

## **Project Narrative**

**Title:** Yakutat Regional Aquaculture: Project Implementation Utilizing Broodstock Transfer

**Research Priority:** Aquaculture

**Project Location:** Yakutat, Alaska

**Project Period:** September 01, 2016 – September 01, 2018

**Requested Funding:** \$300,000

**Collaborating Partners:** State of Alaska Department of Fish and Game, DIPAC, Alaska Hydrosience

**Species Addressed:** (*Oncorhynchus keta*) Chum Salmon

**Principal Investigator:** Yakutat Regional Aquaculture Association (YRAA)

The YRAA is the State of Alaska identified association responsible for aquaculture planning in the Yakutat area. YRAA is responsible for the development of the Yakutat Comprehensive Salmon Plan-Phase II and develops all projects to be consistent with this plan and its overall mission.

Mission Statement:

“To promote through sound biological practice, activities to increase salmon production in the Yakutat region for the maximum social and economic benefit of the users consistent with public interest.”

### **Problems:**

There are three main problems that this project aims to address and mitigate; first and foremost the need to revitalize the depressed commercial fishing industry in Yakutat, Alaska; second, but no less important, to reduce the fatalities associated with the Yakutat setnet fishery; third, the lack of available commercially suitable chum broodstock in the Yakutat area.

Yakutat is a traditional commercial fishing community located in Southeast Alaska that has experienced severe economic decline in part due to the decrease of commercial fishing in the area. This has, in turn, created a situation where Yakutat has consistently remained the fastest shrinking community in Alaska.

In 1974 the State of Alaska created salmon enhancement planning areas and authorized the Department of Fish & Game to issue permits to private non-profit (PNP) salmon hatcheries for the purpose of enhancing the State’s common property fisheries. Shortly

after this initial authorization, many of the planning areas within the State started aquaculture projects; however the people within the Yakutat planning region decided against this path. The salmon aquaculture fisheries within the planning regions to the east (DIPAC, NSRAA, and SSRAA) and west (PSWAC) of Yakutat are now extremely successful. These surrounding projects now provide the economic basis for much of the commercial salmon fishing in these areas. Without the advantage of salmon aquaculture projects the Yakutat area has seen severe decline in its commercial fishing industry as compared to its counterparts. Since commercial fishing serves as the economic basis for the Yakutat area it is now on the brink of economic failure.

Figure 1 shows the relative location of the Yakutat planning area to the successfully operating planning regions to the east and west highlighted in yellow.

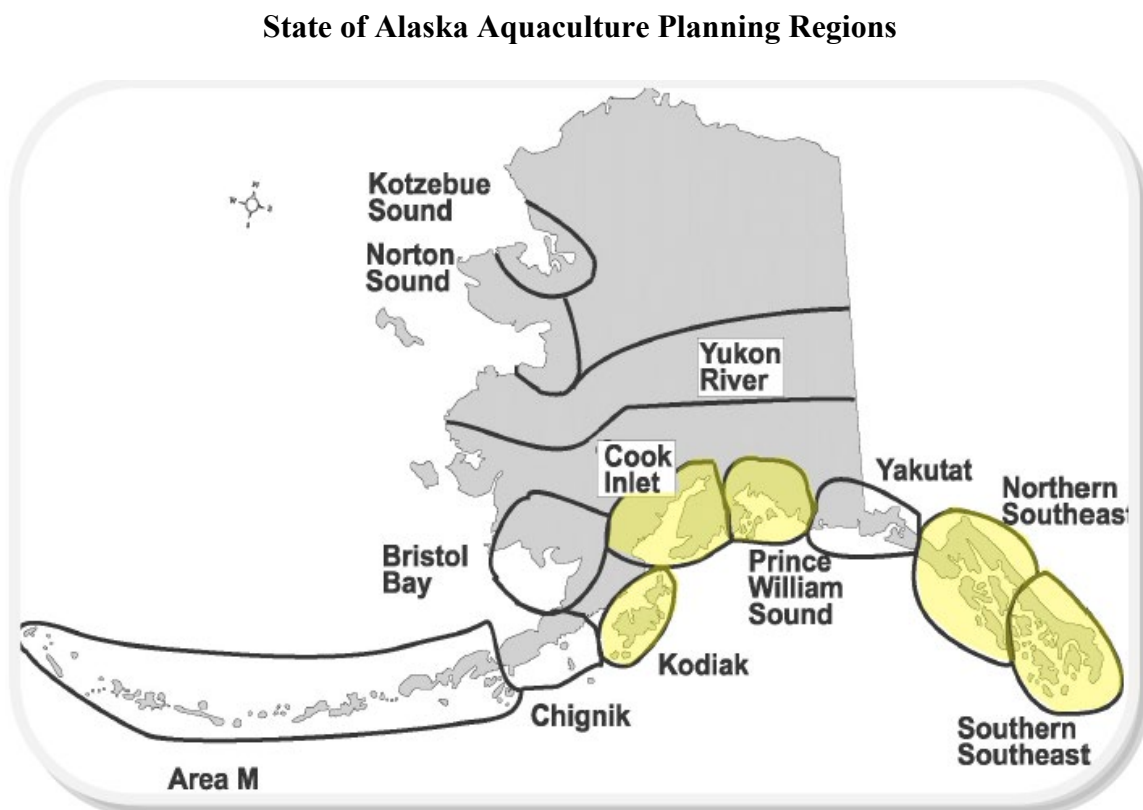


Figure 1. Alaska Department of Fish and Game fishing hatcheries [www.adfg.alaska.gov](http://www.adfg.alaska.gov)

Figure 2 below illustrates the huge discrepancy between the average fisherman earnings between the areas of Southeast Alaska and Prince William Sound compared with the Yakutat area. Prince William Sound to the west of Yakutat and Southeast Alaska (DIPAC, NSRAA, SSRAA) to the east, both have many successful aquaculture projects while this proposed project would be Yakutat's first.

**Comparison of Yakutat setnet, Southeast drift gillnet, & PWS drift gillnet  
3rd Quartile Average Earnings - All species Combined**

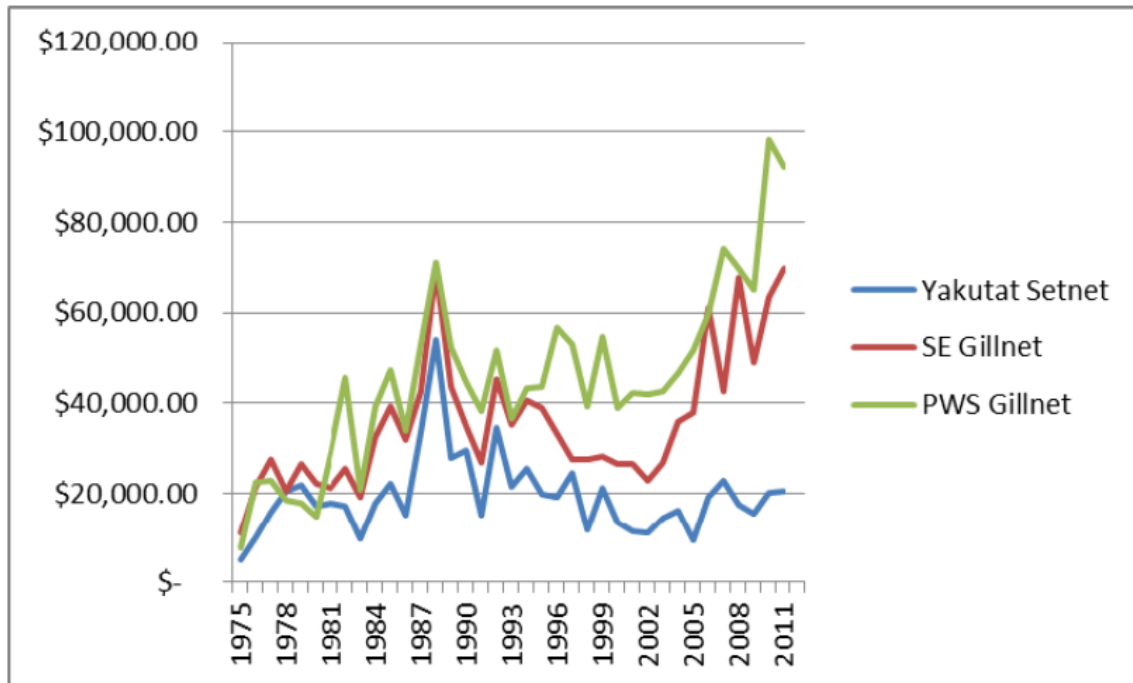


Figure 2. Data from CFEC Quartile tables: <http://www.cfec.state.ak.us/quartile/mnusalm.htm>

To further illustrate the depressed status of Yakutat’s setnet fishery, a qualitative analysis can be done by comparing Commercial Fishery Entry Commission (CFEC) data. For the five-year average of 1978-1982 the set-net fishery earned an average ex-vessel value of \$2,547,117, while the five-year average of 2008-2012 was \$1,869,012. This is approximately a 27% decline in the economic benefit of the set-net fishery since 1984 with a similar decline in effort. Between 1978-1982 there were 147 -159 permits actively fished while in 2008-2012 there were 113-128 permits actively fished. Preliminary reports by the CFEC indicate the 2015 Yakutat fishery generated only \$1,433,673. This decline, not including an inflation factor or the cost of living, is not acceptable.

Some of the decline of the commercial fishing in Yakutat can be linked to the increased cost of fishing and the decrease in ex-vessel value of salmon. In the past, Yakutat commercial fishermen were able to spread out among the multiple rivers in the area and fly their fish back to Yakutat for sale. In recent history, however, this has become cost prohibitive due to increased fuel and transportation costs and has resulted in the majority of fishermen becoming concentrated in one or two areas within Yakutat. This concentration has placed more pressure on these areas and created an unsafe fishery as fishermen struggle to make ends meet with less.

The Yakutat setnet fishery now takes place mostly in the Situk/Arhnklin estuary and river mouth and in the open ocean of Yakutat Bay. As fishermen make less money they are forced to take greater risks to provide for their families. With the decline of the Yakutat fishery this has become evident with deadly consequences. Many local fishermen have

died participating in the Yakutat setnet fishery, with most as a consequence of either fishing in unsafe river mouths or open ocean conditions.

The final problem the proposed salmon aquaculture project seeks to address in Yakutat is the lack of a commercially suitable chum broodstock. Although Yakutat has a strong run of sockeye and coho salmon, most of the successful hatchery projects in the areas surrounding Yakutat use chum salmon as the bulk of their production. The reason chum salmon aquaculture has been so successful is due to the species hardiness, relative ease of production, and ultimately the benefit:cost ratio associated with the overall chum projects. Figures 3 and 4 illustrate the reasoning of choosing a chum project by showing the cumulative benefit:cost ratios of two projects directly adjacent to the Yakutat planning region from Northern Southeast Regional Aquaculture Association.

**NSRAA Chum Project - Cumulative Benefit:Cost Ratio of 10.3**

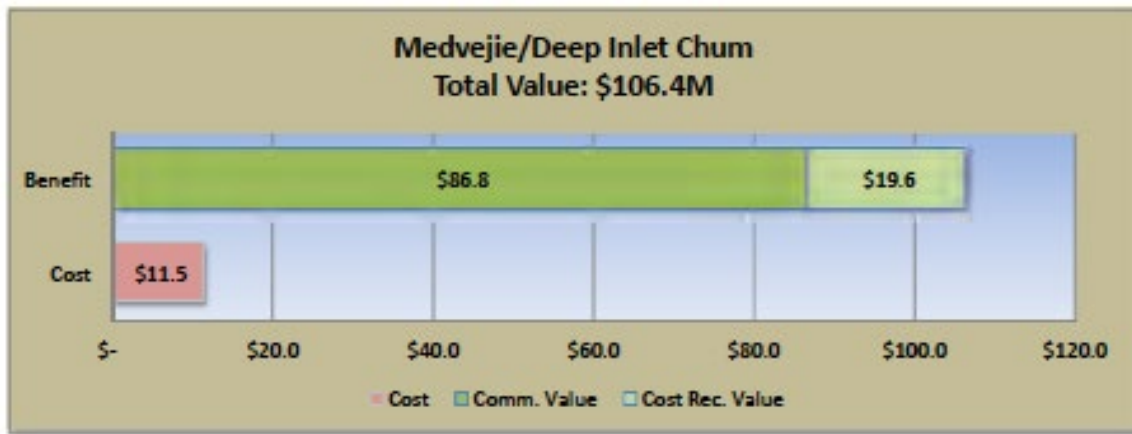


Figure 3. NSRAA Board Book 2015 [www.nsraa.org](http://www.nsraa.org)

**NSRAA Chum Project - Cumulative Benefit:Cost Ratio of 7.8**

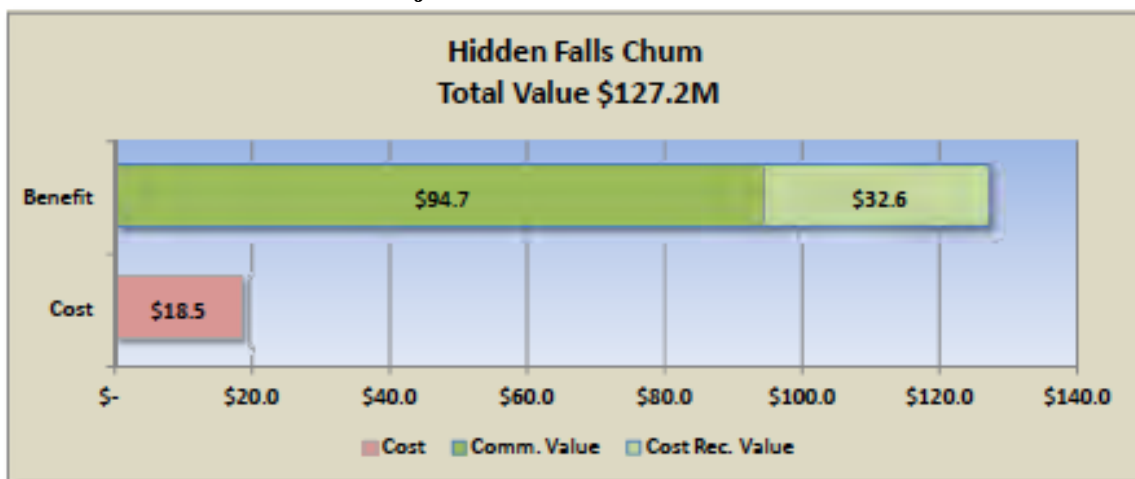


Figure 4. NSRAA Board Book 2015 [www.nsraa.org](http://www.nsraa.org)

According to the Alaska Department of Fish and Game, chum salmon populations in Southeast Alaska were at an all-time low during the late 1960's and early 1970's. Following the start of Alaska's hatchery program in 1974, the numbers of chum salmon returning to Southeast Alaska and Prince William Sound have returned to high levels. Now hatchery fish make up more than half of the total commercial chum salmon harvest in Southeast Alaska and Prince William Sound. In Southeast Alaska, wild chum salmon production has also increased during the growth of hatchery production and is generally stable.

Without the benefit of aquaculture projects the chum salmon of the Yakutat planning area have not seen this success. Figure 5 shows the initial year 2000 and long-term goals set in 1984 as well as the collapse and non-existence of the commercial chum fishery in Yakutat.

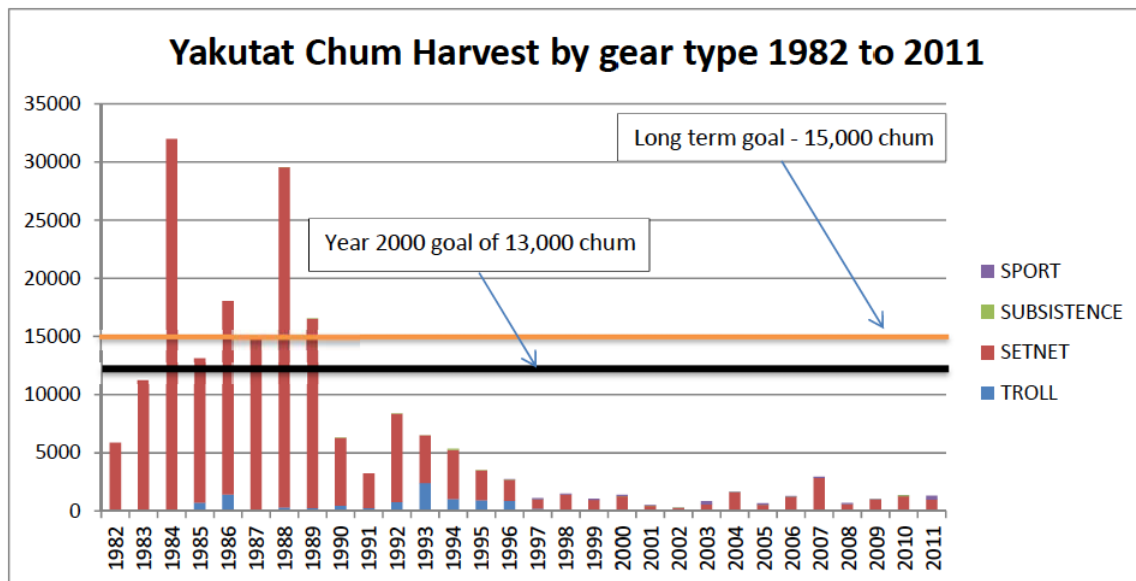


Figure 5. Yakutat Comprehensive Salmon Plan-Phase II

**Goals and Objectives:**

This project would develop the first commercial scale salmon aquaculture project in the Yakutat salmon planning region. The overall goal of the project is to provide the basis of aquaculture in the Yakutat area allowing for future expansion and development of aquaculture projects resulting in local job creation, production of wild Alaskan salmon for commercial, subsistence, and sport use, and lead to the economic revitalization of Yakutat, Alaska as a traditional fishing community.

The direct goal of this project is to incubate, rear, and release 10 million chum salmon into Yakutat Bay.

Since the Yakutat planning region does not have a significant chum salmon population the broodstock for this project will be sourced from the successful Douglas Island Pink and Chum (DIPAC) aquaculture association located in the planning region directly south of Yakutat. DIPAC has agreed to supply YRAA with 10 million chum salmon eggs for four years to allow for development of a successful local broodstock. This agreement can be found in supporting documents.

**Project Objectives:**

1. Obtain PNP hatchery permit
2. Develop Basic Management Plan in accordance with Yakutat Comprehensive Plan-Phase II
3. Develop Annual Management Plan in accordance with Yakutat Comprehensive Plan-Phase II
4. Obtain Fish Transport Permit and transport 10 million summer-run chum salmon eggs for broodstock from DIPAC, located in Juneau, Alaska to the YRAA hatchery facility located in Yakutat, Alaska.
5. Incubate broodstock eggs to fry stage with overall egg to fry survival rate of 90%
6. Rear and release broodstock fry in Yakutat Bay establishing the first aquaculture project in the Yakutat area.

The goals and objectives developed for this project are in accordance with those set forth in the Yakutat Comprehensive Salmon Plan-Phase II. This plan was adopted by the Alaska Department of Fish and Game as the planning resource for projects developed in the Yakutat area and as such it is important to recognize the goals and objectives outlined therein.

*Comprehensive Salmon Plan Goals:*

1. Enhance the salmon fishery resources in the Yakutat region while minimizing the impact of enhancement on wild stocks.
2. Achieve an economically self-sustaining fishery that provides viable economic livelihoods and contributes economic benefits to peripheral segments of the industry.
3. Strive for a balance of harvestable surplus in wild and enhance salmon fisheries between users, while minimizing changes to historic fishing patterns.
4. The YRPT will be a fully represented planning forum that addresses region specific fishery development needs and considers the interest of all user groups (commercial, subsistence and sport).

*Comprehensive Salmon Plan Objectives:*

1. Minimize the impact of enhanced stocks on wild stocks (i.e., consider impacts on mixed stock fisheries, broodstock source, proximity to significant wild stock, run timing, etc.) applying knowledge gained from Alaska's fisheries enhancement programs using the guidelines and best practices developed for Southeast Alaska and more current information as it becomes available.

2. Maintain wild stocks while maximizing the potential for enhanced fishery production through the use of the Hatchery Permit Project Checklist and Stock Appraisal Tool
3. Maximize the enhanced fish production to common property users for the public benefit.

**Project impacts –**

Private nonprofit (PNP) salmon hatcheries like the proposed Yakutat Chum Hatchery produce salmon to enhance commercial, sport, subsistence, and personal use fisheries. As such the salmon returning as a result of this project will benefit all user groups through increase in chum production and reduction of pressure on other resources.

This aquaculture project will release the fry from 10 million chum salmon eggs into Yakutat bay. Although there are many factors that affect the number of returning salmon from any given aquaculture project the following table provides specific expectations based upon industry standards of projects in adjacent aquaculture planning areas.

**Commercial Value of 10 Million-Egg Broodstock Production**

YRAA Chum Project		
Production & Value		
Eggs		10,000,000
Egg to fry Survival		92.0%
Fry		9,200,000
Survival		2.5%
Adults		230,000
Brood		13,000
Harvest (after brood)		217,000
Avg Wt		8.0
Price (CR or COM)	\$	0.65
Value (CR or COM)	\$	1,128,400

Figure 4. Values taken from Yakutat Chum Hatchery Proforma

With a preliminary 2015 setnet ex-vessel value of \$1,433,673 the impact of adding an additional gross value of \$1,128,400 is more than significant. The goal of this program is to obtain a hatchery permit and the rearing and release of the first year broodstock. The true impact of the project, however, will be the ability to continue the project for local broodstock development and possible expansion. After the first year release of donated broodstock, DIPAC has agreed to continue to donate three more years of chum salmon eggs for broodstock development. At the fourth year the adult salmon from the first year broodstock of the program will be available for harvest for broodstock and the common property fishery. At this point the program will be self-contained and sustaining, with the

possibility for expansion using proven returns and now local broodstock. The attached Yakutat Proforma in supporting documents details the costs and benefits with the possible expansion of the project to production of 40 million eggs after four years.

The second anticipated impact of this project is the redistribution of commercial setnet fishermen. The terminal harvest area of this project will be located in protected waters of Yakutat Bay. Currently the vast majority of Yakutat setnet permits are concentrated on the Situk/Arhnklin river system and the open ocean fishery of Yakutat Bay. The new terminal harvest area will attract many of these fishermen resulting in less fishing pressure on the traditional areas with greater harvest rates and earnings per permit. This redistribution to the terminal harvest area will also have the ancillary impact of improving safety by removing the need to fish unsafe waters and conditions.

Once the hatchery project has reached full implementation monitoring of specific impacts will be measured through statistics collected by the Alaska Department of Fish and Game and the Commercial Fishing Entry Commission. These entities collect and analyze data on ex-vessel value, permit use, permit distribution, harvest rates, and average permit earnings. This information is created for public distribution and will be included in the annual hatchery report to the public.

With the great success of the surrounding aquaculture projects YRAA anticipates that this initial commercial scale project in Yakutat will provide the basis for all future aquaculture projects in the region. In addition to providing commercial, subsistence, and sport salmon directly to the waters of the region, this project will serve as proof of concept for all future projects in the Yakutat area.

**Evaluation of project –**

Since the objectives of this project are results specific, monitoring the relative success or failure of the project is straightforward. The project will either meet or not meet the objectives. As each step or objective is also dependent on the previous objective being successfully met the overall success of the project will be dependent on all objectives being accomplished.

The following table is an example of tracking the success or failure of specific objectives for the project.

<b>Objective</b>	<b>Met</b>	<b>Not Met</b>
Project Permitting		
Broodstock Transport		
Incubation and Rearing		
Fry Release		

**Need for government financial assistance –**

YRAA is the newest regional aquaculture association in Alaska, and as such does not have the financial resources of other associations in the State. Other aquaculture associations use cost recovery fish collection from their projects along with a commercial salmon tax to pay for their continued operations and expansion. We have established a self-imposed salmon enhancement tax to pay for future projects, but with the depressed status of our fishing industry, and no projects for cost recovery, this tax alone does not meet the necessary funding to develop a project.

This proposed project would be funded from three sources: NOAA-SK Grant, YRAA SET tax, and a loan from the revolving loan fund through the Department of Commerce and Economic Development of the State of Alaska. This loan fund was established by the State specifically for hatchery planning, construction, operation, and implementation of fisheries enhancement and rehabilitation activities.

Funding for this project would not be possible without the NOAA-SK Grant. Complete funding for this project using only loan funds and SET tax is not possible due to limits of revolving loan program and the current state of commercial salmon fishing in the region limiting the local SET tax.

**Federal, state, and local government activities and permits –**

Creation of Regional Aquaculture Association- State of Alaska- Completed

Management Feasibility Analysis- State of Alaska- Completed

Salmon Management Plan Phase II- State of Alaska - Completed

Water Rights Permit- State of Alaska- Not Yet Applied-Background work started

PNP Hatchery Permit- State of Alaska- Not Yet Applied-Background work started

Fish Transport Permit- State of Alaska- Not Yet Applied-Background work started

**Statement of Work-**

This project entails the design, permitting, and implementation of a commercial 10 million-egg aquaculture program. The Yakutat Regional Aquaculture Association has been working towards this initial project since its development in 2011. As with all aquaculture in Alaska this project will be permitted and overseen by the State of Alaska. Throughout the process of implementing this project the following work and activities will be undertaken:

*Hatchery Permit Application and development of Basic Management Plan:*

The hatchery permit authorizes the operation of the hatchery, specifies the maximum number of eggs of each species that a facility can incubate, the authorized release locations and identifies the broodstock to be used for each species. The basic management plan is a part of the hatchery permit (an addendum) and outlines the general operation of the hatchery.

Hatchery permits require an extensive application process requiring considerable documentation and planning. Assistance in the application process will be provided by the State of Alaska PNP coordinator to the extent practicable.

The application process includes:

- An analysis of the possible effects the hatchery would have on fisheries management
- Submission of an application providing detailed information on the proposed hatchery
- Review of the application by department technical staff
- Regional planning team review of the hatchery's compatibility with the regional salmon plan
- A public hearing presenting the plans for the proposed hatchery
- Commissioner approval or denial of the hatchery permit

Hatchery permits always carry conditions to protect fish health and wild salmon stocks, such as requiring department approval of broodstock sources and release sites, and inspection of salmon before release.

The Basic Management Plan (BMP) will describe the facility design, operational protocols, hatchery practices, broodstock development schedule, donor stocks, harvest management, release sites, and consideration of wild stock management. Alaska regulation 5 AAC 40.820 states the following must occur for the development of a hatchery basic management plans:

(a) A hatchery operator shall manage the hatchery and its salmon returns in accordance with a basic management plan approved by the commissioner. Before the public hearing held under 5 AAC 40.210 on the proposed hatchery, department staff, in conjunction with the applicant, shall develop a draft basic management plan that includes a facility development schedule of no more than five years. Department staff and the applicant shall present the draft basic management plan and facility development schedule at the public hearing and shall make copies available for public review and comment at the hearing.

(b) If, following the public hearing, the commissioner decides to issue a permit for the proposed hatchery, department staff shall finalize the basic management plan and facility development schedule after all comments have been considered. The final basic management plan, which includes a facility development schedule, describes the

conditions under which the permit will be implemented, and is an addendum to the permit.

*Development of Annual Management Plan:*

The Annual Management Plan (AMP) outlines the year’s operations regarding production goals, broodstock development, and harvest management of hatchery returns on an annual basis. The Annual Management Plan generally contains the upcoming year’s egg take goals, fry or smolt releases, expected adult returns, harvest management plans, permits required or in place and fish culture techniques. The Yakutat Regional Planning Team may review and comment on the AMP.

*Application of Fish Transport Permits:*

Fish Transport Permits (FTP) are required to transport, possess, export from the state, or release into the waters of the state, any live fish or eggs (5AAC 41.001-41.100). Permits are subject to a department review that takes approximately 45 days and include the ADF&G Fish Pathologist, fish geneticist, regional resource development biologist and other staff as appropriate. Reviewers may make recommendations as to whether the permit should be issued or suggest conditions to be imposed with the permit. Fish transport permits are valid for a fixed term identified in the permit.

*Securing and Transfer of Broodstock:*

DIPAC has agreed to supply YRAA with 10 million summer-run chum salmon eggs for four years, in order to allow the development of a local broodstock. In the supporting documents section of this application you will find this agreement. The State of Alaska regulates all transport and release of salmon eggs within the state and allows this activity if genetically appropriate and if all the requirements under 5 AAC 40.880 have been met.

Regulation of Broodstock: AS 16.10.445 states:

(a) The department shall approve the source and number of salmon eggs taken under AS 16.10.400-16.10.470.

(b) Where feasible, salmon eggs utilized by a hatchery operator shall first be taken from stocks native to the area in which the hatchery is located, and then, upon department approval, from other areas, as necessary.

Broodstock are examined for disease prior to use in a hatchery. The sale of salmon and salmon eggs by hatchery operators is addressed AS 16.10.450.

*Incubation and rearing of Broodstock:*

Industry standards have been established for the incubation and rearing of salmon broodstock. The State of Alaska has established regulation 5 AAC 40.860 that dictates minimum standards and the process associated with the annual performance review of the hatchery operation. These minimum requirements regarding incubation and rearing are as follows:

	<i>Survival for this stage</i>	<i>Cumulative Survival</i>
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For Captured Broodstock to Egg Take	70%	
Green Egg to Eyed Egg	80%	80%
Eyed Egg to Emergent Fry	85%	68%
Emergent to Fed Fry 1	90%	61%
Fed Fry to Fingerling 2	90%	55%
Fingerling to Smolt	75%	41%

1 Fry achieving up to 25% weight gain from swim-up.

2 Fry achieving substantially more than 25% weight gain from swim-up.

### **Personnel-**

YRAA board of directors will be responsible for recruiting and procuring qualified individuals to fulfill the objectives of this project once funding becomes available. Three personnel positions will be created within the PNP Hatchery under YRAA:

#### Hatchery Manager

The hatchery manager will be responsible for project and personnel management, obtaining and complying with the PNP Hatchery Permit, Fish Transport Permits, development of the Basic Management Plan, and development of the Annual Management Plan.

#### Biologist/Fish Culturist

Culturist will be responsible for operations of the hatchery and monitoring of all activities associated with incubation, rearing, and release of smolt. These duties include monitoring health and growth rates of eggs, and fry as well as otolith thermal marking as required by the hatchery permit.

#### Hatchery Fish Technician

Technician will assist the fish culturist with hatchery operations and will perform daily activities throughout the incubation and rearing process, such as feeding and caring for penned fry until release.

A fourth position funded under this proposal will be contracted services of a hydrologist.

#### Hydrologist

The hydrologist will be responsible for obtaining water rights, water monitoring, and will assist in the PNP Hatchery Permit application process.

### **Data Sharing Plan-**

Sharing of data generated by this project is an essential part of our proposed activities and will be carried out in several different ways. We would wish to make our results available both to the local community of stakeholders and to other aquacultures associations and entities interested in the results generated by this project.

Our plan includes the following:

*Public Meetings:* YRAA has approximately three public meetings per year located in Yakutat, Alaska in which we have the opportunity to present information directly to local fishermen and all other stakeholders.

*Newsletter:* YRAA periodically sends a newsletter to stakeholders with information regarding the current status of operations and new information. As part of the data-sharing plan all relevant information will be included in this newsletter as it becomes available.

*Website:* YRAA currently maintains a website where relevant information is posted. Summaries of presentations, meeting minutes, and data generated from this project will be posted on this website. [www.yraa.org](http://www.yraa.org)

*Annual Hatchery Report:* Each year of hatchery operation a detailed report will be generated for the Alaska Department of Fish and Game to fulfill permit obligations. This annual report will be made available to the public via the YRAA website through the ADF&G.

### **Project Dissemination-**

This project will produce a Basic Management Plan and an Annual Management Plan for the proposed YRAA hatchery. These plans are developed in conjunction with the Alaska Department of Fish and Game and will be made available through the means outlined in the data-sharing plan as well as through the Alaska Department of Fish and Game.

### **Project Milestones-**

*Month 1-9:* Plans and Permits- Hatchery Manager and Hydrologist

During this time the hatchery manager will work with the hydrologist to secure water rights, submit the hatchery permit for state approval, and develop the basic and annual management plans. At this time water analysis has been completed to assure feasibility of the hatchery site and as part of the hatchery permit. After the hatchery permit has been approved a fish transfer permit must also be obtained for transferring eggs. Although background work has been started for the plans and permits they have not been submitted. By the end of month 9 the permit process should be complete.

*Month 10-11:* Broodstock take and Transfer – Hatchery Manager in cooperation with DIPAC personnel

Once the hatchery permit has been obtained months 10 and 11 will consist of egg take and transport. This process is season dependent and can only occur during the summer run of chum. DIPAC staff will complete the egg-take and transfer process in coordination with the YRAA hatchery manager. Without the completion of the hatchery and fish transport permits this milestone cannot be completed.

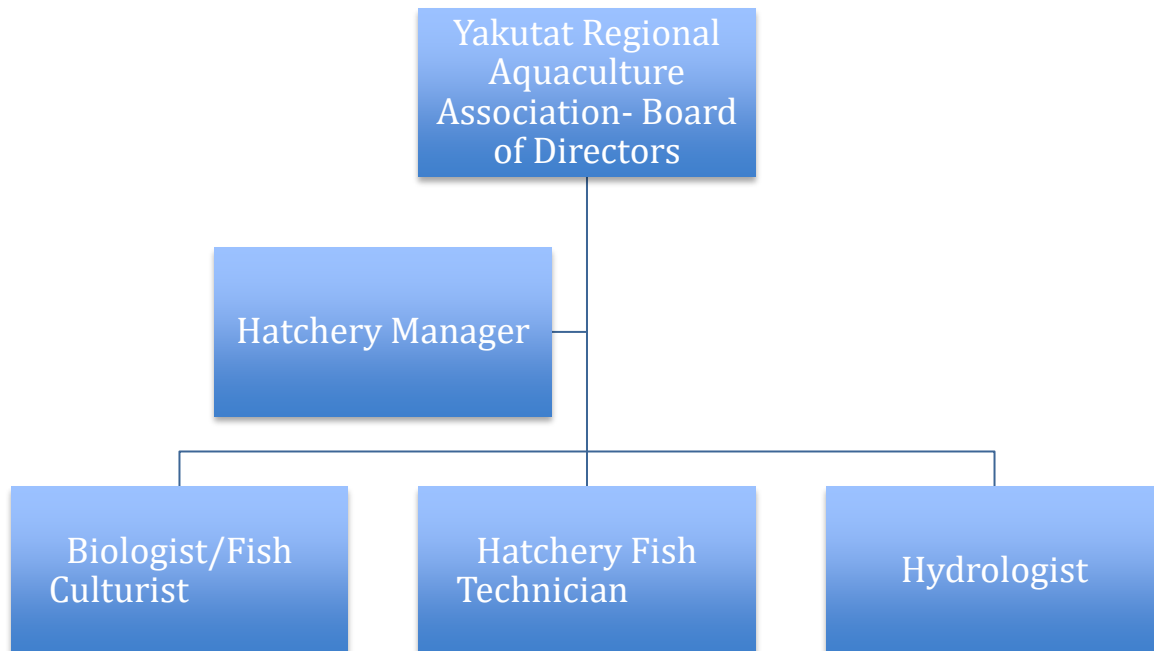
*Month 12-18: Broodstock incubation- Fish Culturist / Fish Technician*  
With the broodstock eggs on site at the YRAA hatchery facility they will be incubated using industry standards for chum salmon. YRAA staff will ensure all protocols and parameters regarding chum salmon incubation are met, including thermal otolith marking of all fry. Incubation until the fry are ready for net-pen rearing indicates the end of this milestone.

*Month 19-21: Fry Rearing- Fish Culturist / Fish Technician*  
Fry will be reared in net-pens according to industry standards for chum salmon. The hatchery permit and basic management plan will indicated specifics for feed and growth rates desired. Rearing fry to release size indicates the successful achievement of this milestone.

*Month 21: Fry Release- Fish Culturist / Fish Technician*  
The release of chum fry into Yakutat Bay will mark the end of this project and serve as the final milestone.

**Project management-**

The following flow chart outlines the management structure for the proposed YRAA hatchery project:



YRAA will be the principal investigator for this project, as the State of Alaska PNP hatchery permit will be issued to YRAA and is non-transferable.

As an association YRAA was officially recognized by the state of Alaska as the Yakutat planning area aquaculture association in 2011. As such there are no other entities that are legally allowed to undertake projects within the Yakutat planning region.

Since inception YRAA has been working diligently towards an initial project, fulfilling all necessary steps throughout the process. The following is a list of some of these activities and accomplishments:

- Management Feasibility Analysis- State of Alaska, 2012
- Legislative Grant Appropriation- State of Alaska, 2012
- Hatchery Engineering Analysis- Tetra Tech, 2012
- Professional Aquaculture Consultation-Steve Reifenstuhl, 2013
- Salmon Enhancement Tax Established- State of Alaska, 2013
- Comprehensive Salmon Plan-Phase II- State of Alaska, 2014
- Broodstock Cooperative Agreement- DIPAC, 2014
- Hydrology Analysis- Alaska Hydroscience, 2013-2015

Most regional aquaculture associations in Alaska were started in the 1970's and 1980's. With YRAA only starting in 2011, the Yakutat region is obviously very far behind in aquaculture project development. However, by starting so far after the other associations we have the opportunity to learn from their mistakes and successes. Furthermore, in the process of hiring personnel for the proposed project YRAA will have both the assistance of other associations in reviewing applicants, but also a larger more experienced applicant pool to solicit from, thanks to many successful surrounding projects.

Individual resumes of personnel are not available at this time as the positions are subject to project funding.

### **Participation by persons or groups other than the applicant –**

The State of Alaska Department of Fish and Game will permit and oversee this hatchery project. State statutes and regulations govern the development and operation of aquacultures in Alaska and as such the ADF&G will be directly involved.

The Yakutat Regional Aquaculture Association, the principal investigator of this project, and the board of directors are tasked with overall management. As such, it is important to recognize and highlight the diversity of our association. YRAA's board is made up of both commercial fishermen and representatives from the major entities in the Yakutat area. Members on our board represent the following user groups or entities:

- City and Borough of Yakutat
- Yakutat Tlingit Tribe
- Yakutat Commercial Salmon Setnet
- Commercial Salmon Hand Trolling
- Commercial Salmon Power Trolling

- Commercial Seafood Processor
- Yakutat Sport Fishing
- Public at Large

With such a comprehensive group of board members, both the local community and the local commercial fishing industry are well-represented and will be direct participants in the project through administrative roles.

### **Outreach and Education –**

This project was developed under the guidance of the Yakutat Comprehensive Salmon Plan- Phase II, which was developed by the Yakutat Regional Planning Team and approved by the Alaska Department of Fish and Game.

In compliance with AS.10.375, the Yakutat Regional Planning Team (YRPT) worked diligently to solicit public input for the second phase of the YCSP. For two years the Yakutat Comprehensive Salmon Plan- Phase II development was on the agenda of all public meetings held by the YRPT. To provide additional opportunity for public involvement, the YRPT created a public survey questionnaire that was distributed to every post office box holder in Yakutat and to all Yakutat Management Area commercial salmon permit holders. The plan underwent a technical review by State of Alaska department staff and was made available to any interested party for review and comment. The public review was publicly noticed and posted on both Alaska Department of Fish and Game and the Yakutat Regional Aquaculture Associations' websites and the YRPT offered a public hearing and completed its final review of the draft and consideration of public comments at its August 14, 2014, meeting.

The ADF&G is responsible for salmon resource management in the State of Alaska. The Division of Commercial Fisheries (DFC) provides the services of stock management and assessment, laboratory services in genetics, pathology, and marking/tagging, aquaculture permitting, evaluation and oversight, and maintains programs for dissemination of information and public participation. Any information gathered in the process of completing this project will be provided to the ADF&G for public dissemination acknowledging NOAA as funding partner, and as part of fulfilling permitting and reporting requirements. All information will also be presented to the public in YRAA and RPT public meetings, YRAA newsletters, and made available to the public through the YRAA management office, again acknowledging NOAA, and all other funding partners.

In addition to complying with State permitting and reporting requirements YRAA plans to create an outreach program with the local high school science department. This outreach program will include using this project as a pilot to incorporate fisheries enhancement and aquaculture into the local science curriculum. The goal of this program will be to encourage local youth to pursue careers in fisheries management, biology, and commercial fishing through possible internships, aquaculture courses, and sharing of information.