

## 2026 ANNUAL MANAGEMENT PLAN

### TUTKA BAY LAGOON HATCHERY

Cook Inlet Aquaculture Association

This Annual Management Plan (AMP) is prepared to fulfill the requirements of 5 AAC 40.840. This plan is prepared to guide hatchery operations in accordance with the hatchery permit. The plan must be developed with consideration of the hatchery's production cycle and must organize and guide the hatchery's operations regarding production goals, broodstock management, and harvest management of hatchery-produced salmon. This begins with the return of hatchery produced adult salmon and ends with the release of juvenile salmon. Action may be taken outside of the management plan if allowed under the hatchery permit or modified by emergency order. Inseason assessments and project alterations by Cook Inlet Aquaculture Association (CIAA) or Alaska Department of Fish and Game (ADF&G or department) may result in changes to this AMP in order to reach or maintain program objectives. CIAA will notify the ADF&G private nonprofit (PNP) hatchery program coordinator in a timely manner of any departure from the AMP. The ADF&G PNP coordinator will advise as to whether an amendment, exception report, or other action is warranted. No variation or deviation will be implemented until an AMP amendment has been approved or waived by both the department and CIAA. This policy applies to all hatchery operations covered under the AMP.

#### 1.0 Executive Summary

##### 1.1 New This Year (production, harvest management, culture techniques, etc.)

###### *1.1.1 Facility Changes*

There are no changes to the facility planned for 2026.

###### *1.1.2 Production Changes*

No major production changes anticipated in 2026.

###### *1.1.3 Fish Culture Changes*

No major changes anticipated in 2026.

###### *1.1.4 Projected Return and Cost-recovery changes*

No major changes anticipated in 2026.

##### 1.2 Permit Alteration Requests (PARs) submitted and Fish Transport Permits (FTP) or amendments needed this year

- No PARs were submitted for amending the Tutka Bay Lagoon Hatchery (TBLH) PNP Permit.
- CIAA plans to apply to renew the following FTP that expires in 2026:
  - 00A-0073(4), which allows for taking up to 125,000,000 Tutka Bay Lagoon Creek ancestral stock pink salmon eggs at Tutka Bay Lagoon, rearing at TBLH, and release of resultant fed fry into Tutka Bay.

### 1.3 Expected Returns

At a 1.60% fry-to-adult survival rate (based on average of all even-year survival to this facility), CIAA is expecting approximately 9,195 adult pink salmon to return to Tutka Bay Lagoon Hatchery (TBLH) based on a release of 573,300 brood year (BY) 2024 fry in 2025. All returning fish will be needed to meet minimum wild escapement with egg take conducted on remaining fish.

### 1.4 Production Summary

| Species | Brood year | Release location | Release date | Target release | Life stage |
|---------|------------|------------------|--------------|----------------|------------|
| Pink    | 2025       | Tutka Bay Lagoon | May-25       | 8,400,000      | Fry        |

### 1.5 Egg take

| Species | Donor stock      | Permitted level | Egg-take goal | Release site     | Release goal |
|---------|------------------|-----------------|---------------|------------------|--------------|
| Pink    | Tutka Bay Lagoon | 125,000,000     | 50,000,000    | Tutka Bay Lagoon | 40,000,000   |

### 1.6 Permitted Capacity

TBLH operates under PNP Hatchery Permit #32 issued in 1994 and has a permitted capacity of 125,000,000 pink salmon green eggs and 660,000 sockeye salmon green eggs. FTPs under which CIAA operates TBLH programs can be found in section 7.4.

## **2.0 Paint River Stocking Program**

### 2.1 Purpose and History

The Paint River system, which enters Akjemguiga Cove in Kamishak Bay over a forty-foot waterfall at tidewater, has never had a self-sustaining run of salmon, but has long been recognized by both ADF&G and CIAA as having significant salmon production potential. A fish ladder was completed in 1991. The next phase of this project is to develop salmon runs to Paint River.

In spring 2011, the fish ladder was opened to allow migration of adult salmon to the system and natural colonization of the watershed. The first anadromous fish (coho salmon) were documented in the system in 2014. In 2015, chum salmon were also documented in and above the ladder.

No stocking or egg-take programs planned for 2026. The fish ladder will be open from early June through September to allow natural colonization of this extensive watershed. A video camera may be installed to document fish passage through the fish ladder.

## **3.0 Tutka Pink Salmon**

### 3.1 Purpose and History

The purpose of the project is enhancement of the pink salmon return to Tutka Bay Lagoon for the common property fishery and cost-recovery harvest.

ADF&G initiated this project in 1975; CIAA assumed operation of the project in 1991. In 2004, CIAA suspended the Tutka Bay Lagoon pink salmon project and year-round operations at TBLH. In 2009, after reviewing options for improving hatchery operations, CIAA elected to resume pink salmon production at the facility. In 2011, natural returns to Tutka Creek were sufficient to allow the use of adult fish for broodstock and hatchery operations resumed.

### 3.2 Operational Plan

#### *2.2.1 Egg-take Goal/Brood Sources*

Primarily hatchery-produced pink salmon returning to Tutka Bay Lagoon Hatchery will be used as the brood source. Insufficient adult pink salmon returns are expected in 2026 to meet the 2026 egg-take goal of 50 million green eggs. Approximately 85,190 fish (46,300 females and 38,890 males) will be needed to meet this target. Brood stock will be collected from Tutka Creek when ripe, or by seine boat in the lagoon and placed into net pens until ripe. A weir will be constructed in Tutka Creek to restrict access above the pump house to those fish required for creek escapement (6,500–17,000). A minimum of 91,690 fish are needed to meet escapement and broodstock goals.

#### *3.2.2 Egg Take; Transport of Eggs*

Egg collection typically occurs between August 15<sup>th</sup> and September 15<sup>th</sup>. Carcasses, both male and female, will be sold to a local processor when possible or disposed of in the Alaska Department of Environmental Conservation (ADEC) approved Carcass Disposal Zone from permit AKG130002 and documented on the CIAA carcass disposal log. Eggs collected in Tutka Creek will be fertilized and immediately loaded into NOPAD incubators. Gametes collected in the lagoon will remain in separate iced coolers and transferred to TBLH via boat for fertilization and loading into NOPAD incubators. All eggs will be fertilized at a 1:1 female to male ratio.

#### *3.2.3 Incubation Plans*

Once eggs have reached the eyed stage, they will be shocked, picked, and inventoried before being placed back into the incubators for otolith marking and will remain there until emergence.

### 3.2.4 Rearing and Release Plans

All pink salmon fry will non-volitionally migrate from the incubators to net pens located in Tutka Bay Lagoon for short-term rearing before release. Loading will be such that the final density at release will be up to 8 kg/m<sup>3</sup>. The table below describes the anticipated release from eggs collected in 2025.

| Brood year | Life stage | Release location | Target release | Mark type | Percent marked | Hatch code |
|------------|------------|------------------|----------------|-----------|----------------|------------|
| 2025       | Fry        | Tutka Bay Lagoon | 8,400,000      | Otolith   | 100%           | 3,6H       |

### 3.3 Donor Stock Management

#### 3.3.1 Management Strategies

Cost recovery and common property harvest efforts will be managed to allow sufficient escapement into Tutka Creek for both broodstock harvest as well as natural escapement.

During broodstock collection for sockeye salmon, as described in the *Trail Lakes Hatchery 2026 Annual Management Plan* (see Lower Cook Inlet Sockeye Salmon (English Bay Lakes stock)), pink salmon will inadvertently be caught. To avoid capturing these pink salmon multiple times during broodstock collection for sockeye salmon, CIAA will place any captured adult pink salmon into net pens. Once in the net pens, the fish will be sorted by sex and enumerated. These fish may be used for broodstock purposes, released after sockeye brood collection and sockeye cost recovery are complete for escapement into the creek, or sold for cost recovery.

Broodstock will be collected directly from the creek below the weir or via seine and placed in net pens. Egg take will occur at the creek or on the net pens. CIAA will work with department staff to spread broodstock selection throughout the run based on historic run timing.

Any mortality problems associated with collection and holding of adults, and/or transportation of gametes will be immediately reported to the ADF&G Homer office.

#### 3.3.2 Escapement Requirements

A weir will be installed on Tutka Creek in early to mid-July, just below the pump house. CIAA will work with department staff to manage freshwater spawning escapement in a manner that mimics historic run timing and distribution (both above and below the weir), while targeting a final stream-wide escapement by mid-August within the SEG range of 6,500–17,000 fish.

#### **4.0 Project Evaluation**

- Paint River video weir footage will be reviewed at the end of the season if a video weir is installed and a report completed.
- Fish tickets submitted to ADF&G as well as counts during egg take and escapement will be used to enumerate returns to Tutka Bay Lagoon Hatchery.
- All fish will be otolith marked.
- CIAA may collect otoliths from adult pink salmon used as broodstock.
- CIAA may assist ADF&G in the analysis of adult pink salmon otoliths collected from Kachemak Bay area fisheries.

## 5.0 Harvest Management

### 5.1 Cost-recovery Plan

Cost recovery for sockeye salmon will be done under the Trail Lakes Hatchery (TLH) program and is detailed in the *Trail Lakes Hatchery 2026 Annual Management Plan*.

CIAA funds the cost of operating TLH, TBLH, and associated field projects by licensing for harvest a portion of the fish returning to the hatcheries' release sites. CIAA will begin cost recovery in Resurrection Bay/Bear Lake followed by Leisure/Hazel Lake sockeye, Kirschner Lake sockeye, and Tutka Bay Lagoon sockeye and pink salmon until the cost recovery goal is met. The table below describes anticipated return, broodstock need, cost recovery harvest, and common property harvest.

| Species | Terminal Area       | Total return | Broodstock/<br>escapement | Cost<br>recovery<br>harvest | Cost recovery<br>percent of total<br>return | Common<br>property<br>harvest |
|---------|---------------------|--------------|---------------------------|-----------------------------|---|-------------------------------|
| Sockeye | Resurrection Bay    | 83,960       | 12,200                    | 64,200                      | 76%   | 7,560                         |
|         | Tutka Bay           | 145,484      | 4,417                     | 112,851                     | 78%   | 28,216                        |
|         | China Poot/Hazel Lk | 23,123       | 0                         | 20,811                      | 90%   | 2,312                         |
|         | Kirschner Lk        | 21,443       | 0                         | 19,299                      | 90%   | 2,144                         |
| Pink    | Tutka Bay           | 9,195        | 9,195                     | 0                           | 0%  | 0                             |

The Division of Commercial Fisheries Area Management Biologist (AMB), in consultation with the hatchery operator, will employ management strategies within waters of the Tutka Bay SHA, as well as other hatchery subdistricts listed in 5 AAC 21.372 *Tutka Bay Lagoon Salmon Hatchery Management Plan* that ensure achievement of broodstock and cost recovery goals for CIAA, as well as to allow for an orderly common property fishery opportunity to harvest fish surplus to hatchery needs. Some reduction in the commercial common property fishery opportunity in hatchery subdistricts may be necessary to ensure broodstock and cost recovery objectives are met in a timely and orderly fashion. In addition to weekly updates providing current levels of CIAA brood and cost recovery harvests to the Homer ADF&G office, CIAA will submit written hatchery subdistrict management recommendations to the AMB with clear justifications as to how the recommendations support achieving cost recovery and/or broodstock collection goals. Recommendations will be submitted in the form of a brief email and will include, but not be limited to, current cost recovery and brood harvest data, SHA estimates of fish in the water, as well as actual and anticipated run entry, and actual and anticipated cost recovery and brood harvest progress. SHA estimates may also include the number of fish within Tutka Lagoon outside of holding pens as well as in the creek.

### 5.2 Special Harvest Areas

#### 5.2.1 Tutka Bay Special Harvest Area

##### 5.2.1.1 Area Definition

The Tutka Bay SHA is defined in 5 AAC 21.372 *Tutka Bay Lagoon Salmon Hatchery Management Plan* as the marine waters of Tutka Bay Subdistrict in the Southern District

southeast and shoreward of a line from 59° 30.23' N. lat., 151° 28.23' W. long. to 59° 28.63' N. lat., 151° 30.37' W. long., including Tutka Bay Lagoon (Figure 1).

#### 5.2.1.2 Fishery Management

The common property fishery will be managed to achieve the established pink salmon sustainable escapement goal (SEG) for Tutka Creek. In addition, an appropriate number of pink salmon will be allowed to escape the common property fishery to meet broodstock and cost recovery needs. Pink salmon returning to Tutka Bay Lagoon are expected to be intermingled with English Bay Lakes sockeye salmon stock that will be harvested for cost recovery and/or broodstock. To avoid capturing the pink salmon multiple times during collection efforts for sockeye salmon, CIAA will place captured pink salmon in net pens. Once the sockeye salmon broodstock capture is complete, the pink salmon being held in net pens will be released or sold for cost recovery. These numbers will be reported to ADF&G Homer office via fish tickets if sold for cost recovery.

CIAA's first priority is to ensure sufficient escapement to Tutka Creek followed by meeting the broodstock goal. If CIAA's cost recovery goal has been met at other SHAs, the fish that are surplus to escapement and broodstock requirements will be harvested in the common property fishery. Any unharvested fish at the end of the season will be harvested and sold by CIAA as part of clean-up operations. CIAA will also sell broodstock carcasses.

Sport fisheries will be managed in accordance with regulations as provided in 5 AAC 47–5 AAC 75. Emergency orders may be issued to liberalize or restrict sport fisheries based on achievement of broodstock goals (5 AAC 21.372).

## 6.0 Approval

### Recommendation for Approval: Tutka Bay Lagoon Hatchery Annual Management Plan, 2026:

Dean Day, Executive Director, Cook Inlet Aquaculture Association 4/29/2026

Patrick Fowler, Fish and Game Coordinator, Division of Sport Fish 4/28/2026

Glenn Hollowell, Area Management Biologist, Division of Commercial Fisheries 4/29/2026

Kristine Dunker, Regional Supervisor, Division of Sport Fish 4/29/2026

Bert Lewis, Regional Supervisor, Division of Commercial Fisheries 4/28/2026

Ethan Ford, Regional Resource Development Biologist, Div. of Comm. Fisheries 4/28/2026

Lorna Wilson, PNP Coordinator, Division of Commercial Fisheries 4/29/2026

The 2026 Tutka Bay Lagoon Hatchery Management Plan is hereby approved:

Jason Dye, Deputy Director, Division of Sport Fish 5/13/2026

Forrest Bowers, Acting Director, Division of Commercial Fisheries 5/13/2026

## 7.0 Attachments

### 7.1 Egg Collections and Broodstock Requirements

The following assumptions are used to determine the number of broodstock needed to reach the egg collection goal.

| Species | Stock | Release Location | Egg take Goal | Fecundity | Female Inviability/Mortality | F:M Ratio | Females | Males  | Total  |
|---------|-------|------------------|---------------|-----------|------------------------------|-----------|---------|--------|--------|
| Pink    | Tutka | Tutka Bay Lagoon | 50,000,000    | 1,350     | 25%                          | 1:1       | 46,300  | 38,890 | 85,190 |
|         |       |                  |               |           | Male Inviability/Excess      |           |         |        |        |
|         |       |                  |               |           | 5%                           |           |         |        |        |

### 7.2 Adult Returns

The average of all even year survivals, 1.60%, was used to determine the anticipated return in 2026.

| Species | Stock | Location         | Release Amount | Estimated Survival | Return |
|---------|-------|------------------|----------------|--------------------|--------|
| Pink    | Tutka | Tutka Bay Lagoon | 573,300        | 1.60%              | 9,195  |

### 7.3 Production Summary

*Tutka Bay Lagoon Hatchery*  
Pink

| Stock & Permit No.                   | current year                    |   |   |   |   |  |   |   |   |   |                                  |   |   |   |   |  |   |   |   |   |                                       |   |   |   |   |   |
|--------------------------------------|---------------------------------|---|---|---|---|--|---|---|---|---|----------------------------------|---|---|---|---|--|---|---|---|---|---------------------------------------|---|---|---|---|---|
|                                      | 2025                            |   |   |   |   | 2026                                       |   |   |   |   | 2027                             |   |   |   |   | 2028                                     |   |   |   |   |                                       |   |   |   |   |   |
|                                      | M                               | J | J | A | S | O  | N | D | J | F | M                                | A | M | J | J | A  | S | O | N | D | J                                     | F | M | A | M | J |
| Tutka Cr.<br>00A-0073(4)<br>11A-0060 | 11M egg take @ Tutka Bay Lagoon |   |   |   |   | 8 M fry release @ Tutka @ Tutka Bay Lagoon |   |   |   |   | Up to 50M egg take @ Tutka Creek |   |   |   |   | Up to 40M fry release @ Tutka Bay Lagoon |   |   |   |   | Up to 50 M egg take @ Tutka Bay Creek |   |   |   |   |   |

## 7.4 Fish Transport Permits

| FTP #                 | Donor Stock/<br>Ancestral Stock | Maximum #,<br>Life Stage  | Action                        | Expiration<br>Date | Transport from, to                           |
|-----------------------|---------------------------------|---------------------------|-------------------------------|--------------------|--|
| Pink salmon           |                                 |                           |                               |                    |  |
| 00A-0073              | Tutka Cr/<br>Tutka Cr           | 125 million<br>green eggs | Egg take, rearing,<br>release | 12/31/2026         | TBLH to Tutka Bay<br>and Tutka Bay<br>Lagoon |
| 12A-0114              | Tutka Bay/<br>Bruin Bay         | 4,714 adults              | Transfer                      | 6/30/2027          | Bruin Bay to TBLH                            |
| Sockeye salmon        |                                 |                           |                               |                    |  |
| 23A-0008 <sup>a</sup> | Tutka Bay/<br>English Bay Lk    | 1,000,000 smolt           | Transfer, rearing,<br>release | 12/31/2030         | TLH to Tutka Bay                             |

<sup>a</sup> FTP for Trail Lakes Hatchery, **planning to renew.**

## 7.5 Production History

| Pink Salmon |             |              |                     |              |                       |                       |  |
|-------------|-------------|--------------|---------------------|--------------|-----------------------|-----------------------|--|
| Brood Year  | Green Eggs  | Fry Released | Egg to Fry Survival | Adult Return | Fry to Adult Survival | Egg to Adult Survival | Comments   |
| 1975        | 3,000,000   | 250,000      | 8.33%               | undetermined |                       |                       |  |
| 1976        | 10,400,000  | 4,229,100    | 40.66%              | 151,968      | 3.59%                 | 1.46%                 | Net pen accident resulted in the loss of more than 2.9 million fry.                        |
| 1977        | 7,400,000   | 4,866,800    | 65.77%              | 368,887      | 7.58%                 | 4.98%                 |  |
| 1978        | 13,033,200  | 9,427,586    | 72.34%              | 329,896      | 3.50%                 | 2.53%                 |  |
| 1979        | 10,100,000  | 6,268,900    | 62.07%              | 1,016,345    | 16.21%                | 10.06%                |  |
| 1980        | 15,800,000  | 9,848,200    | 62.33%              | 229,374      | 2.33%                 | 1.45%                 |  |
| 1981        | 19,900,000  | 15,258,100   | 76.67%              | 666,517      | 4.37%                 | 3.35%                 |  |
| 1982        | 18,996,533  | 14,733,208   | 77.56%              | 285,526      | 1.94%                 | 1.50%                 | 501,956 fry stocked remotely. Makes egg-to-fry survival 80.20% - No data on adult returns. |
| 1983        | 26,775,619  | 19,618,325   | 73.27%              | 528,372      | 2.69%                 | 1.97%                 |  |
| 1984        | 29,537,000  | 23,537,000   | 79.69%              | 441,323      | 1.88%                 | 1.49%                 |  |
| 1985        | 32,274,000  | 25,091,200   | 77.74%              | 108,577      | 0.43%                 | 0.34%                 |  |
| 1986        | 31,492,000  | 23,535,000   | 74.73%              | 919,629      | 3.91%                 | 2.92%                 | 559,000 fry stocked remotely. Makes egg-to-fry survival 76.51% - No data on adult returns. |
| 1987        | 19,491,401  | 15,026,369   | 77.09%              | 954,047      | 6.35%                 | 4.89%                 | 562,991 fry stocked remotely. Makes egg-to-fry survival 79.98% - No data on adult returns. |
| 1988        | 46,046,220  | 36,300,115   | 78.83%              | 257,101      | 0.71%                 | 0.56%                 | 657,075 fry stocked remotely. Makes egg-to-fry survival 80.26% - No data on adult returns. |
| 1989        | 38,983,286  | 29,739,716   | 76.29%              | 326,915      | 1.10%                 | 0.84%                 | 614,946 fry stocked remotely. Makes egg-to-fry survival 77.87% - No data on adult returns. |
| 1990        | 50,000,000  | 29,696,174   | 59.39%              | 469,290      | 1.58%                 | 0.94%                 | 303,000 fry stocked remotely. Makes egg-to-fry survival 60.00% - No data on adult returns. |
| 1991        | 39,500,000  | 32,079,000   | 81.21%              | 772,886      | 2.41%                 | 1.96%                 | 302,000 fry stocked remotely. Makes egg-to-fry survival 81.98% - No data on adult returns. |
| 1992        | 60,000,000  | 48,700,000   | 81.17%              | 1,735,647    | 3.56%                 | 2.89%                 |  |
| 1993        | 77,000,000  | 61,100,000   | 79.35%              | 2,610,615    | 4.27%                 | 3.39%                 |  |
| 1994        | 89,200,000  | 63,000,000   | 70.63%              | 568,578      | 0.90%                 | 0.64%                 |  |
| 1995        | 125,600,000 | 105,000,000  | 83.60%              | 2,770,686    | 2.64%                 | 2.21%                 |  |

| Pink Salmon |             |              |                     |              |                       |                       |   |
|-------------|-------------|--------------|---------------------|--------------|-----------------------|-----------------------|---|
| Brood Year  | Green Eggs  | Fry Released | Egg to Fry Survival | Adult Return | Fry to Adult Survival | Egg to Adult Survival | Comments  |
| 1996        | 116,000,000 | 89,000,000   | 76.72%              | 1,470,354    | 1.65%                 | 1.27%                 |   |
| 1997        | 117,400,000 | 90,000,000   | 76.66%              | 1,262,772    | 1.40%                 | 1.08%                 |   |
| 1998        | 129,000,000 | 60,132,000   | 46.61%              | 1,253,303    | 2.08%                 | 0.97%                 |   |
| 1999        | 114,091,000 | 65,120,000   | 57.08%              | 715,722      | 1.10%                 | 0.63%                 |   |
| 2000        | 122,314,000 | 99,336,000   | 81.21%              | 906,745      | 0.91%                 | 0.74%                 |   |
| 2001        | 134,384,000 | 99,370,000   | 73.94%              | 860,005      | 0.87%                 | 0.64%                 |   |
| 2002        | 124,848,000 | 67,967,000   | 54.44%              | 1,196,195    | 1.76%                 | 0.96%                 |   |
| 2003        | 73,196,000  | 47,964,000   | 65.53%              | 1,771,685    | 3.69%                 | 2.42%                 |   |
| 2011        | 10,308,000  | 8,100,399    | 78.58%              | 215,840      | 2.66%                 | 2.09%                 |   |
| 2011        | 4,300,000   | 3,146,000    | 73.16%              | 19,415       | 0.62%                 | 0.45%                 | Windy Bay stock   |
| 2012        | 5,330,700   | 4,300,000    | 80.66%              | 56,552       | 1.32%                 | 1.06%                 |   |
| 2012        | 16,439,000  | 14,250,000   | 86.68%              | 1,700        | 0.01%                 | 0.01%                 | Port Graham Stock   |
| 2013        | 80,000,000  | 51,100,000   | 63.88%              | 2,472,394    | 4.84%                 | 3.09%                 |   |
| 2013        | 373,000     | 188,000      | 50.40%              | 0            | 0.00%                 | 0.00%                 | Port Graham stock. 95% of broodstock lost before spawning.  |
| 2014        | 13,495,000  | 11,249,250   | 83.36%              | 261,126      | 2.32%                 | 1.93%                 | Large size pink (4.5 lb)  |
| 2014        | 1,367,000   | 1,025,000    | 74.98%              | na           | na                    | na                    | Bruin Bay stock for Paint River. Video weir was not working during the return of pink salmon to the ladder. |
| 2015        | 29,126,000  | 11,433,500   | 39.26%              | 523,293      | 4.58%                 | 1.80%                 | Issues with broodstock survival in the lagoon and high fungus   |
| 2016        | 66,003,000  | 54,245,400   | 82.19%              | 1,364,900    | 2.52%                 | 2.07%                 |   |
| 2017        | 118,095,000 | 50,040,000   | 42.37%              | 243,115      | 0.49%                 | 0.21%                 | Issues with high fall sediment loads in water supply  |
| 2018        | 114,383,665 | 85,580,538   | 74.82%              | 932,868      | 1.09%                 | 0.82%                 |   |
| 2019        | 39,187,425  | 27,684,949   | 70.65%              | 466,633      | 1.69%                 | 1.19%                 |   |
| 2020        | 91,573,034  | 71,907,183   | 78.52%              | 98,061       | 0.14%                 | 0.11%                 |   |
| 2021        | 61,987,400  | 55,092,122   | 88.88%              | 1,933,685    | 3.51%                 | 3.12%                 |   |
| 2022        | 9,202,835   | 8,031,496    | 87.27%              | 12,843       | 0.16%                 | 0.14%                 |   |

| Pink Salmon |               |               |                     |              |                       |                       |          |
|-------------|---------------|---------------|---------------------|--------------|-----------------------|-----------------------|----------|
| Brood Year  | Green Eggs    | Fry Released  | Egg to Fry Survival | Adult Return | Fry to Adult Survival | Egg to Adult Survival | Comments |
| 2023        | 52,572,449    | 42,900,016    | 81.60%              | 50,540       | 0.12%                 | 0.10%                 |          |
| 2024        | 831,436       | 573,395       | 68.96%              |              |                       |                       |          |
| 2025        |               |               |                     |              |                       |                       |          |
| Total       | 2,410,337,203 | 1,697,041,041 |                     | 33,601,925   |                       |                       |          |
| Avg.        |               |               | 70.15%              |              | 2.53%                 | 1.76%                 |          |

## 7.6 CIAA Enhancement Project Summary

| HATCHERY                  | PROJECT (release site) | [BROODSTOCK]         | Fry (F) and Smolt (S) Projected Releases - 2026                          |               |               | Project Status    |
|---------------------------|------------------------|----------------------|--|---------------|---------------|-------------------|
|                           |                        |                      | COHO   | SOCKEYE       | PINK          |                   |
| TRAIL LAKES HATCHERY      | Tutka Bay Lagoon       | [English Bay]        |  | 603,000 (S)   |               | 92,800 in 2025    |
|                           | Bear Creek             | [Bear Lake]          |  | 759,000 (S)   |               | 408,600 in 2025   |
|                           | Bear Creek             | [Bear Lake]          | 101,000 (S)  |               |               | 18,700 in 2025    |
|                           | Smolt Totals           |                      |  | 1,362,000     | 0             | 520,100 in 2025   |
|                           | Bear Lake              | [Bear Lake]          |  | 237,000 (F)   |               | 573,300 in 2025   |
|                           | Leisure Lake           | [English Bay Lakes]  |  | 1,396,000 (F) |               | 2,037,000 in 2025 |
|                           | Hazel Lake             | [English Bay Lakes]  |  | 1,077,000 (F) |               | 1,624,500 in 2025 |
|                           | Kirschner Lake         | [English Bay Lakes]  |  | 223,000 (F)   |               | 444,000 in 2025   |
|                           | Bear Lake              | [Bear Lake]          | 428,000 (F)  |               |               | 89,000 in 2025    |
|                           | Fry Totals             |                      |  | 428,000       | 2,933,000     | 0                 |
| HATCHERY TOTALS           |                        |                      | 529,000  | 4,295,000     | 0             | 5,287,900 in 2025 |
| HATCHERY                  | PROJECT (release site) | [BROODSTOCK]         | Fry (F), Presmolt or Fall Fry(P) and Smolt (S) Projected Releases - 2025 |               |               | Project Status    |
|                           |                        |                      | COHO   | SOCKEYE       | PINK          |                   |
| TUTKA BAY LAGOON HATCHERY | Tutka Bay/Lagoon       | [Tutka Creek/Lagoon] |  |               | 8,400,000 (F) | 573,000 in 2025   |
| HATCHERY TOTALS           |                        |                      | 0  | 0             | 8,400,000     | 573,000 in 2025   |
| CIAA                      | CORPORATE TOTALS       |                      | 529,000  | 4,295,000     | 8,400,000     | 5,860,900 in 2025 |

7.7 Figures

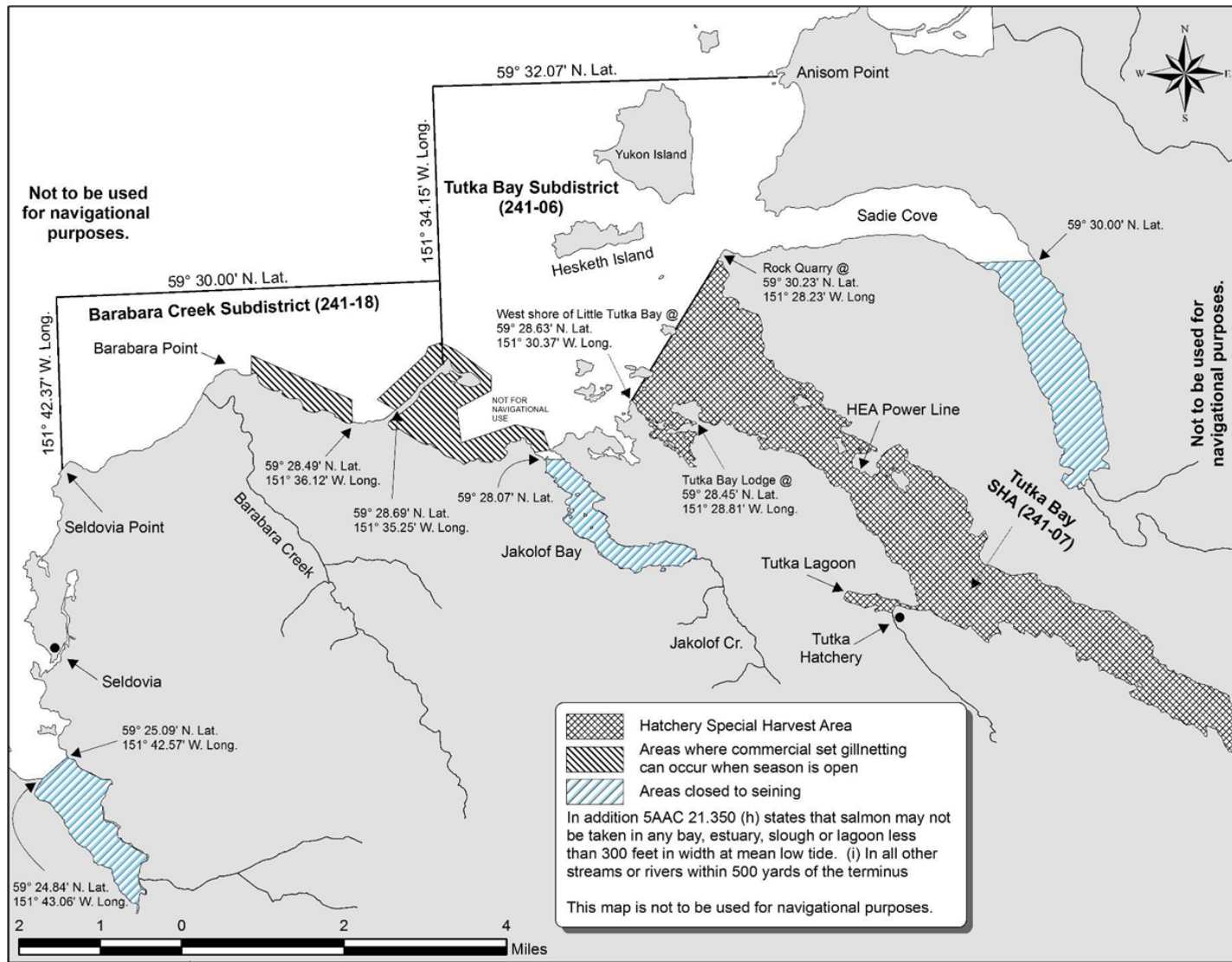


Figure 1. Tutka Bay SHA