

**Calendar Year 2017
Annual Operation Plan
for
Salmon and Steelhead
Production Programs
in the
Salmon and Snake River Basins**

**Prepared by
Idaho Department of Fish and Game
Nez Perce Tribe
Shoshone-Bannock Tribes
U.S. Fish and Wildlife Service
Idaho Power Company**

1. Summer Steelhead

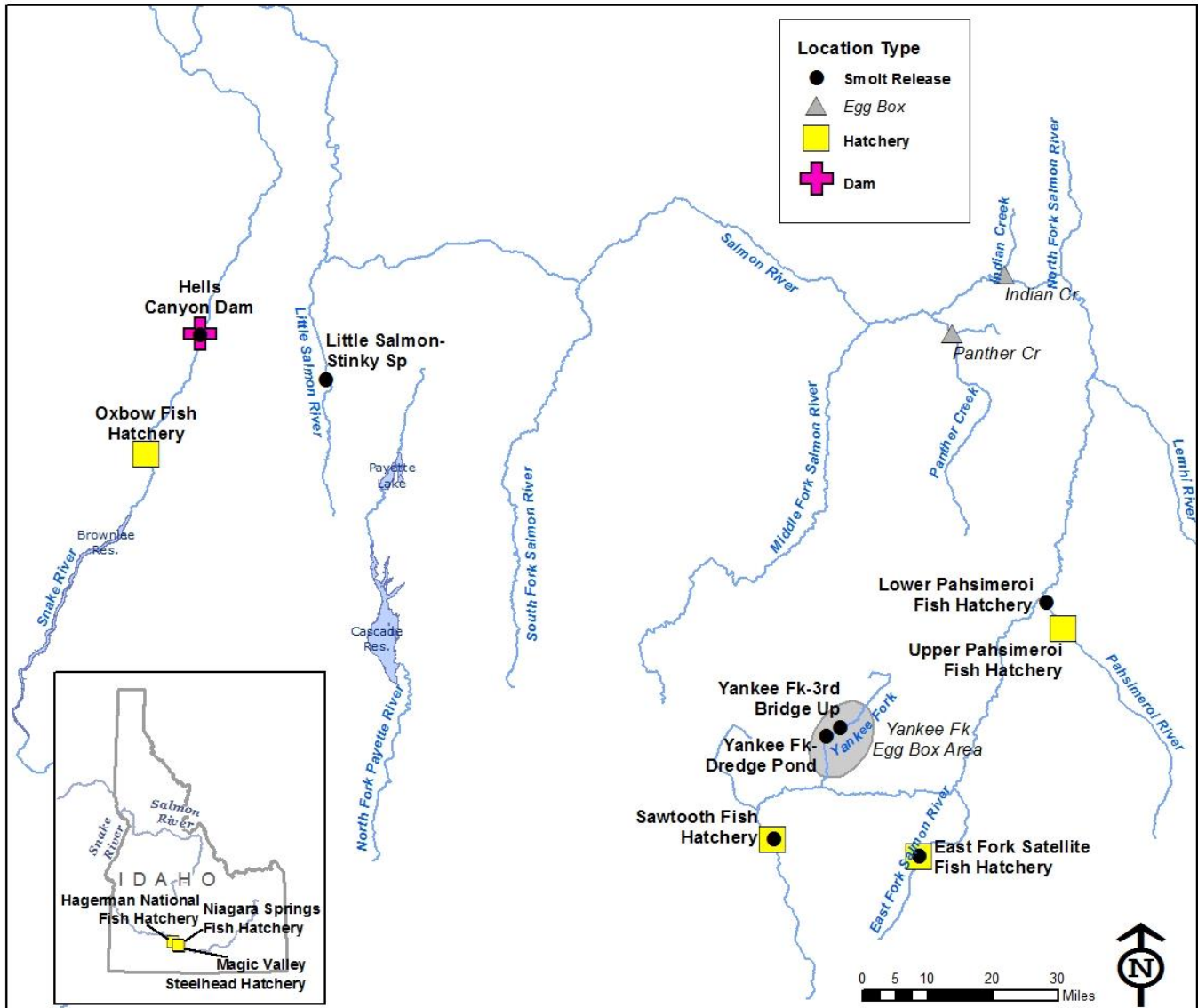


Figure 1.1. Steelhead facilities, smolt releases and egg box locations.

Table 1.1. Steelhead Release Goals.

Smolt Release Program	Rearing Facility	Release Site	Parent Stock	BY 2016 Smolt Release Goal
LSRCP / IDFG	HNFH	Sawtooth Weir	SawA	1,410,000
	HNFH	Sawtooth Weir (PRAS Eval)	SawA	90,000
	HNFH	E. Fork Salmon R. - Upper	EFNat	60,000
	Total			1,560,000
	MVFH	Pahsimeroi Weir	PahA	279,000
	MVFH	Little Salmon R. - Stinky Sp.	PahA	186,000
	MVFH	Pahsimeroi Weir	USRB	155,000
	MVFH	Pahsimeroi Weir	DworB	93,000
	MVFH	Yankee Fork	USRB/DworB	622,000
	MVFH	Little Salmon - Stinky Sp.	USRB/DworB	206,000
Total			1,541,000	
IPC / IDFG	NSFH	Pahsimeroi Weir	PahA	800,000
	NSFH	Little Salmon R. - Stinky Sp.	PahA	200,000
	NSFH	Little Salmon R. - Stinky Sp.	OxbA	250,000
	NSFH	Snake R. Hells Canyon	OxbA	550,000
	Total			1,800,000
Grand Total				4,901,000

Egg Box Program	Hatchery Egg Source	Egg Box Site	Parent Stock	Egg Box 2017 Outplant Goals
SBT	PFH	Yankee Fork	USRB/DworB ¹	500,000
		Panther Creek	PahA	400,000
		Indian Creek	PahA	100,000
		Total		1,000,000

¹ If smolt releases for Yankee Fork and Pahsimeroi are met and egg box needs cannot be met with USRB eggs, then DworB eggs will be considered for the SBT egg box program if available

1.1. Timeline and Flowchart for Steelhead Production

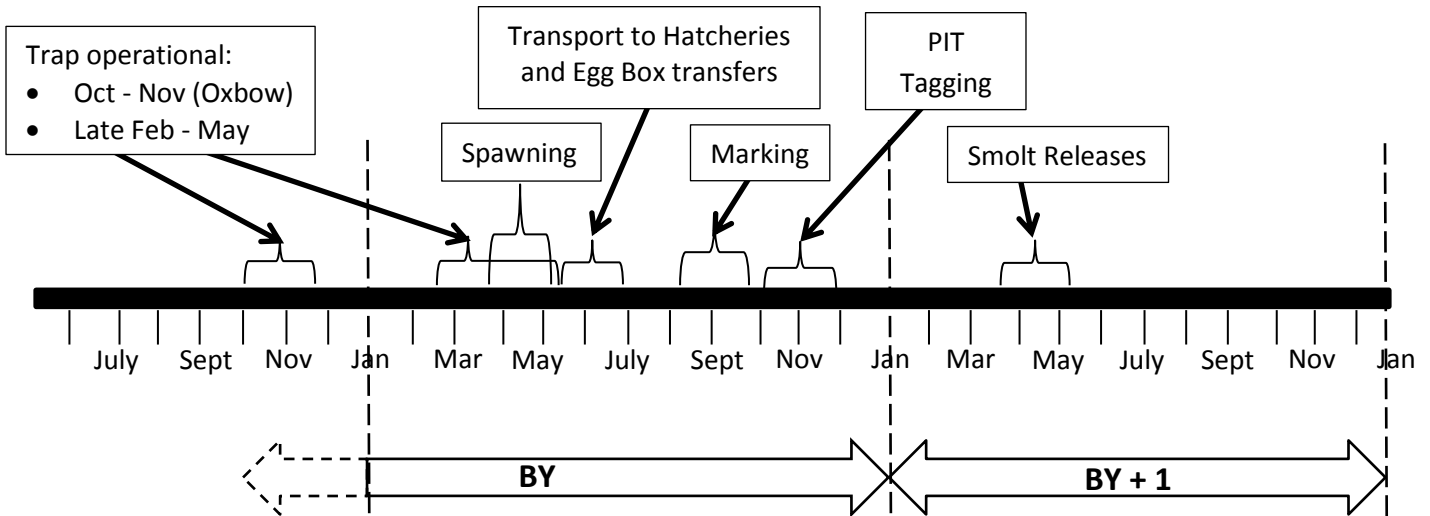


Figure 1.2. Timeline for Steelhead Production. Date ranges are shown to include all facilities' operations

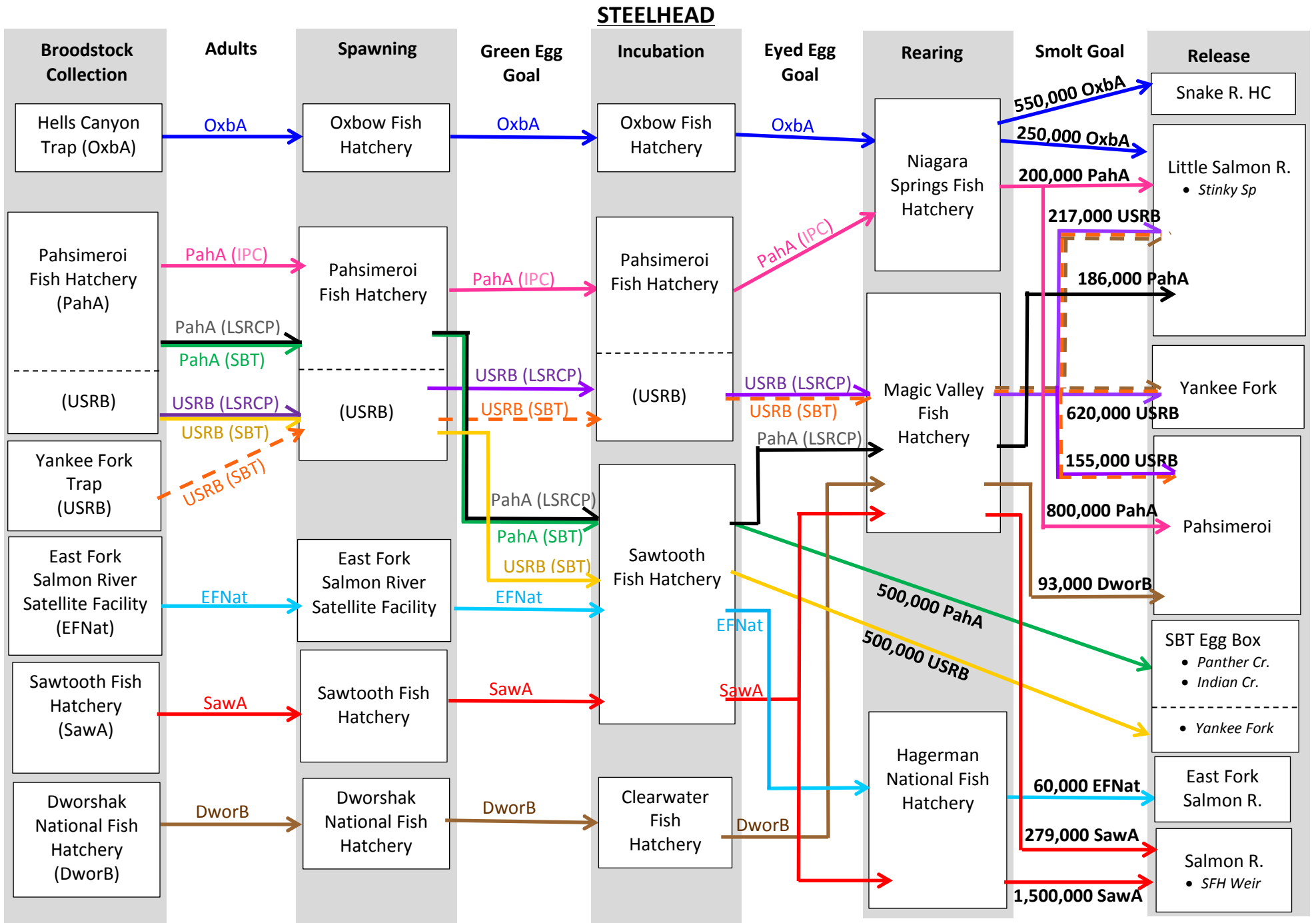


Figure 1.3. Fish and egg movements for Steelhead.

1.2. Releases in 2017 (Smolt BY 2016, Egg Box BY 2017)

1.2.1. Releases in 2017 (Smolt BY 2016, Egg Box BY 2017) – Totals

Table 1.2a. Steelhead Rearing Metrics for BY 2016 fish

Hatchery	Release Site	Stock	Eggs/Fry Shipped / Received	Inventory To Date		Release Goals		Excess Fry/ Fingerlings Released		Projected Smolt Releases		
				Date	Number	Number	Size (FPP)	Number	Release Site (Date)	Dates	Number	Size (FPP)
HNFH	Sawtooth Weir	SawA	1,539,037	2/1/2017	1,423,896	1,410,000	4.5			4/3-4/30/17	1,410,000	4.5
HNFH	Sawtooth Weir (PRAS Eval)	SawA	100,245	2/1/2017	93,575	90,000	4.5			4/3-4/7/17	90,000	4.5
HNFH	E. Fork Salmon R. - Upper	EFNat	71,820	2/1/2017	62,256	60,000	4.5			5/1-3/17	60,000	4.5
Totals			1,711,102		1,579,727	1,560,000			-		1,560,000	
MVFH	Little Salmon R. - Stinky Sp.	PahA	223,972	2/1/2017	189,984	186,000	4.5	31,620	Salmon Falls Creek Res.9-14&15	4/5-4/7/17	186,000	4.5
MVFH	Pahsimeroi Weir	USRB	177,796	2/1/2017	157,841	155,000	4.5			4/14-4/17/17	155,000	4.5
MVFH	Pahsimeroi Weir	DworB	124,082	2/1/2017	94,585	93,000	4.5	13,980	Salmon Falls Creek Res.9-14&15	4/13/4/14/17	93,000	4.5
MVFH	Pahsimeroi Weir	PahA	327,125	2/1/2017	287,651	279,000	4.5			4/3-4/6/17	282,000	4.5
MVFH	Yankee Fork	USRB/DworB	741,810	2/1/2017	634,476	622,000	4.5	81,360	Salmon Falls Creek Res.9-14&15	4/12-4/25/17	622,000	4.5
MVFH	Little Salmon - Stinky Sp.	USRB/DworB	258,871	2/1/2017	220,768	206,000	4.5			4/10-4/11/17	216,000	4.5
Totals			1,853,656		1,585,305	1,541,000		126,960			1,554,000	
NSFH	Pahsimeroi Weir	PahA	926,102	1/19/2017	811,660	800,000	4.5	101,748	Salmon Falls Creek Res.9/8/16	3/30-4/17/17	805,000	4.5
NSFH	Little Salmon R. - Stinky Sp.	PahA	279,278	1/19/2017	213,685	200,000	4.5			4/18-4/21/17	210,000	4.5
NSFH	Little Salmon R. - Stinky Sp.	OxbA	302,919	1/19/2017	260,503	250,000	4.5	42,812	Salmon Falls Creek Res.9/9/16	4/24-4/28/17	255,000	4.5
NSFH	Snake R. Hells Canyon	OxbA	642,090	1/19/2017	565,914	550,000	4.5			3/20-3/29/17	560,000	4.5
Totals			2,150,389		1,851,762	1,800,000		144,560			1,830,000	
Grand Total			5,715,147		5,016,794	4,901,000		271,520			4,944,000	

Table 1.2b. BY 2016 Steelhead Inventory to Date by Mark Type in 2017

Hatchery	Release Site	Stock	Inventory to Date						PIT Tags				
			Date	Total	Adipose Fin Clip		No Clip		Total # Tags ¹	Funding Source ²			
					No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	USFWS
HNFH	Sawtooth Weir	SawA	2/1/2017	1,423,896	1,250,002	173,894			8,600	2,600	6,000		
HNFH	Sawtooth Weir (PRAS Eval)	SawA	2/1/2017	93,575	940	92,635			17,500		17,500		
HNFH	E. Fork Salmon R. - Upper	EFNat	2/1/2017	62,256			60,019	2,237	8,600	2,600	6,000		
Totals				1,579,727	1,250,942	266,529	60,019	2,237	34,700	5,200	29,500	-	-
MVFH	Little Salmon R. - Stinky Sp.	PahA	2/1/2017	189,894	189,894				2,199	2,200			
MVFH	Pahsimeroi Weir	USRB	2/1/2017	157,841			157,841		7,197	2,100	5,100		
MVFH	Pahsimeroi Weir	DworB	2/1/2017	94,585			94,585		4,201	1,300	2,900		
MVFH	Pahsimeroi Weir	PahA	2/1/2017	285,837	285,837				5,697	5,700			
MVFH	Yankee Fork	USRB/DworB	2/1/2017	634,476	411,145			223,331	13,291	5,300	8,000		
MVFH	Little Salmon - Stinky Sp.	USRB/DworB		220,768	220,768				2,199	2,200			
Totals				1,583,401	1,107,644	-	252,426	223,331	34,784	18,800	16,000	-	-
NSFH	Pahsimeroi Weir	PahA	1/19/2017	811,660	811,660				8,991	3,000		6,000	
NSFH	Little Salmon R. - Stinky Sp.	PahA	1/19/2017	213,685	213,685				2,300	1,800		500	
NSFH	Little Salmon R. - Stinky Sp.	OxbA	1/19/2017	260,503	260,503				2,797	2,300		500	
NSFH	Snake R. Hells Canyon	OxbA	1/19/2017	565,914	565,914				8,595	2,600		6,000	
Totals				1,851,762	1,851,762	-	-	-	22,683	9,700	-	13,000	-
Grand Total				5,014,890	4,210,348	266,529	312,445	225,568	92,167	33,700	45,500	13,000	-

¹ Represents actual number tagged if tags have already been applied at the time of this report

² Represents number of tags paid for by each agency. Sum total may not equal "Total # Tags" for locations where tagging has already occurred

Table 1.2c. Steelhead BY 2017 Egg box transfers in 2017

Hatchery	Release Site	Stock	Egg Box
			Outplants
			Goal
Pahsimeroi	Yankee Fork	USRB/DworB ¹	500,000
	Beaver Creek	PahA	400,000
	Indian Creek	PahA	100,000
	Total		1,000,000

¹ If smolt releases for Yankee Fork and Pahsimeroi are met and egg box needs cannot be met with USRB eggs, then DworB eggs will be considered for the SBT egg box program if available

1.2.2. Releases in 2017 (Smolt BY 2016, Egg Box BY 2017) - Narrative

Here are examples of things managers talk about for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Smolt/Egg Release Targets-** e.g. Were you below goal? Was you size at release different than SOP target? Did you depart from the mark plan?
- **Fish/Egg Health-** any epizootic history, anti-biotic treatments, was production culled at any point
- **Transportation/Releases-** e.g. timing, trucking issues, site access etc.

Release Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY16, Egg BY17	Transport/Release Smolt BY16, Egg BY17	Fish Feeding BY16	Fish/Egg Health BY16	Marking BY16
<i>Niagara Springs Fish Hatchery (SOP Section 1.2)</i>					
Pahsimeroi Weir (PahA)	NC	NC	NC	IHN diagnosed in RCWY 19 on 1/5/17	NC
L. Salmon R. Stinky Springs (PahA/OxbA)	NC	NC	NC	NC	NC
Snake R. Hells Canyon (OxbA)	NC	NC	NC	NC	NC
<i>Sawtooth Fish Hatchery - Egg transfers to SBT - BY 2017 (SOP Sections 1.4 and 1.10)</i>					
Yankee Fork (USRB)	NC	NC			
Indian Creek (PahA)	NC	NC			
Panther Creek (PahA)	NC	NC			
<i>Hagerman National Fish Hatchery (SOP Section 1.5)</i>					
East Fork Weir (EFnat)	NC	NC	NC	Treated raceways for ICH, KMnO4	NC
Sawtooth Weir (SawA)	All SST released at this site except EFnat	All SST released at this site except EFnat	NC	Treated raceways for ICH, KMnO4	NC

Release Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY16, Egg BY17	Transport/Release Smolt BY16, Egg BY17	Fish Feeding BY16	Fish/Egg Health BY16	Marking BY16
Salmon R. McNabb Point (SawA)	No longer planting fish at this site, all at Sawtooth Weir	No longer planting fish at this site, all at Sawtooth Weir			
<i>Magic Valley Fish Hatchery (SOP Section 1.6)</i>					
Salmon R. Colston Corner (PahA)	No longer planting fish at this site, shifted to Pah trap	No longer planting fish at this site, shifter to Pah trap	NC	NC	NC
Salmon R. Shoup Br. (PahA)	No longer planting fish at this site, shifted to Pah trap	No longer planting fish at this site, shifted to Pah trap	NC	NC	NC
Salmon R. Red Rock (PahA)	No longer planting fish at this site, shifted to Pah trap	No longer planting fish at this site, shifted to Pah trap	NC	NC	NC
L. Salmon R. Stinky Springs (PahA)	NC	NC	NC	NC	NC
Pahsimeroi Weir (USRB/DworB)	NC	NC	NC	NC	NC
Pahsimeroi Weir (DworB)	NC	NC	NC	NC	NC
Yankee Fork (USRB/DworB)	NC	NC	NC	NC	NC
Squaw Cr. (USRB/DworB)	No longer planting fish at this site, shifted to Yankee Fork	No longer planting fish at this site, shifted to Yankee Fork	NC	NC	NC

Release Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY16, Egg BY17	Transport/Release Smolt BY16, Egg BY17	Fish Feeding BY16	Fish/Egg Health BY16	Marking BY16
L. Salmon R. Stinky Springs (USRB/DworB)	NC	NC	NC	NC	NC

1.3. Trap Operations and Production Planning for 2017 (Smolt BY 2017, Egg Box BY 2017)

1.3.1. Trap Operations and Production Planning for 2017 (Smolt BY 2017, Egg Box BY 2017) – TOTALS

Table 1.3a. Steelhead Projected BY 2017 Smolt Production Goals for Release in 2018

Hatchery	Release Site	Stock	Smolt Release Goals
HNFH	Sawtooth Weir	SawA	1,410,000
	Sawtooth Weir (PRAS Eval)	SawA	90,000
	E. Fork Salmon R. - Upper	EFNat	60,000
Total			1,560,000
MVFH	Sawtooth Weir	SawA	279,000
	Little Salmon R. - Stinky Sp.	PahA	186,000
	Pahsimeroi Weir	USRB	155,000
	Pahsimeroi Weir	DworB	93,000
	Yankee Fork	USRB/DworB	620,000
	Little Salmon - Stinky Sp.	USRB	217,000
Total			1,550,000
NSFH	Pahsimeroi Weir	PahA	800,000
	Little Salmon R. - Stinky Sp.	PahA	200,000
	Little Salmon R. - Stinky Sp.	OxbA	250,000
	Snake R. Hells Canyon	OxbA	550,000
Total			1,800,000
Grand Total			4,910,000

Table 1.3b. Steelhead Spawning for BY 2017 - Based on Brood Calculator

Green Egg Goal					Spawning Goal					Broodstock Trapping Goals								
Spawning Facility	Brood Source	Rearing Hatchery	Release Site	Green Egg Goal	Brood Source	Rearing Hatchery	Fecundity	Spawn Goal		Brood Source	Rearing Hatchery	Projected Return to Total	Trapping period		Trapping Goal ¹			
								Females	Males				Season	Dates	Female	Male	Total	
SFH	SawA	HNFH	Sawtooth Weir	1,748,207	SawA	HNFH	5,000	350	350	SawA	HNFH	3,284	S17	Mar. - Apr.	350	350	700	
			Sawtooth Weir (RAS Eval)	111,588			5,000	22	22				S17	Mar. - Apr.	22	22	44	
		MVFH	Sawtooth Weir	373,513		MVFH	5,000	75	75				MVFH	S17	Mar. - Apr.	75	75	150
EFSR Sat.	EFNat	HNFH	E. Fork Salmon R. - Upper	85,217	EFNat	HNFH	6,252	14	14	EFNat	HNFH	256	S17	Mar. - May	14	14	28	
PFH	PahA	MVFH	Little Salmon R. - Stinky Sp.	264,550	PahA	MVFH	4,800	55	55	PahA	MVFH	5,633			55	55	110	
			NSFH	Pahsimeroi Weir			1,061,994	NSFH	4,800				221	221	NSFH			221
		SFH	Little Salmon R. - Stinky Sp.	265,498		SFH	4,800	55	55				SFH			55	55	110
			SBT Egg Box-Panther	479,826			4,800	100	100							100	100	200
			SBT Egg Box-Indian Cr.	119,956			4,800	25	25							25	25	50
		USRB (DworB) ³	MVFH	Pahsimeroi Weir		205,026	USRB (DworB)	MVFH	6,200				33	22	USRB (DworB)	MVFH	826	
	Yankee Fork			820,106	6,200	132			88			139	139	278				
	Little Salmon - Stinky Sp.			287,037	6,200	46			31			48	48	98				
	OFH	OxbA	NSFH	SBT Egg Box-Yankee Fork ²	611,111	SFH	6,200	99	99	OxbA	NSFH	4,878			104	104	210	
Little Salmon R. - Stinky Sp.				404,323	5,500		74	74	F/S				10/31-11/21/16 & 4/5-4/6/17	99	99	198		
DNFH	DworB	MVFH	Snake R. Hells Canyon	889,512	DworB ⁴	MVFH	5,500	162	162	DworB	NSFH	12,185	F/S	10/31-11/21/16 & 4/5-4/6/17	216	216	432	
			Pahsimeroi Weir	146,447			6,681	22	11						22	22	44	

¹ Broodstock trapping need is dictated by number of females needed

² If smolt releases for Yankee Fork and Pahsimeroi are met and egg box needs cannot be met with USRB eggs, then DworB eggs will be considered for the SBT egg box program if available

³ Sequence of priority for USRB eggs: Pahsimeroi Weir, Yankee Fork Salmon River, Yankee Fork Egg Box Program, Little Salmon River releases. DWOR eggs will be used to backfill program needs.

⁴ The minimum number of DWOR females to spawn for the USAL-B program is 23, but returns of USAL-B adults to Pahsimeroi Weir may require additional eggs from DWOR.

Table 1.3c. BY2017 Steelhead adult female broodstock acquisition schedules for hatchery programs.

Season	Date	Hells Canyon Trap		Pahsimeroi Fish Hatchery				Sawtooth Fish Hatchery		East Fork Salmon River Satellite		Dworshak National Fish Hatchery	
		OxbA		PahA		USRB		SawA		EFNat		DworB ¹	
		Wkly	Cum	Wkly	Cum	Wkly	Cum	Wkly	Cum	Wkly	Cum	Wkly	Cum
Fall	Oct	0	0										
	Nov	604	604										
	Dec												
Spring	16-Feb												
	23-Feb												
	1-Mar												
	8-Mar												
	15-Mar												
	22-Mar	150	754									22	22
	29-Mar			102	102	24	24	34	34				
	5-Apr			46	147	73	97	72	107				
	12-Apr			88	236	122	219	133	240				
	19-Apr			88	324	73	292	133	373	3	3		
	26-Apr			87	411	18	310	75	447	7	10		
	3-May			45	456					4	14		
	10-May												
17-May													

¹ The minimum number of DWOR females to spawn for the USAL-B program is 22, but anticipated returns of USAL-B females to Pahsimeroi Weir in 2016 may require up to 64 DWOR females spawned.

Table 1.3d. BY 2017 - Steelhead Spawning/Egg Take Plan by Spawning Facility and Stock

Egg Takes		A-Run								B-Run				Totals	
		OFH		SFH		EFSR Sat.		PFH				DNFH			
		OxbA		SawA		EFNat		PahA		USRB		DworB			
Week of	Num	Females Spawned	Green Eggs	Females Spawned	Green Eggs	Females Spawned	Green Eggs	Females Spawned	Green Eggs	Females Spawned	Green Eggs	Females Spawned ¹	Green Eggs	Females Spawned	Green Eggs
Mar 7 - Mar 11	1	17	93,500		-		-		-		-		-	17	93,500
	2	17	93,500		-		-		-		-		-	17	93,500
Mar 14 - Mar 18	3	17	93,500		-		-		-		-		-	17	93,500
	4	17	93,500		-		-		-		-		-	17	93,500
Mar 21 - Mar 25	5	17	93,500		-		-		-		-	22	146,982	39	240,482
	6	17	93,500		-		-		-		-		-	17	93,500
Mar 28 - Apr 1	7	21	115,500	14	70,000		-	56	268,800		-		-	91	454,300
	8	14	77,000	20	100,000		-	46	220,800	20	124,000		-	100	521,800
Apr 4 - Apr 8	9	22	121,000	26	130,000		-	42	201,600	39	241,800		-	129	694,400
	10	18	99,000	46	230,000		-	46	220,800	58	359,600		-	168	909,400
Apr 11 - Apr 15	11	19	104,500	69	345,000		-	42	201,600	78	483,600		-	208	1,134,700
	12	13	71,500	65	325,000		-	46	220,800	58	359,600		-	182	976,900
Apr 18 - Apr 22	13	16	88,000	83	415,000	3	18,756	41	196,800	29	179,800		-	172	898,356
	14	11	60,500	50	250,000	-	-	46	220,800	15	93,000		-	122	624,300
Apr 25 - Apr 29	15	-	-	42	210,000	7	43,764	-	-	13	80,600		-	62	334,364
	16		-	32	160,000	-	-	46	220,800		-		-	78	380,800
May 2 - May 6	17		-		-	4	25,008	-	-		-		-	4	25,008
	18		-		-		-	45	216,000		-		-	45	216,000
May 9 - May 13	19		-		-		-		-		-		-	-	-
	20		-		-		-		-		-		-	-	-
May 16 - May 20	21		-		-		-		-		-		-	-	-
	22		-		-		-		-		-		-	-	-
Total		236	1,298,000	447	2,235,000	14	87,528	456	2,188,800	310	1,922,000	22	146,982	1,485	7,878,310
Fecundity		5,500		5,000		6,252		4,800		6,200		6,681			

¹ The minimum number of DWOR females to spawn for the USAL-B program is 22, but anticipated returns of USAL-B females to Pahsimeroi Weir in 2017 may require up to 64 DWOR females spawned.

1.3.2. Trap Operations and Production Planning for 2017 (Smolt BY 2017, Egg Box BY 2017) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

Rearing Location	Plan for 2017 (BY 2017)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
<i>Hells Canyon Trap/Oxbow Hatchery (Fall 2016-Spring 2017) (SOP Section 1.3)</i>					
Niagara Springs (OxbA)	prespawn mortality up slightly in BY17 females	Plan on 3/21 and 3/22/17 spring trapping if flows on river allow.	NC	First sort/spawn of Feb 27 (2 weeks earlier than norm)	First year we'll be using a freezer trailer for spawn carcasses
<i>Pahsimeroi Weir (SOP Section 1.4)</i>					
Niagara Springs (PahA)	NC	NC	NC	NC	NC
Magic Valley (PahA)	NC	NC	PFH will only spawn 55 females (262,000 green eggs) needed for MVFH Little Salmon release	NC	NC
SBT Egg Box (PahA)	NC	NC	NC	NC	NC
SBT Egg Box (USRB)	PFH may will use Ovaplant (for gamete maturation) on 25% of males	PFH may transport and incorporate YF adults into brood stock. Right double operc. punch	NC	PFH will not cross YF x YF adults	Strictly landfill disposal of Ovaplant treated males
Magic Valley (USRB)	PFH may will use Ovaplant (for gamete maturation) on 25% of males	PFH may transport and incorporate YF adults into brood stock	NC	PFH will not cross YF x YF adults	Strictly landfill disposal of Ovaplant treated males
<i>Sawtooth and East Fork Weirs (SOP Sections 1.7 and 1.8)</i>					
Hagerman National (EFNat)	NC	NC	NC	NC	NC

Rearing Location	Plan for 2017 (BY 2017)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
Hagerman National (SawA)	NC	NC	NC	NC	NC
Magic Valley (Saw)	NC	NC	Will need to increase smolt production to account for conversion of PahA at Shoup, Colston, and Red Rock to SawA released at SFH.	NC	NC
<i>Dworshak National Fish Hatchery Ladder (Fall 2016-Spring 2017) (SOP Section 1.9)</i>					
Magic Valley (DworB)					

1.4. Marking and Rearing Plan for 2017 (Smolt BY 2107)

1.4.1. Marking and Rearing Plan for 2017 (Smolt BY 2017) – TOTALS

Table 1.4a. Steelhead Projected marking of BY 2017 Production for release in 2018

Hatchery	Release Site	Stock	Smolt Release Goals	Projected Marking				Total # Tags	PIT Tags			
				Adipose Fin Clip		No Clip			Funding Source			
				No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	USFWS
HNFH	Sawtooth Weir	SawA	1,410,000	1,230,000	180,000			17,400	2,600	14,800		
	Sawtooth Weir (PRAS Eval)	SawA	90,000		90,000			8,700		8,700		
	E. Fork Salmon R. - Upper	EFNat	60,000			60,000		8,600	2,600	6,000		
Totals			1,560,000	1,230,000	270,000	60,000	-	34,700	5,200	29,500	-	-
MVFH	Sawtooth Weir	SawA	279,000	279,000				5,700	5,700			
	Little Salmon R. - Stinky Sp.	PahA	186,000	186,000				2,200	2,200			
	Pahsimeroi Weir	USRB	155,000			155,000		7,200	2,100	5,100		
	Pahsimeroi Weir	DworB	93,000			93,000		4,200	1,300	2,900		
	Yankee Fork	USRB/DworB	620,000	403,000			217,000	13,300	5,300	8,000		
Little Salmon - Stinky Sp.	USRB	217,000	217,000				2,200	2,200				
Totals			1,550,000	1,085,000	-	248,000	217,000	34,800	18,800	16,000	-	-
NSFH	Pahsimeroi Weir	PahA	800,000	800,000				9,000	3,000		6,000	
	Little Salmon R. - Stinky Sp.	PahA	200,000	200,000				2,300	1,800		500	
	Little Salmon R. - Stinky Sp.	OxbA	250,000	250,000				2,800	2,300		500	
	Snake R. Hells Canyon	OxbA	550,000	550,000				8,600	2,600		6,000	
Totals			1,800,000	1,800,000	-	-	-	22,700	9,700	-	13,000	-
Grand Totals			4,910,000	4,115,000	270,000	308,000	217,000	92,200	33,700	45,500	13,000	-

1.4.2. Marking and Rearing Plan for 2017 (Smolt BY 2017) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Fish Health** - anticipated changes to normal fish health sampling or treatments
- **Fish feeding** - changes of diets of feed manufacturer, growth regimes etc.
- **Rearing conditions** - incubation, water temp, flow, rearing density changes
- **Marking** - e.g. changes to schedules, fish handling or movement, raceway loading for PBT, %PBT etc.

Release Location	Plan for 2017 (BY 2017)			
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking
<i>Niagara Springs Fish Hatchery (SOP Section 1.2)</i>				
L. Salmon R. Stinky Springs (OxbA)	NC	NC	Bird enclosure on outdoor raceways was removed in 2016. Will be reinstalled in 2017	NC
Snake R. Hells Canyon (OxbA)	NC	NC	Bird enclosure on outdoor raceways was removed in 2016. Will be reinstalled in 2017	NC
L. Salmon R. Stinky Springs (PahA)	NC	NC	Bird enclosure on outdoor raceways was removed in 2016. Will be reinstalled in 2017	NC
Pahsimeroi Weir (PahA)	NC	NC	Bird enclosure on outdoor raceways was removed in 2016. Will be reinstalled in 2017	NC
<i>Hagerman National Fish Hatchery (SOP Section 1.5)</i>				
East Fork Weir (EFnat)	NC	NC	NC	NC
Sawtooth Weir (SawA)	NC	NC	NC	NC

Release Location	Plan for 2017 (BY 2017)			
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking
Salmon R. McNabb Point (SawA)	No longer releasing fish at this site			
<i>Magic Valley Fish Hatchery (SOP Section 1.6)</i>				
Salmon R. Colston Corner (PahA)	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site
Salmon R. Shoup Br. (PahA)	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site
Salmon R. Red Rock (PahA)	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site
L. Salmon R. Stinky Springs (PahA)	NC	NC	NC	NC
Sawtooth Weir (SawA)	This production was previously PahA released at Red Rock, Shoup and Colston	This production was previously PahA released at Red Rock, Shoup and Colston	This production was previously PahA released at Red Rock, Shoup and Colston	This production was previously PahA released at Red Rock, Shoup and Colston
Pahsimeroi Weir (USRB)	NC	NC	NC	NC
Pahsimeroi Weir (DworB)	NC	NC	NC	NC
Yankee Fork Salmon R., Lower (USRB/DworB)	NC	NC	NC	NC
Salmon R. Stinky Springs (USRB/DworB)	NC	NC	NC	NC

Release Location	Plan for 2017 (BY 2017)			
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking
Squaw Cr. (USRB/DworB)	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site	No longer releasing fish at this site

2. Spring/Summer Chinook

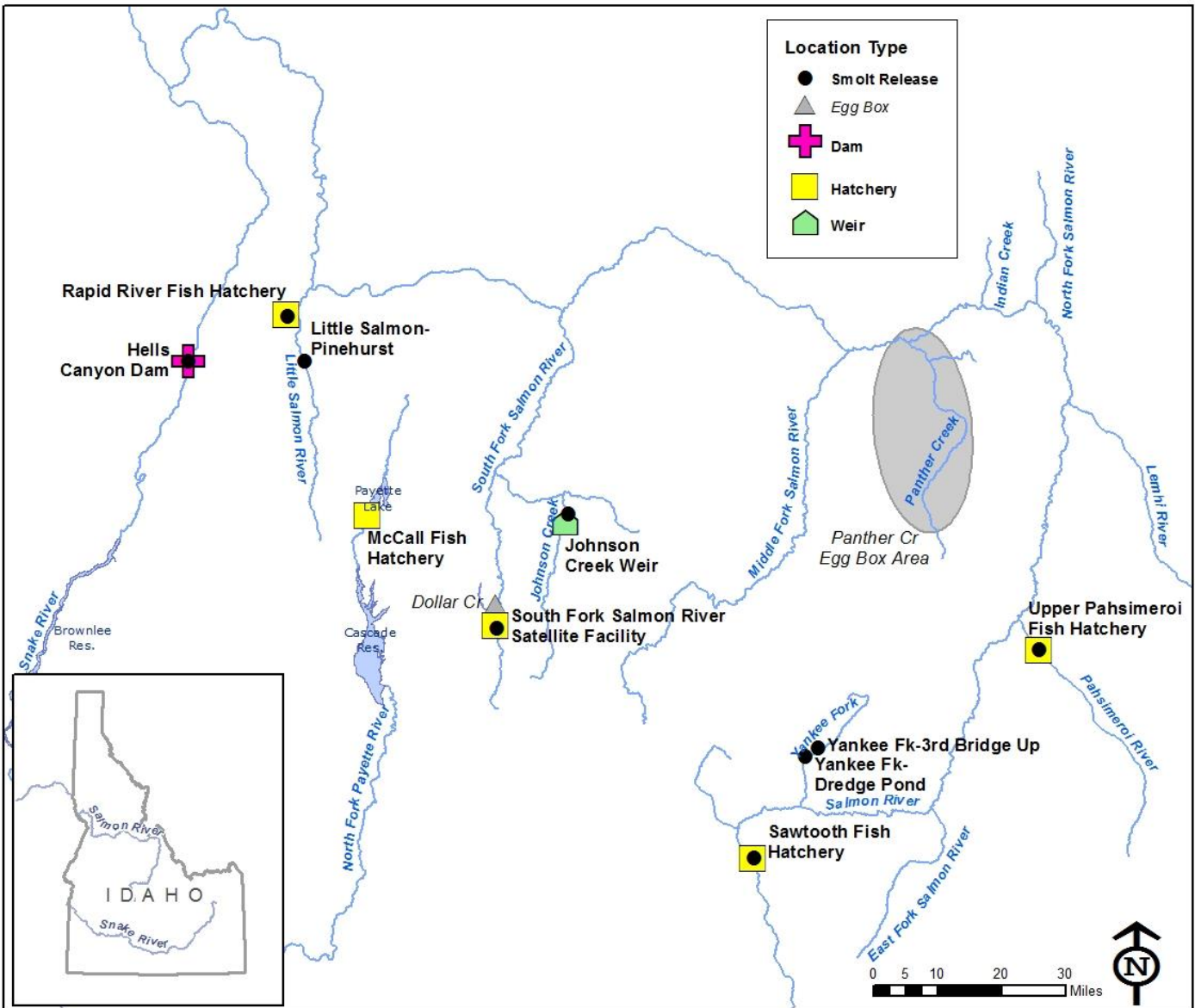


Figure 2.1. Spring/Summer Chinook salmon hatchery facilities and smolt release and egg box locations.

Table 2.1. Sp/Su Chinook Release Goals.

Release Program	Release Site	Rearing Facility	Stock	2017 Smolt Release Goal
IPC / IDFG	Rapid River Hatchery	RRFH	RapidR	2,500,000
	Little Salmon (@ Pinehurst)		RapidR	150,000
	Hells Canyon		RapidR	350,000
Total				3,000,000
LSRCP / IDFG	Sawtooth Weir - Integrated	SFH	USRInt	150,000
	Sawtooth Weir -Segregated		USRSeg	1,450,000
	Yankee Fork		USRSeg	200,000
Total				1,800,000
IPC / IDFG	Pahsimeroi Weir - Integrated	PFH	PahInt	65,000
	Pahsimeroi Weir - Segregated		PahSeg	935,000
Total				1,000,000
LSRCP / IDFG	SFSR Knox Br. - Integrated	McFH	SFSRInt	150,000
	SFSR Knox Br. - Segregated		SFSRSeg	850,000
NPT	Johnson Creek		Johnson Cr.	100,000
Total				1,100,000
Grand Total				6,900,000

Program	Location	Hatchery Egg Source	Stock	Green Egg Target	Eyed Egg 2017 Release
SBT Eggbox	Dollar Creek	McFH	SFSRSeg	351,000	300,000
Clearwater Su Chinook 1	Powell Ponds	McFH/CFH	SFSRSeg	600,000	600,000
SBT Eggbox ¹	Panther Creek	PFH	PahSeg	936,000	800,000

¹ Brood for these eggs are not included in stated brood goals and will come from fish trapped in excess of brood needs for onsite smolt and egg box programs. Prioritization of excess fish between recycling to fisheries, Tribal C&S, foodbank, outplants and the Clearwater Hatchery Summer Run Program will occur in-season between State and Tribal managers.

2.1. Timeline and Flowchart for Spring/Summer Chinook Production

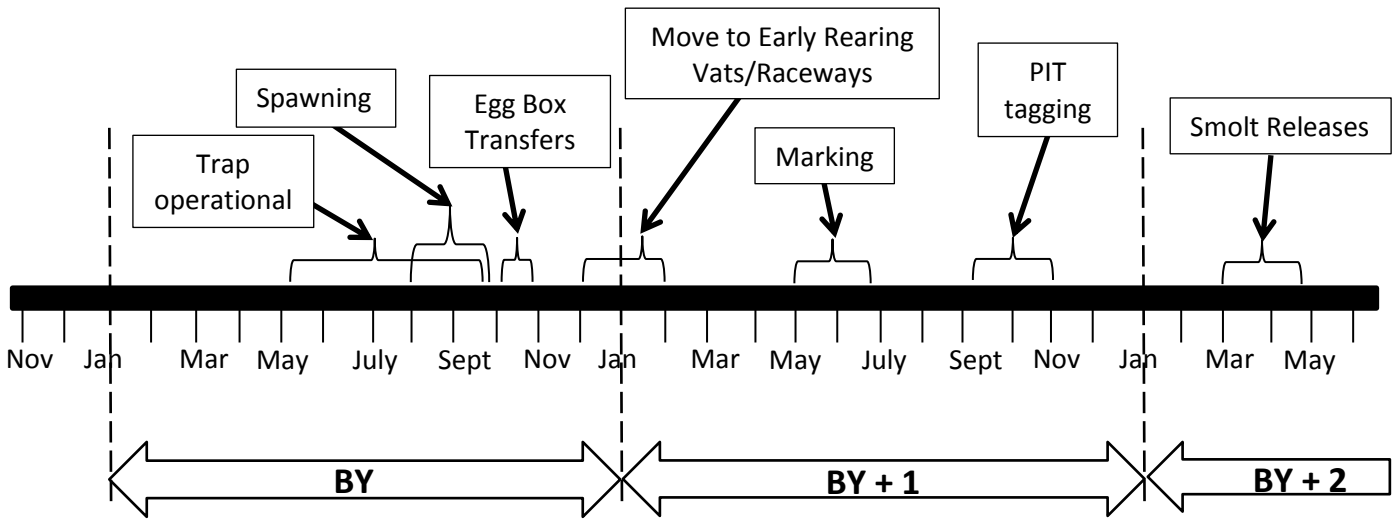


Figure 2.2. Timeline for Spring/Summer Chinook Production. Date ranges are shown to include all facilities' operations.

CHINOOK

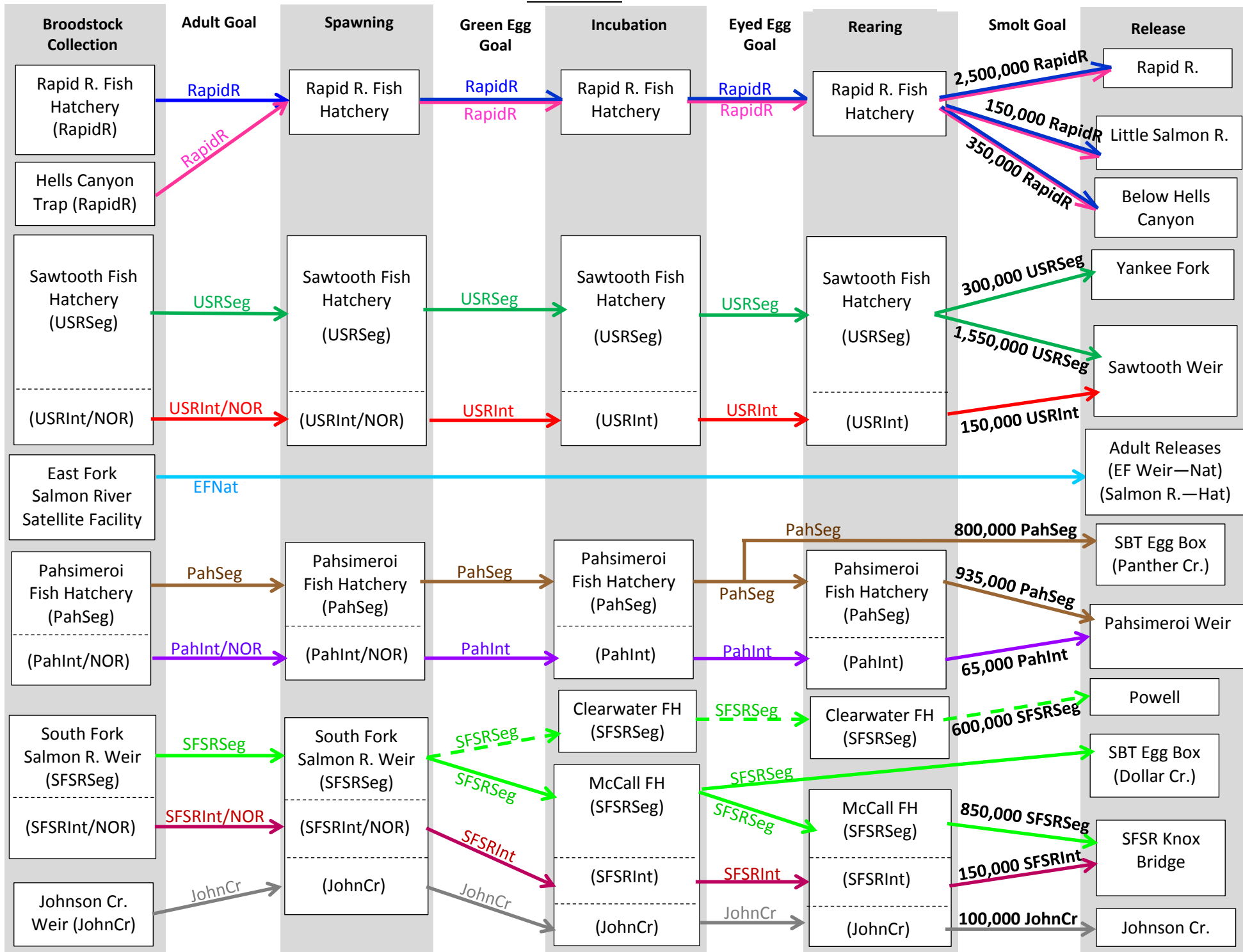


Figure 2.3. Fish and Egg movements for Spring and Summer Chinook

2.2. Releases in 2017 (Smolt BY 2015, Egg Box BY 2017)

2.2.1. Releases in 2017 (Smolt BY 2015, Egg Box BY 2017) – Totals

Table 2.2a. BY2015 SMOLTS - Sp/Su Chinook Salmon inventories by life stage , smolts release goals and projected releases in 2017.

Hatchery	Release Site	Stock	Eyed Eggs to Rear ¹	Inventory To Date		Release Goals		Projected Smolt Release		
				Date	Number	Number	Size (FPP)	Dates	Number	Size (FPP)
RRFH ²	Rapid River Hatchery	RapidR	3,267,746	1/31/2017	3,231,214	2,500,000	20.0	3/13-4/28	2,500,000	18.0
	Little Salmon (@ Pinehurst)	RapidR				150,000	20.0	3/17	230,000	18.0
	Hells Canyon	RapidR				350,000	20.0	3/13-3/16	500,000	18.0
Total			3,267,746		3,231,214	3,000,000			3,230,000	
SFH	Sawtooth Weir - Integrated	USRInt	133,632	1/31/2017	119,100	150,000	20.0	4/3/17	119,040	19.0
	Sawtooth Weir -Segregated	USRSeg	1,150,685	1/31/2017	1,113,467	1,450,000	20.0	4/3/17	1,112,910	17.5
	Yankee Fork	USRSeg	200,677	1/31/2017	188,760	200,000	20.0	4/17-4/21	188,666	20.0
	Pahsimeroi Weir - Segregated	PahSeg	122,894	1/31/2017	118,500	-	20.0	4/17-4/21	118,441	16.5
Total			1,607,888		1,539,827	1,800,000			1,420,616	
PFH	Pahsimeroi Weir - Integrated	PahInt	68,497	1/31/2017	67,378	65,000	15.0	4/17-4/24	67,300	15.0
	Pahsimeroi Weir - Segregated	PahSeg	1,084,056	1/31/2017	1,054,068	935,000	15.0	4/17-4/24	1,054,000	15.0
Total			1,152,553		1,121,446	1,000,000			1,121,300	
McFH	SFSR Knox Br. - Integrated	SFSRInt	166,245	1/31/2017	162,700	150,000	20.0	4/3-4/6	162,000	19.5
	SFSR Knox Br. - Segregated	SFSRSeg	992,232	1/31/2017	946,088	850,000	20.0	4/3-4/6	945,000	19.5
	Johnson Creek	Johnson Cr.	121,762	1/31/2017	111,396	100,000	25.0	3/31-4/2	110,500	23.0
Total			1,280,239		1,220,184	1,100,000			1,217,500	
Grand Total			7,308,426		7,112,671	6,900,000			6,989,416	

¹ Eyed Eggs to Rear = (Total Green Eggs) - (Eggs culled for disease) - (Dead eggs picked) - (Eggs culled for hatchery capacity) - (Eggs transferred out)

² Rapid River eyed eggs and inventory are not partitioned by release site prior to release

³ Pahsimeroi stock being reared at Sawtooth Hatchery to fill empty rearing space caused by high BKD and broodstock shortfall

Table 2.2b. BY2015 SMOLTS for release in 2017 - Sp/Su Chinook Salmon Inventory to Date by Mark Type in 2017

Hatchery	Release Site	Stock	Inventory to Date						PIT Tags					
			Date	Total	Adipose Fin Clip		No Clip		Total # Tags	Funding Source				
					No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	BPA	OTHER1
RRFH	Rapid River Hatchery	RapidR				120,000	-	-	52,000	32,000	0	20,000	0	0
	Little Salmon (@ Pinehurst)	RapidR	1/31/2017	3,231,214	3,111,214	-	-	-	-	0	0	0	0	0
	Hells Canyon	RapidR				-	-	-	-	0	0	0	0	0
Totals				3,231,214					52,000	32,000	-	20,000	-	-
SFH	Sawtooth Weir - Integrated	USRInt	1/31/2017	119,100	-	-	119,100	-	2,000	0	1,000	0	0	1,000
	Sawtooth Weir - Segregated	USRSeg	1/31/2017	1,113,467	993,187	120,280	-	-	18,900	5,700	13,200	0	0	0
	Yankee Fork	USRSeg	1/31/2017	188,760	188,760	-	-	-	2,500	700	1,800	0	0	0
	Pahsimeroi Weir - Segregated	PahSeg	1/31/2017	118,500	118,500	-	-	-	-	0	0	0	0	0
Totals				1,539,827					23,400	5,700	14,200	-	-	1,000
Pah	Pahsimeroi Weir - Integrated	PahInt	1/31/2017	67,374	-	-	67,374	-	1,000	0	0	1,000	0	0
	Pahsimeroi Weir - Segregated	PahSeg	1/31/2017	1,054,068	934,499	119,569	-	-	21,400	6,400	0	15,000	0	0
Totals				1,121,442					22,400	6,400	-	16,000	-	-
McFH	SFSR Knox Br. - Integrated	SFSRInt	1/31/2017	162,700	-	-	162,700	-	26,000	26,000	0	0	0	0
	SFSR Knox Br. - Segregated	SFSRSeg	1/31/2017	946,088	821,437	124,651	-	-	26,000	6,000	20,000	0	0	0
	Johnson Creek	Johnson Cr.	1/31/2017	111,396	-	-	111,396	-	2,200	0	0	0	2,200	0
Totals				1,220,184	821,437	124,651	274,096	-	54,200	32,000	20,000	-	2,200	-
Grand Total				7,112,667	-	-	-	-	152,000	76,100	34,200	36,000	2,200	1,000

Table 2.2c. Sp/Su Chinook salmon BY 2017 egg transfers to streamside egg boxes in 2017.

Program	Location	Hatchery Egg Source	Stock	Green Egg Target	Eyed Egg 2017 Release Projection
SBT Eggbox	Dollar Creek	McFH	SFSRSeg	351,000	300,000
SBT Eggbox ¹	Panther Creek	PFH	PahSeg	936,000	800,000

¹ The broodstock needed to produce 926,000 green eggs are not included in the stated broodstock goals for the smolt program at Pahsimeroi Fish Hatchery. Broodstock for the Panther Creek Chinook Salmon Project will come from adults returning from the segregated program, which are in excess to the segregated smolt program. Adults returning in excess of the integrated program needs maybe utilized to meet eggbox objectives. Prioritization of excess broodstock will occur in-season between State and Tribal managers.

2.2.2. Releases in 2017 (Smolt BY 2015, Egg Box BY 2017) – Total

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Smolt/Egg Release Targets-** e.g. were you below goal, was your size at release different than SOP target etc.
- **Fish/Egg Health-** any epizootic history, anti-biotic treatments, was production culled at any point
- **Transportation/Releases-** e.g. timing, trucking issues, site access etc.

Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY15, Egg BY17	Transport/Release Smolt BY15, Egg BY17	Fish Feeding BY15	Fish/Egg Health BY15	Marking BY15
<i>Rapid River Fish Hatchery (SOP Section 2.2)</i>					
Rapid River Hatchery (RapidR)	500,000 fish that were to be released at Hells Canyon will now be released at Rapid River Hatchery due to high flows and high dissolved nitrogen gas in river at HC.	NC	NC	Low prevalence of <i>Renibacterium salmoninarum</i> (Rs) no management Don Larsen to sample 300 smolts prior to release as part of a precocity study	PIT tagging occurred in September 2016 instead of spring 2017 reflects new SOP
Little Salmon R. (RapidR)	Projected release is 230,000, which is 53% above release goal. Overage is due to above average on-station survival.	NC	NC	Low prevalence of Rs no management	NC
Hells Canyon (RapidR)	Projected release is 500,000, which is 43% above release goal. Overage is due to above average on-station survival. Release of 500,000 will be at Rapid River Hatchery due to high flows and high dissolved nitrogen gas in river at HC.	NC	NC	Low prevalence of Rs no management	NC

Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY15, Egg BY17	Transport/Release Smolt BY15, Egg BY17	Fish Feeding BY15	Fish/Egg Health BY15	Marking BY15
<i>McCall Fish Hatchery (SOP Sections 2.3, 2.4 and 2.9)</i>					
SFSR Knox Bridge (SFSRInt)	NC	NC	NC	Very low incidence of <i>P. herbarum</i> Don Larsen to sample 300 smolts prior to release as part of a precocity study.	Fall PIT tagging instead of spring
SFSR Knox Bridge (SFSRSeg)	Projected release is 945,000 which is 11.1% above release goal. Overage is due to above average on-station survival	NC	NC	Very low incidence of <i>P. herbarum</i> Don Larsen to sample 300 smolts prior to release as part of a precocity study.	Fall PIT tagging instead of spring
Johnson Cr. (JohnCr)	Projected release is 110,500 which is 10.5% above release goal. Overage is due to above average on-station survival	NC	NC	NC	Fall PIT tagging instead of spring
Dollar Cr. Egg Box (SFSRSeg)	NC	NC			
<i>Pahsimeroi Fish Hatchery (SOP Section 2.5)</i>					
Pahsimeroi Weir Integrated (PahInt)	NC	NC	erythromycin medicated feed (2X)	Low prevalence of <i>Renibacterium</i> Don Larsen to sample 300 smolts prior to release as part of a precocity study.	PIT tagging occurred in September 2016 instead of spring 2017
Pahsimeroi Weir Segregated (PahSeg)	Projected release is 1,054,000 which is 12.7% above release goal. Overage is due to above average on-station survival	NC	erythromycin medicated feed (2X)	Low prevalence of <i>Renibacterium</i> Don Larsen to sample 300 smolts prior to release as part of a precocity study.	PIT tagging occurred in September 2016 instead of spring 2017

Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017		
	Release Target Smolt BY15, Egg BY17	Transport/Release Smolt BY15, Egg BY17	Fish Feeding BY15	Fish/Egg Health BY15	Marking BY15
Panther Cr. Egg Box (PahSeg)	NC	NC			
Pahsimeroi Weir Segregated (PahSeg) Reared at Sawtooth Hatchery	Release target was zero. Fish from Pahsimeroi were opportunistically reared at Sawtooth to fill open rearing space that was available because of high BKD culling at Sawtooth in 2015. Projected release is 118,441 smolts to be released at Pahsimeroi hatchery	NC	NC	NC	NC
<i>Sawtooth Fish Hatchery (SOP Sections 2.6 and 2.8)</i>					
Sawtooth Weir Integrated (USRInt)	Projected release is 119,040 which is 20.6% below release target due to high percentage of egg culling for BKD management	Half of smolts released at the traditional (weir) location and half released 19 Km upstream for survival comparison. Goal is to get Int. adults into underutilized habitat.	NC	Don Larsen to sample 300 smolts prior to release as part of a precocity study.	2,000 PITs will be used to evaluate juvenile survival from traditional and upriver release sites (1,000 tags for each site)
Sawtooth Weir Segregated (USRSeg)	Projected release is 1,112,910 which is 23.2% below release target due to high percentage of egg culling for BKD management	NC	NC	Don Larsen to sample 300 smolts prior to release as part of a precocity study.	PIT tagging occurred in September 2016 instead of spring 2017
Yankee Fork (USRSeg)	NC	NC	NC	NC	PIT tagging occurred in September 2016 instead of spring 2017

2.3. Trap Operations and Production Planning for 2017 (Smolt BY 2017)

2.3.1. Trap Operations and Production Planning for 2017 (Smolt BY 2017) – TOTALS

Table 2.3a. BY 2017 Sp/Su Chinook Smolt Production Goals for Release in 2019.

Hatchery	Release Site	Stock	2018 Smolt Release Goals
RRFH	Rapid River Hatchery	RapidR	2,500,000
	Little Salmon	RapidR	150,000
	Hells Canyon	RapidR	350,000
	Total		3,000,000
SFH	Sawtooth Weir - Integrated	USRInt	150,000
	Sawtooth Weir -Segregated	USRSeg	1,550,000
	Yankee Fork	USRSeg	300,000
	Total		2,000,000
PFH	Pahsimeroi Weir - Integrated	PahInt	65,000
	Pahsimeroi Weir - Segregated	PahSeg	935,000
	Total		1,000,000
McFH	SFSR Knox Br. - Integrated	SFSRInt	150,000
	SFSR Knox Br. - Segregated	SFSRSeg	850,000
	Johnson Creek	JohnCr	100,000
	Total		1,100,000
Grand Total			7,100,000

Table 2.3b. Sp/Su Chinook Egg Transfers used for BY 2017 Smolt Production (Release in 2019).

Origin	Transfer Site	Stock	Green Egg Goal	Smolt Release Goal
McFH/CFH ¹	Clearwater Fish Hatchery	SFSRSeg/CFH	600,000	600,000

¹ Brood for these eggs are not included in stated brood goals and will come from fish trapped in excess of brood needs for onsite smolt and egg box programs. Prioritization of excess fish between recycling to fisheries, Tribal C&S, foodbank outplants and green egg needs for the Clearwater Hatchery Summer Run Program will occur in-season between State and Tribal managers.

Table 2.3c. BY2017 SMOLTS -Chinook Spawning for BY 2017 - Based on Brood Calculator.

Green Egg Goal				Spawning Goal						Broodstock Trapping Goals by Brood Source																
Spawning Facility	Stock	Rearing Hatchery	Release Site	Green Egg Goal	Fecundity	Spawn Goal						Projected Returns					Trapping period	Trapping Goal ³								
						HORSeg ⁴		HORInt ⁵		NOR ⁶		LGD		Trap ¹				HORSeg ⁴		HORInt ⁵		NOR ⁶		Total		
						Female	Male	Female	Male	Female	Male	HORSeg ⁴	HORInt ⁵	NOR ⁶	HORInt ⁵	NOR ⁶		Dates	Female	Male	Female	Male	Female		Male	
RRFH	RapidR	RRFH	Rapid River Trap	3,879,991	3,845	1009	1009	0	0	0	0	15,809					March - September	947	947	0	0	0	0	1896		
			Little Salmon									672						N/A	56	56	0	0	0	0	0	114
			Hells Canyon Trap									1,940						May - July	133	133	0	0	0	0	0	266
SFH	USRInt	SFH	Sawtooth Weir - Int	185,805	4,800	0	0	4	4	33	33	0	717	669	523	206	May/June - Sept.	0	0	4	4	36	36	80		
	USRSeg	SFH	Sawtooth Weir - Seg	1,958,078	4,800	408	408	0	0	0	0	4,973						416	416	0	0	0	0	834		
			Yankee Fork	378,983	4,800	79	79	0	0	0	0							81	81	0	0	0	0	162		
PFH	PahInt	PFH	Pahsimeroi - Int	80,033	4,500	0	0	0	0	18	18	0	225	180	157	150	June - October	0	0	0	0	20	21	42		
	PahSeg	PFH	Pahsimeroi - Seg	1,279,168	4,500	284	284	0	0	0	0	707						334	334	0	0	0	0	670		
			SBT Eggbox - Panther Cr. ²			TBD	TBD	0	0	0	0	0							TBD	TBD	0	0	0	0	0	
SFSR	SFSRInt	McFH	SFSR - Int ⁷	207,453	4,500	0	0	4	4	44	44	0	1,236	557	766	240	June - September	0	0	6	5	46	47	104		
	SFSRSeg	McFH	SFSR - Seg ⁷	1,370,588	4,500	305	305	0	0	0	0	3,994						339	339	0	0	0	0	678		
			SBT Eggbox - Dollar Cr. ⁷	344,372	4,500	77	77	0	0	0	0	0							86	86	0	0	0	0	172	
			Clearwater Su Chinook ²	870,727	4,500	193	193	0	0	0	0	0	1,156						254	254	0	0	0	0	508	
	JohnCr	McFH	Johnson Creek	149,735	4,500	0	0	0	0	33	33	0	38	201					June - September	0	0	0	0	39	39	80

¹These trap projections are only for natural origin returns (NORs) and integrated hatchery origin fish (HORInt)

²Brood for these eggs are not included in stated brood goals and will come from fish trapped in excess of brood needs for onsite smolt and egg box programs. Prioritization of excess fish between recycling to fisheries, Tribal C&S, foodbank, outplants and green egg needs for the Clearwater Hatchery Summer Run Program will occur in-season between State and Tribal managers.

³Broodstock trapping need is dictated by number of females needed

⁴HORSeg: Adult Hatchery Origin fish that are progeny of a Segregated program

⁵HORInt: Adult Hatchery Origin fish that are progeny of an Integrated program

⁶NOR: Adult Natural Origin fish

⁷After fulfilling brood stock needs for integrated smolt production, prescribed sliding scale releases above weir to spawn, and segregated brood stock (up to 30%), eggs from integrated adults could be used to supply eggs for the egg box program.

Table 2.3d. BY2017 - Sp/Su Chinook Adult broodstock acquisition schedules for hatchery programs.

Date	Rapid River Fish Hatchery	Sawtooth Fish Hatchery			Pahsimeroi Fish Hatchery			South Fork Salmon River Weir			Johnson Creek Weir
	RapidR	USR			Pah			SFSR			JohnCr
		HORSeg	HORInt	NOR	HORSeg	HORInt	NOR	HORSeg	HORInt	NOR	NOR
2-May	15	0	0	0	0	0	0	0	0	0	0
9-May	22	0	0	0	0	0	0	0	0	0	0
16-May	42	0	0	0	0	0	0	0	0	0	0
23-May	94	0	0	0	0	0	0	0	0	0	0
30-May	179	0	0	0	0	0	0	0	0	0	0
6-Jun	315	0	0	0	0	0	0	0	0	0	0
13-Jun	515	39	1	5	2	0	5	4	0	0	2
20-Jun	875	119	2	18	52	0	13	39	0	0	4
27-Jun	1,320	299	3	33	202	0	23	98	1	12	10
4-Jul	1,759	537	4	44	340	0	27	195	3	39	22
11-Jul	2,003	677	5	50	434	0	30	293	5	63	32
18-Jul	2,110	765	6	55	495	0	33	425	7	75	37
25-Jul	2,176	826	6	60	506	0	33	469	8	82	41
1-Aug	2,238	847	6	66	538	0	33	548	9	89	43
8-Aug	2,254	856	6	69	566	0	36	625	9	91	51
15-Aug	2,266	896	6	72	580	0	37	704	10	91	63
22-Aug	2,272	955	7	72	598	0	38	764	11	93	73
29-Aug	2,276	986	8	72	605	0	39	783	11	93	78
5-Sep	2,276	996	8	72	621	0	42	850	11	93	80
12-Sep	2,276	996	8	72	645	0	42	850	11	93	80
19-Sep	2,276	996	8	72	662	0	42	850	11	93	80
26-Sep	2,276	996	8	72	670	0	42	850	11	93	80
Total	2,276	996	8	72	670	0	42	850	11	93	80
Forecasted	15,809	4,973	717	669	707	225	180	3,994	1,236	557	201

Table 2.3e. Sliding scales for integrated Chinook Salmon program management.

McCall Hatchery																
Current smolt target		150,000														
Individuals needed (m+f)		104														
pNOB Target		0.9														
Preseason NOR Forecast to Rack		240														
NOR Return to Weir	Program Size	NORs Released		# of NORs Held for		# of Int HORs		Max % of NORs	Max. pHOS	pNOB		pHOS		PNI		
50	124	150,000	30	74	20	50	666	695	40.00%	0.99	0.19	0.48	0.96	0.9	0.17	0.34
125	424	150,000	75	330	50	94	696	740	40.00%	0.99	0.48	0.9	0.9	0.69	0.35	0.57
425	699	150,000	331	605	94	94	271	495	25.00%	0.45	0.9	0.9	0.45	0.45	0.67	0.67
700	999	250,000	543	842	157	157	445	689	25.00%	0.45	0.9	0.9	0.45	0.45	0.67	0.67
1,000	1,299	500,000	687	986	313	313	370	531	35.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
1,300	1,999	1,000,000	674	1,373	626	626	363	739	50.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
2,000	3,000	1,000,000	1,374	2,374	626	626	740	1,278	35.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
Sawtooth Hatchery																
Current smolt target		150,000														
Individuals needed (m+f)		80														
pNOB Target		0.9														
Preseason NOR Forecast to Rack		206														
NOR Return to Weir	Program Size	NORs Released		# of NORs Held for		# of Int HORs Rel		Max % of NORs	Max. pHOS	pNOB		pHOS		PNI		
50	124	150,000	30	74	20	50	690	719	40.00%	0.99	0.25	0.62	0.96	0.91	0.21	0.41
125	349	150,000	75	277	50	72	720	742	40.00%	0.99	0.62	0.9	0.91	0.73	0.41	0.55
350	699	150,000	278	627	72	72	227	513	25.00%	0.45	0.9	0.9	0.45	0.45	0.67	0.67
700	999	250,000	580	879	120	120	474	719	25.00%	0.45	0.9	0.9	0.45	0.45	0.67	0.67
1,000	1,299	500,000	759	1,058	241	241	409	570	25.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
1,300	1,599	1,000,000	818	1,117	482	482	441	602	40.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
1,600	2,000	1,700,000	781	1,181	819	819	421	636	52.00%	0.35	0.9	0.9	0.35	0.35	0.72	0.72
Pahsimeroi Hatchery																
Current smolt target		65,000														
Individuals needed (m+f)		41														
pNOB Target		1														
Preseason NOR Forecast to Rack		150														
NOR Return to Weir	Program Size	NORs Released		# of NORs Held for		# of Int HORs Rel		Max % of NORs	Max. pHOS	pNOB		pHOS		PNI		
50	124	65,000	35	87	15	37	299	321	0.3	0.99	0.37	0.91	0.9	0.79	0.29	0.54
125	249	65,000	88	208	38	41	213	92	0.3	0.3	0.92	1	0.71	0.31	0.56	0.77
250	499	65,000	209	458	41	41	91	196	0.3	0.3	1	1	0.3	0.3	0.77	0.77
500	999	65,000	459	958	41	41	153	319	0.2	0.25	1	1	0.25	0.25	0.8	0.8
1,000	1,499	65,000	959	1,458	41	41	320	325	0.2	0.25	1	1	0.25	0.18	0.8	0.85
1,500	1,999	65,000	1,459	1,958	41	41	325	325	0.2	0.25	1	1	0.18	0.14	0.85	0.88
2,000	3,000	65,000	1,959	2,959	41	41	325	325	0.2	0.25	1	1	0.14	0.1	0.88	0.91

2.3.2. Trap Operations and Production Planning for 2017 (Smolts BY 2017) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

Juvenile/Egg Release Location	Plan for 2017 (BY 2017)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
<i>Rapid River Fish Hatchery and Hells Canyon Traps (SOP Section 2.2)</i>					
Rapid River Hatchery (RapidR)	NC	NC	NC	Will sample reused (second spawn) males for genetics.	NC
Little Salmon R. (RapidR)	NC	NC		SEE ABOVE	NC
Hells Canyon (RapidR)	NC	NC	NC	SEE ABOVE	NC
<i>South Fork Salmon River and Johnson Creek Weirs (SOP Sections 2.3 and 2.4)</i>					
Johnson Cr. (JohnCr)	NC	SEE BELOW	NC	NC	NC

Juvenile/Egg Release Location	Plan for 2017 (BY 2017)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
SFSR Knox Bridge Integrated (SFSRInt)	NC	We would like to equip the trap with an emergency pumpback system this year. Pumpback and supplemental O2 will commence when the threat of detrimental turbidity levels in the water supply become probable. Pumpback will require renting a diesel operated pump capable of recirculating 4.5cfs of water through all 3 ponds and the circular. The intake will be closed and supplemental oxygen will be added for the duration of the time the intake is closed. If it is determined that the sedimentation event will last longer than 48 hours or the water temperature is above 70F, the broodstock will then be released below the weir or transferred off site to Rapid River hatchery.	NC	NC	NC
SFSR Knox Bridge Segregated (SFSRSeg)	NC	SEE ABOVE		Reduce females spawned to get closer to release goal. (Depending on infrastructure improvements at MCFH).	NC
SBT Egg Box – Dollar Creek (SFSRSeg)	NC	SEE ABOVE	NC	NC	NC

Juvenile/Egg Release Location	Plan for 2017 (BY 2017)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
Clearwater Fish Hatchery Egg Transfer Segregated (SFSRSeg-CFH)	NC	Need to discuss	Need to discuss	Need to discuss	NC
<i>Pahsimeroi Fish Hatchery Trap (SOP Section 2.5)</i>					
Pahsimeroi Weir Integrated (PahInt)	Possible injections of erythromycin and/or Draxxin for fish released above weir	NC	NC	NC	NC
Pahsimeroi Weir Segregated (PahSeg)	Possible injections of erythromycin and/or Draxxin for fish released above weir	NC	NC	NC	NC
SBT Egg Box - Panther Creek (PahSeg)	Possible injections of erythromycin and/or Draxxin for fish released above weir	NC	NC	NC	NC
<i>Sawtooth Fish Hatchery (SOP Sections 2.6, 2.7 and 2.8)</i>					
East Fork Salmon River Weir (EFNat)	NC	NC	NC	NC	NC
Sawtooth Weir Integrated (USRInt)	NC	NC	NC	NC	NC
Sawtooth Weir Segregated (USRSeg)	NC	NC	1,550,000	NC	NC
Yankee Fork (USRSeg)	NC	NC	300,000	NC	NC

2.4. Early Rearing and Marking Plan for 2017 (Smolt BY 2016)

2.4.1. Early Rearing and Marking Plan for 2017 (Smolt BY 2016) – TOTALS

Table 2.4a. BY 2016 Sp/Su Chinook Salmon - Early Rearing Inventory for smolt releases in 2018 (including anticipated set out).

Rearing Hatchery	Stock	Inventory to Date		
		Date	Goal ¹	Actual
RRFH	RapidR		3,473,684	
SFH	USRSeg - onsite	1/31/2017	1,716,667	1,861,670
	USRSeg - YF	1/31/2017	332,258	316,566
	USRInt	1/31/2017	161,290	187,042
PFH	PahSeg	2/9/2017	1,071,354	1,033,826
	PahInt	2/9/2017	67,708	70,206
MFH	SFSRSeg	1/31/2017	1,182,048	984,430
	SFSRInt	1/31/2017	189,633	157,245
	JohnCr	1/31/2017	122,222	108,599

¹ Estimated fish needed in vats to reach eventual smolt release goals, based on brood calculator eyed egg needs

Table 2.4b. Sp/Su Chinook Projected Marking of BY 2016 juveniles to be marked in 2017 (released in 2018).

Hatchery	Release Site	Stock	Likely Marking Date(s)	Release Goals for 2018	Inventory to Date		Projected Release Number	Projected Marking				PIT Tags ¹				
					Date	Number		Adipose Fin Clip		No Clip		Total # Tags	Funding Source			
								No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	BPA
RRFH	Rapid River Hatchery	RapidR	6/12 - 6/27	2,500,000	1/31/2017	3,245,000	2,500,000	120,000	-	-	52,000	32,000	0	20,000	0	
	Little Salmon	RapidR	6/12 - 6/27	150,000			350,000	2,880,000	-	-	-	-	0	0	0	0
	Hells Canyon	RapidR	6/12 - 6/27	350,000			150,000	150,000	-	-	-	-	0	0	0	0
Totals				3,000,000		3,245,000	2,880,000	120,000	-	-	52,000	32,000	-	20,000	-	
SFH	Sawtooth Weir - Integrated ²	USRInt	5/10 - 5/20	150,000	1/31/2017	187,042	178,812	-	-	150,000	-	1,000	0	1,000	0	0
	Sawtooth Weir - Segregated	USRSeg	5/10 - 5/20	1,550,000	1/31/2017	1,861,670	1,779,757	1,430,000	120,000	-	-	18,900	5,700	13,200	0	0
	Yankee Fork	USRSeg	5/10 - 5/20	300,000	1/31/2017	316,566	302,637	180,000	120,000	-	-	2,500	700	1,800	0	0
Totals				2,000,000		2,365,278	1,610,000	240,000	150,000	-	22,400	6,400	16,000	-	-	
PFH	Pahsimeroi Weir - Integrated ²	PahInt	5/10 - 5/16	65,000	2/9/2017	70,206	66,696	-	-	65,000	-	1,000	0	0	1,000	0
	Pahsimeroi Weir - Segregated	PahSeg	5/10 - 5/16	935,000	2/9/2017	1,033,826	982,135	815,000	120,000	-	-	21,400	6,400	0	15,000	0
Totals				1,000,000		1,104,032	815,000	120,000	65,000	-	22,400	6,400	-	16,000	-	
McFH	SFSR Knox Br. - Integrated ²	SFSRInt	7/5/2017	150,000	1/31/2017	157,245	152,528	-	-	157,245	-	26,000	26,000	0	0	0
	SFSR Knox Br. - Segregated	SFSRSeg	6/5 & 7/5/2017	850,000	1/31/2017	984,430	946,730	826,730	120,000	-	-	26,000	6,000	20,000	0	0
	Johnson Creek	JohnCr	CWT July 2017 PIT Oct 2017	100,000	1/31/2017	108,599	105,342	-	-	108,599	-	2,100	0	0	0	2,100
Totals				1,100,000		1,250,274	826,730	120,000	265,844	-	54,100	32,000	20,000	-	2,100	
Grand Totals				7,100,000		7,964,584	6,131,730	600,000	480,844	-	150,900	76,800	36,000	36,000	2,100	

¹ PIT Tagging occurs in fall 2017

² See AOP text (2.4.2. Early Rearing and Marking Plan section) for explanation of reduction in integrated program size and marking/release plan

2.4.2. Early Rearing and Marking Plan for 2017 (Smolt BY 2016) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Juvenile Fish Health** - observed fish health issues, what action was taken and how was the treatment implemented, anticipated changes to normal fish health sampling or treatments
- **Fish feeding** - changes of diets of feed manufacturer, growth regimes etc.
- **Rearing conditions** - incubation, water temp, flow, rearing density changes
- **Marking** - e.g. schedule changes, planned changes to fish handling or movement, marking schedule, raceway loading for PBT etc.
- **Meets Release Target** - . If projected marking lines up with the current inventory, then no comment is needed at this bullet (enter NC). If current inventory is 10% above or below the projected numbers, provide the projected release, % above/below then explain why.

Release Location	Plan for 2017 (BY 2016)				
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking	Meets Release Target
<i>Rapid River Fish Hatchery (SOP Section 2.2)</i>					
Rapid River Hatchery (RapidR)	NC	NC	NC	NC	NC
Little Salmon R. (RapidR)					
Hells Canyon (RapidR)					
<i>McCall Fish Hatchery (SOP Section 2.3 and 2.4)</i>					
Johnson Cr. (JohnCr)	NC	NC	NC	Fall PIT tagging	NC
Knox Bridge Integrated (SFSRInt)	NC	NC	NC	NC	NC
Knox Bridge Segregated (SFSRSeg)	NC	NC	NC	NC	We are running ~10% long on inventory.

Release Location	Plan for 2017 (BY 2016)				
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking	Meets Release Target
<i>Pahsimeroi Fish Hatchery (SOP Section 2.5)</i>					
Pahsimeroi Ponds Integrated (PahInt)	NC	erythromycin medicated feed (2X)	NC	NC	NC
Pahsimeroi Ponds Segregated (PahSeg)	NC	erythromycin medicated feed (2X)	NC	NC	NC
<i>Sawtooth Fish Hatchery (SOP Sections 2.6 and 2.8)</i>					
Sawtooth Weir Integrated (USRInt)	NC				
Sawtooth Weir Segregated (USRSeg)	NC				
Yankee Fork (USRSeg)	NC				

3. Fall Chinook

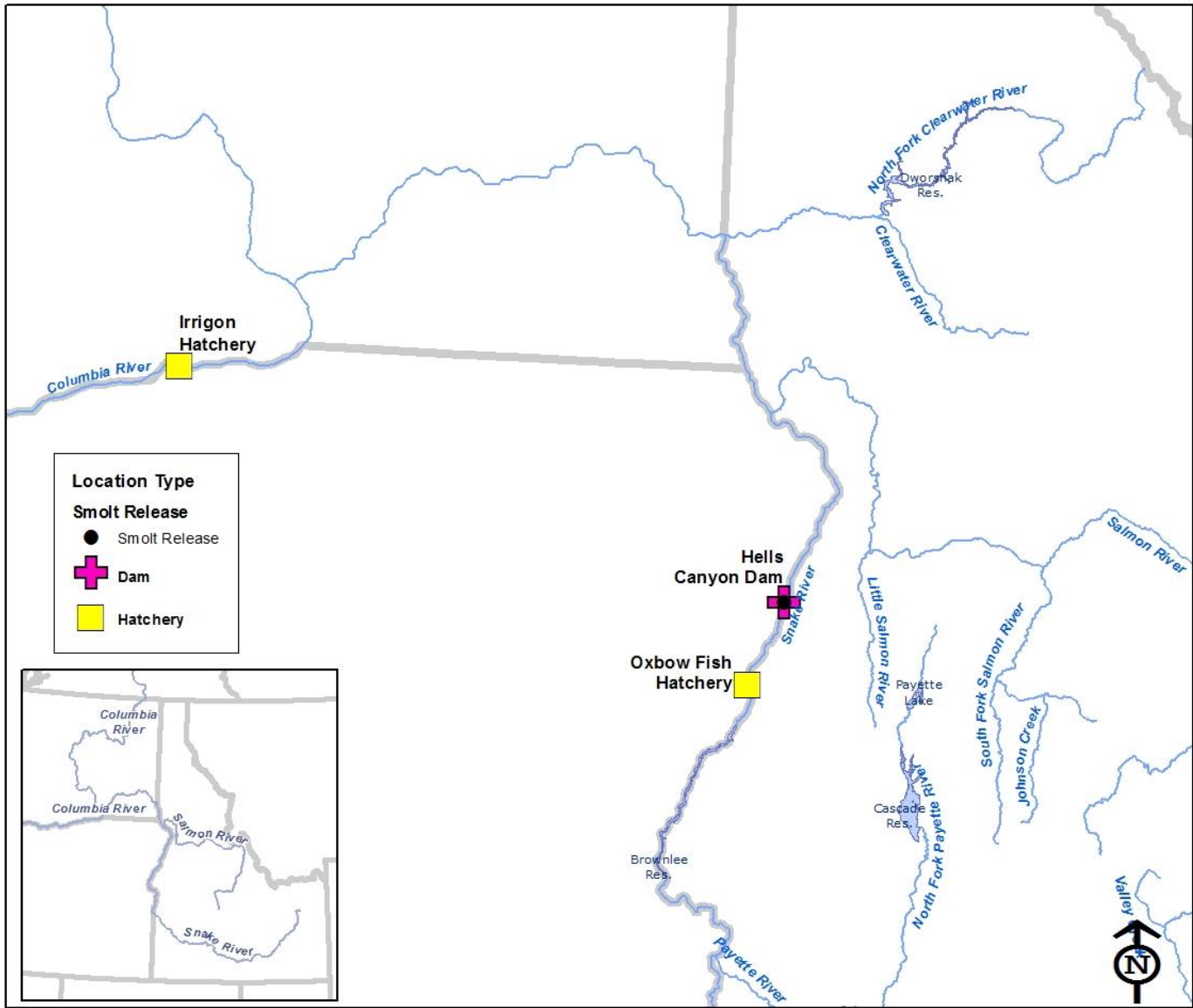


Figure 3.1. Fall Chinook Salmon facilities and smolt release locations.

Table 3.1. Fall Chinook Release Goals.

Hatchery	Release Site	Release Goals
Oxbow	Hells Canyon	NA
Irrigon	Hells Canyon	1,000,000

3.1. Releases in 2017 (Sub-Yearling BY 2016)

3.1.1. Releases in 2017 (Sub-Yearling BY 2016) – Totals

Table 3.2a. BY2016 Fall Chinook Sub-yearling Marking and Releases in 2017.

Hatchery	Release Site	Likely Release Date	Release Goals	Projected Actual Releases					
				Total	Adipose Fin Clip		No Clip		PIT Tag
					No CWT	CWT	CWT	No CWT	
Oxbow	Hells Canyon	N/A	-	-	-	-	-	-	-
Irrigon	Hells Canyon	5/15-5/19	1,000,000	1,000,000	800,000	200,000	-	-	3,000

3.1.2. Releases in 2017 (Sub-Yearling BY 2016) - Narrative

Here are examples of things managers talk about for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for "No Change".

- **Smolt Release Targets**- e.g. Were you below goal? Was you size at release different than SOP target? Did you depart from the mark plan?
- **Fish Health**- any epizootic history, anti-biotic treatments, was production culled at any point
- **Transportation/Releases**- e.g. timing, trucking issues, site access etc.

Location	Smolt Release Target	Fish Health	Transportation/Releases
<i>Oxbow Fish Hatchery (IDFG) (SOP Section 3.1)</i>			
Hells Canyon Dam Release	NC	NC	NC

3.2. Trap Operations and Production Planning for 2017 (Sub-Yearling BY 2017)

Refer to Lyons Ferry AOP

3.3. Marking and Rearing Plan for 2017 (Sub-Yearling BY 2016)

Refer to Lyons Ferry AOP

4. Sockeye

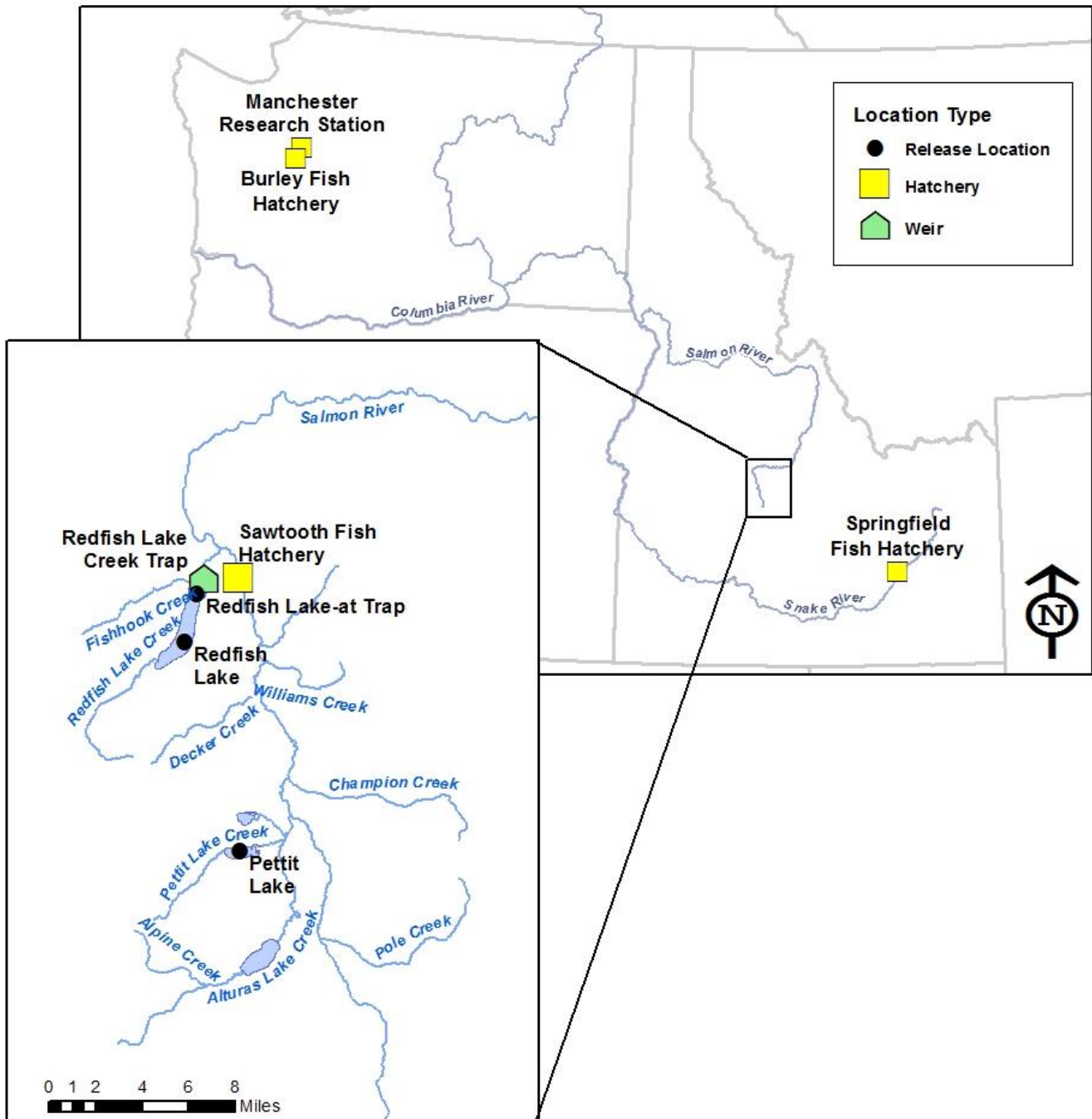


Figure 4.1. Sockeye salmon traps, hatchery facilities, and smolt and adult release locations.

Table 4.1. Sockeye Release Goals.

Rearing Facility	Release Site	Parent Stock	2017 Smolt Release Goal (BY 2015)
Oxbow	Redfish Lake Cr.	Snake R.	0
Sawtooth	Redfish Lake Cr.	Snake R.	0
Springfield	Redfish Lake Cr.	Snake R.	734,200
Grand Total			734,200

Rearing Facility	Release Site	Parent Stock	Brood Year	2017 Captive-Reared Minimum Adult Release Goal ¹
NOAA - Burley Creek	Redfish Lake	Snake R.	2012	10
	Redfish Lake	Snake R.	2013	50
	Redfish Lake	Snake R.	2014	300
	Pettit Lake	Snake R.	2014	100
Total				460
Eagle Fish Hatchery	Redfish Lake	Snake R.	2013	5
	Redfish Lake	Snake R.	2014	300
Total				305
Grand Total				765

¹ The 2017 release target is for 665 adult sockeye to Redfish Lake and 100 adult sockeye to Pettit Lake. This can be made up of anadromous returns, Captive Broodstock from Eagle, and Captive Broodstock from Burley Creek.

4.1. Timeline and Flowchart for Sockeye Salmon Production

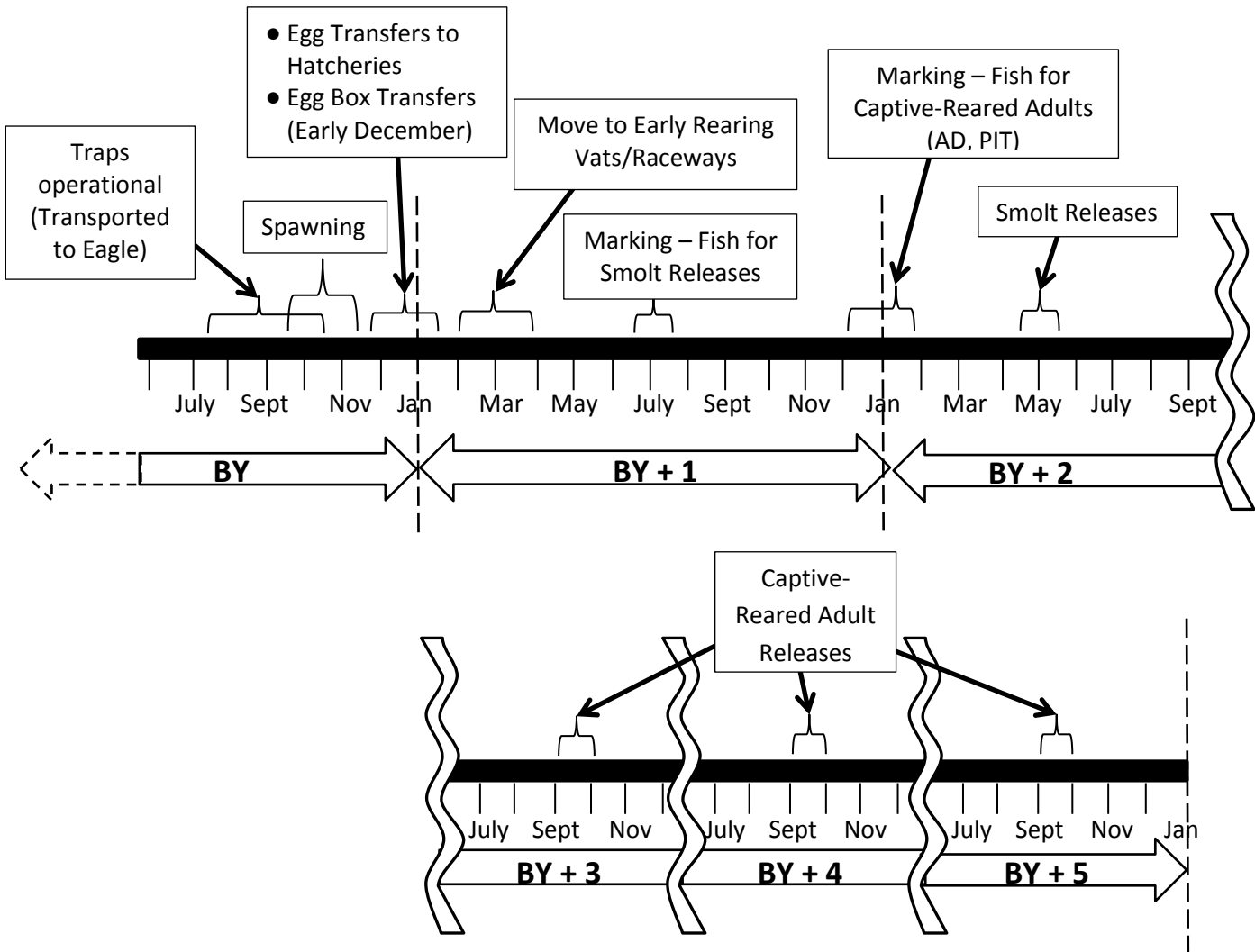


Figure 4.2. Timeline for Sockeye Salmon production. Date ranges are shown to include all facilities' operations.

Sockeye

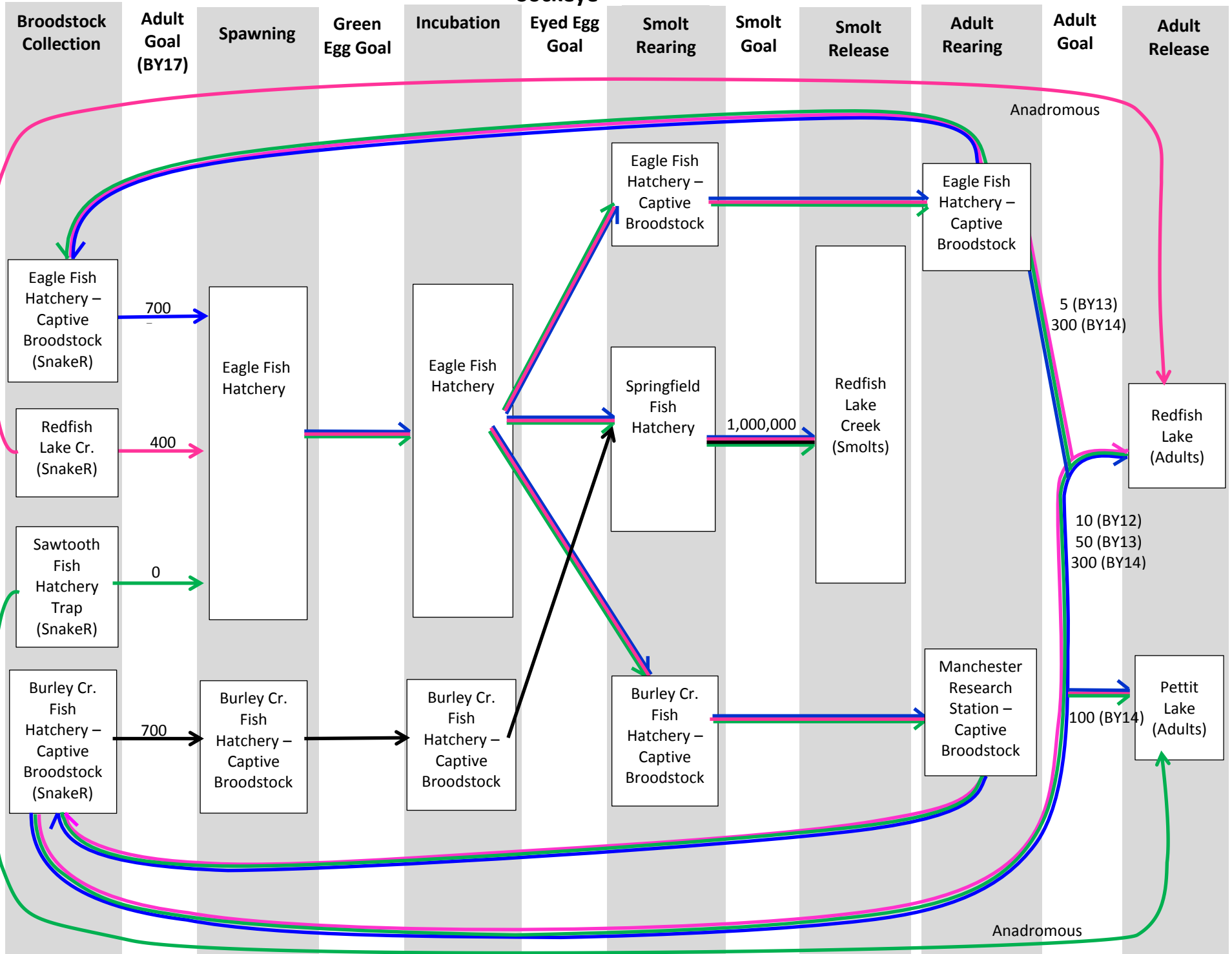


Figure 4.3. Fish and Egg movements for Sockeye

4.2. Releases in 2017 (Smolt BY15, Captive Adult BY14, BY13, BY12)

4.2.1. Releases in 2017 (Smolt BY15, Captive Adult BY14, BY13, BY12) – Totals

Table 4.2a. Sockeye Captive-Reared Adult Releases in 2017.

Hatchery	Brood year	Release Site	Stock	Likely Release Date	Adult Release Goals ¹
NOAA - Burley Creek	2012	Redfish Lake	Snake R.	9/13	10
	2013	Redfish Lake	Snake R.	9/13	50
	2014	Redfish Lake	Snake R.	9/13	300
	2014	Pettit Lake	Snake R.	9/13	100
Total					460
Eagle	2013	Redfish Lake	Snake R.	9/13	5
	2014	Redfish Lake	Snake R.	9/13	300
Total					305
Grand Total					765

¹ All adults will receive a PIT tag prior to release

Table 4.2b. BY 2015 Sockeye Smolt Releases in 2017.

Hatchery	Release Site	Stock	Likely Release Date	Release Goals	Projected Actual Releases				PIT Tags			
					Total	Adipose Fin Clip		No Clip		Total # Tags	Funding Source	
						No CWT	CWT	CWT	No CWT		CSS	BPA
Oxbow	Redfish Lake Cr.	Snake R.		0	0	0				0		
Sawtooth	Redfish Lake Cr.	Snake R.		0	0	0				0		
Springfield	Redfish Lake Cr.	Snake R.		734,200	734,200	734,200				49,993	39,793	10,200
Grand Total				734,200	734,200	734,200	0	0	0	49,993	39,793	10,200

4.2.2. Releases in 2017 (Smolt BY15, Captive Adult BY14, BY13, BY12) – Narrative

Here are examples of things managers talk about for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Smolt/Egg Release Targets-** e.g. Were you below goal? Was you size at release different than SOP target? Did you depart from the mark plan?
- **Fish/Egg Health-** any epizootic history, anti-biotic treatments, was production culled at any point
- **Transportation/Releases-** e.g. timing, trucking issues, site access etc

Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017
	Release Target Smolt BY15, Adult BY14, BY13, BY12	Transport/Release Smolt BY15, Adult BY14, BY13, BY12	Fish/Egg Health BY15, BY14, BY13, BY12
<i>Eagle Fish Hatchery (SOP Section 4.3)</i>			
Redfish Lake – Adult Releases (SnakeR)	NC	NC	NC
Alturas Lake – Egg Releases (SnakeR)	NC	NC	NC
<i>Burley Creek Fish Hatchery (NOAA) (SOP Section 4.3)</i>			
Redfish Lake – Adult Releases (SnakeR)	NC	NC	NC
Redfish Lake – Smolt Releases (SnakeR)	NC	NC	NC
<i>Oxbow Fish Hatchery –OR (SOP Section 4.4)</i>			
Redfish Lake – Smolt Releases (SnakeR)	No releases from Oxbow.	No releases from Oxbow.	No releases from Oxbow.

Location	Plan for 2017		Changes/Conditions that Occurred 2016-Early 2017
	Release Target Smolt BY15, Adult BY14, BY13, BY12	Transport/Release Smolt BY15, Adult BY14, BY13, BY12	Fish/Egg Health BY15, BY14, BY13, BY12
<i>Springfield Fish Hatchery (SOP Section 4.6)</i>			
Redfish Lake – Smolt Releases (SnakeR)	NC	Initially as Springfield FH ramped up to full production, the target release date would be the first two weeks of May. An earlier start date is needed to ensure all releases occur before mid-May. The start date for releases will begin the mid to late April. Smolt release time frame to begin April 17, 2017 and ending when all smolts are liberated. Five agency transport units/drivers will be utilized. A new release site was developed approximately 200 yards below the existing smolt out-migration weir at RFLCRK.	NC

4.3. Trap Operations and Production Planning for 2017 (BY 2017 for Smolt and Captive Adult Programs)

4.3.1. Trap Operations and Production Planning for 2017 (BY 2017 for Smolt and Captive Adult Programs) – TOTALS

Table 4.3a. Sockeye Spawning for BY 2017.

Site	Stock	Forecast return	Trapping period	Broodstock Need				
				M:F Ratio	Female	Male	Total	Max Jack %
Redfish Lake Creek	Snake R.	780	7/15 - 10/15	1:1	120	120	240	2
Sawtooth	Snake R.	20	7/15 - 9/15	1:1	5	5	10	0
Eagle FH	Snake R.	1,200	NA	1:1	400	400	800	10
Burley Creek	Snake R.	1,300	NA	1:1	400	400	800	0
Grand Total		3300			925	925	1850	12

Note: Broodstock needs are estimates based on anadromous run forecast. Proportion of anadromous and captive broodstocks may be adjusted realtime based on actual number of anadromous Sockeye trapped.

4.3.2. Trap Operations and Production Planning for 2017 (BY 2017 for Smolt and Captive Adult Programs) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

	Plan for 2017 (BY 2017)					
Location	Adult Fish Health	Trap Ops	Forecast Returns	Broodstock Needs	Spawning protocol changes	Disposition of adults
<i>Eagle Fish Hatchery (SOP Section 4.3)</i>						
Eagle FH Captive Broodstock (SnakeR)	NC	NC	NC	NC	NC	NC
<i>Burley Creek Fish Hatchery (SOP Section 4.3)</i>						
Burley Cr. FH Captive Broodstock (SnakeR)	NC	NC	NC	NC	NC	NC
<i>Sawtooth Fish Hatchery (SOP Sections 4.2 and 4.5)</i>						
Redfish Lake Creek (SnakeR)	NC	The Redfish Lake Creek Trap is scheduled to be rebuilt in 2017, a temporary trapping location has been identified below the outlet of Little Redfish Lake at the Chinook Bay campground.	NC	NC	NC	NC
Sawtooth Trap (SnakeR)	NC	NC	NC	NC	NC	NC

4.4. Marking and Rearing Plan for 2017 (Smolt BY 2016)

4.4.1. Marking and Rearing Plan for 2017 (Smolt BY 2016)– TOTALS

Table 4.4a. BY 2016 Sockeye Marking in 2017.

Hatchery	Release Site	Stock	Likely Release Date	Release Goals for 2018	Projected Actual Releases				PIT Tags			
					Total	Adipose Fin Clip		No Clip		Total # Tags	Funding Source	
						No CWT	CWT	CWT	No CWT		CSS	BPA
Oxbow	Redfish Lake Cr.	Snake R.	NA	0	0					0		
Sawtooth	Redfish Lake Cr.	Snake R.	NA	0	0					0		
Springfield	Redfish Lake Cr.	Snake R.	4/17 - 5/5	882,000	882,000	882,000				50,000	39,800	10,200
Grand Total				882,000	882,000	882,000	0	0	0	50,000	39,800	10,200

4.4.2. Marking and Rearing Plan for 2017 (Smolt BY 2016) – NARRATIVE

Here are examples of things managers were instructed to discuss for each release group, if there are departures from the norm (i.e., SOP). If no departure from the norm, enter NC for “No Change”.

- **Fish Health** - anticipated changes to normal fish health sampling or treatments
- **Fish feeding** - changes of diets of feed manufacturer, growth regimes etc.
- **Rearing conditions** - incubation, water temp, flow, rearing density changes
- **Marking** - e.g. schedule changes, planned changes to fish handling or movement, marking schedule, raceway loading for PBT etc.

Location	Fish Health	Fish Feeding	Rearing Conditions	Marking
<i>Oxbow Fish Hatchery – OR (SOP Section 4.4)</i>				
Oxbow (SnakeR)	Smolts no longer reared at Oxbow.	Smolts no longer reared at Oxbow.	Smolts no longer reared at Oxbow.	Smolts no longer reared at Oxbow.
<i>Springfield Fish Hatchery (SOP Section 4.6)</i>				
Springfield (SnakeR)	NC	NC	NC	NC

Appendix 2.1. BY2017 Brood Calculator

PROGRAM INPUTS							HISTORICAL HATCHERY PERFORMANCE METRICS (5-YR AVG)							FORM CALCULATED VALUES									
SPECIES	HATCHERY	RELEASE SITE	STOCK	PREFERRED TRAPPING SITE	FORMAL RELEASE GOAL (C)	COMANAGER APPROVED CUSHION % ¹ (D)	% FEMALES IN BROODSTOCK (E)	% MORTALITY DURING HOLDING (F)	GREEN EGG FECUNDITY (G)	% SURVIVAL AFTER DISEASE CULLING ² (H)	% SURVIVAL GREEN TO EYED EGG (I)	% SURVIVAL EYED EGG TO RELEASE (J)	RELEASE GOAL WITH CUSHION (K)	EYED EGGS (L)	GREEN EGGS (N)	GREEN EGGS BEFORE DISEASE CULL (M)	FEMALES SPAWNED (O)	MALES SPAWNED (P)	TOTAL ADULTS SPAWNED (Q)	TRAPPED ADULTS NEEDED (R)	ADULTS TRAPPED TO MEET 1:1 RATIO (S)	SMOLTS PER TRAPPED ADULTS NEEDED (T)	
STLHD	HNFH	Sawtooth Weir	SawA	SFH	1,410,000	6.00%	50%	0.00%	5,000	100.00%	94.60%	90.70%	1,500,000	1,653,804	1,748,207	1,748,207	350	350	700	700	700	2,143	
		Sawtooth Weir (RAS Eval)	SawA	SFH	90,000	6.00%	50%	0.00%	5,000	100.00%	94.60%	90.70%	95,745	105,562	111,588	111,588	22	22	44	44	44	2,176	
		Salmon R. - McNabb Pt.			0	0.00%	0%	0.00%	0	0.00%	0.00%	0.00%	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
		E. Fork Salmon R. - Upper	EFNat	EFRSF	60,000	10.00%	50%	0.00%	6,252	100.00%	88.00%	88.90%	66,667	74,991	85,217	85,217	14	14	28	28	28	2,381	
	MVFH	Sawtooth Weir	SawA	SFH	279,000	6.00%	50%	0.00%	5,000	100.00%	94.60%	84.00%	296,809	353,343	373,513	373,513	75	75	150	150	150	1,979	
		Little Salmon R. - Stinky Sp.	PahA	PFH	186,000	10.00%	50%	0.00%	4,800	100.00%	93.00%	84.00%	206,667	246,032	264,550	264,550	55	55	110	110	110	1,879	
		Pahsimeroi Weir	USRB	PFH	155,000	0.00%	60%	5.00%	6,200	100.00%	90.00%	84.00%	155,000	184,524	205,026	205,026	33	22	55	58	72.5	2,672	
		Pahsimeroi Weir	DworB	DNFH	93,000	10.00%	67%	0.00%	6,681	100.00%	84.00%	84.00%	103,333	123,016	146,447	146,447	22	11	33	34	52	3,039	
		Yankee Fork	USRB (DworB)	YFT	620,000	0.00%	60%	5.00%	6,200	100.00%	90.00%	84.00%	620,000	738,095	820,106	820,106	132	88	220	232	290	2,672	
	NSFH	Little Salmon - Stinky Sp.	USRB	YFT	217,000	0.00%	60%	5.00%	6,200	100.00%	90.00%	84.00%	217,000	258,333	287,037	287,037	46	31	77	82	103	2,646	
		Pahsimeroi Weir	PahA	PFH	800,000	10.00%	50%	0.00%	4,800	100.00%	93.00%	90.00%	888,889	987,654	1,061,994	1,061,994	221	221	442	442	442	2,011	
		Little Salmon R. - Stinky Sp.	PahA	PFH	200,000	10.00%	50%	0.00%	4,800	100.00%	93.00%	90.00%	222,222	246,914	265,498	265,498	55	55	110	110	110	2,020	
		Little Salmon R. - Stinky Sp.	OxbA	HCT	250,000	20.00%	50%	25.00%	5,500	96.00%	83.00%	97.00%	312,500	322,165	388,151	404,323	74	74	148	198	198	1,578	
		Snake R. Hells Canyon	OxbA	HCT	550,000	20.00%	50%	25.00%	5,500	96.00%	83.00%	97.00%	687,500	708,763	853,931	889,512	162	162	324	432	432	1,591	
SP/SU CHIN	RRFH	Rapid River Hatchery	RapidR	RRFH	2,500,000	10.00%	50%	11.22%	3,845	95.30%	94.10%	95.80%	2,777,778	2,899,559	3,081,359	3,233,326	841	841	1682	1896	1896	1,465	
		Little Salmon	RapidR	RRFH	150,000	10.00%	50%	11.22%	3,845	95.30%	94.10%	95.80%	166,667	173,974	184,882	194,000	50	50	100	114	114	1,462	
		Hells Canyon	RapidR	RRFH	350,000	10.00%	50%	11.22%	3,845	95.30%	94.10%	95.80%	388,889	405,938	431,390	452,666	118	118	236	266	266	1,462	
	SFH	Sawtooth Weir - Integrated	USRInt	SFH	150,000	0.00%	50%	2.00%	4,800	97.50%	90.00%	92.00%	150,000	163,043	181,159	185,805	39	39	78	80	80	1,875	
		Sawtooth Weir - Segregated	USRSeg	SFH	1,550,000	3.00%	50%	2.00%	4,800	97.50%	90.00%	93.00%	1,597,938	1,718,213	1,909,126	1,958,078	408	408	816	834	834	1,916	
	PFH	Yankee Fork	USRSeg	SFH	300,000	3.00%	50%	2.00%	4,800	97.50%	90.00%	93.00%	309,278	332,557	369,508	378,983	79	79	158	162	162	1,909	
		Pahsimeroi Weir - Integrated	PahInt	PFH	65,000	0.00%	50%	14.00%	4,500	94.00%	90.00%	96.00%	65,000	67,708	75,231	80,033	18	18	36	42	42	1,548	
	McFH	Pahsimeroi Weir - Segregated	PahSeg	PFH	935,000	10.00%	50%	15.00%	4,500	94.00%	90.00%	96.00%	1,038,889	1,082,176	1,202,418	1,279,168	284	284	568	670	670	1,551	
		SFSR Knox Br. - Integrated	SFSRInt	SFSRW	150,000	0.00%	50%	10.00%	4,500	95.00%	91.70%	83.00%	150,000	180,723	197,081	207,453	46	46	92	104	104	1,442	
		SFSR Knox Br. - Segregated	SFSRSeg	SFSRW	850,000	10.00%	50%	10.00%	4,500	95.00%	91.70%	79.10%	944,444	1,193,988	1,302,059	1,370,588	305	305	610	678	678	1,393	
		SBT Dollar Creek Egg Box	SFSRSeg	SFSRW	NA	10.00%	50%	10.00%	4,500	95.00%	91.70%	NA	300,000	327,154	344,372	77	77	154	172	172	0		
		Johnson Creek	Johnson Cr.	JCW	100,000	10.00%	50%	16.00%	4,500	97.00%	85.00%	90.00%	111,111	123,457	145,243	149,735	33	33	66	80	80	1,389	
			CW Sum Chinook - Powell Ponds	SFSRSeg	SFSRW	600,000	0.00%	50%	24.00%	4,500	95.00%	91.70%	79.10%	600,000	758,534	827,190	870,727	193	193	386	508	508	1,181
FALL CHIN	NPTH	Hells Canyon			1,000,000								1,000,000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
		NPTH	Snake R.	LGD,NPTH	500,000																		
		Cedar Flats	Snake R.	LGD,NPTH	200,000	10.00%	50.00%	18.00%	4,028	98.00%	89.00%	96.00%	1,555,556	1,620,370	1,820,641	1,857,797	461	461	922	1,126	1,126	1,381	
		Lukes Gulch	Snake R.	LGD,NPTH	200,000																		
		North Lapwai Valley	Snake R.	LGD,NPTH	500,000																		
SOCKEYE	SpFH	Redfish Lake Creek	Redfish Lake	RFLC	240,000	10.00%	50.00%	1.00%	2,500	99.00%	90.00%	85.00%	266,667	313,725	348,584	352,105	141	141	282	286	286	932	
		Redfish Lake Creek	Redfish Lake	EFH CB	400,000	10.00%	50.00%	3.00%	1,600	100.00%	80.00%	85.00%	444,444	522,876	653,595	653,595	408	408	816	842	842	528	
		Redfish Lake Creek	Redfish Lake	NOAA CB	360,000	10.00%	50.00%	3.00%	1,800	100.00%	75.00%	85.00%	400,000	470,588	627,451	627,451	349	349	698	720	720	556	
CELL FORMULAS													C/(1-D)	K/(J)	L/(I)	M/(H)	ROUND (N/O) = P	O+P	O+P	EVEN (Q/(R/2))/(1-E)/K/R			

PROGRAM INPUTS							HISTORICAL HATCHERY PERFORMANCE METRICS (5-YR AVG)							FORM CALCULATED VALUES								
SPECIES	HATCHERY	RELEASE SITE	STOCK	PREFERRED TRAPPING SITE	FORMAL RELEASE GOAL (C)	COMANAGER APPROVED CUSHION % ¹ (D)	% FEMALES IN BROODSTOCK (E)	% MORTALITY DURING HOLDING (F)	GREEN EGG FECUNDITY (G)	% SURVIVAL AFTER DISEASE CULLING ² (H)	% SURVIVAL GREEN TO EYED EGG (I)	% SURVIVAL EYED EGG TO RELEASE (J)	RELEASE GOAL WITH CUSHION (K)	EYED EGGS (L)	GREEN EGGS (N)	GREEN EGGS BEFORE DISEASE CULL (M)	FEMALES SPAWNED (O)	MALES SPAWNED (P)	TOTAL ADULTS SPAWNED (Q)	TRAPPED ADULTS NEEDED (R)	ADULTS TRAPPED TO MEET 1:1 RATIO (S)	SMOLTS PER TRAPPED ADULTS NEEDED (T)
STHD	SFH	Yankee Fork - EGG BOX	USRB (DworB)	PFH	500,000	10%	50%	0.05	6,200	100.00%	90.00%		550,000	550,000	611,111	611,111	99	99	198	210	210	2,619
		Panther Creek - EGG BOX	PahA	PFH	400,000	10%	50%	0.00%	4,800	100.00%	91.70%		440,000	440,000	479,826	479,826	100	100	200	200	200	2,200
		Indian Creek - EGG BOX	PahA	PFH	100,000	10%	50%	0.00%	4,800	100.00%	91.70%		110,000	110,000	119,956	119,956	25	25	50	50	50	2,200
SP/SU CHIN	PFH	Panther Creek - EGG BOX	PahSeg	PFH	800,000	10%	50%	24.00%	4,500	95%	91.70%		888,889	888,889	969,345	1,020,363	227	227	454	598	598	1,486
	McFH	Dollar Creek - EGG BOX	SFSRSeg	McFH	300,000	10%	50%	24.00%	4,500	95%	91.70%		333,333	333,333	363,504	382,636	85	85	170	224	224	1,488

¹ In the 2013 AOP process, the co-managers approved a 10% cushion to meet release targets

² Culling of eggs for BKD, IHN, etc.