

2015 Annual Management Plan
Sheldon Jackson Hatchery
Sitka Sound Science Center

This plan remains in effect until superseded by the next year's annual management plan (AMP). The AMP serves as an instruction manual for hatchery operations and adult return management; it is incumbent upon the local Alaska Department of Fish and Game (ADF&G) and hatchery staff to share information with each other regularly for successful adherence to this plan. Anticipated departures from the AMP should be communicated as soon as possible in the event an amendment is necessary. Unintended and unexpected changes should be disclosed immediately. The ADF&G private nonprofit (PNP) hatchery program coordinator will advise as to whether an amendment, exception report, or other action is warranted.

1.0 EXECUTIVE SUMMARY

1.1 *Background*

Sheldon Jackson Hatchery (SJH) is located at the Sitka Sound Science Center (SSSC), 834 Lincoln St., on Crescent Bay, Sitka, Alaska. The hatchery was an integral part of the Environmental Science Program at Sheldon Jackson College (SJC) until academic programs abruptly ceased in July 2007. Between 2007 and 2010, SSSC continued hatchery programs under an agreement with the SJC Trustees. SSSC is a 501(c)(3) nonprofit corporation established by former SJC faculty. In April 2011, SSSC was issued PNP Hatchery Permit #45, replacing the SJC PNP Hatchery Permit #3.

The intent of the SSSC is to maintain fish culture operations to provide other institutions, such as University of Alaska Fairbanks, University of Alaska–Sitka, and secondary schools, with a venue for training students in fisheries and hatchery science, while at the same time contributing salmon to common property fisheries of Sitka Sound and Southeast Alaska. Additionally, SJH will also serve as a platform for fisheries and mariculture research, as well as community and visitor outreach and education. SSSC, under an agreement with Northern Southeast Regional Aquaculture Association (NSRAA), is providing on-the-job training for seasonal hatchery technicians.

Sheldon Jackson Hatchery uses Indian River as its freshwater source and Crescent Bay as the special harvest area (SHA) for cost-recovery harvest of returning salmon (Figure 1). Projected returns for the 2015 season are listed in Table 1. Historical production for king, coho, chum, and pink salmon are presented in tables 2 through 5.

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

1. Sheldon Jackson Hatchery has a long-term agreement with Silver Bay Seafoods, which includes Silver Bay Seafoods providing purse seiners necessary to conduct the cost-recovery harvest and purchasing the fish.
2. Additional barrier nets will be utilized to ensure timely and effective harvests of pink and chum salmon returning to the SHA.

1.3 *New permits or permit amendments needed this year*

None.

1.4 *Expected returns*

Species	Return Site	Total return	Common Property Harvest	Return to Hatchery	Broodstock	Available Cost Recovery
Pink salmon ¹	SJH	68,347	41,008	27,339	5,143	22,196
Chum salmon ¹	SJH	11,159	6,695	4,464	3,130	1,333
Chum salmon ²	Deep Inlet	159,319	95,591	63,728	0	63,728
Chinook salmon ¹	SJH	53	42	11	0	11
Coho salmon ¹	SJH	112	67	45	45 ³	0

¹ SJ Hatchery, Crescent Bay² Deep Inlet remote releases reared by NSRAA³ Approximately 200 coho salmon required for broodstock to reach permitted capacity of 250,000 eggs.1.5 *Production summary (releases this calendar year)*

Program Name	Brood Year	Release Date	Number to Release	Type of Mark % Marked
Pink salmon	2014	May-15	2,902,000	100% thermal mark
Chum salmon	2014	May-15	2,335,000 Crescent Bay	100% thermal mark
Chum salmon	2014	May-15	8,225,500/Deep Inlet	100% thermal mark
Coho salmon	2013	May-15	45,500	10,600 CWT

1.6 *Egg takes*

Species	Egg-take limits	Egg-take goals	Females needed
Pink salmon ¹	3,000,000	3,000,000	1,565
Chum salmon (SJ Hatchery) ²	3,000,000	3,000,000	1,565
Chum salmon (Deep Inlet) ^{2,3}	9,000,000	9,000,000	4,696
Coho salmon ¹	250,000	250,000	90

¹ In the event hatchery returns are not adequate to meet broodstock needs, pink and coho salmon brood may be supplemented from Indian River.

² In the event hatchery returns are not adequate to meet broodstock needs, chum salmon brood may be supplemented from Medvejie Creek Hatchery (MCH) returns, if available.

³ Broodstock and eggs may be collected and held at MCH before transport to Deep Inlet.

1.7 *Current permitting*

The SJH permit allows a maximum permitted capacity of 12 million green chum salmon eggs (with a cooperative agreement with NSRAA), three million pink salmon eggs, and 250,000 green coho salmon eggs. Sheldon Jackson Hatchery anticipates it will take time to achieve full production of coho salmon.

2.0 **SUMMER PINK SALMON**2.1 *Egg takes*

Program Name	Ancestral Stock	Egg-take Site Statistical Area	Primary or Alternative Source?	Current Year Goal	Permitted Maximum
SJH pink salmon	Indian River	113-36	Primary	3 Million	3 Million
SJH pink salmon	Indian River	Indian River	Alternative	0	3 Million
Run Totals				3 Million	3 Million

2.2 *Broodstock capture method*

Pink salmon returning to SJH Special Harvest Area (SHA) (statistical area 113-36) are hatchery-produced from Indian River ancestral stock. Pink salmon will be captured at the hatchery weir, held in concrete raceways for maturation, and spawned in the adjacent building.

2.3 *Spawning*

Fish are spawned by a routine dry-spawning method with a 0.7% saline solution. The spawning ratio will be 10 females to six males per bucket. Buckets of fertilized eggs are rinsed prior to being loaded into NOPAD upwelling incubators.

2.4 *Egg-take schedule*

Pink salmon eggs are usually taken after the third week of August through the last week of September. Fish are spawned as they ripen.

2.5 *Carcass disposal*

Carcasses are either sold as cost recovery (since 2011, all carcasses and surplus fish were sold for cost-recovery revenue) or donated as bait.

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

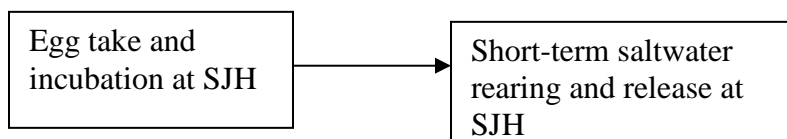
Pink salmon will be ponded directly into net pens for 60 to 80 days of saltwater rearing prior to release in May. Target release weight is 1.5 grams.

Program Name	Brood Year	Release Date	Number to Release	Type of Mark % Marked
SJH pink salmon	2014	May 2015	2,902,000	(Otolith thermal mark) 100%

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

None.

2.8 *Operational diagram*



2.9 *Program details*

All the pink salmon released from SJH are thermal otolith marked. Evaluation of survival and fishery contribution are estimated based on total cost-recovery harvest of pink salmon within the SJH SHA, total escapement to the hatchery, and an estimate of interception in the common property fisheries in Eastern Channel.

The production goal is to achieve 90% or greater freshwater survival. Target weight for fry release is 1.5 grams minimum.

2.10 *Fish transport permits*

Species	FTP #	Egg take, transfer, or release	From/to	Maximum #	Expires
Pink salmon	11J-1007	Egg take/release	SJH–SJH	3,000,000 eggs	2021
Pink salmon	11J-1013	Egg take/release	Indian River–SJH	3,000,000 eggs	2021

3.0 SUMMER CHUM SALMON

3.1 *Egg takes*

Program Name	Ancestral Stock	Egg-take Site Stat Area	Primary or Alternate Source?	Current Year Goal	Permitted Maximum
SJH chum salmon	MCH	113-36	Primary	3 Million	3 Million
MCH chum salmon	MCH	113-35	Primary	9 Million	9 Million
Run Totals				12 Million	12 Million

3.2 *Broodstock capture method*

Chum salmon will be captured at SJH and Medvejie Creek Hatchery (MCH). Chum salmon returning to SJH and MCH are hatchery-produced fish. Sheldon Jackson Hatchery staff and volunteers will take as many as 3 million eggs at SJH. In the event hatchery returns are not adequate to meet broodstock needs, chum salmon brood may be supplemented from MCH returns, if available. The hatchery manager at SJH will keep the hatchery manager of MCH informed as to the progress of adult collections and egg takes. Both SJH and MCH act as a backup chum salmon egg source for each other.

3.3 *Spawning*

Fish are spawned as they ripen by a routine dry-spawning method. If broodstock are not available at SJH, staff, and volunteers will assist the staff of MCH to take a maximum of 12 million chum salmon eggs for SJH. Up to 3 million of these eggs may be transported as gametes, fertilized, incubated, and reared at SJH. The remaining eggs, a maximum of 9 million, will be incubated at MCH and then transported to Deep Inlet as fry for saltwater rearing and release.

3.4 *Egg-take schedule*

Chum salmon eggs may not be taken until August 21. This date is necessary to prevent propagation of the Hidden Falls Hatchery ancestral stock chum salmon on western Baranof Island.

3.5 *Carcass disposal*

Carcasses are either sold as cost recovery or donated as bait.

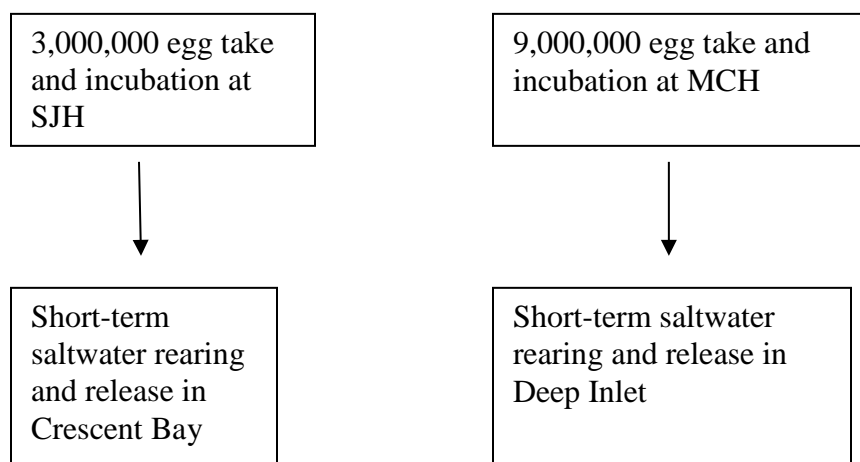
3.6 *Planned releases*

Program Name	Brood Year	Release Date	Number to Release/Location of Release	Type of Mark/% Marked
SJH chum salmon	2014	May 2015	2,335,000 Crescent Bay	Otolith thermal mark 100%
SJH chum salmon	2014	May 2015	8,225,000 Deep Inlet	Otolith thermal mark 100%
Run Totals			10,560,500	

3.7 *Previous brood years that will remain in culture*

None.

3.8 *Operational diagram for chum salmon*



3.9 *Program Details*

All SJH chum salmon eggs have been thermal otolith marked beginning with brood year 2005 (BY05). Evaluation of total adult return will be based on the harvest of chum salmon in the SJH SHA, enumeration of returns to the hatchery, and an estimate of common property harvest in fisheries conducted in the Eastern Channel area that season. The production goal is freshwater survival of 90% or higher.

Chum salmon incubated at SJH will be ponded directly to marine net pens for short-term rearing prior to release into Crescent Bay in mid-May. Target release size is 2.0 grams. Chum salmon

incubated at MCH will be transported to, and reared in, Deep Inlet until release in May. The target release size in Deep Inlet is 2.0 grams.

3.10 *Fish transport permits*

Species	FTP #	Egg take, transfer, or release	From/to	Maximum #	Expires
Chum salmon	11J-1008	Egg take/release	SJH-SJH	3,000,000 eggs	2021
Chum salmon	11J-1009	Transfer	MCH-DI	Resultant fry from 9,000,000 eggs	2021
Chum salmon	11J-1010	Egg take/transfer/release	MCH-SJH	3,000,000 eggs	2021
Chum salmon	11J-1011	Egg take/transfer	MCH-DI	9,000,000 eggs	2021
Chum salmon	11J-1012	Egg take/transfer	SJH-DI	9,000,000 eggs	2021
Chum salmon	11J-1016	Egg take/transfer	SJH-MCH	9,000,000 eggs	2021

4.0 FALL COHO SALMON

4.1 *Egg takes*

Program Name	Ancestral Stock(s)	Egg-take Site Stat Area	Primary or Alternative Source?	Current Year Goal	Permitted Maximum
SJH coho salmon	Indian River	113-36	Primary	250,000	250,000
SJH coho salmon	Indian River	Indian River	Alternative	0	250,000
Totals				250,000	250,000

It is expected that broodstock needs will not be met with returning hatchery fish captured at the hatchery weir. Under conditions of FTP 11J-1015, SJH personnel will work with ADF&G staff and supplement the coho salmon egg take by securing broodstock from Indian River using the sliding-scale listed below:

Coho Salmon Egg-take Sliding-Scale

There is no formal escapement goal for Indian River. The desired target escapement is 830 fish, with a minimum target of 208 fish. No coho salmon will be removed from Indian River if 50 or fewer adult coho salmon are counted. No more than half the number of adult coho salmon, in excess of 50, may be taken for broodstock at any time, with a maximum removal of 125 coho salmon. For example, if the instream count is 110 coho salmon, the hatchery may remove $(110-50)/2 = 30$ coho salmon. Coho salmon adults may be captured by gillnet or beach seine. Adult escapement counts will be reported to the Sitka area sport fish management biologist prior to removal for the hatchery.

Broodstock will be screened for bacterial kidney disease (BKD) in cooperation with ADF&G Fish Pathology Laboratory. BKD-positive fish will be discarded.

4.2 *Broodstock capture method*

Coho salmon returning to SJH are hatchery-produced Indian River stock. Coho salmon will be captured at the hatchery weir, held in adult raceways for maturation, and spawned in the adjacent building.

4.3 *Spawning*

Fish are spawned as they ripen by a routine dry-spawning method with a 0.7% saline solution; the spawning ratio is one female to one male per spawning tray. Family tracking for BKD will take place for all coho salmon spawned.

4.4 *Egg-take schedule*

Coho salmon eggs are usually taken after the third week of September until the last week of November.

4.5 *Carcass disposal*

Carcasses are either sold as cost recovery (since 2011, all carcasses and surplus fish were sold for cost-recovery revenue) or donated as bait.

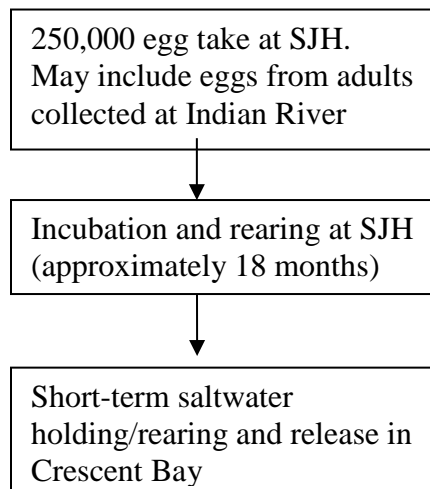
4.6 *Planned releases this calendar year of previous brood years' production*

SJH coho salmon will be short-term reared in saltwater net pens for approximately 21 days. Approximately 45,500 BY13 coho salmon smolt, averaging 30 grams or larger, will be released in Crescent Bay.

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

Approximately 250,000 BY14 coho fry will be cultured in freshwater for the next 12 months. Release for that broodyear will be May 2016.

4.8 *Operational diagram for coho salmon*



4.9 *Program details*

SJH staff will coded wire tag (CWT) a minimum of 20,000 coho salmon smolt annually. Target smolt size is 10 to 12 grams at the time of marking in December. Tags will be recovered from commercial and sport fisheries through the ADF&G port sampling and creel survey programs.

Coho salmon at SJH will be ponded in April or May into small start-tanks or troughs, and then transferred to 13' diameter fiberglass tanks for rearing. Target release weight is a minimum of 20 grams in mid to late May of the following year.

4.10 *Fish transport permits*

Species	FTP #	Egg take, transfer, or release	From/to	Maximum #	Expires
Coho salmon	11J-1014	Egg take/release	SJH–SJH	250,000 eggs	2021
Coho salmon	11J-1015	Egg take/transfer	Indian River–SJH	250,000 eggs	2021

5.0 HARVEST MANAGEMENT

Projected return this year

Species	Return Site	Total return	Common Property Harvest	Return to Hatchery	Broodstock	Available Cost Recovery
Pink salmon ¹	SJH	68,347	41,008	27,339	5,143	22,196
Chum salmon ¹	SJH	11,159	6,695	4,464	3,130	1,333
Chum salmon ²	Deep Inlet	159,319	95,591	63,728	0	63,728
Chinook salmon ¹	SJH	53	42	11	0	11
Coho salmon ¹	SJH	112	67	45	45 ³	0

¹ Released at Sheldon Jackson Hatchery, Crescent Bay.

² Deep Inlet remote releases reared by NSRAA.

³ Approximately 200 coho salmon required for broodstock to reach capacity of 250,000 eggs.

5.1 SJH SHA

The SJH SHA for pink, chum, coho, and king salmon is defined in 5 AAC 40.030 as all waters of Crescent Bay and Eastern Anchorage, enclosed by a line beginning from the northernmost end of the John O'Connell Bridge to the southernmost end of the bridge to the northeastern most tips of Aleutski Island, Turning Island, Kutkan Island, Morne Island, to the Twin Islands Light, to a point on the Baranof Island shore at 57°02.68'N lat, 135°18.90'W long. In 2009, the Alaska Board of Fisheries modified the SHA for pink, chum, coho, and king salmon to remove the area around the mouth of Indian River (113-41-0190) to protect escapements of wild fish returning to the river. The SHA for coho salmon is defined as all waters enclosed by a line from the southeast corner of the Crescent Harbor breakwater (57°02'58"N lat, 135°19'16"W long) to a point on the beach approximately 150 yards southeast of the hatchery stream outlet (57°02'58"N lat, 135°19'16"W long). These areas are both shown in Figure 1.

5.2 Cost-Recovery Harvest Management

In 2015, a cost-recovery harvest is planned based on projected returns of 68,347 SJH-produced pink salmon. Approximately 5,100 pink salmon broodstock are needed to meet the egg-take goal of 3 million eggs. The 10-year average escapement index for pink salmon returning to Indian River is 130,000 fish.

Projected chum salmon returns from SJH releases are around 11,159 fish based on recent marine survival rates. SJH chum salmon returning to Deep Inlet Terminal Harvest Area (THA) should be around 159,000 based upon NSRAA chum salmon forecasts. Of the 11,159 chum salmon returning to SJH, approximately 65% will likely be intercepted in common property fisheries in

the Sitka Sound area. This leaves 4,464 fish expected to return to the SJH SHA. Three million chum salmon eggs are expected to be taken at the facility in 2015, which will require 3,130 adult chum salmon for broodstock. The remaining chum salmon will be harvested for cost recovery. Surplus hatchery chum salmon will be harvested to avoid the straying of hatchery-produced chum salmon into natural river systems.

In 2015, SJH is expecting only a handful of coho salmon (45) to return to the hatchery due to an extremely small release in 2014. It is most likely that very few if any coho will be collected at the hatchery for broodstock and thus the hatchery will depend upon Indian River remote egg-takes. About 200 fish are needed for broodstock to meet the egg-take goal of 250,000 eggs.

In 2015, SJH is expecting about 11 king salmon to return to the hatchery. This is based on the projected returns for the final 3 brood years (2008 – 2010) produced at the hatchery. All king salmon will be utilized for cost-recovery harvest. Harvest will occur either during the initial pink salmon cost recovery seine fishery in mid-July or from the adult raceways at SJH.

SJH has a long-term agreement with Silver Bay Seafoods, which includes Silver Bay Seafoods providing purse seiners necessary to conduct the cost-recovery harvest and purchasing the fish. SJH plans to conduct aggressive cost-recovery harvests within the SHA. In 2015, additional barrier nets will be utilized to ensure timely and effective harvests of pink and chum salmon returning to the SHA. Additionally, significant cost-recovery harvests from the adult raceway complex are expected.

SSSC will be working closely with ADF&G Commercial Fisheries area management biologist to effectively manage cost recovery fisheries within the SHA. However, in the very unlikely event that the facility cannot conduct cost recovery fishing and a surplus to escapement and broodstock occurs, the department may open portions of the SHA for common property harvest of surplus pink and chum salmon. The department will advise hatchery staff of aerial survey counts inseason when they are available and will coordinate any openings to allow the hatchery opportunity to obtain necessary broodstock and carry out planned cost recovery within the SHA.

5.3 Common Property Fisheries Management

SJH king, coho, and chum salmon returns are subject to offshore and terminal area commercial troll and sport fisheries during the spring and summer seasons. SJH pink and chum salmon returns are subject to harvest in the Sitka Sound purse seine fishery from mid-July through August. To a lesser extent, SJH returns may be harvested in the Deep Inlet THA gillnet and seine fisheries, in NSRAA cost-recovery fisheries in Eastern Channel and Deep Inlet, and in terminal area sport fisheries. Common property fisheries can be expected to harvest around 45% of SJH-produced king and coho salmon.

The department may open waters adjacent to the SJH SHA to common property purse seining to harvest surplus Indian River pink salmon returns.

Sport fisheries will be managed as described in regional codified regulations for those waters described under the SJH SHAs. The department may use emergency order authority to address

issues as they arise in-season.

In consultation with the local Division of Sport Fish area management biologist, a small area directly off the hatchery, at the bottom of the earthen fish ladder, may be closed to sport fishing to protect broodstock, if necessary. This area will be posted with signs specifying a “broodstock protection zone.”

6.0 ESCAPEMENT MONITORING OF INDIAN RIVER

SJH uses Indian River stock pink and coho salmon. Pink salmon production began in 1979 and coho salmon production began in 1975. There is likely to be some level of straying, both into Indian River and into the hatchery, due to the close proximity of the hatchery to the river. In 2015, SJH will continue a monitoring effort in Indian River for stray pink and coho salmon.

All SJH pink salmon production has been otolith marked since BY05. The results from the 2011 through 2013 pink salmon otolith sampling efforts are provided below. In 2014, otoliths were collected but have not yet been evaluated. In 2013 and 2014, the National Park Service sampled an additional 200 pink salmon carcasses from Indian River within the Sitka Historic Park boundary to supplement the sampling required by this management plan. The results of that sampling are included in the table below.

Thermal mark recovery surveys for SJH pink salmon

Return Year	Brood Year	Source	Sample Site	Otolith Preps	Otoliths Read	Otoliths Marked	Percent Marked
2011	2009	Rack	SJH	94	86	8	9%
		Escapement	Indian River	81	79	2	3%
2012	2010	Rack	SJH	94	77	17	22%
		Escapement	Indian River	144	137	7	5%
2013	2011	Rack	SJH	95	73	22	30%
		Escapement	Indian River	185	164	21	13%
2013 ¹	2011	Escapement	Indian River	200	192	22	11%
2014	2012	Rack	SJH	96	na	na	na
		Escapement	Indian River	192	na	na	na
2014 ²	2012	Escapement	Indian River	200	198	48	24%

¹ National Park Service surveys 8/30 & 9/27, 2013

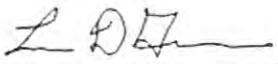
² National Park Service surveys 9/2 & 9/16, 2014

Pink salmon – In 2014, approximately 2,971,630 BY13 pink salmon were released from SJH with the otolith thermal mark 4,1H. In 2015, a minimum of two trays of otoliths (192 fish) will


be collected from carcasses in Indian River to determine if there may be strays present from this release. Alternatively, if a pink salmon egg take occurs in Indian River, otoliths will be collected from the spawned fish. Additionally, SJH will collect a minimum of one tray of otoliths from pink salmon spawned at the hatchery. All otoliths will be provided to the Division of Sport Fish area management biologist as soon as sampling is completed.

Coho salmon – In 2014, SJH released 1,320 coho salmon smolt. In 2015, coho salmon escapement surveys will be conducted in Indian River at least twice in October, during times of suitable water flows. Surveys will be performed in cooperation with ADF&G Division of Sport Fish, at which time coho salmon may be captured and examined for adipose-finclips. Heads will be collected from carcasses observed to have adipose-finclips. Additionally, if a coho salmon egg take occurs in Indian River, all broodstock will be examined for adipose-finclips and heads collected from adipose-finclipped fish. Any heads collected from adipose-finclipped fish will be provided to the Division of Sport Fish Sitka area management biologist as soon as sampling is completed.

7.0 APPROVAL**Recommendation for Approval: Sheldon Jackson Hatchery Annual Management Plan, 2015**




Lon Garrison, Sitka Sound Science Center, Inc. 3/24/15
Date



Troy Tydingco, Area Management Biologist, Division of Sport Fish 4/21/15
Date



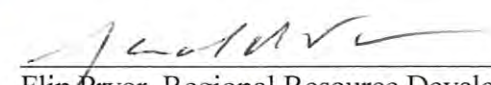
Dave Gordon, Area Management Biologist, Division of Commercial Fisheries 4/22/15
Date



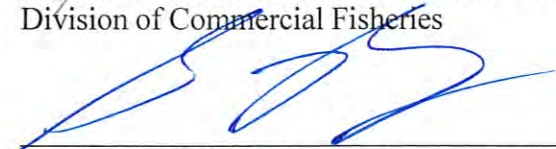
Brian Frenette, Regional Supervisor, Division of Sport Fish 4.29.15
Date



Lowell Fair, Regional Supervisor, Division of Commercial Fisheries 4/28/15
Date




Flip Pryor, Regional Resource Development Biologist,
Division of Commercial Fisheries 4/28/15
Date




Sam Rabung, PNP Hatchery Program Coordinator,
Division of Commercial Fisheries 4-30-15
Date

Approval:**The 2015 Sheldon Jackson Hatchery Annual Management Plan is hereby approved:**



Tom Brookover, Acting Director, Division of Sport Fish 5/5/2015
Date



Peter Bangs, Assistant Director, Division of Commercial Fisheries 5/6/2015
Date

Table 1a. 2015 Projected Returns to SJ Hatchery by Species and Location

Species	Location	Brood Year	Fry/Smolt Released	Est. Pcnt Survival	Age	Percent at Age	Estimated Return
Chinook	SJ Hatchery	2008	90,926	0.05%	7	0.1%	0
Chinook	SJ Hatchery	2009	8,750	0.05%	6	10.0%	0
Chinook	SJ Hatchery	2010	87,200	0.10%	5	60.0%	52
Chinook	SJ Hatchery	2011		0.00%	4	30.0%	0
					TOTAL		53
Chum	SJ Hatchery	2009	1,080,000	1.9%	6	1.2%	241
Chum	SJ Hatchery	2010	728,489	1.9%	5	14.7%	2,066
Chum	SJ Hatchery	2011	430,436	2.0%	4	65.8%	5,565
Chum	SJ Hatchery	2012	809,016	2.2%	3	18.3%	3,287
					TOTAL		11,159
Chum	Deep Inlet	2009	8,358,000	1.9%	6	1.2%	1,866
Chum	Deep Inlet	2010	8,536,000	1.9%	5	14.7%	24,204
Chum	Deep Inlet	2011	7,630,000	2.0%	4	65.8%	98,644
Chum	Deep Inlet	2012	8,516,000	2.2%	3	18.3%	34,605
					TOTAL		159,319
Pink	SJ Hatchery	2013	2,971,630	2.3%	2	100%	68,350
Coho	SJ Hatchery	2012	1,320	8.0%	3	100%	100
					TOTAL		100

Table 2. Pink salmon egg-take, release, and survival data for Sheldon Jackson Hatchery, 1975-2012.

Brood Year	Egg Source	Egg Take	Number Released	Size (g)	Date	Freshwater Survival %	Ocean Survival %
1975	Indian river 91%						
	Katlian River 9%	1,747,935	1,653,666	.28	3/24–5/22	95	7.9
1976	Starrigavin 97%						
	Indian River 3%	1,949,664	1,593,184	.32	3/4–4/15	81.72	0.40
1977	Hatchery	10,226,500	7,147,974	.29	2/7–5/8	69.90	1.00
1978	Hatchery	2,477,472	2,376,944	.28	3/17–5/15	95.94	0.20
1979	Hatchery	9,551,000	7,883,250	.27	3/1–4/30	82.54	2.60
1980	Hatchery	2,248,968	2,062,139	.29	4/1–4/24	91.69	2.00
1981	Hatchery	13,697,711	10,689,600	.29	4/19–5/17	78.04	1.60
1982	Hatchery	13,774,600	9,993,123	.26	3/29–4/21	72.55	1.80
1983	Hatchery	15,117,000	14,536,624	.24	3/19–5/8	96.16	2.30
1984	Hatchery	12,102,000	11,070,423	.28	4/19–5/4	91.48	0.50
1985	Hatchery	11,340,010	10,050,822	.25	4/4–5/17	88.63	0.60
1986	Hatchery	15,015,110	14,200,000	.25	4/2–5/1	94.57	0.06
1987	Hatchery	14,783,715	14,250,000	.39	5/1	96.39	0.07
1988	Hatchery	3,264,000	2,950,000	.55	5/12	90.38	0.25
1989	Hatchery	5,846,000	5,400,000	.53	4/2–5/8	92.37	0.30
1990	Hatchery	2,940,000	2,700,000	.58	5/10	91.84	0.63
1991	Hatchery	9,517,109	9,146,735	.47	4/19–28	96.11	0.04
1992	Hatchery	7,236,522	6,954,339	.24	5/3	96.10	4.38
1993	Hatchery	916,619	348,000	.68	4/27	79.43	6.80
1994	Hatchery	10,800,604	7,134,674	.96	4/19	66.00	5.40
1995	Hatchery	8,911,063	8,067,280	.35	4/23	89.00	5.54
1996	Hatchery	12,518,798	10,000,000	.89	4/18	86.87	3.62
1997	Hatchery	5,651,192	4,500,000	.48	5/7	79.76	2.8
1998	Hatchery	10,182,193	3,779,737	.36	4/27	37.00	4.82
1999	Hatchery	6,778,092	1,650,234	.54	5/25	26.43	4.0
2000	Hatchery	5,888,519	5,327,708	.8	5/31	90.00	4.0
2001	Hatchery	900,000	861,422	.9	5/24	96.00	.4
2002	Hatchery	2,345,661	2,300,000	1.19	4/21	98.00	4.0
2003	Hatchery	803,200	37,000	.71	5/25	4.60	4.0
2004	Hatchery	1,891,790	1,749,500	1.85	5/18	92.5	4.0
2005	Hatchery	1,526,081	1,155,000	2.38	5/9	94.2	8.9
2006	Hatchery	1,171,848	1,154,284	2.99	5/9	94.2	9.7
2007	Hatchery	1,064,909	1,016,500	1.51	5/27	95.5	3.2
2008	Hatchery	1,131,859	1,079,283	1.63	5/29	95.4	1.8
2009	Hatchery	1,040,102	994,000	1.1	5/8	95.6	5.2
2010	Hatchery	1,075,427	704,856	1.50	5/25	66.5	2.4
2011	Hatchery	3,239,267	2,625,000	1.45	5/30	81.0	na
2012	Hatchery	3,238,857	2,600,080	1.16	5/12	80.3	na
2013	Hatchery	3,431,387	2,971,630	1.82	5/5-12	86.6	na
2014	Hatchery	3,300,000					

Table 3. Chum salmon egg-take, release, and return data for the Sheldon Jackson Hatchery, 1975–2012.

Brood Year	Stock	Number Eggs	Number Released	Date	Size (g)	% Return (1)	Comments
1975	Katlian	75,185	70,000	6/28/76	.77	0	Fed
1976	Nakwasina	206,821	176,887	4/19–5/13/77	.44-.68	0.12	Half fry fed 25% adults to hatchery/75% I.R.
1977	No egg take						
1978	Nakwasina	691,340	646,852	4/9/79	.41	0.04	Unfed
1979	Sandy Bay	56,127	53,174	5/23/80	.66	0.43	Unfed
1980	Nakwasina Hatchery	118,000	84,072	5/15/81	.61	0.53	Fed 69.7% N&H
1981	Hatchery Sandy Cove	50761 83,107	34,671 50,299	5/18–6/5/82 4/22–5/10/82	.53	0.6	Fed 0–3 Weeks Fed 0–3 Weeks
1982	Hatchery Sandy Cove Nakwasina	80,236 118,000 980,740	69,144 75,070 791,403	5/29/83 4/3– 5/29/83 5/23– 5/29/83	.60 .60 .60	0.40	Stocks Marked
1983	Hatchery Sandy Cove Nakwasina	155,147 31,246 587,427	114,551 27,315 486,854	3/26–5/17/84 4/11–5/7/84 5/7–5/29/84	.4 .90 .50	1.00	Most fed Stocks Marked
1984	Hatchery Sandy Cove Nakwasina	275,000 1,492,352 1,000,000	244,867 1,386,657 683,089	4/28–5/21/85 4/5–5/21/85 4/28–6/3/85	.44 .68 .51	0.03	Stocks Marked
1985	Hatchery Sandy Cove Nakwasina	363,011 1,930,468 466,923	301,708 1,610,002 332,845	4/4–5/17/86 4/4–5/2/86 4/4–5/1/86	.40 .40 .40	0.06	Not marked Not fed
1986	Hatchery	1,884,662	1,600,000	4/3–5/1/87	.50	0.04	
1987	Hatchery	691,840	450,000	5/1/88	.69	0.02	Marine net pens
1988	Hatchery	939,517	827,000	5/12/89	.90	0.02	Marine net pens
1989	Hatchery	386,000	270,000	5/8/90	1.13	0.02	Marine net pens
1990	Hatchery	348,000	280,000	5/10/91	1.23	0.02	Marine net pens
1992	Hatchery	95,064	88,000	5/3/93	1.80	0.56	Marine net pens
1993	Hatchery	298,765	201,000	4/27/94	1.40	0.01	Marine net pens
1994	Hatchery	217,672	182,000	4/19/95	1.05		Marine net pens
1995	Hatchery Medvejie	84,642 3,542,655	80,000 3,540,000	4/23/96	.73	0.4	Marine net pens
1996	Hatchery Medvejie	20,794 3,434,455	3,400,000	4/18/97	1.50	0.4	Marine net pens
1997	Hatchery Medvejie	263,521 1,460,875	1,670,00	5/1/98	1.14	0.4	Marine net pens
1998	Hatchery Medvejie	295,488 1,400,000	167,760	4/27/99	.68	0.4	Marine net pens
1999	Hatchery Medvejie	3,258,500 1,200,000	3,379,480	5/25/00	1.02	0.4	Marine net pens
2000	Hatchery Medvejie	4,292,727 0	3,861,739	5/31/01	2.48	0.4	Marine net pens

Table 3–Page 2 of 2.

Brood Year	Stock	Number Eggs	Number Released	Date	Size (g)	% Return (1)	Comments
2001	Hatchery Medvejie	719,000 3,000,000	954,387 SJH	5/24/02	unknown	0.4	Marine net pens
2002	Hatchery Medvejie	427,500 0	182,225 SJH	4/21/03	2.27		Marine net pens
2003	Hatchery Medvejie	23,783 5,100,000	1,023,358 SJH 3,257,000 DI	5/12/04, 4/26/04	2.12 2.2		Marine net pens
2004	Hatchery Medvejie	1,232,409 4,185,317	1,081,718 SJH 3,249,000 DI	5/11/05 4/21/05	2.41 2.02		Marine net pens
2005	Hatchery Medvejie	1,206,402 5,100,000	1,066,200 SJH 5,098,000 DI	5/30/06 4/26/06	2.81 2.08		Marine net pens
2006	Hatchery Medvejie	1,349,498 9,201,936	1,095,094 SJH 8,818,000 DI	5/27/07 4/29–5/20	2.32 2.07		Marine net pens Marine net pens
2007	Hatchery Medvejie	986,069 8,443,311	939,800 SJH 8,083,000 DI	5/21, 5/15–5/25	1.64 2.03		Marine net pens Marine net pens
2008	Hatchery Medvejie	1,143,049 7,123,437	1,075,190 SJH 7,393,000 DI	5/29, 5/17–6/1	2.18 2.25		Marine net pens Marine net pens
2009	Hatchery Medvejie	1,184,400 8,703,999	1,080,000 SJH 8,358,000 DI	5/8, 4/29, 5/6	1.90 2.06		Marine net pens Marine net pens
2010	Hatchery Medvejie	1,149,000 8,992,203	728,489 SJH 8,536,000 DI	5/25 5/9 - 12	2.02 2.19		Marine net pens Marine net pens
2011	Hatchery Medvejie	542,571 8,254,667	430,436 SJH 7630000 DI	5/25 5/8-5/13	1.71 1.55		Marine net pens Marine net pens
2012	Hatchery Medvejie	1,191,263 9,044,210	810,000 SJH 7,676,000 DI	5/12 5/11,23,24	2.0 1.6		Marine net pens Marine net pens
2013	Hatchery Medvejie	3,285,000 9,296,000	2,946,059 SJH 8,765,000 DI	5/12 4/29	1.85 2.0		Marine net pens Marine net pens
2014	Hatchery Medvejie	915,329 2,012,620					

Table 4. Coho salmon egg-take, release and return data for Sheldon Jackson Hatchery, 1975–2013.

Brood Year	Females	Eggs	Released	Date	Size (g)	% CWT	% Return to CPF	% Marine Survival
1975	6	12,622	8,000	7/31/76	1.1	None	Unknown	Unknown
1976	7	24,150						
1977	3	10,500	2,723	6/5/79	11.3	100.0		0.57
1978	10	33,430	12,045	6/30/80	11.6	34.1		2.38
1979	1	3,000	2,523	5/15/81	10.5	100.0		1.50
1980	13	32,983	8,769	6/6/82	10.5	100.0		0.40
1981	21	687,529	2,930	6/1/83	15.1	100.0		5.30
1982	22	72,935	54,695	5/25/84	15.0	96.3		5.70
1983	7	21,000	6,623	5/30/85	15.3	98.3		5.00
1984	27	103,519	86,366	5/20/86	13.6	31.6	29.0	1.30
1985	50	176,165	111,213	5/15/87	15.6	44.5	45.0	2.10
1986	54	184,165	97,942	5/18/88	15.8	39.1	43.0	2.50
1987	41	131,000	81,248	5/22/89	17.1	51.4	57.0	1.50
1988	44	141,000	43,863	5/21/90	17.7	37.1	60.0	4.00
1989	36	115,000	49,787	5/14/91	12.9	39.9	83.0	3.49
1990	34	105,400	70,669	6/8/92	16.3	28.7	65.0	1.02
1991	35	127,649	01,071	6/8/93	16.9	31.6	57.2	2.50
1992	39	142,499	96,134	6/1/94	19.1	10.9	38.4	3.20
1993	35	125,548	70,398	5/2/95	18.2	15.7	73.0	1.70
1994	38	92,607	46,468	6/11/96	18.9	16.8	26.0	0.40
1995	55	181,764	74,000	6/5/97	11.3	13.9	30.7	0.03
1996	38	131,000	50,355	5/21/98	14.9	34.4	2.3	0.5
1997	1	2,856	19,690	6/10/99	20.89	50.0	1.1	0.5
1998	38	263,521	84,000	5/25/00	16.98	0	unknown	unknown
1999	28	84,000	43,540	5/31/01	28.27	10	unknown	unknown
2000	36	87,476	560	7/22/02	17		unknown	unknown
2001 ¹	0	0	0	0	0	0	unknown	unknown
2002	38	150,000	940	6/4/04	23.2	0	unknown	unknown
2003	24	77,043	67,329	5/25/05	16.34	0	unknown	unknown
2004 ²	16	52,141	69,569	6/9/06	22.5	0	unknown	unknown
2005	31	74,400	121,222	5/16–6/5	21.3	15.8	unknown	4.5
2006	50	150,000	141,460	5/14–5/24	16.88	13.8	unknown	unknown
2007	59	153,400	147,502	5/23–5/27	14.9	13.4	tbd ³	tbd ³
2008	60	180,000	126,549	5/7	16.9		tbd ³	tbd ³
2009	40	104,000	0				tbd ³	tbd ³
2010	12	23,000	19,560	6/1	23.5	57.8	tbd ³	tbd ³
2011	104	270,000	210,000	6/5	21.0	10.5	tbd ³	tbd ³
2012 ¹	1	2,785	1,320	5/19	17.4	100		
2013	35	90,119						

¹Minimal return of broodstock.²Egg take at Medvejie Creek Hatchery, November 11, 2004. No broodstock were available at SJC.³Yet to be determined from historical data.

Brood Year	Females	Eggs	Released	Date	Size (g)	% CWT	% Return to CPF	% Marine Survival
2014	93	353,413						

Table 5. King salmon egg-take, release, and return data for the Sheldon Jackson Hatchery, 1984–2010.

Brood Year	Eggs or Fry	Released	Date	Size (gm)	% CWT	Return 4	At 5	Age 6	Total Return	% Marine Survival	% Return to CPF
1984	72,472	54,200	5/20/86	12.0	54.5	15	31	21	67	0.12	7.0
1985	62,712	46,650	5/15/87	18.0	59.9	101	15	37	292	0.63	25.0
1986	48,753	332,280	5/18/88	28.0	96.7	176	13	45	358	1.11	26.0
1987	101,20	96,692	5/22/89	20.0	22.2	129	12	398	654	0.68	55.0
1988	125,25	100,482	5/21/90	21.0	9.9	29	35	148	212	0.21	45.0
1989	58,173	50,555	5/3/91	22.0	40.0	126	43	112	668	1.332	59.0
1990	155,00	94,092	5/26/92	18.0	21.5	1,220	51	110	742	0.79	78.0
1991	129,69	89,443	5/26/93	15.0	11.1	295	38	64	744	0.83	45.0
1992	130,91	103	5/17/94	18.0	10.1	219	38	12	614	0.4	38.2
1993	128,00	78,358	5/2/95	14.7	12.4	191	34	53	585	0.71	45.0
1994	113,86	57,792	6/11/96	18.6	21.7	128	29	47	467	0.80	45.0
1995	127,65	79,070	5/16/97	16.3	12.1	189	34	17	547	0.42	45.0
1996	100,00	41,323	5/21/98	15.4	22.0	98	23	31	359	0.78	45.0
1997	34,014	13,048	6/10/99	25.5	100.0	20	16				
1998	199,24	88,124	5/25/00	17.2	0	360					
1999	100,63	53,170	5/24/00	25.7	10.0						
2000	38,987	28,320	7/19/02	17.2	0						
2001	42,300	0									
2002	75,200	0									
2003	10,000	7,545	5/18/05	58.5	0						
2004	10,000	8,875	5/23/06	64.7	0						
2005	74,181	37,288	5/7–5/14	20.2	53.1						
2006	71,193	45,427	5/5–5/9	18.0	46.3						
2007	103,60	45,940	5/21–22	16.7	46.6						
2008	140,18	90,926	5/21	18.9	24.1						
2009	174,05	8,257	5/18	22.5	99.8						
2010 ¹	112,39	87,200	5/29	21.2	20.5						

¹Final king salmon release.

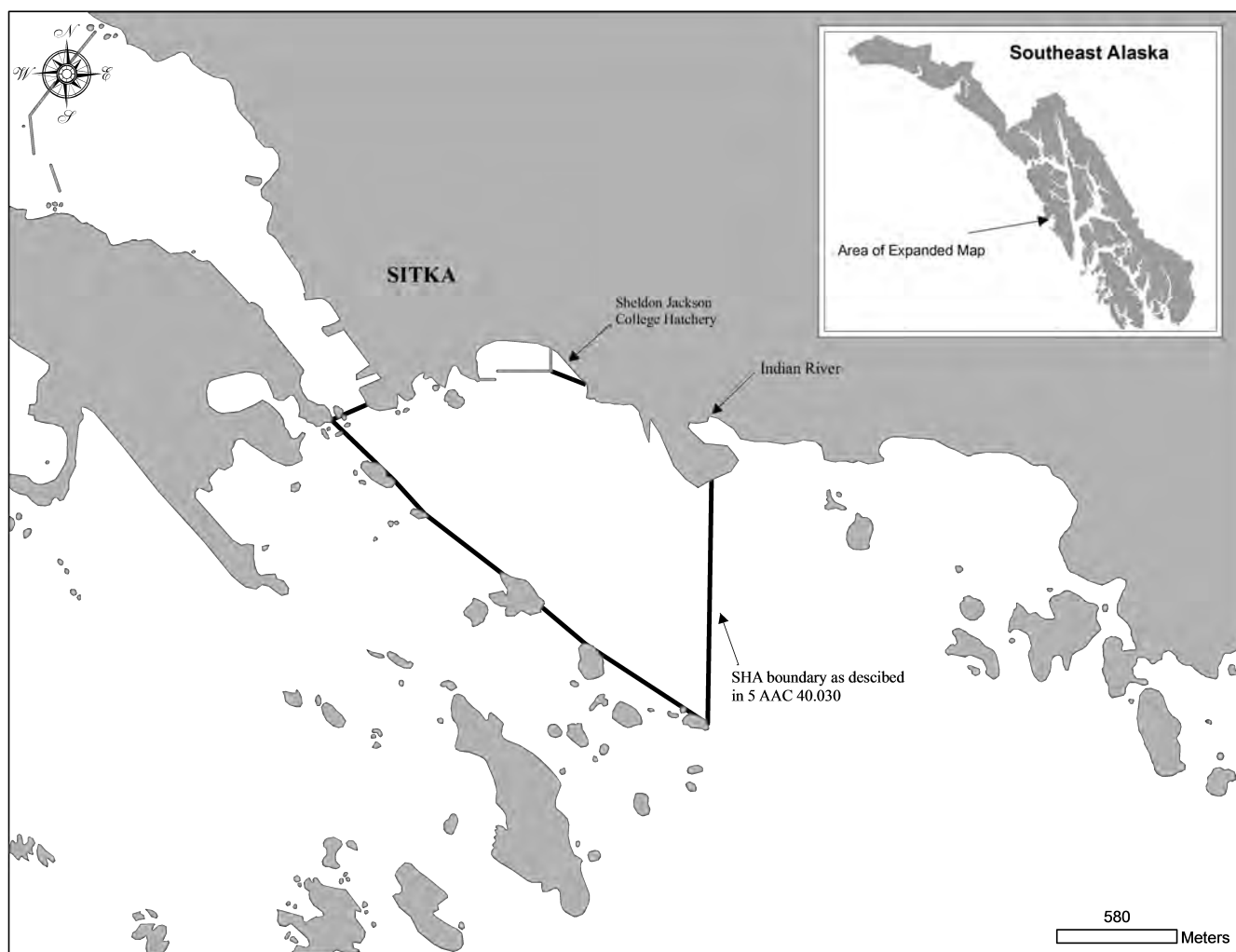


Figure 1.—Sheldon Jackson Hatchery (Crescent Bay) SHA.

PRODUCTION SUMMARY SHELDON JACKSON HATCHERY 2015											

Figure 2.—Sheldon Jackson Hatchery production summary, 2013.

LIST OF MANAGEMENT CONTACTS

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