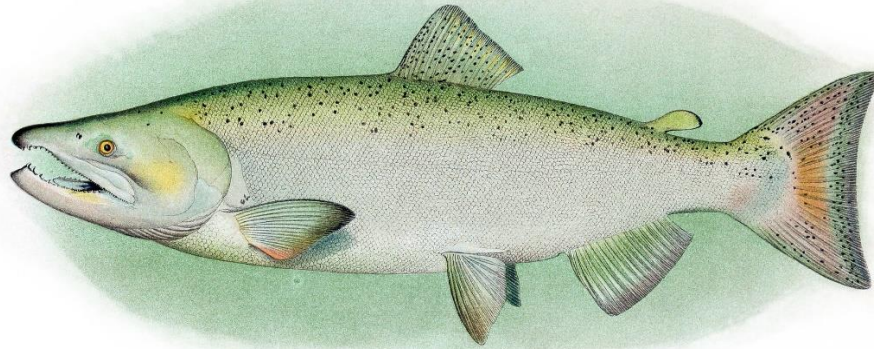


March 2024  
PROJECT UPDATE

Understanding the feasibility of a mark-selective sport fishery  
for king salmon in Southeast Alaska



Background and Objectives

Mark-selective fisheries (MSFs) allow for the selective retention of hatchery-origin salmon that are marked with an adipose fin clip. Although MSFs have been implemented in other areas and fisheries within the geographic scope of the Pacific Salmon Treaty, the implications of an MSF occurring in the Southeast Alaska king salmon sport fishery are not well understood. Alaska Department of Fish and Game (ADF&G) Division of Sport Fish received funding through a grant from the Pacific Salmon Commission to study the feasibility of using MSFs to allow for additional opportunity to harvest hatchery-produced king salmon. ADF&G contracted a team at University of Washington (UW) to complete the project work.

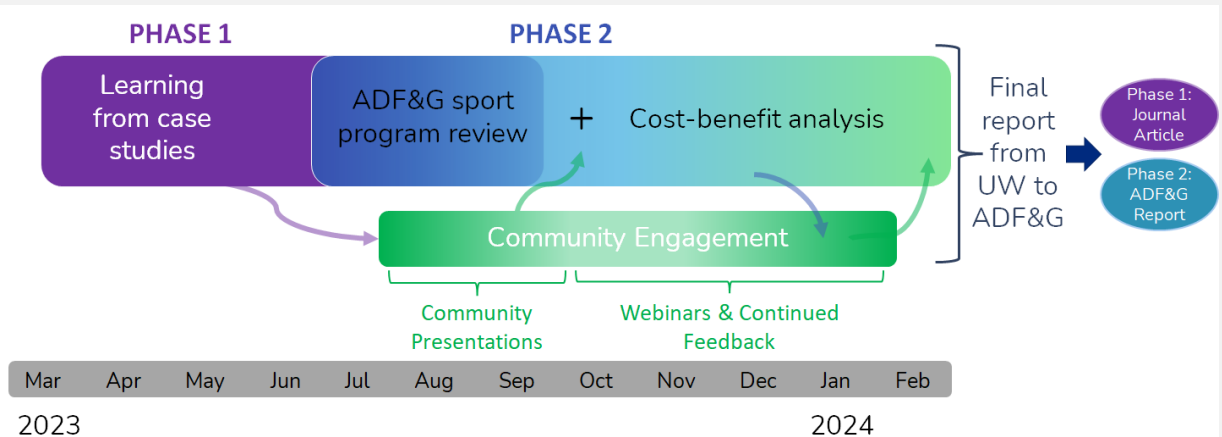
The study objectives were to:

1. Review mark-selective fishery programs *outside* of Alaska to understand how mark-selective fisheries have worked in British Columbia, Washington, and Oregon;
2. Review the management, assessment, and enhancement programs associated with the king salmon sport fishery in Southeast Alaska to understand what would need to change *if* an MSF was implemented;
3. Engage Southeast Alaska fishing community members to gather local perspectives on mark-selective fisheries; and
4. Evaluate potential costs and benefits of mark-selective fisheries in the Southeast Alaska king salmon sport fishery, incorporating community perspectives.

## Project Timeline

Phase 1 of the project began in March 2023 and was focused on learning from MSF case studies (Objective 1) to inform community engagement meetings and the development of the sport fish program review. Phase 2 included the sport fishery program review (Objective 2) and cost benefit analysis (Objective 4). Community engagement (Objective 3) occurred throughout both phases through a series of in person and online meetings. These meetings provided opportunities for feedback from the public and ADF&G staff, which was integrated into the feasibility study.

The contract period for the UW team extended from March 2023 through February 2024. UW submitted their final report to ADF&G in February 2024, and will continue collaborating with the ADF&G team to publish the results, which will be available to the public. The report will undergo technical review prior to publication, with intended final publication by the end of 2024. Two publications are in progress: one will focus on the case studies outside Alaska (Phase 1), and a second will include the review of Southeast Alaska king salmon management, assessment, and enhancement and the analysis of MSF costs and benefits (Phase 2).



**Project approach and timeline.** This timeline includes the contract period for the UW team (Mar 2023-Feb 2024). Publications will be prepared and finalized over the period from March to December 2024.

## Phase 1 Community Meetings

In summer and fall of 2023, the project team held four meetings in Juneau, Ketchikan, Prince of Wales, and Sitka, as well as one online meeting. During the meetings, the project team presented the goals of the feasibility study and results from the literature review of MSFs in British Columbia, Washington, and Oregon, highlighting their benefits and challenges. Attendees provided feedback, questions, and concerns about MSFs. A goal of these conversations was to better understand community perspectives about potential costs and benefits of MSFs and to elicit questions that would help to further guide the feasibility study.

> You may view a recording of the presentation at this [link](#). A written summary of the Phase 1 meetings is [here](#).

## Phase 2 Online Meetings

We held two virtual meetings in February 2024 to share findings from the program review and cost-benefit assessment with ADF&G staff and the public. Information about the meetings was shared with an email distribution list of ~400 people compiled during Phase 1 of the project. The first meeting (2/7/24 12-1:30 pm) was attended by 5 members of the project team, 2 notetakers, and 20 members of the public, the second meeting (2/8/24 7-8:30 pm) was attended by 7 members of the project team, 2 notetakers, and 11 members of the public.

During these meetings the project team presented the goals of the feasibility study along with results from the Phase 2 of the project. Phase 2 results included a summary of the potential ecological, socioeconomic, and institutional costs and benefits of an MSF based on the literature review, program review, and community feedback to date. **The presentation may be viewed [here](#).** Attendees provided feedback and asked questions about the project results, as well as broader questions about MSFs.

Similar to the first phase of meetings, these meetings provided an opportunity for information sharing between ADF&G staff and community members on relevant details of the current Southeast Alaska sport fish program and the potential effects of implementing MSFs. ADF&G staff answered questions relating to marked SEAK wild stocks, including the reasoning behind marking wild stocks, the specific stocks marked, and mark rates.

ADF&G staff reiterated during the discussion that the ADF&G Sport Fish Division is not championing the use of MSFs by doing this study. Rather, the purpose of this study is to better understand the potential impacts of MSFs – both positive and negative – on Southeast Alaska fisheries and their management. This feasibility study provides more comprehensive knowledge of MSFs that ADF&G can use to provide input and guidance if there is a need or a proposal for an MSF in the future.

## Summary of questions and comments from Phase 2 meetings

- ❖ Participants asked about the origin of king salmon caught in the sport fishery, which is highly variable depending on time and area. The table below shows the percentage of Alaska-origin hatchery Chinook salmon in Southeast Alaska sport fishery harvest, from 2005 to 2021. The information is summarized from the technical memorandum “[Harvest of Southeast Alaska Wild-Origin Chinook Salmon in the Southeast Alaska Troll and Sport Fisheries.](#)”

Fishery Area	Range (2005-2021)	Average (2005-2021)
SEAK Sport Fishery (region)	16-42%	24%
Ketchikan area	14-62%	45%
Northern inside area	38-80%	52%
Petersburg and Wrangell area	18-86%	51%
Outside area	4-15%	7%

- ❖ A number of the comments and questions focused on the potential effects of an MSF on hatcheries, and hatcheries' ability to influence MSFs. Some Southeast Alaska hatcheries are currently mass-marking 100% of their king salmon by clipping the adipose fin. Hatchery staff present at the meeting noted that the costs of maintaining fish tagging and marking trailers, as well as staff time, could be a future limitation to their mass-marking program. ADF&G staff noted that any MSF would require the cooperation of hatchery operators, and that hatchery decisions are primarily driven by their Board of Directors, meaning ADF&G cannot require a hatchery operation to mark all of their fish or increase production.
- ❖ Meeting participants also asked a variety of questions relating to the logistics of MSF implementation, and highlighted concerns about potential overlap with tagged and marked wild stocks (e.g., Chilkat, Taku, Stikine, and Unuk rivers). It was discussed that while the percentage of marked wild fish is low, it may not make sense to put an MSF in close proximity to these wild stock natal river systems.
- ❖ A question was asked about how MSFs would affect the incidental mortality magnitude (or exceed the cap for incidental mortality limits set by the Pacific Salmon Commission for the SEAK king salmon fishery); however, this is not possible to answer definitively without knowing the details of how an MSF would be designed, such as its location, timing, and specific regulations. The current king salmon sport fishery incidental mortality rate used for analysis is approximately 16% (Source: Chinook Technical Committee of the Pacific Salmon Commission; [Report TCCHINOOK \(22\)-01](#)).
- ❖ A question was also asked about how increased mark rates would result in better data. An ADF&G staff member replied that with an increase in mark rates, even without increasing the tag rate, additional information is gained from every fish that is sampled or harvested about whether it is of hatchery origin. Although there is some natural adipose fin loss in salmon, it is very minor; most fish without adipose fins are clipped from a hatchery.

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