

OUR WATER: DOCUMENTING OUR WATER GR: 9-12 (LESSONS 1-3)

Elder Quote/Belief: *“To me watershed is what sustains and keeps our people and animals healthy and safe. That’s what it means to me.” - Patrick Sweeny Selanoff (Valdez, Alaska)*

Grade Level: 9-12

Overview: Watersheds in the Chugach Region have sustained the Sugpiaq and Eyak people for generations. Our watersheds are delicate systems that hold many species, nurture spawning grounds, and provide food for people and animals. With the advancement of technology and human impacts, our watersheds have seen an increase in pollution, oil spills, over harvesting of fish, timber, and animals. Each watershed has different characteristics, and each part is vital to the health of the environment around.

Standards:

<i>AK Cultural:</i>	<i>AK Content:</i>	<i>CRCC:</i>
A(3) Culturally-knowledgeable student are well grounded in their cultural heritage and tradition of their community.	C(3) Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformations of matter and energy.	G(7) Students should be knowledgeable about environmental and natural impacts of the area.

Lesson Goal: Learn about the importance of your community watershed and the Chugach Regional watersheds by digitally documenting elders concerning the local watershed, and participate in a community watershed monitoring project for your community.

Lesson Objective(s): Students will:

- Learn about their local watershed and develop an understanding of the need and importance of healthy sustainable waterways.
- Develop interview questions and digitally document Elders essential information to be submitted to the Chugachmiut Heritage Preservation Department webpage.
- Create community monitoring research project in partnership with local and regional organizations. Students will document their project, findings and results to share with the local community and organization.

Vocabulary Words:

Sugt’stun Dialects

English:	PWS:	Lower Cook Inlet:	Eyak:
River / Stream	kuik	kuik	Aan
Salmon	luqqakaq (king)	luqqakaq (king)	te’ya’lee (king)
Water	meg	meg	giyah

Materials/Resources Needed:

- iPad / Tablet or Laptop with video / audio recording ability (high definition)
- Computer and Internet access
- Download the Community Based Monitoring of Alaska's Coastal and Oceans Environment hand book from Alaska Sea Grant (also on our webpage).
 - <https://seagrant.uaf.edu/bookstore/pubs/SG-ED-78.html>
 - [Alaska Seas and Watershed Curriculum: Monitoring links](#)
- Review Alaska Seas and Watersheds Resources from Alaska Sea Grant
 - [Alaska Sea Grant Resources](#)

Teacher Preparation:

- Research your local community watershed.
 - Review the Webinar: It takes a Watershed to grow a Salmon.
 - <http://aswc.seagrant.uaf.edu/resources-list/308-webinar-it-takes-a-watershed-to-grow-a-salmon.html>
- Invite local Elders to discuss local watersheds, and changes in water resources.
- Contact your local watershed organization about partnering on a future monitoring program or invitation for a guest speaker.

Opening: Each community in the Chugach Region is surrounded by abundance natural resources, ecosystems, and water. Our Elders of the region hold vital historical information into the changes they have witnessed over time. Documenting these changes will help us reference the changes now and in the future. Monitoring changes over time will give our youth a strong sense of place and the importance of keeping our region clean, safe and productive. There are many projects in which students can participate further beyond the classroom. We encourage interested students to get involved in their watershed councils, monitoring programs, science camps, and getting out into the region.

Activities:

Class I: Introduce the topic of Watershed in the Chugach Region and the local ecosystem.

- 1) Questions written on the board for students to write down their answers when they enter the classroom for a pretest of knowledge:
 - a. What is a watershed?
 - b. Where is the watershed in your community?
 - c. What is your community doing to protect your local watershed?
- 2) Discuss the answers and then watch one of the videos provided on webpage.
- 3) Tour two local areas of the watershed and document observations; animals, fish, plants species, human effects, etc.
- 4) Introduce a local Elder or regional expert from the community or regional organization to discuss the importance of watershed, conservation, and current changes in the environment.
- 5) Collectively as a class, create a list of watershed priorities and issues in your local community.
- 6) Develop potential actions the community (and personally) could do to protect and enhance the local watershed for the future.

Class II: Produce a video and/or audio interview of local Elders about local watershed.

- 1) Invite local Elders to participate in local interviews to be recorded and published.
- 2) Discuss with students how historical knowledge is important to understanding the changes to our environment. Our Regional Elders hold vital information that can provide us clues to slight or significant changes to our watersheds and lifestyles.

Develop *six to ten* interview questions in preparations for your Elder interview. Each question is essential to gathering information, history and stories. The links below will help guide you in developing questions and a quality interview process:

- See ‘Our Water Interview Questions’ on Chugachmiut Cultural Heritage Preservation website under lesson prompts
 - <http://www.thewildclassroom.com/wildfilmschool/gettingstarted/interviewquestions.html>
 - <https://web.stanford.edu/group/ethnoger/AppC.pdf>
- 3) Record your interview using an iPad and/or mobile device.
Set up your recording device on a tripod with a microphone. Set your interview in a quiet room without background noise or visual distractions to obtain a high quality video. Have your recording device set up, and charged prior to the start of the interview, ready to begin recording.
 - See ‘MediaAction Prompt’ on Chugachmiut Cultural Heritage Preservation website under lesson prompts
 - <https://delta.ncsu.edu/knowledgebase/recording-professional-quality-videos-with-ipad/>
 - 4) Begin your interview with Elder / Expert introductions, along with the recorder/ interviewers name. (See example of Interview introductions on page 5.)
 - 5) Edit and complete the video with title and credits.
 - 6) Contact Chugachmiut Heritage Preservation Department to submit interviews to upload to the department website for educational purposes, documentation and preservation.

Class III: Watershed Monitoring Project:

1. Contact your local watershed organization to develop a multi week monitoring project. (See ‘Our Water’ webpage then on Other Resources section located on the Chugachmiut Cultural Heritage Preservation website for local organizations, resources, project ideas.)
 - a. Examples:
 - i. Watershed mapping and documenting (with Simtable; see Simtable prompts on website)
 - ii. Fish counting
 - iii. Critical salmon habitat
 - iv. Flood mitigation efforts
 - v. Watershed concerns (roads, culverts, diversions)
 - vi. Changing habitat
2. Inform the students they will be working in small groups to develop a plan for community watershed monitoring projects and will be doing presentations.
 - a. The group needs to design, implement, gather data, and synthesis results.
 - b. Together develop a final presentation with video, photography and data results for community, and organizations.
 - c. Groups will be asked to present their ideas to class, community, and local organizations for approval of one monitoring program to work collaboratively on.

Assessment:

- Student can describe aspects of a healthy watershed, and the importance of the watershed to their community.
- Student(s) develop 6-10 interview questions and digitally document one elder interview lasting at least 20 minutes. This video is finished, edited, with title and credits.
- Student(s) submit digital interview to Chugachmiut Heritage Preservation Department.
- Student will document, record and assist in aspects designing and implementing a community monitoring program.

*****Additional opportunities for classroom engagement*****

1. Poster or Video Project (See Science Poster Prompt on webpage)
 - Develop a researched Poster to be submitted to Alaska Sea Grant and Alaska Marine Science Symposium.
 - a. In small groups, pick four topics from the list provided below.
 - b. Develop a poster based off a typical poster board size 22"x28". Your poster will be focused on your community's watershed.
 - c. Information for your poster will include scientific research, Traditional Ecological knowledge (TEK).
 - d. Where applicable include Sugt'stun and/or Eyak vocabulary.
 - e. Use images from local watersheds.

Example Topics:

Forest	Resources
Wildlife	Land Use
Salmon	Marsh Land
Estuary	Flooding
People of the Watershed	Freshwater

Example Posters (links):

- Copper River Watershed
 - <https://copperriver.org/programs/watershed-education/odiak-pond-field-study/odiak-pond-student-projects/#posters>
- 2. Alaska Tsunami Ocean Science Bowl competition.
 - “The Alaska Tsunami Ocean Sciences Bowl, held each year in Seward, AK. Alaska high school students present research papers and compete in an exciting buzzer-style quiz bowl. The winning team will travel to Nationals to compete against other regional teams from across the United States.” (from AlaskaSeaGrant.org)
 - Visit the Alaska Sea Grant website to find additional information, dates, requirements and find information about the National Ocean Sciences Bowl.
 - <https://alaskaseagrant.org/education/nosb/>

Sample Elder Introduction

Elder Interview Questions:

Our Water

Hello and welcome. I am _____, a ____ (grade) student at the _____ (school). Today is _____ and we've invited _____ (*Elder name*) to contribute to the cache of Elder interviews we are collecting for _____.

This interview will be recorded using an _____ (examples: Apple iPad Air 2 and a Zoom H4n audio recorder recording at 48Ghz/16Bit.)

Could you please introduce yourself?

I'm _____ and I was born in 19__ in _____. My father was _____ and my mother was _____.
