

# 2016 ANNUAL REPORT ALASKA SALMON HATCHERY

Year Ending December 15, 2016

Hatchery name/Location  
Permit holder name/Address

TUTKA BAY LAGOON HATCHERY
Cook Inlet Aquaculture Association
40610 Kalifornsky Beach Road
Kenai, AK 99611

Person to contact  
regarding this report

Caroline Cherry	name
907-283-5761 Ext. 24	phone

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## DECLARATION AND SIGNATURE

I declare that the information given in this annual report is, to my knowledge, true, correct, and complete.

Gary Fandrei  
Name of Legal Representative

11/21/16  
Date

  
Signature of Representative

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## THE FOLLOWING PARTS ARE INCLUDED IN THIS REPORTING FORM.

### Part 1. REPORT OF THIS YEAR'S PERFORMANCE

Complete the following schedules of production statistics for this year, for each species/stock/brood year combination:

**Schedule A:** Annual Broodstock and Initial Survival Report

**Schedule B:** Annual Fish Culture Production Report

**Schedule C:** Harvest Management and Hatchery Adult Returns

Note: One Schedule C for each species/stock/project location (release site).

### Part 2. PROJECTED RETURNS FOR NEXT YEAR

Complete **Schedule D**, to provide projections for each species and each release site.

### Part 3. UPDATED SCHEDULES FOR PRIOR YEAR ANNUAL REPORT

**Schedule F** is used to update last year's Schedule C reported adult return data.

Use this form to update the information that we have on file, if known changes have occurred or numbers have been finalized since last year's report.

**SCHEDULE A-1  
ANNUAL BROODSTOCK AND INITIAL SURVIVAL REPORT**

TUTKA BAY LAGOON HATCHERY

Complete this schedule for each species/stock of eggs taken this year.

Use lines 3-6 to report fish captured and sacrificed as broodstock (fish that died during collection of eggs).

Use line 16 to report and describe captured fish that were released alive (for example, at remote egg-take locations).

1. Species	Pink					
2. Stock (donor stock/ancestral stock)	Tutka/Tutka					
3. Viable broodstock (spawned, eggs in incubators)	40,855	females	31,108	male	71,963	total
4. Inviabile broodstock (green/over-ripe/bad)	15,613	females	15,764	male	31,377	total
5. Unspawned fish (roe recovery, excess males)	-					
6. Holding mortalities (raceway, pen mortalities)	5,146					
7. Adults sacrificed for broodstock (sum 3 thru 6)	108,486					
8. Average length and weight of adults used for broodstock						
	females>	cm	2.1	kg		
	males>	cm	2.1	kg		
9. Average fecundity (eggs/female)	1,616					
10. Egg-take dates:	Aug 5 - Sept 14/16					
11. Number of green eggs taken	66,003,411					
12. Number of eggs transferred out (annotate below)	-					
13. Number of eggs destroyed (annotate below)	-					
14. Number of green eggs retained in hatchery <sup>1</sup>	66,003,411					
15. Number remaining in hatchery at eyed stage	55,292,531		83.77%	% survival <sup>2</sup>		
16. Describe procedures used for egg takes and evaluation of in-hatchery survivals:						

This was the first year that CIAA took fish directly from Tutka Creek. Two egg lots were taken from the net pen complex as a trial group. Survival to eyed from the net pen complex was approx. 50% while those taken directly from the creek ranged between 80-93%.

1. Provide explanation if greater than number of green eggs taken.      2. Provide explanation for survivals less than 90%.

**SCHEDULE A-2  
ANNUAL BROODSTOCK AND INITIAL SURVIVAL REPORT**

TUTKA BAY LAGOON HATCHERY

Complete this schedule for each species/stock of eggs taken this year.

Use lines 3-6 to report fish captured and sacrificed as broodstock (fish that died during collection of eggs).

Use line 16 to report and describe captured fish that were released alive (for example, at remote egg-take locations).

1. Species						
2. Stock (donor stock/ancestral stock)						
3. Viable broodstock (spawned, eggs in incubators)		females		male	-	total
4. Inviabile broodstock (green/over-ripe/bad)		females		male	-	total
5. Unspawned fish (roe recovery, excess males)	-					
6. Holding mortalities (raceway, pen mortalities)						
7. Adults sacrificed for broodstock (sum 3 thru 6)						
8. Average length and weight of adults used for broodstock						
	females>	cm		kg		
	males>	cm		kg		
9. Average fecundity (eggs/female)						
10. Egg-take dates:						
11. Number of green eggs taken						
12. Number of eggs transferred out (annotate below)	-	0				
13. Number of eggs destroyed (annotate below)	-	0				
14. Number of green eggs retained in hatchery <sup>1</sup>						
15. Number remaining in hatchery at eyed stage			#DIV/0!	% survival <sup>2</sup>		
16. Describe procedures used for egg takes and evaluation of in-hatchery survivals:						

1. Provide explanation if greater than number of green eggs taken.      2. Provide explanation for survivals less than 90%.

## SCHEDULE B-1

### ANNUAL FISH CULTURE PRODUCTION REPORT

TUTKA BAY LAGOON HATCHERY

Complete this schedule for each species/stock of eggs (or fish) cultured this year from prior brood years. Please provide explanations for any differences in numbers of green and eyed eggs from those reported last year for this species/stock (e.g. reenumeration of inventory at eyed stage, transfers, mortality, etc.).

Species: Pink      Stock: Tutka/Tutka      Brood Year: 2015

#### A. Life Stage Information

	Actual number	% cum survival	Annotate transfers between hatcheries, significant mortalities, or provide other descriptive comments.
1. Green eggs	29,125,813	100.0%	
2. Eyed eggs	13,672,066	46.94%	
3. Emergent fry	12,398,959	42.57%	
4. Fed fry	11,433,515	39.26%	All released at Tutka Bay Lagoon
5. Smolts		0	

#### B. Release Information

Site	Release			Size		Return	
	Number	Date	Life stage	gm/fish	mm/fish	Expected return	Return year(s)
Tutka Bay Lagoon	11,433,515	2-Jun-16	Fed Fry	1.11		343,006	2017
Total:	11,433,515						

#### C. Marking/Tagging

Number of fish marked or tagged (by release group and method of marking)

Release				Marking/Tagging		
Release Group <sup>1</sup>	Release Location	Number	Dates	Otolith Mark Pattern	Tag Code	Valid Tags
SW-Net Pen	Tutka Bay Lagoon	11,433,515	2-Jun-16	5,3H		

<sup>1</sup>Report release group as fresh or salt water; from net pen or raceway; or other rearing/release/site group description.

#### D. Other

Report any diseases, rearing problems, or significant mortalities among these fish.

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No significant issues. Used non-volitional migration.

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Expected returns assume a 3% survival.

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**SCHEDULE C-1  
HARVEST MANAGEMENT AND HATCHERY ADULT RETURNS**

Complete a separate schedule for each project (location of release/return), stock (e.g. fall or summer, if applicable), and species.

**TUTKA BAY LAGOON HATCHERY**

Species: Pink  
Location of project: Tutka

**A. Hatchery Escapement**

1. Cost-recovery fish (line 17a & 17b): traditional harvest and roe-recovery fish	25,709
2. Adults sacrificed as broodstock (Schedule A line 7) minus roe-recovery fish (17b)	108,486
3. Escapement for hatchery watershed (as required in permit)	69,285
4. Jacks	-
5. Other <sup>1</sup> (annotate in comments section)	
6. Other <sup>1</sup> (annotate in comments section)	
7. Other <sup>1</sup> (annotate in comments section)	
<b>8. Total hatchery escapement</b>	<b>203,480</b>

**B. Common Property Harvest**

<b>9. Commercial harvest <sup>2</sup></b>	
a. Troll	
b. Gillnet	
c. Seine	55,646
d. Other (annotate in comments section)	
<b>Total commercial harvest</b>	<b>55,646</b>
<b>10. Noncommercial harvest <sup>2</sup></b>	
a. Sport	2,000
b. Personal Use	
c. Subsistence	
d. Other (annotate in comments section)	
<b>Total noncommercial harvest</b>	<b>2,000</b>
<b>11. Total Common Property Harvest (sum 9 and 10)</b>	<b>57,646</b>
<b>12. Total Return (sum 8 and 11)</b>	<b>261,126</b>

**13. Estimated ocean survival by brood year <sup>2</sup>**

Brood Year	Total # in Run, Current Year	Cumulative Ocean Survival (%)	Complete Return (yes or no)
BY13	261,126	2.32%	Y

**14. Average size of fish sold**

	length-cm	2.0	wt-kg
<b>15. Date(s) of harvest</b>	7/5-7/29		
<b>16. Gear type or method used</b>	Purse Seine		

**17. Disposition of Hatchery Escapement**

a. Traditional harvest fish	# fish sold		lbs fish		
	adults	24,437	lbs fish	106,110	
	jacks				
	total				
b. Roe-recovery fish	# fish		lbs fish	lbs roe	
	Sold	-	-	-	
	Donated				
	Disposed*				
	<b>total number of fish</b>	<b>-</b>	<b>-</b>	<b>-</b>	
c. Carcasses	# Sold		# Donated	# Disposed*	Total
	Spawners	25,592		82,894	108,486
	Other (annotate in comments)				-
	<b>total number of fish</b>	<b>25,592</b>	<b>-</b>	<b>82,894</b>	<b>108,486</b>
	<b>total pounds</b>	<b>103,652</b>		<b>333,234</b>	<b>436,886</b>

**Comments:**

**C3. Escapement = 19285 counted as mortalities from above the weir. Another 50,000 is estimated to have spawned in lower reaches of the creek or were were not counted as mortalities from above the weir**

**C10. Estimated 2000 fish were caught in the sport fishery.**

**C13. 11,249,240 fish were released in 2014.**

**C17. Inlet Fish Producers bought 25,592 carcasses of fish that had already been spawned**

## SCHEDULE C-2 HARVEST MANAGEMENT AND HATCHERY ADULT RETURNS

Complete a separate schedule for each project (location of release/return), stock (e.g. fall or summer, if applicable), and species.

TUTKA BAY LAGOON HATCHERY

Species: Pink Salmon  
Location of project: Paint River

### A. Hatchery Escapement

1. Cost-recovery fish (line 17a & 17b): traditional harvest and roe-recovery fish	-
2. Adults sacrificed as broodstock (Schedule A line 7) minus roe-recovery fish (17b)	-
3. Escapement for hatchery watershed (as required in permit)	No data
4. Jacks	-
5. Other <sup>1</sup> (annotate in comments section)	-
6. Other <sup>1</sup> (annotate in comments section)	-
7. Other <sup>1</sup> (annotate in comments section)	-
8. Total return to hatchery	No data

### B. Common Property Harvest

9. Commercial harvest <sup>2</sup>		
a. Troll		
b. Gillnet		
c. Seine		
d. Other (annotate in comments section)		
Total commercial harvest	-	
10. Noncommercial harvest <sup>2</sup>		
a. Sport		
b. Personal Use		
c. Subsistence		
d. Other (annotate in comments section)		
Total noncommercial harvest	-	
11. Total Common Property Harvest (sum 9 and 10)		-
12. Total Return (sum 8 and 11)		No data

	Brood Year	Total # in Run, Current Year	Cumulative Ocean Survival (%)	Complete Return (yes or no)
13. Estimated ocean survival by brood year <sup>2</sup>	BY14	No Data	No Data	Y

14. Average size of fish sold		length-cm		wt-kg
15. Date(s) of harvest				
16. Gear type or method used				

### 17. Disposition of Hatchery Escapement

a. Traditional harvest fish		# fish sold	lbs fish		
	adults				
	jacks				
	total	-	-		
b. Roe-recovery fish		# fish	lbs fish	lbs roe	
	Sold				
	Donated				
	Disposed*				
	total number of fish	-	-	-	
c. Carcasses		# Sold	# Donated	# Disposed*	Total
	Spawners				-
	Other (annotate in comments)				-
	total number of fish	-	-	-	-
	total pounds				-

### Comments:

CIAA had released 1,025,000 unfed pink salmon fry to Upper Paint Lake in April 2015. We were expecting a 1.5% fry to adult survival. This was the first year of video monitoring. From 7/8/ - 7/26 the video was operational but recorded no pink salmon. In August, there were power generation issues and no video data is available. In September, low water flow made the video inoperable and no data is available. As the Bruin Bay run timing historically peaks in August, there is a high probability that the video was inoperable at the time the fish would return. Therefore, data for return is recorded as No Data

**SCHEDULE D**  
**PROJECTED RETURNS FOR 2017**

**TUTKA BAY LAGOON HATCHERY**

Please report multiple year class returns seperately by brood year.

Species	Brood Year	Release Site	Total number of fish expected	Range of expected return	
				minimum	maximum
Pink	BY15	Tutka Bay Lagoon	343,006	228,670	457,341

**COMMENTS:**

Tutka stock = Minimum = 2% survival; Maximum 4% survival, Average = 3%. Based on release of 11,433,515 pink fry.

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## SCHEDULE F-1 UPDATED 2015 HARVEST MANAGEMENT AND HATCHERY ADULT RETURNS

**This form is only required if there are known changes to the previous year's reported Schedule C data.**  
Complete a separate schedule for each project and species of fish with updated numbers from last year's annual report.

Species:   Pink   TUTKA BAY LAGOON HATCHERY  
Location of harvest/return:   Tutka  

**Hatchery Escapement**

1. Cost-recovery fish (line 16A & 16B): traditional harvest and roe recovery fish	
2. Adults captured for broodstock (Schedule A line 7) minus roe recovery fish (line 16B)	
3. Escapement for hatchery watershed (as required in permit)	-
4. Jacks	
5. Other <sup>1</sup> (annotate in comments section)	
6. Other <sup>1</sup> (annotate in comments section)	
7. Other <sup>1</sup> (annotate in comments section)	
8. Total return to hatchery	-

**Common Property Harvest**

9. Commercial <sup>2</sup>	
A. Troll	
B. Gillnet	
C. Seine	
D. Other (annotate in comments section)	
<b>Total commercial</b>	-

10. Noncommercial <sup>2</sup>	
A. Sport	
B. Personal Use	
C. Subsistence	
D. Other (annotate in comments section)	
<b>Total noncommercial</b>	-

11. Total Return (sum 8,9,10) -

12. Estimated ocean survival by BY <sup>2</sup>	BY	Total # return in 2013	Cumulative Survival	
				%
				%
				%
				%
				%

13. Average size of fish sold length-cm wt-kg  
14. Date(s) of harvest  
15. Gear type or method used

**16. Disposition of Hatchery Escapement**

		# fish	lbs fish
A. Fish harvested/sold	adults		
	jacks		
	<b>total</b>	-	-

	# fish	lbs roe
B. Roe recovery	-	

		# Disposed	# Donated	# Sold
C. Carcasses	Spawners			
	Roe recovery (during egg take)			
	Roe recovery (non-egg take)			
	Other (annotate in comments)			
<b>total number of fish</b>		-	-	-
total pounds				

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<sup>1</sup> "Other": use one line per category (e.g. fish remaining in salt water, sea lion predation, etc.).  
<sup>2</sup> Commercial harvest, noncommercial harvest, and estimated ocean survival: Please provide method used in estimation.