2022 Annual Management Plan
Hidden Falls 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 SUMMARY

1.1 *Introduction*

In 1978, the State of Alaska constructed Hidden Falls Hatchery (HFH). In 1988, operation of HFH was contracted to Northern Southeast Aquaculture Association (NSRAA), and PNP Hatchery Permit #28 was issued. The hatchery is located in Kasnyku Bay on the eastern shore of Baranof Island.

Projected returns are shown in Table 1 at the end of this narrative. Historical release and survival data are presented in tables 2–5. Chum salmon broodstock requirements and egg-take goals are shown in Table 6. The HFH Terminal Harvest Area (THA) for chum and Chinook salmon is shown in Figure 1 the HFH Special Harvest Area (SHA) for coho salmon is shown in Figure 2, and the modified HFH THA for coho salmon during summer troll fishery closure is shown in Figure 3. Figure 4 shows the Hidden Falls inner Kasnyku Bay closure line, Figure 5 the Mist Cove SHA, and Figure 6 the Thomas Bay SHA.

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

In 2018, HFH was permitted to receive Keta River Chinook salmon eggs from Little Port Walter (LPW) for release at Hidden Falls Hatchery for broodstock development. LPW was directed by NOAA to discontinue Chinook production and salmon research in 2021. NSRAA received an ARP, and LPW received and ARP amendment, to allow the BY20 Keta Chinook in culture at LPW to be transported to HFH in lieu of being destroyed. The BY20 smolt will be transported back to LPW in spring 2022 and released under the ARP. HFH also received approximately 60,000 green Keta stock Chinook eggs from returns to LPW in the fall of 2021. These eggs were collected and transported under FTP 18J-1015.

1.3 *New permits or permit amendments*

Two FTP's, one for each coho stock produced at HFH (Sashin and Deep Cove ancestral stock), to allow tow-in-pen releases to occur from Deer Lake outside of the Mist Cove THA boundary has been approved (FTP 21J-1014 and FTP 21J-1015).

An FTP to allow HFH Andrew Creek stock Chinook to be released at Southeast Cove has been approved (FTP 21J-1021).

An FTP to allow transport and release of HFH chum to Port Malmesbury has been approved (FTP 22J-1001).

NSRAA has submitted a PAR for the HFH permit to add Little Port Walter as a release site for Keta River Chinook. This request will allow for the highest likelihood of successful broodstock development as it reduces conflicts that would occur at sites that have multiple species returning and ongoing commercial or cost recovery fisheries.

FTP 17J-1011, which authorizes the release of chum fry utilizing vessel transport to eastern Chatham Strait, expires 12/31/2022 and will be submitted for renewal with potential modifications. NSRAA is currently conducting a predator study in Chatham Strait which may provide data to direct release to alternate locations. An evaluation of this release trial on homing behavior using otolith recovery ratios in existing sampling locations is currently under review by ADF&G and NSRAA staff.

1.4 *Expected Returns*

Species	Return Site	Common Property Harvest	Cost Recovery	Broodstock	Total Return
Chum salmon	HFH	86,500	50,000	167,500	304,000
Chum Salmon	Thomas Bay	68,000	0	0	68,000
Coho salmon	HFH	20,500	10,500	10,000	41,000
Coho salmon	Mist Cove	28,000	28,000	0	56,000
Chinook salmon	HFH	0	0	500	500
Chinook salmon	Gunnuk Creek	200	200	0	400

1.5 *Production Summary*

Program Name	Brood Year	Planned Release Date	Release Goal	Life Stage	Type of Mark, % Marked
Kasnyku chum salmon	2021	May 2022	25,402,748	Fed fry	100% TM
Kasnyku 4.0 chum salmon	2021	May 2022	25,402,748	Fed fry	100% TM
Thomas Bay chum salmon	2021	May 2022	11,340,512	Fed fry	100% TM
Thomas Bay 4.0 chum salmon	2021	May 2022	11,340,512	Fed fry	100% TM
SE Cove 4.0 chum salmon[a]	2021	May 2022	20,412,923	Fed fry	100% TM
SE Cove chum salmon[a]	2021	May 2022	20,412,923	Fed fry	100% TM
Kasnyku Chinook salmon	2020	May 2022	400,000	Smolt	30,000 CWT
Gunnuk Cr Chinook salmon	2020	May 2022	200,000	Smolt	30,000 CWT
Deer Lake coho salmon	2020	May 2022	2,165,760	Smolt	70,000 CWT
Kasnyku middle saltwater entry coho salmon	2020	May 2022	611,440	Smolt	20,000 CWT
Kasnyku early saltwater entry coho salmon	2020	May 2022	611,440	Smolt	20,000 CWT
Kasnyku late saltwater entry coho salmon	2020	May 2022	611,440	Smolt	20,000 CWT
Kasnyku saltwater overwinter coho salmon	2020	May 2022	1,018,440	Smolt	60,000 CWT

[a]On behalf of Gunnuk Creek Hatchery.

1.6 *Current Permitting*

HFH is permitted to take 101 million green chum salmon eggs for HFH programs; in addition, 24 million green chum salmon eggs may be taken for transport to Medvejie Creek Hatchery (MCH) and release at Deep Inlet. HFH is a backup chum salmon egg source for Port Armstrong Hatchery (PAH) and Macaulay Salmon Hatchery (MSH). HFH may take an additional 55 million green chum salmon eggs for release as fry at SE Cove and up to 20 million chum salmon fry may be released at Gunnuk Creek, on behalf of Gunnuk Creek Hatchery (GCH). An additional 10 million green chum salmon eggs may be taken for PAH. Backup chum salmon sources in case of an egg shortfall at HFH include MCH (up to 101 million eggs), GCH (up to 101 million eggs), PAH (up to 50 million eggs), MSH (up to 40 million eggs with resultant fish released at Thomas Bay), 55,000 brood for up to 55 million eggs may be taken at SE Cove, and up to 55,000 brood may be taken at GCH.

HFH is permitted for 7.7 million green coho salmon eggs. HFH is permitted to take an additional 1.0 million green coho salmon eggs as a backup egg source for PAH. Up to 3.2 million coho

salmon eggs can be taken for its lake rearing program and 4.5 million eggs for release at Kasnyku Bay. The backup coho salmon egg source for HFH is PAH (up to 7.7 million eggs).

HFH is permitted to take 3.8 million green Chinook salmon eggs for HFH programs, which includes 300,000 eggs for the Haines Chinook salmon project that is not currently active. HFH may collect an additional 5.2 million green Chinook salmon eggs for transfer to MCH. In addition, HFH is a backup Chinook salmon egg source for Crystal Lake Hatchery (CLH) and MSH. Backup Chinook salmon egg sources for HFH include CLH (up to 900,000 eggs), MSH (up to 900,000 eggs), and MCH (up to 1,000,000 eggs). HFH is permitted to receive 3.5 million Keta River stock Chinook salmon eggs from LPW for broodstock development.

The following table lists current permitted green egg capacity and release sites by species for HFH.

Species	**Release Site**	**HFH acts as a Primary or Backup egg source**	**Permitted Number of Eggs or Fry/Smolt Releases**
Chum salmon	Kasnyku/Takatz	Primary	101 million[a]
	Bear Cove[b]	Primary	20 million
	Deep Inlet[c]	Primary	24 million
	GCH[d]/SE Cove[e]	Primary	55 million
	PAH	Backup	30 million
	MSH	Backup	32 million
	Port Malmesbury	Primary	40 million fry
	Thomas Bay	Primary	40 million fry
Coho salmon	Kasnyku	Primary	4.5 million
	Lake Rearing	Primary	3.2 million
	PAH	Backup	1.0 million
Chinook salmon (Andrew Creek)	Kasnyku	Primary	3.5 million
Andrew Creek	Gunnuk Creek	Primary	200,000 smolt
	Southeast Cove	Primary	700,000 smolt
	MCH	Backup	5.2 million
	MSH	Backup	650,000
	CLH	Backup	1.0 million
Chinook Salmon (Keta River)	Kasnyku	Primary	3.5 million

[a]Up to 60 million destined for Kasnyku Bay and 60 million destined for Takatz Bay.
[b]Permitted to MCH. Up to 20 million green eggs to be taken for MCH for Bear Cove, as an alternative to HFH-permitted releases.
[c]Permitted to MCH. Up to 44 million chum salmon green eggs can be incubated at HFH to the eyed stage prior to transfer for MCH.
[d]Up to 20 million chum salmon fry may be released at Gunnuk Creek on behalf of GCH.
[e]Up to 55 million chum salmon eggs may be incubated to the fry stage at HFH and transported to Southeast Cove for release on behalf of GCH.

2.0 OPERATIONAL PLANS FOR 2022

2.1 *Egg-take Goals and Brood Sources*

Species	Donor Stock	Eggs (millions)	Females	Total Broodstock	Release Site
Chum salmon	Hidden Falls	56	28,000		Kasnyku Bay
	Hidden Falls	25	12,500		Thomas Bay
	Hidden Falls	20	10,000		Bear Cove
	Hidden Falls	24	12,000		Deep Inlet
	Hidden Falls	22.5	22,500		SE Cove
	Hidden Falls	10	10,000		Gunnuk Creek
Total		157.5	78,750	167,500[2]	
Chinook salmon	Hidden Falls[1]	0	0		Kas/SE Cove
	Hidden Falls[1]	0	0		Gunnuk Creek
	Medvejie[1]	.99	180		Kasnyku Bay
	Crystal Lake[1]	backup	0		Kasnyku Bay
	Little Port Walter[5]	.50	100	200	Kasnyku Bay
Total		1.5	280	600[3]	
Coho salmon	Hidden Falls	4.5	1,850		Kasnyku Bay
	Deer Lake	backup			Kasnyku Bay
	Hidden Falls	3.2	1,250		CLR
	Hidden Falls	backup			Port Armstrong
Total		7.7	3,100	6,200[4]	

[1] Andrew Creek stock.

[2] This level assumes 50% female ratio and an additional 10,000 for green/bad females. Additional brood may be needed to ensure egg-take goals are met, but that would not allow sufficient backup broodstock for any other project (GCH or PAH).

[3] This includes excess brood. Cost-recovery harvest cannot catch all Chinook salmon in excess of broodstock needs.

[4] This requirement doesn't include all coho salmon expected to ascend the fish ladder. Excess coho salmon to broodstock needs will likely be about 5,000 resulting in a total rack escapement of approximately 10,000 fish.

[5] Keta River stock.

2.2 *Broodstock Collection*

<u>Chum salmon</u>

Broodstock are captured passively inside Kasnyku Bay using leads on the barrier net, nets, and net pen frames. The number of fish will be estimated as they enter the inner bay behind the barrier net. Some of the required broodstock may be captured by purse seine and transferred over the barrier net if the barrier leads do not capture sufficient broodstock in a timely manner. As the run progresses, the barrier net will be lowered, allowing the remaining broodstock to enter the inner bay. Broodstock may be transferred via tender from Southeast Cove and/or Gunnuk Creek if

broodstock needs will not be met at Hidden Falls. Those transferred fish will be pumped behind the enclosed barrier net. Fish are held in raceways above the ladder until ready for spawning.

Chinook salmon

Poor returns and/or high Chinook salmon harvest during commercial openings targeting chum salmon could make backup egg sources necessary to meet Chinook salmon egg-take goals. Closures of Kasnyku Bay in June and July could be used to minimize the need for backup broodstock sources. However, after years of successfully managing Chinook salmon broodstock numbers, it is unlikely these actions will be necessary. Chinook salmon broodstock will also enter the barrier net, fish ladder, and holding pens volitionally during chum salmon broodstock collection and once the barrier net is lowered. Chinook salmon that may be captured by purse seine during chum salmon broodstock collection will be placed inside the barrier net. Chinook salmon may be transferred to holding raceways separate from those used for chum salmon prior to spawning.

Coho salmon

Broodstock enter the lagoon at HFH through a fixed weir. Once in the lagoon, coho salmon will hold for approximately one month prior to heading up the ladder and into the adult raceways. Cost recovery is managed to allow for passage of adequate broodstock numbers through the weir into the lagoon throughout the return. Portions of the return in excess of broodstock needs will be harvested for cost recovery by seine, gillnet, or out of the adult freshwater raceways. Coho salmon will be captured from holding raceways after ascending the fish ladder for spawning. See coho salmon Section 3.0 *Broodstock Management* and Section 4.3 *Cost-recovery Fishery* for additional details.

2.3 *Egg-Take, Transport, and Carcass Disposal Plans*

Chum salmon

Broodstock will be collected from the adult holding raceways, and eggs and sperm removed in an attached covered spawning area. Fertilization occurs in the spawning area; eggs are transported by vehicle several hundred feet to the incubation building. There they are rinsed and then water-hardened in bulk R-48 type incubators. Broodstock carcasses are typically sold and will be iced and loaded on tenders. Attempts will be made to donate unsold carcasses prior to grinding.

Chinook salmon

Broodstock will be collected from the adult holding raceways, and eggs and sperm removed in an attached covered spawning area. Fertilization, water-hardening in separate trays, and egg-surface disinfection with iodophor will occur. All female broodstock will be sampled for the presence of bacterial kidney disease (BKD) and fertilized eggs from parents testing high positive for this organism will be discarded. Broodstock carcasses are typically sold and will be iced and loaded on tenders. Attempts will be made to donate unsold carcasses prior to grinding.

Coho salmon

Coho salmon returning to HFH will be collected from the adult holding raceways, and eggs and sperm removed in an attached covered spawning area. If backup broodstock is required, gametes will be transported from Mist Cove via aircraft or vessel. Fertilization will occur in the spawning area; water-hardening and egg-surface disinfection will occur in bulk R-48 type incubators for the HFH freshwater overwinter and coho lake rearing (CLR) groups. The HFH saltwater overwinter group will be placed into Heath trays for water-hardening, egg-surface disinfection, and BKD family tracking. Broodstock carcasses and coho salmon in surplus of broodstock needs will be ground and discharged into Kasnyku Bay. Attempts will be made to donate or sell these carcasses prior to grinding.

2.4 *Incubation Plans*

Chum salmon

Chum salmon will be incubated in R-48 incubators until the eyed stage and then transferred to NOPAD incubators for hatch. Eggs for the Deep Inlet and Bear Cove release will be transported to MCH via vessel during the fall, after the eggs have eyed and been otolith marked. Eggs collected at MCH for HFH programs will be transported to HFH via vessel in early September, after the eggs have eyed, but prior to otolith marking.

Chinook salmon

Chinook salmon will be incubated and hatched in Heath trays. Eggs from high BKD-positive parents will be removed and destroyed. Eyed and otolith marked eggs destined for MCH will be transported via air or vessel in coolers. Keta River stock eggs collected at LPW will be transported by air as gametes throughout egg take activities. Fertilization and water hardening in iodophor will occur at HFH.

Coho salmon

Hidden Falls Hatchery freshwater overwinter and CLR group coho salmon will be incubated in R-48 incubators until the eyed stage and then transferred to NOPAD incubators for hatch. HFH saltwater overwinter group will be placed into Heath trays for water-hardening, egg-surface disinfection, and BKD family tracking and hatched in either NOPADs or Heath trays.

2.5 *Rearing and Release Plans*

Chum salmon

Expected chum salmon survival from green eggs to ponding is 92%. Approximately 50.8 million fry will be reared in Kasnyku Bay, 22.7 million fry will be reared in Thomas Bay, and 40.8 million fry will be reared at Southeast Cove. Fry reared in Kasnyku Bay will be transferred by pipeline to saltwater net pens for short-term rearing (normally 70 to 80 days) and then released. Half of the fry reared in Kasnyku Bay will be loaded on a boat and transferred to Eastern Chatham Strait for

release. Fry reared at Gunnuk Creek, Thomas Bay, and Southeast Cove will be loaded on a boat and transported to saltwater net pens for short-term rearing and then released. Survival from ponding until release is expected to be about 90%. See *Production Summary* for expected release numbers (Section 1.5).

Chinook salmon

Approximately 600,000 BY20 Chinook salmon will be reared in fresh water until May and released as yearling smolt. In May, up to 200,000 BY20 Chinook salmon will be transferred and reared in salt water at Gunnuk Creek, with the remaining 400,000 BY20 Chinook salmon released at Kasnyku Bay or Southeast Cove. These fish will be short term reared for two to three weeks and released as yearling smolt. See *Production Summary* for expected release numbers (Section 1.5). Approximately 800,000 BY21 Chinook salmon fry will be ponded into freshwater raceways for initial swim up and feeding. Fry will be transferred to round ponds for summer through winter rearing prior to transfer to saltwater net pens in May. They will be reared in saltwater net pens for 3-4 weeks prior to release.

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

Program Name	Brood Year	Number Live (Jan. 1)	Release goal	Release Date
Gunnuk Creek FWOW	2021	200,000	200,000	Spring 2023
SE Cove FWOW	2021	360,000	400,000	Spring 2023

Coho salmon

Hidden Falls

The current HFH age-1 production goals are 1.5 million smolt from overwinter saltwater net pens and 2.3 million smolt from traditional freshwater rearing. All coho salmon fry will be ponded into freshwater raceways for initial swim up and feeding. The saltwater overwinter population will be treated with erythromycin as fry to treat BKD. Age-0 fry will be transferred to round ponds for summer rearing.

The saltwater overwinter production is broken up into a typical fall entry and an earlier summer entry (modeled after Port Armstrong Hatchery's program). 500 thousand pre-smolt will be transferred to saltwater net pens for overwinter rearing (SWOW) in July, with the remaining 1 million transferring in October. The remaining 2.3 million pre-smolt will be reared in freshwater round ponds until spring.

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

Program Name	Brood Year	Number Live (Jan. 1)	Release goal	Release Date
SWOW	2021	1,770,000	1,000,000	Spring 2023
Hidden Falls	2021	2,050,000	1,860,000	Spring 2023

An alternate release strategy may be implemented where after saltwater net pen rearing, up to half of the smolt will be transferred to a vessel and transported to approximately 1 mile from the Kasnyku Bay shoreline towards eastern Chatham Strait before release. Salt water will be continuously pumped into hold.

Coho Lake Rearing

Approximately 2.5 million age-0 coho salmon fry will be reared at HFH until mid-June, when they will be transported via aircraft to rearing pens in Deer Lake. Fry will be reared in pens throughout the summer and fall. In December or January, approximately three quarters the production will be released to the lake for natural rearing and emigration the following spring. The remaining production will overwinter in the pens and be pumped out of the lake for emigration in the spring. There is a smolt weir installed in the outlet of Deer Lake that captures and transports the smolts over a barrier waterfall and to saltwater at Mist Cove. Smolt are enumerated and held for an acclimation period prior to release. NSRAA may move fish in net pens out of Mist Cove if there is a predation concern and based on conditions at the time of release. NSRAA rotates stocking surplus fry into Banner, Cliff, Blanchard, and Parry Lake; NSRAA does not expect surplus fry for lake stocking in 2022.

3.0 BROODSTOCK MANAGEMENT

The SHA will be managed as follows: to protect broodstock and facilitate broodstock collection activities, the inner portion of the SHA will be closed by regulation to sport and commercial fishing (5 AAC 33.374 (g)).

The inner portion of the SHA will be defined as the waters north and west of a line between a point at 57°13.17′N lat, 134°51.86′W long and a point at 57°13.08′N lat, 134°52.02′W long, and the waters north of a line from 57°13.05′N lat, 134°52.24′W long and a point at 57°13.06′N lat, 134°52.20′W long (see Figure 4).

Chum salmon

About 80,000 females are required for broodstock, although an additional 10,000 may be captured to ensure that egg-take goals are met. Assuming an equal sex ratio, NSRAA plans to manage returns for 170,000 total broodstock. NSRAA will inform department area staff if arrangements are made with PAH to provide broodstock, since this may decrease returns available for common property harvest.

The barrier net will be fish-tight by the last week in June. Broodstock collection will begin during the same week or when chum salmon become available in Kasnyku Bay, usually no later than July 4. Similarly to 2020 and 2021, on years of low return, the center portion of the barrier net may be left open until an estimated 50,000 broodstock have volitionally passed into the inner bay. At that point, the priority will be to enumerate and volitionally pass the remaining broodstock needed. Broodstock collection will end once 150,000 chum salmon are protected behind the barrier net, which is traditionally accomplished by the third week of July. An additional 30,000 chum salmon broodstock will be allowed to collect on the ocean side of the barrier net. Generally, once the first 30,000 chum salmon are spawned, the barrier net is dropped so additional broodstock can move toward the lagoon and fish ladder. Historically, this occurs the last week of July or the first week in August, depending on run timing.

Chinook salmon

About 500 Chinook salmon will be required for HFH broodstock. In 2022, due to the poor Chinook salmon marine survival currently being experienced region wide in Southeast Alaska and the low return forecast to Hidden Falls, NSRAA plans to collect the broodstock needed for the HFH Chinook programs from returns to Medvejie Creek Hatchery. If HFH experiences a larger than expected rack return, those adults may be utilized for broodstock.

Coho salmon

Hidden Falls

About 6,000 coho salmon are needed for broodstock. Coho salmon returning to hatchery raceways will be used for broodstock and surplus coho salmon will be harvested for cost recovery. Total escapement into the raceway may reach 10,000 coho salmon (brood, escapees from cost recovery, and unusable brood fish). Broodstock is collected from all portions the return. A closure of the entire Hidden Falls coho salmon SHA is unlikely to be necessary but may be requested if broodstock needs are not being achieved. Broodstock management occurs simultaneously with coho salmon cost-recovery management. See Section 4.3 *Cost-recovery Fishery* for additional details.

Mist Cove

The primary source of coho salmon broodstock for the Hidden Falls and CLR programs will be from the HFH. Mist Cove returns will only be used as a backup source of broodstock. If broodstock for HFH is needed from the Mist Cove SHA, NSRAA will request the entire area be closed by emergency order (EO) authority to all common property fishing. Coho salmon returning will be captured by beach or purse seine in Mist Cove and held until fully mature in marine net pens off the Fawn Lake outlet. An artificial freshwater lens may be used around the net pens to facilitate maturity.

4.0 FISHERIES MANAGEMENT

4.1 *Intercepting Fisheries*

Troll Fishery

Several spring troll fisheries will open along the outer coast to intercept HFH Chinook salmon, along with other Alaska hatchery-produced Chinook salmon. Most spring troll fisheries target Chinook salmon and are conducted during May and June. In 2022, both Chatham Strait and Icy Strait corridors will have fishery restrictions implemented during May and June, based on wild stock Chinook salmon concerns. These restrictions will delay initial openings and close areas to Chinook salmon retention. HFH coho salmon are predominantly harvested during the general summer troll season. Troll coho salmon retention is allowed from June 1 through September 20. The fishery may be extended through September 30 if wild coho salmon abundance is projected to meet escapement needs after considering harvest and effort.

Purse Seine Fishery

Hatchery chum salmon are taken incidentally in wild pink and/or chum salmon purse seine fisheries. The majority of HFH chum salmon migrate from the north through Icy Strait, primarily down the western shore of Chatham Strait. Some HFH chum salmon migrate from the south through lower Chatham Strait. Weekly seine openings will occur at Point Augusta, where a small area is traditionally opened to gauge run strength of pink and chum salmon. To a lesser degree, returns may enter seine fisheries in Chatham Strait along Admiralty Island, southeast Baranof Island, and Kuiu Island. Common property harvest of HFH and Thomas Bay chum salmon are expected to be primarily in the THAs. When wild chum salmon escapements to Kelp Bay streams have been strong and there are indications of good pink salmon abundance in the Chatham Strait corridor, the boundary of the HFH THA has been extended north to include Kelp Bay and the Catherine Island shoreline south of the Point Lull light. Portions of Kelp Bay may also be opened specifically to harvest surplus wild stock pink and chum salmon returns. In recent years, Clear River summer chum salmon escapements have been well below historical levels. Historically Ralph's Creek summer chum salmon returns have been strong, but beginning in 2020 the wild chum runs to this system have been very poor. Common property harvest opportunities in Kelp Bay will be conservative in 2022 and driven by inseason pink and chum salmon estimates of run strength.

Gillnet Fishery

Coded wire tag (CWT) recovery data from previous years indicates that relatively small catches of HFH chum salmon are taken by commercial drift gillnet gear. In recent years, otolith thermal-mark data has corroborated the CWT data. The District 8 drift gillnet fishery is expected to harvest Thomas Bay chum salmon.

Sport Fishery

Relatively small numbers of HFH salmon are caught in sport fisheries in Chatham Strait. Concentrated sport fishing effort does occur terminally in Kasnyku Bay for Chinook and coho salmon. Sport fisheries will be managed as described in regional codified regulations for those waters defined in each SHA. In 2022, the retention of Chinook salmon will be prohibited in the majority of Chatham Strait and parts of Peril Strait through June 14. The department may use EO

authority to address additional issues as they arise in season. This may include allowing harvest of Chinook salmon in Kasnyku Bay prior to June 14. Thomas Bay chum salmon are not expected to contribute to sport fisheries.

4.2 *Terminal Fisheries*

4.2.1 Hidden Falls THA

The *Hidden Falls Terminal Harvest Area Management Plan* regulations (5 AAC 33.374) for management of common property fisheries stipulate that during June, trollers may target and retain chum and Chinook salmon, and purse seine openings will be limited to two days per week. In June, if the purse seine fishery does not open as scheduled in the *Southeast Alaska Purse Seine Fishery Management Plan*, to achieve broodstock goals, trollers are not allowed to retain chum salmon provided at least 7 days remain prior to July 1. During June, an area within Kasnyku Bay may be closed during seine openings to allow trollers continued access to Chinook salmon. Beginning in July, trollers are limited to retaining 1 chum salmon for each Chinook salmon in their catch. During July, areas within the THA may be closed to seine and troll gear, as needed, to provide for broodstock needs at the hatchery. In the event of very large catches or fish buildups, openings at HFH may be announced with a 24-hour minimum notice.

The HFH THA boundary definition was modified in 2010 to provide for easier enforcement and compliance with THA boundaries and to provide a better hook off location on the south line. HFH THA is described as the waters of Chatham Strait, Kasnyku Bay, and Takatz Bay, within the boundaries of a line from South Point, as indicated by a marker at 57°16.28′N lat, 134°51.78′W long to a point offshore at 57°16.28′N lat, 134°48.00′W long, then running south to a point at 57°06.76′N lat, 134°43.00′W long, then due west to a point on the Baranof Island shoreline, approximately one mile south of Takatz Bay, at 57°06.76′N lat, 134°47.50′W long.

During some years, the boundary of the HFH THA has been extended north to include Kelp Bay and the Catherine Island shoreline south of the Point Lull light when wild chum salmon escapements to Kelp Bay streams have been strong and there are indications of good pink salmon abundance in the Chatham Strait corridor.

A contraction of the offshore boundary of the HFH THA to less than 2 miles off the Baranof Island shoreline will occur in 2022 due to Chinook salmon conservation and to protect weak pink salmon stocks moving through the area.

<u>Chum salmon</u>

In 2022 broodstock management at HFH will once again be managed very conservatively. As was conducted in 2021, NSRAA plans to gauge run strength by way of weekly cost recovery test fishing rather than commercial openings. During the previous period of poor marine survival, the early June openings have produced very minimal catch for the seine fleet. NSRAA can more effectively manage and direct a cost recovery test fishery to obtain useful sample data information. If run strength is projected to exceed broodstock needs, NSRAA will work with the department to open the Hidden Falls THA to common property. Openings may continue through August 13.

Chum salmon troll catches comprise only a small percentage of the total return to the hatchery. However, in 2001, the troll fleet in the HFH THA harvested approximately 70,000 chum salmon during the latter part of June. During 2002–2004, the chum salmon catch was less than 10,000 fish and in subsequent years, even less. In 2010, the chum salmon troll fleet began working on plans to increase its opportunity to harvest chum salmon at NSRAA facilities. Troll effort for chum salmon at HFH THA may increase during the month of June prior to significant common property seine activity. On July 1, regulations go into effect that limits troll harvest to one chum salmon per Chinook salmon.

Coho salmon

Approximately 50% of HFH coho salmon will be harvested in the general summer troll and sport fisheries seasons, and about 50% are expected to return to the terminal area. Trollers may retain coho salmon in the HFH THA beginning June 1, until the end of the general summer troll season, unless closed by EO.

During the mid-August troll closure, the HFH THA will open restricted to an area within 1 mile from shore south of 57°15.00′N lat, north of 57°10.00′N lat and west of a line from 57°15.00′N lat, 134°48.60′W long to 57°10.00′N lat, 134°46.40′W long (5 AAC 33.374 (e)) (Figure 3).

Chinook salmon

Spring troll fisheries are prosecuted in an attempt to intercept surplus hatchery Chinook salmon stocks and will occur near Sitka in areas designated as Salisbury Sound (113-62), Sitka Sound (113-41), Redoubt Bay (113-30), Goddard (113-31), Western Channel (113-01), and West Crawfish Inlet (113-32). These areas, all located on the outer coast of Baranof Island, are much reduced from the historic corridor fisheries of both Icy and Chatham Straits. Fishery restrictions to inside waters and adjacent corridors are for wild stock Chinook salmon conservation during May and June. The HFH THA will be opened on a continuous basis beginning June 1. Unlike the HFH THA opening, spring fisheries will be opened for specific dates through June 30. The *2022 Spring Troll Fishery Management Plan* will provide the management approach and maps of open areas. Details of the area and open fishing periods will be announced weekly in department advisory announcements. Adjustments to spring troll fisheries may occur in season, in accordance with 5 AAC 29.090 based on the percentage of Alaska hatchery fish in the catch.

4.2.2 Thomas Bay THA

The chum salmon return to Thomas Bay will be comprised of all age classes of chum and is forecast to be 68,000 fish in 2022. This year will be the fourth year of terminal purse seine and troll fisheries in Thomas Bay. From June 19 through August 6 seine fishing will occur on Sunday and Thursdays. Troll openings will occur during those time periods the area is not open to purse seine. As mentioned above (4.1 *Intercepting Fisheries*) it is expected that some gillnet harvest of chum salmon bound for Thomas Bay will occur in District 8. The migratory path of Thomas Bay chum salmon is unknown at this point but will likely be similar to HFH chum salmon up to the HFH THA.

The THA boundaries are defined as those waters of Thomas Bay northeast of a line from Point Vandeput at 57°00.94′N lat, 133°00.02′ W long, to Wood Point at 56°59.54′N lat, 132°56.95′ W. long, northwest of a line from a point on the mainland shoreline at 56°59.57′ N lat, 132°54.02′ W long to Ruth Island at 57°00.42′N lat, 132°51.07′W long, north of line from a point on the southeastern shoreline of Ruth Island at 56°58.70′N lat, 132°49.13′W long, to the mainland shoreline at 56°58.70′N lat, 132°47.32′W long, west of a line from the mainland shoreline at 56°59.38′N lat, 132°47.60′W long, to the southern tip of Spray Island at 56°59.80′N lat, 132°47.73′W long , to the northern tip of Spray Island at 57°00.07′N lat, 132°47.80′ W long, to the mainland shoreline at 57°00.56′N lat, 132°47.57′W long, and south of a line from 57°03.00′N lat, 132°49.62′W long, to 57°03.00′N lat, 132°52.03′W long Spurt Cove closed northwest of a line from 57°01.98′N lat, 132°52.49′W long., to 57°02.08′N lat, 132°52.37′W long.

In order to reduce conflict with recreational users, the Thomas Bay Bluffs will be closed on the weekends. The Bluffs areas are those waters northeast of a line from the northern tip of Spray Island at 57°00.07′N lat, 132°47.80′W. long to a point on the northern boundary line approximately 1.5 nautical mile (nmi) from the mainland shoreline at 57°03.00′N lat, 132°50.55′W long. (Figure 6).

Mist Cove SHA

The major portion of the common property harvest will be in the traditional summer troll fisheries along the outer coast of Baranof and Chichagof islands, and in lower Chatham Strait. Traditional purse seine fisheries in Section 9-A will incidentally harvest some coho salmon returns, if pink salmon fisheries are open. The Mist Cove SHA will remain open to commercial trolling by emergency order and is open to sport fishing under regional sport fishing regulations, except a small area inside the Mist Cove SHA is closed to both commercial and sport fishing by regulation to facilitate cost-recovery harvest in Mist Cove SHA. See Section 4.3 *Cost-recovery Fishery,* for additional details on Mist Cove SHA.

Except for the closed portion, sport and commercial fisheries will be managed as described in regional codified regulations for those waters defined in each SHA. The department may use EO authority to address inseason issues.

4.3 *Cost-recovery Fishery*

In 2022, NSRAA is not planning any direct cost-recovery harvest or tax assessment in the Thomas Bay SHA. Early run cost recovery test fishing will occur in the Hidden Falls THA. There is not a preseason cost recovery goal established. 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.

Hidden Falls SHA

Chum salmon

Terminal chum salmon returns to HFH are harvested by common property fisheries and processor contracted cost-recovery fisheries. The HFH THA and adjacent waters have been designated as a tax assessment area to generate cost-recovery revenue from common property seine openings. Chum salmon cost recovery can be achieved by a tax assessment applied to all chum salmon caught in the HFH THA, as well as subdistricts 112-11 and 112-21, from June 15th until July 31st each year. This tax amount can be adjusted yearly to balance NSRAA's operating and capital budget. The tax assessment dollar amount is the difference of the total from the previous year salmon enhancement tax revenue, combined with the Chinook and coho salmon cost-recovery revenue generated the previous season, and the board-approved NSRAA budget.

In 2022, the NSRAA board did not approve a tax assessment due to a low forecast return of chum salmon. NSRAA is committed to ensuring that all terminal returns will be "mopped up" to ensure full utilization and complete harvest.

Coho salmon

Cost recovery in the HFH SHA is conducted to achieve the financial goals and objectives of NSRAA. In 2008, NSRAA passed a resolution directing all cost-recovery revenue generated from harvest of Chinook and coho salmon be applied to the following fiscal year budget. Thus, the cost-recovery goal each year is to harvest all Chinook and coho salmon not intercepted in THA/SHA common property fisheries, excluding what is necessary for broodstock.

Approximately 60,000 coho salmon are needed for broodstock; the remainder will be harvested by seine gear for cost recovery, commercial troll, and by local sport fishing. During the month of August, NSRAA staff has agreed to work with the troll fleet to delay from cost-recovery operations as long as possible, especially if significant troll effort in the area is observed and catch rates look good. It is NSRAA's goal to try to facilitate the increase of troll harvest of HFH coho salmon. However, should sufficiently large numbers of fish show up, and increased sea lion predation occurs, NSRAA may begin aggressively harvesting coho salmon within the SHA. The entire coho salmon SHA may be closed to commercial fishing when coho salmon are present if necessary to facilitate cost recovery or broodstock.

The HFH SHA for coho salmon is defined as the waters of Kasnyku Bay west of a line from 57°13.33′N lat, 134°50.93′W long to the northernmost tip of an unnamed island locate at 57°12.93′N lat, 134°51.40′W long then due south to the Baranof Island shoreline (Figure 2).

In 2015, the Board of Fisheries adopted a regulation to close the inner portion of the HFH SHA to sport and commercial salmon fishing to facilitate coho salmon broodstock collection, cost recovery, and protect NSRAA equipment and property. The closed area is defined as the waters north and west of a line between a point at 57°13.17′N lat, 134°51.86′W long and a point at 57°13.08′N lat, 134°52.02′W long, and the waters north of a line from 57°13.05′N lat, 134°52.24′W long and a point at 57°13.06′N lat, 134°52.20′W long (Figure 4).

Sport fisheries will be managed as described in regional codified regulations for those waters defined in each SHA. The department may use EO authority to close area if broodstock are projected to be below goals.

Mist Cove SHA

Cost recovery will occur in the Mist Cove SHA by seine and gillnet as follows:
The SHA shall consist of all waters of Mist Cove west of a line from 56°31.70′N lat, 134°39.97′W long to a point at 56°31.27′N lat, 134°39.85′W long (Figure 5). The SHA will be open for harvest by hatchery permit holder from 12:01 a.m., August 1 until 11:59 p.m., October 31 (5 AAC 40.042(a)(8)).

The Mist Cove SHA will remain open to sport salmon fishing and to commercial trolling during the summer troll fishery except for a small portion of the Mist Cove SHA that is closed by regulation. The closed area is defined as the waters south of a line from 56°31.07′N lat, 134°40.20′W long to 56°31.07′N lat, 134°40.12′W long (Figure 5). Sport fisheries will be managed as described in by regional codified regulations for those waters defined in each SHA. The department may use EO authority to address conflicts between common property fisheries and cost recovery harvest within the SHA if issues arise in season.

Chinook salmon

If large numbers of Chinook salmon are available for cost recovery, then a targeted harvest in the inner bay will be performed. This will likely be a purse seine effort but may involve beach seine efforts as well.

5.0 MARK/TAG/RECOVERY PROGRAM FOR 2022

All chum salmon production is otolith-marked (there is no CWT program for chum salmon). Otolith marks on chum salmon will be used to evaluate different rearing strategies and the comparative survival and catch distribution of fish released from Kasnyku, Thomas Bay, and Southeast Cove. Marks also assist National Marine Fishery Service (NMFS) research on ocean carrying capacity.

Chum salmon adult returns will be sampled for age distribution by scale and otolith analysis. Two hundred scales will be collected each week from fisheries in Kasnyku Bay, as well as at the hatchery rack. Approximately 96 pairs of otoliths will be collected each week from commercial fisheries and at the hatchery rack.

A portion of all Chinook and coho salmon released at HFH are marked with coded wire tags. All Chinook and coho salmon returning to the hatchery rack will be examined for marks and tags. Tag-recovery data will be used for stock and release-strategy survival information. Coho salmon harvested in cost-recovery fisheries will also be sampled for CWT at HFH and Mist Cove. See the table in Section 1.5 for additional detail.

6.0 APPROVAL

Recommendation for Approval: Hidden Falls Hatchery Annual Management Plan, 2022

Adam Olson, Operations Manager, NSRAA 6/6/2022

Troy Tydingco, Area Management Biologist, Division of Sport Fish 6/9/2022

Patrick Fowler, Area Management Biologist, Division of Sport Fish 6/8/2022

Aaron Dupuis, Area Management Biologist, Division of Commercial Fisheries 6/8/2022

Paul Salomone, Area Management Biologist, Division of Commercial Fisheries 6/10/2022

Judy Lum, Regional Supervisor, Division of Sport Fish 6/10/2022

Lowell Fair, Regional Supervisor, Division of Commercial Fisheries 6/8/2022

Lorraine Vercessi, PNP Hatchery Program Coordinator, Div. of Commercial Fisheries 6/21/2022

Approval:

The 2022 Hidden Falls Hatchery Annual Management Plan is hereby approved:

Tom Taube, Deputy Director, Division of Sport Fish 6/23/2022

Peter Bangs, Assistant Director, Division of Commercial Fisheries 6/22/2022

Table 1. Projected 2022 Returns to Hidden Falls Hatchery, Gunnuk Creek Hatchery, Southeast Cove, Thomas Bay & Mist Cove

SCHEDULE D - 1

PROJECTED RETURNS FOR 2022

Report Year: 2021 Agency: NORTHERN SE REG AQUACULTURE (AK) Hatchery: HIDDEN FALLS

Combine brood years for species with returns of multiple year classes, except Chinook salmon.
Please report projected returns of Chinook salmon by brood year.

Run	Species	First Brood Year	Last Brood Year	Release Site	Expected Return	Range of expected return	
						minimum	maximum
SUMMER	CHINOOK	2016		GUNNUK CR + KASNYKU BAY	10		100
	CHINOOK GUNNUK CR + KASNYKU BAY				**10**		**100**
SUMMER	CHINOOK	2018		GUNNUK CR 109-42	103	85	282
SUMMER	CHINOOK	2017		GUNNUK CR 109-42	298	149	596
	CHINOOK GUNNUK CR 109-42				**401**	**234**	**878**
SUMMER	CHINOOK	2018		KASNYKU BAY 112-11	180		1,803
SUMMER	CHINOOK	2017		KASNYKU BAY 112-11	311	155	832
SUMMER	CHINOOK	2016		KASNYKU BAY 112-11	13	6	37
SUMMER	CHINOOK	2015		KASNYKU BAY 112-11			
	CHINOOK KASNYKU BAY 112-11				**504**	**161**	**2,672**
SUMMER	CHUM	2016	2019	KASNYKU BAY 112-11	302,000	151,000	758,000
SUMMER	CHUM	2016	2019	SE COVE 109-42	112,000	55,000	193,000
SUMMER	CHUM	2016	2019	THOMAS BAY 110-12	85,000	43,000	128,000
	CHUM				**499,000**	**249,000**	**1,079,000**
SUMMER	COHO	2019	2019	DEER LK 109-10	56,000	28,200	112,800
SUMMER	COHO	2019	2019	KASNYKU BAY 112-11	41,000	20,400	81,500
	COHO				**97,000**	**48,600**	**194,300**

Table 2a. Chum Salmon Release and Survival Data for Hidden Falls Hatchery and Remote Release Sites.

Brood Year	Egg Source [1]	Release Site	Number Fry Released [2]	Size (g)	Size (g) Weighted Avg.	Release Dates	% Marine Survival	Total Return
KASNYKU BAY & TAKATZ BAY & EAST CHATHAM								
1977	K,C (unknown)	KAS	212,551	0.84	0.85	5/18/78	1.57%	3,340
1978	K,C	KAS	1,889,184	1.01-1.65	1.13	5/20,22,23/79	2.36%	44,540
1979	K,C	KAS	3,599,384	1.5-2.7	1.76	4/18,5/16,18, 20/80	4.50%	161,884
1980	K,S	KAS	9,013,938	1.6-2.4	1.54	4/15,5/8,9,10, 11,12,15,16,1 7,18/81	8.19%	738,628
1981	K,S,HF(K)	KAS	10,291,351	1.1-1.2	1.34	4/21,5/21/82	4.33%	445,910
1982	HF	KAS	18,909,761	0.4-1.0	0.94	4/27/1983	3.27%	618,539
1983	HF	KAS	20,100,000	0.4-1.0	1.01	5/2/1984	3.34%	671,469
1984	HF	KAS	21,530,000	0.4-0.75	0.82	5/19/1985	1.27%	273,967
1985	HF	KAS	19,680,000	0.4-0.7	0.63	5/12/1986	1.03%	201,730
1986	HF	KAS, TAK	40,390,000	1.1-1.5	1.23	5/14,20/87	1.54%	620,857
1987	HF	KAS, TAK	50,755,717	1.68	1.61	5/18,20,21/88	1.78%	901,881
1988	HF	KAS, TAK	60,300,600	1.5	1.57	5/15,16/89	2.48%	1,494,332
1989	HF	KAS, TAK	62,506,791	1.6-1.9	1.75	5/12,19/90	4.70%	2,940,331
1990	HF	KAS, TAK	64,275,400	1.4-1.6	1.55	5/23,24/91	4.38%	2,812,054
1991	HF	KAS, TAK	56,129,200	1.4-1.5	1.50	5/13,15/92	5.13%	2,879,438
1992	HF	KAS, TAK	62,442,900	1.7	1.70	5/19/93	7.36%	4,596,885
1993	HF	KAS, TAK	60,222,973	1.3-1.7	1.53	5/20,21/94	0.95%	574,853
1994	HF	KAS, TAK	70,889,750	1.5-1.9	1.71	5/21,22/95	4.41%	3,125,145
1995	HF	KAS, TAK	76,671,678	1.4-1.9	1.59	5/21,22/96	2.87%	2,198,109
1996	HF	KAS, TAK	62,565,996	1.5-2.0	1.72	5/21,22/97	6.04%	3,777,135
1997	HF	KAS, TAK	63,691,981	1.8-2.5	2.10	05/18/98	1.36%	867,533
1998	HF	KAS, TAK	74,650,314	1.5-1.9	1.66	5/17,19/99	1.71%	1,276,322
1999	HF	KAS, TAK	74,949,068	1.5-2.1	1.86	5/19,21/00	3.83%	2,873,891
2000	HF	KAS, TAK	80,844,732	1.7-2.3	1.99	5/19,22/01	1.65%	1,337,415
2001	HF	KAS, TAK	72,820,877	1.4-1.6	1.50	5/21,22/02	1.53%	1,116,972
2002	HF	KAS, TAK	75,415,683	1.8-2.3	1.94	5/6,10,21/03	2.39%	1,803,004
2003	HF	KAS, TAK	88,598,169	2.0-3.5	2.26	5/18,21,6/5/04	1.65%	1,458,159
2004	HF	KAS, TAK	88,800,300	2.0-3.3	2.16	5/16,19,20,22 ,24,6/3/05	2.94%	2,614,584
2005	HF	KAS, TAK	86,198,298	2.0-3.3	2.18	5/17,21,22,26 ,28,30/06	2.12%	1,830,789
2006	HF	KAS, TAK	88,301,824	2.1-3.9	2.38	5/07	0.81%	714,090
2007	HF	KAS, TAK	84,482,754	2.2-3.6	2.44	08	0.44%	368,385
2008	HF	KAS, TAK	81,597,511	2.1-2.4	2.27	6/1,5,8/09	2.38%	1,938,582
2009	HF	KAS, TAK	79,307,655	2.0-2.1	2.05	17,20-22 (TAK) 5/24-30/10[4]	1.19%	945,057
2010	HF	KAS, TAK	76,438,022	2.1-3.8	2.32	(TAK) 5/29-6/13/11[4]	0.14%	109,796

(Continued on next page)

Table 2a. Chum Salmon Release and Survival Data for Hidden Falls Hatchery and Remote Release Sites (cont.)

Brood Year	Egg Source [1]	Release Site	Number Fry Released [2]	Size (g)	Size (g) Weighted Avg.	Release Dates	% Marine Survival	Total Return
2011	HF	KAS, TAK	80,990,646	1.9-3.7	2.39	6/1,2/12 (TAK) 5/24-26,30,31, 6/2,9,10/12[4]	0.36%	295,485
2012	HF	KAS, TAK	74,521,716	2.1-4.2	2.55	(KAS) 5/24, 6/3 (TAK) 5/23-26/13[4]	0.39%	286,913
2013	HF	KAS, TAK	74,815,037	2.1-4.3	2.59	(KAS) 5/21-27, 6/6-7 (TAK) 5/23-27,6/5-7/14[4]	0.73%	549,325
2014	HF	KAS, TAK	73,605,540	2.1-4.3	2.63	(KAS) 5/12-18,25,28-29/15 (TAK) 5/17-21,27-28/15[4]	0.22%	158,555
2015	HF	KAS, TAK	84,397,127	2.2-4.5	2.68	(KAS) 4/27,28,5/2,3,4, 5/12-16/16 (TAK) 4/30, 5/2, 5/12-16/16	0.33%	277,269
2016	HF	KAS/ EAST CHATHAM	64,602,663	1.7-3.7	2.11	(KAS) 5/10-14, 5/30-6/1/17 (E CHAT) 5/10-13, 5/30-31/17	0.20%	132,232 [3]
2017	HF	KAS/ EAST CHATHAM	43,725,791	2.2-4.5	2.88	(KAS) 5/20, 22, 6/2-3/18 (E CHAT) 5/17-20, 6/2/18	0.59%	257,556 [3]
2018	HF	KAS/ EAST CHATHAM	47,623,744	1.82-3.81	2.53	(KAS) 5/6, 9, 27/19 (E CHAT) 5/6-7, 9, 22-24/19	0.05%	23,344 [3]
2019	HF	KAS/ EAST CHATHAM	48,589,947	1.72-4.96	3.23	(KAS) 5/5-8, 6/2-3/20 (ECHAT) 5/5-7, 5/30-6/1/20		
2020	HF	KAS/ EAST CHATHAM	48,895,105	1.55-3.08	2.32	(KAS)5/19,21,22/21, 6/2/21 (ECHAT) 5/17-18/21, 5/30-31/21		
SOUTHEAST COVE								
2012	HF	SE COVE	8,712,136	4.01	4.01	6/8/2013	2.16%	188,249
2013	HF	SE COVE	9,142,373	3.89	3.89	6/7/2014	0.35%	32,412
2014	HF	SE COVE	17,478,583	4.15	4.15	5/30/2015	0.45%	79,444
2015	HF	SE COVE	42,758,270	2.3-4.1	2.87	5/8-13, 5/23-27/16[4]	2.59%	1,107,287
2016	HF	SE COVE	46,749,525	2.0-4.2	2.87	19, 21, 29-31, 6/1, 3, 4/17	0.20%	92,337 [3]
2017	HF	SE COVE	43,109,082	2.1-4.1	2.83	5/18, 19, 20, 21, 23, 24, 26, 6/8, 9 10/18	0.09%	38,045 [3]
2018	HF	SE COVE	36,644,291	2.3-4.3	3.34	5/19, 21, 22, 23, 25-30/19	0.02%	8,121 [3]
2019	HF	SE COVE	40,951,776	2.12-4.09	3.10	5/19/20, 5/25,26,27,28,30,31,6/2/20		
2020	HF	SE COVE	35,357,207	2.01-3.44	3.06	5/27-29/21, 6/8-10/21		
THOMAS BAY								
2016	HF	THOMAS BAY	21,899,063	2.2-4.2	2.85	5/4,8,23,26/17	0.225%	49,350 [3]
2017	HF	THOMAS BAY	22,255,897	2.2-4.8	3.32	5/22, 23, 24, 6/7, 8, 9/18	0.383%	85,135 [3]
2018	MC	THOMAS BAY	15,350,544	2.1-4.7	3.50	5/10-11, 27-29/19	0.018%	2,836 [3]
2019	HF	THOMAS BAY	21,398,311	2.11-4.91	3.51	5/12-14/20, 5/30,31,6/1,2/20		
2020	HF	THOMAS BAY	11,691,221	4.34	4.34	5/31/21-6/3/21		
GUNNUK CREEK								
2017	HF	GUNNUK GREEK	8,866,586	4.39	4.39	5/30, 31, 6/1, 2/18	0.444%	39,330 [3]
2018	HF	GUNNUK GREEK	15,857,078	2.5-4.2	3.40	5/17, 25, 29-30/19	0.009%	1,422 [3]
2019	HF	GUNNUK GREEK	16,142,492	2.3-4.24	3.27	5/7-9, 6/3/20		
2020	HF	GUNNUK GREEK	17,566,539	2.3-4.44	3.33	5/10/2021, 6/1/21		

[1] MC= Macaulay Returns, K= Kadashan River, C= Clear River, S= Seal Bay, HF= Hidden Falls Returns
BY77 (unknown) and BY81 (K) are entries in ADF&G database (M. McNair 5/98)

[2] This table contains data for fed fry only.

[3] Incomplete Returns.

[4] Daily releases for periods shown; staggered to reduce potential of whale predation

Table 2b. Chum Salmon Release Data for Hidden Falls Hatchery.
Release Site/ Fed or Unfed Status / Late-Large

BY	Kasnyku Fed Fry Regular	Kasnyku Fed Fry Late - Large	Takatz Fed Fry	Takatz Fed Fry Late - Large	Total Fed Fry	Release Biomass (kg)	Kasnyku Unfed Fry	Baranof Unfed Fry	Total Unfed Fry	Grand Totals Fed+Unfed
1977	212,551				212,551	180				212,551
1978	1,889,184				1,889,184	2,141				1,889,184
1979	3,599,384				3,599,384	6,341				3,599,384
1980	9,013,938				9,013,938	13,907				9,013,938
1981	10,291,351				10,291,351	13,769				10,291,351
1982	18,909,761				18,909,761	17,775	2,726,310		2,726,310	21,636,071
1983	20,100,000				20,100,000	20,301	8,400,000		8,400,000	28,500,000
1984	21,530,000				21,530,000	17,661	8,550,000		8,550,000	30,080,000
1985	19,680,000				19,680,000	12,406	24,060,000	1,560,000	25,620,000	45,300,000
1986	21,140,000		19,250,000		40,390,000	49,841				40,390,000
1987	29,181,000		21,574,717		50,755,717	81,894				50,755,717
1988	34,249,000		26,051,600		60,300,600	94,793				60,300,600
1989	36,371,500		26,135,291		62,506,791	109,412				62,506,791
1990	37,686,000		26,589,400		64,275,400	99,453				64,275,400
1991	36,479,100		19,650,100		56,129,200	83,913				56,129,200
1992	36,530,800		25,912,100		62,442,900	106,153				62,442,900
1993	33,155,175		27,067,798		60,222,973	92,388				60,222,973
1994	37,035,400		33,854,350		70,889,750	121,009				70,889,750
1995	49,715,678		26,956,000		76,671,678	121,732				76,671,678
1996	37,544,876		25,021,120		62,565,996	107,782				62,565,996
1997	37,809,253		25,882,728		63,691,981	133,753				63,691,981
1998	48,905,343		25,744,971		74,650,314	123,920				74,650,314
1999	38,689,735		36,259,333		74,949,068	139,405				74,949,068
2000	41,925,974		38,918,758		80,844,732	160,881				80,844,732
2001	36,503,940		36,316,937		72,820,877	109,231				72,820,877
2002	38,788,889		36,626,794		75,415,683	146,306				75,415,683
2003	29,881,079	13,662,435	45,054,655		88,598,169	200,232				88,598,169
2004	33,897,948	9,917,604	44,984,748		88,800,300	191,809				88,800,300
2005	34,971,120	9,300,684	41,926,494		86,198,298	187,912				86,198,298
2006	34,654,534	9,252,243	44,395,047		88,301,824	209,904				88,301,824
2007	31,966,262	9,688,433	42,828,059		84,482,754	206,138				84,482,754
2008	41,302,992		40,294,519		81,597,511	185,095				81,597,511
2009	40,268,478		39,039,177		79,307,655	164,923				79,307,655
2010	37,630,694		30,212,170	8,595,158	76,438,022	177,508				76,438,022
2011	31,283,930	7,048,558	29,204,857	13,453,301	80,990,646	193,392				80,990,646
2012	28,358,647	6,508,719	29,681,749	9,972,601	74,521,716	190,030				74,521,716
2013	25,970,400	6,395,064	32,028,756	10,420,817	74,815,037	194,117				74,815,037
2014	23,868,519	6,513,515	31,396,973	11,826,533	73,605,540	193,460				73,605,540
2015	35,599,703	10,419,637	31,032,302	7,345,485	84,397,127	226,391				84,397,127
2016	53,311,753	11,290,910			64,602,663	136,503				64,602,663
2017	30,183,284	13,542,507			43,725,791	126,114				43,725,791
2018	32,092,646	15,531,098			47,623,744	120,575				47,623,744
2019	23,537,892	25,052,055			48,589,947	159,427				48,589,947
2020	23,922,415	24,972,690			48,895,105	113,816				48,895,105

BY	Southeast Cove Fed Fry Regular	Southeast Cove Fed Fry Late - Large	Total Fed Fry	Release Biomass (kg)			
2012		8,712,136	8,712,136	34,936			
2013		9,142,373	9,142,373	35,564			
2014		17,478,583	17,478,583	72,536			
2015	29,441,527	13,316,743	42,758,270	122,826			
2016	29,183,809	17,565,716	46,749,525	134,014			
2017	27,367,140	15,741,942	43,109,082	121,897			
2018	17,074,771	19,569,520	36,644,291	122,567			
2019	20,068,712	20,883,064	40,951,776	127,958			
2020	9,198,802	26,158,405	35,357,207	107,441			

BY	Thomas Bay Fed Fry Regular	Thomas Bay Fed Fry Late - Large	Total Fed Fry	Release Biomass (kg)			
2016	14,749,497	7,149,566	21,899,063	62,334			
2017	12,952,470	9,303,427	22,255,897	73,820			
2018	6,881,163	8,469,381	15,350,544	53,780			
2019	10,835,469	10,562,842	21,398,311	74,727			
2020		11,691,221	11,691,221	50,741			

BY	Gunnuk Creek Fed Fry Regular	Gunnuk Creek Fed Fry Late - Large	Total Fed Fry	Release Biomass (kg)			
2017		8,866,586	8,866,586	38,924			
2018	7,071,823	8,785,255	15,857,078	53,943			
2019	6,475,719	9,666,773	16,142,492	55,881			
2020	8,344,163	9,222,376	17,566,539	59,554			

Table 2c. Annual Chum Salmon Returns to Hidden Falls Hatchery.
Return Utilization

Return Year	Commercial	Percent	Broodstock	Percent	Surplus/ Egg Sales	Percent	Cost Recovery	Percent	Total Return
1980	0		0		5				5
1981	ND		ND						3,431
1982	ND		ND						58,030
1983	73,334	62%	45,253	38%					118,587
1984	561,793	91%	32,000	5%	22,400	4%			616,193
1985	380,567	84%	65,000	14%	5,020	1%			450,587
1986	594,819	89%	55,000	8%	15,000	2%			664,819
1987	434,453	80%	85,095	16%	2,000	0%	22,091	4%	543,639
1988	205,594	49%	75,149	18%	2,200	1%	139,028	33%	421,971
1989	50,184	32%	72,576	47%	1,500	1%	30,703	20%	154,963
1990	257,587	54%	81,373	17%	8,500	2%	132,258	28%	479,718
1991	579,329	67%	71,985	8%	16,067	2%	202,522	23%	869,903
1992	738,121	72%	83,932	8%	18,894	2%	186,037	18%	1,026,984
1993	1,437,282	80%	112,153	6%	49,759	3%	192,011	11%	1,791,205
1994	2,855,275	89%	88,290	3%	60,264	2%	204,043	6%	3,207,872
1995	3,216,855	90%	82,729	2%	45,526	1%	212,643	6%	3,557,753
1996	3,370,728	83%	72,636	2%	130,499	3%	481,479	12%	4,055,342
1997	1,377,400	81%	71,247	4%	41,153	2%	220,064	13%	1,709,864
1998	1,837,515	82%	80,582	4%	31,390	1%	302,981	13%	2,252,468
1999	2,336,207	86%	79,599	3%	19,655	1%	279,238	10%	2,714,699
2000	2,737,324	88%	75,377	2%	20,845	1%	266,903	9%	3,100,449
2001	1,177,019	74%	93,256	6%	32,806	2%	278,466	18%	1,581,547
2002	1,230,535	76%	88,569	5%	23,824	1%	277,562	17%	1,620,490
2003	1,351,523	63%	123,833	6%	69,260	3%	604,325	28%	2,148,941
2004	1,154,761	60%	118,420	6%	17,148	1%	622,887	33%	1,913,216
2005	342,258	42%	110,904	14%	27,414	3%	325,985	40%	806,561
2006	1,761,483	81%	104,562	5%	34,231	2%	284,803	13%	2,185,079
2007	500,931	41%	99,137	8%	32,334	3%	594,692	48%	1,227,094
2008	1,747,811	78%	79,510	4%	52,515	2%	371,721	17%	2,251,557
2009	1,889,975	82%	88,283	4%	23,326	1%	303,385	13%	2,304,969
2010	659,437	66%	91,180	9%	25,131	3%	217,808	22%	993,556
2011	132,228	36%	95,113	26%	48,062	13%	96,538	26%	371,941
2012	1,084,357	87%	104,102	8%	43,680	4%	7,948	1%	1,240,087
2013	1,239,914	89%	113,334	8%	33,376	2%	27	0%	1,386,651
2014	252,007	54%	106,974	23%	60,248	13%	51,117	11%	470,346
2015	49,417	17%	149,132	52%	90,385	31%	0	0%	288,934
2016	15,936	6%	146,932	54%	75,515	28%	33,218	12%	271,601
2017	199,804	46%	148,125	34%	65,353	15%	20,415	5%	433,697
2018	245,738	70%	86,557	25%	19,760	6%	95	0%	352,150
2019	25,707	11%	151,170	63%	62,899	26%	1,189	0%	240,965
2020	11,613	6%	115,792	59%	67,502	35%	0	0%	194,907
2021	15,662	7%	180,140	77%	7,878	3%	28,918	12%	232,598

1977-1988 = Hidden Falls Returns, 1989 and later = Hidden Falls & Takatz Bay.
1996 Cost Recovery includes 200,873 regular cost recovery and 280,606 Joint Venture Roe fish.
1998 Cost Recovery includes 239,227 regular cost recovery and 63,754 surplus fish harvested in August.
2009 Broodstock included 5.0M eggs for Gunnuk Creek Hatchery
2010 Broodstock included 5.1M eggs for Gunnuk Creek Hatchery
2012 Broodstock included 5.0M eggs for Gunnuk Creek Hatchery

Table 2d. Annual Chum Salmon Returns to Southeast Cove.
Return Utilization

Return Year	Commercial	Percent	Broodstock	Percent	Surplus/ Egg Sales	Percent	Cost Recovery	Percent	Total Return
2015	0		0		0		13,428	100%	13,428
2016	0		0		0		149,520	100%	149,520
2017	0		0		0		49,502	100%	49,502
2018	1,865	1%	0		277	0%	184,539	99%	186,681
2019	100,626	11%	0		1,395	0%	851,349	89%	953,370
2020	125,688	93%	5,284	4%	0	0%	4,481	3%	135,453
2021	53,310	97%	1,004	2%	0	0%	365	1%	54,679

Table 3a. Chinook Salmon Release and Survival Data for Hidden Falls Hatchery by Ancestral Stock

Brood Year	Stock /1	Release Site	Smolt Released	Size (gm)	Release Date	% Marine Survival	Adult Return
1981	AC	Kasnyku Bay	80,460	12.3	5/17-22/83	0.12%	93
1982	AC	Kasnyku Bay	70,002	23.5	5/17&24/84	1.30%	910
1983	AC	Kasnyku Bay	50,211	18.8	05/21/85	0.75%	375
1984	CL	Kasnyku Bay	45,583	15.2	05/22/86	0.47%	215
1985	CL	Kasnyku Bay	46,137	15.7	05/22/87	0.61%	283
1986	CL	Kasnyku Bay	101,571	20.7	05/28/88	2.17%	2,204
1987	CL,HF	Kasnyku Bay	284,132	21.5	05/28/89	0.95%	2,698
1988	CL,HF	Kasnyku Bay	310,783	26.9	05/29/90	0.57%	1,276 /5
1989	HF	Kasnyku Bay	169,379	26.6	06/04/91	1.59%	2,697
1990	HF,CL,MH	Kasnyku Bay	1,554,021	19.6,28.1	5/28-6/4/92	1.63%	25,403
1991	HF,MH	Kasnyku Bay	1,754,956	23.7,34.0	6/2&5/93	2.89%	50,779
1992	HF	Kasnyku Bay	1,053,038	28.8,37.2	5/28&29/94	2.69%	28,363
1993	HF	Kasnyku Bay	923,506	36.5	06/06/95	1.06%	9,808
1994	HF	Kasnyku Bay	888,538	27.5,28.4	06/05/96	0.92%	8,217
1995	HF	Kasnyku Bay	944,457	38.3	05/27/97	4.52%	42,706
1996	HF	Kasnyku Bay	1,070,885	39.2	05/29/98	4.53%	48,496
1997	HF	Kasnyku Bay	1,104,403	35.1	06/01/99	1.38%	15,285
1998	HF	Kasnyku Bay	1,232,716	36.7	5/19&24/00	2.75%	33,905
1999	HF	Kasnyku Bay	1,214,625	24.3,40.5	5/30&6/5/01	1.94%	23,582
2000	HF	Kasnyku Bay	1,145,835	42.7	06/03/02	1.74%	19,957
2001	HF	Kasnyku Bay	1,248,290	39.7	06/01/03	1.18%	14,671
2002	HF	Kasnyku Bay	922,407	25.5,39.6	4/28,6/2,3,4/04	0.43%	3,969
2003	HF	Kasnyku Bay	1,249,354	42.0	06/04/05	1.50%	18,708
2004	HF	Kasnyku Bay	1,052,892	18.6,35.8	4/16-21,5/9/06 /7	0.46%	4,807
2005	HF	Kasnyku Bay	604,149	46.3	5/11,13/07	1.20%	7,245
2006	HF	Kasnyku Bay	498,136	46.3	5/27,6/5,6/08	1.24%	6,160
2007	HF	Kasnyku Bay	908,118	40.3	06/04/09	1.30%	11,821
2008	HF	Kasnyku Bay	939,962	69.8	5/28-6/1/10	1.12%	10,546
2009	HF	Kasnyku Bay	598,284	53.2	5/10-16/11	0.16%	987
2010	HF	Kasnyku Bay	480,642	59.3	5/7-10/12	0.52%	2,477
2011	HF	Kasnyku Bay	518,277	66.2	4/26-5/7/13	0.48%	2,462
2012	HF	Kasnyku Bay	558,227	66.8	5/1-4/14	0.15%	865
2013	HF	Kasnyku Bay	674,433	65.0	4/16-17,5/15/15	0.15%	989
2014	HF	Kasnyku Bay	588,842	59.1	5/5-10/16	0.11%	636
2015	HF	Kasnyku Bay	552,298	55.8	4/26-28, 5/16-17	0.11%	609 /2
2016	HF	Kasnyku Bay	442,436	20.5	05/14/18	0.06%	247 /2
2016	HF	Gunnuk Creek	160,234	18.4	05/10/19	0.54%	864 /2
2017	HF	Kasnyku Bay	433,213	23.3	5/7,8/19	0.02%	84 /2
2017	HF	Gunnuk Creek	108,625	24.5	06/08/19	0.03%	32 /2
2018	HF	Kasnyku Bay	315,266	18.55,20.32	5/5-6/20		
2018	HF	Gunnuk Creek	179,754	22.1	06/09/20		
2019	HF	Kasnyku Bay	442,196	20.73, 22.49	06/14/21		
2019	HF	Gunnuk Creek	194,231	18.9	06/13/21		

(Part 1 of 2, continued on next page)

(Part 2 of 2)

Table 3a. Chinook Salmon Release and Survival Data for Hidden Falls Hatchery by Ancestral Stock

Brood Year	Stock /1	Release Site	Smolt Released	Size (gm)	Release Date		% Marine Survival	Adult Return
2002	HF	Kasnyku Bay	246,895	10.1	07/17/03	/6	0.00%	0
2006	HF	Kasnyku Bay	252,825	8.9	08/03/07	/6	0.00%	0
2007	HF	Kasnyku Bay	264,676	8.0	07/28/08	/6	0.00%	0
2008	HF	Kasnyku Bay	289,236	10.7	07/13/09	/6	0.00%	0
2009	HF	Kasnyku Bay	367,460	13.3	07/16/10	/6	0.00%	0
1983	TR	Kasnyku Bay	46,750	18.8	05/21/85		0.25%	115
1984	TR	Kasnyku Bay	46,518	16.7	05/22/86		0.15%	72
1985	TR	Kasnyku Bay	51,847	16.6	05/22/87		0.23%	118
1986	TR	Kasnyku Bay	57,460	17.2	05/28/88		0.53%	302
1987	TR	Kasnyku Bay	53,768	23.0	05/28/89		0.71%	382
1988	TR	Lutak Bay	38,660	38.0	05/21/90	/3	NA	NA
1989	TR	Kasnyku Bay	14,750	27.3	06/04/91		1.53%	226
1990	TR	Taiya Inlet	30,223	15.3	05/20/92	/4	NA	NA
1991	TR	Taiya Inlet	56,415	21.2	05/22/93	/4	NA	NA
1992	TR	Taiya Inlet	38,789	ND	05/20/94	/4	NA	NA
1993	TR		0					
2007	PC(TR)		164,865	11.0	07/24/08	/6,3	0.08%	138
2008	PC(TR)		222,151	11.5	07/16/09	/6,3	0.04%	88
2009	PC(TR)		80,672	18.7	07/15/10	/6,3	0.18%	147

/1 AC= Andrew Creek,CL=Crystal Lake Hatchery, HF=Hidden Falls Hatchery, PC=Pullen Creek TR=Tahini River, MH=Medvejie Hatchery

/2 Incomplete Returns

/3 Lutak Bay Release Site

/4 Taiya Inlet Release Site

/5 Only 222,573 BY88 smolts were represented by a tag code. Marine survival shown reflects this. No contribution has been estimated for the 88,210 smolts not represented by a code.

/6 Zero-check smolt release.

/7 Accidental early release (4/16-21/2006) 126,304 smolts

Table 3b. Annual Chinook Salmon Returns to Hidden Falls Hatchery
Catch & Escapement Combined
(Ages 4,5,6,7)

Andrew Creek		Tahini River	
Return	Number	Return	Number
1985	35		
1986	199		
1987	613	1987	17
1988	475	1988	83
1989	350	1989	107
1990	669	1990	153
1991	1,874	1991	402
1992	2,075	1992	348
1993	1,988	1993	75
1994	8,191	1994	184
1995	35,369	1995	59
1996	41,458		
1997	25,492		
1998	11,409		
1999	23,072		
2000	39,304		
2001	36,178		
2002	23,453		
2003	27,913		
2004	28,898		
2005	18,901		
2006	10,013		
2007	10,549		
2008	12,274		
2009	6,288		
2010	6,858		
2011	10,872		
2012	9,577		
2013	7,208		
2014	1,841		
2015	2,734		
2016	1,386		
2017	624		
2018	1,118		
2019	588		
2020	814		
2021	772		

Table 4. Coho Salmon Release and Survival Data for Hidden Falls Hatchery

Brood Year	Brood Source	Ancestral Stock	Smolt Released	Size (g)	Release Date	Survival	Adult Return
1988	Blanchard Lake	Deep Cove	62,595	17.2	05/25/90	16.2%	10,153
1989	Deer Lake	Sashin Creek	64,155	28.5	05/25/91	29.1%	18,661
1990	Deer Lake	Sashin Creek	168,862	21.4	06/02/92	19.6%	33,166
1991	Deer Lake	Deep Cove	404,069	19.7,24.7	06/07/93	22.9%	92,400
1992	Hidden Falls	Sashin Creek	1,651,071	24.1	6/4&6/94	14.2%	233,650
1993	Hidden Falls	Sashin Creek	1,458,657	18-21	5/31&6/6/95	13.2%	192,045
1994	Hidden Falls	Deep Cove	1,554,122	18-23	5/30&6/3,6/96	6.3%	98,199
1995	Hidden Falls	Sashin Creek	1,501,428	15-19	06/02/97	11.8%	177,425
1996	Hidden Falls	Sashin Creek	1,489,644	22-26	06/03/98	16.9%	251,096
1997	Hidden Falls	Deep Cove	1,657,809	20-22	06/07/99	10.3%	170,082
1998	Hidden Falls	Sashin Creek	1,599,069	20.5	06/02/00	12.2%	195,359
1999	Hidden Falls	Sashin Creek	1,758,775	22.6	5/29&30/01	23.5%	412,992
2000	Hidden Falls	Deep Cove	1,954,204	22.1	6/1&5/02	10.3%	201,652
2001	Hidden Falls	Sashin Creek	2,023,849	21.9	06/02/03	10.2%	206,819
2002	Hidden Falls	Sashin Creek	2,251,020	18.9	6/1,3,6/04	8.6%	194,657
2003	Hidden Falls	Deep Cove	2,199,914	20.8	5/26,31,6/6/05	10.3%	226,205
2004	Hidden Falls	Sashin Creek	2,802,729	18.9	5/19,24,6/8/2006	1.9%	53,703
2005	Hidden Falls	Sashin Creek	2,487,823	19.0	5/21,22,23,6/8/07	9.8%	243,544
2006	Hidden Falls	Deep Cove	2,274,731	18.7	5/22,26,30/08	4.8%	109,749
2007	Hidden Falls	Sashin Creek	2,797,375	18.9	5/17,22,29,30,6/5/09	7.2%	201,890
2008	Hidden Falls	Sashin Creek	2,560,498	20-23	5/5-11,5/25-26/10	9.9%	254,307
2009	Hidden Falls	Deep Cove	3,185,142	20.1-21.7	5/6-27/2011	1.1%	36,476
2010	Hidden Falls	Sashin Creek	2,569,138	22.2	5/4,5,12,13,14,15,25,26/2012	4.9%	124,923
2011	Hidden Falls	Sashin Creek	3,136,431	24.4	5/4-6/7/2013	2.6%	81,465
2012	Hidden Falls	Deep Cove	3,119,963	22.9	3/14 & 5/5,16,20,27/14	1.8%	56,323
2013	Hidden Falls	Sashin Creek	3,236,886	23.8	5/4,11,14,19,28/15	0.9%	30,505
2014	Hidden Falls	Sashin Creek	3,321,349	21.4	4/25,5/1,14,19,20/16	1.2%	38,345
2015	Hidden Falls	Deep Cove	3,176,580	22.4	5/5-6/2/17	0.9%	28,773
2016	Hidden Falls	Sashin Creek	2,779,922	24.0	5/1,2,14,15,31,6/1/18	1.4%	37,686
2017	Hidden Falls	Sashin Creek	2,254,425	22.0	5/1,8,21,29/19	1.5%	34,364
2018	Hidden Falls	Deep Cove	3,101,589	20.44-30.71	5/5,6,18/20 , 6/2,4/20	1.3%	39,580
2019	Hidden Falls	Sashin Creek	3,413,179	17.79-21.41	6/2,14,19/21		
Total			**68,017,003**				**4,086,194**

Table 5. Coho salmon egg take, release and return data for the NSRAA lake stocking program, BY 1981-2020.

Brood Year	Broodstock Source	/1	Number Eggs	Release Location	Rearing	Number Fry Release	Age FW	Number Smolts	Average Weight	Number Adults	Marine Survival %
1981	Sea Lion Cove		48,684	Sealion L.	Lake	15,174	I	11,762	13	400	3
				Sealion R.	Stream	9,508	II	31	86		
1981	Sashin Creek	/2	90,110	Banner L.	Lake		I	66,850	16	12,500	19
	Deep Cove		18,881	Banner L.	Lake	97,512	II	724	52	55	8
1982	Falls Creek		226,440	Elfendahl	Lake	115,335	I	7,750	11	615	8
							II	ND		100	
1983	Sashin Creek		236,000	L. Rostislaf L.	Lake	188,603	I	107,659	9	1,872	2
							II	10,769	20	272	3
1984	Sealion Cove		146,500	Sealion L.	Lake	30,000	I	18,870	10	1,075	6
				Surprise L.	Lake	75,163	I	20,911	11	1,250	5
				Surprise R.	Stream	26,487	I	2,155	5		
								381186			
1984	Banner Lake		1,306,700	Deer Lake	Lake	780,800	I	317,200	13	18,750	6
	(Sashin)						II	32,400	21	1,550	5
				Blanchard L.	Lake	74,961	I	18,000	15	594	3
							II	440	24	ND	
				Finger Lake	Lake	49,958	I	900	13	0	0
				Fiddle Lake	Lake	29,977	I	3,150	13	162	5
				Osprey Lake	Lake	600	I	0			
1985	Deep Cove		75,104	Blanchard L.	Lake	69,974	I	35,383	17	1,648	5
							II	149	65		
1986	L. Rostislaf		988,000	Deer Lake	Lake	842,900	I	370,500	13	26,050	7
	(Sashin)						II	9,100	35	650	7
1987	Deer Lake		1,026,300	Deer Lake	Lake-Fert	475,000	I	306,000	18	52,700	17
	(Sashin)						II	1,000	32	700	70
				Blanchard L.	Lake	90,000	I	49,518	9	2,150	4
							II	6,588	34	565	9
				Banner L.	Lake	100,000	I	47,600	10	4,390	9
							II	14,746	22	1,650	11
				L. Rostislaf L.	Lake	200,000	I	83,586	10	2,050	2
				Cliff Lake	Lake	50,269	I	ND	ND	290	ND
1988	Blanchard L.		1,500,000	Deer Lake	Lake-Fert	1,443,500	I	680,000	22	165,700	24
	(Deep C.)						II	450	46	ND	ND
1989	Deer Lake		2,000,000	Deer Lake	Lake-Fert	1,741,500	I	737,100	17	143,650	19
	(Sashin)						II	925	30	ND	ND
1990	Deer Lake		2,396,000	Deer Lake	Lake-Fert	1,875,000	I	591,800	12	75,800	13
	(Sashin)						II	61,300	28	24,200	39
1991	Deer Lake	/3	2,329,600	Deer Lake	Lake-Fert	2,055,000	I	1,031,500	16	239,200	23
	(Deep Cove)						II	34,600	29	5,900	17
				U. Deer Lake	Lake	218,000	I				
							II				

(Part 1 of 3, continued on next page)

Table 5. Coho salmon egg take, release and return data for the NSRAA lake stocking program, BY 1981-2020. (Cont.)

Brood Year	Broodstock Source	/1	Number Eggs	Release Location	Rearing	Number Fry Release	Age FW	Number Smolts	Average Weight	Number Adults	Marine Survival %
1992	Deer Lake (Sashin)		2,458,000	Deer Lake	Lake-Fert	2,330,000	I	1,132,000	16	153,500	14
							II	4,650	29	500	11
1993	Deer Lake (Sashin)	/4	2,256,700	Deer Lake	Lake-Fert	2,076,000	I	1,490,000	18	168,300	11
							II	2,675	28	175	7
1994	Hidden Falls (Deep Cove)		2,573,600	Deer Lake	Lake-Fert	2,425,000	I	1,665,000	16	99,100	6
							II	2,950	34	540	18
1995	Hidden Falls (Sashin)		2,626,100	Deer Lake	Lake-Fert	2,505,000	I	1,812,000	17	88,950	5
							II	10,900	30	6,418	59
1996	Hidden Falls (Sashin)		2,927,000	Deer Lake	Lake-Fert	2,714,500	I	1,709,000	17	286,657	17
							II	22,850	22	623	3
1997	Hidden Falls (Deep Cove)		3,015,600	Deer Lake	Lake-Fert	2,829,000	I	1,518,000	10	17,858	1
							II	202,600	18	60,906	30
1998	Hidden Falls (Sashin)		2,832,150	Deer Lake	Lake-Fert	2,525,000	I	408,550	7	27,538	7
							II	350,300	29	103,613	30
1999	Hidden Falls (Sashin)		315,000	Banner Lake	Lake	300,063	I	209,734	ND	17,038	8
							II	16,139	ND	843	5
2000	Hidden Falls (Deep Cove)		2,837,000	Deer Lake	Lake-Fert	2,408,500	I	951,300	10	52,365	6
							II	144,800	28	31,757	22
2001	Hidden Falls (Sashin)		0	Deer Lake	Lake-Fert	0	I	0			
							II				
2002	Hidden Falls (Sashin)		2,600,000	Deer Lake	Lake-Fert	2,326,500	I	1,031,681	17	133,501	13
							II	26,610	19	1,363	5
2003	Hidden Falls (Deep Cove)		2,700,000	Deer Lake	Lake-Fert	1,755,085	I	693,827	17	86,507	12
							II	18,482	43	7,914	43
2004	Hidden Falls (Sashin)		675,550	Deer Lake	Lake-Netpen	581,923	I	264,290	19	27,198	10
							II	0			
2005	Hidden Falls (Sashin)		1,110,795	Deer Lake	Lake-Netpen	1,002,438	I	533,248	16	18,468	3
							II	0			
2006	Hidden Falls (Deep Cove)		1,537,642	Deer Lake	Lake-Netpen	1,056,903	I	675,462	14	50,883	8
							II	12,025		611	5
2007	Hidden Falls (Sashin)		1,558,136	Deer Lake	Lake-Netpen	1,110,882	I	826,158	13	41,966	5
							II	12,958	33	259	2
2008	Hidden Falls (Sashin)		2,403,037	Deer Lake	Lake-Netpen	2,037,104	I	1,063,381	16	81,845	8
							II	13,000	32	825	6

(Part 2 of 3, continued on next page)

Table 5. Coho salmon egg take, release and return data for the NSRAA lake stocking program, BY 1981-2020. (Cont.)

Brood Year	Broodstock Source /1	Number Eggs	Release Location	Rearing	Number Fry Release	Age FW	Number Smolts	Average Weight	Number Adults	Marine Survival %
2009	Hidden Falls (Deep Cove)	2,498,400	Deer Lake	Lake-Netpen	2,123,950	I	647,000	23	41,042	6.3
						II	354,622	25	42,370	11.9
2010	Hidden Falls (Sashin)	2,511,040	Deer Lake	Lake-Netpen	2,000,300	I	1,711,170	19	204,396	11.9
						II	112,330	28	-	0.0
2011	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,801,419	I	2,314,224	21	239,417	10.3
						II	52,395	46	ND	
2012	Hidden Falls (Deep Cove)	3,132,330	Deer Lake	Lake-Netpen	2,802,628	I	2,364,473	25	143,183	6.1
						II	2,521	63	-	0.0
			Cliff Lake [5]	Lake	50,003	I&II	37,502	2	862	2.3
2013	Hidden Falls (Sashin)	3,217,500	Deer Lake	Lake-Netpen	2,800,536	I	2,495,732	25	56,885	2.3
						II	0			
			Banner Lake [5]	Lake	100,819	I&II	75,614	2	1,127	1.5
2014	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,814,430	I	2,427,271	22	125,719	5.2
						II				
			Parry Lake [5]	Lake	128,158	I&II	96,119	2	783	0.8
2015	Hidden Falls (Deep Cove)	3,200,000	Deer Lake	Lake-Netpen	2,900,000	I	2,557,538	25	43,441	1.7
						II				
			Cliff Lake [5]	Lake	29,789	I&II	22,342	3	116	0.5
2016	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,800,385	I	2,379,970	23	51,814	2.2
						II				
			Banner Lake [5]	Lake	118,000	I&II	59,000	4	239	0.4
			Blanchard Lake [5]	Lake	47,203	I&II	23,602	4	130	0.6
2017	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,800,000	I	2,102,566	26	63,164	3.0
2018	Hidden Falls (Deep Cove)	3,200,000	Deer Lake	Lake-Netpen	2,841,000	I	2,073,028	25.6	25,000	1.2
			Banner Lake [5]	Lake	278,920	I&II	139,460	1.77	239	0.2
2019	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,852,089	I	2,001,846	22		
			Blanchard Lake [5]	Lake	94,733	I&II	94,733	1.98		
2020	Hidden Falls (Sashin)	3,200,000	Deer Lake	Lake-Netpen	2,961,067	I				

/1 The ancestral origin of the stock is given in parentheses.

/2 Sashin Creek fish were untagged and Deep Cove were tagged before planting into Banner lake.
In 1984 only Sashin Creek fish were used for brood.

/3 Smolt and adult data for Deer and Upper Deer Lakes are combined.

/4 Broodstock source: 1,780,100 eggs from Deer Lake (Sashin); 476,600 from Hidden Falls (Sashin).

/5 Lake stocking with no enumeration at emmigration. Smolt are estimated at 50% of fry plant and are assumed to be split between Age I and Age II. Adults are total adults for all years.

Beginning with BY2004, eggs are kept at Hidden Falls for enire incubation and initial rearing. Fry are transported directly from Hidden Falls to Deer Lake. (Previous incubation was at Medvejie.)

(Part 3 of 3)

Table 6. Numbers of Fish, Eggs, and Fry Associated with the 2022 Chum Salmon Egg Take At Hidden Falls Hatchery by Release Location

Release Location	Egg Take (millions)	Females Required	Brood Required	Eyed Eggs (millions)	Ponded Fry (millions)	Fry Released (millions)
Kasnyku	56.0	28,000	56,000	52.4	52.4	50.8
Takatz	0.0	0	0	0.0	0.0	0.0
Southeast Cove	22.5	11,250	22,500	21.0	21.0	20.4
Gunnuk Creek	10.0	5,000	10,000	9.4	9.4	9.1
Thomas Bay	25.0	12,500	25,000	23.4	23.4	22.7
H.F. Subtotal/1	113.5	56,750	113,500	106.1	106.1	102.9
Deep Inlet/2	24.0	12,000	24,000	23.0	23.0	22.3
Bear Cove/2	20.0	10,000	20,000	23.0	23.0	22.3
Offsite/3	10.0	5,000	10,000	9.4	9.4	9.1
Overall Total	167.5	83,750	167,500	161.5	161.5	156.6

1/ Hidden Falls Hatchery (HFH) permit allows for 101 million chum eggs to be incubated at HFH for Kasnyku, Takatz & Thomas Bay releases plus up to 65 million for GCH/ SE COVE.

2/ Medvejie permit allows for 44 million chum eggs to be taken at HFH: 24 million for Deep Inlet and 20 million for Bear Cove.

3/ Unspecified Destination. DIPAC and Port Armstrong permits allow for up to 10 million chum eggs (combined) to be taken at HFH.

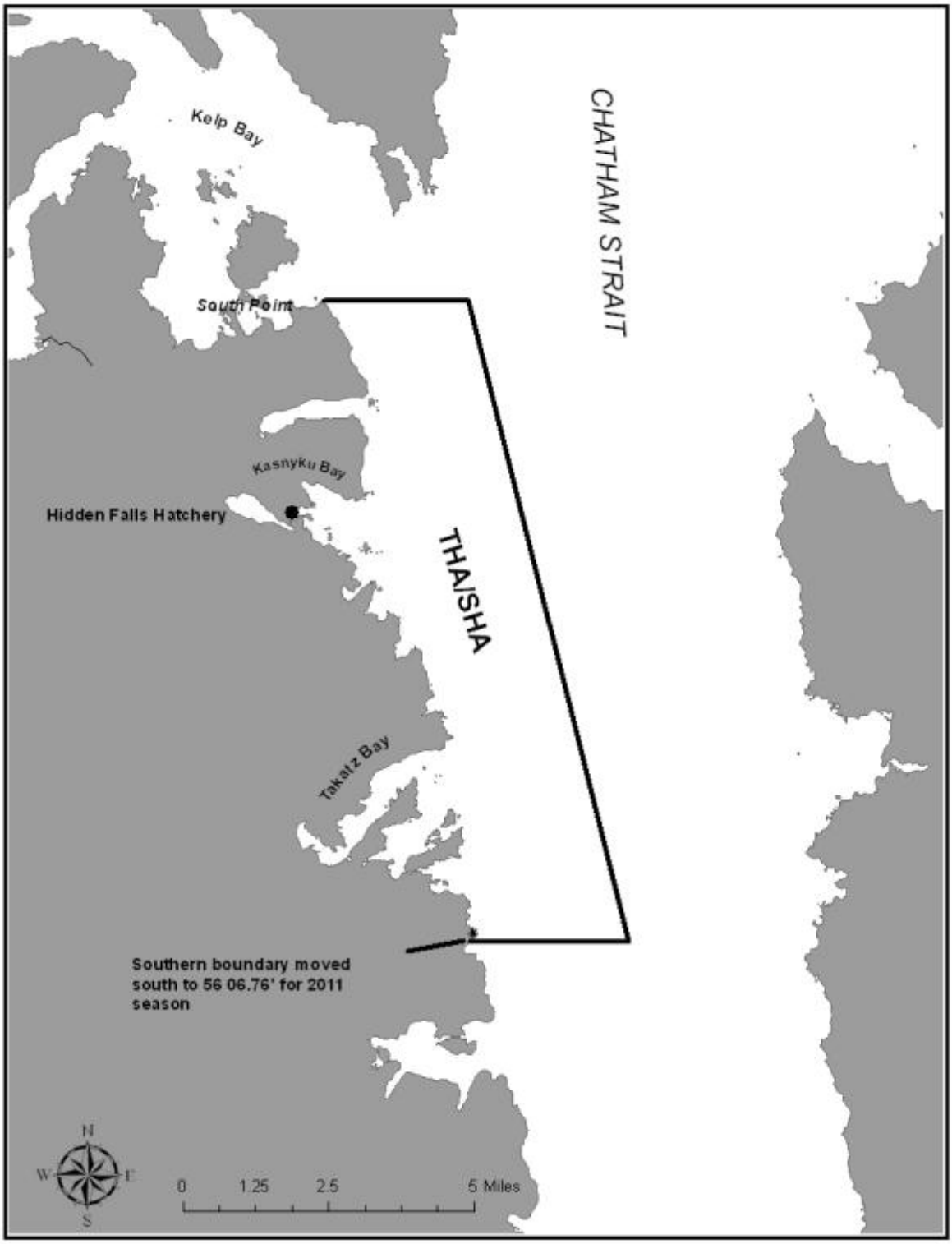


Figure 1.–Hidden Falls Hatchery THA and SHA for chum and Chinook salmon.

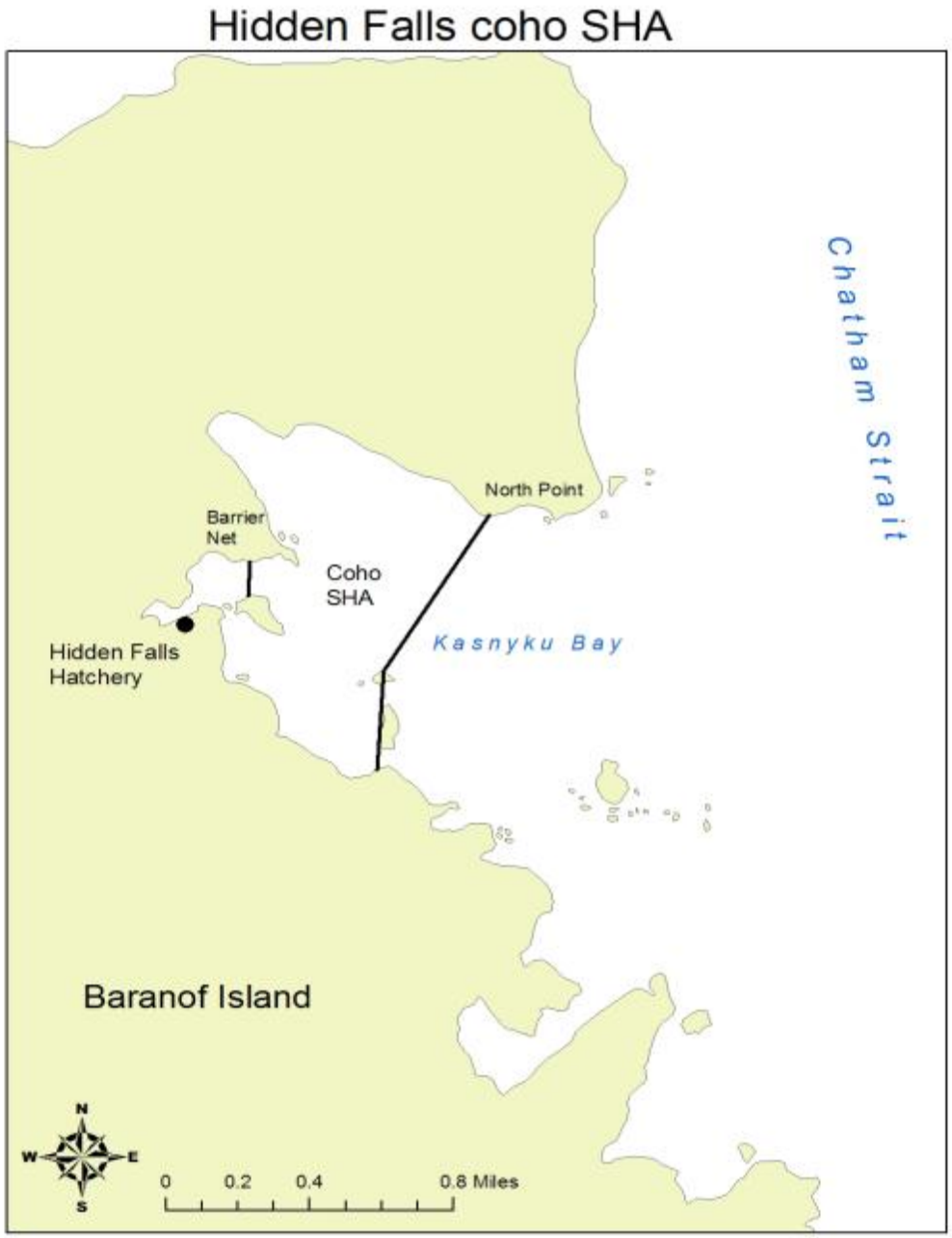


Figure 2.–Hidden Falls Hatchery SHA for coho salmon.

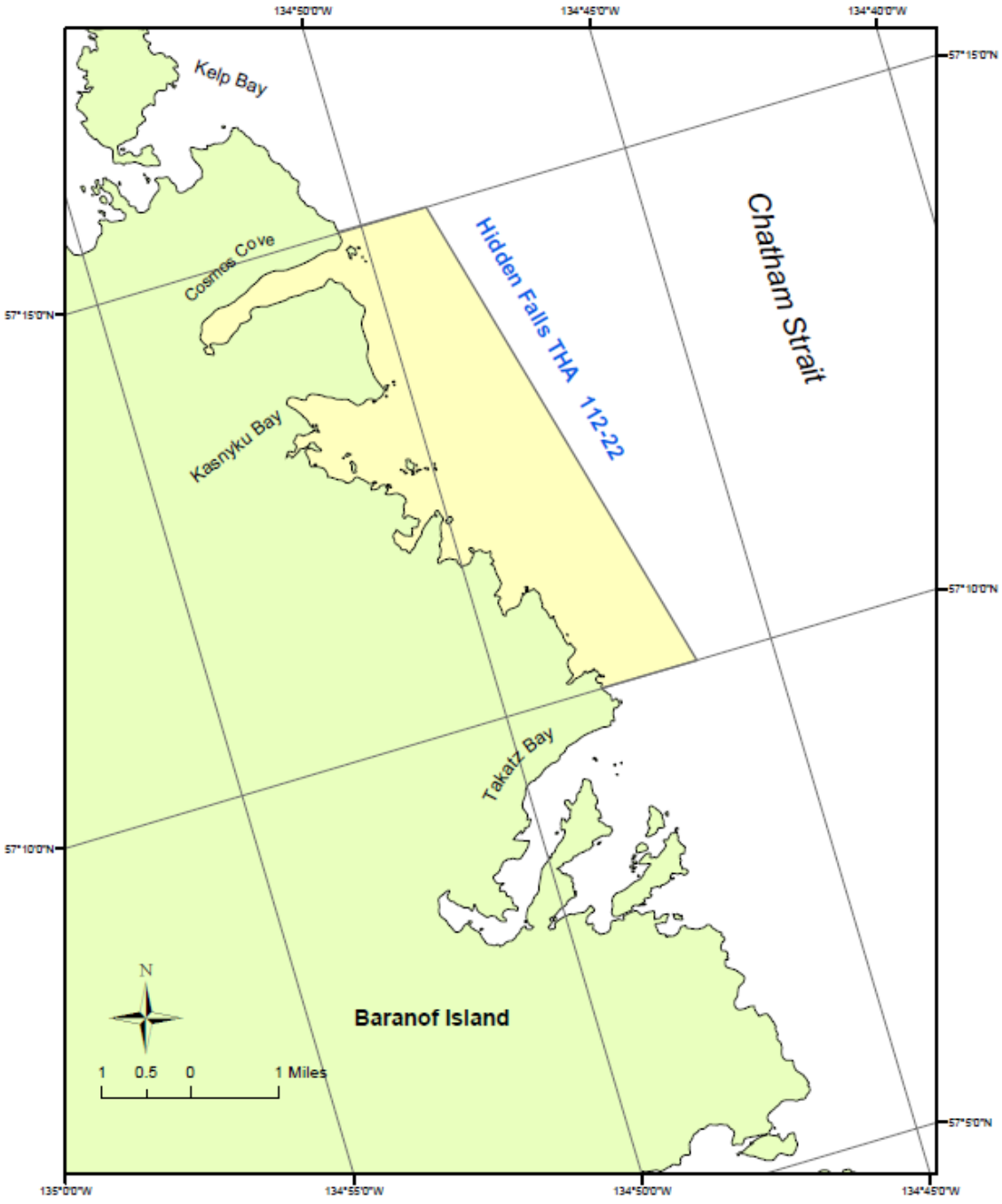


Figure 3.–Modified Hidden Falls Hatchery THA for coho salmon during the summer troll closure.

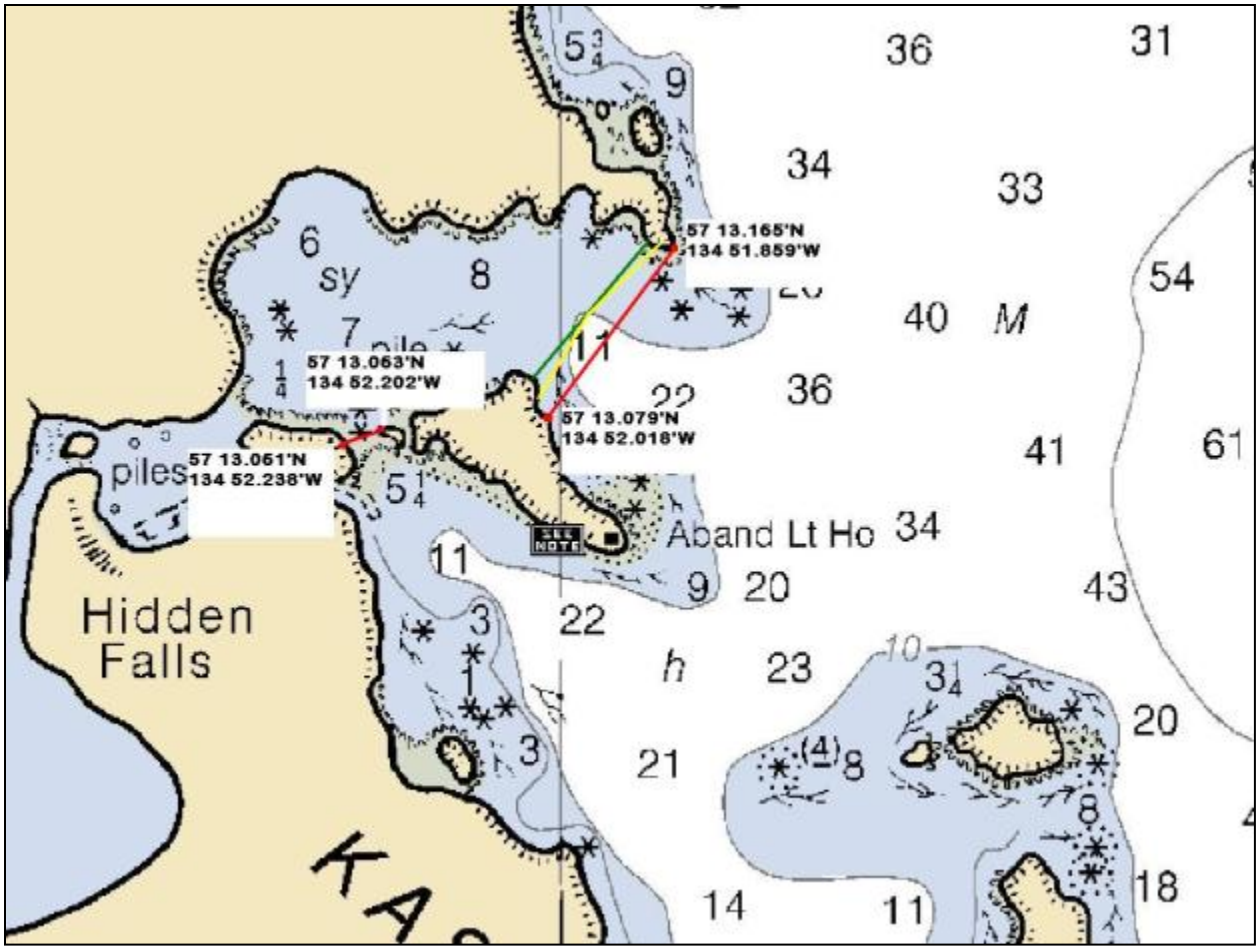


Figure 4.–Hidden Falls inner Kasnyku Bay closure line (RED). Green and yellow lines represent barrier nets.

The inner portion of Kasnyku Bay is closed by regulation to common property commercial fishing. The closed portion is defined as the waters north and west of a line between a point at 57°13.17′N lat, 134°51.86′W long and a point at 57°13.08′N lat, 134°52.02′W long, and the waters north of a line from 57°13.05′N lat, 134°52.24′W long and a point at 57°13.06′N lat, 134°52.20′W long. Department regulatory markers have been posted. These regulatory markers close the inner portion of Kasnyku Bay to sport fishing.

Figure 5.– Mist Cove SHA, consisting of all waters of Mist Cove west of a line from 56º31.70′N lat, 134º39.97′W long to 56º31.27′N lat, 134º39.85′W long; Waters closed to common property fishing with the Mist Cove SHA are south of a line from 56°31.07′N lat, 134°40.20′W long to 56°31.07′N lat, 134°40.12′W long.

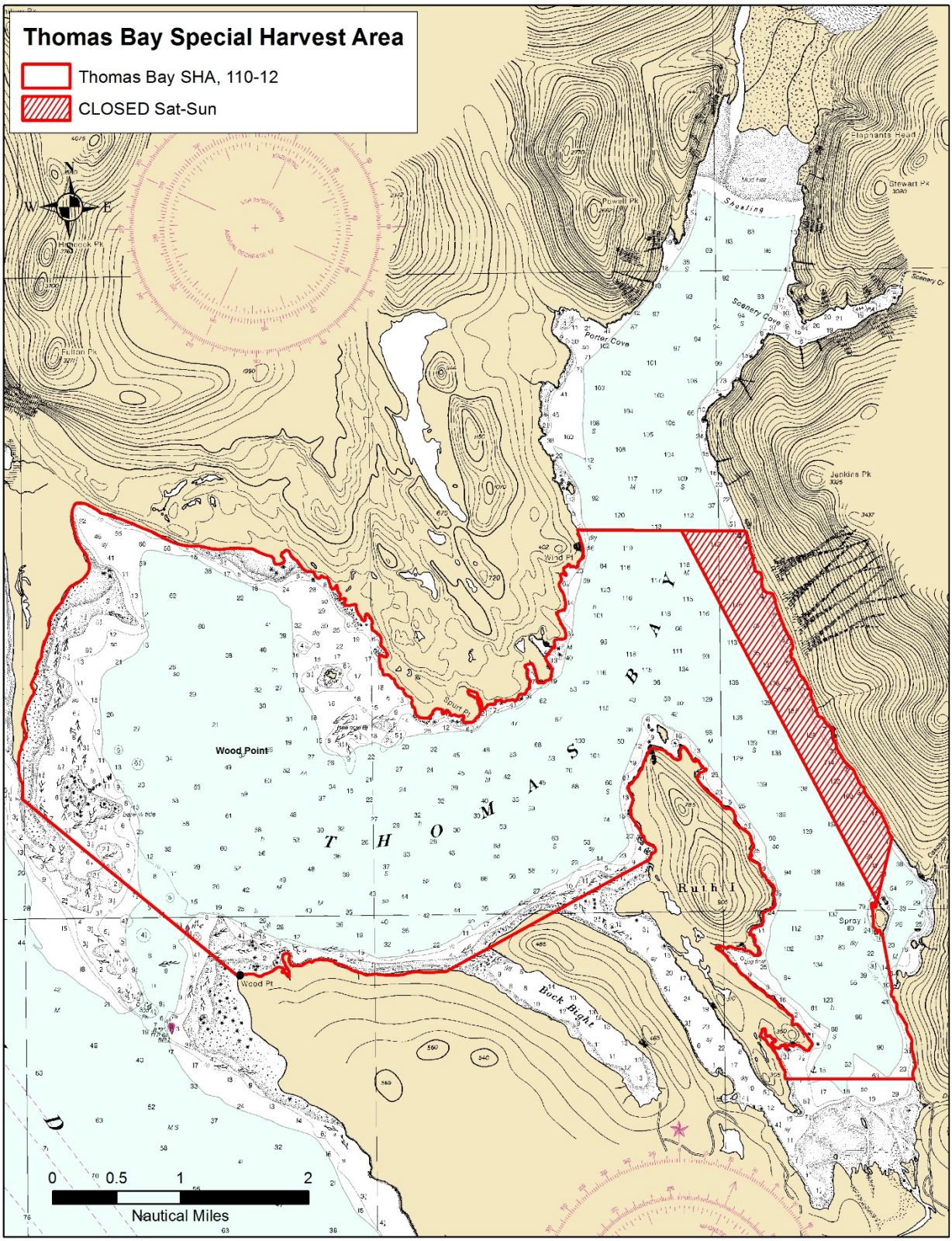
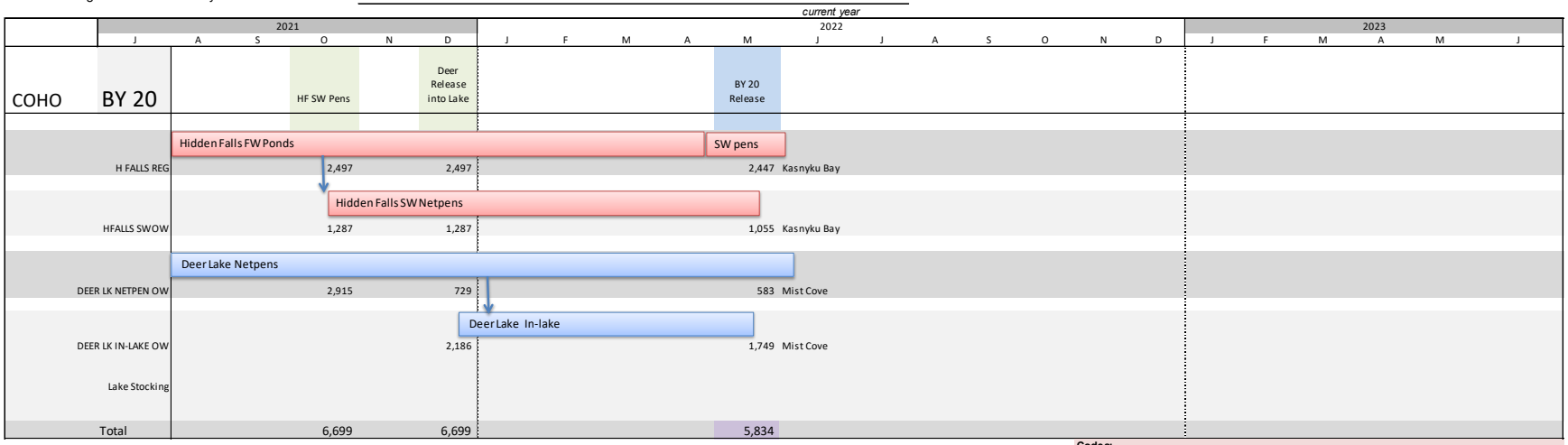


Figure 6. Thomas Bay SHA.

Production summary.

PRODUCTION SUMMARY

Organization or Hatchery NSRAA: HIDDEN FALLS



Deer Lake: a portion of fish are released into the lake after turnover; these emigrate volitionally in the spring
The remainder stay in netpens over-winter and are pumped out of pens - a "forced" release in the spring

HIDDEN FALLS/ DEER LAKE COHO BY 20

Thousands

BS SOURCE	STOCK ORIGIN	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	FEB POP	SPLIT PCNT	REL SITE	REL EST
H FALLS	SASHIN	NSRA	2,586	HF	2,540	2,500	2,497		KAS	2,447
H FALLS	SASHIN	NSRA	1,467	HF SWOW	1,390	1,373	1,287		KAS	1,055
H FALLS	SASHIN	NSRA	3,634	DL PEN	3,277	3,050	2,915	25%	MIST	583
				DL LAKE				75%	MIST	1,749
				BLANCHARD LK		-			Lake Outlet	-
Total			**7,687**		**7,207**	**6,923**	**6,699**	**100%**		**5,834**
	survival from green egg:		100%		94%	90%	87%			76%
						7532.401	0.92			
	incremental survival (for planning)					90%	92% (HF)			98%
							94% (DL)			(HF REG)

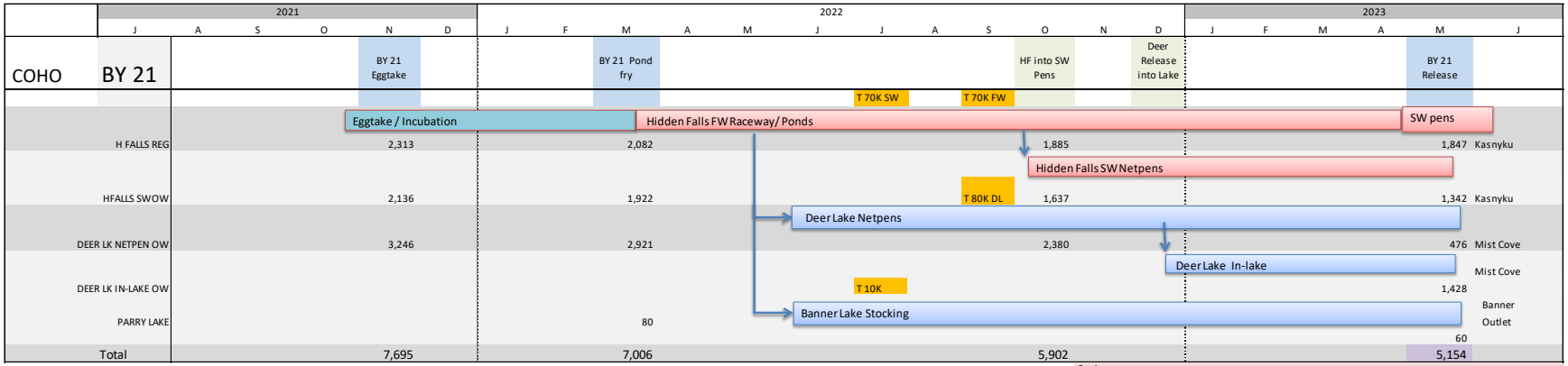
(HF SWOW) (DL IN-LAKE OW)
82% 80% 80%
(DL PEN OW)

TOTALS by SITE

Hidden Falls	**4,053**	**3,930**	**3,873**	**3,784**	**Kasnyku Bay**	**3,502**
Deer Lake	**3,634**	**3,277**	**3,050**	**2,915**	**Mist Cove**	**2,332**

Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
DeerLake	DL	
Hidden Falls	HF	
Sashin Creek stock	SASHIN	
Deep Cove stock	DEEP CV	
Kasnyku Bay	KAS	
Mist Cove	MIST	
Port Malmesbury	MALM	
Satwater over-winter	SWOW	



HIDDEN FALLS/ DEER LAKE COHO BY 21

Thousands

BS SOURCE	STOCK ORIGIN	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	OCT POP	SPLIT PCNT	REL SITE	REL EST
H FALLS	SASHIN	NSRA	2,313	HF	2,049	2,082	1,885		KAS	1,847
H FALLS	SASHIN	NSRA	2,136	HF SWOW	1,779	1,922	1,637		KAS	1,342
H FALLS	SASHIN	NSRA	3,246	DL PEN	2,532	2,921	2,380	25%	MIST	476
				DL LAKE				75%	MIST	1,428
				BANNER LK		80			Lake Outlet	60
Total			**7,695**		**6,360**	**7,006**	**5,902**	**100%**		**5,154**
	survival from green egg:		100%		83%	91%	77%			67% (HF SWOW) (DL IN-LAKE OW)
	incremental survival (for planning)					90%	92% (HF) 94% (DL)			98% (HF REG) 82% 80% (DL PEN OW) 80%

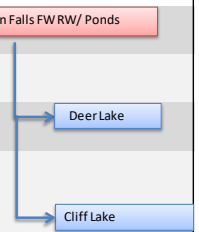
TOTALS by SITE

Hidden Falls	**4,449**	**3,828**	**4,004**	**3,522**	**Kasnyku Bay**	**3,189**
Deer Lake	**3,246**	**(2,532)**	**2,921**	**2,380**	**Mist Cove**	**1,904**

Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
DeerLake	DL	
Hidden Falls	HF	
Sashin Creek stock	SASHIN	
Deep Cove stock	DEEP CV	
Kasnyku Bay	KAS	
Mist Cove	MIST	
Port Malmesbury	MALM	
Satwater over-winter	SWOW	

	2021						2022											2023					
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
COHO	BY 22																BY 22 Eggtake				BY 22 Pond fry			
H FALLS REG																	2,300				2,070			
HFALLS SWOW																	2,100				1,890			
DEER LK NETPEN OW																	3,300				2,970			
DEER LK IN-LAKE OW																								
CLIFF LAKE																					80			
Total																	7,700				7,010			



HIDDEN FALLS/ DEER LAKE COHO BY 22

Thousands

BS SOURCE	STOCK ORIGIN	AGENCY	GREEN EGGS	GROUP	EYED EGGS	FRY	OCT POP	SPLIT PCNT	REL SITE	REL EST
H FALLS	SASHIN	NSRA	2,300	HF	2,185	2,070	1,904		KAS	1,866
H FALLS	SASHIN	NSRA	2,100	HF SWOW	1,995	1,890	1,739		KAS	1,426
H FALLS	SASHIN	NSRA	3,300	DL PEN	3,135	2,970	2,792	50%	MIST	1,117
				DL LAKE				50%	MIST	1,117
				CLIFF LAKE		80			Lake Outlet	60
Total			**7,700**		**6,360**	**7,010**	**6,435**	**100%**		**5,586**
	survival from green egg:		100%		83%	91%	84%			73% (HF SWOW) (DL IN-LAKE OW)
	incremental survival (for planning)					90%	92% (HF) 94% (DL)			98% (HF REG) 82% 80% (DL PEN OW) 80%

TOTALS by SITE

Hidden Falls	**4,449**	**3,828**	**3,960**	**3,643**	**Kasnyku Bay**	**3,292**
Deer Lake	**3,300**	**3,135**	**2,970**	**2,792**	**Mist Cove**	**2,233**

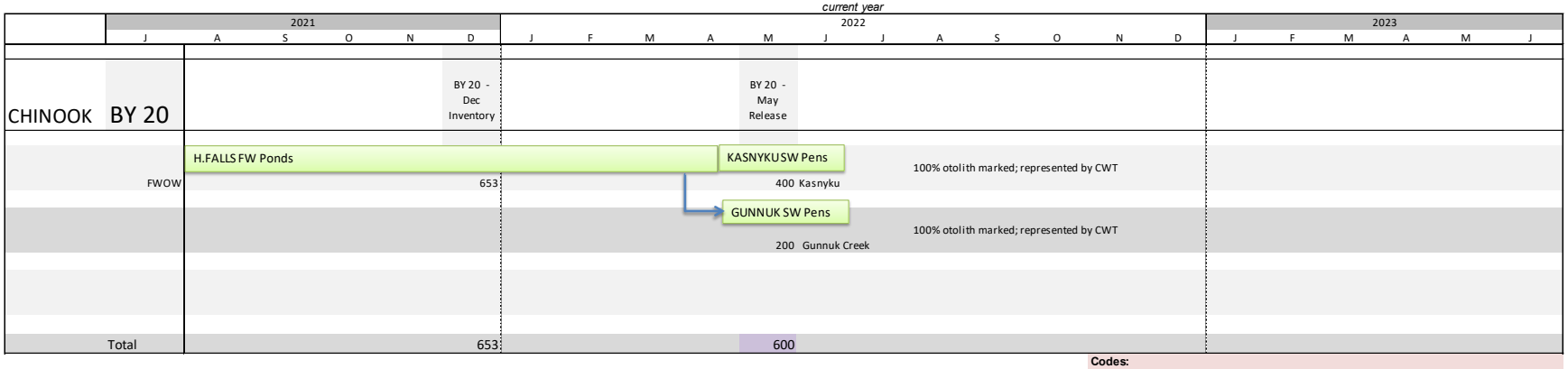
Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
DeerLake	DL	
Hidden Falls	HF	
Sashin Creek stock	SASHIN	
Deep Cove stock	DEEP CV	
Kasnyku Bay	KAS	
Mist Cove	MIST	
Port Malmesbury	MALM	
Satwater over-winter	SWOW	

PRODUCTION SUMMARY

Organization or Hatchery: NSRAA: HIDDEN FALLS

current year



HIDDEN FALLS CHINOOK BY 20

Thousands

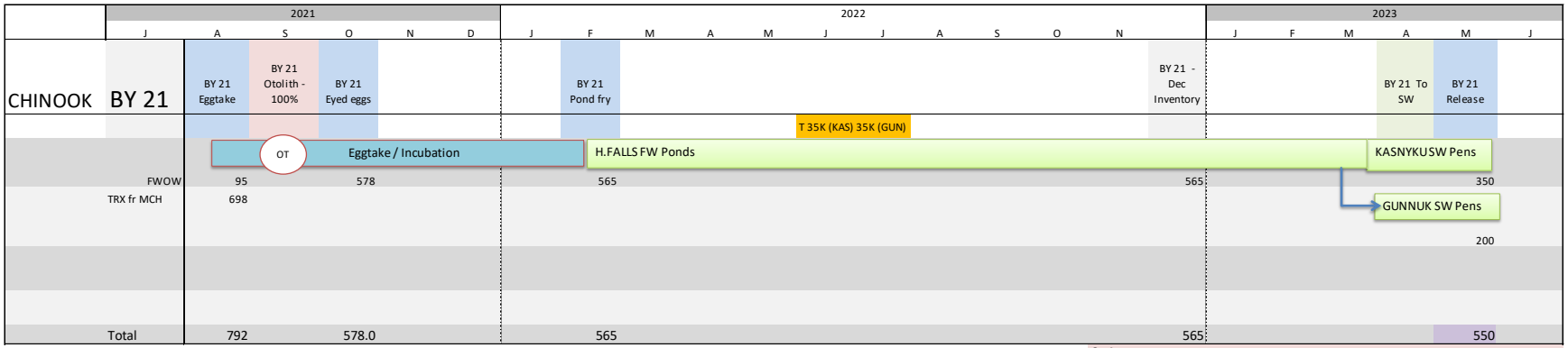
BS SOURCE	AGENCY	SITE	GREEN EGGS	TRX IN	EYED EGGS	FRY	GROUP	DEC POP	REL SITE	REL EST
HF (AC)	NSRA	HF	423.0		698.6	687.0	FWOW	652.7	KASNYKU	400.0
MAC (AC)	DIPAC			443.0					GUNNUK	200.0
Total			**423.0**	**443.0**	**698.6**	**687.0**		**652.7**		**600.0**
Survival from green eggs::			100%		165%	162%		154%		142%

gr egg>fry fry>fall fall>rel

Incremental for planning 94% 95% 85% (SW)

Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
MCH	Medvejie	
HF	Hidden Falls	
SWOW	Saltwater over-winter	
AC	Andrew Creek stock	



HIDDEN FALLS CHINOOK BY 21

Thousands

BS SOURCE	AGENCY	SITE	GREEN EGGS	TRX IN	EYED EGGS	FRY	GROUP	DEC POP	REL SITE	REL EST
HF (AC)	NSRA	HF	95		578.0	565.0	FWOW	565.0	KASNYKU	350.0
MCH (AC)	NSRA			697.5					GUNNUK	200.0
Total			**94.8**	**697.5**	**578.0**	**565.0**		**565.0**		**550.0**
Survival from green eggs::			100%		73%	71%		71%		69%

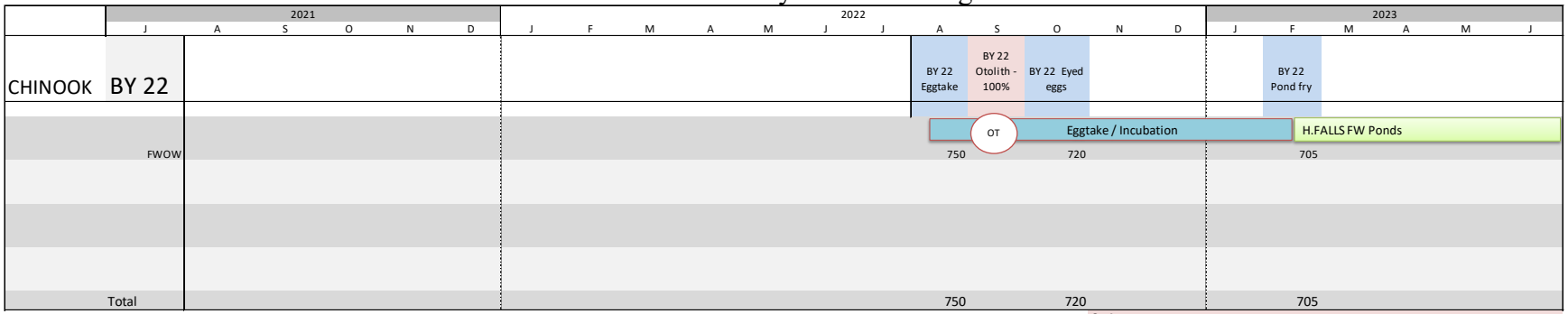
gr egg>fry fry>fall fall>rel

Incremental for planning 94% 95% 85% (SW)

Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
MCH	Medvejie	
HF	Hidden Falls	
SWOW	Saltwater over-winter	
AC	Andrew Creek stock	

2022 Hidden Falls Hatchery Annual Management Plan



HIDDEN FALLS CHINOOK BY 22

Thousands

BS SOURCE	AGENCY	SITE	GREEN EGGS	TRX OUT	EYED EGGS	FRY	GROUP	DEC POP	REL SITE	REL EST
HF (AC)	NSRA	HF	750.0		720.0	705.0	FWOW	669.8	KASNYKU	400.0
									GUNNUK	200.0
Total			**750.0**	**0.0**	**720.0**	**705.0**		**669.8**		**600.0**
Survival from green eggs::			100%		96%	94%		89%		80%
			Incremental for planning			gr egg>fry 94%		fry>fall 95%		fall>rel 90% (SW)

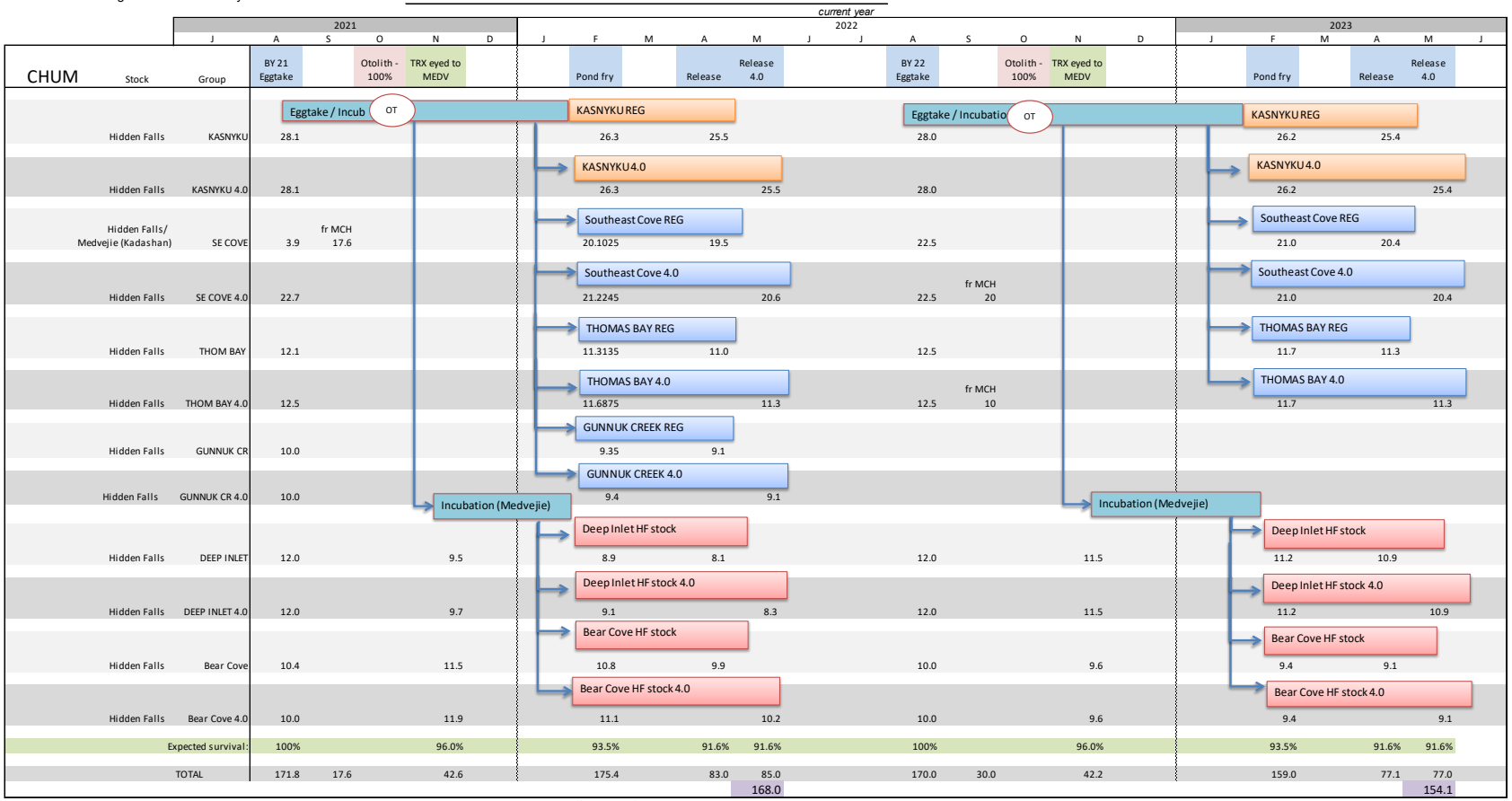
Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
MCH	Medvejie	
HF	Hidden Falls	
SWOW	Saltwater over-winter	
AC	Andrew Creek stock	

2022 Hidden Falls Hatchery Annual Management Plan

PRODUCTION SUMMARY

Organization or Hatchery: NSRAA: HIDDEN FALLS



HIDDEN FALLS CHUM BY 21 — 93.5% 97.0% incremental (for planning)

Millions — 100.0% 93.5% 90.7% cumulative

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	TRX-OUT	FRY	REL GOAL
H Falls	KAS	NSRA	REG	28.1		26.3	25.5
H Falls	KAS	NSRA	LL4.0	28.1		26.3	25.5
Subtotal				**56.2**		**52.5**	**51.0**
H Falls	TAK	NSRA	REG			0.0	0.0
H Falls	TAK	NSRA	LL4.0			0.0	0.0
Subtotal						**0.0**	**0.0**
H Falls	THOMAS	NSRA	REG	12.1		11.3	11.0
H Falls	THOMAS	NSRA	LL4.0	12.5		11.7	11.3
Subtotal				**24.6**		**23.0**	**22.3**
H Falls*	SE COVE	NSRA	REG	21.5		20.1	19.5
H Falls	SE COVE	NSRA	LL4.0	22.7		21.2	20.6
Subtotal				**44.2**		**41.3**	**40.1**
H Falls	GUNNUK CR	NSRA	REG	10.0		9.4	9.1
H Falls	GUNNUK CR	NSRA	LL4.0	10.0		9.4	9.1
Subtotal				**20.0**		**18.7**	**18.1**
H Falls	DI	NSRA	REG	12.0	9.5	8.9	8.1
H Falls	DI	NSRA	LL 4.0	12.0	9.7	9.1	8.3
H Falls	Bear Cove	NSRA	REG	10.4	11.5	10.8	9.9
H Falls	Bear Cove	NSRA	LL4.0	10.0	11.9	11.1	10.2
Subtotal				**44.4**	**42.6**	**39.8**	**36.5**
GRAND TOTAL				**189.4**	**42.6**	**175.4**	**168.0**

* Sept - 17.6 million eggs transferred from MCH

HIDDEN FALLS	56.2	DEEP INLET	24.0
SE COVE	44.2	BEAR COVE	20.4
GUNNUK CREEK	20.0		
THOMAS BAY	24.6		

NSRAA TOTALS	189.4	42.6	175.4	168.0

Codes:

Egg take	ET	*number & site*
Tagging	T	*number*
Release	R	*number & site*
transfers	"to ___"	
Otolith	OT	
KAS	Kasnyku Bay	
TAK	Takatz Bay	
THOM BAY	Thomas bay	
SE COVE	Southeast Cove	
KAKE	Gunnuk Creek Hatchery	
LL4.0 or 4.0	Late Large (4.0 g target size)	

HIDDEN FALLS CHUM BY 22 — 93.5% 97.0%

Millions — 100.0% 93.5% 90.7%

STOCK	REL SITE	AGENCY	GROUP	GREEN EGGS	TRX-OUT	FRY	REL GOAL
H Falls	KAS	NSRA	REG	28.0		26.2	25.4
H Falls	KAS	NSRA	LL4.0	28.0		26.2	25.4
Subtotal				**56.0**		**52.4**	**50.8**
H Falls	TAK	NSRA	REG			0.0	0.0
H Falls	TAK	NSRA	LL4.0			0.0	0.0
Subtotal				**0.0**		**0.0**	**0.0**
H Falls	THOMAS	NSRA	REG	12.5		11.7	11.3
H Falls	THOMAS	NSRA	LL4.0	12.5		11.7	11.3
Subtotal				**25.0**		**23.4**	**22.6**
H Falls	SE COVE	NSRA	REG	22.5		21.0	20.4
H Falls	SE COVE	NSRA	LL4.0	22.5		21.0	20.4
Subtotal				**45.0**		**42.1**	**40.8**
H Falls	DI	NSRA	REG	12.0	11.5	11.2	10.9
H Falls	DI	NSRA	LL 4.0	12.0	11.5	11.2	10.9
H Falls	Bear Cove	NSRA	REG	10.0	9.6	9.4	9.1
H Falls	Bear Cove	NSRA	LL4.0	10.0	9.6	9.4	9.1
Subtotal				**44.0**	**42.2**	**41.1**	**39.9**
GRAND TOTAL				**170.0**	**42.2**	**159.0**	**154.1**

HIDDEN FALLS	56.0	DEEP INLET	24.0
SE COVE	45.0	BEAR COVE	20.0
GUNNUK CREEK	BY 22 Gunnuk Cr egg takes planned for on site		
THOMAS BAY	25.0		

NSRAA TOTALS	170.0	42.2	159.0	154.1

Fish Transport Permits

Species	Ancestral Stock	FTP	ET, trans, or release?	Transfer from To	Maximum Number, Life Stage	Expires
Coho salmon	Sashin Creek	92J-1042	All	HFH to Kasnyku Bay	4,500,000 eggs	8/30/2022
Coho salmon	Sashin Creek	07J-1019	All	HFH to Deer Lake	3,200,000 eggs	8/30/2022
Coho salmon	Sashin Creek	13J-1008	Transfer, release	HFH to Cliff Lake	50,000 fry	12/31/2023
Coho salmon	Sashin Creek	13J-1017	Transfer, release	HFH to Banner Lake	300,000 fry	12/31/2023
Coho salmon	Sashin Creek	15J-1009	Transfer, release	HFH to Parry Lake	150,000 fry	12/31/2025
Coho salmon	Sashin Creek	17J-1014	Transfer, release	HFH to Blanchard Lake	150,000 fry	12/31/2027
Coho salmon	Sashin Creek	18J-1001	Egg take, transfer	PAH to HFH (backup)	7,700,000 eggs	12/31/2027
Coho salmon	Sashin Creek	19J-1008	Transfer, release	Kasnyku Bay to 1 mile from Kasnyku Bay	4,500,000 eggs	12/31/2029
Coho salmon	Sashin Creek	21J-1015	Transfer, release	Mist Cove to up to 3 nm offshore	3,200,000	12/31/2026
Coho salmon	Deep Cove	03J-1004	All	HFH to Kasnyku Bay	4,500,000 eggs	8/30/2022
Coho salmon	Deep Cove	11J-1022	All	HFH to Deer Lake	3,200,000 eggs	6/30/2026
Coho salmon	Deep Cove	13J-1007	Transfer, release	HFH to Cliff Lake	50,000 fry	12/31/2023
Coho salmon	Deep Cove	13J-1016	Transfer, release	HFH to Banner Lake	300,000 fry	12/31/2023
Coho salmon	Deep Cove	15J-1008	Transfer, release	HFH to Parry Lake	150,000 fry	12/31/2025
Coho salmon	Deep Cove	17J-1015	Transfer, release	HFH to Blanchard Lake	150,000 fry	12/31/2027
Coho salmon	Deep Cove	18J-1002	Egg take, transfer	PAH to HFH (backup)	7,700,000 eggs	12/31/2027
Coho salmon	Deep Cove	19J-1007	Transfer, release	Kasnyku Bay to 1 mile from Kasnyku Bay	4,500,000 smolt	12/31/2024
Coho salmon	Deep Cove	21J-1014	Transfer, release	Mist Cove to up to 3 nm offshore	3,200,000	12/31/2026

Species	Ancestral Stock	FTP	ET, trans, or release?	Transfer from To	Maximum Number, Life Stage	Expires
Chinook salmon	Andrew Creek	92J-1019	All	HFH to Kasnyku Bay	3,500,000 eggs	8/1/2022
Chinook salmon	Andrew Creek	16J-1018	Egg take, transfer	CLH to HFH (backup)	3,500,000 eggs	12/31/2026
Chinook salmon	Andrew Creek	16J-1020	Egg take, transfer	MSH to HFH (backup)	3,500,000 eggs	12/31/2026
Chinook salmon	Andrew Creek	18J-1005	Transfer, release	HFH to Gunnuk Creek	200,000 smolt	12/31/2028
Chinook salmon	Andrew Creek	19J-1018	Egg take, Transfer	MCH to HFH (backup)	1,000,000 eggs	8/31/2029
Chinook salmon	Andrew Creek	21J-1021	Transfer, release	HFH to SE Cove	700,000 smolt	12/31/2032
Chinook salmon	Keta River	18J-1015	All	LPW to HFH to Kasnyku Bay	3,500,000 eggs	12/31/2028
Chum salmon	Kadashan River	95J-1010	All	HFH to Kasnyku Bay	101,000,000 eggs	12/31/2025
Chum salmon	Kadashan River	95J-1009	All	HFH to Takatz Bay	101,000,000 eggs	12/31/2025
Chum salmon	Kadashan River	12J-1022	Transfer, release	HFH to SE Cove[a]	55,000,000 eggs	9/20/2022
Chum salmon	Kadashan River	11J-1023	Egg take, Transfer	PAH to HFH (backup)	50,000,000 eggs	6/30/2030
Chum salmon	Kadashan River	16J-1004	Egg take, transfer	Gunnuk Creek SHA to HFH (backup)	55,000,000 eggs	12/31/2025
Chum salmon	Kadashan River	16J-1005	Egg take, transfer	SE Cove SHA to HFH (backup)	55,000,000 eggs	12/31/2025
Chum salmon	Kadashan River	17J-1003	Transfer, release	HFH to Thomas Bay	40,000,000 fry	12/31/2026
Chum salmon	Kadashan River	17J-1011	Transfer, release	Kasnyku Bay to Eastern Chatham Strait	50,500,000 fed fry	12/31/2022
Chum salmon	Kadashan River	17J-1019	Transfer, release	HFH to GCH	20,000,000 fry	12/31/2022
Chum salmon	Kadashan River	17J-1020	Egg take	HFH to GCH projects	65,000,000 eggs	12/31/2022
Chum salmon	Kadashan River	20J-1013	Egg take, transfer	MCH to HFH	101,000,000 eggs	3/31/2030
Chum Salmon	Kadashan River	20J-1026	Transfer	Gunnuk Creek SHA to HFH	55,000 adults	12/31/2025
Chum Salmon	Kadashan River	20J-1034	Egg take, transfer	GCH to HFH	101,000,000 eggs	12/31/2030

Species	Ancestral Stock	FTP	ET, trans, or release?	Transfer from To	Maximum Number, Life Stage	Expires
Chum Salmon	Kadashan River	20J-1036	Egg take, transfer	MCH to SCH (rearing) to HFH	101,000,000 eggs	12/31/2030
Chum salmon	Kadashan River	22J-1001	Transfer, release	HFH to Port Malmesbury	40,000,000 fry	12/31/2031
Chum salmon	Macaulay (Gastineau)	19J-1005	All	MSH to HFH to Thomas Bay	40,000,000 eggs	12/31/2029

[a]On behalf of Gunnuk Creek Hatchery.

LIST OF MANAGEMENT CONTACTS:

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