

**Calendar Year 2023
Annual Operation Plan
for
Salmon and Steelhead
Production Programs
in the
Salmon and Snake River Basins**

Prepared by

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0. Preamble

The Annual Operating Plan (AOP) meeting and AOP/SOP documents are planning, coordination and logistics tools that identify the expected implementation of a number of hatchery operation and research/monitoring activities for the coming year in a transparent, open manner.

It is the responsibility of all AOP parties to participate in AOP meetings, provide follow up information and assistance as requested or needed, and work in good faith to complete the AOP document within the timeframe agreed upon at the AOP coordination meeting. A finalized electronic version of the AOP will be available to all cooperating agencies and serve as the working version of the document.

If a disputed or incomplete item is identified at the AOP meeting and persists to the end of the agreed completion timeframe for finalizing the AOP documents, the AOP will be finalized without the disputed or incomplete section. However, parties to the dispute will add a placeholder in the document, so they can work toward resolution.

After the AOP is finalized, and based on unforeseen or unanticipated circumstances (e.g., lower than expected returns, loss of production, infrastructure issues as examples), changes or deviations from the AOP may be warranted. In those cases, there is an expectation that the lead agency that has identified the issue will communicate with the appropriate AOP parties, through the weekly coordination calls or by email, so they can work collaboratively to address it and/or work towards resolution. Implemented changes should be documented in writing by the lead agency and communicated, to ensure transparency and as documentation of the change. These changes should also be captured in various year-end reports.

1. Summer Steelhead

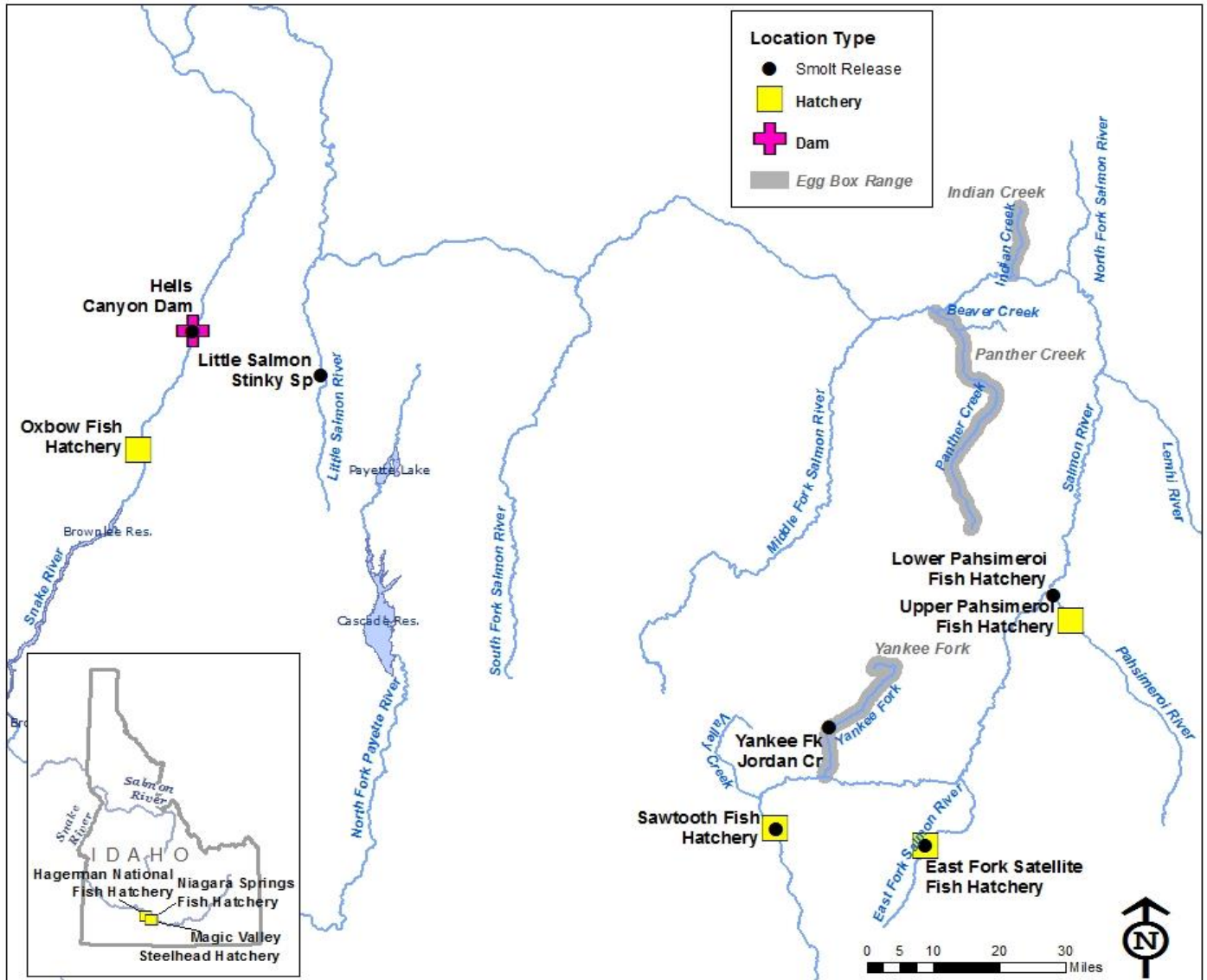


Figure 1.1. Steelhead facilities, smolt releases and egg box locations.

Table 1.1. Steelhead Release Goals.

Smolt Release Program	Rearing Facility	Release Site	Parent Stock	BY 2022 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	Sawtooth Weir	SawA	279,000	
	MVFH	Little Salmon R. - Stinky Sp.	PahA/SawA	186,000	
	MVFH	Pahsimeroi Weir ¹	USRB	248,000	
	MVFH	Pahsimeroi Weir	DworB	93,000	
	MVFH	Yankee Fork ¹	USRB/DworB	527,000	
	MVFH	Little Salmon - Stinky Sp. ²	USRB/DworB	217,000	
Total				1,550,000	
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				4,910,000	

Egg Box Program	Hatchery Egg Source	Egg Box Site	Parent Stock	Egg Box BY2023 Outplant Goals
SBT	PFH	Yankee Fork	SawA/USRB ¹	500,000
		Panther Creek ²	PahA	300,000
		Indian Creek ²	PahA	200,000
		Total		1,000,000

¹ SawA or USRB eggs will be used for the SBT egg box program in the Yankee Fork

² Due to low water in Panther Creek (i.e., Beaver Creek) over the past several years, the SBT proposes to reduce Panther Creek goal to 300k and increase Indian Creek goal to 200k until a more suitable site for egg incubation is found.

¹ Release goals for the USRB stock were changed in June of 2019 to shift 96,000 unclipped smolts from the Yankee Fork release group to the Pahsimeroi release group in an effort to increase future adult returns to the weir.

² Goal was to use USRB/DworB, but due to broodstock shortage this program was filled with PahA stock

1.1. Timeline and Flowchart for Steelhead Production

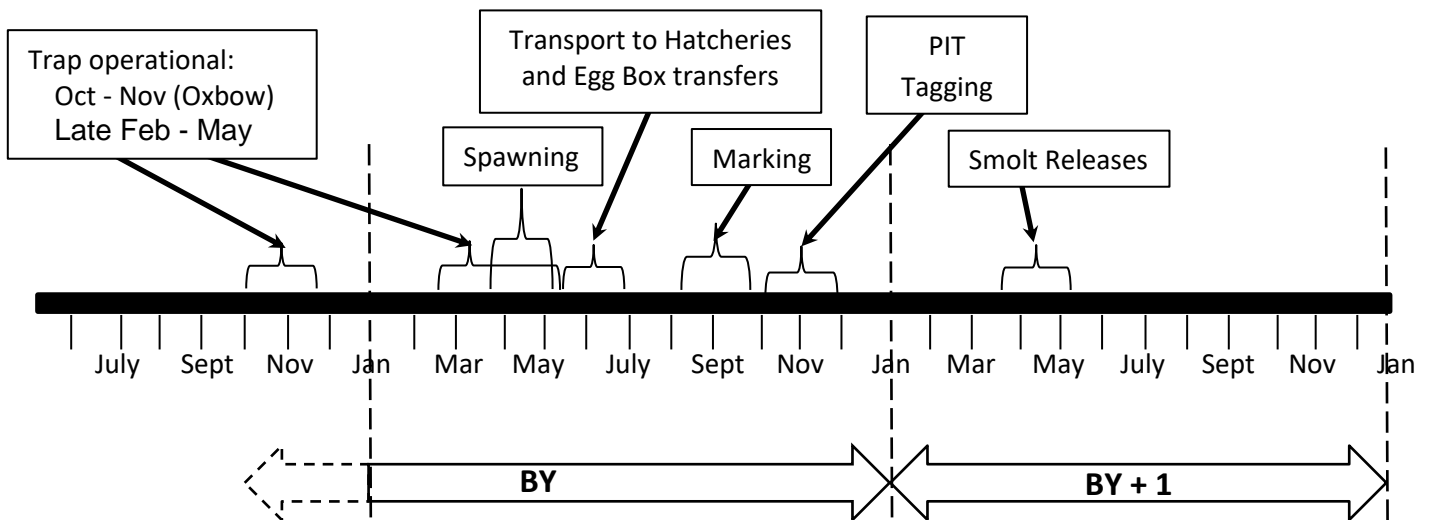


Figure 1.2. Timeline for Steelhead Production. Date ranges are shown to include all facilities' operations

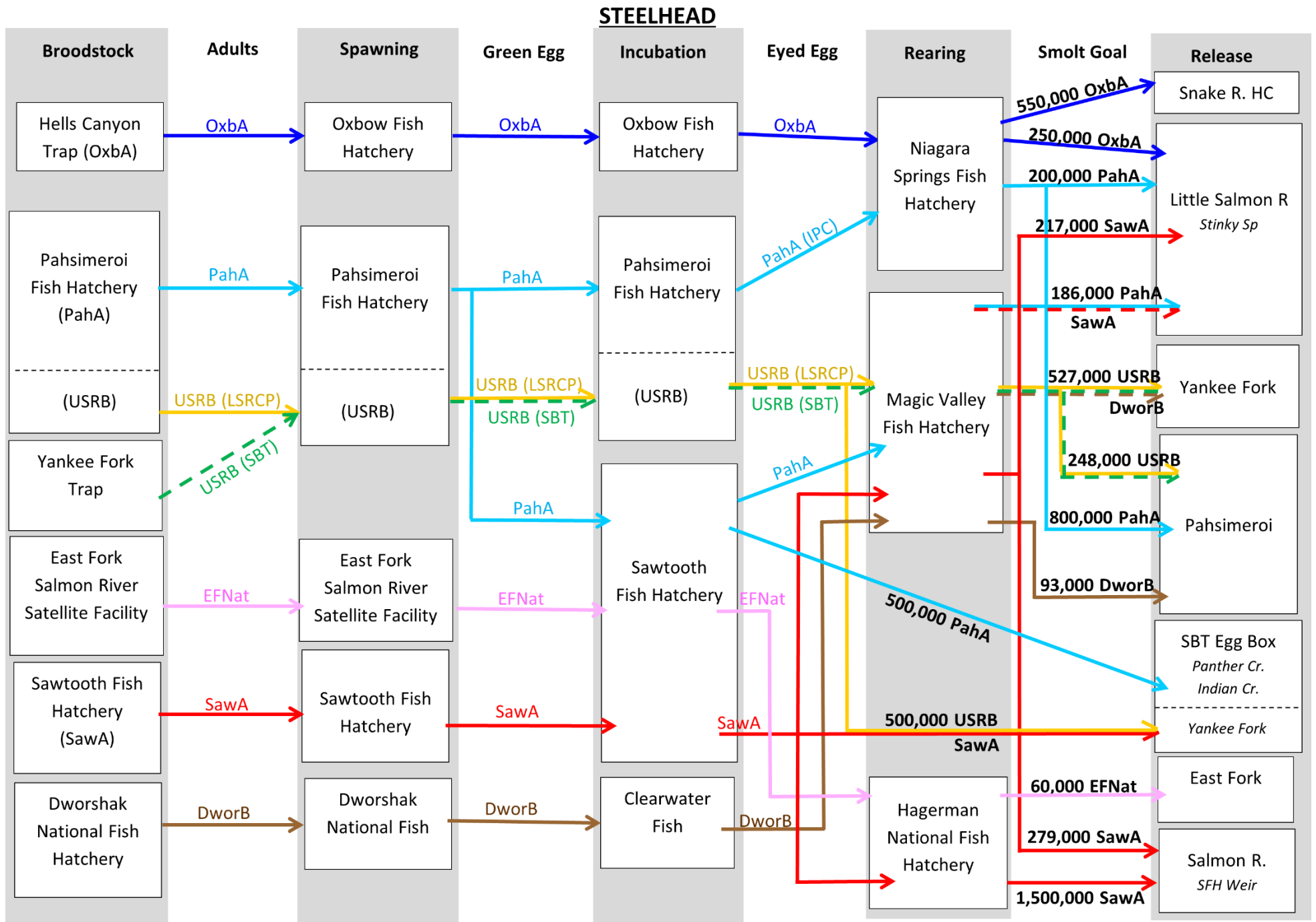


Figure 1.3. Fish and egg movements for Steelhead. Numbers reflect 2023 releases.

1.2. Releases in 2023 (Smolt BY 2022, Egg Box BY 2023)

1.2.1. Releases in 2023 (Smolt BY 2022, Egg Box BY 2023) – Totals

Table 1.2a. Steelhead Rearing Metrics for BY 2022 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	1,517,661	1/1/23	1,396,652	1,410,000	4.5			4/5-4/25/23	1,395,000	4.5
HNFH	Sawtooth Weir (PRAS Eval)	SawA	99,246	1/1/23	90,482	90,000	4.5			4/3-4/4/23	90,000	4.5
HNFH	E. Fork Salmon R. - Upper	EFNat	42,110	1/1/23	37,361	60,000	4.5			4/26/2023	37,000	4.5
Totals			1,659,017		1,524,495	1,560,000		-			1,522,000	
MVFH	Little Salmon R. - Stinky Sp.	PahA/SawA	497,415	1/1/23	415,338	186,000	4.5	36,480	Salmon Falls Cr Res 10/4/2022	4/7-4/14/23	407,000	4.5
MVFH	Pahsimeroi Weir ¹	USRB	272,764	1/1/23	238,616	248,000	4.5			4/4-4/7/23	233,800	4.5
MVFH	Pahsimeroi Weir	DworB	124,154	1/1/23	95,060	93,000	4.5			4/3-4/4/23	93,100	4.5
MVFH	Sawtooth Weir	SawA	321,434	1/1/23	287,322	279,000	4.5	15,380	Salmon Falls Cr Res 10/4/2022	4/17-4/20/23	281,600	4.5
MVFH	Yankee Fork ¹	USRB/DworB	658,390	1/1/23	329,412	527,000	4.5			4/21-4/27/23	322,800	4.5
MVFH	Little Salmon - Stinky Sp. ²	USRB/DworB				217,000	4.5					
Totals			1,874,157		1,365,748	1,550,000		51,860			1,338,300	
NSFH	Pahsimeroi Weir	PahA	974,337	1/3/23	814,290	800,000	4.5	63,635	Billingsley Creek	4/5-4/20/23	808,000	4.5
NSFH	Little Salmon R. - Stinky Sp.	PahA	275,670	1/3/23	210,909	200,000	4.5	38,731	Oakley and Roseworth Reservoirs	4/20-4/25/23	209,000	4.5
NSFH	Little Salmon R. - Stinky Sp.	OxbA	312,493	1/3/23	256,582	250,000	4.5	18,541	Oakley Reservoir	4/25-4/28/23	254,500	4.5
NSFH	Snake R. Hells Canyon	OxbA	624,364	1/3/23	562,256	550,000	4.5			3/27-4/5/23	558,000	4.5
Totals			2,186,864		1,844,037	1,800,000		120,907			1,829,500	
Grand Total			5,720,038		4,734,280	4,910,000		172,767			4,689,800	

¹ Release goals for the USRB stock were changed in June of 2019 to shift 96,000 unclipped smolts from the Yankee Fork release group to the Pahsimeroi release group in an effort to increase future adult returns to the weir.

² Goal was to use USRB/DworB, but due to broodstock shortage this program was filled with PahA stock. Combined total shown in the PahA/SawA stock release at Little Salmon.

Table 1.2b. BY 2022 Steelhead Inventory to Date by Mark Type in 2023

Hatchery	Release Site	Stock	Inventory to Date						PIT Tags				
			Date	Total	Adipose Fin Clip		No Clip		Total # Tags ¹	Funding Source ³			
					No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	USFWS
HNFH	Sawtooth Weir	SawA	1/1/23	1,396,652	1,206,539	190,113			8,596	2,600	6,000		
HNFH	Sawtooth Weir (PRAS Eval) ⁴	SawA	1/1/23	90,482		90,482			6,800		6,800		
HNFH	E. Fork Salmon R. - Upper	EFNat	1/1/23	37,361			37,361		8,599	2,600	6,000		
Totals				1,524,495	1,206,539	280,595	37,361	-	23,995	5,200	18,800	-	-
MVFH	Little Salmon R. - Stinky Sp.	PahA/SawA	1/1/23	415,338	415,338				4,399	4,400			
MVFH	Pahsimeroi Weir ¹	USRB	1/1/23	238,616			238,616		8,291	2,500	5,800		
MVFH	Pahsimeroi Weir	DworB	1/1/23	95,060			95,060		3,097	900	2,200		
MVFH	Sawtooth Weir	SawA	1/1/23	287,322	287,322				5,696	5,700			
MVFH	Yankee Fork ¹	USRB/DworB	1/1/23	329,412	203,264		126,148		13,293	5,300	8,000		
MVFH	Little Salmon - Stinky Sp. ²	USRB/DworB		-									
Totals				1,365,748	905,924	-	459,824	-	34,776	18,800	16,000	-	-
NSFH	Pahsimeroi Weir	PahA	1/3/23	814,290	814,290				8,997	3,000		6,000	
NSFH	Little Salmon R. - Stinky Sp.	PahA	1/3/23	210,909	210,909				2,299	1,800		500	
NSFH	Little Salmon R. - Stinky Sp.	OxbA	1/3/23	256,582	256,582				2,800	2,300		500	
NSFH	Snake R. Hells Canyon	OxbA	1/3/23	562,256	562,256				8,599	2,600		6,000	
Totals				1,844,037	1,844,037	-	-	-	22,695	9,700	-	13,000	-
Grand Total				4,734,280	3,956,500	280,595	497,185	-	81,466	33,700	34,800	13,000	-

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

² Goal was to use USRB/DworB, but due to broodstock shortage this program was filled with PahA stock. Combined total shown in the PahA/SawA stock release at Little Salmon.

³ Represents number of tags paid for by each agency. Sum total may not equal "Total # Tags" for locations where tagging has already occurred

⁴ PIT tags for the PRAS evaluation include 5,100 in PRAS containers and 1,700 in control raceways. Fish will be tagged in March of 2023.

See **Table 1.1** for BY 2023 Steelhead Egg box transfers in 2023

1.2.2. Releases in 2023 (Smolt BY 2022, Egg Box BY 2023) - 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. Were you below goal? Was your size at release different from the 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 2023		Changes/Conditions that Occurred 2022-Early 2023		
	Release Target Smolt BY22, Egg BY23	Transport/Release Smolt BY22, Egg BY23	Fish Feeding BY22	Fish/Egg Health BY22	Marking BY22
<i>Niagara Springs Fish Hatchery (SOP Section 1.2)</i>					
Pahsimeroi Weir (PahA)	NC	NC	NC	NC	NC
L. Salmon R. Stinky Springs (PahA/OxbA)	NC	NC	NC	NC	NC
Snake R. Hells Canyon (OxbA)	NC	NC	NC	NC	NC
<i>Pahsimeroi Fish Hatchery - Egg transfers to SBT - BY 2022 (SOP Sections 1.4 and 1.10)</i>					
Yankee Fork (USRB)	Sawtooth will be taking over production for 2023	Sawtooth will be taking over production 2023			
<i>Sawtooth Fish Hatchery - Egg transfers to SBT - BY 2022 (SOP Sections 1.4, 1.7 and 1.10)</i>					
Indian Creek (PahA)	Pahsimeroi will be taking over production in 2023	Pahsimeroi taking over production in 2023			
Panther Creek (PahA)	Pahsimeroi will be taking over production in 2023	Pahsimeroi taking over production in 2023			
<i>Hagerman National Fish Hatchery (SOP Section 1.5)</i>					
East Fork Weir (EFnat)	Received under the eyed egg goal due to brood shortage - smolt release numbers will be 62% of the release goal.	NC	NC	NC	NC

Release Location	Plan for 2023		Changes/Conditions that Occurred 2022-Early 2023		
	Release Target Smolt BY22, Egg BY23	Transport/Release Smolt BY22, Egg BY23	Fish Feeding BY22	Fish/Egg Health BY22	Marking BY22
Sawtooth Weir (SawA)	NC	NC	NC	NC	PRAS and control groups to be PIT tagged before release in March.
<i>Magic Valley Fish Hatchery (SOP Section 1.6)</i>					
Sawtooth Weir (SawA)	NC	NC	NC	NC	NC
L. Salmon R. Stinky Springs (PahA)	Increased by 217,000 smolts due to no B's available Switch to SawA in 2023	Increased by 217,000 smolts due to no B's available Switch to SawA in 2023	NC	NC	NC
Pahsimeroi Weir (USRB)	NC	NC	NC	NC	NC
Pahsimeroi Weir (DworB)	NC	NC	NC	NC	NC
Yankee Fork (USRB/DworB)	Fish health issues (IHN, Cold Water, soft shell) smolt release numbers reduced by 38.7% (204,000 smolts) BY23 USRB only with reduced numbers	Fish health issues (IHN, Cold Water, soft shell) smolt release numbers reduced by 38.7% (204,000 smolts) BY23 USRB only with reduced numbers	NC	Fish health issues (IHN, Cold Water, soft shell)	NC - fewer fish
L. Salmon R. Stinky Springs (USRB/DworB)	No B's available Replaced with PahA Eliminate in 2023	No B's available Replaced with PahA Eliminate in 2023	No B's available Replaced with PahA	No B's available Replaced with PahA	No B's available Replaced with PahA

1.3. Trap Operations and Production Planning for 2023 (Smolt BY 2023, Egg Box BY 2023)

1.3.1. Trap Operations and Production Planning for 2023 (Smolt BY 2023, Egg Box BY 2023) – TOTALS

Table 1.3a. Steelhead Projected BY 2023 Smolt Production Goals for Release in 2024

Hatchery	Release Site	Stock	Smolt Release Goals
HNFH	Sawtooth Weir	SawA	1,410,000
	Sawtooth Weir (RAS 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.	SawA	403,000
	Pahsimeroi Weir	USRB	434,000
	Yankee Fork	USRB	434,000
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 2023 - 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 LGD ⁴	Trapping period		Trapping Goal ¹					
								Females	Males ³				Total	Season	Dates	Female	Male	Total		
SFH	SawA	HNFH	Sawtooth Weir	1,676,757	SawA	HNFH	5,050	333	333	SawA	HNFH	4,293	Spring	3/20 - 5/4/23	333	333	666			
			Sawtooth Weir (RAS Eval)	107,027			5,050	22	22						22	22	44			
		MVFH	Sawtooth Weir	359,073		MVFH	5,050	72	72		72				72	144				
			Little Salmon R. - Stinky Sp.	518,662			5,050	103	103		103				103	206				
		SFH	SBT Egg Box-Yankee Fork	594,595		SFH	5,050	118	118		118				118	236				
EFSR Sat.	EFNat	HNFH	E. Fork Salmon R. - Upper	77,803	EFNat	HNFH	5,775	14	14	EFNat	HNFH	77			14	14	28			
PFH	PahA	NSFH	Pahsimeroi Weir	1,051,374	PahA	NSFH	6,500	162	162	PahA	NSFH	2,618	Spring	2/16 - 5/5/23	162	162	324			
			Little Salmon R. - Stinky Sp.	262,843			6,500	41	41						41	41	82			
		PFH	SBT Egg Box-Panther Creek ⁵	500,000		PFH	6,500	77	77		77				77	154				
			SBT Egg Box-Indian Creek ⁵	125,000			6,500	20	20		20				20	40				
	USRB ²	MVFH	Pahsimeroi Weir	574,074	USRB	MVFH	6,200	93	62	USRB	MVFH				598	Spring	2/16 - 5/5/23	98	65	164
Yankee Fork			574,074	6,200			93	62	98			65	164							
OFH	OxbA	NSFH	Little Salmon R. - Stinky Sp.	360,969	OxbA	NSFH	6,053	60	60	OxbA	NSFH	4,105	Fall	11/7 - 11/22/22				300	300	600
			Snake R. Hells Canyon	794,132			6,053	132	132				Spring	4/5 - 6/23/23 ⁶						

¹ Broodstock trapping need is dictated by number of females needed

² Sequence of priority for USRB eggs: Pahsimeroi Weir, Yankee Fork Salmon River, Yankee Fork Egg Box Program.

³ This is actually the # of Males collected while getting the # of Females needed, based on % of F in Broodstock

⁴ Projected Return to LGD includes only 2-ocean and 3-ocean adults for USRB.

⁵ Due to low water in Panther Creek (i.e., Beaver Creek) over the past several years, the SBT proposes to reduce Panther Creek goal to 300k and increase Indian Creek goal to 200k until a more suitable site for egg incubation is found.

⁶ Tentative spring trapping dates

Table 1.3c. BY2023 Steelhead adult female broodstock acquisition schedules for hatchery programs.

Season	Week of	Hells Canyon Trap		Pahsimeroi Fish Hatchery				Sawtooth Fish Hatchery		East Fork Salmon River Satellite	
		OxbA ¹		PahA		USRB		SawA		EFNat	
		Wkly	Cum	Wkly	Cum	Wkly	Cum	Wkly	Cum	Wkly	Cum
Fall 2022	Oct	0	0	0	0	0	0	0	0	0	0
	Nov	300	300	0	0	0	0	0	0	0	0
	Dec	0	300	0	0	0	0	0	0	0	0
Spring 2023	13-Feb	0	300	0	0	0	0	0	0	0	0
	20-Feb	0	300	0	0	0	0	0	0	0	0
	27-Feb	0	300	0	0	0	0	0	0	0	0
	6-Mar	0	300	0	0	0	0	0	0	0	0
	13-Mar	0	300	0	0	0	0	0	0	0	0
	20-Mar	0	300	0	0	0	0	0	0	0	0
	27-Mar	0	300	67	67	15	15	50	50	0	0
	3-Apr	75	375	30	97	46	62	213	263	0	0
	10-Apr	0	375	58	155	77	139	193	455	0	0
	17-Apr	0	375	58	213	46	185	85	540	3	3
	24-Apr	0	375	57	271	11	196	108	648	6	10
	1-May	0	375	29	300	0	196	0	648	4	14
8-May	0	375	0	300	0	196	0	648	0	14	
15-May	0	375	0	300	0	196	0	648	0	14	

	Proportion of brood acquisition over season				
	OxbA	PahA	USRB	SawA	EFNat
Oct	0	0	0	0	0
Nov	1	0	0	0	0
Dec	0	0	0	0	0
13-Feb	0	0	0	0	0
20-Feb	0	0	0	0	0
27-Feb	0	0	0	0	0
6-Mar	0	0	0	0	0
13-Mar	0	0	0	0	0
20-Mar	0	0	0	0	0
27-Mar	0.00	0.22	0.08	0.08	0.00
3-Apr	0.25	0.10	0.24	0.33	0.00
10-Apr	0.00	0.19	0.39	0.30	0.00
17-Apr	0.00	0.19	0.24	0.13	0.23
24-Apr	0.00	0.19	0.06	0.17	0.46
1-May	0.00	0.10	0.00	0.00	0.31
8-May	0.00	0.00	0.00	0.00	0.00
15-May	0.00	0.00	0.00	0.00	0.00

	OxbA	PahA	USRB	SawA	EFNat
Total Females to Trap (from Brood Calculator)	300	300	196	648	14

¹ The sum of OxbA adult female broodstock acquisition values exceeds the Total Females to Trap in the Brood Calculator to account for additional fish trapped during the spring trapping season.

Table 1.3d. Steelhead Spawning for BY 2024 - 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	Trapping period		Trapping Goal ¹		
								Females	Males ²			Season	Dates	Female	Male	Total
OFH	OxbA	NSFH	Little Salmon R. - Stinky Sp.	360,969	OxbA	NSFH	6,053	60	60	OxbA	NSFH	fall	11/6 - 11/29/23 ³	300	300	600
			Snake R. Hells Canyon	794,132			6,053	132	132							

¹ Broodstock trapping need is dictated by number of females needed

² This is actually the # of Males collected while getting the # of Females needed, based on % of F in Broodstock

³ Tentative fall trapping dates

Table 1.3e. BY2024 Steelhead adult female broodstock acquisition schedule for hatchery programs.

Season	Date	Hells Canyon Trap		Proportion of brood acquisition over season
		OxbA ¹		
		Wkly	Cum	
Fall 2023	Oct	0	0	0
	Nov	300	300	1
	Dec	0	300	0

	OxbA	
Total Females to Trap (from Brood Calculator)	300	

¹ The sum of OxbA adult female broodstock acquisition values exceeds the Total Females to Trap in the Brood Calculator to account for additional fish trapped during the spring trapping season.

1.3.2. Trap Operations and Production Planning for 2023 (Smolt BY 2023, Egg Box BY 2023) – 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 2023 (BY 2023)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
<i>Hells Canyon Trap/Oxbow Hatchery (Fall 2022-Spring 2023) (SOP Section 1.3)</i>					
Niagara Springs (OxbA)	NC	NC	NC	2X weekly egg shipments w/o working chiller. X-fry might not be option because of construction.	NC
<i>Pahsimeroi Weir (SOP Section 1.4)</i>					
Niagara Springs (PahA)	NC	NC	May adjust fecundities once we get some length data.	NC	NC
Magic Valley (PahA)	NC	NC	These eggs will likely come from Sawtooth	NC	NC
SBT Egg Box (PahA)	NC	NC	We will likely keep these eggs for incubation at Pahsimeroi	NC	NC
SBT Egg Box (USRB)	NC	NC	USRB egg box likely to become A run from Sawtooth (SawA)	NC	NC
Magic Valley (USRB)	NC	NC	NC	NC	NC
<i>Sawtooth and East Fork Weirs (SOP Sections 1.7 and 1.8)</i>					
Hagerman National (EFNat)		Run by SBT starting in BY22	NC	NC	NC
Hagerman National (SawA)	NC	NC	NC	NC	NC

Rearing Location	Plan for 2023 (BY 2023)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
Magic Valley (SawA)	NC	NC	SawA stock will increase by an additional 524,885 eggs to replace PFH and USRB releases at Stinky Sp.	SAW may spawn 3 days a week to accommodate for the spawning of additional females	NC
<i>Dworshak National Fish Hatchery Ladder (Fall 2022-Spring 2023) (SOP Section 1.9)</i>					
Magic Valley (DworB)	Program change-eliminate in BY23 and forward	Program change-eliminate in BY23 and forward	Program change-eliminate in BY23 and forward	Program change-eliminate in BY23 and forward	Program change-eliminate in BY23 and forward

1.4. Marking and Rearing Plan for 2023 (Smolt BY 2023)

1.4.1. Marking and Rearing Plan for 2023 (Smolt BY 2023) – TOTALS

Table 1.4a. Steelhead Projected marking of BY 2023 Production for release in 2024

Hatchery	Release Site	Stock	Smolt Release Goals	Projected Marking				PIT Tags			
				Adipose Fin Clip		No Clip		Total # Tags	Funding Source		
				No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC
HNFH	Sawtooth Weir	SawA	1,410,000	1,430,000				8,600	2,600	6,000	
	Sawtooth Weir (RAS Eval) ¹	SawA	90,000	95,000				-			
	E. Fork Salmon R. - Upper	EFNat	60,000			60,000		8,600	2,600	6,000	
Totals			1,560,000	1,525,000	-	60,000	-	17,200	5,200	12,000	-
MVFH	Sawtooth Weir	SawA	279,000	288,000				5,700	5,700		
	Little Salmon R. - Stinky Sp.	SawA	403,000	416,000				4,400	4,400		
	Pahsimeroi Weir	USRB	434,000			448,000		11,400	3,400	8,000	
	Yankee Fork	USRB	434,000	448,000		-		13,300	5,300	8,000	
Totals			1,550,000	1,152,000	-	448,000	-	34,800	18,800	16,000	-
NSFH	Pahsimeroi Weir	PahA	800,000	816,000				9,000	3,000		6,000
	Little Salmon R. - Stinky Sp.	PahA	200,000	212,000				2,300	1,800		500
	Little Salmon R. - Stinky Sp.	OxbA	250,000	258,000				2,800	2,300		500
	Snake R. Hells Canyon	OxbA	550,000	566,000				8,600	2,600		6,000
Totals			1,800,000	1,852,000	-	-	-	22,700	9,700	-	13,000
Grand Totals			4,910,000	4,529,000	-	508,000	-	74,700	33,700	28,000	13,000

¹ Marking and Tagging for the PRAS group is TBD.

1.4.2. Marking and Rearing Plan for 2023 (Smolt BY 2023) – 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 2023 (BY 2023)			
	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	NC	NC
Snake R. Hells Canyon (OxbA)	NC	NC	NC	NC
L. Salmon R. Stinky Springs (PahA)	NC	NC	NC	NC
Pahsimeroi Weir (PahA)	NC	NC	NC	NC
<i>Hagerman National Fish Hatchery (SOP Section 1.5)</i>				
East Fork Weir (EFnat)	NC	NC	NC	NC
Sawtooth Weir (SawA)	NC	NC	Discuss PRAS	NC
<i>Magic Valley Fish Hatchery (SOP Section 1.6)</i>				
Sawtooth Weir (SawA)	NC	NC	NC	NC
L. Salmon R. Stinky Springs (PahA)	Change to SawA	Change to SawA	Change to SawA	Change to SawA
Pahsimeroi Weir (USRB)	NC	NC	NC	NC, increased numbers

Release Location	Plan for 2023 (BY 2023)			
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking
Pahsimeroi Weir (DworB)	Eliminate, change to USRB	Eliminate, change to USRB	Eliminate, change to USRB	Eliminate, change to USRB
Yankee Fork Salmon R., Lower (USRB/DworB)	USRB only	USRB only	USRB only	USRB only, 100% Ad only, reduced numbers
L. Salmon R. Stinky Springs (USRB)	Change to SawA	Change to SawA	Change to SawA	Change to SawA

2. Spring/Summer Chinook

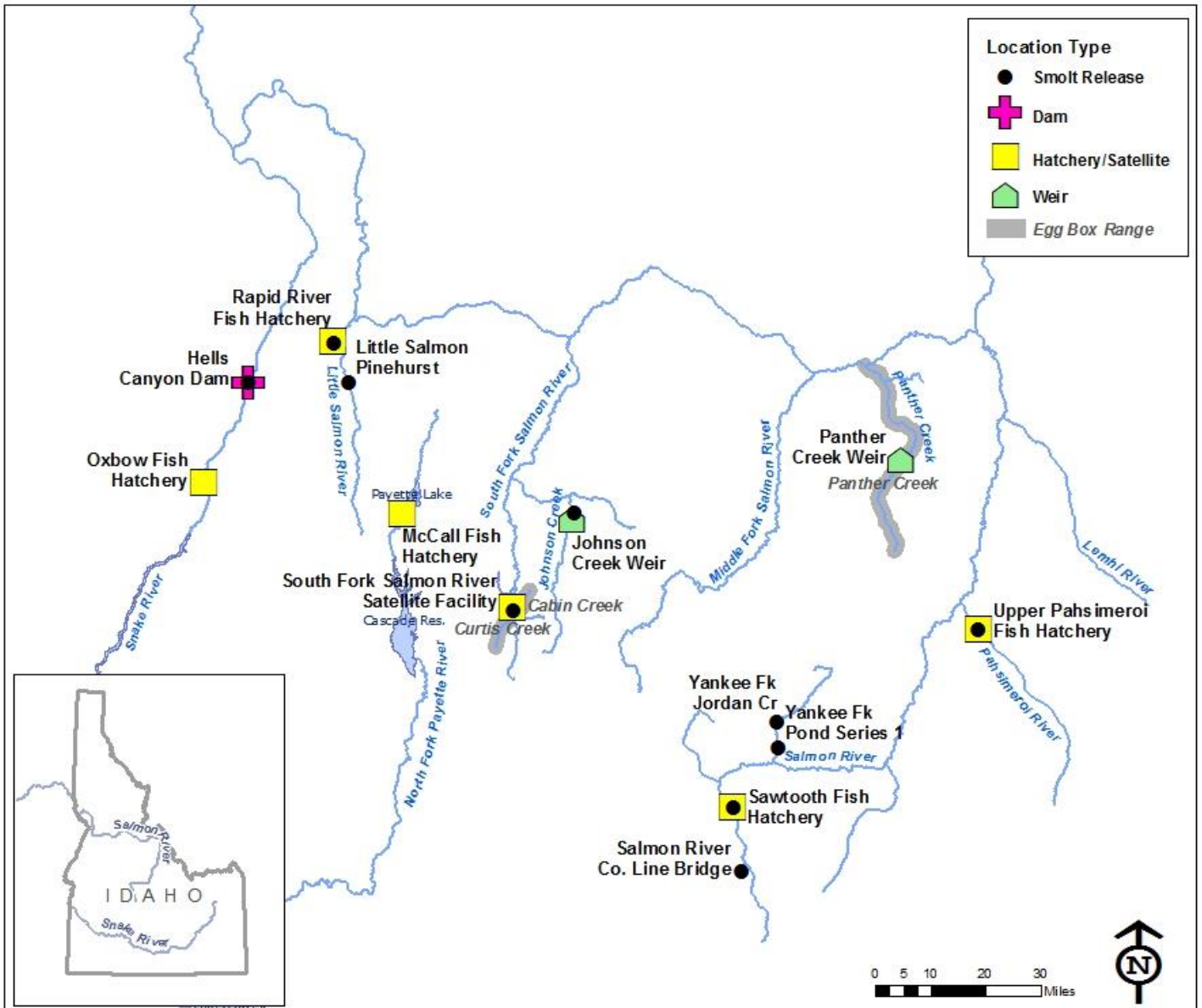


Figure 2.1. Spring/Summer Chinook salmon hatchery facilities and smolt release and egg box

Table 2.1. Sp/Su Chinook Release Goals.

Smolts

Release Program	Release Site	Rearing Facility	Stock	BY2021 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	Salmon R. - Co. Line Br. - Integrated	SFH	USRInt	250,000
	Sawtooth Weir - Segregated		USRSeg	1,450,000
	Yankee Fork		USRSeg	300,000
Total				2,000,000
IPC / IDFG	Pahsimeroi Weir - Integrated	PFH	PahInt	65,000
	Pahsimeroi Weir - Segregated		PahSeg	935,000
	Hells Canyon Dam ¹		RapidR	-
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.	150,000
Total				1,150,000
Grand Total				7,150,000

Eggs

Program	Release Location	Hatchery Egg Source	Stock	Green Egg Target	Eyed Egg BY2023 Goal	Smolt BY2023 Release Goal
Egg Box Release						
SBT Eggbox	Curtis/Cabin Creek	McFH	SFSRSeg	344,372	300,000	NA
SBT Eggbox ^{2,3}	Panther Creek	PFH/Panther Cr.	PahSeg/PantherCr	573,954	500,000	NA
Egg Transfer						
Clearwater Su Chinook ²	Powell Ponds	McFH/CFH	SFSRSeg	770,891	666,667	640,000

¹ Surplus Rapid River stock eggs were reared at PFH to be released in 2023 at Hells Canyon Dam.

² 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.

³ Eyed egg goal from Pahsimeroi for SBT Panther Creek Eggbox is currently limited to 500K due to lack of incubation space

2.1. Timeline and Flowchart for Spring/Summer Chinook Production

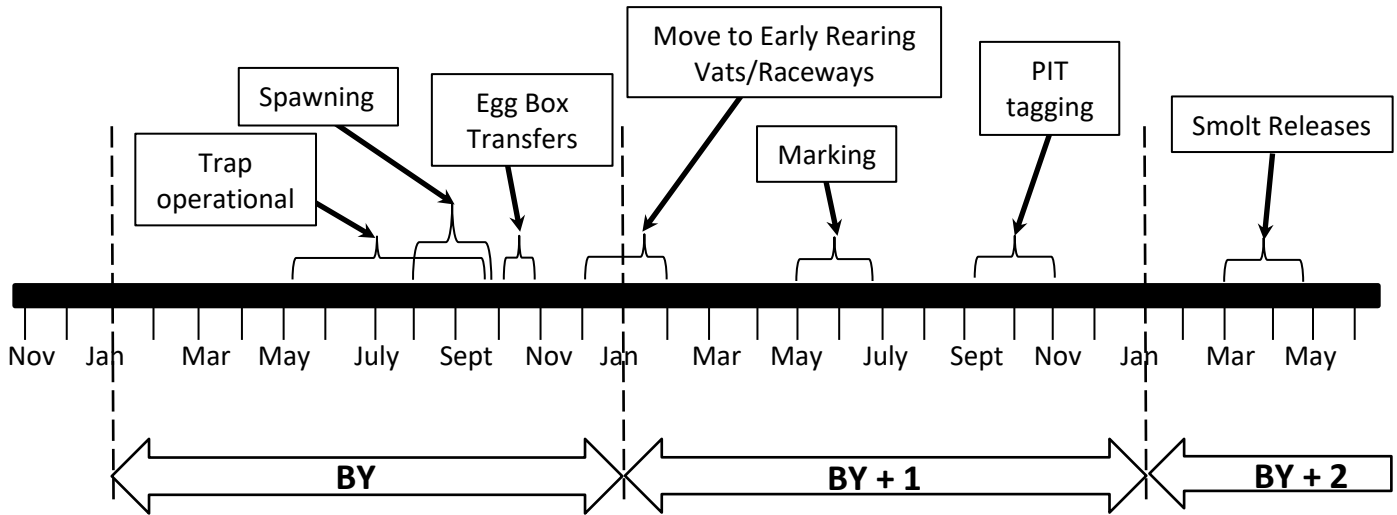


Figure 2.2. Timeline for Spring/Summer Chinook Production. Date ranges are shown to include all facilities' operations.

CHINOOK

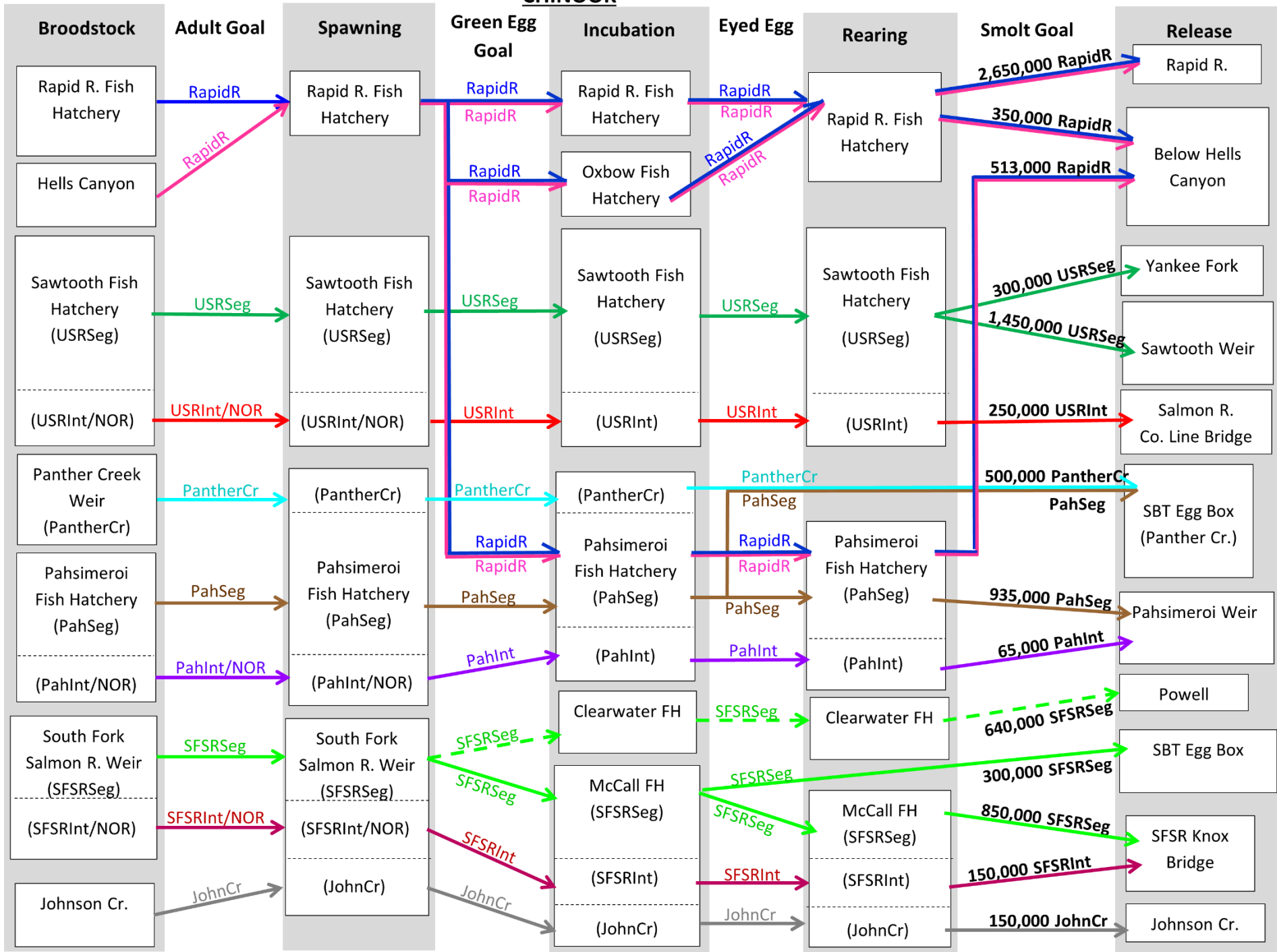


Figure 2.3. Fish and Egg movements for Sp and Su Chinook. Numbers reflect 2023 releases. Surplus releases of RapidR stock occurred in 2023 that were not part of established program goals. Movement of eggs and fish are shown here for explanatory purposes.

2.2. Releases in 2023 (Smolt BY 2021, Egg Box BY 2023)

2.2.1. Releases in 2023 (Smolt BY 2021, Egg Box BY 2023) – Totals

Table 2.2a. BY2021 SMOLTS - Sp/Su Chinook Salmon inventories by life stage, smolts release goals and projected releases in 2023.

Hatchery	Release Site	Stock	Inventory To Date		Release Goals		Projected Smolt Release		
			Date	Number	Number	Size (FPP)	Dates	Number	Size (FPP)
RRFH ^{2,3}	Rapid River Hatchery	RapidR	2/13/23	3,221,421	2,500,000	20	3/13 - 4/28/23	2,851,421	19.0
	Little Salmon (@ Pinehurst)	RapidR			150,000	20	3/13 - 3/17/23	-	19.0
	Hells Canyon	RapidR			350,000	20	3/13 - 3/17/23	350,000	19.0
Total				3,221,421	3,000,000			3,201,421	
SFH	Salmon R. - Co. Line Br. - Integrated	USRInt	12/27/22	193,687	250,000	18	4/4/23	193,600	18.0
	Sawtooth Weir -Segregated	USRSeg	12/27/22	1,456,733	1,450,000	18	4/5 - 4-7/23	1,456,000	18.0
	Yankee Fork	USRSeg	12/27/22	320,708	300,000	18	4/12 - 4/13/23	320,600	18.0
Total				1,971,128	2,000,000			1,970,200	
PFH	Pahsimeroi Weir - Integrated	PahInt	1/3/23	66,868	65,000	15	4/15 - 4/28/23	66,500	15.0
	Pahsimeroi Weir - Segregated	PahSeg	1/3/23	173,619	935,000	15		173,500	15.0
	Hells Canyon Dam ¹	RapidR	1/3/23	513,193	-	20	3/20 - 3/24/23	513,000	18.0
Total				753,680	1,000,000			753,000	
McFH	SFSR Knox Br. - Integrated	SFSRInt	2/3/23	108,020	150,000	20	4/10 - 4/14/23	108,009	20.0
	SFSR Knox Br. - Segregated	SFSRSeg	2/3/23	1,017,533	850,000	20	4/10 - 4/14/23	1,017,431	19.0
	Johnson Creek	Johnson Cr.	2/3/23	135,648	150,000	20	4/3 - 4/6/23	135,634	25.0
Total				1,261,201	1,150,000			1,261,074	
Grand Total				7,207,430	7,150,000			7,185,695	

¹ Surplus Rapid River stock eggs were reared at PFH to be released in 2023 at Hells Canyon Dam.

² Rapid River and Hells Canyon Dam smolt release allocations changed due to Rapid River backfill at Pahsimeroi.

³ Rapid River eyed eggs and inventory are not partitioned by release site prior to release

Table 2.2b. BY2021 SMOLTS for release in 2023 - Sp/Su Chinook Salmon Inventory to Date by Mark Type in 2023

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	OTHER
RRFH ^{2,3}	Rapid River Hatchery	RapidR	2/13/2023	3,221,421	2,751,923	119,498			51,986	32,000		20,000		
	Little Salmon (@ Pinehurst)	RapidR			-									
	Hells Canyon	RapidR			350,000									
Totals				3,221,421	3,101,923	119,498	-	-	51,986	32,000	-	20,000	-	-
SFH	Salmon R. - Co. Line Br. - Integrated	USRIInt	12/27/22	193,687	-	-	193,687	-	998		1,000			
	Sawtooth Weir -Segregated	USRSeg	12/27/22	1,456,733	1,337,288	119,445	-	-	18,875	5,700	13,200			
	Yankee Fork	USRSeg	12/27/22	320,708	201,163	119,545	-	-	8,497	700	7,800			
Totals				1,971,128	1,538,451	238,990	193,687	-	28,370	6,400	22,000	-	-	-
Pah	Pahsimeroi Weir - Integrated ⁴	PahInt	1/3/2023	66,868			66,868		300					300
	Pahsimeroi Weir - Segregated ²	PahSeg	1/3/2023	173,619	173,619				-					
	Hells Canyon Dam ^{1,5}	RapidR	1/3/2023		513,193				999			1,000		
Totals				240,487	686,812	-	66,868	-	1,299	-	-	1,000	-	300
McFH	SFSR Knox Br. - Integrated	SFSRIInt	2/3/2023	108,020			108,020		26,312	26,000				
	SFSR Knox Br. - Segregated	SFSRSeg	2/3/2023	1,017,533	900,357	117,176			25,964	6,000	20,000			
	Johnson Creek	Johnson Cr.	2/3/2023	135,648			131,579	4,069	2,075				2,075	
Totals				1,261,201	900,357	117,176	239,599	4,069	54,351	32,000	20,000	-	2,075	-
Grand Total				6,694,237	6,227,543	475,664	500,154	4,069	136,006	70,400	42,000	21,000	2,075	300

¹ Surplus Rapid River stock eggs were reared at PFH to be released in 2023 at Hells Canyon Dam.

² Rapid River and Hells Canyon Dam smolt release allocations changed due to Rapid River backfill at Pahsimeroi.

³ Rapid River eyed eggs and inventory are not partitioned by release site prior to release

⁴ Integrated fish in excess of the integrated target (65k) will be rolled into the Segregated program.

⁵ Due of the low number of fish to be released from this group, CWT were not placed in these fish and only 1,000 PIT tags were placed in the Hells Canyon group because the extra stress during tagging would not be beneficial for survival.

See **Table 2.1** for BY 2023 Sp/Su Chinook salmon egg transfers to streamside egg boxes in 2023.

2.2.2. Releases in 2023 (Smolt BY 2021, Egg Box BY 2023) – 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 2023		Changes/Conditions that Occurred 2022-Early 2023		
	Release Target Smolt BY21, Egg BY23	Transport/Release Smolt BY21, Egg BY23	Fish Feeding BY21	Fish/Egg Health BY21	Marking BY21
<i>Rapid River Fish Hatchery (SOP Section 2.2)</i>					
Rapid River Hatchery (RapidR)	NC	NC	NC	Coldwater Disease Jan 2023, 1A & 1B	NC
Little Salmon R. (RapidR)	NC	Fish will be released onsite at RR beginning in MY23	NC	NC	NC
Hells Canyon (RapidR)	NC	NC	NC	NC	NC
<i>McCall Fish Hatchery (SOP Sections 2.3, 2.4 and 2.9)</i>					
SFSR Knox Bridge (SFSRInt)	1.125 million combined release estimate exceeds 10% buffer	NC	NC	NC	NC
SFSR Knox Bridge (SFSRSeg)	1.125 million combined release estimate exceeds 10% buffer	NC	NC	NC	NC
Johnson Cr. (JohnCr)	NC	NC	NC	NC	NC
Curtis/Cabin Cr. Egg Box (SFSRSeg)	NC	NC			
<i>Pahsimeroi Fish Hatchery (SOP Section 2.5)</i>					
Pahsimeroi Weir Integrated (PahInt)	NC	NC	NC	One medicated feed treatment in June 2022	300 fish were PIT tagged for juvenile survival estimates.

Location	Plan for 2023		Changes/Conditions that Occurred 2022-Early 2023		
	Release Target Smolt BY21, Egg BY23	Transport/Release Smolt BY21, Egg BY23	Fish Feeding BY21	Fish/Egg Health BY21	Marking BY21
Pahsimeroi Weir Segregated (PahSeg)	~173,000 SEG on hand 1/31/2023	NC	NC	One medicated feed treatment in June 2022	No CWT
Panther Cr. Egg Box (PahSeg)	incubation space limits release to 500K	NC			
Hells Canyon Dam (RapidR)	~513,000 on hand 1/31/2023	Hauling to HC Dam			
<i>Sawtooth Fish Hatchery (SOP Sections 2.6 and 2.8)</i>					
Sawtooth Weir Integrated (USRInt)	BY21 Projected release goal of 193,600 is ~77% of the release goal of 250,000	NC	NC	NC	NC
Sawtooth Weir Segregated (USRSeg)	BY21-NC	NC	NC	NC	NC
Yankee Fork (USRSeg)	BY21-NC	NC	NC	NC	NC

2.3. Trap Operations and Production Planning for 2023 (Smolt BY 2023)

2.3.1. Trap Operations and Production Planning for 2023 (Smolt BY 2023) – TOTALS

Table 2.3a. BY 2023 Sp/Su Chinook Smolt Production Goals for Release in 2025.

Hatchery	Release Site	Stock	2025 Smolt Release Goals
RRFH	Rapid River Hatchery	RapidR	2,650,000
	Hells Canyon	RapidR	350,000
	Total		3,000,000
SFH	Salmon R. - Co. Line Br. - Integrated	USRInt	250,000
	Sawtooth Weir -Segregated	USRSeg	1,450,000
	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	150,000
	Total		1,150,000
Grand Total			7,150,000

Table 2.3b. Sp/Su Chinook Egg Releases in 2023 and Egg Transfers used for BY 2023 Smolt Production (Release in 2025).

Program	Release Location	Hatchery Egg Source	Stock	Green Egg Target	Eyed Egg BY2023 Goal	Smolt BY2023 Release
Egg Box Release						
SBT Eggbox	Curtis/Cabin Creek	McFH	SFSRSeg	344,372	300,000	NA
SBT Eggbox ^{1,3}	Panther Creek	PAH/Panther Cr	Panther Cr.	573,954	500,000	NA
Egg Transfer						
Clearwater Su Chinook ²	Powell Ponds	McFH/CFH	SFSRSeg/CFH	770,891	666,667	640,000

¹ Brood stock may be sourced from Panther Creek and transferred to the Pahsimeroi Hatchery in 2023.

² 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.

³ Eyed egg goal from Pahsimeroi for SBT Panther Creek Eggbox is currently limited to 500K due to lack of incubation space

Table 2.3c. BY2023 SMOLTS -Chinook Spawning for BY 2023 - 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 Goal ³					Total		
						HORSeg ⁴		HORInt ⁵		NOR ⁶		LGD			Trap ¹		HORSeg ⁴		HORInt ⁵		NOR ⁶			
						Female	Male	Female	Male	Female	Male	HORseg ⁴	HORint ⁵	NOR ⁶	HORint ⁵	NOR ⁶	Female	Male	Female	Male	Female		Male	
RRFH	RapidR	RRFH	Rapid River Trap	4,068,098	3,631	990	990					13,974				1,059	1,059					2,118		
			Hells Canyon Trap			131	131					2,616				140	140							
SFH	USRInt	SFH	Salmon R. - Co. Line Br. - Int	318,047	4,350			42	43	32	31		460	726	354	164			44	44	33	32	153	
	USRSeg	SFH	Sawtooth Weir - Seg	1,742,528	4,200	415	415										428	428					856	
			Yankee Fork	360,523	4,200	86	86											89	89					178
PFH	PahInt	PFH	Pahsimeroi - Int	80,033	4,500			0	0	18	18		53	217	32	152			0	0	21	21	42	
	PahSeg	PFH	Pahsimeroi - Seg	1,266,376	4,500	282	282										332	332					664	
			SBT Eggbox - Panther Cr. ²			TBD	TBD											TBD	TBD					0
SFSR	SFSRInt	McFH	SFSR - Int ⁷	202,572	3,800			19	20	35	34		990	581	554	192			21	22	39	38	120	
	SFSRSeg	McFH	SFSR - Seg ⁷	1,262,699	3,800	333	333										370	370					740	
			SBT Eggbox - Curtis/Cabin Cr. ⁷	344,372	3,800	91	91											101	101					203
			Clearwater Su Chinook ²	770,891	3,800	203	203											214	214					428
			Johnson Creek	212,523	4,200						51	51										61	61	122

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

² 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.

³ Broodstock trapping need is dictated by number of females needed

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

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

⁶ NOR: Adult Natural Origin fish

⁷ After 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. BY2023 - Sp/Su Chinook Adult broodstock acquisition schedules for hatchery programs.

Week of	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
1-May	16	0	0	0	0	0	0	0	0	0	0
8-May	23	0	0	0	0	0	0	0	0	0	0
15-May	44	0	0	0	0	0	0	0	0	0	0
22-May	99	0	0	0	0	0	0	0	0	0	0
29-May	189	0	0	0	0	0	0	0	0	0	0
5-Jun	332	0	0	0	0	0	0	0	0	0	0
12-Jun	543	40	11	5	2	0	5	6	0	0	3
19-Jun	922	123	22	16	51	0	13	63	0	0	6
26-Jun	1,391	310	33	30	200	0	23	157	4	10	15
3-Jul	1,853	557	44	40	336	0	27	315	12	32	33
10-Jul	2,110	702	55	45	430	0	30	472	20	52	49
17-Jul	2,223	793	66	50	490	0	33	685	27	62	56
24-Jul	2,293	857	66	54	501	0	33	756	31	68	62
31-Jul	2,358	878	66	60	533	0	33	883	35	74	65
7-Aug	2,375	888	66	62	560	0	36	1008	35	75	77
14-Aug	2,387	929	66	65	574	0	37	1134	39	75	96
21-Aug	2,394	990	77	65	592	0	38	1232	43	77	111
28-Aug	2,398	1023	88	65	599	0	39	1261	43	77	118
4-Sep	2,398	1033	88	65	615	0	42	1370	43	77	121
11-Sep	2,398	1033	88	65	638	0	42	1370	43	77	121
18-Sep	2,398	1033	88	65	655	0	42	1370	43	77	121
25-Sep	2,398	1033	88	65	664	0	42	1370	43	77	121
Total	2,398	1033	88	65	664	0	42	1370	43	77	121
Forecasted Return to LGD in 2023	13,974	2,314	460	726	1,045	53	217	5,980	990	581	

Proportion of brood acquisition over season											
Week of	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
1-May	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-May	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-May	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22-May	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29-May	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-Jun	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-Jun	0.23	0.04	0.13	0.07	0.00	0.00	0.12	0.00	0.00	0.00	0.03
19-Jun	0.38	0.12	0.25	0.25	0.08	0.00	0.32	0.05	0.00	0.00	0.05
26-Jun	0.58	0.30	0.38	0.46	0.30	0.00	0.54	0.11	0.09	0.13	0.13
3-Jul	0.77	0.54	0.50	0.61	0.51	0.00	0.63	0.23	0.27	0.42	0.28
10-Jul	0.88	0.68	0.63	0.69	0.65	0.00	0.71	0.34	0.45	0.68	0.40
17-Jul	0.93	0.77	0.75	0.76	0.74	0.00	0.78	0.50	0.64	0.81	0.46
24-Jul	0.96	0.83	0.75	0.83	0.75	0.00	0.78	0.55	0.73	0.88	0.51
31-Jul	0.98	0.85	0.75	0.92	0.80	0.00	0.78	0.64	0.82	0.96	0.54
7-Aug	0.99	0.86	0.75	0.96	0.84	0.00	0.85	0.74	0.82	0.98	0.64
14-Aug	1.00	0.90	0.75	1.00	0.87	0.00	0.88	0.83	0.91	0.98	0.79
21-Aug	1.00	0.96	0.88	1.00	0.89	0.00	0.90	0.90	1.00	1.00	0.91
28-Aug	1.00	0.99	1.00	1.00	0.90	0.00	0.93	0.92	1.00	1.00	0.98
4-Sep	1.00	1.00	1.00	1.00	0.93	0.00	1.00	1.00	1.00	1.00	1.00
11-Sep	1.00	1.00	1.00	1.00	0.96	0.00	1.00	1.00	1.00	1.00	1.00
18-Sep	1.00	1.00	1.00	1.00	0.99	0.00	1.00	1.00	1.00	1.00	1.00
25-Sep	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00

2.3.2. Trap Operations and Production Planning for 2023 (Smolts BY 2023) – 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 2023 (BY 2023)				
	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	Opportunistically utilize large males successive times	NC
Little Salmon R. (RapidR)	NC	NC	NC	NC	NC
Hells Canyon (RapidR)	NC	NC	NC	NC	Follow up on whirling disease issues for out-of-basin releases
<i>South Fork Salmon River and Johnson Creek Weirs (SOP Sections 2.3 and 2.4)</i>					
Johnson Cr. (JohnCr)	NC	adults will be transported to, held and spawned at McCall Hatchery	NC	NC	NC
SFSR Knox Bridge Integrated (SFSRInt)	NC	adults will be transported to, held and spawned at McCall Hatchery	NC	NC	NC
SFSR Knox Bridge Segregated (SFSRSeg)	NC	adults will be transported to, held and spawned at McCall Hatchery	NC	NC	NC
SBT Egg Box – Curtis/Cabin Cr. (SFSRSeg)	NC	adults will be transported to, held and spawned at McCall Hatchery	NC	NC	NC
Clearwater Fish Hatchery Egg Transfer Segregated-SUM (SFSRSeg-CFH)	NC	NC	NC	NC	NC

Juvenile/Egg Release Location	Plan for 2023 (BY 2023)				
	Adult Fish Health	Trap Ops	Production target changes	Spawning protocol changes	Disposition of adults
<i>Pahsimeroi Fish Hatchery Trap (SOP Section 2.5)</i>					
Pahsimeroi Weir Integrated (PahInt)	NC	NC	NC	NC	NC
Pahsimeroi Weir Segregated (PahSeg)	NC	NC	NC	NC	NC
SBT Egg Box - Panther Creek (PahSeg)	NC	NC	NC	NC	NC
<i>Sawtooth Fish Hatchery (SOP Sections 2.6, 2.7 and 2.8)</i>					
Sawtooth Weir Integrated (USRInt)	NC	New trap entry/ladder modifications. Fish swam through trap into center pond until first sort.	NC	NC	NC
Sawtooth Weir Segregated (USRSeg)	NC	New trap entry/ladder modifications. Fish swam through trap into center pond until first sort.	NC	NC	NC
Yankee Fork (USRSeg)	NC	New trap entry/ladder modifications. Fish swam through trap into center pond until first sort.	NC	NC	NC

2.4. Early Rearing and Marking Plan for 2023 (Smolt BY 2022)

2.4.1. Early Rearing and Marking Plan for 2023 (Smolt BY 2022) – TOTALS

Table 2.4a. Sp/Su Chinook Projected Marking of BY 2022 juveniles to be marked in 2023 (released in 2024).

Hatchery	Release Site	Stock	Likely Marking Date(s)	Release Goals for 2023	Inventory to Date		Projected Release Number	Projected Marking				Total # Tags	PIT Tags				
					Date	Number		Adipose Fin Clip		No Clip			Funding Source				
								No CWT	CWT	CWT	No CWT		CSS	LSRCP	IPC	BPA	Other
RRFH	Rapid River Hatchery	RapidR	6/5 - 6/23/23	2,500,000	3/13/23	3,406,000	2,800,000	2,680,000	120,000			52,000	32,000		20,000		
	Little Salmon	RapidR		150,000			150,000				-						
	Hells Canyon	RapidR		350,000			350,000				-						
Totals				3,000,000		3,406,000	3,300,000	3,180,000	120,000	-	-	52,000	32,000	-	20,000	-	-
SFH	Salmon R. - Co. Line Br. - Int	USRInt		250,000	12/27/22	183,037	162,902			162,902		1,000		1,000			
	Sawtooth Weir - Seg	USRSeg		1,450,000	12/27/22	1,582,057	1,518,774	1,398,774	120,000			18,900	5,700	13,200			
	Yankee Fork	USRSeg		300,000	12/27/22	326,091	313,047	193,047	120,000			8,500	700	7,800			
	Panther Creek	PahSeg			12/27/22	165,191	158,583	158,583				TBD					
Totals				2,000,000		2,256,376	2,153,306	1,750,404	240,000	162,902	-	28,400	6,400	22,000	-	-	-
PFH	Pahsimeroi Weir - Int	PahInt	5/30 - 6/5/23	65,000	1/9/23	67,843	65,000			65,000		1,000					1,000
	Pahsimeroi Weir - Seg	PahSeg		935,000	1/9/23	1,069,685	1,030,000	910,000	120,000			22,400	6,400		16,000		
Totals				1,000,000		1,137,528	1,095,000	910,000	120,000	65,000	-	23,400	6,400	-	16,000	-	1,000
McFH	SFSR Knox Br. - Int	SFSRInt		150,000	2/3/23	131,722	130,404			130,404		26,000	26,000				
	SFSR Knox Br. - Seg	SFSRSeg		850,000	2/3/23	917,391	908,217	803,772	104,444			26,000	6,000	20,000			
	Johnson Creek	JohnCr		150,000	2/3/23	135,358	134,004			134,004		2,100				2,100	
Totals				1,150,000		1,184,471	1,172,625	803,772	104,444	264,408	-	54,100	32,000	20,000	-	2,100	-
Grand Totals				7,150,000		7,984,375	7,720,931	6,644,176	584,444	492,310	-	157,900	76,800	42,000	36,000	2,100	1,000

2.4.2. Early Rearing and Marking Plan for 2023 (Smolt BY 2022) – 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 2023 (BY 2022)				
	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)	NC	NC	NC	NC	NC
Hells Canyon (RapidR)	NC	NC	NC	NC	NC
<i>McCall Fish Hatchery (SOP Section 2.3 and 2.4)</i>					
Johnson Cr. (JohnCr)	NC	NC	NC	NC	Will likely be below target due to lower than expected egg eye up.
Knox Bridge Integrated (SFSRInt)	NC	NC	NC	NC	Projected 15K fish short of release goal, backfilled by SEG origin
Knox Bridge Segregated (SFSRSeg)	NC	NC	NC	NC	NC
<i>Pahsimeroi Fish Hatchery (SOP Section 2.5)</i>					
Pahsimeroi Ponds Integrated (PahInt)	NC	NC	NC	1,000 fish will be PIT tagged for juvenile survival estimates.	NC

Release Location	Plan for 2023 (BY 2022)				
	Juvenile Fish Health	Fish Feeding	Rearing Conditions	Marking	Meets Release Target
Pahsimeroi Ponds Segregated (PahSeg)	Well water rearing study will utilize 60,000 PAH SEG. There will likely be more intensive fish health monitoring.	60,000 well water rearing study fish will be on a different feed schedule from the outdoor reared fish.	60,000 fish will be reared indoors on SPF well water for the duration of the rearing cycle with one month acclimation in 2024.	60,000 fish will be marked then transported back into three indoor rearing containers. 1000 PITs for well water fish.	NC
<i>Sawtooth Fish Hatchery (SOP Sections 2.6 and 2.8)</i>					
Sawtooth Weir Integrated (USRInt)	NC	NC	NC	NC	Projected release of 162,900 is ~65% of the release goal of 250,000 due to low adult returns.
Sawtooth Weir Segregated (USRSeg)	NC	NC	NC	NC	Spawned extra fish for SEG program to offset shortage of INT. Projected release of 1,518,774 is ~10.5% over the release goal of 1,450,000
Yankee Fork (USRSeg)	NC	NC	NC	NC	NC
Panther Creek (PahSeg)	NC	NC	NC	100% AD, PITs TBD	No release target. Opportunistically reared one raceway of PFH fish to smolts for Panther Creek

3. Fall Chinook

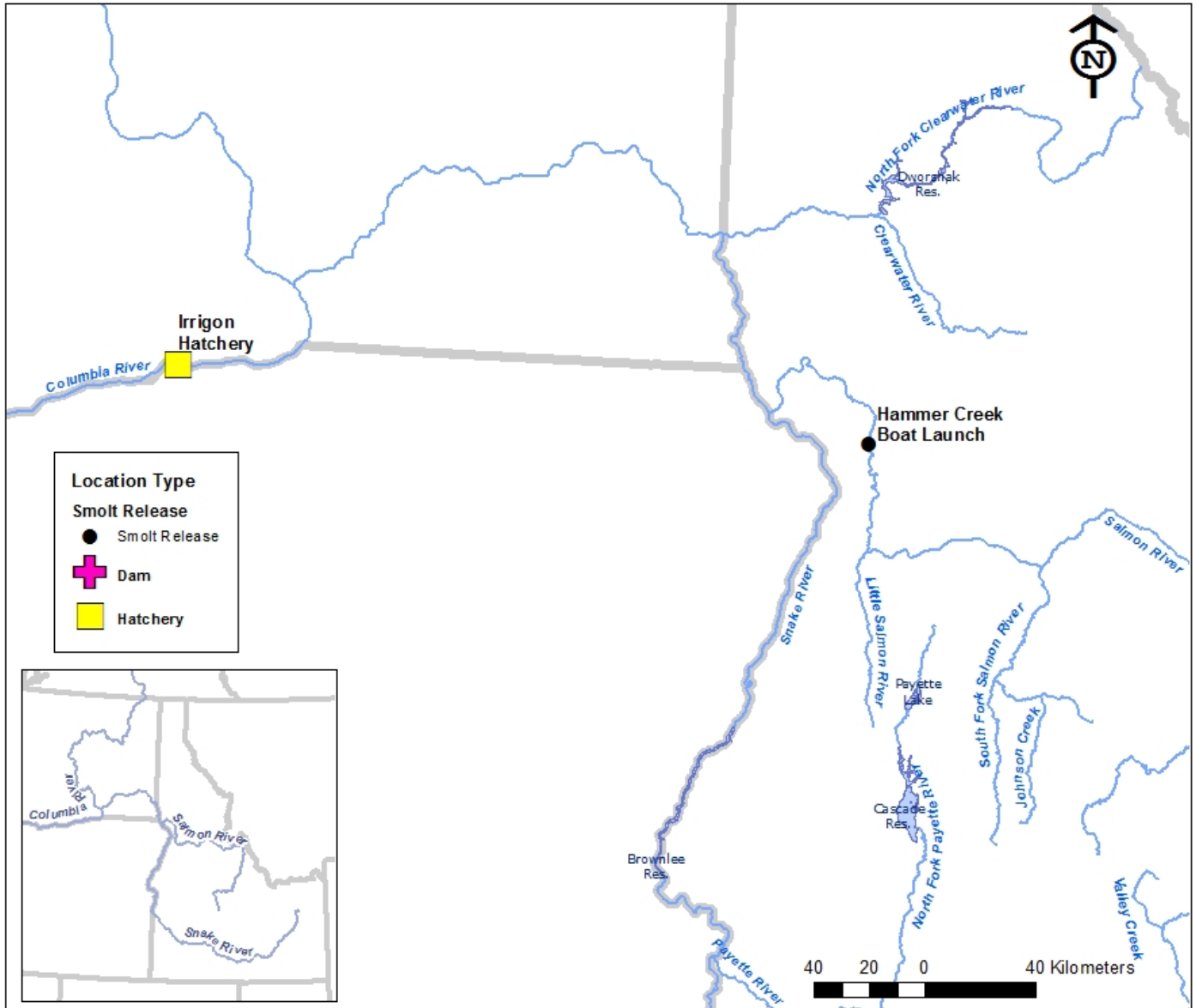


Figure 3.1. Fall Chinook Salmon facilities and smolt release locations.

Table 3.1. Fall Chinook Release Goals.

Hatchery	Release Site	Release Goals
IFH	Salmon R.-Hammer Cr	1,000,000

3.1. Releases in 2023 (Sub-Yearling BY 2022)

3.1.1. Releases in 2023 (Sub-Yearling BY 2022) – Totals

Table 3.2a. BY2022 Fall Chinook Sub-yearling Marking and Releases in

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	
IFH	Salmon R.-Hammer Cr	5/16 - 5/18/23	1,000,000	1,000,000		200,000		800,000	4,500

3.1.2. Releases in 2023 (Sub-Yearling BY 2022) - 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>Irrigon Fish Hatchery (IDFG) (SOP Section 3.1)</i>			
Salmon R. - Hammer Cr.	NC	NC	NC

3.2. Trap Operations and Production Planning for 2023 (Sub-Yearling BY 2023)

Refer to Lyons Ferry AOP

3.3. Marking and Rearing Plan for 2023 (Sub-Yearling BY 2022)

Refer to Lyons Ferry AOP

4. Sockeye

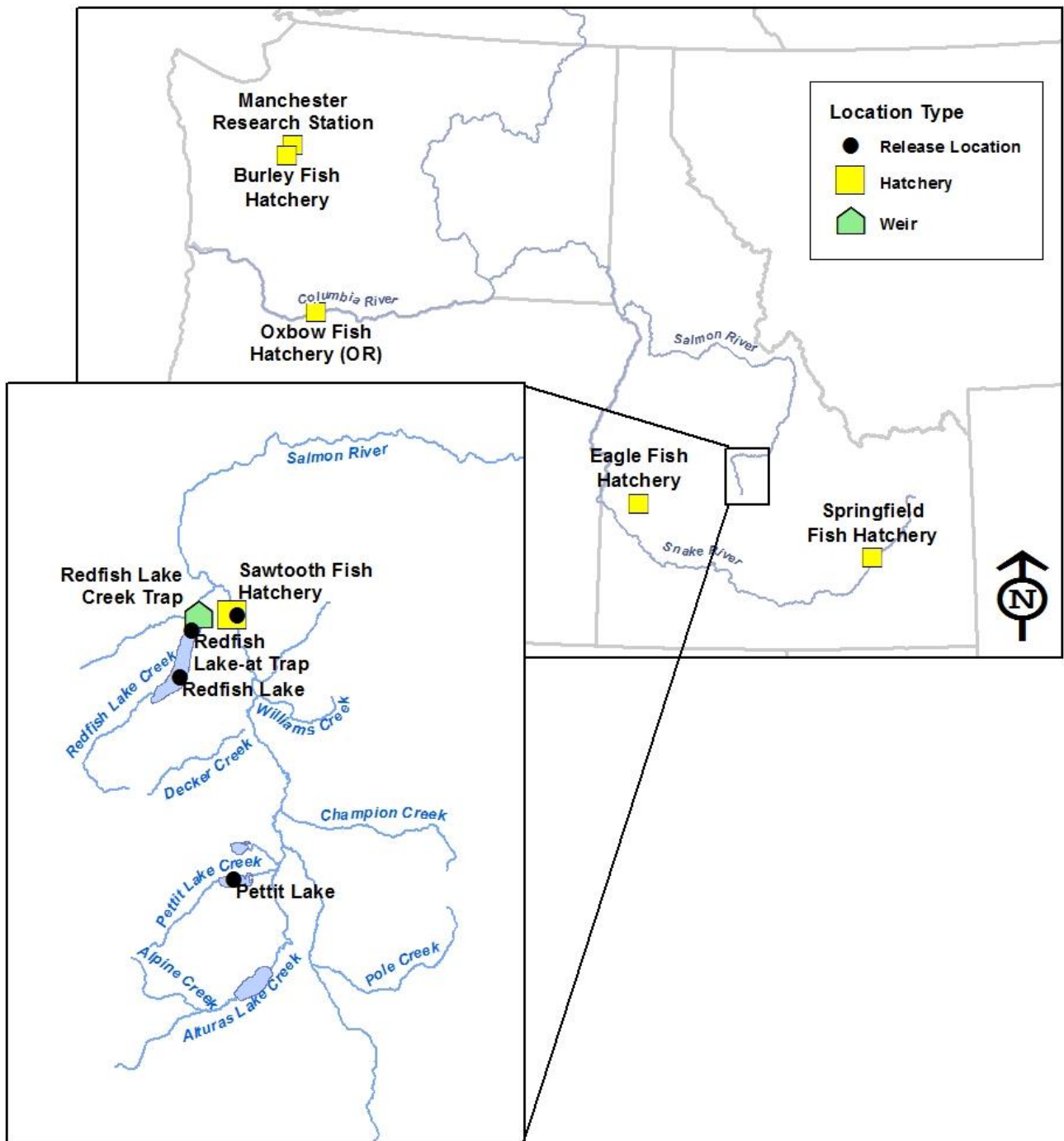


Figure 4.1. Sockeye salmon traps, hatchery facilities, and smolt and adult release

Table 4.1. Sockeye 2023 Release Goals.

Rearing Facility	Release Site	Parent Stock	2023 Smolt Release Goal (BY 2021)
Springfield	Redfish Lake Cr. ¹	Snake R.	1,000,000
Grand Total			1,000,000

Rearing Facility	Release Site	Parent Stock	Brood Year	2023 Captive-Reared Minimum Adult Release Goal ²
NOAA - Burley Creek	Redfish Lake	Snake R.	2018	0
	Redfish Lake	Snake R.	2019	50
	Redfish Lake	Snake R.	2020	100
	Pettit Lake	Snake R.	2020	100
Total				250
Eagle Fish Hatchery	Redfish Lake	Snake R.	2019	-
	Redfish Lake	Snake R.	2020	100
Total				100
Grand Total				350

¹ Smolts are acclimated at Sawtooth Fish Hatchery for ~2 weeks prior to release.

² The minimum release target for the Sockeye captive broodstock program is 250 adults to Redfish Lake and 100 captive adults to Pettit Lake. Additionally, any anadromous adults that assign to Pettit Lake will be released to Pettit Lake.

4.1. Timeline and Flowchart for Sockeye Salmon Production

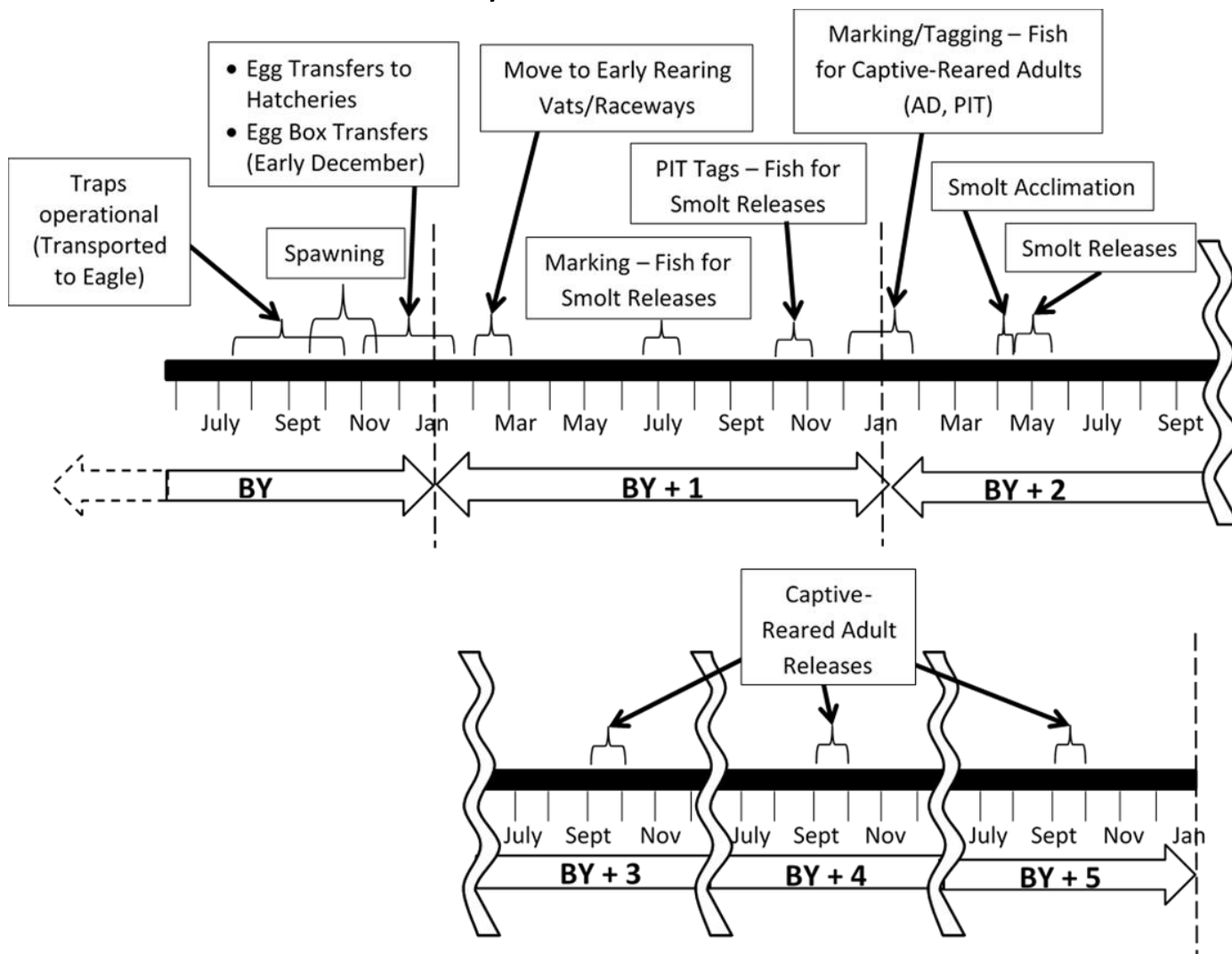


Figure 4.2. Timeline for Sockeye Salmon production. Date ranges are shown to include all facilities' operations.

Sockeye

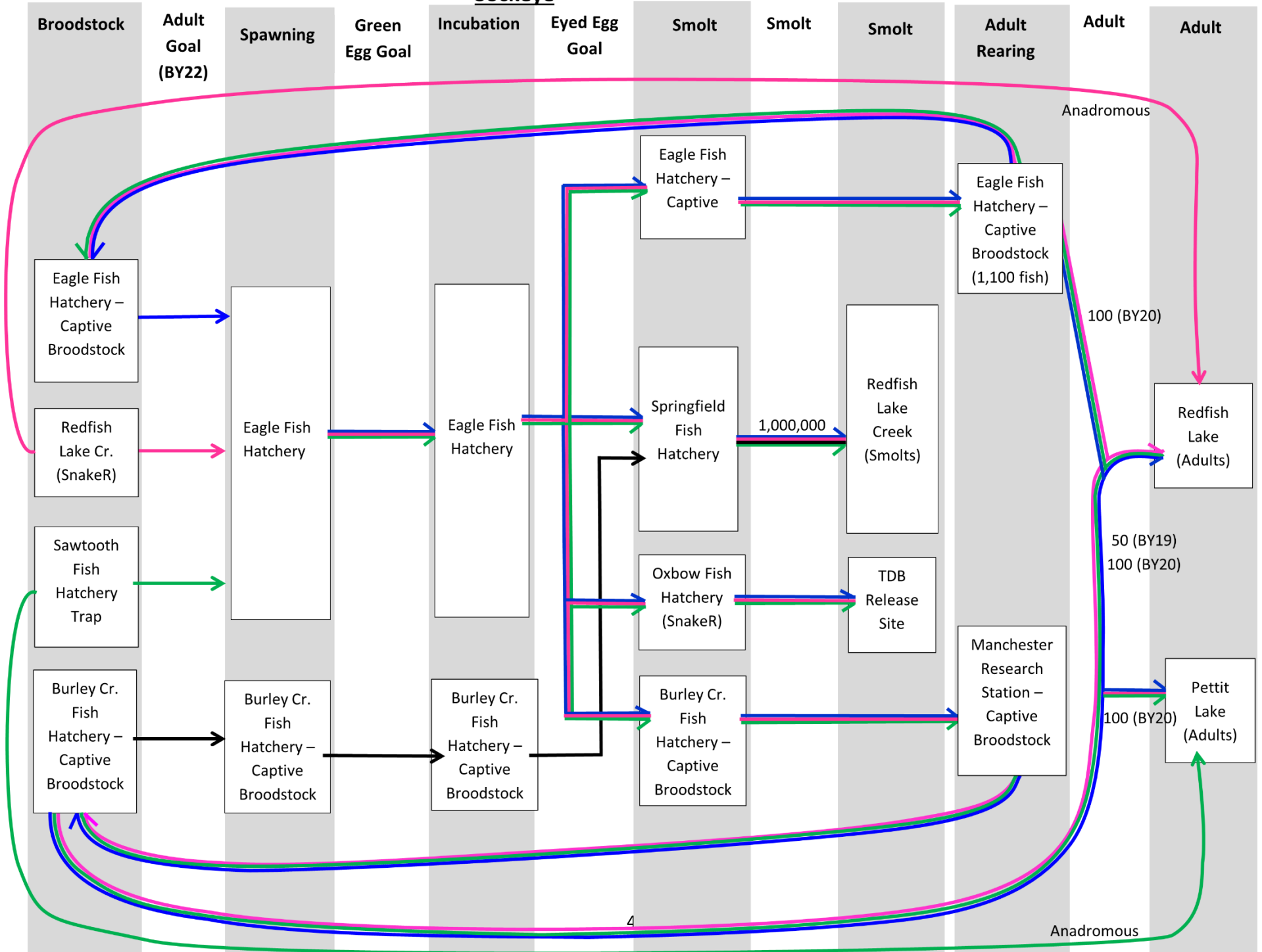


Figure 4.3. Fish and Egg movements for Sockeye. Release numbers reflect 2023 releases. Brood collection numbers are for BY2023.

4.2. Releases in 2023 (Smolt BY21, Captive Adult BY20, BY19, BY18)

4.2.1. Releases in 2023 (Smolt BY21, Captive Adult BY20, BY19, BY18) – Totals

Table 4.2a. Sockeye Captive-Reared Adult Releases in 2023.

Hatchery	Brood Year	Release Site	Stock	Likely Release Date	Captive Adult Release Goals ¹
NOAA - Burley Creek	2018	Redfish Lake	Snake R.	Sept.	-
	2019	Redfish Lake	Snake R.	Sept.	50
	2020	Redfish Lake	Snake R.	Sept.	100
	2020	Pettit Lake	Snake R.	Sept.	100
Total					250
Eagle	2019	Redfish Lake	Snake R.	Sept.	-
	2020	Redfish Lake	Snake R.	Sept.	100
Total					100
Grand Total					350

¹ All captive reared adults will be adipose clipped and PIT tagged prior to release

Table 4.2b. BY 2021 Sockeye Smolt Releases in 2023.

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
Springfield	Redfish Lake Cr. ¹	Snake R.	5/3 - 5/5/23	1,000,000	849,210	849,210	0	0	0	49,981	39,785	10,196
Grand Total				1,000,000	849,210	849,210	0	0	0	49,981	39,785	10,196

¹ Smolts are acclimated at Sawtooth Fish Hatchery for ~2 weeks prior to release.

4.2.2. Releases in 2023 (Smolt BY21, Captive Adult BY20, BY19, BY18) – 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 2023		Changes/Conditions that Occurred 2022-Early 2023
	Release Target Smolt BY21, Adult BY20, BY19, BY18	Transport/Release Smolt BY21, Adult BY20, BY19, BY18	Fish/Egg Health BY22, BY21, BY20, BY19, BY18
<i>Eagle Fish Hatchery (SOP Section 4.3)</i>			
Redfish Lake – Adult Releases (SnakeR)	NC	NC	NC
Pettit Lake – Egg Releases (SnakeR)	NC	NC	BY22 eggs released to Pettit Lake (9,733). Eggs were from anadromous females positive for BKD (Moderate ELISA values 0.25 - 0.40). Eggs from 52 anadromous females were culled for BKD (High ELISA values >0.40). Total eyed-eggs culled: 46,431.
<i>Burley Creek Fish Hatchery (NOAA) (SOP Section 4.3)</i>			
Redfish Lake – Adult Releases (SnakeR)	NC	NC	NC
Pettit Lake - Adult Releases (Snake River)	NC	NC	NC
<i>Springfield Fish Hatchery (SOP Section 4.4)</i>			
Redfish Lake Creek– Smolt Releases (SnakeR)	-Only received 897,828 eyed eggs. -evaluating 8, 10, and 14 fpp (3 raceways at each size) release size groups. The remaining 13 raceways are at the standard 12 fpp release target size.	NC	NC

4.3. Trap Operations and Production Planning for 2023 (BY 2023 for Smolt and Captive Adult Programs)

4.3.1. Trap Operations and Production Planning for 2023 (BY 2023 for Smolt and Captive Adult Programs) – TOTALS

Table 4.3a. Sockeye Spawning for BY 2023.

Site	Stock	Type	Forecast return/ Available Broodstock	Trapping period	Broodstock Need ¹			
					M:F Ratio	Female	Male	Total
Redfish Lake	Snake R.	Anad	793	7/15 - 10/15/23	1:1	121	121	242
Pettit Lake	Snake R.	Anad	17	7/15 - 10/1/23	1:1	0	0	0
Eagle FH ²	Snake R.	Captive	1,100	NA	1:1	393	393	786
Burley Creek ²	Snake R.	Captive	1,250	NA	1:1	317	317	634
Grand Total			3160			831	831	1662

¹ 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.

² This number reflects estimated number of captive broodstock available for spawning.

4.3.2. Trap Operations and Production Planning for 2023 (BY 2023 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 2023 (BY 2023)						
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	Hold additional broodstock to produce 50,000 eyed-eggs for ODFW’s Oxbow FH	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	NC	NC	NC	NC	NC
Sawtooth Trap (SnakeR)	NC	NC	Due to high water in 2021, BY19 Sockeye acclimating at Sawtooth FH were directly released to the Salmon River. The majority of the 2023 Sockeye run should return to the Sawtooth FH trap.	NC	NC	NC
Pettit Lake Creek Trap (SnakeR)	NC	NC	NC	NC	NC	NC

4.4. Marking and Rearing Plan for 2023 (Smolt BY 2022)

4.4.1. Marking and Rearing Plan for 2023 (Smolt BY 2022)– TOTALS

Table 4.4a. BY 2022 Sockeye Marking in 2023.

Hatchery	Release Site	Stock	Likely Release Date	Release Goals for 2024	Projected Actual Releases					PIT Tags ¹		
					Total	Adipose Fin Clip		No Clip		Total # Tags	Funding Source	
						No CWT	CWT	CWT	No CWT		CSS	BPA
Springfield	Redfish Lake Cr.	Snake R.	May 2024	1,000,000	1,000,000	1,000,000				55,500	40,000	15,500
Grand Total				1,000,000	1,000,000	1,000,000	0	0	0	55,500	40,000	15,500

¹ PIT tag distribution between release groups is currently being discussed.

4.4.2. Marking and Rearing Plan for 2023 (Smolt BY 2022) – 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>Springfield Fish Hatchery (SOP Section 4.4)</i>				
Springfield (SnakeR)	NC	NC	NC	NC

5. Appendices

5.1. BY2023 Brood Calculator

5.1.1. BY2023 Brood Calculator – SMOLT RELEASES

PROGRAM INPUTS							HISTORICAL HATCHERY PERFORMANCE METRICS (5-YR AVG)							FORM CALCULATED VALUES										
SPECIES	HATCHERY	RELEASE SITE	STOCK	PREFERRED TRAPPING SITE	FORMAL SMOLT RELEASE GOAL (G)	COMANAGER APPROVED CUSHION % ¹ (H)	% FEMALES IN BROODSTOCK (I)	% MORTALITY DURING HOLDING (J)	GREEN EGG FECUNDITY (K)	% REMAINING AFTER DISEASE CULLING ² (L)	% SURVIVAL GREEN TO EYED EGG (M)	% SURVIVAL EYED EGG TO RELEASE (N)	RELEASE GOAL WITH CUSHION (O)	EYED EGGS (P)	GREEN EGGS (Q)	GREEN EGGS BEFORE DISEASE CULL (R)	FEMALES SPAWNED (S)	MALES SPAWNED (T)	TOTAL ADULTS SPAWNED (U)	TRAPPED ADULTS NEEDED (V)	ADULTS TRAPPED TO MEET 1:1 RATIO (W)	SMOLTS PER TRAPPED ADULTS NEEDED (X)		
STLHD	HNFH	Sawtooth Weir	SawA	SFH	1,410,000	1.20%	50%	0.00%	5,050	100.00%	92.50%	92.00%	1,426,920	1,551,000	1,676,757	1,676,757	333	333	666	666	666	2,143		
		Sawtooth Weir (RAS Eval)	SawA	SFH	90,000	1.20%	50%	0.00%	5,050	100.00%	92.50%	92.00%	91,080	99,000	107,027	107,027	22	22	44	44	44	2,070		
		E. Fork Salmon R. - Upper	EFNat	EFRSRF	60,000	3.75%	50%	0.00%	5,775	100.00%	90.00%	88.90%	62,250	70,022	77,803	77,803	14	14	28	28	28	2,223		
	MVFH	Sawtooth Weir	SawA	SFH	279,000	0.00%	50%	0.00%	5,050	100.00%	92.50%	84.00%	279,000	332,143	359,073	359,073	72	72	144	144	144	1,938		
		Little Salmon R. - Stinky Sp.	SawA	SFH	403,000	0.00%	50%	0.00%	5,050	100.00%	92.50%	84.00%	403,000	479,762	518,662	518,662	103	103	206	206	206	1,956		
		Pahsimeroi Weir	USRB	PFH	434,000	0.00%	60%	5.00%	6,200	100.00%	90.00%	84.00%	434,000	516,667	574,074	574,074	93	62	155	164	245	2,646		
		Pahsimeroi Weir	DworB	DNFH	0	10.00%	60%	0.00%	6,681	100.00%	90.00%	84.00%	0	0	0	0	0	0	0	0	0	#DIV/0!		
	NSFH	Yankee Fork	USRB	YFT	434,000	0.00%	60%	5.00%	6,200	100.00%	90.00%	84.00%	434,000	516,667	574,074	574,074	93	62	155	164	245	2,646		
		Pahsimeroi Weir	PahA	PFH	800,000	10.00%	50%	0.00%	6,500	100.00%	93.00%	90.00%	880,000	977,778	1,051,374	1,051,374	162	162	324	324	324	2,716		
		Little Salmon R. - Stinky Sp.	PahA	PFH	200,000	10.00%	50%	0.00%	6,500	100.00%	93.00%	90.00%	220,000	244,444	262,843	262,843	41	41	82	82	82	2,683		
Little Salmon R. - Stinky Sp.		OxbA	HCT	250,000	20.00%	50%	36.00%	6,053	96.00%	89.25%	97.00%	300,000	309,278	346,530	360,969	60	60	120	188	188	1,596			
Snake R. Hells Canyon		OxbA	HCT	550,000	20.00%	50%	36.00%	6,053	96.00%	89.25%	97.00%	660,000	680,412	762,367	794,132	132	132	264	413	413	1,598			
SP/SU CHIN	RRFH	Rapid River Hatchery	RapidR	RRFH	2,650,000	10.00%	50%	6.50%	3,631	92.70%	92.60%	94.50%	2,915,000	3,084,656	3,331,162	3,593,487	990	990	1980	2118	2118	1,376		
		Hells Canyon	RapidR	RRFH	350,000	10.00%	50%	6.50%	3,631	92.70%	92.60%	94.50%	385,000	407,407	439,965	474,611	131	131	262	281	281	1,370		
	SFH	Salmon R. - Co. Line Br. - Integrated	USRInt	SFH	250,000	0.00%	50%	3.00%	4,350	96.00%	92.00%	89.00%	250,000	280,899	305,325	318,047	74	74	148	153	153	1,634		
		Sawtooth Weir - Segregated	USRSeg	SFH	1,450,000	3.00%	50%	3.00%	4,200	96.00%	93.00%	96.00%	1,493,500	1,555,729	1,672,827	1,742,528	415	415	830	856	856	1,745		
		Yankee Fork	USRSeg	SFH	300,000	3.00%	50%	3.00%	4,200	96.00%	93.00%	96.00%	309,000	321,875	346,102	360,523	86	86	172	178	178	1,736		
	PFH	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		
		Pahsimeroi Weir - Segregated	PahSeg	PFH	935,000	10.00%	50%	15.00%	4,500	94.00%	90.00%	96.00%	1,028,500	1,071,354	1,190,394	1,266,376	282	282	564	664	664	1,549		
	McFH	SFSR Knox Br. - Integrated	SFSRInt	SFSRW	150,000	0.00%	50%	10.00%	3,800	95.00%	91.70%	85.00%	150,000	176,471	192,443	202,572	54	54	108	120	120	1,250		
		SFSR Knox Br. - Segregated	SFSRSeg	SFSRW	850,000	10.00%	50%	10.00%	3,800	95.00%	91.70%	85.00%	935,000	1,100,000	1,199,564	1,262,699	333	333	666	740	740	1,264		
		Johnson Creek	JohnCr	JCW	150,000	10.00%	50%	16.00%	4,200	97.00%	87.00%	92.00%	165,000	179,348	206,147	212,523	51	51	102	122	122	1,352		
		CW Sum Chin - Powell Ponds	SFSRSeg	SFSRW	640,000	0.00%	50%	5.00%	3,800	92.00%	94.00%	96.00%	640,000	666,667	709,220	770,891	203	203	406	428	428	1,495		
FALL CHIN	IFH	Salmon R.-Hammer Cr			1,000,000								1,000,000	#DIV/0!	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	#VALUE!	#DIV/0!		
SOCKEYE	SpFH	Redfish Lake Creek	Redfish Lake	RFLC/SFH	180,000	0.00%	50.00%	2.00%	2,280	95.00%	81.00%	85.00%	180,000	211,765	261,438	275,198	121	121	242	247	247	729		
		Redfish Lake Creek	Redfish Lake	EFH CB	450,000	0.00%	50.00%	4.00%	1,800	100.00%	75.00%	85.00%	450,000	529,412	705,882	705,882	393	393	786	819	819	549		
		Redfish Lake Creek	Redfish Lake	NOAA CB	410,000	0.00%	50.00%	5.00%	1,900	100.00%	80.20%	85.00%	410,000	482,353	601,438	601,438	317	317	634	668	668	614		
CELL FORMULAS													G*(1+H)	O/(N)	P/(M)	Q/(L)	ROUNDUP(R/K,O)	S/(I)-S	T+S	ROUNDUP(P/(U)-S/(1-I)/(1-				

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.

5.1.2. BY2023 Brood Calculator – EGG RELEASES

PROGRAM INPUTS							HISTORICAL HATCHERY PERFORMANCE METRICS (5-YR AVG)						FORM CALCULATED VALUES									
SPECIES	HATCHERY	RELEASE SITE	STOCK	PREFERRED TRAPPING SITE	FORMAL EGG RELEASE GOAL (G)	COMANAGER APPROVED CUSHION % ¹ (H)	% FEMALES IN BROODSTOCK (I)	% MORTALITY DURING HOLDING (J)	GREEN EGG FECUNDITY (K)	% SURVIVAL AFTER DISEASE CULLING ² (L)	% SURVIVAL GREEN TO EYED EGG (M)	% SURVIVAL EYED EGG TO RELEASE (N)	EGG RELEASE GOAL WITH CUSHION (O)	EYED EGGS (P)	GREEN EGGS (Q)	GREEN EGGS BEFORE DISEASE CULL (R)	FEMALES SPAWNED (S)	MALES SPAWNED (T)	TOTAL ADULTS SPAWNED (U)	TRAPPED ADULTS NEEDED (V)	ADULTS TRAPPED TO MEET 1:1 RATIO (W)	SMOLTS PER TRAPPED ADULTS NEEDED (X)
STHD	SFH	SBT Egg Box-Yankee Fork	SawA	SFH	500,000	10%	50%	0.00%	5,050	100.00%	92.50%	NA	550,000	550,000	594,595	594,595	118	118	236	236	236	2,331
	PFH	SBT Egg Box-Panther Creek	PahA	PFH	400,000	10%	50%	0.00%	6,500	100.00%	88.00%	NA	440,000	440,000	500,000	500,000	77	77	154	154	154	2,857
		SBT Egg Box-Indian Creek	PahA	PFH	100,000	10%	50%	0.00%	6,500	100.00%	88.00%	NA	110,000	110,000	125,000	125,000	20	20	40	40	40	2,750
SP/SU	PFH	Panther Creek - EGG BOX	PahSeg	PFH	500,000	0%	50%	15.00%	4,500	95%	91.70%	NA	500,000	500,000	545,256	573,954	128	128	256	302	302	1,656
CHIN	McFH	Curtis/Cabin Creek - EGG BOX	SFSRSeg	McFH	300,000	0%	50%	10.00%	3,800	95%	91.70%	NA	300,000	300,000	327,154	344,372	91	91	182	203	203	1,478

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.