Annual Work Plan
Brood Year 2025 Fall-run Chinook Salmon
Coleman National Fish Hatchery

January 7, 2026

The U.S. Fish and Wildlife Service (Service) developed this Annual Work Plan for brood year (BY) 2025 fall-run Chinook Salmon (FCS) at Coleman National Fish Hatchery (Coleman NFH) to communicate the planned ponding and release groupings with cooperating State and Federal agencies and stakeholder groups. This plan builds upon the framework of standard production practices at the Coleman NFH, the Bridge Group Study Plan (dated October 1, 2025), and the Preliminary Annual Production Plan (dated July 29, 2025) previously distributed by the Service. Through the development and sharing of this Annual Work Plan, the Service aims to promote consistent expectations for upcoming releases of juvenile FCS, including groups of smolts and fed fry that will be liberated using a diversity of release strategies.

A principal objective of Coleman NFH is to achieve the annual production target of 12 million (M) FCS smolts, with the goal of contributing one percent of juvenile production (120,000 fall-run adults, annually) to harvest plus spawning escapement (hereafter referred as contribution). Releasing juvenile salmon at the smolt developmental stage is a standard practice on West Coast of North America that has been shown to generally increase rates of adult contributions, relative to liberations at earlier developmental stages. During recent years, however, releases of FCS smolts from the Coleman NFH have often fallen short of the annual contribution target of 120,000 adults. Therefore, beginning with the 2025 spawning season, the Coleman NFH has initiated an experimental production program (Bridge Group Study Plan) of FCS fry (~500 fish per pound [fpp] or ~40-50 mm fork length), with the goal adding to the contributions of smolt releases to harvest and escapement.

During the 2025 spawning season, 90 discrete egg groups (takes) of FCS were collected at the Coleman NFH (Appendix 1), with an estimated total production anticipated to exceed 20M juveniles. Production of juvenile FCS from the Coleman NFH will be initially allocated to fulfill the standard production target of 12M smolts. Groups targeted for smolt release will be allocated throughout the duration of spawning dates at Coleman NFH to encourage representation of all spawn timings and discourage hatchery practices from influencing future spawn timing. Juvenile FCS exceeding the smolt release target will be allocated to experimental releases of fed fry. Thus, a total production of 20M+ is anticipated to fulfill the production target of 12+ million smolts in addition to experimental releases of 8+ million fry. Final release numbers are subject to change, based on rates of in-hatchery survival.

Release Strategies

Smolt Release Groups

Smolt liberation strategies will focus on the standard practice of releasing target-sized (75 mm / 90 fpp) fish into Battle Creek but also include continued experimentation with several adaptive release strategies. These experimental releases are intended to increase our understanding of survival associated with different release dates and locations, environmental conditions and fish sizes. The following experimental release strategies studies are planned for BY 2025:

1) *Early Release*: Up to four raceways (approx. 450,000 each) of FCS, including early egg takes, will be released into Battle Creek at earlier dates (e.g., mid-March) and to encompass a range of smaller to standard release body sizes.
2) *Net-Pen Rearing*: One raceway (approx. 490,000) of FCS will be transferred as fry to net pens located behind the fish screens at the Tehama-Colusa pumping facility to continue the paired-release imprinting study that was initiated with brood year 2024.
3) *Mid-River Release*: Up to two raceways (approx. 450,000-900,000) of FCS will be released into the mid-river, between Butte City and Tisdale. Each mid-river release group will be paired with a Battle Creek onsite release group (approx. 450,000-900,000) to add to the interpretation of study results.

Numerous factors will influence the dates when these releases occur, including fish size and growth, completion of marking and tagging, and other hatchery practices. Generally, it is anticipated that standard releases will occur in April, Early Releases will occur in mid- to late- March, transfer to Net Pen Rearing by early March, and mid-river releases in late-March through April. When feasible, releases of FCS smolts will be synchronized with weather events or pulse flows from Shasta Dam to promote increased rates of travel and survival during emigration. Conversely, if environmental conditions in the emigration corridor are extremely poor, such that downstream survival is expected to be substantially compromised, the Service may also consider releases at alternate downstream locations, including San Pablo Bay. Decisions to employ these alternative release strategies for additional groups of FCS may occur to encourage increased rates of adult contributions to harvest and escapement. Implementation of alternative release practices will follow standard decision-making processes at Coleman NFH and will be coordinated with appropriate State and Federal agencies.

Table 1. Groups of Brood Year 2025 Fall-run Chinook Salmon smolts produced at the Coleman NFH. Estimated numbers are based on counts of fish at the time of transfer from incubation trays into raceway. Release Life-Stage indicates groups planned for smolt and fed fry releases, and ponding/release plan indicates further details for each group as of early January 2026.

Raceway	Spawn Date	Estd. Number	Release Life-Stage	Ponding/Release Plan
2	**10/14/2025**	**491,701**	**Smolt**	**Net Pen Study**
3	10/14/2025	477,170	Smolt	Battle Creek
4	10/9/2025	538,497	Smolt	Battle Creek
6	10/15/2025	939,941	Smolt	Battle Creek: Double pond: split half into RW 05
8	10/17/2025	924,654	Smolt	Battle Creek: Double pond: split half into RW 09
10	10/17/2025	912,765	Smolt	Battle Creek: Double pond: split half into RW 11
12	**10/18/2025**	**468,905**	**Smolt**	**Mid-River Paired Release Study 1a**
13	**10/18/2025**	**453,402**	**Smolt**	**Mid-River Paired Release Study 1b**
14	10/18/2025	497,092	Smolt	Battle Creek: Initially ponded into 31/32
16	10/21/2025	929,694	Smolt	Battle Creek: Double pond: split half to RW 17
18	10/22/2025	959,209	Smolt	Battle Creek: Double pond: split half to RW 19
20	10/22/2025	935,093	Smolt	Battle Creek: Double pond: split half to RW 21
22	**10/23/2025**	**480,994**	**Smolt**	**Mid-River Paired Release Study 2a**
23	**10/23/2025**	**463,687**	**Smolt**	**Mid-River Paired Release Study 2b**
24	10/24/1902	456,167	Smolt	Battle Creek
25	10/28/2025	931,339	Smolt	Battle Creek: Double pond: split half to RW 26
27	10/30/2025	485,179	Smolt	Battle Creek
28	11/4/2025	-	Smolt	Battle Creek: Inventory Not Complete
1	**10/15/2025**	**1,028,478**	**Fry**	**Yolo #1**
7	10/14/2025	491,832	Fry	Release into Battle Creek or Sacramento R.
9	**10/18/2025**	**1,040,840**	**Fry**	**Yolo #2**
11	10/18/2025	1,217,157	Fry	Release into Battle Creek or Sacramento R.
15	10/21/2025	989,695	Fry	Release into Battle Creek or Sacramento R.
17	10/23/2025	1,090,317	Fry	Release into Battle Creek or Sacramento R.
19	10/24/2025	564,766	Fry	Release into Battle Creek or Sacramento R.
25	10/24/2025	382,466	Fry	Release into Battle Creek or Sacramento R.
32	10/22-23/2025	143,624	Fry	Release into Battle Creek or Sacramento R.
33 & 34	10/23/2025	430,511	Fry	Release into Battle Creek or Sacramento R.
37	10/24/2025	304,792	Fry	Release into Battle Creek or Sacramento R.
38	10/28/2025	145,234	Fry	Release into Battle Creek or Sacramento R.
--	10/9/2025	72,765	Fry	Released Sacramento River at Balls Ferry on 1/5/2026, 770 fish/pound
--	11/6-12/2025	-	Fry	Inventory Not Complete for Takes 16-18

Fry Release Groups

Four experimental release strategies of fed fry (~500 fpp, 40-50 mm) are planned during the 2025 production cycle, including (1) direct releases into Battle Creek, (2) trucked release to the upper Sacramento River (Keswick Dam to Red Bluff), (3) trucked release into the middle Sacramento River (Red Bluff to Tisdale), and (4) releases into the Yolo Bypass. Liberations into the Yolo Bypass may include releases into managed agricultural fields for extended "semi-captive" rearing and releases directly into unconstrained areas of the bypass. Initially, planned liberations of BY2025 FCS into the Yolo Bypass included experimental releases at Knaggs Ranch and Conaway Ranch. However, recent flooding of the bypass, starting in December 2025, has inundated the selected field at Knaggs Ranch and that field is likely to contain naturally produced fishes, including some ESA-listed species. Based on agreements with National Marine Fisheries Service, Knaggs Ranch is no longer a suitable release location for semi-captive rearing of Coleman NFH FCS and the release group previously planned for this site will now be liberated at an alternate location of the Yolo Bypass that does not include semi-captive rearing. Locations currently being considered include the Lower Elkhorn Basin Levee Setback (LEBLS) Project and Road 22, both are located at the upstream end of the bypass to allow released fish an opportunity to benefit from extended rearing in the bypass during their downstream migration. The selected field at Conaway Ranch has not inundated during recent flood events and is currently being considered as a release location for extended rearing. However, if the selected field at Conaway Ranch becomes inundated, then an alternate (i.e., unconstrained) release location in the bypass may also be selected for that release group.

Timings of the Fry Release Groups will depend on numerous factors including fish size and development, rearing densities, and safe access to release sites for the fish distribution trucks (e.g., muddy levy roads or inundated boat ramps may prevent trucks from safely driving and releasing fish at a specific site). Generally, it is anticipated that direct releases, and trucked releases to both the upper and middle Sacramento will be spaced out and occurred between January and March, and releases into the Yolo Bypass will begin in late-January. Target group sizes for all experimental fry releases are approximately 1 million; however, some group sizes will deviate from this target substantially, depending on the number and development stage of some egg takes. Because survival and contribution of unfed fry is expected to be substantially lower than fed fry and smolts, unfed fry releases are not a production target of the Bridge Group study, and the Service does not plan to release any groups of unfed fry from the 2025 production cycle of FCS. The Service maintains the ability to release some groups of unfed fry in future years, depending on the constraints of extended rearing at Coleman NFH.

Marking and Tagging

All FCS produced at the Coleman NFH in 2025, including both smolt and fry releases, have been genetically "tagged" using Parental-based Tagging (PBT), which is described in detail in the Bridge Group Study Plan. Due to a limited number of rearing ponds available, some adjacent egg take groups of smolt releases were combined at the time of initial ponding and then split out again later during the rearing cycle; therefore, PBT genetic data may be

confounded between some adjacent smolt release groups. However, each smolt release group will continue to receive an adipose fin clip and coded-wire tag, consistent with the Constant Fractional Marking (CFM) program in the Central Valley. Coded-wire tags will enable future assessments of contributions for smolt release groups. Furthermore, we expect that each experimental fry release group will be identifiable and trackable to its specific release strategy based solely on genetic PBT data. Rates of marking and coded wire tagging of some experimental release groups may be increased (>25%) to improve the scientific rigor in contribution assessments. For example, net pen release groups of approximately 225,000 will be marked and tagged at a 100% rate. Similarly, each paired release group associated with the mid-river release study will target at least 200,000 fin-clipped and CWT fish per release, although the marking rate of the overall group may vary (e.g. 50%-100% of fish tagged).

Reporting and Communication of BY 2025 FCS Release Activities

Information presented in this Annual Work Plan communicates the Service's intentions based on current planning and data; however, the Service retains the authority change production strategies and release plans, at its own discretion, based on unanticipated changes to production levels, priorities, or environmental conditions. In-season adjustments to this Annual Work Plan will be promptly communicated with partner agencies and study collaborators. After the conclusion of the BY 2025 juvenile releases, finalized release data will be reported to the Regional Mark Processing Center, and distributed in an annual report of hatchery production and experimental releases.

Appendix 1. Brood Year 2025 Fall-run Chinook Salmon Release Group Planning

Egg Take	Spawn Date	Number Pairs	Number Eyed Eggs	Release Grouping	Total Number
1	10/2/2025	2	--	Culled	--
2A	10/7/2025	104	167,333	Smolt	538,497
2B	10/7/2025	16	31,623		
3A	10/9/2025	104	315,098		
3B	10/9/2025	16	24,443		
3C	10/9/2025	44	72,765	Fed Fry	72,765
4A	10/14/2025	104	404,589	Smolt	477,170
4D	10/14/2025	16	72,581		
4B	10/14/2025	16	71,213	Smolt: Net Pen	491,701
4C	10/14/2025	104	420,488		
4E	10/14/2025	104	426,362	Fed Fry	491,832
4F	10/14/2025	16	65,470		
5A	10/15/2025	104	314,806	Smolt	939,941
5B	10/15/2025	16	75,080		
5C	10/15/2025	104	463,642		
5D	10/15/2025	16	86,413		
4G	10/14/2025	54	198,524	Yolo #1	1,028,478
5E	10/15/2025	104	470,165		
5G	10/15/2025	81	359,789		
5F	10/15/2025	16	73,299	Smolt	924,654
6	10/16/2025	90	390,075		
7C	10/17/2025	102	461,280		
7D	10/17/2025	16	73,124	Butte City/ Paired Release 1a	468,905
7E	10/17/2025	61	250,052		
7G	10/17/2025	16	68,985		
7I	10/17/2025	16	76,744		
8I	10/18/2025	104	453,402	Butte City/ Paired Release 1b	453,402
7A	10/17/2025	104	431,312	Smolt	912,765
7B	10/17/2025	16	0		
7F	10/17/2025	104	481,453		
8A	10/18/2025	104	435,342	Yolo #2	1,040,840
8B	10/18/2025	16	76,295		
8C	10/18/2025	106	450,579		
8D	10/18/2025	16	78,624		
8E	10/18/2025	108	497,092	Smolt	497,092
7H	10/17/2025	104	489,607	Fed Fry	1,217,157
8F	10/18/2025	16	62,418		
8G	10/18/2025	104	410,447		
8H	10/18/2025	16	71,297		
8J	10/18/2025	16	72,830		

Egg Take	Spawn Date	Number Pairs	Number Eyed Eggs	Release Grouping	Total Number
8K	10/18/2025	29	110,558		
9A	10/21/2025	104	372,378		
9B	10/21/2025	16	73,978		
9C	10/21/2025	104	380,784	Fed Fry	989,695
9D	10/21/2025	16	70,422		
9H	10/21/2025	21	92,133		
9E	10/21/2025	104	418,323		
9F	10/21/2025	16	67,420	Smolt	929,694
9G	10/21/2025	104	443,951		
10A	10/22/2025	104	439,398		
10B	10/22/2025	16	68,585	Smolt	959,209
10C	10/22/2025	104	451,226		
10E	10/22/2025	104	452,285		
10F	10/22/2025	16	61,829	Smolt	935,093
10G	10/22/2025	104	420,979		
10H	10/22/2025	15	68,149	Butte City/Paired Release 2a	480,994
11A	10/23/2025	104	412,845		
11B	10/23/2025	16	73,788	Butte City/Paired Release 2b	463,687
11E	10/23/2025	106	389,899		
10D	10/22/2025	16	66,773	Fed Fry	143,624
11D	10/23/2025	16	76,851		
11C	10/23/2025	104	430,511	Fed Fry	430,511
11F	10/23/2025	16	72,315		
11G	10/23/2025	104	453,357		
11H	10/23/2025	16	78,139	Fed Fry	1,090,317
11I	10/23/2025	116	419,687		
11J	10/23/2025	17	66,819		
12A	10/24/2025	104	399,670		
12B	10/24/2025	16	47,954	Smolt	924,355
12C	10/24/2025	104	406,667		
12F	10/24/2025	16	70,064		
12D	10/24/2025	16	60,553		
12E	10/24/2025	104	380,035	Fed Fry	564,766
12H	10/24/2025	16	59,521		
12J	10/24/2025	22	64,657		
12G	10/24/2025	104	382,466	Fed Fry	382,466
12I	10/24/2025	106	304,792	Fed Fry	304,792
13A	10/28/2025	104	456,167	Fed Fry	456,167
13B	10/28/2025	16	50,429		
13C	10/28/2025	104	441,146	Smolt	931,339
13E	10/28/2025	104	439,764		

Egg Take	Spawn Date	Number Pairs	Number Eyed Eggs	Release Grouping	Total Number
13D	10/28/2025	16	61,502	Fed Fry	145,234
13F	10/28/2025	17	83,732		
14A	10/30/2025	104	411,309	Smolt	485,179
14B	10/30/2025	16	73,870		
15A	11/4/2025	104	not yet inventoried	Smolt	--
15B	11/4/2025	19			
16A	11/6/2025	67	not yet inventoried	Fed Fry	--
17A	11/12/2025	23			
18A	11/12/2025	3			