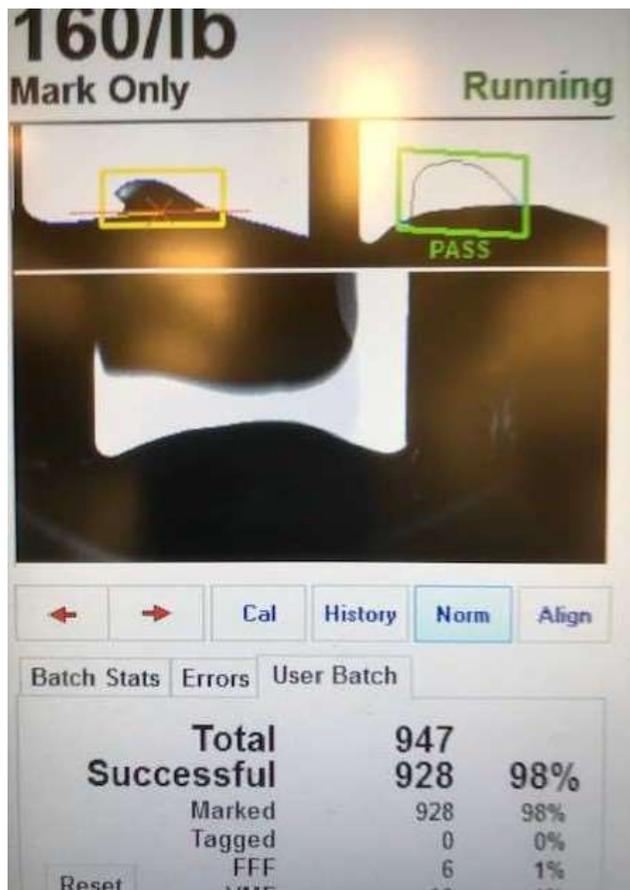


Central Valley Salmon and Steelhead Marking/Coded-wire Tagging Program

Fall-run Chinook Salmon
Spring-run Chinook Salmon
Steelhead

2020 Marking Season



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Abstract

The Central Valley Constant Fractional Marking/Tagging Program (CFM) was initiated in the spring of 2007 following the purchase of four automated fish tagging trailers (AutoFish Systems). Planning studies indicated that the optimal marking/tagging rate for the Central Valley CFM program was 25% of the fall-run Chinook salmon production releases. For each production release (fish released at the same time and location), the program therefore targeted marking with an adipose fin-clip and coded-wire tagging a representative 25% of each release of fall-run Chinook salmon from the Central Valley hatcheries in 2007 through 2020. The program was conducted at Coleman National Fish Hatchery, Feather River Fish Hatchery, Nimbus Fish Hatchery, and Mokelumne River Fish Hatchery in these years. We assisted with the manual tagging operations at Merced River Fish Hatchery during the 2020 tagging season.

The AutoFish Trailers were also used in the 2011 through 2020 seasons to adipose fin-clip and coded-wire tag 100% of the spring-run Chinook salmon reared at the Feather River Fish Hatchery, and adipose fin-clip 100% of the steelhead reared at Coleman National Fish Hatchery, Feather River Fish Hatchery, Mokelumne River Fish Hatchery, and Nimbus Fish Hatchery.

This report includes the marking/tagging activities conducted with the AutoFish Systems and manual marking trailers at the five Central Valley hatcheries in 2020 (Brood Year 2019 fall-run Chinook salmon, spring-run Chinook salmon, and steelhead). The program successfully processed 100% of the production releases of fall-run Chinook salmon through the automated and manual marking trailers, 33,387,382 fish. Of the fall-run Chinook salmon total, approximately 28.62% were coded-wire tagged and adipose fin-clipped (9,556,306 fish). In addition, the program marked and coded-wire tagged 100% of the spring-run Chinook salmon produced at the Feather River Fish Hatchery, a total of 1,787,794 fish. The program also adipose fin-clipped 100% of the steelhead produced at Coleman National Fish Hatchery, Feather River Fish Hatchery, Mokelumne River Fish Hatchery, and Nimbus Fish Hatchery, a total of 1,937,724 fish. The Coleman National Fish Hatchery late-fall-run and winter-run Chinook salmon and steelhead marking/tagging numbers are included in a separate report.

Introduction

In most years, approximately 30 million fall-run Chinook salmon are produced at five hatcheries in California's Central Valley, including Coleman National Fish Hatchery, Feather River Fish Hatchery, Nimbus Fish Hatchery, Merced River Fish Hatchery, and Mokelumne River Fish Hatchery (Figure 1). Production from these hatcheries contributes to major sport and commercial fisheries in ocean and inland areas. Until 2007, only experimental releases of fall-run Chinook were externally marked and coded-wire tagged on a regular basis.

In 2004, the CALFED Ecosystem Restoration Program (ERP) funded a study to design a constant fractional marking/coded-wire tagging program for production releases of fall-run Chinook salmon from Central Valley hatcheries, with the goal of estimating in a statistically valid manner the relative contribution of hatchery production. The study recommended the implementation of a system-wide marking/tagging program for production releases.

In 2006, the ERP Program provided the initial funding to begin implementation of the Central Valley Constant Fractional Marking (CFM) program. The initial contract provided funding to Pacific States Marine Fisheries

Commission for the purchase of four automated tagging systems (AutoFish Systems) and the first two years of operating costs for marking/tagging production releases of fall-run Chinook salmon at the five major Central Valley hatcheries (in 2007 and 2008).

This program is a cooperative effort of the California Department of Fish and Wildlife, California Department of Water Resources, U.S. Fish and Wildlife Service, Pacific States Marine Fisheries Commission, U.S. Bureau of Reclamation, and East Bay Municipal Utility District. In 2009 through 2020, funding to conduct tagging operations was provided by the following entities: California Department of Water Resources and California Department of Fish and Wildlife; East Bay Municipal Utility District; and U.S. Bureau of Reclamation.

From 2002 to 2010, 100% of the spring-run Chinook salmon production at Feather River Hatchery was marked and coded-wire tagged using manual techniques. In 2011 through 2020, an AutoFish Trailer was used for the spring-run Chinook salmon marking/tagging. Funding was provided by the California Department of Water Resources.

The overall objectives of the fall and spring-run Chinook salmon tagging programs are:

1. To evaluate the contribution rates of hatchery fish to Central Valley Chinook salmon populations,
2. To evaluate the Central Valley propagation program's genetic and ecological effects on natural Chinook populations,
3. To estimate exploitation rates of hatchery and natural Central Valley Chinook salmon in ocean and inland fisheries,
4. To evaluate the success of restoration actions designed to increase natural production of Central Valley Chinook salmon,
5. To evaluate the relative impacts of water project operations on hatchery and naturally-produced Chinook salmon,
6. To evaluate the recovery of listed stocks of Chinook salmon.

All of the steelhead reared at Central Valley hatcheries were also marked using the AutoFish Trailers in 2020. Marking allows selective harvest of hatchery-reared steelhead in sport fisheries.

This report covers the fourteenth year of the CFM program's marking/tagging activities at four major Central Valley hatcheries in the spring/summer of 2020 (Brood Year 2019 fall-run Chinook salmon). Also included in this report is the manual tagging operations conducted at Merced River Fish Hatchery fall-run Chinook salmon. The report also includes the marking/tagging of Brood Year 2019 spring-run Chinook salmon reared at the Feather River Fish Hatchery, and marking of steelhead reared at Feather River Fish Hatchery, Mokelumne River Fish Hatchery, and Nimbus Fish Hatchery. Coleman National Fish Hatchery steelhead and late-fall run and winter-run Chinook salmon are included in a separate report.

Methods

The coded-wire tag/adipose fin clip is the method agreed to by the Pacific Salmon Treaty (1999) to monitor Chinook salmon in ocean fisheries along the Pacific Coast. It is a cost-effective method to apply a long-term mark that gives data on hatchery origin and release group, and provides for external identification of tagged fish. The coded-wire tag/adipose fin-clip marking method has been used throughout the West Coast of North America since the 1970's. Currently, over 50 million Chinook and coho salmon are coded-wire tagged each year. This Central Valley program is an integral part of this Coast-wide tagging program; tagged fish are recovered in ocean fisheries throughout the West Coast.

Four state-of-the-art automated tagging trailers were purchased for the Central Valley program in late 2006 and early 2007 from Northwest Marine Technology. The trailers incorporated the latest advanced technology for marking and coded-wire tagging fish. The AutoFish System™ has the capacity to mark and implant coded-wire tags very rapidly without any use of anesthetic or human contact. These systems have been in use for many years in the Pacific Northwest, but the Central Valley trailers were the first to be purchased for use in California.

Planning studies indicated that the optimal marking/tagging rate for the Central Valley CFM program was 25% of the fall-run Chinook production releases. For each production release (fish released at the same time and location), the program therefore targeted marking/tagging a representative 25% in 2007 through 2020. Coded-wire tags for the 2020 season were ordered from Northwest Marine Technology in November 2019. Tags used in the program were all 1.1 mm standard length tags.

The program was conducted at Coleman National Fish Hatchery, Feather River Fish Hatchery, Nimbus Fish Hatchery, and Mokelumne River Fish Hatchery (Figure 1). A manual tagging trailer was used for the fall-run Chinook salmon at Merced River Fish Hatchery.

The automated marking trailers have the ability to process fish that are a minimum length of 57 mm and a maximum length of 142 mm. With this in mind, timing of AutoFish Trailer operations at each facility was critical to maximize efficiency and productivity while meeting hatchery release deadlines. Double shifts were often used to maximize efficiency and output of the AutoFish Trailers. Trailers were moved as needed when fish at each hatchery reached the appropriate marking size. The fall-run Chinook salmon marking/tagging season began the last week of February at Coleman National Fish Hatchery and ended at Nimbus Fish Hatchery the first week of May. Marking/tagging of hatchery-produced fall-run Chinook salmon in 2020 therefore spanned an 11-week period. The spring-run Chinook salmon marking/tagging season began the third week of February and was completed at Feather River Hatchery the fourth week of March for a total of six weeks. The Central Valley steelhead marking was conducted intermittently based on the number of fish that were the appropriate size to process through the AutoFish Trailers, from the second week of May through the first week of August for a total of thirteen weeks.

Throughout the season, fin-clipping rate and tag retention studies were conducted for fall and spring-run Chinook salmon to determine actual marking/tagging rates for each coded-wire tag code. Except as otherwise noted below, approximately 800-900 marked/tagged fish per tag code were retained and held separately for a period of approximately 21 days following the completion of each tag code. At Coleman National Fish Hatchery and Mokelumne River Fish Hatchery, approximately 400 fish were held for retention purposes for each tag code. A lower number of fish was used in studies at these facilities due to the large number of tag codes used. Study fish were sampled from throughout the tagging period for each tag code. Fish were electronically tested for tag

retentions and visually inspected for fin-clip quality at the end of the study period. During these quality checks, for a fish to be counted as successfully retaining a tag, 60% or more of the adipose fin must be removed and a coded-wire tag must be present. A partial clip resulted in 10-40% of the adipose fin still present but was not counted against the successful clipping rate. If more than 40% of the adipose fin was still intact, it was classified as unclipped and therefore counts against the successful tagging rate (i.e. it likely would not be checked for a CWT since the adipose fin is intact or mostly intact). In some instances, fish were held for less than the standard 21-day time period due to specific hatchery release strategies. For some smaller tag codes, tag retention studies were not feasible; for these tag groups, retention rates were extrapolated from larger groups tagged at the same hatchery during similar time periods.

Following the tagging season, coded-wire tag data were summarized for submission to [the Regional Mark Processing Center \(RMPC\)](http://www.rmipc.org), operated by the Pacific States Marine Fisheries Commission (<http://www.rmipc.org>). The RMPC provides regional coordination of salmon tagging and fin marking programs, and maintenance of coastwide databases for coded-wire tag releases, recoveries, and associated catch/sample information, in the Regional Mark Information System (RMIS).

Figure 2 summarizes the annual project work flow.

Results

Daily tagging rates, tag codes, and results of retention studies for the 2020 tagging season are shown in Appendix Tables 1 – 5 for each of the hatcheries. The technology allowed an accurate count of all production fish, and the marking/tagging of an exact percentage of those fish.

The program successfully processed 100% of the 2020 production releases of fall-run Chinook salmon from the Central Valley hatcheries (totaling 33,387,382 fish). The 25% target rate for marking/tagging was achieved for Brood Year 2019 (approximately 28.62% were CWT/ad-clipped, 9,556,306 fish). The AutoFish Trailers also marked and tagged 1,787,794 Brood Year 2019 spring-run Chinook salmon reared at the Feather River Fish Hatchery.

The AutoFish Trailers marked 100% of the steelhead reared at Coleman National Fish Hatchery, Feather River Fish Hatchery, Mokelumne River Fish Hatchery, and Nimbus Fish Hatchery.

Tag retention studies for the fall-run Chinook salmon indicated very high rates of tag/mark retention. Retention rates ranged as follows:

- Coleman National Fish Hatchery: 97.98% - 100% with an average of 99.48%
- Feather River Fish Hatchery: 98.36% - 99.89% with an average of 99.17%
- Mokelumne River Fish Hatchery: 97.75% - 100% with average of 99.88%
- Nimbus Fish Hatchery: 98.56% - 100% with an average of 99.70%
- Merced River Fish Hatchery: 98.88%

Tag retention studies for the spring-run Chinook salmon also indicated high rates of tag/mark retention. Retention rates ranged as follows:

- Feather River Hatchery: 98.67% - 99.56% with an average of 99.19%

The steelhead from each facility are generally released during the winter months and clip quality will be checked just prior to release.

The numbers of fish included in this report were those processed and returned to the raceways during the tagging process. The actual numbers of fish released may differ. Please refer to the RMIS website, <http://www.rmipc.org>, for the number of fish that were successfully clipped, tagged, and then released.

Discussion

Similar to past tagging seasons, finding and retaining qualified technical personnel for program operations continued to be a challenge during the 2020 tagging season. At the northern four hatcheries, the program had seven Trailer Operators and six Trailer Assistants employed at the start of the 2020 season. At Merced River Hatchery, one crew leader and four Trailer Assistants were employed for a shortened duration for the project. This project was shut down prior to completion due to COVID-19. Multiple crewmembers left prior to the end of the season for the Northern tagging crew but we were able to complete the marking/tagging with a short crew.

There was an incident at Feather River Hatchery where the Trailer Operator did not securely wedge the crowd rack in the raceway. The crowd fell over which resulted in smashing some fish in the raceway as well as pushing too many fish through the external fish pump which over loaded the holding trough inside the AutoFish Trailer. The result was approximately 14,000 were accidentally killed.

This report includes all of the anadromous marking/tagging activities in the Central Valley with the exception of the Coleman National Fish Hatchery late-fall-run Chinook salmon and steelhead, and Coleman National Fish Hatchery and Livingston Stone National Fish Hatchery winter-run Chinook. These groups of fish are included in separate annual reports.

Acknowledgements

The Constant Fractional Marking Program would not have existed or successfully completed fourteen years of tagging without significant contributions from a number of people and agencies. I would like to thank the following individuals for their support, dedication and cooperation in this program:

Management, administration, problem solving, and the existence of this program would not have been possible without Brian Erlandsen, Jay Rowan, Ryon Kurth, Keri Miles, Erica Myers, Katelyn Reed, and Steve Tsao, California Department of Fish and Wildlife (CDFW); Stan Allen, George Nandor, and Amy Roberts, Pacific States Marine Fisheries Commission (PSMFC); John Hannon, Bureau of Reclamation (USBR), Jose Setka and Michelle Workman, East Bay Municipal Utility District (EBMUD); Kevin Niemela, U.S. Fish and Wildlife Service (USFWS) and Sabrina Bell, Eric See, and Jason Kindopp (CDWR).

In particular, I want to thank the managers and staff working at the hatcheries where we conduct the marking/tagging program. Without your help, cooperation and support, this program would not be possible. Your willingness to work with us in adjusting the agendas and scheduling is critical in meeting the goals of all of the facilities. Ron Stone (USFWS - Coleman National Fish Hatchery), Penny Booth-Crawshaw (CDFW - Feather River Fish Hatchery), Anna Kastner (CDFW - Feather River Fish Hatchery), Gary Novak (CDFW - Nimbus Fish

Hatchery), Darrick Baker (CDFW- Mokelumne River Hatchery), William Smith (CDFW - Mokelumne River Fish Hatchery), and their very professional hatchery staff did a significant amount of work to accommodate the trailers at their hatcheries, and made us feel welcome while we were on-site. I look forward to continuing to work with you all.

I also want to thank Evan Baron, Chris Childers, and Grantton Henley (PSMFC) for their work on the data and maintenance work on the AutoFish Trailers to ensure that everything was operational. I also want to thank the rest of the professional and hardworking CFM crew that made this fourteenth season a great success. They each spent many long days away from home to accomplish the goals of this very demanding program. Trailer Operators included Nathan Bailey (PSMFC), Evan Baron (PSMFC), Chris Childers (PSMFC), Shalva Forsmann (PSMFC), Grantton Henley (PSMFC), Brian Krempasky (PSMFC), and Jesse McNeil (PSMFC). Tagging Trailer Assistants included seasonal PSMFC staff members Sam Dolgoff, Thomas Hardy, Clayton Hines, Mathew Perkins, Joan Swearingen, and David Wimmer.

Schedule of Mark Events

- January 6th - January 22nd Clipping/Tagging winter-run Chinook at Livingston Stone National Fish Hatchery
- January 27th - February 18th Clipping/Tagging winter-run Chinook at Coleman National Fish Hatchery
- February 20th - March 23rd Clipping/Tagging spring-run Chinook at Feather River Fish Hatchery
- February 24th - April 21st Clipping/Tagging fall-run Chinook at Coleman National Fish Hatchery
- March 24th - May 5th Clipping/Tagging fall-run Chinook at Feather River Fish Hatchery
- March 16th - April 28th Clipping/Tagging fall-run Chinook at Mokelumne River Fish Hatchery
- March 2nd - March 20th Clipping/Tagging fall-run Chinook at Merced Fish Hatchery
- March 23rd - May 6th Clipping/Tagging fall-run Chinook at Nimbus Fish Hatchery
- May 11th - June 6th Clipping steelhead at Coleman National Fish Hatchery
- May 18th - June 10th Clipping/Tagging late-fall-run Chinook at Coleman National Fish Hatchery
- June 8th - July 14th Clipping steelhead at Mokelumne River Fish Hatchery
- June 8th - June 25th Clipping steelhead at Nimbus Fish Hatchery
- June 29th - August 5th Clipping steelhead at Feather River Fish Hatchery

Figure 1. Hatchery Locations: Central Valley Constant Fractional Marking Program (2020)

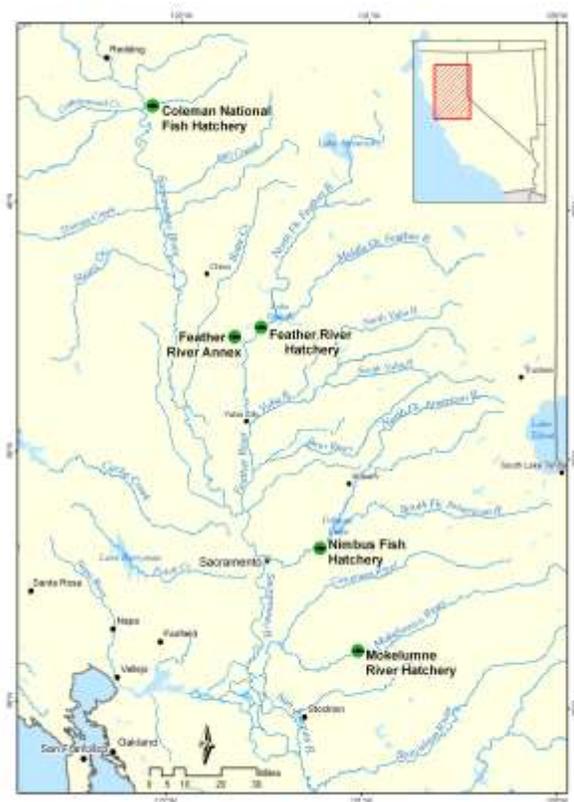
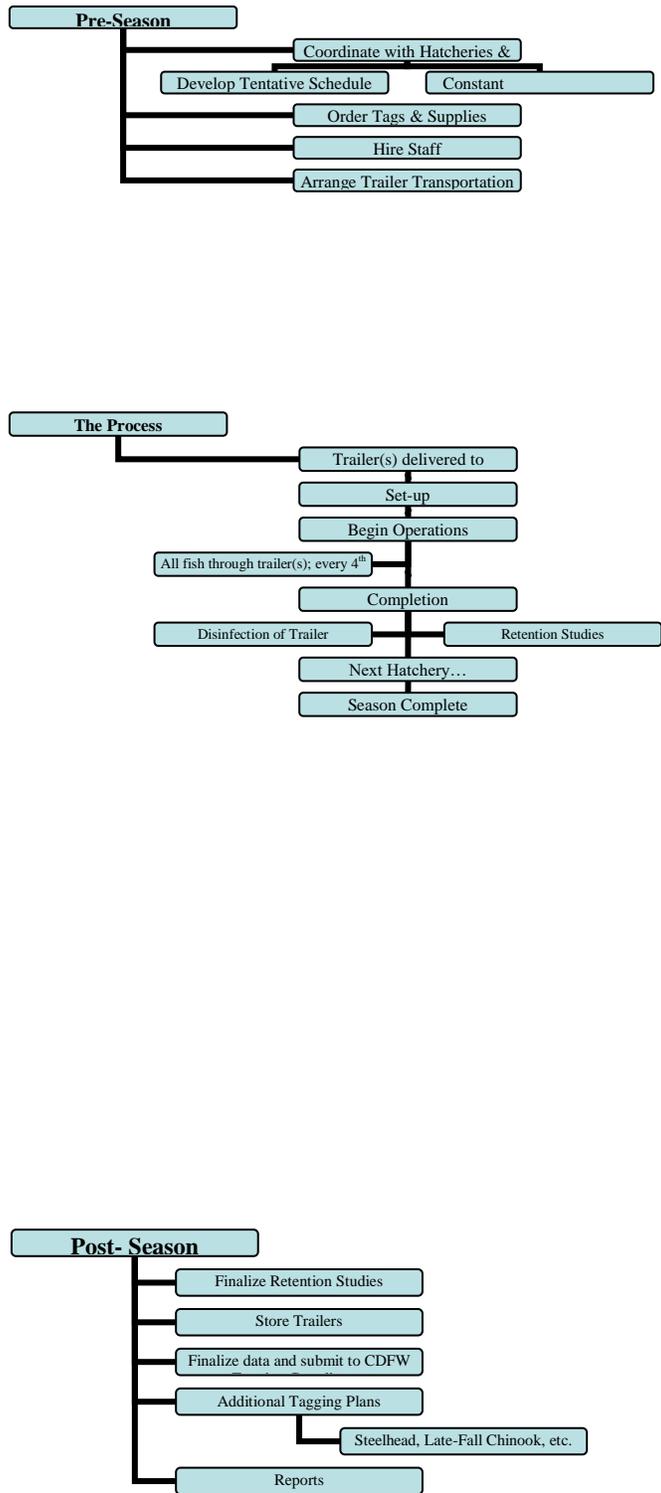


Figure 2. Constant Fractional Marking Program Annual Work Flow Summary



Appendix

Coleman National Fish Hatchery



Table 1a. Daily Tagging Rates at Coleman National Fish Hatchery

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/01			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
2/25/2020	1	1	29,004	29004	87,183	87183	116,187
2/26/2020	1	1	35,494	64,498	106,662	193,845	258,343
2/26/2020	1	1	38,397	102,895	115,410	309,255	412,150
2/27/2020	1	1	10,807	113,702	32,595	341,850	455,552
Tag Code Totals			-	113,702	-	341,850	455,552

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/02			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
2/27/2020	2	2	2,586	2,586	7,758	7,758	10,344
2/27/2020	2	2	37,333	39,919	112,017	119,775	159,694
2/28/2020	2	2	30,468	70,387	91,626	211,401	281,788
2/28/2020	2	2	8,434	78,821	25,317	236,718	315,539
2/28/2020	2	2	72	78,893	216	236,934	315,827
2/28/2020	2	2	10,066	88,959	30,207	267,141	356,100
3/2/2020	2	2	20,115	109,074	60,543	327,684	436,758
Tag Code Totals			-	109,074	-	327,684	436,758

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/03			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/2/2020	3	3	25,770	25,770	77,418	77,418	103,188
3/3/2020	3	3	35,443	61,213	106,437	183,855	245,068
3/3/2020	3	3	40,569	101,782	121,842	305,697	407,479
3/4/2020	3	3	7,194	108,976	21,705	327,402	436,378
Tag Code Totals			-	108,976	-	327,402	436,378

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/04			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/3/2020	4	4	28,000	28,000	84,177	84,177	112,177
3/4/2020	4	4	32,427	60,427	97,413	181,590	242,017
3/4/2020	4	4	37,481	97,908	112,584	294,174	392,082
3/5/2020	4	4	19,067	116,975	57,402	351,576	468,551
Tag Code Totals			-	116,975	-	351,576	468,551

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/05			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/4/2020	5	5	42,903	42,903	128,826	128,826	171,729
3/5/2020	5	5	28,000	70,903	84,147	212,973	283,876
3/5/2020	5	5	16,728	87,631	50,274	263,247	350,878
3/10/2020	8	5	20,508	108,139	61,641	324,888	433,027
Tag Code Totals			-	108,139	-	324,888	433,027

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/06			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/6/2020	6	6	30,747	30,747	92,355	92,355	123,102
3/6/2020	6	6	20,585	51,332	61,824	154,179	205,511
3/9/2020	6	6	30,232	81,564	90,999	245,178	326,742
3/9/2020	6,8	6	31,042	112,606	93,324	338,502	451,108
Tag Code Totals			-	112,606	-	338,502	451,108

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/07			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/5/2020	7	7	25,048	25,048	75,267	75,267	100,315
3/6/2020	7	7	39,715	64,763	119,274	194,541	259,304
3/6/2020	7	7	24,111	88,874	72,423	266,964	355,838
3/9/2020	7	7	26,130	115,004	78,576	345,540	460,544
Tag Code Totals			-	115,004	-	345,540	460,544

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/08			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/9/2020	8	8	16,712	16,712	50,238	50,238	66,950
3/10/2020	8	8	29,858	46,570	89,718	139,956	186,526
3/10/2020	8	8	11,910	58,480	35,787	175,743	234,223
3/10/2020	8	8	6,092	64,572	18,342	194,085	258,657
Tag Code Totals			-	64,572	-	194,085	258,657

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/09			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/10/2020	9	9	48,622	48,622	146,079	146,079	194,701
3/11/2020	9	9	39,800	88,422	119,490	265,569	353,991
3/11/2020	9	9	28,167	116,589	84,690	350,259	466,848
Tag Code Totals			-	116,589	-	350,259	466,848

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/10			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/11/2020	10	10	2,029	2,029	6,099	6,099	8,128
3/12/2020	10	10	43,092	45,121	129,381	135,480	180,601
3/12/2020	10	10	41,668	86,789	125,133	260,613	347,402
3/13/2020	10	10	8,585	95,374	25,836	286,449	381,823
Tag Code Totals			-	95,374	-	286,449	381,823

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/11			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/13/2020	11	11	11,107	11,107	33,327	33,327	44,434
3/13/2020	11	11	37,513	48,620	112,605	145,932	194,552
3/16/2020	11	11	39,797	88,417	119,457	265,389	353,806
3/16/2020	11	11	17,504	105,921	52,575	317,964	423,885
Tag Code Totals			-	105,921	-	317,964	423,885

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/12			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/17/2020	12	12	37,805	37,805	113,490	113,490	151,295
3/17/2020	12	12	4,256	42,061	12,831	126,321	168,382
3/17/2020	12	12	25,672	67,733	77,016	203,337	271,070
3/18/2020	12	12	29,088	96,821	87,318	290,655	387,476
Tag Code Totals			-	96,821	-	290,655	387,476

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/13			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/11/2020	13	13	27,403	27,403	82,365	82,365	109,768
3/11/2020	13	13	39,130	66,533	117,483	199,848	266,381
3/12/2020	13	13	39,890	106,423	119,793	319,641	426,064
3/12/2020	13	13	11,118	117,541	33,420	353,061	470,602
Tag Code Totals			-	117,541	-	353,061	470,602

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/14			Size: 95K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/12/2020	14	14	22,098	22,098	66,468	66,468	88,566
3/13/2020	14	14	37,867	59,965	113,667	180,135	240,100
3/13/2020	14	14	33,237	93,202	99,816	279,951	373,153
3/16/2020	14	14	15,854	109,056	47,787	327,738	436,794
Tag Code Totals			-	109,056	-	327,738	436,794

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/15			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/17/2020	15	15	5,754	5,754	17,352	17,352	23,106
3/17/2020	15	15	51,054	56,808	153,285	170,637	227,445
3/19/2020	15	15	38,349	95,157	115,122	285,759	380,916
3/19/2020	15	15	3,288	98,445	9,909	295,668	394,113
Tag Code Totals			-	98,445	-	295,668	394,113

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/16			Size: 110K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/19/2020	16	16	10,240	10,240	30,720	30,720	40,960
2/20/2020	16	16	36,539	46,779	109,683	140,403	187,182
3/20/2020	16	16	30,117	76,896	90,588	230,991	307,887
3/23/2020	16	16	4,954	81,850	14,901	245,892	327,742
3/24/2020	16	16	30,872	112,722	92,712	338,604	451,326
Tag Code Totals			-	112,722	-	338,604	451,326

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/17			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/24/2020	17	15	39,176	39,176	117,570	117,570	156,746
3/25/2020	17	15	42,472	81,648	127,482	245,052	326,700
3/25/2020	17	15	23,139	104,787	69,417	314,469	419,256
Tag Code Totals			-	104,787	-	314,469	419,256

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/18			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/26/2020	18	17	30,718	30,718	92,238	92,238	122,956
3/26/2020	18	17	40,367	71,085	121,122	213,360	284,445
3/27/2020	18	17	35,896	106,981	107,718	321,078	428,059
Tag Code Totals			-	106,981	-	321,078	428,059

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/19			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/27/2020	19	18	19,079	19,079	57,288	57,288	76,367
3/30/2020	19	18	42,128	61,207	126,489	183,777	244,984
3/30/2020	19	18	42,651	103,858	127,953	311,730	415,588
3/31/2020	19	18	12,773	116,631	38,394	350,124	466,755
Tag Code Totals			-	116,631	-	350,124	466,755

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/20			Size: 105K			Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/31/2020	20	19	13,597	13,597	40,800	40,800	54,397
3/31/2020	20	19	33,025	46,622	99,123	139,923	186,545
4/1/2020	20	19	43,771	90,393	131,364	271,287	361,680
Tag Code Totals			-	90,393	-	271,287	361,680

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/21			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/2/2020	21	20	35,744	35,744	107,331	107,331	143,075
4/2/2020	21	20	22,705	58,449	68,163	175,494	233,943
4/1/2020	21	20	1,877	60,326	5,688	181,182	241,508
4/6/2020	21	20	16,504	76,830	49,587	230,769	307,599
4/6/2020	21	20	31,813	108,643	95,466	326,235	434,878
4/7/2020	21	20	11,120	119,763	33,414	359,649	479,412
New Code 05/54/50							
4/7/2020	21	20	8,495	128,258	25,515	385,164	513,422
Tag Code Totals			-	128,258	-	385,164	513,422

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/22			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/19/2020	22	22	5,203	5,203	15,678	15,678	20,881
3/20/2020	22	22	40,435	45,638	121,401	137,079	182,717
3/23/2020	22	22	42,849	88,487	128,625	265,704	354,191
3/23/2020	22	22	4,642	93,129	13,935	279,639	372,768
Tag Code Totals			-	93,129	-	279,639	372,768

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/23			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/7/2020	23	21	7,148	7,148	21,486	21,486	28,634
4/7/2020	23	21	23,236	30,384	69,747	91,233	121,617
4/8/2020	23	21	48,238	78,622	144,822	236,055	314,677
4/8/2020	23	21	28,325	106,947	85,017	321,072	428,019
4/9/2020	23	21	14,389	121,336	43,233	364,305	485,641
Tag Code Totals			-	121,336	-	364,305	485,641

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/24			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/8/2020	24	22	23,897	23,897	71,724	71,724	95,621
4/9/2020	24	22	29,135	53,032	87,435	159,159	212,191
4/9/2020	24	22	47,842	100,874	143,604	302,763	403,637
Tag Code Totals			-	100,874	-	302,763	403,637

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/25			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/13/2020	25	23	35,689	35,689	107,178	107,178	142,867
4/13/2020	25	23	28,541	64,230	85,659	192,837	257,067
4/14/2020	25	23	39,062	103,292	117,273	310,110	413,402
Tag Code Totals			-	103,292	-	310,110	413,402

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/26			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/14/2020	26	24	26,928	26,928	80,814	80,814	107,742
4/15/2020	26	24	45,812	72,740	137,559	218,373	291,113
4/15/2020	26	24	34,198	106,938	102,648	321,021	427,959
4/16/2020	26	24	7,314	114,252	22,005	343,026	457,278
Tag Code Totals			-	114,252	-	343,026	457,278

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/27			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/16/2020	27	25	22,750	22,750	68,271	68,271	91,021
4/16/2020	27	25	31,797	54,547	95,445	163,716	218,263
4/17/2020	27	25	45,361	99,908	136,230	299,946	399,854
4/17/2020	27	25	12,935	112,843	38,829	338,775	451,618
Tag Code Totals			-	112,843	-	338,775	451,618

Coleman National Fish Hatchery - Fall Run Chinook							
Tag Code: 05/64/28			Size: 105K			Trailer # CA4	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/20/2020	28	26	35,091	35,091	105,333	105,333	140,424
4/20/2020	28	26	29,723	64,814	89,235	194,568	259,382
4/21/2020	28	26	46,584	111,398	139,911	334,479	445,877
Tag Code Totals			-	111,398	-	334,479	445,877

Coleman National Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 05/64/29		Size: 85K		Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
2/24/2020	32	33	26,997	-	26,997
2/25/2020	32	33	46,732	-	73,729
2/25/2020	32	33	18,677	-	92,406
Tag Code Total			-	-	92,406

Coleman National Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 05/64/30		Size: 85K		Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
2/25/2020	31	32	17,662	-	17,662
2/26/2020	31	32	52,414	-	70,076
2/26/2020	31	32	23,696	-	93,772
Tag Code Total			-	-	93,772

Coleman National Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 05/64/31		Size: 85K		Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
2/26/2020	30	31	17,375	-	17,375
2/27/2020	30	31	51,337	-	68,712
2/27/2020	30	31	27,162	-	95,874
Tag Code Total			-	-	95,874

Coleman National Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 05/64/32		Size: 85K		Trailer # CA3	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
2/28/2020	29	30	49,466	-	49,466
2/28/2020	29	30	34,423	-	83,889
3/2/2020	29	30	10,011	-	93,900
Tag Code Total			-	-	93,900

Hatchery Totals	Tagged 3,381,643	Untagged 9,027,144	Total 12,408,787
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Retention Range: 97.98% - 100%

Average Retention: 99.48%

Table 1b. Summary of Hatchery Tag Codes and Tag Retention Study

Coleman National Fish Hatchery - Fall Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
05/64/01	105K	1	113,702	341,850	455,552	473	26	98.52%	112,019	343,533
05/64/02	105K	2	109,074	327,684	436,758	394	22	99.75%	108,797	327,961
05/64/03	105K	3	108,976	327,402	436,378	426	20	100.00%	108,976	327,402
05/64/04	105K	4	116,975	351,576	468,551	379	19	99.74%	116,666	351,885
05/64/05	105K	5	108,139	324,888	433,027	381	14	100.00%	108,139	324,888
05/64/06	105K	6	112,606	338,502	451,108	307	25	99.67%	112,239	338,869
05/64/07	105K	7	115,004	345,540	460,544	281	25	99.29%	114,185	346,359
05/64/08	105K	8	64,572	194,085	258,657	335	24	100.00%	64,572	194,085
05/64/09	105K	9	116,589	350,259	466,848	405	23	100.00%	116,589	350,259
05/64/10	105K	10	95,374	286,449	381,823	407	21	100.00%	95,374	286,449
05/64/11	105K	11	105,921	317,964	423,885	411	24	99.76%	105,663	318,222
05/64/12	105K	12	96,821	290,655	387,476	392	22	100.00%	96,821	290,655
05/64/13	105K	13	117,541	353,061	470,602	350	22	98.57%	115,862	354,740
05/64/14	95K	14	109,056	327,738	436,794	388	24	99.48%	108,494	328,300
05/64/15	105K	15	98,445	295,668	394,113	337	21	99.70%	98,153	295,960
05/64/16	105K	16	112,722	338,604	451,326	373	24	98.93%	111,513	339,813
05/64/17	105K	17	104,787	314,469	419,256	367	23	99.46%	104,216	315,040
05/64/18	105K	18	106,981	321,078	428,059	378	21	99.74%	106,698	321,361
05/64/19	105K	19	116,631	350,124	466,755	559	22	99.11%	115,588	351,167
05/64/20	105K	20	90,393	271,287	361,680	388	21	98.97%	89,461	272,219
05/64/21	105K	21	128,258	385,164	513,422	387	24	100.00%	128,258	385,164
05/64/22	105K	22	93,129	279,639	372,768	369	25	100.00%	93,129	279,639
05/64/23	105K	23	121,336	364,305	485,641	408	22	100.00%	121,336	364,305
05/64/24	105K	24	100,874	302,763	403,637	351	22	99.72%	100,587	303,050
05/64/25	105K	25	103,292	310,110	413,402	397	28	97.98%	101,211	312,191
05/64/26	105K	26	114,252	343,026	457,278	404	26	99.26%	113,404	343,874
05/64/27	105K	27	112,843	338,775	451,618	400	25	99.75%	112,561	339,057
05/64/28	105K	28	111,398	334,449	445,877	401	21	100.00%	111,398	334,479
05/64/32	85K	30	93,900	0	93,900	200	22	98.50%	92,492	1,409
05/64/31	85K	31	95,874	0	95,874	200	26	99.50%	95,395	479
05/64/30	85K	32	93,772	0	93,772	200	27	99.50%	93,303	469
05/64/29	85K	33	92,406	0	92,406	200	28	98.50%	91,020	1,386
Hatchery Totals			3,381,643	9,027,114	12,408,787	Retention Average		99.48%	3,364,118	9,044,669

Feather River Fish Hatchery



Table 2a. Daily Spring-Run Tagging Rates at Feather River Hatchery

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/20/42		Size: 305K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
2/20/2020	H2	H6	9,919	-	9,919
2/21/2020	H2	H6	22,965	-	32,884
2/24/2020	H2	H6	30,943	-	63,827
2/25/2020	H2	H6	49,242	-	113,069
2/26/2020	H2	H6	70,826	-	183,895
2/27/2020	H2	H6	66,488	-	250,383
2/28/2020	H2	H6	58,908	-	309,291
3/2/2020	H2	H6	40,538	-	349,829
Tag Code Total			-	-	349,829

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/20/43		Size: 305K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/2/2020	H2	H1	65,146	-	65,146
3/3/2020	H2	H1	40,714	-	105,860
3/3/2020	H4	H2	55,184	-	161,044
3/4/2020	H4	H2	53,316	-	214,360
3/4/2020	H4	H2	55,126	-	269,486
3/5/2020	H4	H2	34,979	-	304,465
3/5/2020	H4	H2	39,953	-	344,418
3/6/2020	H4	H2	12,529	-	356,947
Tag Code Total			-	-	356,947

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/20/44		Size: 305K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/6/2020	H4	H3	13,267	-	13,267
3/6/2020	H4	H3	32,617	-	45,884
3/9/2020	H4	H3	27,015	-	72,899
3/9/2020	H4	H3	35,491	-	108,390
3/10/2020	H4	H3	26,963	-	135,353
2/10/2020	H4	H3	46,861	-	182,214
3/11/2020	H4	H3	18,498	-	200,712
3/11/2020	G2	H4	30,296	-	231,008
3/11/2020	G2	H4	46,250	-	277,258
3/12/2020	G2	H4	61,699	-	338,957
3/12/2020	G2	H4	12,840	-	351,797
Tag Code Total			-	-	351,797

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/20/45		Size: 305K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/12/2020	G2	G6	34,063	-	34,063
3/13/2020	G2	G6	53,733	-	87,796
3/13/2020	G2	G6	64,735	-	152,531
3/16/2020	G2	G6	49,214	-	201,745
3/16/2020	G2	G6	65,132	-	266,877
3/17/2020	G2	G6	54,904	-	321,781
3/17/2020	G4	G6	32,149	-	353,930
Tag Code Total			-	-	353,930

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/05/02		Size: 195K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/17/2020	G4	G2	9,665	-	9,665
3/18/2020	G4	G2	53,762	-	63,427
3/18/2020	G4	G2	58,352	-	121,779
3/19/2020	G4	G2	45,688	-	167,467
3/19/2020	G4	G2	40,899	-	208,366
Tag Code Total			-	-	208,366

Feather River Fish Hatchery - Spring Run Chinook - 100% Mark/Tag					
Tag Code: 06/05/03		Size: 195K		Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/20/2020	G4	G3	53,124	-	53,124
3/20/2020	G4	G3	57,609	-	110,733
3/23/2020	G4	G3	39,274	-	150,007
3/23/2020	G4	G3	16,918	-	166,925
Tag Code Total			-	-	166,925

Hatchery Total

1,787,794

Retention Range: 98.67% - 99.56%

Retention Average: 99.19%

Table 2b. Summary of Hatchery Spring-Run Tag Codes and Tag Retention Study

Feather River Fish Hatchery - Spring Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
06/20/42	305K	H6	349,829	-	349,829	900	14	99.33%	347,485	2,344
06/20/43	305K	H1/H2	356,947	-	356,947	900	10	99.11%	353,770	3,177
06/20/44	305K	H3/H4	351,797	-	351,797	900	21	99.44%	349,827	1,970
06/20/45	305K	G6	353,930	-	353,930	900	20	99.56%	352,373	1,557
06/05/02	195K	G2	208,366	-	208,366	900	18	98.67%	205,595	2,771
06/05/03	195k	G3	166,925	-	166,925	900	14	99.00%	165,256	1,669
Hatchery Totals			1,787,794	0	1,787,794	Retention Average		99.19%	1,774,305	13,489

Table 2c. Daily Fall-Run Tagging Rates at Feather River Hatchery

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/48			Size: 225K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/24/2020	F2	CH3	27,846	-	83,589	-	111,435
3/25/2020	F2	CH3	23,903	51,749	71,781	155,370	207,119
3/25/2020	F2	CH3	31,754	83,503	95,307	250,677	334,180
3/26/2020	F2	CH3	27,769	111,272	83,379	334,056	445,328
3/26/2020	F2/F3	CH3	27,653	138,925	83,073	417,129	556,054
3/27/2020	F4	CH3	32,097	171,022	96,414	513,543	684,565
3/27/2020	F4	CH3	17,291	188,313	51,960	565,503	753,816
3/30/2020	F4	CH3	28,626	216,939	85,974	651,477	868,416
3/30/2020	F4	CH3	29,942	246,881	89,910	741,387	988,268
3/31/2020	F4	CH3	3,377	250,258	10,185	751,572	1,001,830
Tag Code Totals			-	250,258	-	751,572	1,001,830

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/49			Size: 225K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/31/2020	E2	CH2	10,456	-	31,431	-	41,887
3/31/2020	E2	CH2	19,901	30,357	59,835	91,266	121,623
4/1/2020	E2	CH2	21,115	51,472	63,453	154,719	206,191
4/1/2020	E2	CH2	32,888	84,360	98,808	253,527	337,887
4/2/2020	E2	CH2	35,461	119,821	106,506	360,033	479,854
4/2/2020	E2	CH2	39,725	159,546	119,313	479,346	638,892
4/3/2020	E2	CH2	29,120	188,666	87,450	566,796	755,462
4/3/2020	E4	CH2	24,999	213,665	75,057	641,853	855,518
4/6/2020	E4	CH2	35,446	249,111	106,431	748,284	997,395
Tag Code Totals			-	249,111	-	748,284	997,395

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/50			Size: 225K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/7/2020	E4	CH1	22,154	-	66,549	-	88,703
4/7/2020	E4	CH1	31,563	53,717	94,710	161,259	214,976
4/8/2020	E4/D2	CH1	28,186	81,903	84,651	245,910	327,813
4/8/2020	D2	CH1	37,387	119,290	112,212	358,122	477,412
4/9/2020	D2	CH1	40,267	159,557	120,897	479,019	638,576
4/9/2020	D2	CH1	41,069	200,626	123,267	602,286	802,912
4/10/2020	D2/D4	CH1	35,491	236,117	106,509	708,795	944,912
4/10/2020	D4	CH1	27,600	263,717	82,809	791,604	1,055,321
Tag Code Totals			-	263,717	-	791,604	1,055,321

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/88			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/13/2020	D4	D6	28,573	-	85,833	-	114,406
4/14/2020	D4	D6	35,830	64,403	107,694	193,527	257,930
4/14/2020	D4/C2	D6	20,026	84,429	60,129	253,656	338,085
Tag Code Totals			-	84,429	-	253,656	338,085

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/89			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/14/2020	C2	D4	2,455	-	7,371	-	9,826
4/15/2020	C2	D4	33,455	35,910	100,488	107,859	143,769
4/15/2020	C2	D4	34,562	70,472	103,827	211,686	282,158
4/16/2020	C2	D4	13,522	83,994	40,647	252,333	336,327
Tag Code Totals			-	83,994	-	252,333	336,327

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/90			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/16/2020	C2	D2	15,201	-	45,669	-	60,870
4/16/2020	C2	D2	38,555	53,756	115,683	161,352	215,108
4/17/2020	C2/C4	D2	28,739	82,495	86,349	247,701	330,196
4/17/2020	C4	D2	5,651	88,146	17,004	264,705	352,851
Tag Code Totals			-	88,146	-	264,705	352,851

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/91			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/17/2020	C4	C6	17,704	-	53,145	-	70,849
4/20/2020	C4	C6	21,674	39,378	65,112	118,257	157,635
4/20/2020	C4	C6	35,863	75,241	107,646	225,903	301,144
4/21/2020	C4	C6	9,753	84,994	29,307	255,210	340,204
Tag Code Totals			-	84,994	-	255,210	340,204

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/92			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/21/2020	C4	C4	14,160	-	42,480	-	56,640
4/21/2020	B2	C4	22,844	37,004	68,592	111,072	148,076
4/22/2020	B2	C4	24,164	61,168	72,567	183,639	244,807
4/22/2020	B2	C4	23,652	84,820	71,013	254,652	339,472
Tag Code Totals			-	84,820	-	254,652	339,472

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/93			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/22/2020	B2	C2	2,423	-	7,269	-	9,692
4/23/2020	B2	C2	31,145	33,568	93,525	100,794	134,362
4/23/2020	B2/B4	C2	29,482	63,050	88,527	189,321	252,371
4/24/2020	B4	C2	25,778	88,828	77,403	266,724	355,552
Tag Code Totals			-	88,828	-	266,724	355,552

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/94			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/24/2020	B4	B6	20,301	-	60,966	-	81,267
4/27/2020	B4	B6	24,621	44,922	73,917	134,883	179,805
4/27/2020	B4	B6	22,604	67,526	67,911	202,794	270,320
4/28/2020	B4/A2	B6	17,275	84,801	51,918	254,712	339,513
Tag Code Totals			-	84,801	-	254,712	339,513

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/95			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/28/2020	A2	B4	25,689	-	77,208	-	102,897
4/29/2020	A2	B4	28,282	53,971	84,936	162,144	216,115
4/29/2020	A2	B4	28,590	82,561	85,854	247,998	330,559
4/30/2020	A2	B4	1,837	84,398	5,541	253,539	337,937
Tag Code Totals			-	84,398	-	253,539	337,937

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/96			Size: 76K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/30/2020	A2	B2	18,187	-	54,591	-	72,778
4/30/2020	A4	B2	26,163	44,350	78,573	133,164	177,514
5/1/2020	A4	B2	41,091	85,441	123,330	256,494	341,935
Tag Code Totals			-	85,441	-	256,494	341,935

Feather River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/30			Size: 70K			Trailer # CA2	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
5/4/2020	A4	A6	25,242	-	75,819	-	101,061
5/4/2020	A4	A6	24,458	49,700	73,404	149,223	198,923
5/5/2020	A4	A6	18,488	68,188	55,536	204,759	272,947
Tag Code Totals			-	68,188	-	204,759	272,947

Hatchery Totals	Tagged 1,601,125	Untagged 4,808,244	Total 6,409,369
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Retention Range: 98.36% - 99.89%

Retention Average: 99.17%

Table 2d. Summary of Hatchery Fall-Run Tag Codes and Retention Study

Feather River Fish Hatchery - Fall Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
06/20/48	225K	CH3	250,258	751,572	1,001,830	900	15	99.45%	248,882	752,948
06/20/49	225K	CH2	249,111	748,284	997,395	900	16	99.00%	246,620	750,775
06/20/50	225K	CH1	263,717	791,604	1,055,321	900	21	99.00%	261,080	794,241
06/15/88	76K	D6	84,429	253,656	338,085	489	21	98.36%	83,044	255,041
06/15/89	76K	D4	83,994	252,333	336,327	900	21	99.33%	83,431	252,896
06/15/90	76K	D2	88,146	264,705	352,851	900	20	99.89%	88,049	264,802
06/15/91	76K	C6	84,994	255,210	340,204	900	22	99.56%	84,620	255,584
06/15/92	76K	C4	84,820	254,652	339,472	900	21	99.78%	84,633	254,839
06/15/93	76K	C2	88,828	266,724	355,552	900	21	98.89%	87,842	267,710
06/15/94	76K	B6	84,801	254,712	339,513	900	24	99.00%	83,953	255,560
06/15/95	76K	B4	84,398	253,539	337,937	900	22	98.67%	83,276	254,661
06/15/96	76K	B2	85,441	256,494	341,935	900	21	99.22%	84,775	257,160
06/15/30	70K	A6	68,188	204,759	272,947	900	17	99.11%	67,581	205,366
Hatchery Totals			1,601,125	4,808,244	6,409,369	Retention Average		99.17%	1,587,786	4,821,583

Feather River Fish Hatchery - Steelhead - 100% Mark Only					
Trailer # CA2					
Marking Date	Raceway Prior to Marking	Raceway Following Marking	Daily Marked Total	Cumulative Marked Total	Raceway Total
6/29/2020	E2	E4	46,692	-	46,692
6/30/2020	E2	E4	58,028	104,720	104,720
7/1/2020	E2	E4	56,402	161,122	161,122
7/2/2020	E2	E4	54,824	215,946	215,946
7/6/2020	F2	E4	16,138	232,084	232,084
7/29/2020	F2	F1	18,886	-	18,886
7/30/2020	F2	F1	34,693	53,579	53,579
7/31/2020	F2	F1	38,272	91,851	91,851
8/3/2020	F4	F2	33,435	125,286	125,286
8/4/2020	F4	F2	48,702	173,988	173,988
8/5/2020	F4	F2	34,715	208,703	208,703
Hatchery Total			-	-	440,787

Merced Hatchery



Table 3a. Daily Tagging Rates at Merced Hatchery

Merced Fish Hatchery – Fall Run Chinook				
Tag Code: 06-20-06		Size: 100K		Trailer #
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Manual Trailer
				Raceway Total
3/2/2020	1, 2, 3, 4	B10	7,034	7,034
3/3/2020	1, 2, 3, 4	B10	6,250	13,284
3/4/2020	1, 2, 3, 4	B10	9,740	23,024
3/5/2020	1, 2, 3, 4	B10	8,358	31,382
3/6/2020	1, 2, 3, 4	B10	6,991	38,373
3/9/2020	1, 2, 3, 4	B10	9,541	47,914
3/10/2020	1, 2, 3, 4	B10	2,394	50,308
3/10/2020	5, 6	B10	7,130	57,438
3/11/2020	5, 6	B10	8,545	65,983
3/12/2020	5, 6	B10	8,079	74,062
3/13/2020	5, 6	B10	9,673	83,735
3/16/2020	5, 6	B10	6,761	90,496
3/17/2020	5, 6	B10	4,987	95,483
3/18/2020	5, 6	B10	6,758	102,241
Tag Code Release Total				102,241

Merced Fish Hatchery – Fall Run Chinook				
Tag Code: 06-18-68		Size: 100K		Trailer #
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Manual Trailer
				Raceway Total
3/19/2020	7, 8	A9	7,310	7,310
3/20/2020	7, 8	A9	969	8,279
Tag Code Release Total				8,279

Hatchery Total: 110,520
Retention: 98.88%

Table 3b. Summary of Hatchery Fall-Run Tag Codes and Retention Study

2020 Merced River Fish Hatchery - Fall Run Chinook Tagging Summary										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
06-20-06	100K	B10	102,241	292,231	394,472	800	32	98.88%	101,096	305,678
06-18-68	100k	A9	8,297	817,356	825,653	NA	NA	NA	NA	817,356
Hatchery Totals			110,538	1,109,587	1,220,125	Retention Average		98.88%	101,096	1,123,034

Mokelumne River Hatchery



Table 4a. Daily Tagging Rates at Mokelumne River Hatchery

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/62			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/16/2020	C	A	19,070	-	57,351	-	76,421
3/16/2020	C	A	21,661	40,731	65,079	122,430	163,161
3/17/2020	C	A	29,016	69,747	87,147	209,577	279,324
3/17/2020	C	A	23,520	93,267	70,665	280,242	373,509
3/18/2020	D	A	17,770	111,037	53,427	333,669	444,706
Tag Code Totals			-	111,037	-	333,669	444,706

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/63			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/18/2020	D	B	197	-	600	-	797
3/18/2020	D	B	43,558	43,755	130,770	131,370	175,125
3/19/2020	D	B	35,091	78,846	105,372	236,742	315,588
3/19/2020	D/E	B	33,989	112,835	102,096	338,838	451,673
Tag Code Totals			-	112,835	-	338,838	451,673

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/64			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/20/2020	E	C	35,047	-	105,228	-	140,275
3/20/2020	E	C	34,008	69,055	102,087	207,315	276,370
3/23/2020	E	C	24,891	93,946	74,766	282,081	376,027
3/23/2020	E	C	16,508	110,454	49,578	331,659	442,113
Tag Code Totals			-	110,454	-	331,659	442,113

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/78			Size: 150K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/23/2020	E	D2	874	-	16,022	-	16,896
3/24/2020	F	D2	39,261	40,135	-	16,022	56,157
3/24/2020	F	D2	66,693	106,828	-	16,022	122,850
3/25/2020	F	D2	47,922	154,750	-	16,022	170,772
3/25/2020	F	D2	5,477	160,227	-	16,022	176,249
Tag Code Totals			-	160,227	-	16,022	176,249

Mokelumne River Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 06/15/79		Size: 150K		Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/25/2020	F	D1	39,632	-	39,632
3/26/2020	F	D1	37,331	-	76,963
3/26/2020	F	D1	50,090	-	127,053
3/27/2020	F	D1	33,364	-	160,417
Tag Code Total			-	-	160,417

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/59			Size: 115K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/27/2020	F	E	13,235	-	39,750	-	52,985
3/30/2020	F	E	14,464	27,699	43,461	83,211	110,910
3/30/2020	F/G	E	39,046	66,745	117,192	200,403	267,148
3/31/2020	G	E	36,386	103,131	109,272	309,675	412,806
3/31/2020	G	E	18,640	121,771	55,965	365,640	487,411
Tag Code Totals			-	121,771	-	365,640	487,411

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/65			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/31/2020	G	F	12,932	-	38,874	-	51,806
4/1/2020	G/H	F	38,856	51,788	116,700	155,574	207,362
4/1/2020	H	F	41,008	92,796	123,093	278,667	371,463
4/2/2020	H	F	18,943	111,739	56,922	335,589	447,328
Tag Code Totals			-	111,739	-	335,589	447,328

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/60			Size: 115K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/2/2020	H	G	15,586	-	46,779	-	62,365
4/2/2020	H/I	G	40,007	55,593	120,096	166,875	222,468
4/3/2020	I	G	32,271	87,864	96,924	263,799	351,663
4/3/2020	I	G	33,320	121,184	100,032	363,831	485,015
Tag Code Totals			-	121,184	-	363,831	485,015

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/66			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/6/2020	I/J	H	18,585	-	55,878	-	74,463
4/6/2020	J	H	40,374	58,959	121,173	177,051	236,010
4/7/2020	J	H	35,757	94,716	107,376	284,427	379,143
4/7/2020	J	H	17,671	112,387	53,070	337,497	449,884
Tag Code Totals			-	112,387	-	337,497	449,884

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/67			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/8/2020	J/K	I	20,838	-	62,583	-	83,421
4/8/2020	K	I	52,519	73,357	157,611	220,194	293,551
4/9/2020	K	I	34,877	108,234	104,688	324,882	433,116
4/9/2020	K	I	3,805	112,039	11,439	336,321	448,360
Tag Code Totals			-	112,039	-	336,321	448,360

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/61			Size: 115K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/9/2020	K/L	J	39,534	-	118,650	-	158,184
4/10/2020	L	J	37,656	77,190	113,079	231,729	308,919
4/10/2020	L	J	35,792	112,982	107,427	339,156	452,138
4/13/2020	L	J	8,870	121,852	26,691	365,847	487,699
Tag Code Totals			-	121,852	-	365,847	487,699

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/68			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/13/2020	L/M	K	50,426	-	151,341	-	201,767
4/14/2020	M	K	40,280	90,706	120,942	272,283	362,989
4/14/2020	M	K	21,401	112,107	64,254	336,537	448,644
Tag Code Totals			-	112,107	-	336,537	448,644

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/41			Size: 115K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/14/2020	M	L	11,716	-	35,169	-	46,885
4/15/2020	M/N	L	39,829	51,545	119,619	154,788	206,333
4/15/2020	N	L	46,426	97,971	139,383	294,171	392,142
4/16/2020	N	L	24,216	122,187	72,765	366,936	489,123
Tag Code Totals			-	122,187	-	366,936	489,123

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/58			Size: 185K RYW's M/N same code			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/16/2020	N	M	10,131	-	30,414	-	40,545
4/16/2020	N/O	M	47,206	57,337	141,702	172,116	229,453
4/17/2020	O	M	31,528	88,865	94,704	266,820	355,685
4/17/2020	O	M	6,438	95,303	19,329	286,149	381,452
Tag Code Totals			-	95,303	-	286,149	381,452

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/58			Size: 185K RWY's M/N same code			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/17/2020	O	N	18,872	-	56,667	-	75,539
4/20/2020	O	N	20,278	39,150	60,951	117,618	156,768
4/20/2020	O/P	N	38,878	78,028	116,718	234,336	312,364
4/21/2020	P	N	19,054	97,082	57,249	291,585	388,667
Tag Code Totals			-	97,082	-	291,585	388,667

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/69			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/21/2020	P	O	10,973	-	32,943	-	43,916
4/21/2020	P	O	42,193	53,166	126,654	159,597	212,763
4/22/2020	P	O	42,126	95,292	126,480	286,077	381,369
4/22/2020	P/Q	O	17,035	112,327	51,156	337,233	449,560
Tag Code Totals			-	112,327	-	337,233	449,560

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/14/99			Size: 100K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/22/2020	Q	P	17,357	-	52,089	-	69,446
4/23/2020	Q	P	27,292	44,649	81,942	134,031	178,680
4/23/2020	Q	P	25,318	69,967	75,996	210,027	279,994
4/24/2020	Q	P	33,497	103,464	100,554	310,581	414,045
4/27/2020	R	P	7,694	111,158	23,124	333,705	444,863
Tag Code Totals			-	111,158	-	333,705	444,863

Mokelumne River Fish Hatchery - Fall Run Chinook							
Tag Code: 06/15/31			Size: 70K			Trailer # CFG-1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/27/2020	R	Q	50,610	-	151,878	-	202,488
4/28/2020	R	Q	12,512	63,122	37,590	189,468	252,590
Tag Code Totals			-	63,122	-	189,468	252,590

Hatchery Totals:	Tagged 2,069,228	Untagged 5,266,526	Total 7,335,754
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Retention Range: 97.75% - 100.00%

Retention Average: 99.88%

Table 4b. Summary of Hatchery Tag Codes and Tag Retention Studies

Mokelumne River Fish Hatchery - Fall Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
06/20/62	100K	A	111,037	333,669	444,706	404	21	100.00%	111,037	333,669
06/20/63	100K	B	112,835	338,838	451,673	405	21	100.00%	112,835	338,838
06/20/64	100K	C	110,454	331,659	442,113	408	21	100.00%	110,454	331,659
06/15/78	150K	D2	160,227	16,022	176,249	800	21	100.00%	160,227	16,022
06/15/79	150K	D1	160,417	-	160,417	400	20	97.75%	156,808	3,609
06/20/59	115K	E	121,771	365,640	487,411	396	21	100.00%	121,771	365,640
06/20/65	100K	F	111,739	335,589	447,328	403	21	100.00%	111,739	335,589
06/20/60	115K	G	121,184	363,831	485,015	417	20	100.00%	121,184	363,831
06/20/66	100K	H	112,387	337,497	449,884	402	20	100.00%	112,387	337,497
06/20/67	100K	I	112,039	336,321	448,360	407	19	100.00%	112,039	336,321
06/20/61	115K	J	121,852	365,847	487,699	402	23	100.00%	121,852	365,847
06/20/68	100K	K	112,107	336,537	448,644	401	22	100.00%	112,107	336,537
06/15/41	115K	L	122,187	366,936	489,123	408	15	100.00%	122,187	366,936
06/20/58	185K	M	95,303	286,149	381,452	401	22	100.00%	95,303	286,149
06/20/58	185K	N	97,082	291,585	388,667	401	22	100.00%	97,082	291,585
06/20/69	100K	O	112,327	337,233	449,560	403	9	100.00%	112,327	337,233
06/14/99	100K	P	111,158	333,705	444,863	403	22	100.00%	111,158	333,705
06/15/31	70K	Q	63,122	189,468	252,590	405	21	100.00%	63,122	189,468
Hatchery Totals			2,069,228	5,266,526	7,335,754	Retention Average		99.88%	2,065,619	5,270,135

Mokelumne River Fish Hatchery - Steelhead - 100% Mark Only					
Trailer # CFG-1					
Marking Date	Raceway Prior to Marking	Raceway Following Marking	Daily Marked Total	Cumulative Marked Total	Raceway Total
6/8/2020	O1	O2	13,772	-	13,772
6/9/2020	O1	O2	36,335	50,107	50,107
6/11/2020	O1	O2	10,129	60,236	60,236
6/9/2020	O1	P1	10,789	-	10,789
6/10/2020	O1	P1	39,815	50,604	50,604
6/11/2020	O1	P1	9,590	60,194	60,194
6/11/2020	O1	Q1	9,371	-	9,371
6/11/2020	O1	Q1	3,729	13,100	13,100
6/12/2020	O1	Q1	23,953	37,053	37,053
6/22/2020	O1	Q1	23,351	60,404	60,404
6/23/2020	O1	R1	44,275	-	44,275
6/24/2020	O1	R1	15,973	60,248	60,248
6/24/2020	O1	S1	32,814	-	32,814
6/25/2020	O1	S1	30,863	63,677	63,677
7/13/2020	O1	N1	30,580	-	30,580
7/14/2020	O1	N1	21,496	52,076	52,076
Hatchery Total			-	-	356,835

Nimbus Hatchery



Table 5a. Daily Tagging Rates at Nimbus Hatchery

Nimbus Fish Hatchery - Fall Run Chinook - 100% Mark/Tag					
Tag Code: 06/20/57		Size: 182K		Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Raceway Total
3/23/2020	Hatchery	B	3,768	-	3,768
3/24/2020	Hatchery	B	58,656	-	62,424
3/25/2020	Hatchery	B	62,359	-	124,783
3/26/2020	Hatchery	B	46,633	-	171,416
3/27/2020	Hatchery	B	29,065	-	200,481
Tag Code Total			-	-	200,481

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/51			Size: 180K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
3/30/2020	A	A	22,946	-	68,985	-	91,931
3/31/2020	A	A	27,108	50,054	81,414	150,399	200,453
4/1/2020	A	A	32,640	82,694	98,019	248,418	331,112
4/2/2020	A	A	36,038	118,732	108,240	356,658	475,390
4/3/2020	A	A	35,762	154,494	107,397	464,055	618,549
4/6/2020	A	A	31,042	185,536	93,315	557,370	742,906
4/7/2020	A	A	14,514	200,050	43,638	601,008	801,058
Tag Code Totals			-	200,050	-	601,008	801,058

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/54			Size: 125K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/7/2020	B	B	9,307	-	27,990	-	37,297
4/8/2020	B	B	41,811	51,118	125,613	153,603	204,721
4/9/2020	B	B	42,692	93,810	128,214	281,817	375,627
4/10/2020	B	B	32,386	126,196	97,332	379,149	505,345
4/13/2020	B	B	18,794	144,990	56,484	435,633	580,623
Tag Code Totals			-	144,990	-	435,633	580,623

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/07/28			Size: 20K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/13/2020	B	B	2,523	-	7,578	-	10,101
4/14/2020	B	B	9,911	12,434	29,811	37,389	49,823
Tag Code Totals			-	12,434	-	37,389	49,823

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/52			Size: 180K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/14/2020	C	C	15,280	-	45,876	-	61,156
4/15/2020	C	C	39,819	55,099	119,556	165,432	220,531
4/16/2020	C	C	42,522	97,621	127,686	293,118	390,739
4/17/2020	C	C	31,702	129,323	95,202	388,320	517,643
4/20/2020	C	C	21,917	151,240	65,895	454,215	605,455
4/21/2020	C	C	30,463	181,703	91,503	545,718	727,421
4/21/2020	C	C	18,844	200,547	56,559	602,277	802,824
Tag Code Totals			-	200,547	-	602,277	802,824

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/53			Size: 180K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/22/2020	D	D	29,415	-	88,377	-	117,792
4/22/2020	D	D	26,027	55,442	78,105	166,482	221,924
4/23/2020	D	D	32,375	87,817	97,305	263,787	351,604
4/23/2020	D	D	27,762	115,579	83,310	347,097	462,676
4/24/2020	D	D	35,353	150,932	106,110	453,207	604,139
4/24/2020	D	D	15,120	166,052	45,399	498,606	664,658
4/27/2020	D	D	17,617	183,669	52,929	551,535	735,204
4/27/2020	D	D	13,931	197,600	41,802	593,337	790,937
4/28/2020	D	D	322	197,922	966	594,303	792,225
Tag Code Totals			-	197,922	-	594,303	792,225

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/55			Size: 125K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
4/28/2020	E	E	17,727	-	53,256	-	70,983
4/28/2020	E	E	25,255	42,982	75,813	129,069	172,051
4/29/2020	E	E	31,659	74,641	95,073	224,142	298,783
4/29/2020	E	E	23,725	98,366	71,205	295,347	393,713
4/30/2020	E	E	29,517	127,883	88,659	384,006	511,889
4/30/2020	E	E	9,806	137,689	29,454	413,460	551,149
5/1/2020	E	E	7,698	145,387	23,145	436,605	581,992
Tag Code Totals			-	145,387	-	436,605	581,992

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/20/56			Size: 125K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
5/1/2020	F	F	16,325	-	49,065	-	65,390
5/4/2020	F	F	16,153	32,478	48,561	97,626	130,104
5/4/2020	F	F	41,826	74,304	125,559	223,185	297,489
5/5/2020	F	F	27,573	101,877	82,797	305,982	407,859
5/5/2020	F	F	39,674	141,551	119,061	425,043	566,594
Tag Code Totals			-	141,551	-	425,043	566,594

Nimbus Fish Hatchery - Fall Run Chinook							
Tag Code: 06/09/92			Size: 30K			Trailer # CA1	
Tagging Date	Raceway Prior to Tagging	Raceway Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Daily Untagged Total	Cumulative Untagged Total	Raceway Total
5/6/2020	F	F	11,438	-	34,368	-	45,806
Tag Code Totals			-	11,438	-	34,368	45,806

Hatchery Totals:	Tagged 1,254,800	Untagged 3,166,626	Total 4,421,426
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Retention Range: 98.56% - 100%

Retention Average: 99.70%

Table 5b. Summary of Fall-Run Tag Codes and Tag Retention Studies

Nimbus Fish Hatchery - Fall Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
06/20/57	182K	B	200,481	-	200,481	N/A	-	Use Avg.	199,880	601
06/20/51	180K	A	200,050	601,008	801,058	902	13	99.78%	199,610	601,448
06/20/54	125K	B	144,990	435,633	580,623	901	14	99.89%	144,831	435,792
06/07/28	20K	B	12,434	37,389	49,823	901	13	99.89%	12,420	37,403
06/20/52	180K	C	200,547	602,277	802,824	926	14	99.78%	200,106	602,718
06/20/53	180K	D	197,922	594,303	792,225	918	7	99.67%	197,269	594,956
06/20/55	125K	E	145,387	436,605	581,992	900	18	98.56%	143,293	438,699
06/20/56	125K	F	141,551	425,043	566,594	900	14	100.00%	141,551	425,043
06/09/92	30K	F	11,438	34,368	45,806	900	13	100.00%	11,438	34,368
Hatchery Totals			1,254,800	3,166,626	4,421,426	Retention Average		99.70%	1,250,398	3,171,028

Nimbus Fish Hatchery - Steelhead - 100% Mark Only					
Trailer # CA1					
Marking Date	Raceway Prior to Marking	Raceway Following Marking	Daily Marked Total	Cumulative Marked Total	Raceway Total
6/8/2020	Lot 1	A	4,090	-	4,090
6/9/2020	Lot 1	A	21,112	25,202	25,202
6/10/2020	Lot 1,4	A	35,434	60,636	60,636
6/11/2020	Lot 4,2	A	21,178	81,814	81,814
6/11/2020	Lot 2	B	6,262	88,076	6,262
6/12/2020	Lot 2	B	18,521	106,597	24,783
6/15/2020	Lot 2	B	32,321	138,918	57,104
6/16/2020	Lot 2,4	B	27,428	166,346	84,532
6/16/2020	Lot 4	C	7,190	173,536	7,190
6/17/2020	Lot 4,3	C	39,711	213,247	46,901
6/18/2020	Lot 3,5	C	39,450	252,697	86,351
6/19/2020	Lot 5	D	42,016	294,713	42,016
6/22/2020	Lot 5,7	D	45,953	340,666	87,969
6/23/2020	Lot 7,6	E	60,173	400,839	60,173
6/24/2020	Lot 6	E	15,313	416,152	75,486
6/24/2020	Lot 6,9	F	34,148	450,300	34,148
6/25/2020	Lot 9,8	F	44,420	494,720	78,568
Hatchery Total			-	-	494,720

San Joaquin Hatchery



Table 6a. Daily Tagging Rates at San Joaquin Hatchery

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/05/55		Size: 10K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/21/2020	MS6-6	MS6-6	3,746	3,746	3,746
1/22/2020	MS6-7-8	MS6-7-8	5,311	9,057	5,311
1/23/2020	MS6-5	MS6-5	1,550	10,607	1,550
1/23/2020	OT6-4	OT6-4	120	10,727	120
				10,727	0
Tag Code Total			10,727	-	10,727

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/05/56		Size: 10K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/22/2020	MS6-8	MS6-8	2,208	2,208	2,208
1/23/2020	MS6-5	MS6-5	2,678	4,886	2,678
1/23/2020	OT6-4	OT6-4	2,067	6,953	2,067
1/24/2020	ST3-2	OT6-4	2,153	9,106	2,153
				9,106	0
Tag Code Total			-	-	9,106

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/05/57		Size: 10K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
2/20/2020	MS6-5	MS6-5	4,323	4,323	4,323
2/20/2020	MS6-6	MS6-6	4,146	8,469	4,146
				8,469	0
				8,469	0
				8,469	0
Tag Code Total			-	-	8,469

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/80/20		Size: 10K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
2/21/2020	MS6-7	MS6-7	4,486	4,486	4,486
2/21/2020	MS6-8	MS6-8	3,262	7,748	3,262
				7,748	0
				7,748	0
				7,748	0
Tag Code Total			-		7,748

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/07/68		Size: 50K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/24/2020	OT6-5	OT6-5	5,499	5,499	5,499
1/27/2020	ST3-1	OT6-5	834	6,333	6,333
1/27/2020	OT6-6	OT6-6	4,004	10,337	4,004
1/27/2020	OT6-4	OT6-4	3,765	14,102	3,765
1/28/2020	ST3-3/4	OT6-4	1,271	15,373	5,036
1/28/2020	MS6-5	MS6-5	4,983	20,356	4,983
1/28/2020	MS6-6	MS6-6	3,680	24,036	3,680
1/29/2020	OT6-3	MS6-6	1,321	25,357	5,001
1/29/2020	MS6-8	MS6-8	5,087	30,444	5,087
1/29/2020	MS6-7	MS6-7	6,002	36,446	6,002
1/30/2020	ST6-1	ST6-1	5,534	41,980	5,534
1/30/2020	ST6-2	ST6-2	5,648	47,628	5,648
1/31/2020	ST6-3	ST6-1&2	2,049	49,677	2,049
				49,677	0
				49,677	0
				49,677	0
Tag Code Total			-		49,677

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/09/36		Size: 50K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/31/2020	OT6-1	OT6-3	1,157	1,157	1,157
2/3/2020	OT6-1	OT6-3	4,885	6,042	6,042
2/3/2020	OT6-2	OT6-2	4,571	10,613	4,571
2/4/2020	ST6-2	OT6-2	1,249	11,862	5,820
2/4/2020	OT6-1	OT6-1	5,402	17,264	5,402
2/5/2020	ST6-3	ST6-3	2,995	20,259	2,995
2/5/2020	OT6-4	OT6-4	5,205	25,464	5,205
2/5/2020	OT6-5	OT6-5	5,217	30,681	5,217
2/6/2020	OT6-6	OT6-6	5,260	35,941	5,260
2/6/2020	MS6-5	MS6-5	5,555	41,496	5,555
2/7/2020	MS6-6	MS6-6	5,309	46,805	5,309
2/7/2020	MS6-7	MS6-7	6,284	53,089	6,284
				53,089	0
				53,089	0
				53,089	0
				53,089	0
Tag Code Total			-		53,089

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/07/67		Size: 50K		Trailer # Manual	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/31/2020	OT6-3	ST6-3	2,751	2,751	2,751
2/18/2020	OT6-1	OT6-1	5,154	7,905	5,154
2/18/2020	OT6-2	OT6-2	6,125	14,030	6,125
2/18/2020	OT6-3	OT6-3	3,883	17,913	3,883
2/19/2020	ST3-1&2	OT20-1	1,501	19,414	5,384
2/19/2020	OT6-4	OT6-4	5,312	24,726	5,312
2/19/2020	OT6-5	OT6-5	4,368	29,094	4,368
2/20/2020	OT6-6	OT6-6	4,634	33,728	4,634
2/24/2020	ST6-3	OT20-1	787	34,515	787
				34,515	0
				34,515	0
				34,515	0
				34,515	0
				34,515	0
				34,515	0
				34,515	0
				34,515	0
Tag Code Total			-		34,515

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/14/41		Size: 60K		Trailer # Manual Trailer	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
2/10/2020	MS6-8	MS6-8	5,670	5,670	5,670
2/10/2020	ST6-1	ST6-1	4,752	10,422	4,752
2/11/2020	ST6-2	ST6-3	5,519	15,941	5,519
2/11/2020	OT6-1	OT6-1	5,134	21,075	5,134
2/12/2020	OT6-2	OT6-2	4,674	25,749	4,674
2/12/2020	OT6-3	OT6-3	4,484	30,233	4,484
2/12/2020	OT6-4	OT6-4	4,834	35,067	4,834
2/13/2020	OT6-5	OT6-5	4,823	39,890	4,823
2/13/2020	OT6-6	OT6-6	6,146	46,036	6,146
2/14/2020	ST6-1	ST6-1	6,062	52,098	6,062
2/14/2020	ST6-2	ST6-2	5,750	57,848	5,750
				57,848	0
Tag Code Total			-		57,848

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/05/20		Size: 5K		Trailer # Manual Moc Bldg	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
2/24/2020	ST6-3	ST6-3	5481	5481	5481
					0
Tag Code Total			-		0

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/18/64		Size: 2K 1/2 tag		Trailer # Manual shed Bldg	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
12/10/2019	ST3-2	ST3-3	600	600	600
12/10/2019	ST3-2	ST3-4	606	1,206	600
12/11/2019	ST3-2	ST3-4	59	1,265	
Tag Code Total			-		1,265

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/18/65		Size: 2K 1/2 tag		Trailer # Manual shed Bldg	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
1/2/2020	ST3-2	ST3-3	610	610	610
	ST3-2	ST3-4	600	1,210	600
Tag Code Total			-		1,210

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/19/65		Size: 5K		Trailer # Manual Moc Bldg	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
3/30/2020	ST6-3	ST6-3	870	870	870
4/1/2020	ST6-4	ST6-4	1,899	1,899	1,899
Tag Code Total			-		2,769

Interim Facility - Spring Run Chinook - 100% Mark/Tag at SCARF					
Tag Code: 06/19/66		Size: 2K		Trailer # Manual Moc Bldg	
Tagging Date	Tank Prior to Tagging	Tank Following Tagging	Daily Tagged Total	Cumulative Tagged Total	Tank Total
3/30/2020	ST6-3	ST6-1	1,200	1,200	1,200
Tag Code Total			-		1,200

Hatchery total tagged: 239,135

Table 6b. Summary of Spring-Run Tag Codes and Tag Retention Studies

Interim Facility - Spring Run Chinook										
Tag Code Size and Location			Tag Code Totals			Retention Calculations				
Tag Code	Size	Raceway	Total Tagged	Number Untagged	Total Processed	# of Fish Held	Days Held	% Retention	# Retaining Tags	Calculated Untagged
6/14/41	70#	OT16-1	57,848	0		57,848	30	94	54,347	3,501
6/7/67	113#	OT20-1	34,515	0		31,944	25	95	30,347	1,597
Hatchery Totals			92,363	-	0	Retention Average		94.50%	0	0