

**I. AYK SSI TITLE PAGE:**

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2019 Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative Project Final Product\*

**Exploring sustainable harvest strategies for AYK salmon fisheries**

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July 31, 2019

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\* Final products of AYK Sustainable Salmon Initiative-sponsored research are made available to the Initiatives Partners and the public in the interest of rapid dissemination of information that may be useful in salmon management, research, or administration. Sponsorship of the project by the AYK SSI does not necessarily imply that the findings or conclusions are endorsed by the AYK SSI.

## **II. ABSTRACT:**

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Historically, salmon management has been guided by efforts to determine harvest strategies that are believed to provide for high (often maximum) levels of sustainable harvests over the long term. Recent research has revealed important trade-offs between maximizing salmon harvest and other potential salmon fishery objectives, including conservation of weak stocks, maintenance of population productivity and diversity, and providing for an equitable distribution of harvest throughout large river basins like the Yukon and Kuskokwim. Although these trade-offs apply to all salmon fisheries, the focus of the present work was to highlight the implication of these trade-offs for the management of Chinook or king salmon which are an important cultural and subsistence resource for local communities.

The results of this important research, however, have thus far been made available largely through dense technical reports or presentations that are difficult to understand for many non-technical stakeholders and decision-makers. This has created a barrier to the meaningful engagement of many community members with this research, which could otherwise lead to more informed and participatory decision-making for fisheries management.

To help address this problem, we convened a technical workshop followed by a series of community science outreach forums to collaboratively develop, test, and refine science communication and outreach materials that can help to reduce this barrier to understanding. The resulting outreach materials include an illustrated booklet, public information posters, short videos, and a radio story that will help to effectively synthesize, elucidate, and communicate these trade-offs and their potential implications for salmon harvest policy to a wider range of experts, decision makers, and stakeholders in Alaska's AYK region.

## **III. PRESS RELEASE:**

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Salmon fisheries management can be very challenging, in part because it involves making tough decisions to balance tradeoffs among a wide range of harvest and conservation objectives that might not always be perfectly compatible. A new initiative funded through AYKSSI brings together important lessons from years of previous technical research projects examining these trade-offs and repackages them in a range of public outreach materials designed to make these messages more accessible to all salmon fishers, community residents, fishery managers, and decision-makers throughout the AYK region.

This project was centered around a technical workshop with fisheries scientists followed by a series of community science outreach forums that provided a platform to collaboratively develop, test, and refine visually-oriented science communication and outreach materials to improve public understanding of new research findings. In each meeting, draft communication materials were presented and feedback from participants was collected to ensure the resulting outreach materials would be as relevant, accessible, and engaging as possible. The final outputs of this initiative include an illustrated booklet, public information posters, short videos, and a radio story that will help to effectively collect, clarify, and and communicate these trade-offs and their potential implications for salmon harvest policy to a wider range of audiences than previously possible. These outreach products will be distributed widely across communities, fisheries organizations, and online platforms to each as many people as possible whose lives and livelihoods depend on salmon.

We hope that this work helps to break down barriers to meaningful engagement with the important outcomes of these scientific research projects and leads to more informed and participatory decision-making for fisheries management in the AYK region.

#### **IV. PROJECT EVALUATION:**

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Our original proposal included two objectives. These objectives, and our progress towards meeting or exceeding them, are described below.

**Objective 1:** Convene a 2-day workshop in Anchorage in late fall 2017, to facilitate a synthetic review of past and current projects that address questions relevant to the issue of harvest objective trade-offs.

*We met this objective in the fall of 2017 by prepared for and then hosting a 2-day workshop in Anchorage with academics, agency scientists and managers, and inter-tribal organization members, to:*

- 1. develop a common understanding of the key trade-offs that have been elucidated by recent research on AYK salmon management, and*
- 2. identify key messages arising from this common understanding and design a communication strategy for invitation-only outreach forums (Bethel, Fairbanks) involving stakeholders and decision makers.*

*During the workshop we also began filming interviews with participants to support the development of communications materials for subsequent science outreach forums.*

**Objective 2:** Convene two, 2-day forums in spring 2018 to share the findings of the fall synthesis workshop with a broad audience of stakeholders, using outreach materials developed following the synthesis workshop.

*We met this objective in a series of stages:*

- 1. first, using input from the technical meeting, we designed a series of illustrations and infographics to help visualize key concepts related to each of the three major tradeoffs involved in salmon fisheries management.*
- 2. next, we planned and convened a series of two, 2-day community outreach forums, one in Bethel (November 2018) and one in Fairbanks (January 2019). Because many meeting participants were able to use alternative sources of travel funding, a surplus in the budget allowed us to host an additional 1-day community outreach forum (with support from AYKSSI) in Whitehorse, YT to communicate these same messages to Canadian stakeholders who harvest salmon locally but are also affected by fisheries management decisions on the Alaskan portion of the Yukon River. In addition to generating important feedback on draft outreach materials, these forums provided an important venue for diverse stakeholders from different parts of the river to interact, share perspectives, and build towards a common understanding of fisheries management issues and trade-offs and how they affect resource users across the AYK region.*
- 3. finally, using feedback on the original print outreach materials received from participants at the community outreach forums, we iteratively revised these materials and adapted them into new types of outreach products (video, audio) to help reach a broader range of audiences across a larger range of communications channels than originally envisioned.*

#### **V. DELIVERABLES:**

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The outreach materials produced as part of this project are attached as a file packet provided with this final report and are also available via the direct-download links embedded in this final report. These materials will

continue to be disseminated as print materials (already produced and has been or will be distributed to communities via AYKSSI) and digitally as downloads from the AYKSSI website and the ESSA website. In addition, we are continuing to work with public radio stations in the region (e.g., KYUK in Bethel) to facilitate public broadcast of our radio products.

The final outreach products delivered with this final report include the following:

- An **illustrated booklet** unpacking key concepts about trade-offs in salmon management presented alongside personal stories from stakeholders shared in the community forums that provide context for how these trade-offs are being experienced on the land, for distribution to tribal offices and use by fisheries commission representatives as a tool to facilitate their existing extension and outreach responsibilities.

Available from this link: [https://www.dropbox.com/s/vm0vxe4yfsie7kc/AYK-SSI\\_TradeoffsBooklet\\_PRINT\\_Corrected.pdf?dl=0](https://www.dropbox.com/s/vm0vxe4yfsie7kc/AYK-SSI_TradeoffsBooklet_PRINT_Corrected.pdf?dl=0)

- A series of **public information posters** based on the content in the booklet that communicate these concepts more succinctly, for posting in tribal offices and other public locations.

Available from this link: [https://www.dropbox.com/s/d4ai6wz7bx8qftz/AYK-SSI\\_MiniPosters\\_PRINT\\_Corrected.pdf?dl=0](https://www.dropbox.com/s/d4ai6wz7bx8qftz/AYK-SSI_MiniPosters_PRINT_Corrected.pdf?dl=0)

- A series of **short web videos** based on interviews filmed at the community outreach forums that express the same concepts in a different medium, for posting to relevant websites and sharing on social media.

Available from the following links:

- About Trade-offs Video

High-Resolution:

[https://www.dropbox.com/s/kvau1odbofnrl3a/2017\\_017\\_ESSA\\_Tradeoffs\\_1080p\\_20190610.mp4?dl=0](https://www.dropbox.com/s/kvau1odbofnrl3a/2017_017_ESSA_Tradeoffs_1080p_20190610.mp4?dl=0)

Low-Resolution / Small File Size:

[https://www.dropbox.com/s/1p7vo8ykw5db23d/2017\\_017\\_ESSA\\_Tradeoffs\\_480p\\_20190609.mp4?dl=0](https://www.dropbox.com/s/1p7vo8ykw5db23d/2017_017_ESSA_Tradeoffs_480p_20190609.mp4?dl=0)

- Population Diversity Tradeoff Video:

High-Resolution:

[https://www.dropbox.com/s/7hrvqnheiui5k0p/2017\\_017\\_ESSA\\_Diversity\\_1080p\\_20190610.mp4?dl=0](https://www.dropbox.com/s/7hrvqnheiui5k0p/2017_017_ESSA_Diversity_1080p_20190610.mp4?dl=0)

Low-Resolution / Small File Size:

[https://www.dropbox.com/s/i4iu30zsihg6g5b/2017\\_017\\_ESSA\\_Diversity\\_480p\\_20190609.mp4?dl=0](https://www.dropbox.com/s/i4iu30zsihg6g5b/2017_017_ESSA_Diversity_480p_20190609.mp4?dl=0)

- Escapement Quality Tradeoff Video:

High-Resolution:

[https://www.dropbox.com/s/85u4erfh9d2lg9s/2017\\_017\\_ESSA\\_Escapement\\_1080p\\_20190610.mp4?dl=0](https://www.dropbox.com/s/85u4erfh9d2lg9s/2017_017_ESSA_Escapement_1080p_20190610.mp4?dl=0)

Low-Resolution / Small File Size:

[https://www.dropbox.com/s/fz6npbi43s5phy6/2017\\_017\\_ESSA\\_Escapement\\_480p\\_20190610.mp4?dl=0](https://www.dropbox.com/s/fz6npbi43s5phy6/2017_017_ESSA_Escapement_480p_20190610.mp4?dl=0)

[09.mp4?dl=0](#)

○ Run Timing Tradeoff Video:

High-Resolution:

[https://www.dropbox.com/s/pnac6c1mti1abhd/2017\\_017\\_ESSA\\_Timing\\_1080p\\_20190610.mp4?dl=0](https://www.dropbox.com/s/pnac6c1mti1abhd/2017_017_ESSA_Timing_1080p_20190610.mp4?dl=0)

Low-Resolution / Small File Size:

[https://www.dropbox.com/s/05vc8dof50rerxu/2017\\_017\\_ESSA\\_Timing\\_480p\\_20190609.mp4?dl=0](https://www.dropbox.com/s/05vc8dof50rerxu/2017_017_ESSA_Timing_480p_20190609.mp4?dl=0)

- And finally, a **series of radio stories** for public broadcast based on audio recorded at the community outreach meetings, to be broadcast through public radio stations to reach a larger audience that might be possible with web-based or print products alone. These have been formatted as a single longer-form piece (~25 minutes) which has also been broken into 4 shorter episodes (~5 minutes) to meet differing programming requirements of various local public radio stations.

The original audio files have been bundled with the file packet provided with this report, and they are also available for streaming on a private SoundCloud channel here:

<https://soundcloud.com/jennischine/sets/fishing-for-the-future/s-LNBiM>

The raw files are in the process of being distributed to public radio stations to arrange broadcast, and streaming links to the files will also ultimately be migrated to project profile pages on the AYKSSI website as well as the ESSA website.

### **Presentations:**

In addition to these deliverables, we have delivered one presentation and one poster on this project in Spring 2018 at the American Fisheries Society Western Division meeting in Anchorage, as part of the AYKSSI symposium on fisheries management in the AYK region.

- Tamburello, N., Jones, M.L., Connors, B.M., and Spaeder, J. 2018. Creatively Communicating Salmon Fisheries Management in the Alaskan Context (Oral Presentation). Western Division American Fisheries Society Meeting, Anchorage, AK. Available at: [https://www.dropbox.com/s/tqzq56cmh3r4e31/AFS2018\\_SciComm\\_NTamburello\\_FINAL\\_vPDF.pdf?dl=0](https://www.dropbox.com/s/tqzq56cmh3r4e31/AFS2018_SciComm_NTamburello_FINAL_vPDF.pdf?dl=0)
- Tamburello, N. 2018. Creatively Communicating Salmon Fisheries Management in the Alaskan Context (Poster). Western Division American Fisheries Society Meeting, Anchorage, AK. Available at: [https://www.dropbox.com/s/s4ve25xk13pl1I3/AFS2018\\_Poster\\_NTamburello\\_FINAL\\_Compr.pdf?dl=0](https://www.dropbox.com/s/s4ve25xk13pl1I3/AFS2018_Poster_NTamburello_FINAL_Compr.pdf?dl=0)

### **Draft manuscripts:**

Due to the nature of this work, no scientific manuscripts were produced and the illustrated booklet stands in as the central publication which all other communications products draw upon.

### **Meetings:**

2018. Technical workshop on trade-offs in salmon management. Anchorage, Alaska.

2018. Community outreach forum 1. Bethel, AK.

2019. Community outreach forum 2. Fairbanks, AK.

2019. Community outreach forum 1. Whitehorse, YT.

**Reports:**

Semiannual progress reports December 2017, June 2018, December 2019, and this Final Report in July 2019.

**VI. PROJECT DATA SUMMARY:**

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Due to the nature of this project, there is no data associated with the deliverables. Beyond the final deliverables outlined in the previous section, this project also generated a significant volume of raw media materials (e.g., raw footage and audio recordings from interviews and workshops). Due to the large file sizes of these raw assets, they are not included with this final report but can be made available on request.

**VII. APPENDICES:**

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None (see file packet of final products included with the submission of this Final Report).