

Southern Boundary Restoration and Enhancement Fund

Final Report

June 1, 2011 through May 31, 2012



*Washington
Department of*
**FISH and
WILDLIFE**

Submitted by
Fish Program
Washington Department of Fish and Wildlife
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Report for the South Fork Nooksack Chinook Captive Broodstock Implementation

TECHNICAL IMPLEMENTATION DETAILS

Approach: Continue to develop, culture and implement a Captive Adult Broodstock program using juvenile Chinook recruited from the South Fork of the Nooksack River, This is accomplished by receiving up to 1,000 juvenile fish from the Skookum Creek facility, identifying them as either yearling or sub yearling and placing them in discrete rearing vessels for rearing. Additional work includes passive integrated transponder (PIT) tagging, and subsequent transfer of half of the fish to the NOAA facility at Manchester for extended rearing in saltwater, while the other half remains at Kendall Creek Hatchery. During the summer months developing adults are identified for maturation and then transferred by to the Skookum Hatchery for spawning. The resultant eggs and fry are then incubated, rearing and released into the South Fork of the Nooksack River in the spring of the year.

The 12 months of staff funding for this project is to support the increasing burden and complexity of fish culture, DNA sampling, PIT tagging, fish health monitoring, data entry, tracking and enumeration and technical reports associated with the program.

Schedule: June 2011-July 2011 – Receive juveniles from Skookum Hatchery, transfer up to 500 juveniles to Manchester.

July-August 2010– Evaluate developing fish for maturation and transfer candidate adults to Skookum Hatchery.

June 1, 2011 – May 31, 2012 – Use of funding to staff Fish Hatchery Specialist 2 position that will support all aspects of fish culture, monitoring and reporting associated with the program.

Accomplishments:

As of the start of this grant period on June1, 2012, a total of 10 circular ponds have been installed to support the rearing of juveniles in this program. The completion of the pond installation now shifts the focus of the work associated with this grant to the culturing and development of the multiple year classes of juvenile fish. A total of 6 different brood years of fish are currently rearing in the program as depicted in the chart below.

South Fork Nooksack Chinook Summary
Captive Brood Program

Juvenile Brood Record

5/31/12

Group	Kendall	Manchester	Brood Total
Juveniles BY'06	8	0	8
Juveniles BY'07	134	155	265
Juveniles BY'08	450	416	900
Juveniles BY'09	207	383	615
Juveniles BY'10	601	421	1,028
Juveniles BY'11	623	0	623
Totals =	2,023	1,375	3,398

During the summer of 2011 a total of 18 female and 25 male fish from the BY'06 and BY'07 were transferred back to the Skookum Hatchery as maturing adults ready for spawn. Eventually, 15 females and 15 males were spawned resulting in an egg take total of 40,740.

Fem. From	Fem. BY	Cross	Egg mass, gm	Fecundity	Eyed Eggs	Eyed Surv	20 hr Viab %	Bucket #
MRS	07	F3 x M14	849	3500	2891	83%	89%	1
MRS	07	F16 x M4	726	3813	3203	84%	84%	2
MRS	07	F11 x M17	159	848	679	80%	93%	3
MRS	07	F4 x M7	925	3065	2820	92%	92%	4
MRS	07	F7 x M25	888	3631	3364	93%	98%	5
Kendall	07	F21 x M3	503	2608	2572	99%	92%	6
Kendall	06	F2 x M5	401	1669	1416	85%	94%	7
MRS	07	F8 x M12	688	3033	3000	99%	100%	8
MRS	07	F10 x M8	567	2119	1537	73%	57%	9
MRS	07	F5 x M9	627	2650	2460	93%	75%	10
MRS	07	F9 X M21	470	2318	2240	97%	81%	11
MRS	07	F17 X M13	464	1784	1744	98%	96%	12
MRS	07	F20 X M2	766	3510	3380	96%	94%	13
MRS	07	F14 X M26	548	2895	2775	96%	95%	14
Kendall	07	F1 X M2	535	3297	3150	96%	ND	15
Average			608	2716	2482	91%	89%	
Total			9,117	40,740	37,231			

As of the end of this reporting period more than 31,000 fry were continuing to rear at the Skookum Hatchery in anticipation of being released into the South Fork of the Nooksack River during the months of June and July. This will represent the second and most significant plant of fry from the program to date. The goal planting up to 1,000,000 fry per year still remains in place and with the continued support of the PSC grant we should exceed a plant of 100,000 in 2012 with increasing numbers in subsequent years.



Mature South Fork Female