**Temporal Patterns in Chinook Salmon Migration Across Western Alaska Watersheds**

**Introduction:**

Chinook salmon populations are experiencing unprecedented declines across much of their range. This trend is especially severe in Western Alaska watersheds, which contain some of the world's last pristine Chinook habitat but have seen steep declines in returning Chinook and Chum salmon in recent years. Salmon from this region support lucrative commercial fisheries and contribute to seafood industries across the North Pacific and beyond. They are also vital to subsistence harvests and hold deep cultural importance for dozens of Tribal communities, many of which have voluntarily reduced or ceased subsistence fishing. The collapse of Chinook stocks has heightened tensions between industrial and community needs amid a region-wide crisis of food security, cultural loss, and impacts to commercial fishing. In response, resource managers and communities face increasingly difficult decisions about how to balance fishing opportunities with the urgent need to rebuild salmon populations and prevent industry collapse.

Management of salmon fisheries

Even without declining stocks, fishery managers are faced with a complicated task of

an ongoing public health and food security crisis.

nd serves as a cultural keystone

Management of this resource therefore required balancing the needs of multiple stakeholder groups, which is further made complicated by international boundaried between candian and American reaches of the Yukon river.

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* There have been recent rapid declines in the health of Chinook salmon in western Alaska.
* To manage this fishery requires balancing the needs of multi-stakeholder, including multinational and tribal communities.
* In addition, there is an increased understanding of the role of biological, life history, and genetic diversity in maintaining population level stability despite changing short term or local environmental conditions.
* This is the so called “portfolio effect”
* As such, management efforts aim to maximize available yield while maintaining basin wide genetic diversity.
* However, both the spatial and temporal scale at which we understand the ecology of Chinook salmon is a limiting factor in implementing this.

Methods:

Results:

Discussion: