Traditional Ecological Knowledge of Tlingit People Concerning the Eulachon of Yakutat

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Introduction

Eulachon (Thaleichthys pacificus) is an anadromous smelt species, ranging from northern California to southwest Alaska. In the southern region, eulachon are federally listed as “threatened” under the Endangered Species Act for the populations of Washington, Oregon, and California (Willson et al. 2006). In the Yakutat Forelands of southeast Alaska, eulachon declines have been observed in the past decade. These population declines threaten the cultural roles of eulachon in the Yakutat Tlingit community, where the spawning of eulachon is a celebration in Yakutat. To understand and address these declines, we sought traditional ecological knowledge (TEK) to learn cultural roles of eulachon in the Yakutat Tlingit community, where the spawning of eulachon is a celebration in Yakutat. To understand and address these declines, we sought traditional ecological knowledge (TEK) to learn from the Tlingit elders of Yakutat. These study findings supplement aerial surveys of eulachon populations in the Yakutat Forelands, conducted by the USDA Forest Service, City of Yakutat biologists, and tribal members in 2010.

Methods

Develop questionnaire: Create a set of questions and conversation topics on eulachon to encourage open discussion.

Identify respondents: Compile a list of available Yakutat Tlingit elders (Fig. 3) who are knowledgeable of eulachon, through consultation with the Yakutat Tlingit Tribe.

Conduct interview: Use the questionnaire as a guideline for the conversation with Tlingit elders. With consent, video-and/or audio-record the meeting.

Synthesize findings: Transcribe the recorded conversation. Categorize the findings to answer the questionnaire.

Results

In Yakutat, eulachon are known as ‘hooligan,’ or ‘sak’ in the Tlingit language. In the Tlingit culture of Yakutat, the spawning of eulachon is celebrated as a new year and the first of fresh fish after the winter. Tlingit elders observed declines of eulachon in the Yakutat Forelands in the last ten years (Fig. 4).

Previous generations in Dry Bay are said to have rendered eulachon oil in canoes or to ferment it in a hole. Tlingit elders identify some of the species that prey on eulachon; however, they are unsure what eulachon eat (Fig. 5).

Figure 4. Tlingit elders remarked on eulachon observations in the last ten years. Observations in 2010 marked with an asterisk (*) were made by elders who participated in aerial surveys with the US Forest Service.

Observations of eulachon in Yakutat by Tlingit elders


(*2000) Eulachon in Yakutat begin to decline and get smaller

(*2005) Hooligan on the Situk River had no eggs

(2005 or 2006) Most recent good eulachon runs

(2010) Ahsnkin River had a large run

(2010) Situk River had a small run

(12 July 2010) TEK Interview

[April/May 2010] TEK

Discussion

Observed eulachon declines in the Yakutat Forelands have become more noticeable over the last ten years.

- Both aerial and local observations of the Situk River corroborate each other.
- However, this may not be true for remote systems that are rarely visited and not fished; aerial survey results indicated long runs on the Dangerous River and strong runs on the Akwee River (USFS 2010).

Additional gaps of knowledge exist between TEK and scientific ecological knowledge (SEK).

- While the elders were unsure what eulachon eat, the scientific literature illustrates multiple prey species of eulachon (Willson et al. 2006) (Fig. 6).
- The elders identified some of the predatory species that prey on spawning eulachon; however, eulachon are prey for additional species not discussed (Willson et al. 2006) (Fig. 6).

The findings of this study are qualitative and illustrate the value of long-term local observation, resulting in a stronger understanding of eulachon when coupled with population survey work. This is especially important, considering long-range population shifts and the effects of climate change. In many cases, the only long-term data sets reside among oral knowledge of locally raised people.

Figure 5. The high abundance of predatory animals of multiple species is an indication to the Yakutat Tlingit people that the eulachon are spawning in the rivers; however, Tlingit elders are unsure what eulachon eat, and it is thought that adult eulachon may not eat in the rivers.

Eulachon Predators and Prey

Sea Lions Otters Seagulls Eagles Swans

Seals Birds

Eulachon

Humans

Krill Plankton

Small Fish

References


US Forest Service. 2010. Personal observation, Yakutat, AK.


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