



40610 Kalifornsky Beach Road  
Kenai, Alaska 99611

Phone: 907-283-5761  
Fax: 907-283-9433  
info@ciaanet.org  
www.ciaanet.org

Alaska Board of Fisheries  
Alaska Department of Fish and game  
C/O Boards Support Section  
PO Box 115526  
Juneau, AK. 99811-5526

Re: Board of Fisheries Proposals No. 39, 40, and 41.

The Cook Inlet Aquaculture Association (CIAA) reviewed Board of Fisheries proposals No. 39, 40, and 41 at its November 19, 2016 Board of Directors meeting and voted unanimously to oppose all three proposals.

**Proposal 39 – 5ACC 21.375. Bear Lake Management Plan.**

Board of Fisheries Proposal No. 39 requests the Bear Lake Management Plan be reinstated with an equal allocation between cost recovery and common property fisheries. This proposal addresses the allocation of enhanced sockeye salmon returns to Bear Lake and Resurrection Bay. CIAA is opposed to this proposal because:

1. It addresses an issue that will change when other harvest opportunities come on line at Tutka Bay and Port Graham.
2. It was difficult to manage for an equal allocation when the plan was previously instated.
3. It is unclear if the proposed allocation is based on numbers of fish or the value of the harvest.
4. It will make it difficult for CIAA to implement the Common Property Fishery Assessment program<sup>1</sup> which could eliminate future cost recovery harvests in Resurrection Bay.

**Proposal 40 – 5ACC 21.373. Trail Lakes Hatchery Salmon Management Plan.**

Board of Fisheries Proposal No. 40 requests the Trail Lakes Hatchery Salmon Management Plan be amended by removing from the Special Harvest Area the freshwaters downstream from the Seward Highway and downstream from Nash Road to the ADF&G fresh/salt water boundary markers. This proposal addresses the cost recovery harvest of enhanced sockeye salmon returns to Bear Lake. CIAA is opposed to this proposal because:

1. Cost recovery harvest operations have traditionally been completed in the downstream portion of the freshwaters proposed for removal from the Special Harvest Area.
2. Additional fish will escape into the freshwater system and be allocated to other harvests:
  - a. The additional fish will be targeted by the freshwater sport fishery, and
  - b. Additional freshwater harvest will be needed at the Bear Creek weir where harvest operations are currently limited.

<sup>1</sup> AS 16.10.455. The Common Property Fishery Assessment established in 2006 allows hatcheries to recoup costs through an assessment on fishery resources taken in a Special Harvest Area. The program was first used at Hidden Falls Hatchery 2012 and may be applicable at Resurrection Bay, Tutka Bay and other LCI Special Harvest Areas.

**Proposal 41 – 5ACC 21.373. Trail Lakes Hatchery Salmon Management Plan.**

Board of Fisheries Proposal No. 41 requests the Trail Lakes Hatchery Salmon Management Plan be amended by removing the nearshore waters from the Special Harvest Area. This proposal addresses the cost recovery harvest of enhanced sockeye salmon returns to Resurrection Bay. CIAA is opposed to this proposal because:

1. Cost recovery harvest operations have traditionally been completed along the nearshore of the Special Harvest Area.
2. Sockeye salmon traditionally follow shorelines and cost recovery harvest operations need to target these areas to be successful.
3. CIAA will be prevented from completing “clean-up” harvests surrounding the netpen release site at the end of the season.
4. This will extend future cost recovery harvest operations and increase costs.
5. Additional fish will escape into the freshwater system and be allocated to other harvests:
  - a. The additional fish will be targeted by the freshwater sport fishery, and
  - b. Additional freshwater harvest will be needed at the Bear Creek weir where harvest operations are currently limited.
6. CIAA worked with ADF&G in 2016 to reduce conflicts between cost recovery harvest operations and other user groups by implementing a harvest schedule and informing the public of the schedule. The harvest schedule allowed all user groups access to the nearshore area with temporal separation.

**Background:** The Cook Inlet Aquaculture Association (CIAA) conducts two sockeye salmon enhancement projects with returns to Resurrection Bay.

The first enhancement project is a fry stocking project at Bear Lake. Each year CIAA releases 2.4 million sockeye fry to Bear Lake where they rear before migrating to Resurrection Bay as smolts the following year. To support the fry release project, CIAA enhances the lake rearing environment through lake fertilization, monitors lake water quality, smolt migrations and adult returns. Returning adult sockeye salmon are harvested in Resurrection Bay and Salmon Creek. CIAA also harvests surplus Bear Lake returns at a permanent weir in Bear Creek about 0.4 mile below Bear Lake. The purpose of this project is to provide broodstock, common property, and cost recovery harvest.

CIAA estimates releasing 2.4 million sockeye fry will produce an average of 480,000 smolt and an adult return of 72,000 fish or a 15% smolt-to-adult survival rate. Over the last 10 years the smolt migration has ranged from 240,000 to 900,000 fish and averaged 490,000. For broodyears 2008, 2009, and 2010 smolt-to-adult survival has averaged 13.5%<sup>2</sup>.

The second sockeye enhancement project with returns to Resurrection Bay is a smolt release project. Eggs are collected from Bear Lake, incubated at Trail Lakes Hatchery, and reared in the hatchery for a year before being transferred to netpens in Resurrection Bay to complete rearing and release. The purpose of this project is to provide additional returns to Resurrection Bay for cost recovery and common property harvest.

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<sup>2</sup> Smolt-to-adult survival estimates under the current stocking projects are only available for broodyears 2008, 2009, and 2010. Returns from broodyears 2011 and later are not complete.

CIAA's targeted netpen release goal is 1.54 million smolt. Since 2008, the number of smolt released has averaged 1.48 million. In 2011, the fish being reared for release to Resurrection Bay were diagnosed with a virus. As per ADF&G pathology protocol these fish were destroyed. Coincident with the loss of these fish, CIAA embarked on several hatchery renovations to improve fish culture at the facility.

CIAA currently estimates 8% of the smolt released, or 118,000, will survive and return to Resurrection Bay as adults. Thus, the total projected adult return to Resurrection Bay from both enhancement programs is 180,000 sockeye of which 167,000 should be available for harvest. Estimated returns to Resurrection Bay for the last five years (2011 to 2015) have ranged from 77,200 to 240,500 adults and averaged 144,800 fish. The estimated returns do not include fish harvested in the sports fishery, but do include years (2012 and 2013) when no fish were expected to return from the loss of fish at the hatchery in 2011. Recent smolt releases from the netpens have improved due to the renovations made at the hatchery and CIAA anticipates future returns from the netpens will be more consistent.

In 2004, CIAA operated one hatchery, Trail Lakes Hatchery, and identified cost recovery harvests in Resurrection Bay to fund hatchery operations. Targeting one area for cost recovery was more efficient and allowed CIAA to reduce cost recovery harvests in other areas.

In 2010, pink salmon prices improved and CIAA elected to reopen the Tutka Bay Lagoon Hatchery to pink salmon production. To reopen Tutka Bay Lagoon Hatchery, CIAA needs to develop the broodstock for the hatchery through several generations of returns. CIAA estimated this would require four to eight years of hatchery operations before a harvestable surplus was available to fund future operations and common property harvests. The first year of planned operations for Tutka Bay Lagoon Hatchery were delayed because pink salmon broodstock were not available to initiate broodstock development. CIAA currently has 65 million eggs in the facility and expects to reach full production in 2017 or 2018. At full production CIAA expects to release 100 million fry and generate an adult return of 3 million. CIAA estimates 40% of the return will be harvested for cost recovery.

In 2012, CIAA was approached by the Port Graham Hatchery Corporation to purchase the Port Graham Hatchery. CIAA reviewed the offer and purchased the facility in 2014. Again, CIAA estimated it would require four to eight years of hatchery operations before a harvestable surplus was available to fund future operations and common property harvests. The first year of operations to initiate broodstock development for the Port Graham Hatchery began in 2014. CIAA currently has 10 million eggs in the facility and expects to reach its interim goal<sup>3</sup> of 84 million eggs in 2017 or 2018. At this interim production level, CIAA expects to release 70 million fry and generate an adult return of 2.1 million. CIAA estimates 40% of the return will be harvested for cost recovery.

To fund renovations at Trail Lakes Hatchery and start-up costs at Tutka Bay Lagoon Hatchery and Port Graham Hatchery CIAA secured several grants, loans, and attempted to maximize the funds available through cost recovery harvests<sup>4</sup>. The temporary emphasis on cost recovery harvests is evident in the

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<sup>3</sup> The interim goal is based on the amount of water currently available for hatchery operations. CIAA is investigating new water sources and plans to increase production to 125 million eggs if a suitable water source can be found

<sup>4</sup> CIAA maximized cost recovery harvests to reduce the loans required for start-up operations at Tutka Bay Lagoon and Port Graham hatcheries.

attached table which summarizes returns to CIAA hatchery projects<sup>5</sup>. In 2018 or 2019 when greater pink salmon returns to Tutka Bay Lagoon and Port Graham hatcheries are projected, the number of fish harvested in the common property fishery will increase and the total number harvested should equal or exceed the number harvested for cost recovery.

Additional information about CIAA's operations is available on our website ([www.ciaa.net.org](http://www.ciaa.net.org)) and our Facebook page ([www.Facebook.com/ciaa1976#](https://www.Facebook.com/ciaa1976#)).

Respectfully,

A handwritten signature in cursive script that reads "Gary Fandrei".

Gary Fandrei, Executive Director

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<sup>5</sup> This table does not include estimated sport fish harvests nor returns associated with CIAA's habitat and other non-hatchery enhancement programs.

*Salmon enhancement today means better salmon fishing tomorrow.*

	2008					2009					2010				
	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total
Bear Lk./Res. Bay Sockeye	31,384	109,091	4,444	8,550	153,469	136,128	11,338	3,341	9,478	160,285	21,881	8,300	4,320	8,564	43,065
Leisure/Hazel Lakes Sockeye	1,907	68,414			70,321	205	5,630			5,835	1,007	5,595			6,602
Kirchner Lake Sockeye	11,588	3,174			14,762	18,771	350			19,121	8,858				8,858
Hidden Lake Sockeye		14,600	3,064	7,500	25,164		10,890	3,755	5,298	19,943		50,648	1,000	21,493	73,141
Big Lake Sockeye		5,179		12,900	18,079		13,177		30,100	43,277		50,700		78,326	129,026
Tustumena Lake Sockeye	end of project				0					0					0
Tutka Bay Sockeye	14,604	5,350	150		20,104	11,584	503	3,067		15,154	38,087		4,894	1,000	43,981
Upper Paint Lakes Sockeye					0					0					0
English Bay Lakes Sockeye					0					0					0
Port Graham Sockeye					0					0					0
Bear Lake Coho	350	3,828	643	320	5,141		3,267	529	646	4,442		3,567	674	463	4,704
Port Graham Pink					0					0					0
Tutka Pinks					0					0					0
Haihut Cove Pinks					0					0					0
Total Sockeye	59,483	205,808	7,658	28,950	381,899	166,688	41,888	10,163	44,876	263,615	69,833	115,243	10,214	109,383	304,673
Total Coho	350	3,828	643	320	5,141	0	3,267	529	646	4,442	0	3,567	674	463	4,704
Total Pink	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	59,833	209,636	8,301	29,270	387,040	166,688	45,155	10,692	45,522	268,057	69,833	118,810	10,888	109,846	309,377

	2011					2012					2013				
	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total
Bear Lk./Res. Bay Sockeye	150,853	76,111	3,831	9,689	240,484	83,453	19,576	4,431	8,008	115,468	43,369	21,255	3,606	8,999	77,229
Leisure/Hazel Lakes Sockeye		15,118			15,118	16,817	11,017			27,834	8,755	17,554			26,309
Kirchner Lake Sockeye		12,942			12,942	1,260	1,300			2,560	8,288				8,288
Hidden Lake Sockeye	610	19,098	904	17,771	38,383		26,135	407	15,367	41,909		22,563	1,157	16,108	39,828
Big Lake Sockeye					0					0					0
Tustumena Lake Sockeye					0					0					0
Tutka Bay Sockeye	8,496	10,516	1,563	2,000	22,575	13,167	6,989	2,590		22,746	13,137	23,642	2,558		39,337
Upper Paint Lakes Sockeye					0					0					0
English Bay Lakes Sockeye		4,497	1,055	6,018	11,570					0		273	117	731	1,121
Port Graham Sockeye	200	717	219		1,136		700	503		1,203					0
Bear Lake Coho			442	352	794		1,234	387	309	1,930		5,400	732	300	6,432
Port Graham Pink					0					0					0
Tutka Pinks					0					0	46,238	5,866	143,884	20,000	215,988
Haihut Cove Pinks					0					0		19,477			19,477
Total Sockeye	160,159	138,999	7,572	35,478	342,208	114,697	65,717	7,931	23,375	211,720	73,549	85,287	7,438	25,838	192,112
Total Coho	0	0	442	352	794	0	1,234	387	309	1,930	0	5,400	732	300	6,432
Total Pink	0	0	0	0	0	0	0	0	0	0	46,238	25,343	143,884	20,000	215,465
Grand Total	160,159	138,999	8,014	35,830	343,002	114,697	66,951	8,318	23,684	213,650	119,787	116,030	152,054	46,138	434,009

	2014					2015					Totals 2008 to 2015				
	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total	CR	CPF	Broodstock	Escapement	Total
Bear Lk./Res. Bay Sockeye	125,971	27,062	3,857	9,233	166,123	92,596	18,758	3,945	9,560	124,859	685,635	291,491	31,775	72,081	1,080,982
Leisure/Hazel Lakes Sockeye					0		5,016			5,016	28,691	128,344	0	0	157,035
Kirchner Lake Sockeye	16,555	3,608			20,163	23,571		3,666		27,237	88,891	21,374	3,666	0	113,931
Hidden Lake Sockeye	439	18,637	1,043	15,771	35,890	407	7,933	890	11,846	21,076	1,456	170,504	12,220	111,154	295,334
Big Lake Sockeye					0					0	0	69,056	0	121,326	190,382
Tustumena Lake Sockeye					0					0	0	0	0	0	0
Tutka Bay Sockeye	29,553	34,433	4,087		68,073	31,105	45,935	6,769		83,809	159,733	127,368	25,678	3,000	315,779
Upper Paint Lakes Sockeye					0					0	0	0	0	0	0
English Bay Lakes Sockeye		61	129	1,022	1,212		90		774	864	0	4,921	1,301	8,545	14,767
Port Graham Sockeye					0					0	200	1,417	722	0	2,339
Bear Lake Coho		6,071	567	534	7,172		6,221	683	253	7,157	350	29,588	4,657	3,177	37,772
Port Graham Pink		19,896	1,740	14,791	36,427					0		19,896	1,740	14,791	36,427
Tutka Pinks	32	33,803	22,401	10,152	66,388	2,141,201	83,785	165,008	82,400	2,472,394	2,187,471	123,454	331,293	112,552	2,754,770
Haihut Cove Pinks					0					0		19,477			19,477
Total Sockeye	172,518	83,801	9,116	26,026	291,461	147,679	77,732	15,270	22,180	262,861	964,606	814,475	75,362	316,106	1,178,549
Total Coho	0	6,071	567	534	7,172	0	6,221	683	253	7,157	350	29,588	4,657	3,177	37,772
Total Pink	32	53,699	24,141	24,943	106,215	2,141,201	83,785	165,008	82,400	2,472,394	2,187,471	162,227	333,633	127,343	2,818,674
Grand Total	172,550	143,571	33,824	51,503	401,448	2,288,880	167,738	180,961	104,833	2,742,412	3,152,427	1,006,890	413,052	446,626	5,018,995