



FEATHER RIVER HATCHERY GAMETE TRACKING PROGRAM

WHY?

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Began with Spring Run.

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Feather River Spring Run were used for “Brood stock” for
San Joaquin River salmon restoration project

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Feather River Spring Run were used for “Brood stock” for San Joaquin River salmon restoration project

There was a need to select crosses to be sent to San Joaquin project

These procedures were devised so that the selected crosses could be located in the incubators.

WHY WAS THE PROGRAM EXPANDED
TO THE FALL RUN?

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To maintain distinct runs, when too many Spring Run gametes were found in a Fall Run egg lot, the entire lot had to be discarded.

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To maintain distinct runs, when too many Spring Run gametes were found in a Fall Run egg lot, the entire lot had to be discarded.

We found that we were discarding the first week or more egg take entirely.

These are our best eggs.

WHAT ABOUT THE STEELHEAD?

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To address this issue, a fractional spawning process was developed.

Tracking the gametes was necessary so sibling crosses could be discarded.

A large salmon is the central focus, swimming towards the right. It has a silvery body with dark spots and a white underbelly. The background shows several other salmon swimming in a river with a rocky bottom.

FEATHER RIVER SPRING RUN

FRH Gamete Tracking Data Card										
Date: / /			Sex		Grilse	Ad-Clip		ID Number		Notes
Lot #:			M	F	J	Y	N	1		
<input type="checkbox"/> Discarded			M	F	J	Y	N	2		
Row: A B C D E F			M	F	J	Y	N	3		
Stack #:			M	F	J	Y	N	4		
Tray #:			M	F	J	Y	N	5		
			M	F	J	Y	N	6		

FRH Gamete Tracking Data Card									
Date: 9/18/16		Sex		Grilse	Ad-Clip	ID Number		Notes	
Lot #: 1		M	F	J	Y	N	1	37615	
<div><div></div>Discarded</div>		M	F	J	Y	N	2	25381	
Row: A B C D E F		M	F	J	Y	N	3		
Stack #: 5		M	F	J	Y	N	4		
Tray #: 4		M	F	J	Y	N	5		
		M	F	J	Y	N	6		

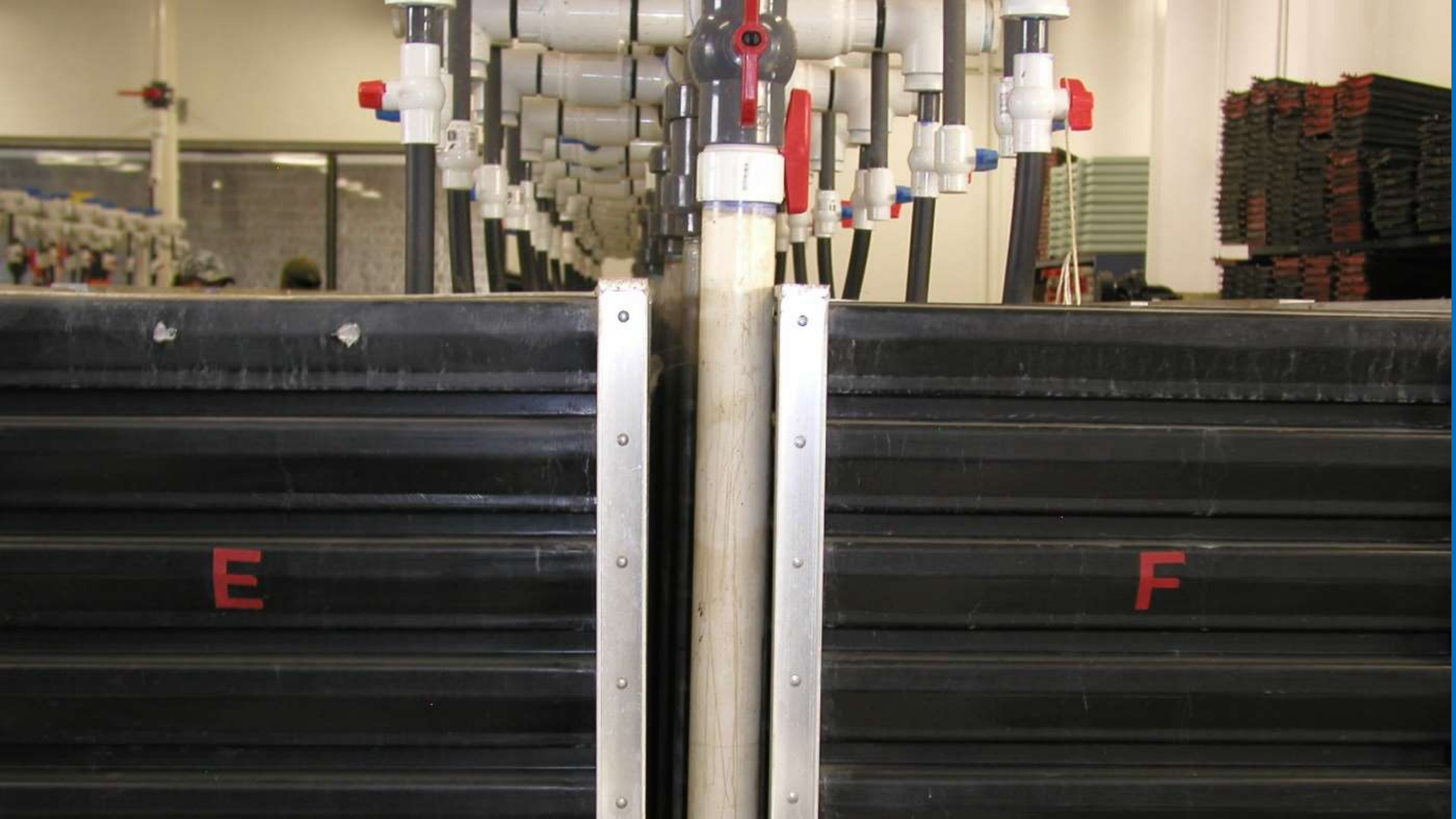
Date: _____ Data Recorder: _____ Expansion Factor: _____

Comments: _____

[illegible]

Date: 9/18/16 Data Recorder: Jane Smith Expansion Factor: 1.4
Comments: Lot 1

[illegible]



B

5





Sterilitw
12 Qt. / 11.4 L.
15 1/2" x 12 1/2" x 4 1/2"
140 mm x 318 mm x 113 mm
Made in U.S.A.
0457 **Classic Red**







Date: 9/18/16 Data Recorder: Jane Smith Expansion Factor: 1.4
Comments: Lot 1

Cross #	Total Oz.	Tub #	Tray Location			HALLPRINT #	Comments
			Row	Stack #	Tray #		
1	29	A	B	5	4	37615/25381	

A large number of salmon are swimming in a river, likely during a fall run. The fish are silvery with some brown and orange hues, and they are swimming in a river with greenish water and rocks visible at the bottom. The text "FEATHER RIVER FALL RUN" is overlaid in large, bold, red capital letters.

FEATHER RIVER FALL RUN









FRH Gamete Tracking Data Card										
Date: / /			Sex		Grilse	Ad-Clip		ID Number		Notes
Lot #:			M	F	J	Y	N	1		
<input type="checkbox"/> Discarded			M	F	J	Y	N	2		
Row: A B C D E F			M	F	J	Y	N	3		
Stack #:			M	F	J	Y	N	4		
Tray #:			M	F	J	Y	N	5		
			M	F	J	Y	N	6		

FRH Gamete Tracking Data Card										
Date: 10/10/16		Sex		Grilse	Ad-Clip	ID Number	Notes			
Lot #: 5		M	F	J	Y	N	1 No Clip			
<div><div></div>Discarded</div>		M	F	J	Y	N	2 174			
Row: A B C D E F		M	F	J	Y	N	3			
Stack #: 4		M	F	J	Y	N	4			
Tray #: 1		M	F	J	Y	N	5			
		M	F	J	Y	N	6			



FRH Gamete Tracking Data Card

	Sex	Gravid	Ad-Clip	ID Number	Date
Date	V				
Lot #	V				
<input type="checkbox"/> Discarded	V				
Row: A	V				
B	V				
C	V				
D	V				
E	V				
F	V				
Stack #	V				
Tray #	V				

Fall-Run Chinook Salmon - Gamete Tracking

Date: _____ Data Recorder: _____ Expansion Factor: _____

Comments: _____

[illegible]

Fall-Run Chinook Salmon - BY 2016

Fall-Run Chinook Salmon - Gamete Tracking

Date: 10/10/16 Data Recorder: John Doe Expansion Factor: 1.42

Comments: Lot 1

Cross #	Total Oz.	Tub #	Tray Location			CWT #	Comments
			Row	Stack #	Tray #	Odd - Male Even - Female	
1	57	A	F	4	1	/174	
2	25	B	F	4	1	/82	

Lab	HEADTAG	RecoveryLoco de	RecoveryLoco me	FISHERY	SAMPLR_SPP	FL_CM	Flumtl	SAMPLR_RUN M	SAMPLR_RUNA	Sex1	RECDATE	RECOVERY	CWT	Remarks	tag_code_or_release_id	RMS	ZonIDE	PROJECT	RMS_Run	brood_year	AGE	RMS_Spidd	RMS_Spp	hatchery_location_name	release_location_name	first_release_date	last_release_date	CATCHY	RMS_Comments	reporting_agency	THIRD_READ	OutputTime	T1	T2	NT1	NT2	T	NT	TotRel	ProdCt	Condt	Halprint1	Halprint12	JTI	Partial1	Comments	
CADFG	45621	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		78.5	785 S	Spring		2	09-Oct-17 HAT	060706		060656	060656	Y	F	1264	3	2014		31	King (chinook) salmon	FEATHER R HATCHERY	MAGE ISLAND NET PEN	20150428	20150429	2017	CDFW			11-Oct-17 096174	1331	2218	1198887	397055	1201305	1598610	0.248650465	1 G16150							
CADFG	45622	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		58.2	582 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16179						
CADFG	45623	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		58.5	585 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0255						
CADFG	45624	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		57.3	573 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16438						
CADFG	45625	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		60.4	604 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0025						
CADFG	45626	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		56.9	569 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16141						
CADFG	45627	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		50.5	505 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16287						
CADFG	45628	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		62.5	625 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0258						
CADFG	45629	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		61	610 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0081						
CADFG	45630	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		57	570 S	Spring		1	09-Oct-17 HAT	060733		060733	060733	Y	E	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160414	20160414	2017	CDFW			11-Oct-17 536971	0	2402	600	536971	3002	539973	0.994440463	1 Y0204							
CADFG	45631	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		58.1	581 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16317						
CADFG	45632	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		57.4	574 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0171						
CADFG	45633	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		52.3	523 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0054							
CADFG	45634	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		59.5	595 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0225						
CADFG	45635	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		62.5	625 S	Spring		1	09-Oct-17 HAT	060734		060734	060734	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160414	20160414	2017	Associated Tag Code=060453	CDFW			11-Oct-17 550781	619	619	1856	551400	2475	553875	0.995531483	1 G16308						
CADFG	45636	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		54.7	547 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0064							
CADFG	45637	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		59.7	597 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0135							
CADFG	45638	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		50	500 S	Spring		1	09-Oct-17 HAT	060734		060734	060734	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160414	20160414	2017	Associated Tag Code=060453	CDFW			11-Oct-17 550781	619	619	1856	551400	2475	553875	0.995531483	1 G16098						
CADFG	45639	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		58.4	584 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0035						1	
CADFG	45640	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		60.5	605 S	Spring		1	09-Oct-17 HAT	060734		060734	060734	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160414	20160414	2017	Associated Tag Code=060453	CDFW			11-Oct-17 550781	619	619	1856	551400	2475	553875	0.995531483	1 Y0241						
CADFG	45641	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		58.9	589 S	Spring		1	09-Oct-17 HAT	060734		060734	060734	Y	E	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160414	20160414	2017	Associated Tag Code=060453	CDFW			11-Oct-17 550781	619	619	1856	551400	2475	553875	0.995531483	1 G16427						
CADFG	45642	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		63.5	635 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0216							
CADFG	45643	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		65	650 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 Y0269							
CADFG	45644	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		59.7	597 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 G16114							
CADFG	45645	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		51.4	514 S	Spring		1	09-Oct-17 HAT	060732		060732	060732	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160324	20160324	2017	CDFW			11-Oct-17 462695	1552	1035	0	464247	1035	465282	0.997775543	1 G16432							
CADFG	45646	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		60.9	609 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0095						
CADFG	45647	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		56.6	566 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 G16311						
CADFG	45648	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		63.5	635 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969	536659	0.988877481	1 Y0128						
CADFG	45649	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		63.9	639 S	Spring		1	09-Oct-17 HAT	060733		060733	060733	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER AT GRIDLEY	20160414	20160414	2017	CDFW			11-Oct-17 536971	0	2402	600	536971	3002	539973	0.994440463	1 G-UNKNOWN							
CADFG	45650	6PCSAFEA FRH FRH	Feather River Fish Hatchery	50 K		59.1	591 S	Spring		1	09-Oct-17 HAT	060731		060731	060731	Y	F	1264	1	2015		21	King (chinook) salmon	FEATHER R HATCHERY	FEATHER BOYDS PUMP RAMP	20160324	20160324	2017	CDFW			11-Oct-17 530093	597	4775	1194		530690	5969									

Cond1	Hallprint11	Hallprint12	JT1
3			174
3			270
3			278

Fall-Run Chinook Salmon - Gamete Tracking

Date:10/10/16Data Recorder:John DoeExpansion Factor:1.42

Comments:Lot 1

Cross #	Total Oz.	Tub #	Tray Location			CWT #	Comments
			Row	Stack #	Tray #	Odd - Male Even - Female	
1	57	A	F	4	1	/174	
2	25	B	F	4	1	/82	

Fall-Run Chinook Salmon - Gamete Tracking

Date: 10/10/16 Data Recorder: John Doe Expansion Factor: 1.42

Comments:

Cross #		Total Oz.	Tub #	Tray Location			Jaw Tag #	Comments		
				Row	Stack #	Tray #	Odd - Male Even - Female			
1		57	A	F	4	1	/174			
2		25	B	F	4	1	/82			

Cond1	Hallprint11	Hallprint12	JT1
3			174
3			270
3			278

Feather River Fish Hatchery Spawning

Page 1 of 4

Fall-Run Chinook Salmon - BY 2016

^{Fall}
~~Spring~~-Run Chinook Salmon - Gamete Tracking

Date: 10/9/17 Data Recorder: Caitlin Expansion Factor:

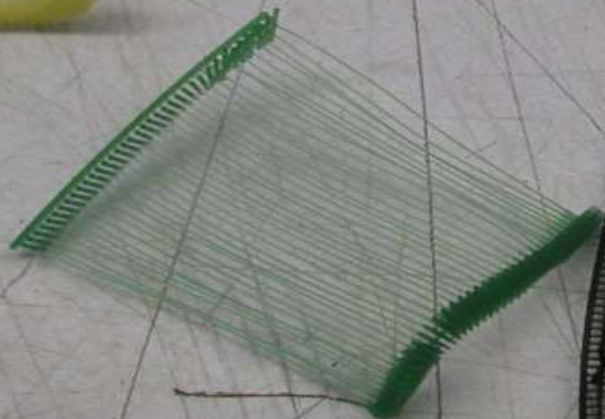
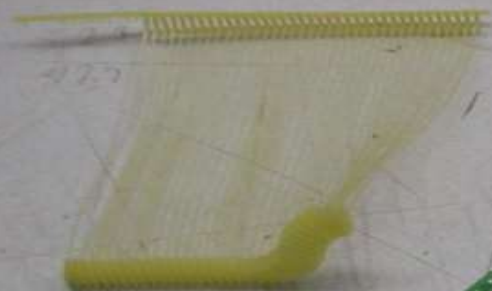
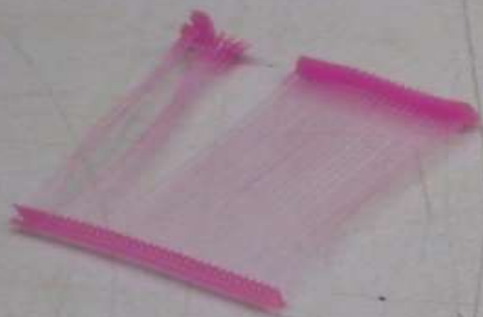
Comments: Fall Run lot #1

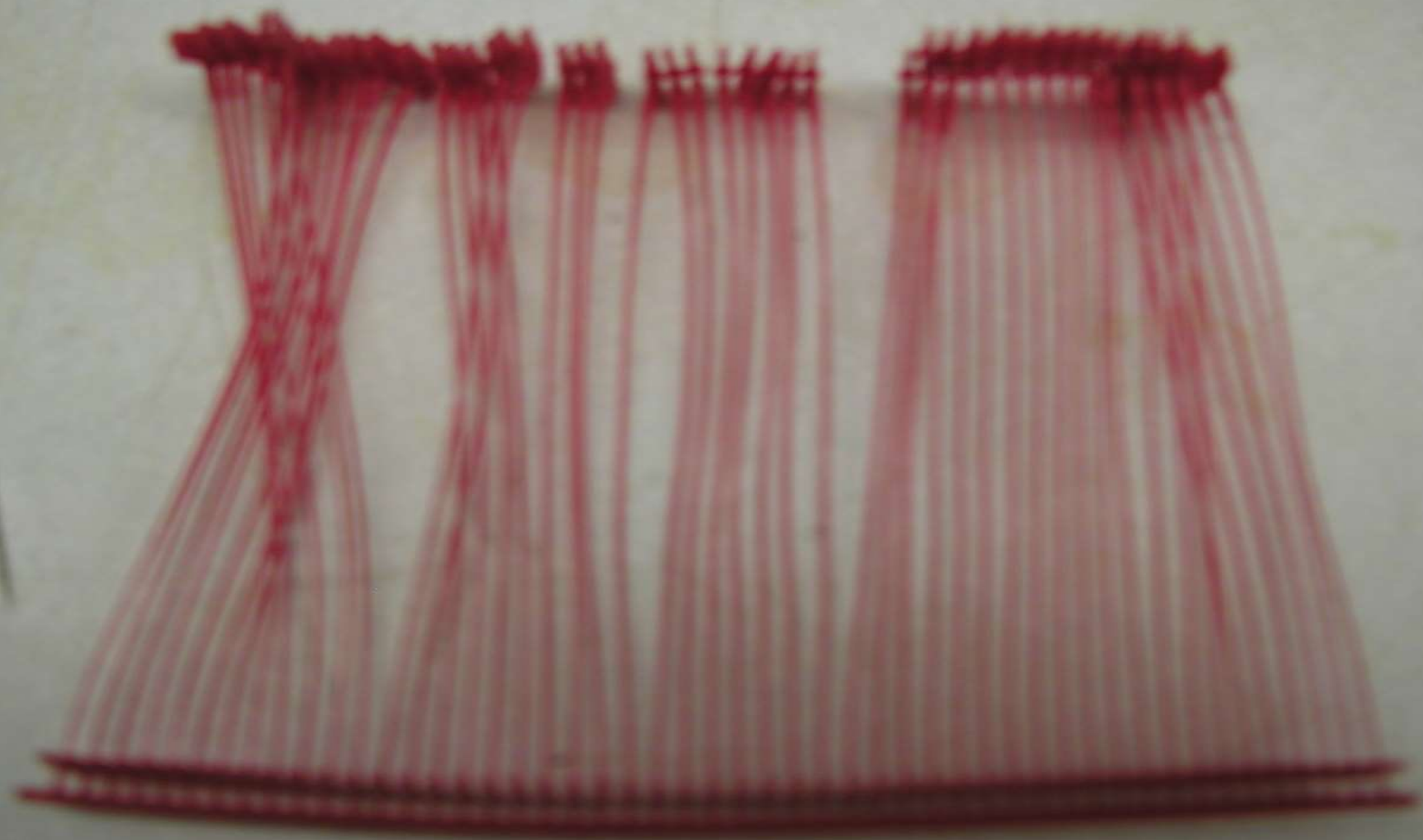
Female Cross # #	Total Oz.	Tub #	Tray Location				Jaw Tag	Male / Female	Comments
			Row	Stack #	Tray #	Quad			
F1	57	A	F	4	1	1 2	No clip	/174	Spring Coleman
F2	25	B	F	4	1	1 2	No clip	/082	
F1	44	C	F	4	2	1 2	No clip	/148	
F2	58	D	F	4	2	1 2	No clip	/002	



FEATHER RIVER STEELHEAD













SPAWNING CROSS PLAN

	FEMALE 1	FEMALE 2
MALE 1	1 X 1	1 X 2
MALE 2	2 X 1	2 X 2

STEELHEAD





A1

The image shows two identical stainless steel bowls placed side-by-side on a white mesh tray. The bowl on the left is labeled 'A1' and the one on the right is labeled 'A2'. Both bowls are empty and highly reflective, showing bright highlights from the overhead lighting. The tray is set within a white plastic frame, and the background is dark and out of focus.

A2

FRH SH Gamete Tracking Data Card

Date: _____

Lot: _____

Row: A B

Stack: _____

Tray: _____

Quad: 1 2 3 4

Incoming Tub #:

Ad-clip		Sex	Tag Color	Tag #
N	Y	M		
N	Y	F		

OZ: _____

FRH SH Gamete Tracking Data Card

Date:

2/15/2017

Lot:

3

Row:

A

B

Stack:

2

Tray:

1

Quad:

1

2

3

4

Incoming Tub #:

1

Ad-clip		Sex	Tag Color	Tag #
N	Y	M	GREEN	
N	Y	F	BLACK	

OZ:

8

FRH SH Gamete Tracking Data Card

Date:2/15/2017

Lot:3

Row:A B

Stack:2

Tray:1

Quad:1 2 3 4

Incoming Tub #:1

Ad-clip		Sex	Tag Color	Tag #
N	Y	M	GREEN	
N	Y	F	BLACK	

OZ:8

FRH SH Gamete Tracking Data Card

Date:2/15/2017

Lot:3

Row:A B

Stack:2

Tray:1

Quad:1 2 3 4

Incoming Tub #:1

Ad-clip		SEX	Tag Color	Tag #
N	Y	M	GREEN	
N	Y	F	YELLOW	

OZ:7

FRH SH Gamete Tracking Data Card

Date:2/15/2017

Lot:3

Row:A B

Stack:2

Tray:1

Quad:1 2 3 4

Incoming Tub #:1

Ad-clip		Sex	Tag Color	Tag #
N	Y	M	BLUE	
N	Y	F	BLACK	

OZ:8

FRH SH Gamete Tracking Data Card

Date:2/15/2017

Lot:3

Row:A B

Stack:2

Tray:1

Quad:1 2 3 4

Incoming Tub #:1

Ad-clip		Sex	Tag Color	Tag #
N	Y	M	BLUE	
N	Y	F	YELLOW	

OZ:7

FRH SH Gamete Tracking											
DATE 2/15/17				LOT 3				Page 1 of 3			
Row	Stack	Tray	Quad	♀ Color	Ad Clip	♂ Color	Ad Clip	Ounces	Bowl	Comment	Tub
B	2	1	1 2 3 4	BLACK	Y N	GREEN	Y N	8	A		1
B	2	1	1 2 3 4	BLACK	Y N	BLUE	Y N	8	B		1
B	2	1	1 2 3 4	YELLOW	Y N	GREEN	Y N	7	C		1
B	2	1	1 2 3 4	YELLOW	Y N	BLUE	Y N	7	D		1
B	2	2	1 2 3 4	RED	Y N	WHITE	Y N	5	A		1
B	2	2	1 2 3 4	RED	Y N	BROWN	Y N	5	B		1
B	2	2	1 2 3 4	ORANGE	Y N	WHITE	Y N	4	C		1
B	2	2	1 2 3 4	ORANGE	Y N	BROWN	Y N	4	D		1
			1 2 3 4		Y N		Y N				