

To: Lorraine Vercessi

From: Bill Gass - SSRAA

10/25/2019

Re: Release of Chickamin River Ancestral Stock Chinook at Anita Bay

SSRAA is considering a PAR request that would allow a one-time release of Chickamin River ancestral stock chinook salmon at the Anita Bay release site on Etolin Island. The SSRAA Board will weigh in on this proposal at the first Board meeting next week and SSRAA may suggest that it be included on the RPT December, 2019 Agenda as a discussion item. This is an effort to provide context and history for the plan so that if a discussion does occur it can be relevant and helpful.

SSRAA has released between 350,000 and 500,000 Andrew Creek ancestral stock at Anita Bay every year since 2001 and in 2014 an additional 52,000 Unuk River ancestral stock from Deer Mountain Hatchery were released. Prior to releasing at Anita Bay fish were reared and released at Earl West Cove in a cooperative project with ADF&G from 1986 - 2000. Fish released at Anita and Earl West were of Andrew Creek stock from Crystal Lake Hatchery. CLH has reared Chickamin stock from Whitman Lake Hatchery since the 1990's and currently supplies smolt for release at Neets Bay and Port Saint Nicholas.

In 2019 the return to CLH moved up to the hatchery site much later than in years past and the hatchery was able to collect well in excess of normal needs. The late spawning date was viewed as a positive development for hatchery operations since the resultant fry would emerge much later than normal which is a production goal for the facility. As eggs developed to the eyed stage and were picked it became apparent that both survival to eye and fecundity were well below average and the net survival of live eggs would be inadequate to meet all of the production goals for the stock. Due to the late development of the eggs there were no excess eggs available from the other facilities that produce the same stock.

The release at CLH, designated for broodstock at CLH and Petersburg area sport harvest, is targeted at 600,000 smolt and must be Andrew Creek stock. The Anita Bay release is targeted at 500,000 smolt and has traditionally been Andrew Creek with the one exception in 2014 for a portion of Unuk stock. The exception was allowed based on the fact that there is no broodstock component related to the release and the clean-up fishery is extremely effective. One potential problem with clean-up fisheries in general is that the back end of a run can be underutilized as volume and quality diminish but that does not occur in Anita Bay due to the subsequent summer chum run that begins just as the chinook run is declining. Late returning fish are generally more likely to stray if not harvested. Chinook in Anita Bay do not go unharvested.

Utilizing Chickamin stock for one Anita Bay release will not in any way alter the fishery, although not producing a full complement for release may alter fisheries in other areas as harvesters decide whether to focus their efforts on Anita Bay or to relocate to another area. Fish released will be tagged at appropriate levels and returns will be monitored for contribution and survival. There are no indigenous chinook systems in Anita Bay although the Stikine River and Andrew Creek (a Stikine tributary) are approximately 50 kilometers away. Given the above mentioned targeted fishery in Anita Bay and the fact that only a portion of the release would be Chickamin stock, for one broodyear only, the interaction with wild fish destined for the Stikine drainage would be minimal.

The Anita Bay chinook program has been a highly consistent producer for many years with an excellent exploitation rate. Since the first returns in 2004 the site has produced a harvest of over 200,000 adult chinook and boasts an average marine survival of 3.1%. This plan would serve to continue that harvest for all users while also ensuring that the broodstock program at Crystal Lake and the Sport fish directed release at City Creek could continue uninterrupted with available Andrew Creek stock. At this time the exact level of the anticipated shortfall is unknown but it could be as much as 250,000.

Below are a summary of Anita Bay releases and returns as well as a map showing all pertinent locations.

Chinook Brood Year Performance by Age Class by Release Site											
Site	Brood Year	Release Year	Number Released	Return Year	CP Harvest	Terminal Harvest	Return By Year	Total Return	Percent Survival	Percent CP Harvest	Percent Terminal Harvest
Anita	1999	5/23/2001 22.7gm	369,647	02-3yr	0	0	0	5,260	1.4%	62.7%	37.3%
				03-4yr	250	50	300				
				04-5yr	2,670	1,820	4,490				
				05-6yr	380	90	470				
2000	No release	0									
2001	5/27/03 26.2gm	406,800	04-3yr	0	0	0	11,720	2.9%	65.0%	35.0%	
			05-4yr	2,075	115	2,190					
			06-5yr	4,585	3,055	7,640					
			07-6yr	960	930	1,890					
2002	5/24/04 33.7gm	470,975	05-3yr	80	400	480	20,060	4.3%	59.0%	41.0%	
			06-4yr	3,085	2,060	5,145					
			07-5yr	7,390	4,680	12,070					
			08-6yr	1,285	1,080	2,365					
2003	5/26/05 25.7gm	330,140	06-3yr	0	0	0	12,483	3.8%	56.6%	43.4%	
			07-4yr	2,850	1,540	4,390					
			08-5yr	4,090	2,570	6,660					
			09-6yr	126	1,307	1,433					
2004	5/20/06 25.6	438,200	07-3yr	0	0	0	8,224	1.9%	41.5%	58.5%	
			08-4yr	520	260	780					
			09-5yr	2,590	3,880	6,470					
			10-6yr	304	670	974					
2005	6/1/07 21.25g	373,350	08-3yr	0	0	0	10,503	2.8%	33.5%	66.5%	
			09-4yr	600	643	1,243					
			10-5yr	2463	5425	7,888					
			11-6yr	458	914	1,372					
2006	5/31/08 19.35g	343,400	09-3yr			0	9,864	2.9%	58.2%	41.8%	
			10-4yr	295	647	942					
			11-5yr	5133	2030	7,163					
			12-6yr	309	1450	1,759					
2007	5/27/09 24.7g	547,000	10-3yr			0	15,833	2.9%	33.7%	66.3%	
			11-4yr	1129	2735	3,864					
			12-5yr	3535	6635	10,170					
			13-6yr	671	1128	1,799					
2008	5/23/10 27.9g	553,000	11-3yr	60	71	131	20,442	3.7%	39.5%	60.5%	
			12-4yr	1910	1220	3,130					
			13-5yr	5133	8420	13,553					
			14-6yr	981	2647	3,628					
2009	5/26/11 33.1 g	467,700	12-3yr	35	45	80	18,092	3.9%	50.2%	49.8%	
			13-4yr	3988	2633	6,621					
			14-5yr	4665	6104	10,769					
			15-6yr	392	230	622					
2010	5/25/12 25.8 g	441,000	13-3yr	245	670	915	21,628	4.9%	60.5%	39.5%	
			14-4yr	3198	1114	4,312					
			15-5yr	9105	6667	15,772					
			16-6yr	529	100	629					
2011	5/28/13 23.57 g	477,500	14-3yr			0	19,936	4.2%	70.3%	29.7%	
			15-4yr	7188	2241	9,429					
			16-5yr	6473	2790	9,263					
			17-6yr	361	883	1,244					
2012	5/23/14 28.61	551,055	15-3yr			0	11,003	2.0%	35.5%	64.5%	
			16-4yr	1632	880	2,512					
			17-5yr	2239	5896	8,135					
			18-6yr	30	326	356					
2013	5/14/15 29.4	340,800	16-3yr	129	64	193	6,900	2.0%	20.7%	79.3%	
			17-4yr	813	1851	2,664					
			18-5yr	486	3557	4,043					
			19-6yr			0					
2014	5/15/16 28.56	450,425	17-3yr	189	87	276	6,176	1.4%	28.9%	71.1%	
			18-4yr	1595	4305	5,900					
			19-5yr								
			20-6yr								

