 56°59.95' N lat, 135°20.37' W long to the westernmost tip of Emgeten Island at 57°00.08' N lat, 135°20.01' W long to the westernmost tip of Error Island at 57°00.54' N lat, 135°19.50' W long to the westernmost tip of Berry Island at 57°00.32' N lat, 135°18.68' W long to the southernmost tip of Berry Island at 57°00.28' N lat, 135°18.52' W long to the westernmost tip of the southernmost island in the Kutchuma Island group at 57°00.14' N lat, 135°18.27' W long to the easternmost tip of the southernmost island in the Kutchuma Island group at 57°00.06' N lat, 135°17.95' W long to the westernmost tip of an unnamed island at 57°00.29' N lat, 135°17.66' W long to a point on the southern side of the unnamed island at 57°00.07' N lat, 135°16.80' W long to a point on the Baranof Island Shore at 56°59.93' N lat, 135°16.53' W long with the following restrictions:

Sandy Cove: all waters south of 56°59.05' N lat will be closed.

Deep Inlet THA west of 135°20.75' W long: will be closed to purse seine and drift gillnet gear from June 1 through June 17.

In 2012, the BOF increased troll fishery access to hatchery-produced Chinook salmon by revising the western Deep Inlet THA boundary as follows: West of 135°20.75'W long will be closed to purse seine and drift gillnet gear beginning with the first EO of the season through the third Saturday in June (Figure 3).

Most of the common property harvest of Chinook and chum salmon can be expected to take place in the Deep Inlet THA by drift gillnet and purse seine gear, but some harvest is likely to occur outside the THA by troll and purse seine gear as well. In recent years the troll harvest outside of the THA has been increasing substantially.

During the past five seasons, significant harvests of hatchery Chinook salmon by net gear have generally occurred after the first week of June. The BOF adopted regulatory language during its February 2018 meeting requiring the time ratio for gillnet opening to seine openings as 1:1 for the 2019–2020 seasons. The sunset date for this regulation was extended in 2021, maintaining the 1:1 ratio for the 2021 season. The BOF, during its rescheduled SE meeting in March 2022, adopted regulatory language requiring the time ratio for gillnet openings to seine openings as 1:1, with no sunset provisions and no alternate ratios.

The rotational net fishery in the Deep Inlet THA during Chinook and chum salmon management will begin on June 1 with a 1:1 gillnet to seine ratio. Troll to be allowed on days when no net group is open. The following rotational fishing schedule will be in effect during the 2023 season from June 1 through September 20, 2023, unless changed by a subsequent announcement:

Seine:

- From June 1 through August 12, the purse seine fishery will be open from 5:00 a.m. to 8:00 p.m., Sunday, Thursday, and Friday of each week.
- From August 13 through September 20, the purse seine fishery will be open from 6:00 a.m. to 9:00 p.m., Sunday, Thursday, and Friday of each week.

Gillnet:

- From June 1 through August 12, the drift gillnet fishery will be open from 5:00 a.m. to 8:00 p.m., Monday, Tuesday, and Wednesday of each week.
- From August 13 through September 20, the drift gillnet fishery will be open from 6:00 a.m. to 9:00 p.m., Monday, Tuesday, and Wednesday of each week.

Troll:

- From June 1 through September 20, the troll fishery will be open from 12:01 a.m. to 11:59 p.m., Saturday of each week and during those periods the net fisheries are closed.
- Additionally, From June 1 through June 17 only, the troll fishery will be open continuously within the boundaries of the Deep Inlet THA west of 135°20.75' W long.

If a closure of the Deep Inlet THA becomes necessary, it is expected to occur after a gillnet day. While every effort will be made to provide longer notice, the closure announcement may have to be made on less than 24-hour notice, followed by a single troll day. The rotational schedule of seine, gillnet and troll days in effect at the time will follow.

In 2023, cost-recovery harvest is not expected. The Deep Inlet THA may be closed by EO if necessary to meet cost recovery and/or broodstock goals.

6.2.1.1.2 Coho salmon

It is anticipated that a majority of the coho salmon returning to Deep Inlet will be caught in the Deep Inlet THA. No changes to the existing Chinook and chum salmon management strategies are anticipated for coho salmon returning to Deep Inlet. If insufficient numbers of broodstock are returning to MCH, commercial and sport fishing in Bear Cove and Deep Inlet may be restricted in consultation with ADF&G if necessary to ensure broodstock goals are met.

6.2.1.2 Sport fisheries

Sport fisheries will be open in the Deep Inlet THA/SHA and managed according to regional sport fishing regulations. If necessary to protect broodstock, sport fishing may be closed by EO. If the number of Chinook salmon returning to MCH is expected to exceed broodstock needs, the sport fish bag and possession limit may be increased. This increase of the sport fish Chinook salmon bag and possession limit will be limited to the waters of Silver Bay east of a line from Entry Point to Silver Point.

6.2.3 Sitka area Chinook salmon troll

MCH Chinook salmon will be captured in outer coastal waters during the traditional summer troll season beginning July 1. Additionally, these Chinook salmon will be caught in spring troll fisheries from May 1 through June. Details of the spring troll fisheries are provided in a department advisory announcement dated April 29, 2023. ADF&G will not publish a management plan for the 2023 spring troll season; however, a general overview of the management approach and objectives for spring troll fisheries may be referenced in the 2022 Spring Troll Fishery Management Plan available in area offices and on the spring troll webpage. Maps and areas descriptions for 2023 spring troll and Terminal Harvest Areas are also available on the spring troll webpage.

To protect broodstock and ensure cost-recovery opportunity, the waters east of a line extending south from a point along the south shore of Bear Cove at 57°00.767'N lat, 135°09.085'W long, to a point along the south shore of Bear Cove at 57°00.940'N lat, 135°09.232'W long will be closed to commercial fishing (Figure 2). When Chinook salmon begin returning to Silver Bay, the Bear Cove SHA may be closed by emergency order (EO), if necessary, to secure adequate broodstock. Cost-recovery harvests are expected to begin mid-May.

6.2.3 Sitka area chum salmon troll

Troll gear harvest of returning chum salmon typically takes place in Eastern Channel and in Sitka Sound from the last week of July through the mid-August troll closure. Beginning in 2000, regulation allows ADF&G, through EO authority, to open waters of Eastern Channel and Sitka Sound, specified in 5 AAC 29.112 to troll gear for chum salmon harvest during the August region-wide troll closure for coho salmon. These waters include an area north and east of a line from Cape Burunof to Kulichkof Rock to Vitskari Rocks to the south shore of Kruzof Island near Inner Point and then along a line from Inner Point to Black Rock to Signal Island light (Figure 4). Opening chum salmon trolling in Sitka Sound during the August coho salmon closure occurs in consultation with NSRAA and is contingent upon adequate chum salmon returns for broodstock. NSRAA is

anticipating a fall chum broodstock shortfall to Bear Cove. This may predicate the request to not open the area to troll gear, pending timing of the August coho closure.

6.2.4 Chum salmon in Sitka area seine fisheries

In season monitoring of seine catches in the traditional seine fishery in Eastern Channel may be used to adjust fishing area boundaries to focus the harvest on pink salmon, if NSRAA is in jeopardy of not achieving broodstock needs. Areas where catch is shown to be almost entirely chum salmon may be closed. Line changes will not be made to alleviate the harvest of hatchery chum salmon in areas where pink salmon surpluses are available. To ensure adequate chum salmon broodstock to MCH, the department will generally not open the waters of Silver Bay east of a line from Entry Point to Silver Point to the traditional seine fishery (5 AAC 33.375). However, if openings are desired in Silver Bay due to substantial surpluses of wild stock pink salmon or hatchery chum salmon observed in the terminal areas in front of Sawmill Creek or Salmon Lake, the department may consult with NSRAA to ensure hatchery broodstock requirements are not jeopardized.

In 2021, an unexpected large return of Bear Cove chum salmon (3 year old primarily) had an effect on the migration of all MCH chum from the deep waters of Eastern Channel into the Deep Inlet THA and Silver Bay SHA. A large body of fish (mixed release origin) staged in the Sawmill Creek area, and in consultation with ADF&G, NSRAA conducted one day of targeted cost recovery harvest in front of Sawmill Creek. When determined that the body of fish was significantly larger than expected, a commercial seine opening was executed in a larger but confined area to target those fish. Returns to Bear Cove in 2023 are not expected to produce additional cost recovery or common property harvest opportunity.

6.2.5 Crawfish Inlet

The NSRAA Board has given the Crawfish Inlet THA a troll preference. NSRAA plans to cost recovery harvest \$4,110,000 worth of returning chum salmon to Crawfish Inlet in 2023 (50% of the total chum cost recovery value required by the organization). After the cost recovery goal is met, purse seine openings will begin as needed to keep up with the return. Seine openings are planned only within the SHA, but ADF&G may direct either cost recovery or commercial common property seine openings to occur in West Crawfish Inlet if a significant build up of chum salmon occurs. It is NSRAA's priority that if West Crawfish must be opened it is performed as cost recovery to minimize impacts to the troll fishery. The current harvest plan is to allow continuous chum salmon troll opportunity in the Crawfish Inlet THA (Figure 7) from July 16 until September 1. An estimated 867,000 returning age 3-6 chum salmon are expected to return in 2023. Of these, a common property harvest of approximately 476,000 is anticipated.

6.3 *Cost-recovery harvest*

The Bear Cove, Silver Bay, and Deep Inlet SHAs for Chinook, coho, and chum salmon are described in 5 AAC 40.042(a)(4)(6)(7) (Figures 2 and 5). The Crawfish Inlet SHA for chum salmon is described as all waters within Crawfish Inlet east of 135°11.05' W. longitude (Figure

6). If a broodstock closure is in place and cost recovery harvest is necessary, every effort will be made to minimize cost recovery harvest of the species closed to common property harvest.

Chinook Salmon

Minimal cost recovery on Chinook salmon is anticipated in 2023 due to the recent low marine survivals and due to needing brood to achieve egg take goals. Chinook salmon may be harvested in a cost recovery fishery with beach seine, purse seine, dip net, or gillnet gear.

Chum Salmon

No cost recovery is planned for Deep Inlet. NSRAA plans to take \$4,110,000 worth of chum salmon from Crawfish Inlet in 2023.

Beginning in 2020, regulation allows ADF&G, through EO authority, to open waters of West Crawfish Inlet and the Crawfish Inlet THA, specified in 5 AAC 29.112(b)(3) and (4) to troll gear for chum salmon harvest during the August region-wide troll closure for coho salmon (Figure 8).

Notwithstanding 5 AAC 33.330, legal gear type for the hatchery permit holder in the SHA is purse seine, beach seine, gillnet, troll gear, and dip net. NSRAA may be required to remove unharvested chum salmon remaining in the terminal harvest area should a significant number remain after common property fisheries have ceased. Additionally, NSRAA may be required to remove unharvested chum salmon remaining in the terminal harvest area should a significant number remain after common property fisheries have ceased to diminish straying potential to West Crawfish Inlet systems.

Bear Cove and Deep Inlet coho salmon

Hatchery-reared Salmon Lake stock coho salmon return to Bear Cove and Deep Inlet. There are no current cost-recovery needs. NSRAA will prevent buildups of fish at the head of Deep Inlet through common property rotational fisheries. After the chum salmon closure, any surplus fish may be harvested by a cost-recovery fishery, with efforts at MCH being limited to the Bear Cove coho SHA.

The department will be given 48-hour advance notice if coho-directed cost recovery will occur at the Bear Cove SHA. Contacts for this are Sitka Sport Fish Area Manager and Commercial Fisheries Area Management Biologist.

7.0 EVALUATION

7.1 Mark/Tag Recovery Program

NSRAA has an extensive mark/tag recovery program and obtains CWT and otolith samples through three primary means: commercial harvests, cost recovery, rack recoveries. Sampling is performed weekly throughout the adult return season.

NSRAA will sample CWTs and otoliths in commercial harvests in the Bear Cove, Silver Bay, Deep Inlet, and Crawfish Inlet SHAs to estimate contribution to common property fisheries, especially

with regard to chum salmon. NSRAA will sample CWTs and otoliths from cost recovery harvests to estimate the number, species, and origin of salmon harvested in the SHAs. NSRAA will sample CWTs and otoliths at the hatchery rack to estimate stock proportions and origin.

All NSRAA CWT and otolith sampling information collected at the rack and in the commercial and cost recovery fisheries will be utilized to estimate marine survival by species, stock, and brood year. NSRAA also utilizes the ADF&G CWT database of recoveries of mixed stock fisheries to provide additional contribution and marine survival information on NSRAA produced salmon.

For individual species mark rates and types, see relevant species production sections.

7.2 *Salmon Lake operations*

Understanding the interactions between hatchery-produced salmon and wild stock salmon is important because wild stocks are provided protection from adverse impacts from artificial propagation and enhancement efforts (5 AAC 39.222). The monitoring of Salmon Lake began in 2001 following concerns about a declining trend in coho salmon escapement to Salmon Lake due to increased exploitation as a result of the stock's proximity to concentrated commercial effort on hatchery stocks, sport fishing effort, and a federal coho salmon subsistence fishery. There are two important aspects for assessing the population of Salmon Lake coho salmon: (1) ensuring adequate escapement of wild stock coho salmon into Salmon Lake; and (2) evaluating the stray proportion of hatchery-produced coho salmon into Salmon Lake as production increases to stated goals. As stated in the BMP, the AMP will take into consideration protection of a minimal necessary escapement of wild coho salmon to Salmon Lake. Using historical escapement data (M. Stopha, unpublished data) and standard methods for setting ADF&G escapement goals (Percentile Method: Clark et al. 2014) a minimum of 700 wild stock coho salmon is necessary to maintain a sustainable stock. This number is not an official ADF&G escapement goal but rather a lower bound escapement objective, or threshold, that the department will consider when making management decisions.

The coho salmon section of this document describes the release goals at full production as 2 million hatchery-produced coho salmon smolt at Deep Inlet and 200,000 smolt at Bear Cove. Based on rearing space available and maximum density, NSRAA considers full production as 1.8 million smolt at Deep Inlet and 200,000 smolt at Bear Cove. Return years 2020 and 2021 were from full production releases of 2.0 million and 1.8 million smolt respectively. See appendix B table B2 for all Salmon Lake stock coho releases from Bear Cove and Deep Inlet.

Salmon Lake Escapement and Hatchery Stray Monitoring

The Salmon Lake Coho Salmon Escapement Assessment Operational Plan was developed cooperatively by ADF&G and NSRAA in 2017 and cooperatively updated for the 2019–2022 field seasons. This plan described the escapement and straying studies that were conducted at Salmon Lake. As agreed to in the operational plan, NSRAA applied for ADF&G Aquatic Resource Permits in order to conduct studies at Salmon Lake. Upon completion of the study, a project report will be provided that describes fulfillment of the project objectives and includes a summary of methods, results, and discussion of all aspects of this project. The operational plan was intended to cover

2019–2022, however the low stray proportion estimated by this study at current marking, tagging, and production levels suggested reducing the time period for the Salmon Lake coho salmon escapement assessment project by one year. NSRAA and ADF&G will work together to evaluate the need for any future Salmon Lake coho assessments. The Salmon Lake project equipment and supplies were collaboratively removed from the site in the summer and fall of 2022.

Production of Salmon Lake stock coho is not expected to increase over current production goals and the interception fisheries in the Deep Inlet THA and neighboring traditional areas have been executed in a similar fashion for the length of this project and are expected to continue as such into the future.

8.0 APPROVAL

Recommendation for Approval: Medvejie Creek Hatchery and Sawmill Creek Hatchery Annual Management Plan, 2023

Adam Olson, Operations Manager, NSRAA 5/5/2023

Troy Tydingco, Area Management Biologist, Division of Sport Fish 5/10/2023

Aaron Dupuis, Area Management Biologist, Division of Commercial Fisheries 5/5/2023

Matt Catterson for Judy Lum, Regional Supervisor, Division of Sport Fish 5/5/2023

Lowell Fair, Regional Supervisor, Division of Commercial Fisheries 5/5/2023

Lorraine Vercessi, PNP Hatchery Program Coordinator, Division of Comm. Fisheries 5/18/2023

Approval:

The 2023 Medvejie Creek Hatchery and Sawmill Creek Hatchery Annual Management Plan is hereby approved:

Tom Taube, Deputy Director, Division of Sport Fish 5/22/2023

Forrest Bowers, Operations Manager, Division of Commercial Fisheries 5/25/2023

APPENDICES

Appendix A: Medvejie Creek Hatchery Tables

- Table A1– Projected Returns
- Table A2,a,b,c– Chum salmon release and return data
- Table A3a,b– Chinook salmon release and return data
- Table A4– Coho salmon release and return data

Appendix B: Sawmill Creek Hatchery Tables

- Table B1– Projected Returns
- Table B2– Coho salmon egg take, release and return data
- Table B3– Chum salmon egg take, release and return data

Appendix C: Figures

- Figure C1– Coho salmon project locations
- Figure C2– Bear Cove and Silver Bay SHA
- Figure C3– Deep Inlet THA
- Figure C4– August terminal chum salmon trolling area
- Figure C5– Silver Bay and Deep Inlet THA
- Figure C6– Crawfish Inlet SHA
- Figure C7– Crawfish Inlet Troll/Net THA
- Figure C8– Waters open to chum trolling in Crawfish Inlet THA and West Crawfish Inlet during coho closure.

Appendix D: Timelines

- Timelines

Appendix E: Fish Transport Permits

- Fish Transport Permits

Appendix A: Medvejie Creek Hatchery Tables

Table A1. Projected Returns to Programs of the Medvejie Creek Hatchery for 2023 by Species and Location

Schedule D-1
PROJECTED RETURNS FOR 2023

Medvejie

Run	Species	First Brood Year	Last Brood Year	Release Site	Total number of fish expected	Range of expected return	
						minimum	maximum
SUMMER	CHINOOK	2020		BEAR COVE 113-41	31	15	46
SUMMER	CHINOOK	2019		BEAR COVE 113-41	10,329	5,164	15,493
SUMMER	CHINOOK	2019		BEAR COVE 113-41	166	83	249
SUMMER	CHINOOK	2018		BEAR COVE 113-41	2,045	1,023	3,068
SUMMER	CHINOOK	2017		BEAR COVE 113-41	422	211	633
CHINOOK BEAR COVE 113-41					12,993	6,496	19,489
SUMMER	CHINOOK	2020		CRAWFISH INLET 113-33	58	29	87
SUMMER	CHINOOK	2019		CRAWFISH INLET 113-33	24	12	36
SUMMER	CHINOOK	2019		CRAWFISH INLET 113-33	200	100	300
SUMMER	CHINOOK	2018		CRAWFISH INLET 113-33	34	17	51
SUMMER	CHINOOK	2018		CRAWFISH INLET 113-33	56	28	84
CHINOOK CRAWFISH INLET 113-33					372	186	558
SUMMER	CHINOOK	2019		CRESCENT BAY 113-41	1,324	662	1,987
SUMMER	CHINOOK	2018		CRESCENT BAY 113-41	494	247	741
CHINOOK CRESCENT BAY 113-41					1,818	909	2,728
SUMMER	CHUM	2017	2020	BEAR COVE 113-41	29,000	14,000	58,000
SUMMER	CHUM	2017	2020	BEAR COVE 113-41	143,000	56,000	262,000
SUMMER	CHUM	2017	2020	DEEP INLET 113-41	98,000	41,000	196,000
SUMMER	CHUM	2017	2020	DEEP INLET 113-41	559,000	278,000	839,000
CHUM					829,000	389,000	1,355,000
SUMMER	PINK	2021	2021	BEAR COVE 113-41	2,660	1,330	5,320
PINK					2,660	1,330	5,320

Table A2. Chum salmon egg take, release and survival data for the Medvejje Creek Hatchery BY 1981-2021.

Brood Year	Percent	Stocks Used	Number Eggs	Number Released	Average Weight	Release Date	Hatchery Survival	Number Return	Marine Survival
1981	100	Medvejje	255,855	223,697	1.68	05/16/82	87.4%	36,437	16.29%
1982	28	Medvejje	820,800	706,713	2.30	04/26/83	86.1%		
1982	27	Nakwasina	812,000	656,586	1.57	04/26/83	80.9%		
1982	45	Salmon Lake	1,330,000	1,097,414	2.30	04/26/83	82.5%		
1982			2,962,800	2,460,713	2.11			216,153	8.78%
1983	31	Medvejje	822,483	794,282	1.54	04/18/84	96.6%		
1983	26	Nakwasina	696,100	668,000	0.83	04/18/84	96.0%		
1983	43	Salmon Lake	1,124,982	1,096,000	1.73	04/18/84	97.4%		
1983			2,643,565	2,558,282	1			111,821	4.37%
1984	15	Medvejje	1,033,500	912,400	1.10	05/03/85	88.3%		
1984	60	Nakwasina	4,066,000	3,802,398	1.25	05/03/85	93.5%		
1984	25	Salmon Lake	1,623,800	1,517,602	1.25	05/03/85	93.5%		
1984			6,723,300	6,232,400	1			35,396	0.57%
1985	70	Medvejje	18,721,000	17,662,005	0.85	5/5,7/86	94.3%		
1985	28	Deep Inlet	7,579,400	7,085,500	0.83	5/5,7/86	93.5%		
1985	2	Salmon Lake	496,400	475,900	1.24	05/05/86	95.9%		
1985			26,796,800	25,223,405	1			139,402	0.55%
1986	100	Medvejje	31,013,000	27,516,200	1.88	5/2,4/87	88.7%	137,228	0.50%
1987	100	Medvejje	29,298,700	28,140,700	1.95	05/05/88	96.0%	42,677	0.15%
1988	48	Medvejje	8,568,000	8,052,363	1.75	05/05/89	94.0%		
1988	52	Deep Inlet	9,184,000	8,321,937	1.50	05/05/89	90.6%		
1988			17,752,000	16,374,300	2			287,149	1.75%
1989	37	Medvejje	14,199,100	13,143,500	2.22	4/9,16,18,26,27	92.6%		
1989	44	Deep Inlet	16,970,000	14,913,600	1.70	4/18,26	87.9%		
1989	19	Hidden Falls	7,100,000	6,348,000	1.51	4/26	89.4%		
1989			38,269,100	34,405,100	2			1,933,343	5.62%
1990	59	Medvejje	19,974,000	17,073,500	2.62	4/5,22,27,5/4	85.5%		
1990	41	Hidden Falls	13,820,000	12,574,500	1.82	5/4	91.0%		
1990			33,794,000	29,648,000	2.28			1,370,617	4.62%
1991	37.5	Medvejje	9,664,000	8,745,400	1.77	4/24,25,27,5/4	90.5%		
1991	11	Deep Inlet	2,836,000	2,598,000	1.87	4/25	91.6%		
1991	51.5	Hidden Falls	13,473,000	12,011,000	1.46	4/25,5/4	89.1%		
1991			25,973,000	23,354,400	1.62		89.9%	488,368	2.09%
1992	56	Medvejje	17,689,900	16,570,500	1.95	4/28,30&5/3/93	93.7%		
1992	44	Hidden Falls	14,010,000	13,160,000	1.84	4/26&5/3/93	93.9%		
1992			31,699,900	29,730,500	1.90		93.8%	2,708,660	9.11%
1993	61	Medvejje	19,439,300	18,034,800	2.00	4/18,19,22,26/94	92.8%		
1993	39	Hidden Falls	12,480,000	11,230,000	1.72	04/26/94	90.0%		
1993			31,919,300	29,264,800	1.89		91.7%	3,258,597	11.13%
1994	63	Medvejje	21,448,500	20,476,800	1.71	4/25,29/95	95.5%		
1994	37	Hidden Falls	12,360,000	11,567,000	1.01,1.60	4/20,29/95	93.6%		
1994			33,808,500	32,043,800	1.51			2,734,032	8.53%

Table A2. Chum salmon egg take, release and survival data for the Medvejie Creek Hatchery BY 1981-2021.

(Cont.)

Brood Year	Percent	Stocks Used	Number Eggs	Number Released	Average Weight	Release Date	Hatchery Survival	Number Return	Marine Survival
1995	66	Medvejie	27,600,000	26,312,000	1.59	4/27,5/3/96	95.3%		
1995	34	Hidden Falls	14,000,000	13,266,000	1.4996849	4/27,5/2&3/96	94.8%		
1995			41,600,000	39,578,000	1.56			2,637,691	6.66%
1996	66	Medvejie	27,600,000	25,815,000	1.82	4/25&30,5/2/97	93.5%		
1996	34	Hidden Falls	14,000,000	12,760,000	1.72	4/29,5/2/97	91.1%		
1996			41,600,000	38,575,000	1.79			5,132,505	13.31%
1997	66	Medvejie	27,544,000	26,374,000	2.34	4/17,18,23,24/98	95.8%		
1997	34	Hidden Falls	14,000,000	12,946,000	2.35	35903.00	92.5%		
1997			41,544,000	39,320,000	2.34			750,129	1.91%
1998	66	Medvejie	27,550,000	26,487,000	2.11	4/18,23,29,30/99	96.1%		
1998	34	Hidden Falls	14,000,000	13,353,000	2.10	4/18,23,29/99	95.4%		
1998			41,550,000	39,840,000	2.11			602,766	1.51%
1999	66	Medvejie	27,330,000	26,014,000	1.80	4/24,5/2,4/00	95.2%		
1999	34	Hidden Falls	14,000,000	13,057,000	1.68	04/24/00	93.3%		
1999			41,330,000	39,071,000	1.76			1,171,444	3.00%
2000	68	Medvejie	29,484,000	27,751,600	1.98	4/23,24,29,5/3,4/01	94.1%		
2000	32	Hidden Falls	14,000,000	13,174,000	1.88	4/23,29/01	94.1%		
2000			43,484,000	40,925,600	1.95			1,963,110	4.80%
2001	55	Medvejie	27,750,000	26,283,800	2.13	4/25,29,30,5/5,5/7/02	94.7%		
2001	45	Hidden Falls	23,000,000	21,458,000	2.06	4/25,29,5/5/02	93.3%		
2001			50,750,000	47,741,800	2.10			2,017,267	4.23%
2002	76	Medvejie	39,000,000	36,817,000	2.11	4/15,17,24,26,29	94.4%		
2002	24	Hidden Falls	12,000,000	11,391,000	2.06	4/15,24/03	94.9%		
2002			51,000,000	48,208,000	2.10			2,082,882	4.32%
2003	50	Medvejie	27,370,000	25,084,100	2.11	4/26,28,29,30,5/17,18	91.6%		
2003	44	Hidden Falls	24,080,400	22,454,550	2.45	4/26,29,5/17/04	93.2%		
2003		NSRAA Totals:	51,450,400	47,538,650	0.00			946,254	1.99%
		SJC co-op fry (Medvejie stock):	3,540,000	3,257,000	2.20	04/26/04	92.0%	79,741	2.45%
		Total incl SJC co-op fry:	54,990,400	50,795,650	2.27			1,025,995	2.02%
2004	49	Medvejie	27,710,000	25,076,900	2.52	4/21,25,29,5/5,12/05	90.5%		
2004	44	Hidden Falls	24,990,000	23,551,000	2.50	4/21,24,25,27,5/21/05	94.2%		
2004		NSRAA Totals:	52,700,000	48,627,900	2.51			870,014	1.79%
		SJC co-op fry (Medvejie stock):	3,590,000	3,249,000	2.02	04/21/05	90.5%	63,016	1.94%
		Total incl SJC co-op fry:	56,290,000	51,876,900	2.48			933,030	1.80%
2005	53	Medvejie	33,986,000	31,623,323	2.58	4/14,22,23,26,5/5,5/7/06	93.0%		
2005	38	Hidden Falls	24,541,840	23,246,064	2.45	4/18,20,5/17/06	94.7%		
2005		NSRAA Totals:	58,527,840	54,869,387	2.52			614,767	1.12%
		SJC co-op fry (Medvejie stock):	5,478,367	5,098,000	2.08	4/14,26/06	93.1%	57,118	1.12%
		Total incl SJC co-op fry:	64,006,207	59,967,387	2.49			671,885	1.12%
2006	49	Medvejie	32,261,000	31,170,401	2.46	4/29,5/9,10,17,19,20,23/07	96.6%		
2006	37	Hidden Falls	24,700,020	21,888,618	2.29	5/3,10,28/07	88.6%		
2006		NSRAA Totals:	56,961,020	53,059,019	2.39			1,500,525	2.83%
		SJC co-op fry (Medvejie stock):	9,126,429	8,818,000	2.07	4/29,5/10,17,20/07	96.6%	249,376	2.83%
		Total incl SJC co-op fry:	66,087,449	61,877,019	2.34			1,749,901	2.83%

Table A2. Chum salmon egg take, release and survival data for the Medvejie Creek Hatchery BY 1981-2021.

(Cont.)

Brood Year	Percent	Stocks Used	Number Eggs	Number Released	Average Weight	Release Date	Hatchery Survival	Number Return	Marine Survival
2007	49	Medvejie	32,183,778	28,933,505	2.66	5/15,20,25,6/1/08	89.9%		
2007	38	Hidden Falls	25,245,800	23,701,769	2.41	5/15,20,6/6/08	93.9%		
2007		NSRAA Totals:	57,429,578	52,635,274	2.55			250,163	0.48%
		SJC co-op fry (Medvejie stock):	8,450,272	8,083,000	2.03	5/15,20,25/08	95.7%	38,417	0.48%
		Total incl SJC co-op fry:	65,879,850	60,718,274	2.48			288,580	0.48%
2008	50	Medvejie	27,757,612	26,286,868	2.31	5/17,22,27,6/1/09	94.7%		
2008	36	Hidden Falls	19,635,759	18,600,504	2.22	05/22/09	94.7%		
2008		NSRAA Totals:	47,393,371	44,887,372	2.27			391,097	0.87%
		SJC co-op fry (Medvejie stock):	7,806,637	7,393,000	2.25	5/17,22,6/1/09	94.7%	64,414	0.87%
		Total incl SJC co-op fry:	55,200,008	52,280,372	2.27			455,511	0.87%
2009	48	Medvejie	30,947,448	29,717,235	2.09	4/29,5/6,7,14/10	96.0%		
2009	38	Hidden Falls	24,255,000	22,719,243	2.13	4/29,5/6/10	93.7%		
2009		NSRAA Totals:	55,202,448	52,436,478	2.11			2,382,624	4.54%
		SJC co-op fry (Medvejie stock):	8,703,999	8,358,000	2.06	4/29,5/6/10	96.0%	379,774	4.54%
		Total incl SJC co-op fry:	63,906,447	60,794,478	2.10			2,762,398	4.54%
2010	49	Medvejie	31,972,238	30,350,052	2.17	4/28,5/2,3,9,10,12/2011	94.9%		
2010	37	Hidden Falls	23,857,144	21,804,394	2.15	5/2,9/2011	91.4%		
2010		NSRAA Totals:	55,829,382	52,154,446	2.16			774,926	1.49%
		SJC co-op fry (Medvejie stock):	8,992,243	8,536,000	2.19		94.9%	126,830	1.49%
		Total incl SJC co-op fry:	64,821,625	60,690,446	2.16			901,756	1.49%
2011	51	Medvejie	38,521,926	35,607,422	1.87	4/30,5/1,2,5,6,7,8,9/2012	92.4%		
2011	32	Hidden Falls	24,345,075	23,936,742	1.66	4/30,5/2,3,4,6,7/2012	83.9%		
2011		Port Armstrong (HF)	4,197,592						
2011		NSRAA Totals:	67,064,593	59,544,164	1.78			2,198,809	3.69%
		SJC co-op fry (Medvejie stock):	8,254,523	7,630,000	1.55		92.4%	281,756	3.69%
		Total incl SJC co-op fry:	75,319,116	67,174,164	1.76			2,480,565	3.69%
2012	57	Medvejie	42,206,625	39,743,004	2.42	5/11,15,20,21,24,30,31/2013	94.2%		
2012	30	Hidden Falls	22,269,000	21,135,908	1.86	5/7,8,9,10,23/2013	94.9%		
2012		NSRAA Totals:	64,475,625	60,878,912	2.23			1,213,700	1.99%
		SJC co-op fry (Medvejie stock):	9,043,896	8,516,000	1.56		94.2%	169,778	1.99%
		Total incl SJC co-op fry:	73,519,521	69,394,912	2.15			1,383,478	1.99%
2013	58	Medvejie	43,380,397	40,903,661	2.64	4/22,23,24,27,28,29,5/1,8,9,10,1 2,13/2014	94.3%		
2013	30	Hidden Falls	22,526,235	21,348,596	1.96	5/5,6,7,8/2014	94.8%		
2013		NSRAA Totals:	65,906,632	62,252,257	2.41			1,557,567	2.50%
		SJC co-op fry (Medvejie stock):	9,295,799	8,765,000	2.02		94.3%	219,302	2.50%
		Total incl SJC co-op fry:	75,202,431	71,017,257	2.36			1,776,869	2.50%
2014	74	Medvejie	63,531,914	57,215,334	2.46	4/12,13,14,17,19,20,21,22,23,24 ,29,30/2015	90.1%		
2014	16	Hidden Falls	13,467,577	11,183,247	1.99	4/28,29/2015	83.0%		
2014		NSRAA Totals:	76,999,491	68,398,581	2.38			516,392	0.75%
		SJC co-op fry (Medvejie stock):	9,075,988	8,174,000	2.00		90.1%	61,680	0.75%
		Total incl SJC co-op fry:	86,075,479	76,572,581	2.34			578,072	0.75%
2015	62	Medvejie	53,084,084	41,607,546	2.68	4/10,11,12,13,16,21,25,28, 5/10/2016	78.4%		
2015	28	Hidden Falls	23,991,200	20,373,245	2.02	4/10,12,13/16	84.9%		
2015		NSRAA Totals:	77,075,284	61,980,791	2.46			1,911,291	3.08%
		SJC co-op fry (Medvejie stock):	9,014,278	7,065,000	2.47		78.4%	217,862	3.08%
		Total incl SJC co-op fry:	86,089,562	69,045,791	2.46	4/14,15,16,21,25,26,30		2,129,153	3.08%

Table A2. Chum salmon egg take, release and survival data for the Medvejie Creek Hatchery BY 1981-2021.

(Cont.)

Brood Year	Percent	Stocks Used	Number Eggs	Number Released	Average Weight	Release Date	Hatchery Survival	Number Return	Marine Survival
2016	62	Medvejie	53,180,614	32,427,754	2.81	5/1,2,11,20,24/2017	61.0%		
2016	28	Hidden Falls	24,180,464	19,615,191	2.03	4/19,20,23,24/2017	81.1%		
2016		NSRAA Totals:	77,361,078	52,042,945	2.51			437,778	0.84%
		SJC co-op fry (Medvejie stock):	9,092,112	5,507,000	2.63		60.6%	46,324	0.84%
		Total incl SJC co-op fry:	86,453,190	57,549,945	2.53			484,102	0.84%
2017	50	Medvejie	53,241,943	45,802,424	2.99	5/3,4,5,6,7,10,20,23/2018	86.0%		
2017	41	Hidden Falls	44,115,480	32,371,252	2.64	4/24,25,27,28,29,5/18,19,22/2018			
						8	73.4%		
2017		NSRAA Totals:	97,357,423	78,173,676	2.84			1,017,704	1.30% *
		SJC co-op fry (Medvejie stock):	9,003,480	7,780,000	1.72		86.4%	101,284	1.30%
		Total incl SJC co-op fry:	106,360,903	85,953,676	2.74			1,118,988	1.30%
2018	91	Medvejie	88,327,795	58,919,776	3.13	4/1,2,6,12,14,15,16,18,23,28,29,30,5/1,2,3,5,12/19	66.7%		
2018	0	Hidden Falls	0	0					
2018		NSRAA Totals:	88,327,795	58,919,776	3.13			1,127,478	1.91% *
		SJC co-op fry (Medvejie stock):	9,000,000	7,522,000	4.06		83.6%	143,940	1.91%
		Total incl SJC co-op fry:	97,327,795	66,441,776	3.24			1,271,418	1.91%
2019	39	Medvejie	32,634,119	27,137,191	3.11	4/16,22,28,30, 5/4,13,14/20	83.2%		
2019	51	Hidden Falls	42,698,439	33,796,460	3.03	4/22/2020, 5/13,14/2020	79.2%		
2019		NSRAA Totals:	75,332,558	60,933,651	3.07			647,947	1.06% *
		SJC co-op fry (Medvejie stock):	9,000,000	7,607,000	2.01		84.5%	17,518	0.23%
		Total incl SJC co-op fry:	84,332,558	68,540,651	2.54			665,465	0.97%
2020	43	Medvejie	35,935,643	35,765,625	3.11	4/24,5/15,5/24,5/11/21	99.5%		
2020	47	Hidden Falls	39,285,293	35,692,961	3.11	4/17/2021, 5/11/2021	90.9%		
2020		NSRAA Totals:	75,220,936	71,458,586	3.11				
		SJC co-op fry (Medvejie stock):	9,000,000	6,073,349	3.94				
		Total incl SJC co-op fry:	84,220,936	77,531,935	3.53				
2021		Medvejie	35,821,616	33,727,656	3.00	4/27/2022, 5/12,13,23/2022	94.2%		
2021		Hidden Falls	54,947,886	50,982,098	2.90	4/26/2022, 5/23/2022	92.8%		
2021		NSRAA Totals:	90,769,502	84,709,754	2.95				
		SJC co-op fry (Medvejie stock):	9,000,000	7,423,000	1.96				
		Total incl SJC co-op fry:	99,769,502	92,132,754	2.46				

Table A2a. Medvejie/ Deep Inlet Chum Release History
By Stock

Brood Year	Release Year	STOCK		Total Release
		Medvejie	Hidden Falls	
1981	1982	223,697		223,697
1982	1983	2,460,713		2,460,713
1983	1984	2,558,282		2,558,282
1984	1985	6,232,400		6,232,400
1985	1986	25,223,405		25,223,405
1986	1987	27,516,200		27,516,200
1987	1988	28,140,700		28,140,700
1988	1989	16,374,300		16,374,300
1989	1990	28,057,100	6,348,000	34,405,100
1990	1991	17,073,500	12,574,500	29,648,000
1991	1992	11,343,400	12,011,000	23,354,400
1992	1993	16,570,500	13,160,000	29,730,500
1993	1994	18,034,800	11,230,000	29,264,800
1994	1995	20,476,800	11,567,000	32,043,800
1995	1996	26,312,000	13,266,000	39,578,000
1996	1997	25,815,000	12,760,000	38,575,000
1997	1998	26,374,000	12,946,000	39,320,000
1998	1999	26,487,000	13,353,000	39,840,000
1999	2000	26,014,000	13,057,000	39,071,000
2000	2001	27,751,600	13,174,000	40,925,600
2001	2002	26,283,800	21,458,000	47,741,800
2002	2003	36,817,000	11,391,000	48,208,000
2003	2004	25,084,100	22,454,550	47,538,650
2004	2005	25,076,900	23,551,000	48,627,900
2005	2006	31,623,323	23,246,064	54,869,387
2006	2007	31,170,401	21,888,618	53,059,019
2007	2008	28,933,505	23,701,769	52,635,274
2008	2009	26,286,868	18,600,504	44,887,372
2009	2010	29,717,235	22,719,243	52,436,478
2010	2011	30,350,052	21,804,394	52,154,446
2011	2012	35,607,422	23,936,742	59,544,164
2012	2013	39,743,004	21,135,908	60,878,912
2013	2014	40,903,661	21,348,596	62,252,257
2014	2015	57,215,334	11,183,247	68,398,581
2015	2016	41,607,546	20,373,245	61,980,791
2016	2017	32,427,754	19,615,191	52,042,945
2017	2018	45,802,424	32,371,252	78,173,676
2018	2019	58,919,776	0	58,919,776
2019	2020	27,137,191	33,796,460	60,933,651
2020	2021	35,765,625	35,692,961	71,458,586
2021	2022	51,138,135	37,406,845	88,544,980

Note: SJH Co-op fry are not included in this table

Table A2b. Medvejie/ Deep Inlet Chum Release History
By Stock & Release Site

Brood Year	RELEASE SITE				DEEP INLET					Total Release	Release Year	
	Bear Cove		H. Falls Stock		Medvejie Stock Reg.	Medvejie L-L	H. Falls Stock Reg.	H. Falls L-L	D.I. Subtotal			
	Medvejie Stock Reg.	Medvejie L-L	Reg.	L-L								
1981	223,697									-	223,697	1982
1982	683,083				1,777,630					1,777,630	2,460,713	1983
1983	769,000				1,789,282					1,789,282	2,558,282	1984
1984	884,800				5,347,600					5,347,600	6,232,400	1985
1985	2,142,825				23,080,580					23,080,580	25,223,405	1986
1986	2,895,000				24,621,200					24,621,200	27,516,200	1987
1987	3,137,700				25,003,000					25,003,000	28,140,700	1988
1988	2,950,500				13,423,800					13,423,800	16,374,300	1989
1989	5,006,100				23,051,000			6,348,000		29,399,000	34,405,100	1990
1990	4,802,000				12,271,500			12,574,500		24,846,000	29,648,000	1991
1991	4,039,400				7,304,000			12,011,000		19,315,000	23,354,400	1992
1992	4,859,500				11,711,000			13,160,000		24,871,000	29,730,500	1993
1993	4,865,000				13,169,800			11,230,000		24,399,800	29,264,800	1994
1994	5,330,800				15,146,000			11,567,000		26,713,000	32,043,800	1995
1995	4,842,000				21,470,000			13,266,000		34,736,000	39,578,000	1996
1996	4,992,000				20,823,000			12,760,000		33,583,000	38,575,000	1997
1997	4,563,000				21,811,000			12,946,000		34,757,000	39,320,000	1998
1998	5,298,000				21,189,000			13,353,000		34,542,000	39,840,000	1999
1999	4,926,000				21,088,000			13,057,000		34,145,000	39,071,000	2000
2000	6,945,600				20,806,000			13,174,000		33,980,000	40,925,600	2001
2001	7,009,300				19,274,500			21,458,000		40,732,500	47,741,800	2002
2002	6,803,000				30,014,000			11,391,000		41,405,000	48,208,000	2003
2003	7,172,500				10,773,375	7,138,225		17,111,400	5,343,150	43,623,150	47,538,650	2004
2004	7,205,900				12,861,000	5,010,000		17,727,000	5,824,000	41,422,000	48,627,900	2005
2005	9,193,982				17,172,315	5,257,026		17,149,064	6,097,000	45,675,405	54,869,387	2006
2006	9,613,942				15,930,788	5,625,671		16,122,495	5,766,123	43,445,077	53,059,019	2007
2007	9,174,619				14,033,225	5,725,661		18,337,962	5,363,807	43,460,655	52,635,274	2008
2008	9,844,371				16,442,497	-		18,600,504	-	35,043,001	44,887,372	2009
2009	9,851,926				19,865,309	-		22,719,243	-	42,584,552	52,436,478	2010
2010	9,948,913				20,401,139	-		21,804,394	-	42,205,533	52,154,446	2011
2011	14,420,675	4,614,805			16,571,942	-		23,936,742	-	40,508,684	59,544,164	2012
2012	13,532,537	4,635,140			13,546,876	8,028,451		21,135,908	-	42,711,235	60,878,912	2013
2013	15,218,379	3,563,709			13,638,743	8,482,830		21,348,596	-	43,470,169	62,252,257	2014
2014	14,752,476	3,444,433			31,138,791	7,879,634		11,183,247	-	50,201,672	68,398,581	2015
2015	13,444,189	5,446,840			18,981,306	3,735,211		20,373,245	-	43,089,762	61,980,791	2016
2016	12,806,032	4,725,422			11,332,481	3,563,819		19,615,191	-	34,511,491	52,042,945	2017
2017	9,008,039	8,010,085	7,467,358	5,201,705	11,789,137	16,995,163		14,700,151	5,002,038	48,486,489	78,173,676	2018
2018	-	18,557,642	-	-	25,430,695	-		14,931,439	-	40,362,134	58,919,776	2019
2019	7,262,971	11,290,971	8,151,301	7,966,516	8,583,249	-		8,775,915	8,902,728	26,261,892	60,933,651	2020
2020	9,145,220	9,310,515	8,920,699	9,990,772	3,328,011	13,981,879		4,239,911	12,541,579	34,091,380	71,458,586	2021
2021	8,259,901	8,778,928	8,185,461	8,503,275	15,869,540	18,229,766		10,325,209	10,392,900	54,817,415	88,544,980	2022

Note: SJH Co-op fry are not included in this table

NOTES:

BY 2003 - First SJH Co-op fry release.

BY 2003 - First Late-Large releases.

Table A2c. Medveje/ Deep Inlet Chum Release History
By Stock & Release Site with Sheldon Jackson Hatchery Cooperative Chum

RELEASE SITE															
Brood	BEAR COVE					DEEP INLET							Total NSRAA Release	Total NSRAA + SJH Release	Release Year
	Medveje Stock Reg.	Medveje L-L	H. Falls Stock Reg.	H. Falls L-L	Bear Cove Subtotal	Medveje Stock Reg.	Medveje Stock Reg. SJH co-op	Medveje L-L	H. Falls Stock Reg.	H. Falls L-L	D.I. Subtotal				
1981	223,697				223,697							-	223,697	223,697	1982
1982	683,083				683,083	1,777,630					1,777,630	2,460,713	2,460,713	1983	
1983	769,000				769,000	1,789,282					1,789,282	2,558,282	2,558,282	1984	
1984	884,800				884,800	5,347,600					5,347,600	6,232,400	6,232,400	1985	
1985	2,142,825				2,142,825	23,080,580					23,080,580	25,223,405	25,223,405	1986	
1986	2,895,000				2,895,000	24,621,200					24,621,200	27,516,200	27,516,200	1987	
1987	3,137,700				3,137,700	25,003,000					25,003,000	28,140,700	28,140,700	1988	
1988	2,950,500				2,950,500	13,423,800					13,423,800	16,374,300	16,374,300	1989	
1989	5,006,100				5,006,100	23,051,000		6,348,000			29,399,000	34,405,100	34,405,100	1990	
1990	4,802,000				4,802,000	12,271,500		12,574,500			24,846,000	29,648,000	29,648,000	1991	
1991	4,039,400				4,039,400	7,304,000		12,011,000			19,315,000	23,354,400	23,354,400	1992	
1992	4,859,500				4,859,500	11,711,000		13,160,000			24,871,000	29,730,500	29,730,500	1993	
1993	4,865,000				4,865,000	13,169,800		11,230,000			24,399,800	29,264,800	29,264,800	1994	
1994	5,330,800				5,330,800	15,146,000		11,567,000			26,713,000	32,043,800	32,043,800	1995	
1995	4,842,000				4,842,000	21,470,000		13,266,000			34,736,000	39,578,000	39,578,000	1996	
1996	4,992,000				4,992,000	20,823,000		12,760,000			33,583,000	38,575,000	38,575,000	1997	
1997	4,563,000				4,563,000	21,811,000		12,946,000			34,753,000	39,320,000	39,320,000	1998	
1998	5,298,000				5,298,000	21,189,000		13,353,000			34,542,000	39,840,000	39,840,000	1999	
1999	4,926,000				4,926,000	21,088,000		13,057,000			34,145,000	39,071,000	39,071,000	2000	
2000	6,945,600				6,945,600	20,806,000		13,174,000			33,980,000	40,925,600	40,925,600	2001	
2001	7,009,300				7,009,300	19,274,500		21,458,000			40,732,500	47,741,800	47,741,800	2002	
2002	6,803,000				6,803,000	30,014,000		11,391,000			41,405,000	48,208,000	48,208,000	2003	
2003	7,172,500				7,172,500	10,773,375	3,257,000	7,138,225		5,343,150	43,623,150	47,538,650	50,795,650	2004	
2004	7,205,900				7,205,900	12,861,000	3,249,000	5,010,000		5,824,000	44,671,000	48,627,900	51,876,900	2005	
2005	9,193,982				9,193,982	17,172,315	5,098,000	5,257,026		6,097,000	50,773,405	54,869,387	59,967,387	2006	
2006	9,613,942				9,613,942	15,930,788	8,818,000	5,625,671		5,766,123	52,263,077	53,059,019	61,877,019	2007	
2007	9,174,619				9,174,619	14,033,225	8,083,000	5,725,661		5,363,807	51,543,855	52,635,274	60,718,274	2008	
2008	9,844,371				9,844,371	16,442,497	7,393,000	-		-	42,436,001	44,887,372	52,280,372	2009	
2009	9,851,926				9,851,926	19,865,309	8,358,000	-		-	50,942,552	52,436,478	60,794,478	2010	
2010	9,948,913				9,948,913	20,401,139	8,536,000	-		-	50,741,533	52,154,446	60,690,446	2011	
2011	14,420,675	4,614,805			19,035,480	16,571,942	7,630,000	-		-	48,138,684	59,544,164	67,174,164	2012	
2012	13,532,537	4,635,140			18,167,677	13,546,876	8,516,000	8,028,451		-	51,227,235	60,878,912	69,394,912	2013	
2013	15,218,379	3,563,709			18,782,088	13,638,743	8,765,000	8,482,830		-	52,235,169	62,252,257	71,017,257	2014	
2014	14,752,476	3,444,433			18,196,909	31,138,791	8,174,000	7,879,634		-	58,375,672	68,398,581	76,572,581	2015	
2015	13,444,189	5,446,840			18,891,029	18,981,306	7,065,000	3,735,211		-	50,154,762	61,980,791	69,045,791	2016	
2016	12,806,032	4,725,422			17,531,454	11,332,481	5,507,000	3,563,819		-	40,018,491	52,042,945	57,549,945	2017	
2017	9,008,039	8,010,085	7,467,358	5,201,705	29,687,187	11,789,137	7,780,000	16,995,163		5,002,038	56,266,489	78,173,676	85,953,676	2018	
2018	-	18,557,642	-	-	18,557,642	25,430,695	7,522,000	14,931,439		-	47,884,134	58,919,776	66,441,776	2019	
2019	7,262,971	11,290,971	8,151,301	7,966,516	34,671,759	8,583,249	7,607,000	-		8,775,915	8,902,728	33,868,892	60,933,651	68,540,651	2020
2020	9,145,220	9,310,515	8,920,699	9,990,772	37,367,206	3,328,011	6,073,349	13,981,879		4,239,911	12,541,579	40,164,729	71,458,586	77,531,935	2021
2021	8,259,901	8,778,928	8,185,461	8,503,275	33,727,565	15,869,540	7,423,000	18,229,766		10,325,209	10,392,900	62,240,415	88,544,980	95,967,980	2022

Table A3a. Chinook salmon egg take, release, and return data for the Medvejie Creek Hatchery , BY 1982-2021.

Brood Year	Broodstock Source	Number Eggs	Number Released	Release Date	Avg Wgt (g)	Hatchery Survival %	Adult Return	Marine Survival %	
1982	Andrew Creek	46,500	26,572	05/23/84	26.7	57.1	277	1.04	
1983	Andrew Creek	36,509	21,883	05/20/85	55.7	47.1	568	2.60	
1984	Crystal Lake	163,500	108,041	05/23/86	16.7	66.1	112	0.10	
1985	Crystal Lake	291,600	227,536	05/16/87	18.9	78	1,490	0.65	
1986	Crystal Lake Medvejie	223,850 4,209	174,577	05/13/88	33.3	78	5,991	3.43	
1987	Crystal Lake Medvejie	1,041,450 303,200	743,511	05/19/89 06/02/89	72.2 23.3	/1 /2	55.3	18,998	2.56
1988	Crystal Lake Medvejie Little Port W. ^{/12}	772,000 636,300 15,080	920,995	05/19/90 05/19/90 05/23/90	47.8 21.0 23.7	/1 /2	64.7	17,022	1.85
1989	Medvejie Ohmer Creek Little Port W. ^{/13} Whitman Lake ^{/12}	611,300 56,400 475,800 425,000 /3	866,839	5/18&23/91	53.2 23.7	/1 /2	79.3 /5	21,879	2.52
1990	Medvejie Whitman Lake ^{/12}	1,200,000 /3 1,561,030 /3	to HFH 1,144,688	5/15,21&6/5/92	31.0 20.4	/1 /2	73.3	39,410	3.44
1991	Medvejie Medvejie	1,803,354 882,000	to HFH 762,369	5/14,21&6/1,2/93	38.1 20.4	/1 /2	86.4	30,982	4.06
1992	Medvejie Medvejie	272,724 /3 1,208,000	to HFH 1,083,432	5/23,25&6/9/94	47.5 25.5	/1 /2	89.7	37,039	3.42
1993	Medvejie	1,308,900 /6	1,130,236	5/18,19,22,23/95 3/23/95 (accidental release)	72.2 21.7	/1 /2	86.4	20,344	1.80
1994	Medvejie Gastineau Crystal Lake Hidden Falls Medvejie	585,500 390,400 378,400 177,000 225,890 /7	1,004,878	5/16,22/96	50.0 22.3	/1 /2	65.6	16,217	1.61
1995	Hidden Falls	1,384,500	1,052,995	5/21/1997	40.9 23.0	/1 /2	76.1	15,253	1.45
1996	Medvejie Hidden Falls	275,600 1,170,000	1,119,512	5/26/1998	34.0,56.0, 92.0	/8	77.4	37,409	3.34
1997	Medvejie	1,957,000	1,596,867	4/21,5/19/99	30.5,49.3,86.4 53.71	/9	81.6	42,948	2.69
1998	Medvejie	2,617,200	2,043,105	5/24,30/2000	32.0,49.6,92.5 34.3	/9	78.1	52,261	2.56
1999	Medvejie	2,781,000	1,872,609 205,623	5/7,21,23/2001 7/17/2000	36.5,51.3 56.0,59.3 21.1	/9 /10	74.7	38,087 6,102	2.03 2.97
2000	Medvejie	2,845,700	1,953,356 309,500	4/15,5/23/2002 7/16/2001	38.8 49.0,54.8 8.5,15.6	/9 /10	79.5	52,514 204	2.69 0.07
2001	Medvejie	2,845,500	1,502,186	5/27,29/2003	31.6 54.0	/9	52.8 /11	7,965	0.53
			-	(no 0-check smolts)		/10			

Table A3a. Chinook salmon egg take, release, and return data for the Medvejie Creek Hatchery , BY 1982-2021.

Brood Year	Broodstock Source	Number Eggs	Number Released	Release Date	Avg Wgt (g)	Hatchery Survival %	Adult Return	Marine Survival %	
2002	Medvejie	3,200,000	1,929,602	3/26,5/19,20,25,27/04	36.0,75.1	/9	68.5	14,661	0.76
			261,663	7/17/2003	20.8	/10	46	0.02	
2003	Medvejie	2,793,000	1,538,388	5/10,13,16,19,20/05	57.3,88.9	/9	80.5	41,067	2.67
			709,368	6/23,7/2,7/19/04	10.1,10.2,22.8	/10	2,594	0.37	
2004	Medvejie	3,481,000	1,790,477	4/1,20,5/10,12,22,23/06	41.0,65.1,76.1	/9	77.0	26,877	1.50
			891,070	7/1,9/15/05	68.4,71.7	/10	9,130	1.02	
2005	Medvejie	4,801,269	1,491,455	3/14,5/14,16,22,24/07	53.1,59.0,62.0,63.0	/9	67.9	6,912	0.46
			933,874	7/10,15,17/06	40.3	/10	601	0.06	
			836,929	7/15/2006	19.9,22.3,12.5	/14	2,044	0.24	
2006	Medvejie Hidden Falls	3,819,458	2,103,213	5/15,19/2008	42.5,43.1	/9	74.9	46,187	2.20
		1,771,958			57.0				
		5,591,416	1,084,641	7/10,19/07	13.6,18.8	/10	238	0.02	
			1,002,211	7/11/2007	12.8	/14	510	0.05	
2007	Medvejie	4,644,862	2,128,272	6/3/2009	58.8	/9	84.4	19,671	0.92
					46.9,49.3				
			873,011	7/13,14,21/08	10.5,13.1,17.3	/10	64	0.01	
			919,043	7/20/2008	20.2	/14	405	0.04	
2008	Medvejie	4,789,294	1,837,901	5/25,27,28,6/1/10	69.4	/9	77.1	49,063	2.67
			1,852,661	7/11/2009	75.5	/10	106	0.01	
2009	Medvejie Hidden Falls	3,967,390	1,696,344	4/6,13-21/2011	53.2,69.5	/9	50.7	15,582	0.92
		964,701		4/20-5/15/2011	43.8,54.5				
		4,932,091	802,790	7/18/2010	20.1	/10	1,872	0.23	
2010	Medvejie Hidden Falls	4,448,922	2,557,136	5/20/2012	52.0	/9	56.2	18,294	0.72
		724,000		4/24-5/14/2012	60.9				
		5,172,922	349,003	5/25/2012	26.5	/15	3,118	0.89	
2011	Medvejie	3,212,420	2,196,152	5/28/2013	24.2	/16	81.0	23,198	1.06
				4/23-5/3/2013	58.6				
			406,301	6/4/2013	25.2	/15	428	0.11	
2012	Medvejie Hidden Falls	2,931,055	1,780,952	5/3/2014	25.2	/16	54.8	8,071	0.45
		1,010,410		4/7-5/15/14	63.0				
		3,941,465	377,549	5/20/2014	28.9	/15	1978	0.52	
2013	Medvejie Hidden Falls	1,761,366	937,711	5/18/2015	31.7	/16	38.0	1,728	0.18
		1,845,231		1/16,3/26,274/20/15	61.4			1,852	0.20
		3,606,597	431,295	5/15/2015	27.3	/15	1,768	0.41	
2014	Medvejie	3,876,041	1,990,858	5/14/2016	26.7	/16	73.1	1,113	0.06
				4/9,10,22,5/3/16	59.7			17,435	0.88
				5/7-8,21-22/16	53.8			13,624	0.68
			392,677	5/17/2016	27.7	/15	2,406	0.61	
			447,918	6/15/2015	6.0	/10	0	0.00	

Table A3a. Chinook salmon egg take, release, and return data for the Medveje Creek Hatchery , BY 1982-2021.

Brood Year	Broodstock Source	Number Eggs	Number Released	Release Date	Avg Wgt (g)	Hatchery Survival %	Adult Return	Marine Survival %		
2015	Medveje	4,266,764	1,578,529	4/28/2017	22.5	/16	57.6	139	0.01	/4
				4/4,5,11,12,5/9/17	60.6		7,546	0.48	/4	
				4/5,6,11,5/15/17	51.4		3,213	0.20	/4	
				5/16/2017	25.5	/15	255	0.07	/4	
				5/19/2017	25.5	/18	343	0.47	/4	
				5/25-26/16	7.4	/10	0	0.00	/4	
			129,250	5/31/2016	9.6	/17	297	0.23	/4	
2016	Medveje	2,882,940	1,200,093	5/17/2018	26.3	/16	73.3	2,857	0.24	/4
				4/12,13,25/2018	56.8		2,697	0.22	/4	
				4/13,25,5/14/2018	51.1		8,213	0.68	/4	
				5/20/2018	24.2		2,834	0.96	/4	
				5/21/2018	21.4	/18	1,222	1.17	/4	
				6/14/2017	10.1	/10	0	0.00	/4	
			155,854	6/3/2017	10.0	/17	172	0.11	/4	
2017	Medveje	4,432,240	0							
				3/20,27,4/2,20,22/2019	60.3	/16	54.7	9,256	1.23	/4
				4/3,4,26,5/1,2/2019	69.5		1,473	0.29	/4	
				4/26/2019	17.3	/19	340	0.09	/4	
				4/24/2019	18.1	/18	75	0.03	/4	
				5/25/2018	5.9	/10	0	0.00	/4	
			198,924	5/22/2018	5.8	/17	342	0.17	/4	
2018	Medveje	5,184,797								
				4/7/2020	41.6,62.5		1,530	0.25	/4	
				4/20/2020	41.6		586	0.13	/4	
				4/30/2020	19.8	/19	1,369	0.35	/4	
				4/28/2020	17.4	/18	173	0.08	/4	
				5/18,24,31,6/3/2019	11.5	/10	122	0.02	/4	
			341,842	5/20/2019	10.3	/17	525	0.15	/4	
2019	Medveje	5,539,071					71.2			
				4/15-16/21	48.6, 58.8					
				4/30/2021	48.6					
				5/8/2021	20.3	/18				
				4/29/2021	16.7	/19				
				6/10/2020	8.8,18.33					
			427,524	5/19/2020	9.6	/17	72		/4	
			637,838	4/28/2020	13.5	/10	23		/4	
2020	Medveje	3,943,853					83.6			
				4/14/2022	41.4					
				5/31/2022	44.0					
				5/4/2022	13.9	/19				
				5/17/2022	21.5	/18				
				6/17/2021	8.2	/10				
			570,773	5/22/2021	4.3	/17				
2021	Medveje	4,036,893					9.4			
			58,623	7/1/2022	20.9	/10				
			319,880	5/19/2022	3.4	/17				

/1 Average weight of fish over-wintered in sea water
 /2 Average weight of fish over-wintered in fresh water
 /3 Eyed eggs transported
 /4 Incomplete returns
 /5 Excluding LPW Unuk stock
 /6 An estimated 69,000 fish were accidentally released on 3/23/95 @ 14g.
 Average weight of fresh water group excluding this accidental release was 23.7g.
 /7 Chickamin stock eggs to Whitman Lake Hatchery
 /8 All fish over-wintered in sea water. Average weights of small, medium and large release groups are show.
 /9 All fish over-wintered in sea water. Average weights of small, medium and large release groups reared at Medveje during the summer are shown in the first line. Avg. weights of release groups reared at Green Lake during the summer are shown in the second line.
 /10 Zero-check release
 /11 A bear tore holes in net pens, releasing an estimated 527,680 pre-smolt in late October, 2002. These are counted as mortality; thus the low hatchery survival. Survival would be about 71% without this loss.
 /12 Chickamin River stock
 /13 Unuk River stock - none were released
 /14 Zero-check release @ Deep Inlet
 /15 Halibut Point release site (FW overwinter at Medveje)
 /16 Line 1 Medveje raceway rearing (FW overwinter at Medveje); line 2 Green lake rearing (SW overwinter Bear Cove), line 3 Medveje raceway rearing (SW overwinter at Bear Cove).
 /17 Zero-check release @ Crawfish Inlet
 /18 Yearling release @ Crawfish Inlet
 /19 Yearling release @ Crescent Bay

Table A3b. Chinook release totals by stock origin for yearling and zero check releases for the Medveje Creek Hatchery, BY 1982-2021

Groups:

MED = reared in hatchery raceways, overwinter FW or SW, release at Bear Cove

GL = reared in Green Lake, overwinter SW, release at Bear Cove

HPM = reared in hatchery raceways, overwinter FW, release at Halibut Point

CI = reared in hatchery raceways, overwinter FW, release at Crawfish Inlet

Stock Group ANDREW CR

Smolt Yearling

Year Brood	Release Site	Group				Grand Total
		MED	GL	HPM	CI	
1982	BEAR COVE 113-41	26,572				26,572
1983	BEAR COVE 113-41	21,883				21,883
1984	BEAR COVE 113-41	108,041				108,041
1985	BEAR COVE 113-41	227,536				227,536
1986	BEAR COVE 113-41	174,577				174,577
1987	BEAR COVE 113-41	743,511				743,511
1988	BEAR COVE 113-41	911,314				911,314
1989	BEAR COVE 113-41	529,831				529,831
1991	BEAR COVE 113-41	762,369				762,369
1992	BEAR COVE 113-41	1,083,432				1,083,432
1993	BEAR COVE 113-41	1,130,236				1,130,236
1994	BEAR COVE 113-41	793,588				793,588
1995	BEAR COVE 113-41	1,052,995				1,052,995
1996	BEAR COVE 113-41	1,119,512				1,119,512
1997	BEAR COVE 113-41	1,295,948	300,919			1,596,867
1998	BEAR COVE 113-41	1,079,504	963,601			2,043,105
1999	BEAR COVE 113-41	950,503	922,106			1,872,609
2000	BEAR COVE 113-41	1,148,176	805,180			1,953,356
2001	BEAR COVE 113-41	1,029,276	472,910			1,502,186
2002	BEAR COVE 113-41	1,020,518	909,084			1,929,602
2003	BEAR COVE 113-41	672,134	866,254			1,538,388
2004	BEAR COVE 113-41	978,811	811,666			1,790,477
2005	BEAR COVE 113-41	787,482	703,973			1,491,455
2006	BEAR COVE 113-41	1,100,364	1,002,849			2,103,213
2007	BEAR COVE 113-41	1,147,641	980,631			2,128,272
2008	BEAR COVE 113-41	897,996	939,905			1,837,901
2009	BEAR COVE 113-41	846,548	849,796			1,696,344
2010	BEAR COVE 113-41		2,281,630			2,281,630
2010	BEAR COVE+HALIBUT PT113 (note 1)					-
2010	BEAR COVE 113-41	275,506				275,506
2010	HALIBUT PT 113-40			167,790		167,790
2010	HALIBUT PT 113-40			181,213		181,213
2011	BEAR COVE 113-41	158,003	2,038,149			2,196,152
2011	HALIBUT PT 113-40			406,301		406,301
2012	BEAR COVE 113-41	138,600	1,642,352			1,780,952
2012	HALIBUT PT 113-40			377,549		377,549

Table A3b. Chinook release totals by stock origin for yearling and zero check releases for the Medveje Creek Hatchery, BY 1982-2021

2013	BEAR COVE 113-41	152,158	785,553			937,711
2013	HALIBUT PT 113-40			431,295		431,295
2014	BEAR COVE 113-41	883,809	1,107,049			1,990,858
2014	HALIBUT PT 113-40			392,677		392,677
2015	BEAR COVE 113-41	741,309	837,220			1,578,529
2015	CRAWFISH INLET+HALIBUT PT113 (note 1)					-
2015	CRAWFISH INLET 113-33				72,714	72,714
2015	HALIBUT PT 113-40			346,799		346,799
2016	BEAR COVE 113-41	791,345	408,748			1,200,093
2016	HALIBUT PT 113-40			190,639		190,639
2016	CRAWFISH INLET+HALIBUT PT113 (note 1)					-
2016	CRAWFISH INLET 113-33				104,498	104,498
2016	HALIBUT PT 113-40			104,180		104,180
2017	BEAR COVE 113-41	506,295	751,000			1,257,295
2017	CRESCENT BAY 113-41			395,447		395,447
2017	CRAWFISH INLET 113-33				231,408	231,408
2018	BEAR COVE 113-41	1,168,345	623,144			1,791,489
2018	CRAWFISH INLET 113-33				341,842	341,842
2018	CRESCENT BAY 113-41	458,541				458,541
2019	BEAR COVE 113-41	674,168	943,412			1,617,580
2019	CRAWFISH INLET 113-33				224,379	224,379
2019	CRESCENT BAY 113-41	399,607				399,607
2020	BEAR COVE 113-41	839,455	1,156,853			1,996,308
2020	CRAWFISH INLET 113-33				199,158	199,158
2020	CRESCENT BAY 113-41	283,733				283,733
Grand Total		29,111,172	23,103,984	2,993,890	1,173,999	56,383,045

Note: 1. Shared tag code(s) split at the two sites shown.

Table A3b. Chinook release totals by stock origin for yearling and zero check releases for the Medvejie Creek Hatchery, BY 1982-2021

Stock Group CHICKAMIN R
Smolt Yearling

Year Brood	Release Site	Group	Grand Total
		MED	
1988	BEAR COVE 113-41	9,681	9,681
1989	BEAR COVE 113-41	337,008	337,008
1990	BEAR COVE 113-41	1,144,688	1,144,688
Grand Total		1,491,377	1,491,377

Stock Group ANDREW CR
Smolt ZERO

Year Brood	Release Site				Grand Total
	BEAR COVE 113-41	DEEP INLET 113-41	CRAWFISH INLET 113-33	SILVER BAY	
1999	205,623				205,623
2000	309,500				309,500
2002	261,633				261,633
2003	709,368				709,368
2004	891,070				891,070
2005	933,874	836,929			1,770,803
2006	1,084,641	1,002,211			2,086,852
2007	873,011	919,043			1,792,054
2008	1,852,661				1,852,661
2009	802,790				802,790
2014	447,918				447,918
2015	329,161		129,250		458,411
2016	356,708		155,854		512,562
2017	342,685		198,924		541,609
2018	571,549		341,842		913,391
2019			427,524	637,868	1,065,392
2020	175,197		570,773		570,773
2021	58,623		319,880		319,880
Grand Total	10,206,012	2,758,183	2,144,047		15,512,290

Table A4. Coho salmon egg take, release and return data for Medveje Creek Hatchery BY 1988-2008.

Brood Year	Broodstock Source	Number Eggs	Release Location	Number Fry Rel	Number Egg/Fry Transfer to SMC	Number Smolts	Release Date	Avg Wgt	Number Adults	Marine Survival
1988	Indian River	145,600	Deep Inlet			119,870	05/17/90	21.2	11,811	9.9%
1989	Indian River	115,600	Deep Inlet			100,992	06/03/91	15.6	8,646	8.6%
1990	Indian River	162,000	Deep Inlet			135,726	05/18/92	24.5	21,390	15.8%
			Medveje			2,783	05/15/92	22.0	546	19.6%
1991	Indian River	504,400	Shamrock Bay			280,476	05/24/93	24.3	41,145	14.7%
			Deep Inlet			135,974	05/24/93	20.5	19,059	14.0%
			Medveje			2,969	05/14/93	18.1	427	14.4%
			Wrinkleneck	5,400		ND			154	ND
1992	Indian River	241,000	Shamrock Bay			156,442	05/19/94	21.6	21,246	13.6%
			Deep Inlet			49,970	05/16/94	16.7	8,003	16.0%
			Medveje			4,988	5/8&5/20/94	18.2	578	11.6%
			Wrinkleneck	1,830		ND			18	ND
1993	Indian River	235,700	Shamrock Bay			170,297	05/17/95	40.3	9,142	5.4%
			Deep Inlet			41,896	05/15/95	34.6	3,171	7.6%
			Medveje			4,990	05/18/95	31.0	440	8.8%
			Wrinkleneck	2,176		ND			21	ND
1994	Indian River	268,000	Shamrock Bay			230,511	05/22/96	24.6	2,173	0.9%
			Medveje			4,860	05/22/96	24.2	132	2.7%
			Wrinkleneck	2,170		ND				ND
1995	Indian River	297,000	Shamrock Bay			226,300	05/23/97	17.5	18,406	8.1%
			Medveje			6,900	05/22/97	17.5	1,004	14.6%
			Wrinkleneck	2,186		ND	10/03/96			
1996	Indian River	324,800	Shamrock Bay			238,024	05/22/98	29.6	16,489	6.9%
			Medveje			7,039	05/22/98	29.6	1,061	15.1%
			Wrinkleneck	2,013		ND	10/10/97			ND
1997	Indian River	31,445	Shamrock Bay			0				
			Medveje			7,045	05/26/99	16.4	1,172	16.6%
			Wrinkleneck			0				
			SJC Hatchery ¹			16,856				ND
1998	Indian River	231,900	Shamrock Bay			198,949	05/23/00	17.6	3,346	1.7%
			Medveje			10,083	05/23/00	17.6	691	6.9%
			Wrinkleneck	2,034		ND	10/07/99			ND
1999	Indian River	266,200	Shamrock Bay			226,600	05/17/01	19.8	5,962	2.6%
			Medveje			10,045	05/24/01	19.4	1,000	10.0%
			SJC Hatchery ²			9,985				

Table A4. Coho salmon egg take, release and return data for Medveje Creek Hatchery BY 1988-2008.

(cont.)

Brood Year	Broodstock Source	Number Eggs	Release Location	Number Fry Rel	Number Egg/Fry Transfer to SMC	Number Smolts	Release Date	Avg Wgt	Number Adults	Marine Survival
2000	Indian River	402,900	Shamrock Bay			348,799	05/22/02	14.8	7,339	2.1%
			Medveje			10,040	05/22/02	17.7	1,324	13.2%
			SJC Hatchery ³			10,000				
2001	Indian River	268,300	Shamrock Bay			220,300	05/24/03	18	11,106	5.0%
			Medveje			9,952	05/23/03	18.1	571	5.7%
			SJC Hatchery ⁴			10,065				
2002	Indian River	400,000	Shamrock Bay			362,961	05/21/04	20	19,908	5.5%
			Medveje			11,348	05/20/04	16.1	679	6.0%
	Plotnikof Lake	42,300	Deep Inlet			39,398	05/20/04	12	960	2.4%
2003	Indian River	324,855	Shamrock Bay ⁵			286,682	4/29,5/26/05	13.8,21.2	6,438	2.2%
			Medveje			20,472	05/26/05	15.4	618	3.0%
2004	Indian River	24,150	smolt transfer to SJH ⁶							
	Plotnikof Lake	153,500	Bear Cove			9,895	05/23/06	17.3	258	2.6%
			Deep Inlet			118,772	05/18/06	16.5	5,181	4.4%
2005	Indian River	166,671	fry transfer to SJH ⁶							
	Plotnikof Lake	245,455	Bear Cove			9,992	06/14/07	15.1	117	1.2%
			Deep Inlet			201,859	06/14/07	18.4	3,128	1.5%
2006	Indian River	108,000	egg transfer to SJH ⁶							
	Plotnikof Lake	223,651	Bear Cove			20,181	06/13/08	16.1	30	0.1%
			Deep Inlet			193,459	06/14/08	17.7	810	0.4%
2007	Plotnikof Lake	443,296	Bear Cove			0				
			Deep Inlet			245,455	06/08/09	12.5	1,057	0.4%
2008	Plotnikof Lake	20,400	Bear Cove							
			Deep Inlet							no release - fry destroyed; switching broodstock source

Beginning with BY 2009 (Salmon Lake stock), all coho are reported under the Sawmill Creek permit, even though eggtakes and incubation/rearing of Bear Cove released coho occurs at Medveje. See the Sawmill Creek AMP for these fish.

¹ transferred to Sheldon Jackson Hatchery as smolts on 4/15/99

² transferred to Sheldon Jackson Hatchery as smolts spring 2001.

³ transferred to Sheldon Jackson Hatchery as smolts spring 2002

⁴ transferred to Sheldon Jackson Hatchery as smolts spring 2003

⁵ 96,900 of number shown were released early - transfer boat accident on 4/29/05, 13.8g smolt

⁶ transferred to Sheldon Jackson Hatchery to allow for Plotnikof stock release at Bear Cove

Appendix B: Sawmill Creek Hatchery Tables

Table B1. Projected Returns to Programs of the Sawmill Creek Hatchery for 2023 by Species and Location

Schedule D-1
PROJECTED RETURNS FOR 2023

Sawmill

Run	Species	First Brood Year	Last Brood Year	Release Site	Total number of fish expected	Range of expected return	
						minimum	maximum
SUMMER	CHUM	2017	2020	CRAWFISH INLET 113-33	867,000	426,000	1,926,000
CHUM					867,000	426,000	1,926,000
FALL	COHO	2020	2020	BEAR COVE 113-41	12,000	6,000	23,000
FALL	COHO	2020	2020	DEEP INLET 113-41	26,000	13,000	53,000
COHO					38,000	19,000	76,000

Table B2. Coho salmon egg take, release and return data for Salmon Lake stock at Medveje Creek & Sawmill Creek Hatcheries, BY 2009-2022.

Brood Year	Broodstock Source	Number Eggs	Release Location	Transfer Stage to SMC	Number Egg/Fry Transfer to SMC	Number Smolts	Release Date	Avg Wgt	Number Adults	Marine Survival
2009	Salmon Lake	265,991	Bear Cove			54,720	05/26/11	28.1	1,279	2.3%
			Deep Inlet			162,826	05/20/11	26.9	4,911	3.0%
2010	Salmon Lake	174,903	Bear Cove			50,421	05/27/12	26.1	5,951	11.8%
			Deep Inlet			116,130	05/27/12	30.0	13,103	11.3%
2011	Salmon Lake	222,015	Bear Cove			53,026	05/17/13	25.9	5,182	9.8%
			Deep Inlet ¹	fry	160,443	158,968	05/24/13	26.3	12,671	8.0%
2012	Medveje	405,390	Bear Cove			72,114	05/19/14	25.1	4,124	5.7%
	Salmon Lake	65,490	Deep Inlet ¹	eyed eggs	416,537	296,449	05/18/14	24.5	10,682	3.6%
2013	Medveje	1,582,893	Bear Cove			77,769	05/13/15	23.1	4,858	6.2%
			Deep Inlet ¹	green eggs	1,506,768	949,412	5/12,13/15	24.7	16,158	1.7%
2014	Medveje	941,876	Bear Cove			205,176	05/24/16	25.3	21,228	10.3%
			Deep Inlet ¹	eyed eggs	831,105	673,516	5/15,16/2016	26.6	50,937	7.6%
2015	Medveje	1,175,300	Bear Cove			201,398	05/09/17	25.69	14,664	7.3%
	Sawmill Creek ²	317,550	Deep Inlet ¹	green eggs	1,219,100	907,708	05/17/17	25.34	88,080	9.7%
2016	Medveje	1,679,136	Bear Cove			205,346	05/07/19	23.6	11,603	5.7%
			Deep Inlet ¹	green eggs	1,372,400	1,096,961	5/21,22/18	22.0	39,436	3.6%
2017	Medveje	3,082,979	Bear Cove			204,243	05/09/19	25	12,781	6.3%
			Deep Inlet ¹	green eggs	2,564,572	1,828,650	5/6,7,8,9,10/19	23	22,175	1.3%
2018	Medveje	4,325,396	Bear Cove			214,017	05/12/20	25.0	12,395	7.02%
			Deep Inlet ¹	green eggs	2,120,279	1,660,849	5/20,21/20	22.0	14,880	0.9%
2019	Medveje	3,722,394	Bear Cove			207,475	5/19/2021	24	12,405	6.0%
			Deep Inlet ¹	green eggs	3,428,714	1,766,291	5/16,17,18,19/21	18.8	11,078	0.6%
2020	Medveje	4,178,223	Bear Cove			199,977	5/16/2022	19.7		
			Deep Inlet ¹	green eggs	3,176,970	1,649,843	5/26/2022	16.93		
2021	Medveje	2,412,000	Bear Cove							
			Deep Inlet ¹	green eggs	2,008,896					
2022	Medveje	3,832,500	Bear Cove							
			Deep Inlet ¹	green eggs	3,538,500					

¹ Green color indicates Sawmill Creek Hatchery

² Broodstock adults collected from tailrace of hydro plant in Sawmill Creek

Table B3. Chum salmon egg take, release and survival data for the Sawmill Creek Hatchery BY 2014-2022.

Release site = Crawfish Inlet

Brood Year	Stocks Used	Green Eggs	Eyed Eggs	Release Site	Number Released	Average Weight	Release Date	Hatchery Survival	Number Return	Marine Survival
2014	Medvejie	15,037,740	14,582,802	Crawfish Inlet	13,370,294	4.10	5/2,3,4,5,6/2015	88.9%	727,326	5.44%
2015	Medvejie	30,048,432	29,960,643	Crawfish Inlet	14,018,140	2.09	4/15,16,17,18/2016	92.5%	4,614,496	16.60%
					<u>13,776,103</u>	4.10	4/24,25,26,27,28/2016			
					27,794,243					
2016	Medvejie	30,013,836	28,967,518	Crawfish Inlet	9,711,464	2.13	5/7,14/2017	76.8%	171,707	5.09%
					<u>13,330,768</u>	4.37	5/21,22,23, 24,25/2017			
					23,042,232					
2017	Medvejie	50,780,611	49,980,056	Crawfish Inlet	14,037,446	2.00	5/10,11,12/2018	54.7%	1,912,697	7.00% *
					<u>13,282,071</u>	4.32	5/15,16,17,18/2018			
					27,319,517					
2018	Medvejie		44,724,645	Crawfish Inlet	15,205,614	4.30	05/07/19	34.0%	221,152	1.45% *
2019	Medvejie		49,520,823	Crawfish Inlet	13,801,389	3.98	05/14/20	53.5%	310,420	1.17% *
					<u>12,704,656</u>	2.05	04/24/20			
					26,506,045					
2020	Medvejie		49,723,246	Crawfish Inlet	13,744,360	2.78	05/19/21	52.1%		
					<u>12,111,643</u>	2.21	05/22/21			
					25,886,003					
2021	Medvejie		46,767,007	Crawfish Inlet	11,888,255	2.60	05/22/22	51.0%		
					<u>11,970,472</u>	1.93	05/21/22			
					23,858,727					
2022	Medvejie		49,460,958							

* Incomplete Returns

\1 Deep Inlet returns tracked in Medvejie tables

Eggtakes occur at Medvejie; gametes are transferred to Sawmill Creek for fertilization and incubation.

Exception: BY2014: eyed eggs were transferred to Sawmill Creek due to the summer closure of the hatchery for the Blue Lake hydro project.

Broodyears with two release sizes and release dates reflect regular (~2 g release size) and late-large (~4 g release size) groups.

Medvejie stock eggs for Deep Inlet release began incubating partially at Sawmill Creek Hatchery in BY 2017. These are still reported in Table A of the Medvejie AMP.

Appendix C: Figures

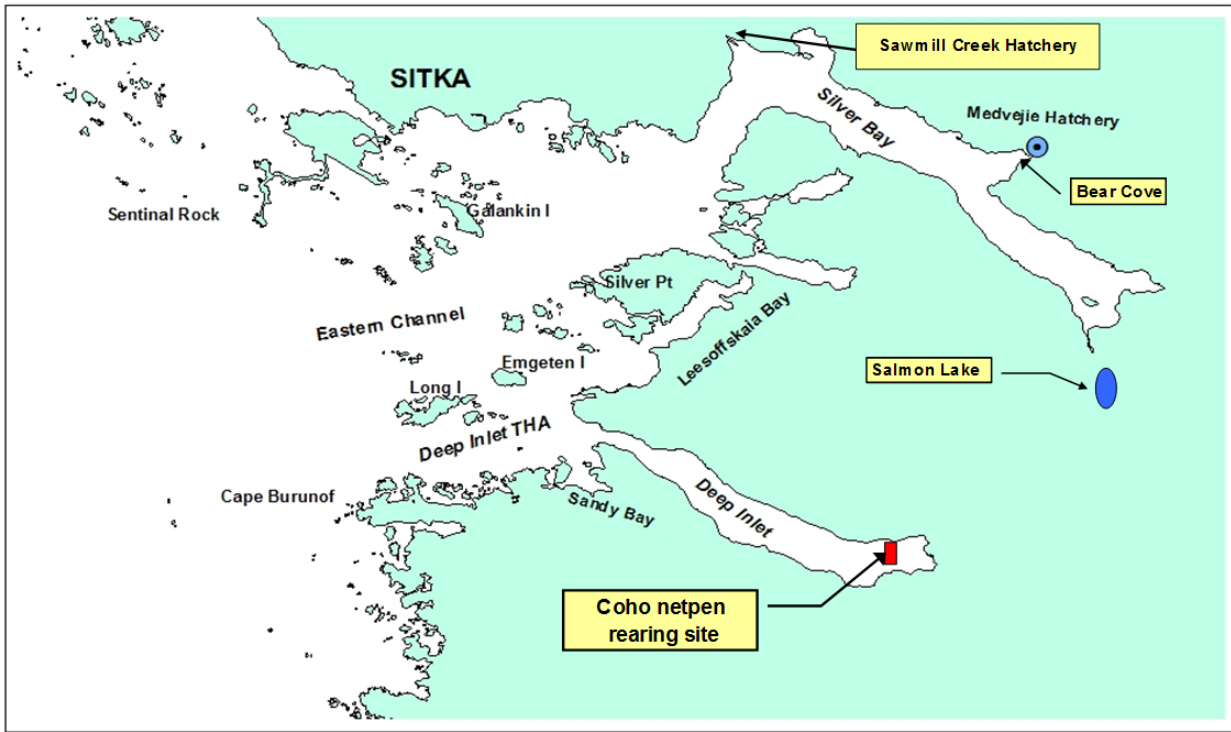


Figure C1. – NSRAA Coho Salmon Project Locations.



Figure C2. – Bear Cove SHA for Chinook and coho salmon (5 AAC 40.042(a)(4)) and Silver Bay SHA (5 AAC 33.375).

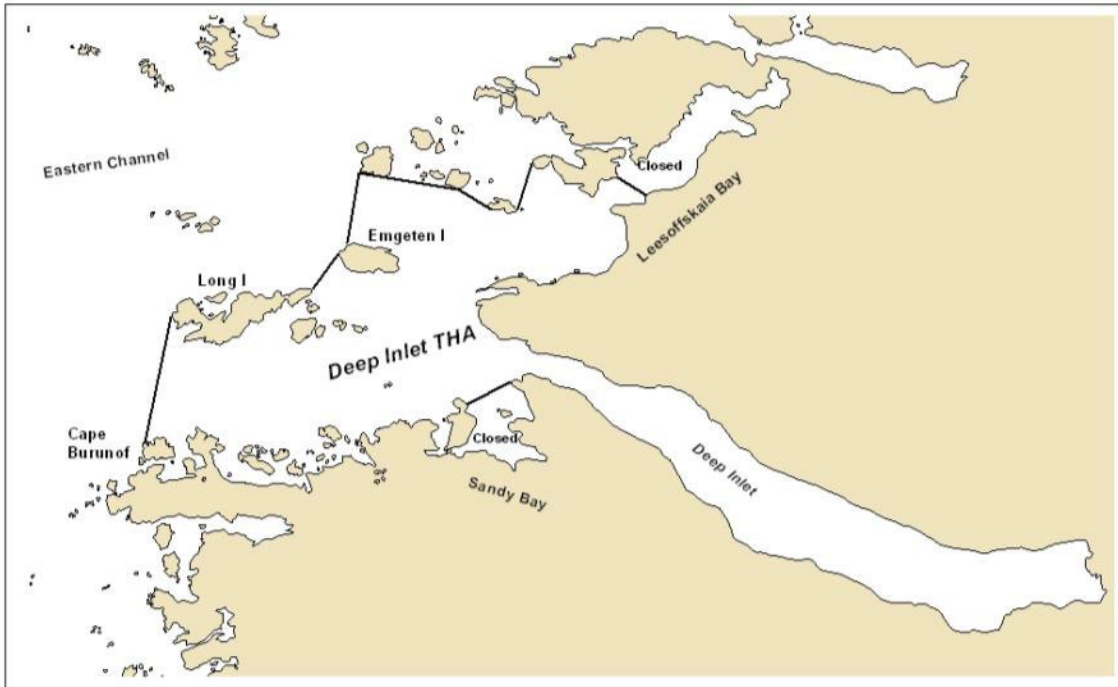


Figure C3. – Deep Inlet Terminal Harvest Area

5 AAC 33.376. District 13: Deep Inlet Terminal Harvest Area Management Plan.

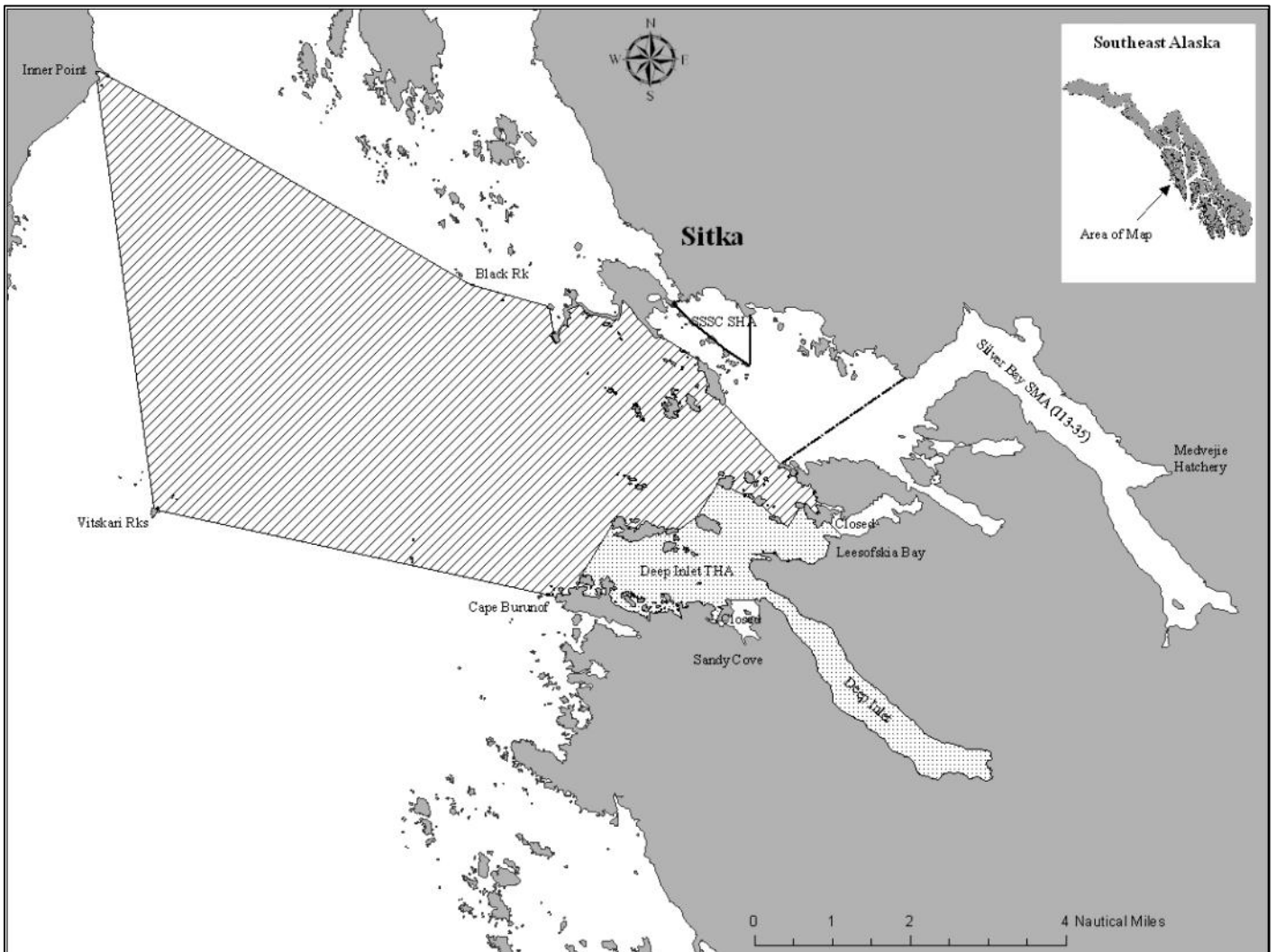


Figure C4. – August terminal chum salmon trolling area (5 AAC 29.112(b)).

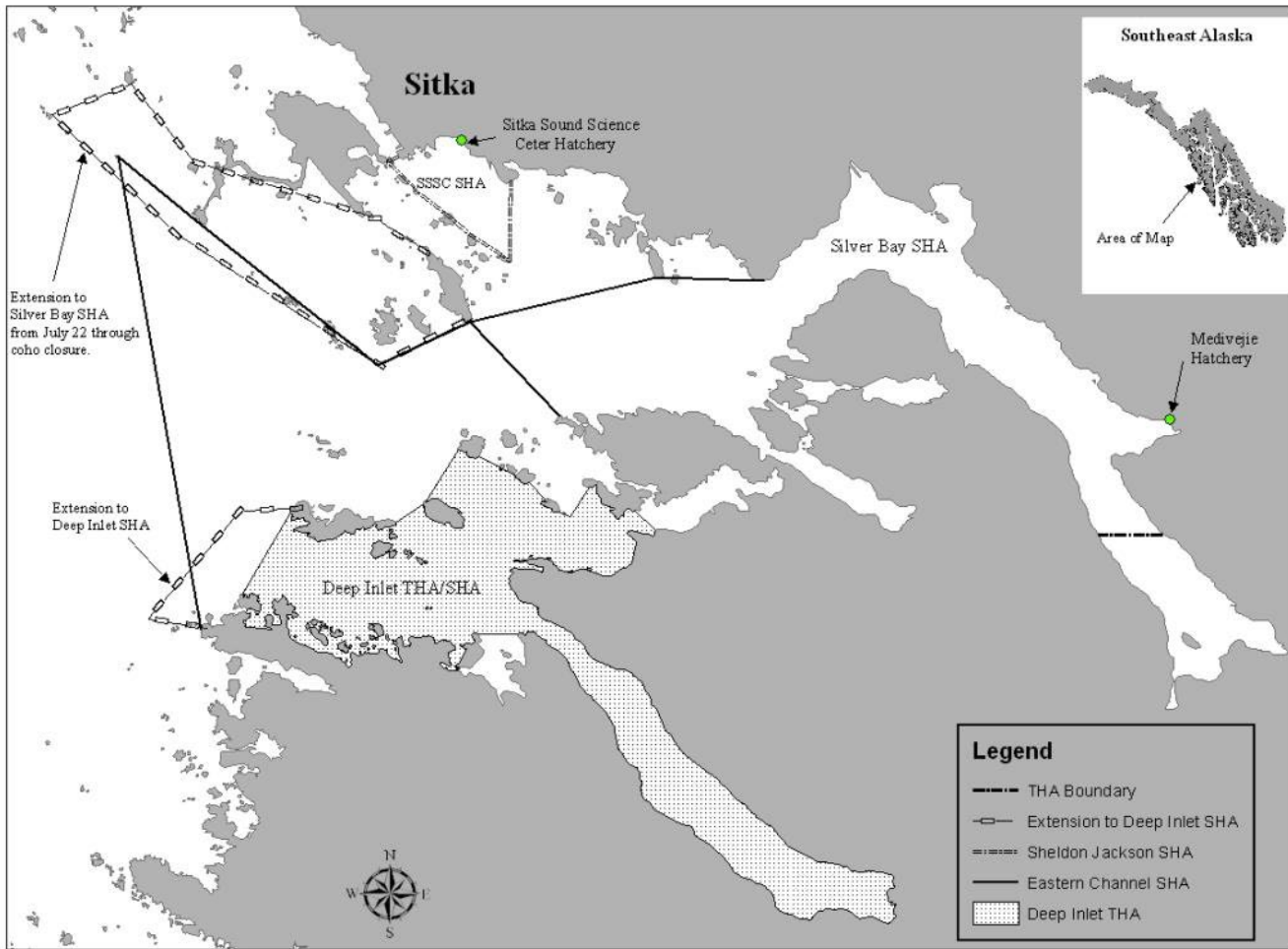


Figure C5. – Silver Bay/Eastern Channel SHA and Deep Inlet SHA/THA for chum salmon (5 AAC 40.042(6) and (7), and 5 AAC 33.376(b)).

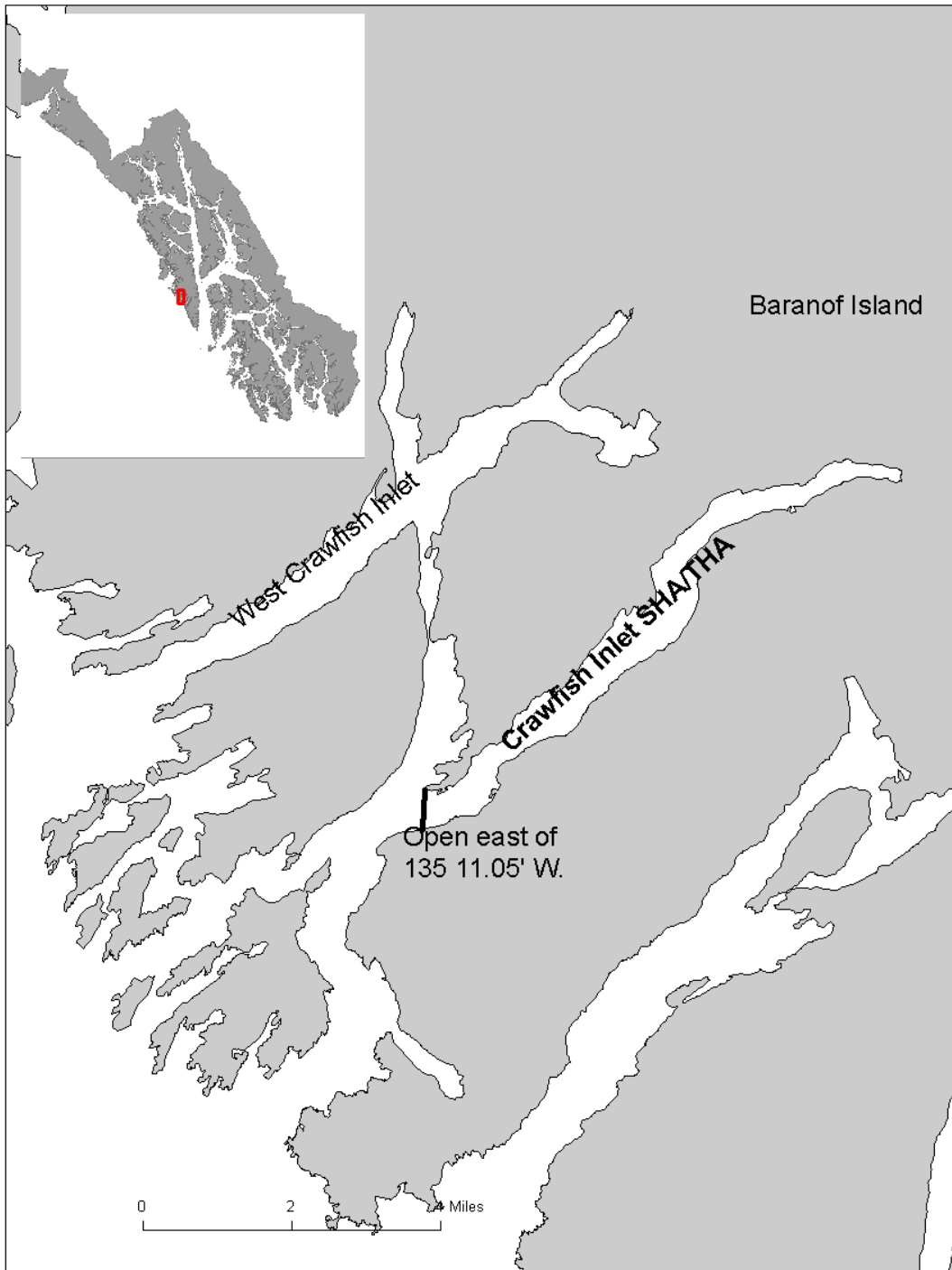


Figure C6. – Crawfish Inlet Special Harvest Area.

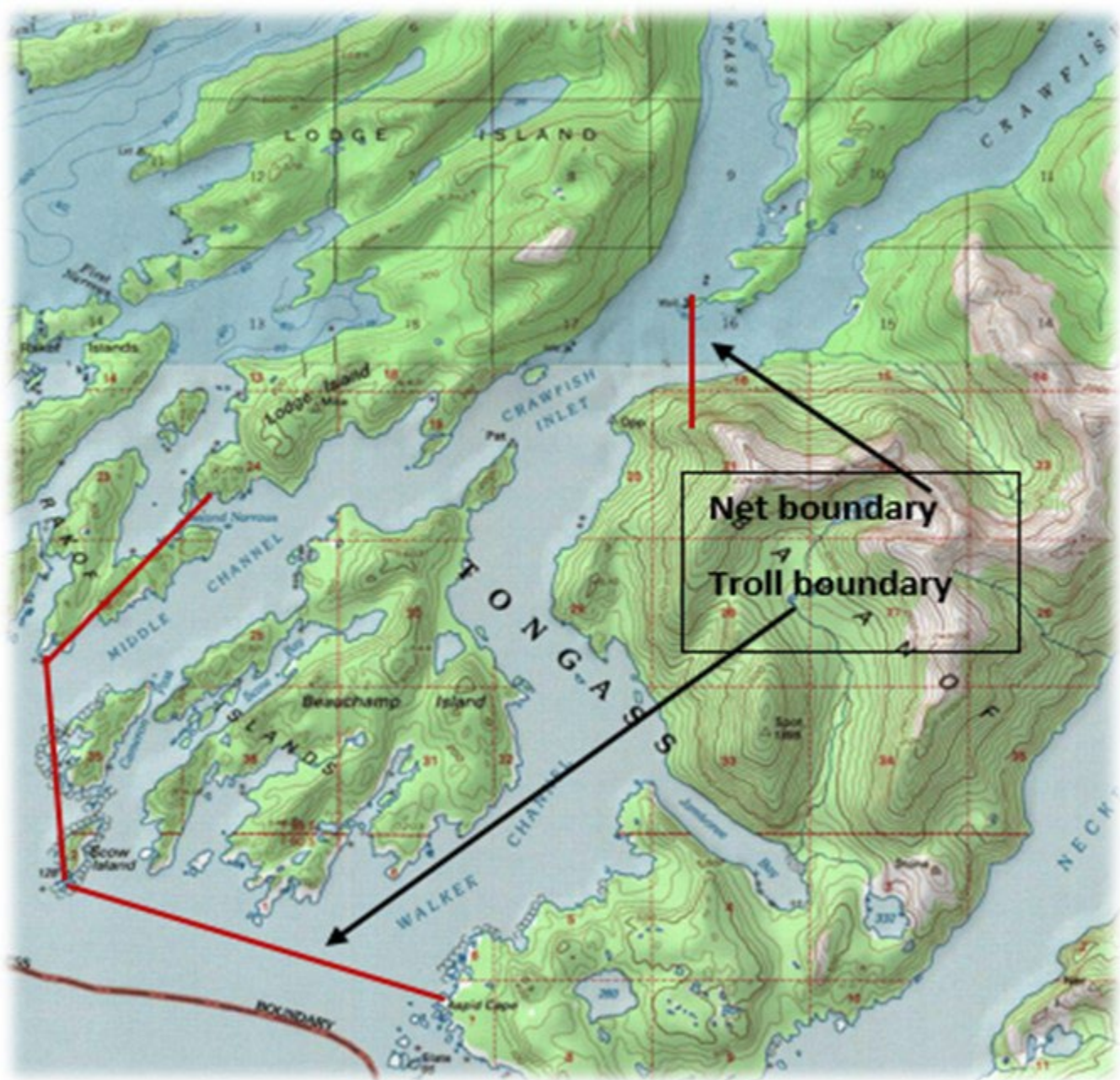


Figure C7. – Crawfish Inlet Troll/Net Terminal Harvest Area.

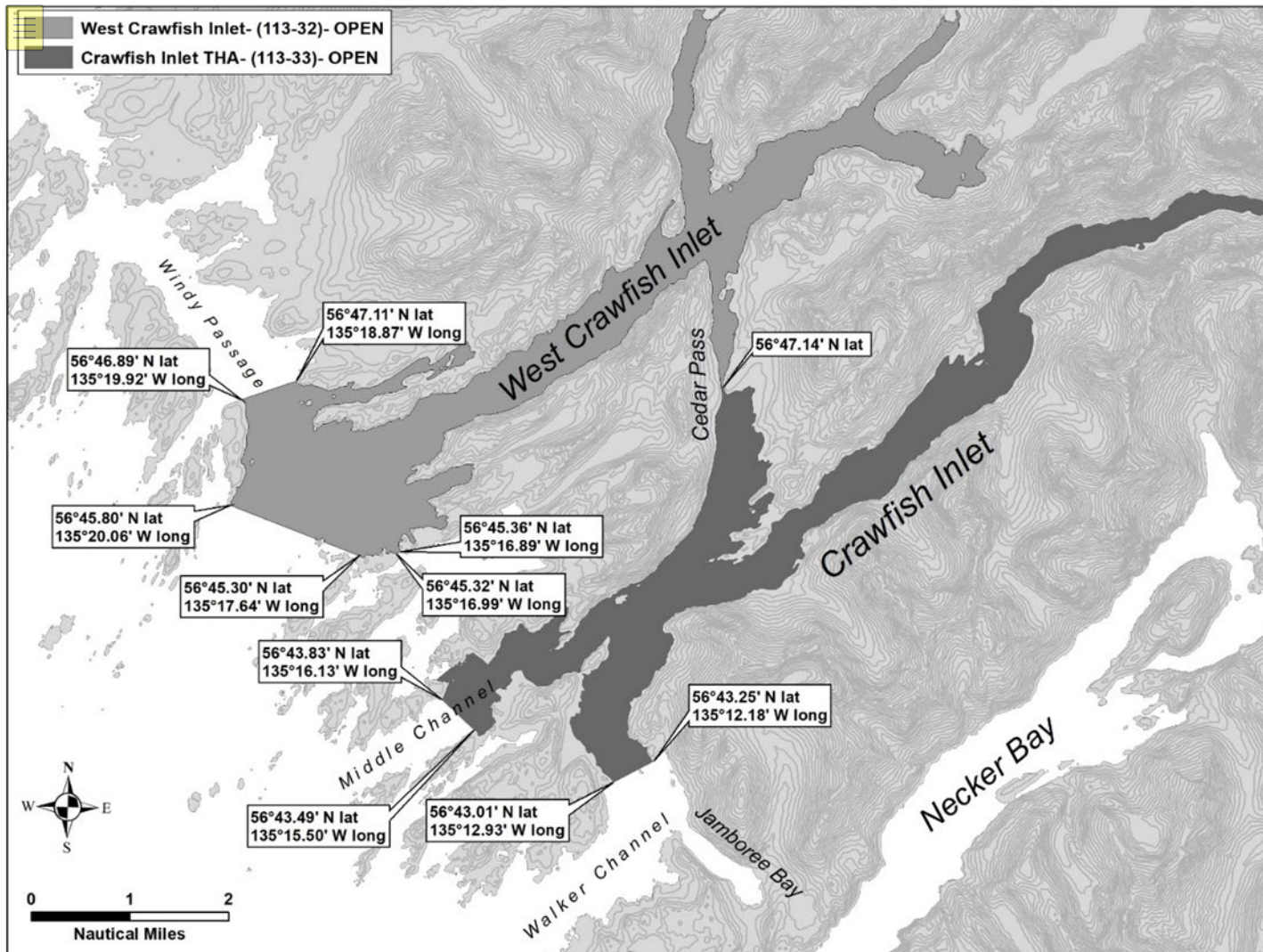
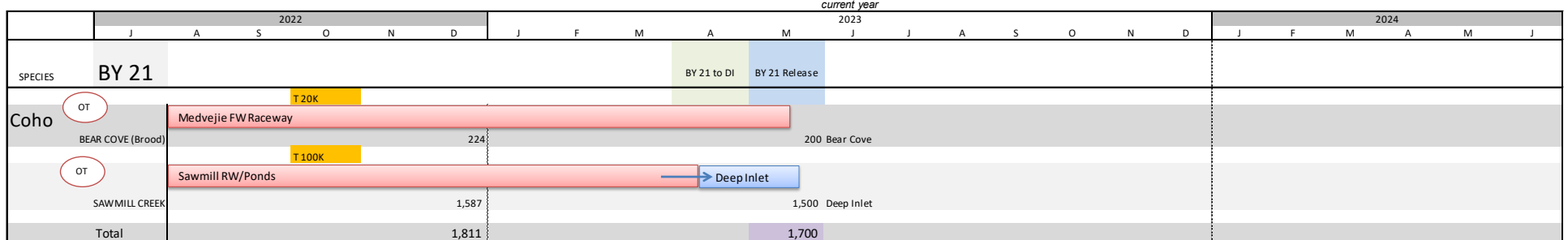


Figure C8.– Waters open to chum trolling in Crawlfish Inlet THA and West Crawlfish Inlet during coho closure.

Appendix D: Timelines

PRODUCTION SUMMARY
Organization or Hatchery

NSRAA: Sawmill Creek

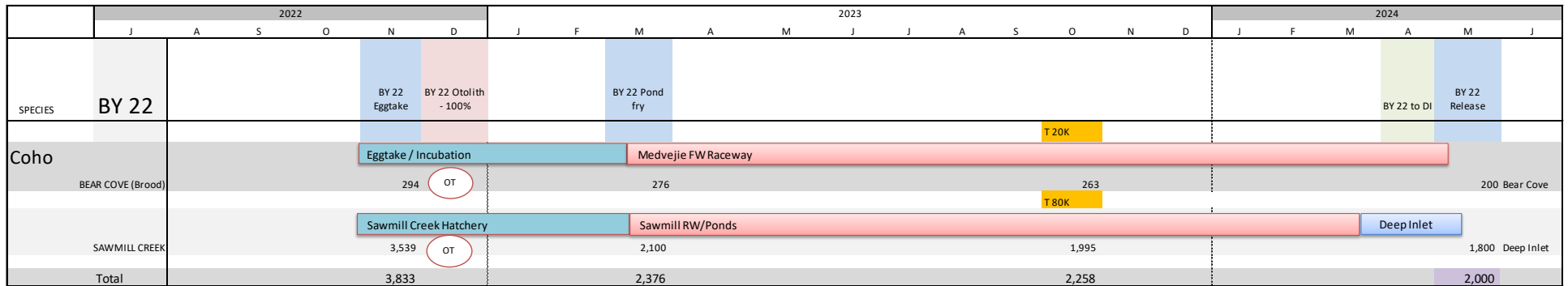


SAWMILL COHO BY 21
Thousands

BS SOURCE	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	OCT POP	REL SITE	REL EST
MEDVEJE	NSRA	2,412						
SAWMILL	NSRA							
Total		2,412						
		277	Brood		225	224	BC	200
		2,135	SMC		1,593	1,587	DI	1,500
		2,412			1,818	1,811		1,700
survival from green egg:		100%			75%	75%		70%
incremental survival (for p		90%			94%	95%		98%

Codes:

Egg take ET number & site
 Tagging T number
 Release R number & site
 transfers "to ___"
 Otolith OT
 SMC Sawmill Creek Hatchery



SAWMILL COHO BY 22
Thousands

BS SOURCE	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	OCT POP	REL SITE	REL EST
MEDVEJE	NSRA	3,833						
SAWMILL	NSRA							
Total		3,833						
		294	Brood		276	263	BC	200
		3,539	SMC		2,100	1,995	DI	1,800
		3,833			2,376	2,258		2,000
survival from green egg:		100%			62%	59%		52%
incremental survival (for planning)		90%			94%	95%		98%

Codes:

Egg take ET number & site
 Tagging T number
 Release R number & site
 transfers "to ___"
 Otolith OT
 SMC Sawmill Creek Hatchery

SPECIES	2022						2023						2024										
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
BY 23																							
Coho																							
BEAR COVE (Brood)																							
SAWMILL CREEK																							
Total																							

SAWMILL COHO BY 23

Thousands

BS SOURCE	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	OCT POP	REL SITE	REL EST
MEDVEJE	NSRA	4,000						
SAWMILL	NSRA							
Total		4,000						
		300	Brood		282.00	268	BC	200
		3,700	SMC		3,478	3,304	DI	1,800
		4,000			3,760	3,572		2,000
survival from green egg:		100%			94%	89%		50%
incremental survival (for planning)		90%			94%	95%		98%

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
SMC		Sawmill Creek Hatchery

PRODUCTION SUMMARY

Organization or Hatchery

NSRAA: SAWMILL CREEK HATCHERY

current year

			2022					2023					2024																									
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J												
SPECIES	Stock	Lot	BY 22 Eggtake	Otolith - 100%						Pond fry	Release	Release 4.0						BY 23 Eggtake	Otolith - 100%						Pond fry	Release	Release 4.0											
CHUM	Medvejie	CRAWFISH	Eggtake / Incubation					15.1						14.8	Eggtake / Incubation					14.7						14.4												
			30.0	OT	Crawfish Inlet 4.0					12.7						12.4	Crawfish Inlet 4.0					13.5						13.3										
	Deep Inlet	Eggtake / Incubation					20.0	OT	Deep Inlet Reg					18.8						18.4	Eggtake / Incubation					20.0	OT	Deep Inlet Reg					18.8					
TOTAL			50.0						46.6						30.9	14.8						50.0						47.0						31.7	14.4			

SAWMILL CREEK CHUM BY 22

100.0%	94.0%	98.0%
100.0%	94.0%	92.1200%

SAWMILL CREEK CHUM BY 23

100.0%	94.0%	98.0%
100.0%	94.0%	92.1%

Millions

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	FRY	REL GOAL
Medvejie	CRAW	NSRAA	REG	14.4	12.7	12.4
Medvejie	CRAW	NSRAA	4.0	15.6	15.1	14.8
Medvejie	Deep Inlet	NSRAA	REG	20.0	18.8	18.4
Total				50.0	46.6	45.7

Millions

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	FRY	REL GOAL
Medvejie	CRAW	NSRAA	REG	14.4	13.5	13.3
Medvejie	CRAW	NSRAA	4.0	15.6	14.7	14.4
Medvejie	Deep Inlet	NSRAA	REG	20.0	18.8	18.4
Total				50.0	47.0	46.1

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
SJ		permit held by Sheldon Jackson College Hatchery
BC		Bear Cove
DI		Deep Inlet
LL4.0 or 4.0		Late Large (4.0 g target size)

PRODUCTION SUMMARY

Organization or Hatchery

NSRAA: Sawmill Creek

SPECIES	2022						current year 2023						2024										
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
BY 22																							
BY 22 Eggtake																							
OT																							
Chinook																							
SAWMILL CREEK	Eggtake / Incubation 0.36						Sawmill Creek Raceway						BY 22 to CRAWFISH INLET 0.26 CI										
Total													0.26										

SAWMILL CHINOOK BY 22
Thousands

BS SOURCE	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	REL SITE	REL EST
MEDVEJIE	NSRA	0.36		0.29	0.29	CRAWFISH	0.26

incremental survival (f) 90% 94% 95% 90%

Codes:

Egg take ET number & site
 Tagging T number
 Release R number & site
 transfers "to ____"
 Otolith OT
 SMC Sawmill Creek Hatchery
 MCH Medveje Creek Hatchery

PRODUCTION SUMMARY

Organization or Hatchery

NSRAA: Sawmill Creek

SPECIES	2022						current year 2023						2024										
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
BY 23																							
BY 23 Eggtake																							
OT																							
Chinook																							
SAWMILL CREEK							Eggtake / Incubation 0.36						Sawmill Creek Raceway										
Total													T30 K										

SAWMILL CHINOOK BY 23
Thousands

BS SOURCE	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	REL SITE	REL EST
MEDVEJIE	NSRA	0.36		0.30	0.29	CRAWFISH	0.26

incremental survival (f) 90% 94% 95% 90%

Codes:

Egg take ET number & site
 Tagging T number
 Release R number & site
 transfers "to ____"
 Otolith OT
 SMC Sawmill Creek Hatchery
 MCH Medveje Creek Hatchery

PRODUCTION SUMMARY
Organization or Hatchery

NSRAA: MEDVEJIE CIF

current year

SPECIES	Stock	Lot	2022					2023					2024													
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
			BY 22 Eggtake		Otolith - 100%	TRX eyed from HFH/MED		Pond fry		Release	4.0		BY 23 Eggtake		Otolith - 100%	TRX eyed from HFH/MED		Pond fry		Release	4.0					
CHUM	Medvejie	BC-REG	Eggtake / Incubation					Bear Cove REG					Eggtake / Incubation					Bear Cove REG								
			10.0		OT			9.4		9.2			10.0		OT			9.4		9.2						
	Medvejie	BC-4.0	10.0					9.4		9.2			10.0					9.4		9.2						
	Medvejie	DI-SJ 4.0	9.0					8.4		8.2			9.0					8.4		8.2						
	Medvejie	DI-REG	0.0					0.0		0.0			0.0					0.0		0.0						
	Medvejie	DI-4.0	13.0					12.2		11.9			13.0					12.2		11.9						
	Medvejie (Kadashan)		6.30		to GCH 6.30								22.50		to HFH 22.50											
	Hidden Falls	BC-HF-REG			OT	Incubation		9.2		8.4			9.6		OT	Incubation		9.4		9.2						
								9.2		8.4			9.6					9.4		9.2						
	Hidden Falls	BC-HF-4.0				9.7 fr HFH		9.1		8.3			9.6					9.4		9.2						
	Hidden Falls	DI-HF				11.6 fr HFH		10.8		9.9			11.5					11.2		11.0						
	Hidden Falls	DI-HF 4.0				11.7 fr HFH		10.9		10.0			11.5					11.2		11.0						
	Medvejie	SMC>DI	20.2 trx to SMC			19.4 to SMC		18.6		18.2			20.0 trx to SMC				19.2 SMC		18.7		18.7					
	Medvejie	SMC>CRAW	30.0 trx to SMC			28.8 to SMC		26.1		13.6	12.0		30.0 trx to SMC				28.8 SMC		28.1		13.2	14.3				
		Expected survival:		100%		96.0%		93.5%		91.6%	91.6%		100%		96.0%		93.5%		91.6%	91.6%						
	TOTAL		98.5		42.8		124.0		59.3	59.6		114.5		42.2		127.2		61.2	63.8							

MEDVEJIE CHUM BY 22

Millions	REL	AGENCY	GROUP	GREEN EGGS	TRX-IN	TRX-OUT	FRY	REL GOAL
	BC	NSRA	REG	10.0			9.4	9.2
	BC	NSRA	LL4.0	10.0			9.4	9.2
	Subtotal			20.0			18.7	18.3
	DI	SSSC	LL4.0	9			8.4	8.2
	DI	NSRA	REG	0			0.0	0.0
	DI	NSRA	LL4.0	13			12.2	11.9
	DI	NSRAA	DI-SCH	20.2		EE to SMC	18.6	18.2
	Subtotal			42.2			39.2	38.5
	CRAW	NSRAA	REG	14.4		EE to SMC	13.9	13.6
	CRAW	NSRAA	LL4.0	15.6		EE to SMC	12.2	12.0
	Subtotal-Offsite (non Bear Cv-DI)			30.0			26.1	25.6
	Medvejie (Kadashan)	NSRAA		6.30		EE to GCH		
	Subtotal			6.30				
	H Falls	BC	NSRA	REG	10.0	9.8	9.2	8.4
	H Falls	BC	NSRA	LL4.0	10.0	9.7	9.1	8.3
	H Falls	DI	NSRA	REG	12.0	11.6	10.8	9.9
	H Falls	DI	NSRA	LL4.0	12.0	11.7	10.9	10.0
	Subtotal			44.0	42.8		40.0	36.7
				142.5	42.8		97.9	93.4
	CRAW	NSRAA	TRX>	30.0				
	DI-SCH	NSRAA	TRX>	20.2				
				98.5				
				42.8				

Codes:
 ET Egg take
 T Tagging
 R Release
 SJ transfers
 Otolith "to ____"
 OT permit held by Sheldon Jackson Hatchery
 BC Bear Cove
 DI Deep Inlet
 HF Hidden Falls
 LL4.0 or 4.0 Late Large (4.0 g target size)

MEDVEJIE CHUM BY 23

Millions	REL	AGENCY	GROUP	GREEN EGGS	TRX-IN	TRX-OUT	FRY	REL GOAL
	BC	NSRA	REG	10.0			9.4	9.2
	BC	NSRA	LL4.0	10.0			9.4	9.2
	Subtotal			20.0			18.7	18.3
	DI	SSSC	LL4.0	9.0			8.4	8.2
	DI	NSRA	REG	0.0			0.0	0.0
	DI	NSRA	LL4.0	13.0			12.2	11.9
	DI	NSRAA	DI-SCH	20.0		EE to SMC	18.7	18.3
	Subtotal			42.0			39.3	38.5
	CRAW	NSRAA	REG	14.4		EE to SMC	13.5	13.2
	CRAW	NSRAA	LL4.0	15.6		EE to SMC	14.6	14.3
	Subtotal-Offsite (non Bear Cv-DI)			30.0			28.1	27.5
	Medvejie (Kadashan)	NSRAA		22.50		EE to HFH		
	Subtotal			22.50				
	H Falls	BC	NSRA	REG	10.0	9.6	9.4	9.2
	H Falls	BC	NSRA	LL4.0	10.0	9.6	9.4	9.2
	H Falls	DI	NSRA	REG	12.0	11.5	11.2	11.0
	H Falls	DI	NSRA	LL4.0	12.0	11.5	11.2	11.0
	Subtotal			44.0	42.2		41.1	40.3
				158.5	42.2		99.1	97.1
	CRAW	NSRAA	TRX>	30.0				
	DI-SCH	NSRAA	TRX>	20.0				
				114.5				
				42.8				

Bear Cove & Deep Inlet:
 NSRAA TOTALS 103.5 39.3 89.5 85.1
 SJ TOTALS 9.0 8.4 8.2
 112.5 39.3 97.9 93.4

Bear Cove & Deep Inlet:
 NSRAA TOTALS 119.5 42.2 90.7 88.9
 SJ TOTALS 9.0 8.4 8.2
 128.5 42.2 99.1 97.1

PRODUCTION SUMMARY

Organization or Hatchery

NSRAA: MEDVEJIE CIF

SPECIES	BY 21	current year																							
		2022					2023												2024						
		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
					BY 21 From GL To SW	BY 21 Feb Inventory						BY 21 May Release													
CHINOOK	SWOW	Green Lake/Medvejie					GL/MED SW Pens																		
		2.17					2.06 Bear Cove												100% otolith marked; represented by CWT						
	FWOW	Medvejie FWOV(Bear Cove & Remote groups)					0.00 Bear Cove												100% otolith marked; represented by CWT						
	ZERO-CHECK	BY21 Zero-ck released in May 2022																							
	Remote release						Crawfish I												100% otolith marked; represented by CWT						
	Remote release						SJH Crescent												100% otolith marked; represented by CWT						
	Total	2.63					2.52																		

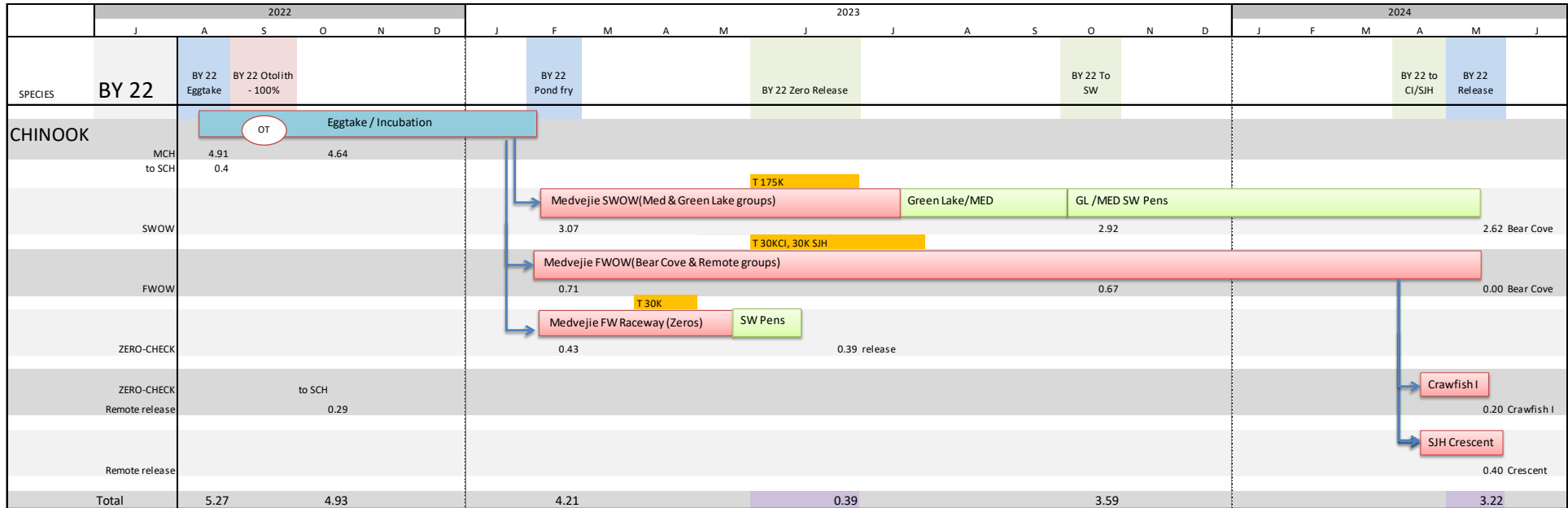
MEDVEJIE CHINOOK BY 21

Millions		2022			2023			2022		
BS SOURCE	AGENCY	GREEN EGGS	EYED EGGS	FRY	GROUP	FEB POP	REL SITE	REL EST	REL EST	
AC-MED	NSRAA	4.38	3.94	3.86						
to SCH (Zero-ck)	NSRAA	0.81	0.79							
Total		5.19	4.73	3.86						
				0.20	Zero-ck		BC		0.06	
				0.45			CRAW		0.32	
									0.38	
				2.53	GL/MED	2.17	BC	2.06	<SWOW	
					MED	0.46	BC	-	<FWOW	
							SJH	0.30	<FWOW	
				0.64	CRAW		CRAW	0.16	<FWOW	
									2.52	
									2.63	

100% Incremental for planning
 91% gr egg>fry
 74% fry>fall 95%
 fall>rel 98% (FW)
 fall>rel 95% (SW)

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
MED	Medvejie	
HF	Hidden Falls	
HP	Halibut Point release site	
SJH	Sheldon Jackson Hatchery Crescent Bay release site	
CRAW	Crawfish Inlet release site	
SWOW	Saltwater over-winter	
FWOW	Freshwater over-winter	
AC	Andrew Creek stock	



MEDVEJIE CHINOOK BY 22

Millions					2024		2023		
BS SOURCE	AGENCY	GREEN EGGS	EYED EGGS	FRY	GROUP	OCT POP	REL SITE	REL EST	REL EST
AC-MED	NSRA	4.91	4.64	4.42					
to SCH (yr lng)	NSRAA	0.36	0.29	0.29					
Total		5.27	4.93	4.71					
		0.43			Zero-ck		BC		0.39
									0.39
		3.07			GL/MED	2.92	BC	2.62	<SWOW
					MED		BC	0.00	<FWOW
							SSSC	0.40	<FWOW
		0.71				0.67	CRAW	0.20	<FWOW
		0.29			SCH	0.28	CRAW	0.25	<FWOW
						3.59		3.47	

100% Incremental for planning
95% gr egg>fry
90% fry>fall
94% fall>rel
95% fall>rel
98% (FW) fall>rel
90% (SW)

eggtake goals:

MED zero	BC	0.60	11.4%
SCH FWOV	Crawfish	0.36	6.8%
Medvejie-GL&MCF reg	Bear Cove	3.57	67.6%
Medvejie-FWOV	Bear Cove	0.75	14.2%
		5.28	

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
MED	Medvejie	
HF	Hidden Falls	
HP	Hallibut Point release site	
SIH	Sheldon Jackson Hatchery Crescent Bay release site	
CRAW	Crawfish Inlet release site	
SWOW	Saltwater over-winter	
FWOW	Freshwater over-winter	
AC	Andrew Creek stock	

SPECIES	2022					2023					2024											
	J	A	S	O	N	D	J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M
CHINOOK	BY 23										BY 23 Eggtake	BY 23 Otolith - 100%						BY 23 Pond fry	BY23 Zero Release			
											Eggtake / Incubation					T 175 k Medvejie SWOW (Med & Green Lake groups) T 30K CI, 30K SJH Medvejie FWOW (Bear Cove & Remote groups) T 30K Medvejie FW Raceway SW Pens 0.4 release						
SWOW											5.00					3.40						
FWOW											to SCH 0.36					0.65						
Zero Check																0.45						
Remote Release																						
Total											5.00					4.50						

MEDVEJIE CHINOOK BY 22

BS SOURCE	AGENCY	GREEN EGGS	EYED EGGS	FRY	GROUP	OCT POP	2025		2024
							REL SITE	REL EST	REL EST
AC-MED	NSRA	5.00	4.70	4.50					
to SCH (FWOW)	NSRAA	0.36	0.32	0.30					
Total		5.36	5.02	4.80					
		0.45			Zero-ck		BC		0.40
									1.19
		3.40			GL/MED		BC	2.72	<SWOW
		0.65			MED		BC	0.00	<FWOW
							SSSC	0.40	<FWOW
							CRAW	0.20	<FWOW
								2.92	3.32

eggtake goals:

MED zero	BC/Crawfish	1.60	23.5%
SCH zero	Crawfish	0.82	12.0%
Medvejie-GL&MCIF reg	Bear Cove	3.65	53.6%
Medvejie-FWOW	Bear Cove	0.75	11.0%
		6.82	

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
MED	Medvejie	
HF	Hidden Falls	
HP	Halibut Point release site	
SJH	Sheldon Jackson Hatchery Crescent Bay release site	
CRAW	Crawfish Inlet release site	
SWOW	Saltwater over-winter	
FWOW	Freshwater over-winter	
AC	Andrew Creek stock	

100% Incremental for planning
 94% gr egg>fry
 90% fry>fall
 95% fall>rel
 98% (FW)
 fall>rel 85% (SW)

PRODUCTION SUMMARY

Organization or Hatchery

NSRAA: MEDVEJIE CIF

			2022					current year 2023												2024						
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
SPECIES	Stock	Lot	BY 22 Eggtake					Release					BY 23 Eggtake					Release								
PINK	Medvejie	Bear Cove	Eggtake / Incubation					Eggtake / Incubation					Eggtake / Incubation					Eggtake / Incubation								
			298.0					283.1						300.0					285.0							
	TOTAL		298.0					283.1						300.0					285.0							

MEDVEJIE PINK BY 22

Thousands

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	EYED EGGS	FRY	REL GOAL
Medvejie	BC	NSRA	REG	298		283.1	283.1
survival from green egg:				100%		95%	95%
incremental survival (for planning)						95%	100%

MEDVEJIE PINK BY 23

Thousands

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	EYED EGGS	FRY	REL GOAL
Medvejie	BC	NSRA	REG	300		285	285.0
survival from green egg:				100%		95%	95%
incremental survival (for planning)						95%	100%

Codes:

Egg take	ET	number & site
Tagging	T	number
Release	R	number & site
transfers	"to ___"	
Otolith	OT	
BC	Bear Cove	

Appendix E: Fish Transport Permits

Fish Transport Permits

Species	Ancestral Stock	Hatchery	FTP	ET, trans, or release?	Transfer from To	Maximum Number, Life Stage	Expires
Chum salmon	Kadashan River	MCH	09J-1021	All	HFH to MCH to Deep Inlet	24,000,000 eggs	12/31/2030
Chum salmon	Kadashan River	MCH	16J-1015	All	Deep Inlet to SCH to MCH to Deep Inlet	24,000,000 eggs	12/31/2026
Chum salmon	Kadashan River	MCH	16J-1016	All	Deep Inlet to MCH to SCH to MCH to Deep Inlet	adults for 24,000,000 eggs	12/31/2026
Chum salmon	Kadashan River	MCH	17J-1016	All	HFH to MCH to Bear Cove	20,000,000 eggs	12/31/2032
Chum salmon	Kadashan River	MCH	20J-1014	All	MCH to Bear Cove	20,000,000 eggs	3/31/2030
Chum salmon	Kadashan River	MCH	20J-1015	All	MCH to Deep Inlet	24,000,000 eggs	3/31/2030
Chum salmon	Kadashan River	MCH	20J-1035	Egg take, transfer	MCH to SCH to MCH	44,000,000 eggs	12/31/2030
Chum salmon	Nakwasina River	MCH	12J-1004	All	MCH to Bear Cove	53,000,000 egg take, release 20,000,000	12/31/2032
Chum salmon	Nakwasina River	MCH	12J-1005	All	MCH to Deep Inlet	33,000,000 eggs	12/31/2032
Chum salmon	Nakwasina River	MCH	11J-1016	Egg take, Transfer	SJH to MCH	9,000,000 eggs	12/31/2031
Chum salmon	Nakwasina River	MCH	92J-1015	All	Deep Inlet to MCH to Deep Inlet	20,000,000 eggs	8/15/2032
Chum salmon	Nakwasina River	SJH*	11J-1009	Transfer, Release	MCH to Deep Inlet	fry from 9,000,000 eggs	12/31/2031
Chum salmon	Nakwasina River	SJH*	11J-1010	All	MCH to SJH to Crescent Bay	3,000,000 eggs	12/31/2031
Chum salmon	Nakwasina River	SJH*	11J-1011	Egg take	MCH to MCH	9,000,000 eggs	12/31/2031
Chum salmon	Nakwasina River	MCH	15J-1007	Transfer	Deep Inlet to MCH	70,000 adults	12/31/2025
Chum salmon	Nakwasina River	SCH	14J-1017	All	MCH to SCH to Crawfish Inlet	30,000,000 eggs	12/31/2024
Chum salmon	Nakwasina River	SCH	17J-1017	All	MCH to SCH to Deep Inlet	20,000,000 eggs	12/31/2032
Chum salmon	Nakwasina River	MCH	20J-1009	Egg take, Transfer	MCH to SCH to MCH	42,000,000 eggs	3/31/2030
Chum salmon	Nakwasina River	MCH	20J-1029	Transfer	Deep Inlet to MCH	60,000 adults	12/31/2030
Chum salmon	Nakwasina River	MCH	20J-1030	Transfer	Crawfish Inlet to MCH	60,000 adults	12/31/2030
Chum salmon	Nakwasina River	MCH	21J-1019	Egg take, transfer	Crawfish Inlet to MCH	63,000,000 eggs	12/31/2031
Chum salmon	Nakwasina River	SCH	21J-1020	Egg take, transfer	Crawfish Inlet to MCH to SCH	30,000,000 eggs	12/31/2031
Coho salmon	Salmon Lk	SCH	12J-1008	All	MCH to SCH to Deep Inlet	4,332,000 eggs	12/31/2032
Coho salmon	Salmon Lk	SCH	12J-1009	All	MCH to Bear Cove	410,000 eggs	12/31/2032
Coho salmon	Salmon Lk	SCH	12J-1010	All	MCH to Deep Inlet	410,000 eggs	12/31/2032
Coho salmon	Salmon Lk	SCH	12J-1023	Transfer	Deep Inlet to MCH	4,000 adults for 4,330,000 eggs	12/31/2032
Coho salmon	Salmon Lk	SCH	14J-1006	Transfer	SCH to MCH to SCH	fry from 4,332,000 eggs	12/31/2023
Coho salmon	Sashin Creek	MCH	14J-1001	Transfer, Release	HFH to MCH to Deer Lake	3,200,000 eggs	12/31/2031
Coho salmon	Deep Cove	MCH	14J-1002	Transfer, Release	HFH to MCH to Deer Lake	3,200,000 eggs	12/31/2031
Chinook salmon	Andrew Creek	MCH	09J-1020	All	HFH to MCH	5,200,000 eggs	12/31/2030
Chinook salmon	Andrew Creek	MCH	12J-1001	Transfer, Release	MCH to Crescent Bay	400,000 smolt	6/30/2025
Chinook salmon	Andrew Creek	MCH	12J-1006	All	MCH zero check and yearling to Bear Cove	5,200,000 eggs	12/31/2032

Species	Ancestral Stock	Hatchery	FTP	ET, trans, or release?	Transfer from To	Maximum Number, Life Stage	Expires
Chinook salmon	Andrew Creek	MCH	14J-1018	Transfer, Release	MCH to Crawfish Inlet	2,000,000 smolt	12/31/2030
Chinook salmon	Andrew Creek	MCH	16J-1017	Egg take, Transfer	CLH to MCH	5,200,000 eggs	12/31/2026
Chinook salmon	Andrew Creek	MCH	16J-1019	Egg take, Transfer	MSH to MCH	5,200,000 eggs	12/31/2026
Chinook salmon	Andrew Creek	MCH	19J-1011	Transfer, release	MCH zero check and yearling fry to Green Lake to Bear Cove	4,400,000 juveniles	12/31/2029
Chinook salmon	Andrew Creek	SCH	20J-1010	All	MCH to SCH to Crawfish Inlet	2,000,000 eggs	3/31/2030
Chinook salmon	Andrew Creek	MCH	20J-1011	Transfer, Release	MCH to SCH yearlings and zero checks to Crawfish Inlet	2,000,000 fish	3/31/2030
Chinook salmon	Andrew Creek	SCH	22J-1008	Transfer, Release	SCH to MCH or GL to Crawfish Inlet	2,000,000 fish	5/1/2023
Chinook salmon	Andrew Creek	SCH	22J-1011	Transfer	SCH to MCH to SCH	2,000,000 fish	12/31/2025
Pink salmon	Medvejie Creek	MCH	87J-1036	All	MCH to Bear Cove	300,000 eggs	12/31/2032

*Sheldon Jackson Hatchery (SJH) is operated by Sitka Sound Science Center (SSSC).