

Final Spending Plan for funds appropriated to address the 2016 Gulf of Alaska pink salmon disaster declaration.

Guiding principles for disaster funds distribution: disbursement of funds will be prioritized based on the following criteria: 1) funds will be allocated to improve fishery information to better assess and forecast future fishery performance; 2) fishery participants directly involved and harmed by the 2016 pink salmon disaster; 3) funds will be disbursed to positively affect the broadest number of people possible; and 4) address losses to primary business and infrastructure that directly support pink salmon fisheries and that incurred the greatest losses as a result of the disaster.

Categories of entities eligible to receive disaster relief funds:

- **Research:** Funds will be used for applied research or research activities to improve the resource managers' ability to better understand pink salmon ecology and abundance, and improve pink salmon forecasts in the future.
- **Fishery participants:** Defined based on Commercial Fishery Entry Commission permit holders named on fish tickets for the 2016 salmon fishing season, in the affected management areas. Crew members will be eligible for compensation based on the fishery participant being eligible to receive disaster funds.
- **Municipalities:** Municipalities must be located within the affected areas and must have had pink salmon landed in the community. Disbursement of disaster funds will be based on the value of the State of Alaska's Fishery Business tax.
- **Processors:** Defined as processors that processed pink salmon in 2016 in the affected management areas. To be eligible to receive disaster funds, processors must be able to demonstrate a minimum first wholesale revenue of pink salmon of \$10,000 in 2016. For processors to receive full payment of disaster funds, each processor must submit a spending plan outlining a process to compensate processing employees for lost wages, as defined by criteria (see below).

Distribution process: Distribution of disaster funds will follow the following steps.

Step One – Research - \$3,630,000: Research funds will be deducted from the total amount of disaster funds prior to any distribution to the other entities. The projects outlined below will improve information used to manage the pink salmon fisheries in Alaska. The increased and improved information generated from these studies will assist fishery managers in understanding the abundance and ecology of pink salmon, improve the ability for resource managers to identify future poor runs and communicate that to those affected by the 2016 disaster. In addition, research and development of innovative pink salmon marking techniques will improve the economic performance of the pink salmon fishery by making hatchery operations more efficient and increasing the amount of pink salmon available to fishery participants. Each of these efforts further our understanding of the cause of the 2016 pink salmon run failures and help managers avoid future salmon disasters. Funds will be allocated to the following research projects.

Kodiak Pink Salmon Saltwater Marking Sampling Plan

The Kitoi Bay Hatchery (KBH) is focused on providing enhanced common property salmon fishing opportunities for Kodiak Management Area fishermen since 1976. The primary contribution of the KBH

is to the Kodiak commercial fishery, but it also contributes to subsistence and recreational fisheries in the area. KBH is located on the southeast coast of Afognak Island and is relatively isolated from the major pink salmon producing areas of the archipelago. Afognak Island wild pink salmon production is estimated to represent about 8% of wild pink salmon production of the Kodiak Management Area. KBH is managed and operated by the Kodiak Regional Aquaculture Association (KRAA).

The capability to apply and read saltwater otolith marks to pink salmon has recently been developed as part of a collaboration between a private company, Southern Southeast Regional Aquaculture Association, the Sitka Sound Science Center, and KRAA. Pilot marking was completed at the KBH in 2017 and 2018, and the results of the marking to date are positive. Pilot testing indicates a reduction in annual costs to apply saltwater marks, as opposed to thermal marks, of approximately 90%. No thermal marking of pink salmon from KBH has been done to-date. The more efficient, low cost markers make a baseline study on Kodiak pink salmon more feasible. KRAA plans to begin 100% saltwater marking of pink salmon beginning in 2019.

Research is needed to make the KBH consistent with hatchery programs statewide; support certification to improve the Kodiak pink fishery and markets; and examine the proportion of hatchery fish in the harvest. This research project will evaluate saltwater marked otoliths, resulting in the following: 1) estimate of the proportion of hatchery pink salmon in the Kodiak fishery, 2) estimate of the proportion of hatchery salmon in streams, 3) better understanding and tracking of survival trends for pink salmon in the Kodiak area which may help identify factors related to survival, 4) information on migration which may be relevant to management strategies, and 5) test of saltwater marking methods that could provide significant cost savings statewide and effectively increase opportunity in the affected common property pink salmon fisheries. Thus, this research project is intended to both improve environmental and economic performance of the fishery affected by the disaster and improve fishery information.

This evaluation includes 1) stream sampling to detect the presence of hatchery-origin pink salmon in natural, pink salmon-producing streams; and 2) fishery harvest sampling to detect the presence and contribution of hatchery-origin pink salmon in selected Kodiak Management Area pink salmon fisheries. Results of otolith analysis will be informative on the spatial and temporal extent of stray hatchery pink salmon and will provide information to ADF&G management to test current assumptions about relative contributions of hatchery to wild-production. It is anticipated that once a baseline of information is collected, sampling can be substantially reduced to fishery harvest sampling only. This evaluation will be completed over a four-year period, 2019-2022. In years, 2019 and 2020, a partial sampling plan and otolith analysis will be completed to correspond to the pilot marking in 2017 and 2018. In years 2021 and 2022, a full-scale sampling plan and otolith analysis will be completed to correspond to the 100% marking in 2019 and 2020.

Total cost for this four-year project to produce, collect, and evaluate saltwater marked pink salmon at KBH is \$885,000. The cost estimate of the evaluation component is \$680,000 (see attached budget for breakdown by year and line item). KRAA will be responsible for capital and labor costs associated with development and production of marks, collection of samples, and otolith analysis, up to a total of \$435,000. ADF&G will collaborate with KRAA on the development of the sampling plan. Requested funds will go to KRAA. Total funding remaining and requested for this research project is \$450,000.

Alaska Hatchery Research Program

The Alaska Hatchery Research Program was established in 2011 to study the interaction of hatchery fish straying into wild systems for pink and chum salmon in Prince William Sound and for chum salmon in Southeast Alaska. This program has been funded by the State of Alaska, private-non-profit hatchery operators, processors, and competitive grants, and is overseen by a science panel composed of current and retired scientists from ADF&G, University of Alaska, aquaculture associations, and National Marine Fisheries Service.

The results of this ambitious project will examine genetic population structure among hatchery and natural fish, determine hatchery proportions in wild systems, and measure differences in fitness between hatchery- and natural-origin fish. This information is a critical element of assessing the impact of hatchery fish on wild production. Previous studies have been conducted on other Pacific salmon species with different life histories in locations where wild habitat has been compromised. This makes inferences from those studies to Alaskan circumstances tenuous.

To date the available funding (\$9.1M) has covered the first two components of this project: all the field work associated with the Prince William Sound and Southeast Alaska components. However, available existing funding is only sufficient for laboratory analysis in two of three generations at two of the five study streams in Prince William Sound. The program has not secured funding to complete the last generation at two streams and all generations for the three additional streams. Proposed work would support any fieldwork, laboratory analyses, statistical evaluations, and reporting necessary to complete this portion of the project. The anticipated cost of the remaining work, and the requested amount of disaster funds is \$2.5 million.

Southeast Alaska Coastal Monitoring Survey

The Southeast Alaska Coastal Monitoring (SECM) would survey juvenile pink salmon abundance in three annual surveys from June through August. Surveys focus on the primary seaward migration corridors of the Inside Northern Southeast region including Icy Strait and upper Chatham Strait.

The results are essential to reliably forecast Southeast pink salmon harvest. Previous surveys in this area have shown a strong relationship between juvenile pink salmon abundance and harvest the following year. Because the pink salmon harvest in Southeast has a high interannual variability (harvest has ranged from 3 to 95 million since 1960), information gained from the SECM project is essential in aiding seafood processors to form and prepare for harvest expectations the following year. It is also useful for ADF&G managers until inseason abundance indices are available.

Total cost for the SECM project is approximately \$680,000 to cover the project costs for the vessel and ADF&G personnel.

Step Two – Fishery Participants – \$32,044,231: Funds allocated to fishery participants will be calculated based on the loss of exvessel value to each management area as compared to the area's five even year average exvessel value. For each management area, disaster funds will be distributed such that each area's fishery value is equal to 82.5% percent of their respective five even year average exvessel value. The table below illustrates the amount of money necessary for each management area to achieve a total fishery value of 82.5% of each areas respective five even year average fishery value.

Providing each area the necessary funding to reach 82.5% of the average five even year exvessel value will compensate each areas participants, consistent with historical fishery performance, as defined by the five even year average fishery value.

Area	2016 final estimated exvessel value	Five year even average exvessel value (2006-2014)	2016 decrease in value relative to five-year even average value	Dollar difference between 2016 Final and Five year average	82.5% of 5 year average	Funds needed to reach 82.5% of 5 year average
Southeast	\$21,360,942	\$28,485,487	-25%	\$7,124,545	\$23,500,527	\$2,139,585
Yakutat	\$21,741	\$78,234	-72%	\$56,493	\$64,543	\$42,802
Lower Cook Inlet	\$110,512	\$454,796	-76%	\$344,284	\$375,207	\$264,695
Prince William Sound	\$23,031,536	\$52,668,063	-56%	\$29,636,527	\$43,451,152	\$20,419,616
Kodiak	\$6,959,984	\$16,832,087	-59%	\$9,872,103	\$13,886,472	\$6,926,488
South Alaska Peninsula	\$974,813	\$3,315,540	-71%	\$2,340,727	\$2,735,321	\$1,760,508
Chignik	\$121,373	\$741,711	-84%	\$620,338	\$611,912	\$490,539
Total						\$32,044,231
% of total funds						57%

Fishery participants must meet all of the following criteria to be eligible to receive disaster funds;

- a) Hold a Commercial Fisheries Entry Commission permit card for salmon in 2016,
- b) CFEC permit holder must have fished for pink salmon in 2016,
- c) CFEC permit holders in Southeast, Prince William Sound, Kodiak and South Alaska Peninsula must be able to document ADF&G fish ticket landings equal to or greater than 1,000 pounds of pink salmon landed in 2016. Participants in Yakutat, Lower Cook Inlet and Chignik must be able to document a minimum of one pink salmon landing in 2016.

Participants fishing within the Annette Island Reserve that do not hold a CFEC permit card are eligible, contingent upon demonstrating having fished for pink salmon in 2016 and landed equal to or greater than 1,000 pounds of pink salmon.

CFEC permit holders and Annette Island Reserve participants must be able to document a loss of 2016 pink salmon exvessel revenue compared to their average pink salmon exvessel revenue during the most recent five even years.

For participants that meet the above criteria, disaster funds designated for each area will be disbursed pro-rata to each permit holders' losses. Note, fishery participants do not need five even years of pink salmon history to qualify. The average of any even year participation between 2006-2014 will be the basis for comparison. For example, if a participant only fished 2010-2016, the basis for comparison would be their average pink salmon exvessel value for 2010, 2012 and 2014. For participants that only fished in 2014 and 2016 (and don't have an average), their 2016 fishery performance will be compared to their 2014 performance to determine whether a loss occurred.

For fishery participants that only fished in 2016 (no area specific fishing history in the most recent five even years), these individuals have no area specific average performance to determine whether a loss occurred. In the absence of individual fishing performance, new participants eligibility will be determined based on a comparison of their 2016 exvessel value compared to the area's gear specific five even year average exvessel fishery value. If a participant's gear specific 2016 exvessel value is below the area's gear specific five even year average fishery value, they will be eligible for a disaster fund

payment. Payments for new participants in 2016 will be pro-rata to their pink salmon loss as compared to the fishery average (same methodology as participants with area specific history).

Fishing Crew: Pink salmon fishery crew members will be eligible for disaster fund payments based on the fishery participant eligibility (if a fishery participant does not meet the above criteria, the vessels associated crew are not eligible for payment). As part of the fishery participants application for eligibility, each permit holder must also submit names of pink salmon crew members, address and crew share percentage for each crew member. If a permit holder is eligible for payment, each crew member will receive the designated share of the fishery participant's total payment as provided in the fishery participant's application.

Step Three – Municipalities – \$2,437,039: Municipalities are recipients of tax revenues from commercial fisheries, including pink salmon. These tax revenues are a direct function of the amount of pink salmon landed and the exvessel value of those pink salmon. Therefore, municipalities incurred lost tax revenue similar to fishery participants. To compensate for these losses each community within the affected management areas that received pink salmon landings in 2016 will be eligible to receive disaster funds. Communities that received pink salmon landings in 2016 will be eligible to receive funds equal to 1.5% of the five even year average exvessel value of pink salmon landed in the community. The 1.5% is the State of Alaska Fishery Business Tax that is normally collected and distributed to these communities.

Step Four – Processors – \$17,700,062: Processing facilities and workers were impacted by the low pink salmon returns in 2016. Some processing facilities received less volume of pink salmon and generated less revenue from pink salmon compared to previous years. The total amount of disaster relief funds available for processors is determined by comparing each processing companies 2016 pink salmon gross revenue, and their five even year pink salmon average gross revenue. Disaster funds will be distributed pro rata to the difference between the 2016 pink salmon gross first wholesale value and each processors five even year average gross first wholesale value for pink salmon. To be eligible to receive disaster relief funds, processors must meet the following criteria;

- a) Processors must have processed pink salmon in 2016,
- b) Processors must demonstrate a 2016 first wholesale value of \$10,000 or greater (determined based on COAR data),
- c) Eligible entities must demonstrate a revenue loss in 2016 as compared to the five even year average (based on COAR data)¹.

Distribution to processors will be done in two steps. Twenty-five percent of each processors overall distribution will be provided in step one, based on the above criteria. The second installment of funds is contingent upon each processor providing Pacific States Marine Fisheries Commission the processing workers that will receive disaster funds. Processing worker eligibility will be defined as processing workers:

- a) Employed at an eligible plant, performing hourly work during any part of July and August of 2016 and listed as eligible for rehire.
- b) Worked a minimum of 100 hours and a maximum of 420 hours during the months of July and/or August. (420 hours equates to 47.6 hours/week for July and August of 2016).

¹ Similar to fishery participants, processors average will be based on any of the five even years between 2006-2014. If they only processed in 2014 (and don't have an average), their 2016 participation will be compared their 2014 participation to determine if a loss occurred.

A total of 15% of each eligible processing companies total disaster funds will be distributed equally to eligible processing workers (based on unique facility) based on the above criteria, and in proportion to the processor losses incurred. The portion allocated to processing workers is based on estimated labor cost of hourly processing workers and is derived from the labor cost for finished pink salmon as a percentage of the processors total pink salmon conversion costs. Payments to processing workers will be distributed by the processors and billed to PSMFC.

Appeals:

This plan dedicates \$550,000 for addressing appeals from any of the categories outlined in this plan.