Applications

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We applied our findings of where cold-water inputs were located towards education and outreach opportunities in the Central Kenai Peninsula region. We used a variety of methods including comments on public land management plans, direct mailers, cooperative planning with peer researchers, and communication with state and federal agency staff.

## 1 Comments on the 2021 City of Kenai Land Management Plan

We used the thermal features map layer generated from this project as a tool to help generate comments on a local land management plan. We commented on the [City of Kenai 2021 Land Management Plan](https://www.kenai.city/lands/page/land-management-plan), which highlighted a number of parcels in the Beaver Creek corridor, and recommended parcel-specific actions (e.g. retain, sell, re-zone).

We created a separate map showing parcels highlighted in the plan, with management status available in a point and click format. The parcels were superimposed on a several layers highlighting ecological values such as wetlands and anadromous streams, as well as the thermal features identified in this project. Methods are described in a separate stand-alone document at <https://rpubs.com/kwf/867931>.

Access the City of Kenai Land Management Plan Comments Map here: <https://arcg.is/1Oq9Kq>.

Access PDFs of submitted Public Comments below:

## 2 Landowner Outreach

### 2.1 Letter

We composed a letter addressed to landowners whose property contains cold water features that flow in to one of our study streams. This letter describes the nature of the project and the value of cold water features to salmon habitat. Landowners are invited to contact the researchers if they would like more information about their specific property.

A draft version of the letter to landowners may be accessed below:

### 2.2 Postcard

We designed and mailed a post card to landowners whose property contains cold water features that flow in to one of our study streams. The postcard notifies landowners that their specific parcels are of high conservation value, and encourages them contact project scientists to learn more about best practices.

A PDF proof version of the postcard may be accessed below:

### 2.3 Communication with local State and Federal Agency Staff

We met with state and federal agency staff to discuss the nature of our research and its applications.

* In conversations with staff from the Alaska Department of Environmental Conservation (ADEC), we learned more about the process by which new research such as ours may be applied in the future. Emerging research on how water quality issues may affect freshwater fish habitat is typically first evaluated by the Alaska Department of Fish and Game (ADF&G) before being evaluated in a regulatory context such as ADEC. With that in mind, our final reports will be made available to ADF&G staff.
* On June 1, 2022 we met with local U.S. Fish and Wildlife staff to discuss the nature of thermal infrared imagery gathered in summer 2022 for a separate USFWS project related to adult coho salmon movement. These data are currently being evaluated, and it is our hope that they may later also be applicable for the purposes of identify cold water refugia in the conservation priority corridors identified in the Mountains to Sea report (Morton et al. 2015)

### 2.4 Local interest in Conservation Easement

We also communicated with the Snowshoe Gun Club, one of the larger private landowners in the lower Beaver Creek corridor. The gun club’s ground footprint currently is set back several hundred yards from adjacent riparian zones and can be considered compatible with fish habitat management.

The Club has expressed interest in developing conservation easement status for part of their current land holdings, along with an adjacent parcel also set on Beaver Creek also currently in private ownership. We provided a custom map ([Figure 1](#fig-sgc-map)) to highlight cold water refugia features on these parcels, available for download below. Discussions will continue with the Club to determine interest in moving forward with a potential conservation easement.

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| Figure 1: Cold water refugia site highlights near Snowshoe Gun Club |

Morton, J M, D R Magness, M McCarty, D Wigglesworth, R Ruffner, M Bernard, N Walker, et al. 2015. “Kenai Mountains to Sea: A Land Conservation Strategy to Sustain Our Way of Life on the Kenai Peninsula.” <https://kenaiwatershed.org/wp-content/uploads/2019/03/Kenai-Mountains-to-Sea-Strategic-Plan_5nov2016_compressed.pdf>.