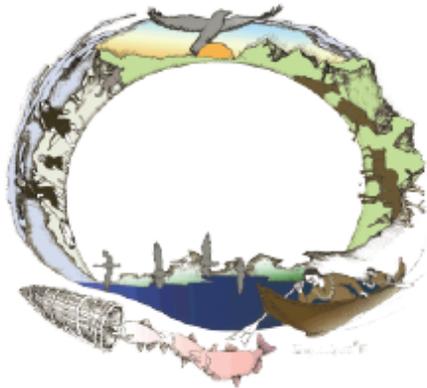


Tanana Chiefs Conference, Fisheries Program

Henshaw Creek Science & Culture Camp, 2016



**Tanana Chiefs Conference, Fisheries Program
Fairbanks, Alaska
November, 2016**



Tanana Chiefs Conference

The Tanana Chiefs Conference's Fisheries Program strives to continually build educational capacity and expertise in fisheries science and management throughout the TCC region, including the Yukon and Kuskokwim River drainages. Our goals are to utilize western science and traditional knowledge to enable sustainable fisheries, and to advocate for cultural and traditional fishing and hunting rights. We endeavor to accomplish these goals by partnering with other Tribal organizations, NGO's, and State and Federal agencies to better manage, protect, and preserve our fisheries resources.

<http://www.tananachiefs.org/sustainability/fish-wildlife/>

Cover Photo: Science Camp students and staff wearing their salmon print shirts they made while at camp, courtesy of Susan Paskvan, 2016.

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Henshaw Creek Science & Culture Camp, 2016

Nicole Farnham

Abstract

The Science and Culture Camp at the Henshaw Creek Weir was a week-long outdoor immersion experience consisting of 6th through 12th grade students from the local communities of the Koyukuk River drainage. The Science and Culture Camp at the Henshaw Creek Weir has had a very positive impact on the youth in the communities served by the camp. Henshaw Creek Summer Science and Culture Camp takes place concurrently with the peak of the Chinook and chum salmon escapement in the Henshaw Creek. There are a variety of courses that are taught during the camp, including: traditional fish cutting, fish internal and external anatomy, weir sampling, beading, and much more. The Science and Culture Camp at Henshaw Creek Weir has become a critical component of outreach efforts for TCC and Kanuti NWR.

Introduction

The Science and Culture Camp at Henshaw Creek Weir began in 2007. It has successfully served the communities of Allakaket, Alatna, Bettles and Evansville for five years and the communities of Hughes and Huslia for two years. The Science and Culture Camp at the Henshaw Creek Weir was a week-long outdoor immersion experience where 6th through 12th grade students from the local communities of the Koyukuk River drainage interacted with and learned from the camp staff, consisting of Elders from the local villages and staff from the Kanuti National Wildlife Refuge, the U.S. Fish and Wildlife Service, the Tanana Chiefs Conference (TCC), and the Fairbanks North Star Borough District Watershed School. At the camp, students were able to connect with nature, their Elders, the refuge, and each other, during a life changing experience where western science and traditional native knowledge came together in perfect harmony.

This Science and Culture Camp was operated in conjunction with the Henshaw Creek Salmon Weir, and was an ideal setting for introducing students to careers in natural resources. This close proximity to the Henshaw Creek Weir allowed students to experience hands on learning in a natural setting that inspired responsible stewardship of the refuge and its resources. The Tanana Chiefs Conference believes that educating our youth in traditional knowledge and skills, as well as western science, are vital to the long term success of both our children and our resources. Additionally, a critical management objective of the Kanuti National Wildlife Refuge is to strengthen its relationships with the communities that lie nearest to the refuge. The residents of Allakaket, Alatna, Bettles, and Evansville are the primary users of natural resources within the Kanuti National Wildlife Refuge. The Science and Culture Camp at Henshaw Creek Weir helped to accomplish the objectives of both the Tanana Chiefs Conference and the Kanuti National Wildlife Refuge. Over the past eight years, this science and culture camp has become “a community event” that is anticipated and enjoyed each summer by village residents.

The Science and Culture Camp at the Henshaw Creek Weir had a very positive impact on the youth in the communities served by the camp. Additionally, the camp fostered improved communications and relationships between the youth, the Elders, the respective Tribal Councils,

the TCC, and the Kanuti NWR. Working with community residents on the logistics of the camp, hiring local residents as boat drivers, cooks, and inviting Elders to participate as traditional knowledge experts, allowed the project proponents to more closely engage with community members and strengthen these relationships, which benefit all involved parties for years to come. Currently this is the only science and culture camp available to the residents of Allakaket, Alatna, Bettles and Evansville.

Objectives of the Henshaw Creek Science and Cultural Camp were to (1) connect youth with nature, (2) help youth become interested in and gain a better understanding of natural resource careers, (3) inspire youth to better understand and appreciate refuge lands and local resources, (4) inspire youth to become stewards of these resources, and (5) to connect the Kanuti NWR more closely with the TCC, the Tribes, and the local communities.

Methods

The TCC and the Kanuti NWR partnered with the Fairbanks North Star Borough District Watershed School to provide an instructor as well as a student for the duration of the science camp. This instructor played an active role in planning the curriculum, and helped to facilitate the science and culture camp. In addition to working with the Watershed School in Fairbanks, there was also the Yukon Koyukuk School District (YKSD) that helped enhance the camp. YKSD employee Susan Paskvan was instrumental in the 2012 and 2016 Science and Culture Camp season as a camp leader and teacher. Thanks to Mrs. Paskvan, a new curriculum was brought to camp that included Athabascan language lessons and a mapping component.

Henshaw Creek Summer Science and Culture Camp took place concurrently with the peak of the Chinook and chum salmon escapement in the Henshaw Creek. Peak escapement run timing in the Henshaw Creek for Chinook and chum salmon typically occurs during the third week of July. The camp duration was 5 days occurring Monday through Friday during the third week of July. In 2016, the camp occurred July 18 through July 22. Subsequent years, 2017 through 2019, will likely occur during the third week of July.

Curriculum:

Topic(s)

- Western Science Lessons:
 - Salmon life cycles
 - Salmon identification and anatomy
 - Salmon escapement monitoring and sampling on the weir
 - Stream ecology and morphology
 - Aquatic insects
 - Nature observations
 - Arctic animal adaptations
 - Animal skull identification
 - Plant identification
 - Bird call identification

- Animal track identification
- Map, compass, and GPS operations
- Careers in natural resources
- Outdoor safety skills
- Recycling/ greening

- Traditional Knowledge and Skills Lessons:
 - Athabascan language lessons
 - Traditional fish cutting
 - Setting fish nets
 - Fish drying
 - Building fish racks without nails
 - Traditional trapping skills
 - Native style beading
 - Traditional stories

Objectives (learning, skills, behavioral):

The Science and Culture Camp at Henshaw Creek Weir brought western science and traditional knowledge together in an "outdoor classroom." The supportive learning environment allowed students, Elders and staff (including village residents who work as chaperones, cooks, boat drivers) to build lasting relationships with each other as well as the Kanuti NWR and the TCC staff, and gain more information and a greater perspective of fisheries science, wildlife ecology, fish and game management, refuge lands and traditional skills. Examples of specific objectives: Behavioral: Participants demonstrated stewardship for Alaska's lands and waters and Kanuti NWR by taking care of Henshaw Creek salmon runs while at camp by not wading in areas where there are salmon runs, and used reusable silverware and plates, instead of disposable ones at all camp meals. Learning: Used field guides to identify fish, birds, insects & plants in the field. Skill: Students demonstrated outdoor safety skills important to careers in natural resources (camping safely in bear country, river/boat safety, safe handling of fish) and demonstrated career skills such as fish sampling by assisting weir staff.

Results and Discussion

With the completion of the hands-on lessons that took place with the TCC fisheries biologist and technicians on the Henshaw Creek Salmon Weir, students earned a "weir sampling skills certificate," which showed that students had successfully learned the basic skills of fish sampling (including learning how to take age/sex/length data, scale samples, scale cards, fish handling, catch & release, and best practices) at the Henshaw Creek Salmon Weir. This certificate will provide students with documentation of acquired skills, and would be a great resource for students to use as they apply for volunteer and internship positions or even entry level jobs in natural resources.

All students who successfully completed the week-long Henshaw Creek Summer Science and Culture Camp earned a “certificate of completion”. This certificate listed in detail all the skills and activities the students accomplished during the camp. Like the “weir sampling skills certificate,” this documentation is an invaluable resource for students as they apply for opportunities that lead to careers in natural resources.

The Science and Culture Camp at Henshaw Creek Weir achieved all of the objectives this year, and there was clear evidence of this when visiting the communities. Students and Elders are excited for outreach events and camp meetings. Moreover, there is student interest in natural resources and awareness of the refuges. One of the other incredibly positive outcomes of the camp has been that student interest in the camp inspires parent interest in the refuge and resources. These relationships are invaluable as we all work closely with each other on delicate issues such as salmon management, moose management, and invasive weed control throughout the Koyukuk River Drainage.

The Science and Culture Camp at Henshaw Creek Weir has become a critical component of outreach efforts for the TCC and the Kanuti NWR. We are very excited about the opportunities and benefits this very special science and culture camp is bringing to everyone who is involved. Additionally, we look forward to the future, and knowing that the Henshaw Creek Science and Culture Camp will benefit so many more individuals in the years to come. We believe one of the keys to the success of this camp is the flexible design approach that has been used. As times change, the camp changes too. In light of the publication “Conserving the Future: Wildlife Refuges and the Next Generation,” we have worked hard to add new elements to the camp to ensure we are doing all we can to help the next generation learn about conservation and to connect to the National Wildlife Refuge System.

Acknowledgements

Funding support for this project was provided through the U.S. Fish and Wildlife Service, Fairbanks Field Office Kanuti National Wildlife Refuge. Appreciation is extended to the Henshaw Creek field crew for helping with camp preparations and helping to teach salmon sampling on the weir, and to the Allakaket Tribal Council for helping to provide Elders, cooks, and boat drivers to help make this project a success.

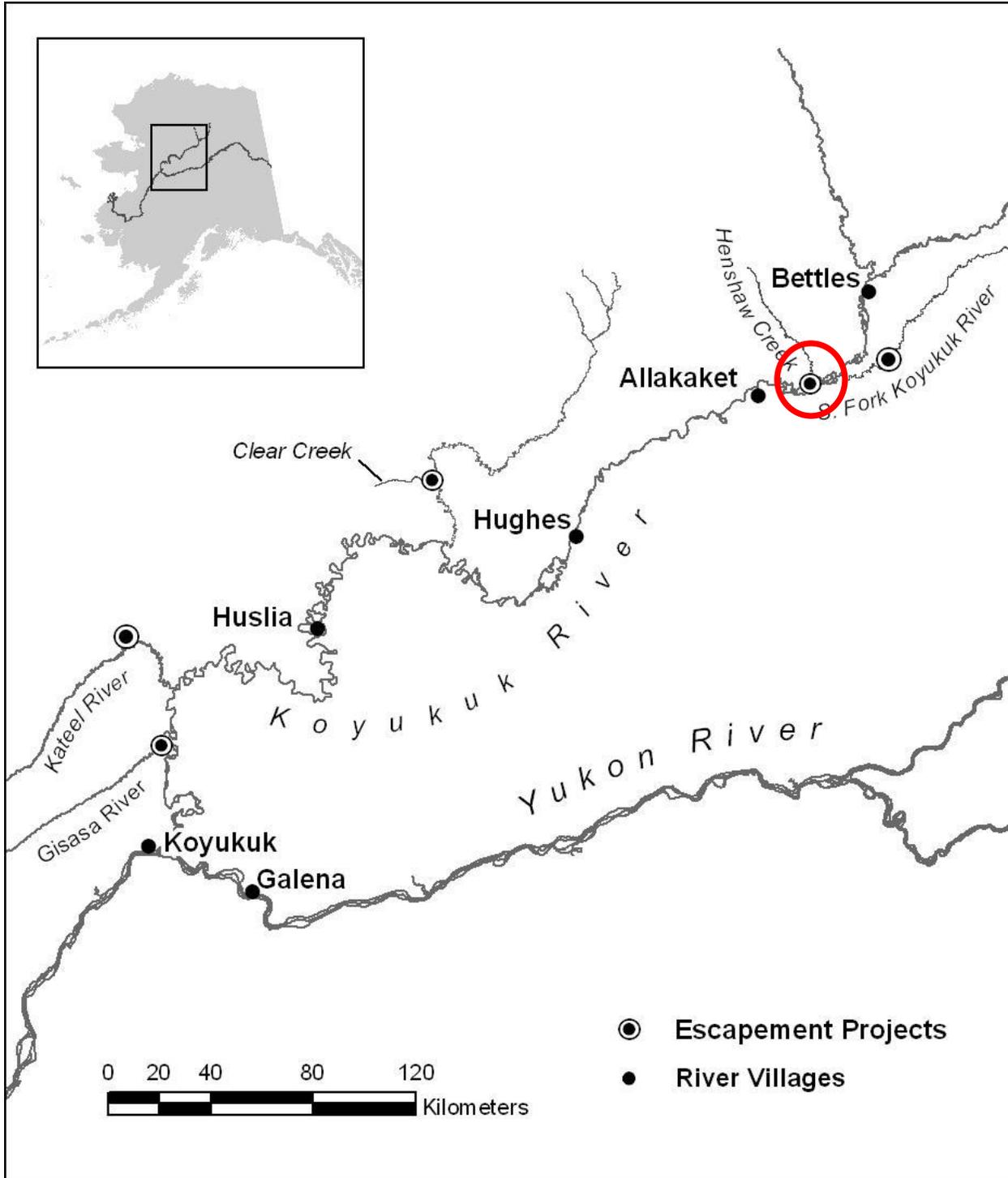


Figure 1. — Location of the Science and Culture Camp at the Henshaw Creek weir located in the Koyukuk River drainage, Alaska.