

**TRADITIONAL FOODS AND RECIPES: BEACH ZONATION 9-12 (LESSON 1,2,3)**

**Elder Quote/Belief:** “This is my way of relaxing it’s my own world, on the beach. This is the only thing that makes sense. As old as I am, I still get excited when I start finding urriitaqs” Vera Meganeck<sup>1</sup>,

**Grade Level:** 9-12

**Overview:** The intertidal beach zone has provided fresh food for many coastal people throughout Chugach Region for many centuries.

**Standards:**

<i>AK Cultural:</i>	<i>AK Content Science:</i>	<i>CRCC:</i>
<b>C1</b> Perform subsistence activities in ways that are appropriate to local cultural traditions;	<b>F3</b> Develop an understanding of the importance of recording and validating cultural knowledge.	<b>SS2</b> Students should be able to prepare subsistence foods

**Lesson Goal:** Students will learn about what beach zonation and the various types of traditional food are provided within each zone.

**Lesson Objective(s):** Students will:

- Begin a book of traditional foods and recipes based on the Elders traditional ecological knowledge (TEK).
- Describe the layers of beach zonation and what can be found in each zone
- Collect samples of foods found in different areas of the beach
- Illustrate the beach zonation of the local beach in their area
- Apply the correct Sugt’stun Dialects or Eyak language words
- Create a dish using the recipe by Pauline Demas, with what was found in each level of the beach zones.

**Vocabulary Words:**

Sugt’stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Beach		Quta	
Tide goes out		Kenlluni	
Chitons		Urriitat	
Limpet		Melungqucaq	
Snails		Iput	
Seaweed (edible) Bulbous Seaweed		Caqllqaq Iituliq	

(Bulb Kelp Seaweed (broad ribbon) Seaweed (red ribbon)			Tiishiyah IinLxAwah
Rockweed		Ellquaq	
Sea Lettuce		Kapuustaruaq	
Blue Mussels		Amyak	Tsiin
Sea Urchin Sea Urchin Egg		Uutuk	IiLk'a'd
Starfish		Agyaruaq	
Barnacle		Quaq	Ts'uux
Sea Cucumber		Sanaqusak maybe Kaugyaq	

**Materials/Resources Needed:**

Elder/Recognized Expert

Handout: Beach Zonation

Camera

Clipboards

Drawing paper, Pencils

Ziploc baggies

Dehydrator

Hot plate

Cooking pot

Cooked rice, Soy sauce, Seal Oil/Butter/olive oil

Medium to large bowl, depending how many students there are and how much rice you have

Cutting board

Toothpicks

Paper cups/bowls, Eating utensils

Metal butter knives (or a utensil for prying chitons and limpets off the rocks)

**Books:**

*Traditional Food Guide*

*Looking Back on Subsistence*

*Imam Cimiucia Our Changing Sea*

*COMMON EDIBLE Seaweeds in the Gulf of Alaska*

*Alaska's Seashore Creatures, A Guide to Selected Marine Invertebrates, Carmen M. Field*

*Blueberry Book-student publication*

**Websites:**

<http://jukebox.uaf.edu/NanPG/prtgrham/html/EIMc2.html> (Elenore McMullen interview)  
<https://www.youtube.com/watch?v=in-7B93TQTo> , *Bidarkies; Subsistence Intertidal Food*  
<http://www.bing.com/videos/search?q=preparing+Sea+Urchin&&view=detail&mid=360B2EED55D6CAE4B501360B2EED55D6CAE4B501&FORM=VRDGAR> , preparing Sea Urchin  
<https://www.youtube.com/watch?v=i7SanTJdwCk> , how to clean a sea cucumber  
<https://www.youtube.com/watch?v=f0DIjJ6CKIw> , how to clean chitons and slice them  
<http://www.eyakpeople.com/dictionary>

**Teacher Preparation:**

- Review Sugt'stun/Eyak vocabulary words
- Review resource books, websites and YouTube video on Bidarkies; Subsistence Intertidal Food Harvesting in Alaska, Project Jukebox (Elenore McMullen, Port Graham, tape 2 section 2)
- Research local area to prepare for the beach walk, such as; checking any **PSP** warning before gathering mussels by calling Alaska Department of Fish and Game if there are closed areas due to PSP, check the tide book to plan for the field trip during the lowest tide for ideal observation of the various levels of the beach zonation.
- Contact and invite an Elder/Recognized Expert from local area to classroom
- Prepare students for field trip
- Provide a permission slip for each student
- Locate camera, iPad, smartphone to bring on field trip for documentation

**Opening:** The quote, “When the tide is out, the beach is set.” defines the Chugach Regions coastal people. We will be learning about what our ancestors traditional ecological knowledge (TEK) knew all along, that the low tide beach areas provided many food resources to help sustain their existence. You will learn what beach zonation is and the various types of traditional food that are provided within each zone. We will be going on a beach walk to investigate and document what we find that was a traditional food source. We hopefully will find some goodies that we can prepare as a traditional meal upon return to share.

**Activities:****Class I:**

1. Have students listen to the Sugt'stun/PWS/ Eyak dialect of the selected vocabulary words.
2. Introduce Elder/Recognized Expert to the class and share his/her knowledge of gathering from the local beach.
3. Document favorite recipe guest shared
4. Ask students if they have any question for the invited guest. Document question and response
5. Let students view the YouTube; Bidarkies; Subsistence Intertidal Food Harvesting in Alaska and listen to Elenore McMullen, on Project Jukebox site tape 2 section2.
6. Require students to take notes while viewing and listening to the above sites.
7. Ask if anyone has anything they would like to share about what they saw and heard.
8. Let students know there will be a field trip for the next class and be prepared by; wearing warm clothing, boots, hat and gloves if needed for cooler weather.

9. Ask students to start to compile their information into one file that will create a "Traditional Foods Recipe Book."
10. Allow students time to research about beach zonation, take notes of what is found and apply Sugt'stun dialects or Eyak words used for the creatures found in the zones.
11. Place students into groups, explaining they will collect foods (snails, seaweed, chitons, and limpets), from those zones, during the beach walk.
12. Tell students to wear the appropriate clothing.
13. Go over how to be respectful that students listed when walking on the beach.

## **Class II**

1. Collect all permission slips
2. A copy of beach zonation for each student, information and diagram for students to add to the clipboard
3. Give each student a clipboard with several sheets of drawing paper, ask students to take a pencil along to illustrate where they found the ingredients for the rice salad
4. Give each group a Ziploc bag
5. Take a camera along to take pictures as students are walking on the beach collecting food and creating their illustration of their assigned zones and what was found.
6. Ask students if they would like to bring in; soy sauce, rice, butter/olive oil or better yet seal oil for the next class, document who is going to bring what on the whiteboard
7. It is time to take students on the field trip, as the class walks review manners about how to and leave the beach.
8. Allow enough time to walk the beach, illustrate, and collect various food items to bring back to the classroom.
9. Have students rinse off in the Sea water; seaweed/kelp, limpets, chitons, mussels and snails.
10. After returning to the classroom place Kelp/seaweed in the dehydrator to dry to use for the next class.
11. Store (refrigerator), the other food items found for the next class

## **Class III**

1. Put Ipuk salad recipe on whiteboard, have students write this down
2. Use hot plate, place cold water into pot adding some salt, bring to a boil add; snails, limpets, mussels, remove once mussels have opened (save water), bring water back to a boil adding chitons, cook until black skin loosens (about five to eight minutes), remove chitons putting into cold water, remove loose black skin, the eight plates, if there is orange gonads, these can be eaten or added to the ipuk salad, rinse and chop them up, add to mixing bowl.
3. Remove the muscular foot (this is the part that attaches to a rock) from the limpet, chop and add to the mixing bowl.
4. To take the meat out of the snails, use a toothpick to pull them out of the shell and remove the lid (operculum), adding this to the mixing bowl.
5. Clean mussels by removing the filaments (byssus) rinse and add to the mixing bowl.
6. Add rice to the mixing bowl, mix all ingredients, soy sauce to taste, add oil and crumble dried kelp/seaweed on top of rice salad.
7. Have students sample the recipe.

#### **Class IV**

1. Allow time for the students to research the listed Sugt'stun/Eyak vocabulary words, illustrate and label the anatomy of what students found on the beach.
2. Have students research about PSP and what sea creatures it impacts and what can happen when humans eat them.
3. Write out the following questions to place on the whiteboard that need to be included in student presentations:
  - What do they eat?
  - How do they provide food for one another?
  - Do you think they provide nutrition? If so what kind?
  - Did you like eating them? Which one?
4. Have students present their PowerPoints to class.
5. Have the students compile their findings into one document that will become a class project of traditional foods and recipes book. This will be an on-going activity throughout the unit so they need to save for later.

#### **Assessment:**

- Students are able to correctly use Sugt'stun dialect or Eyak words when referring to the beach zonation.
- Students are able to correctly identify the sea creatures and prepare it for the recipe in this lesson
- Students researched and illustrated what food source was found on the beach at each zone.
- Student made a PowerPoint presentation which included all the documentation of notes, illustrations and research.



*“All my life, I depended on that shoreline. I would go down to the beach to collect anything to make chowder for that night’s dinner. If we needed food I knew where to get it. The beach provided for us.”*

- Elenore McMullen, Elder and past chief, Port Graham, 2004<sup>ii</sup>

Photo from Fireweed Cillqaq publication

# **Ipuk Salad**

By Pauline Demas

Recipes Gathered By Nanwalek Students Sea Week 2007, Nanwalek School

**RICE** cooked

**SHELLED** ipuk

Seaweed

Minced bidarkies

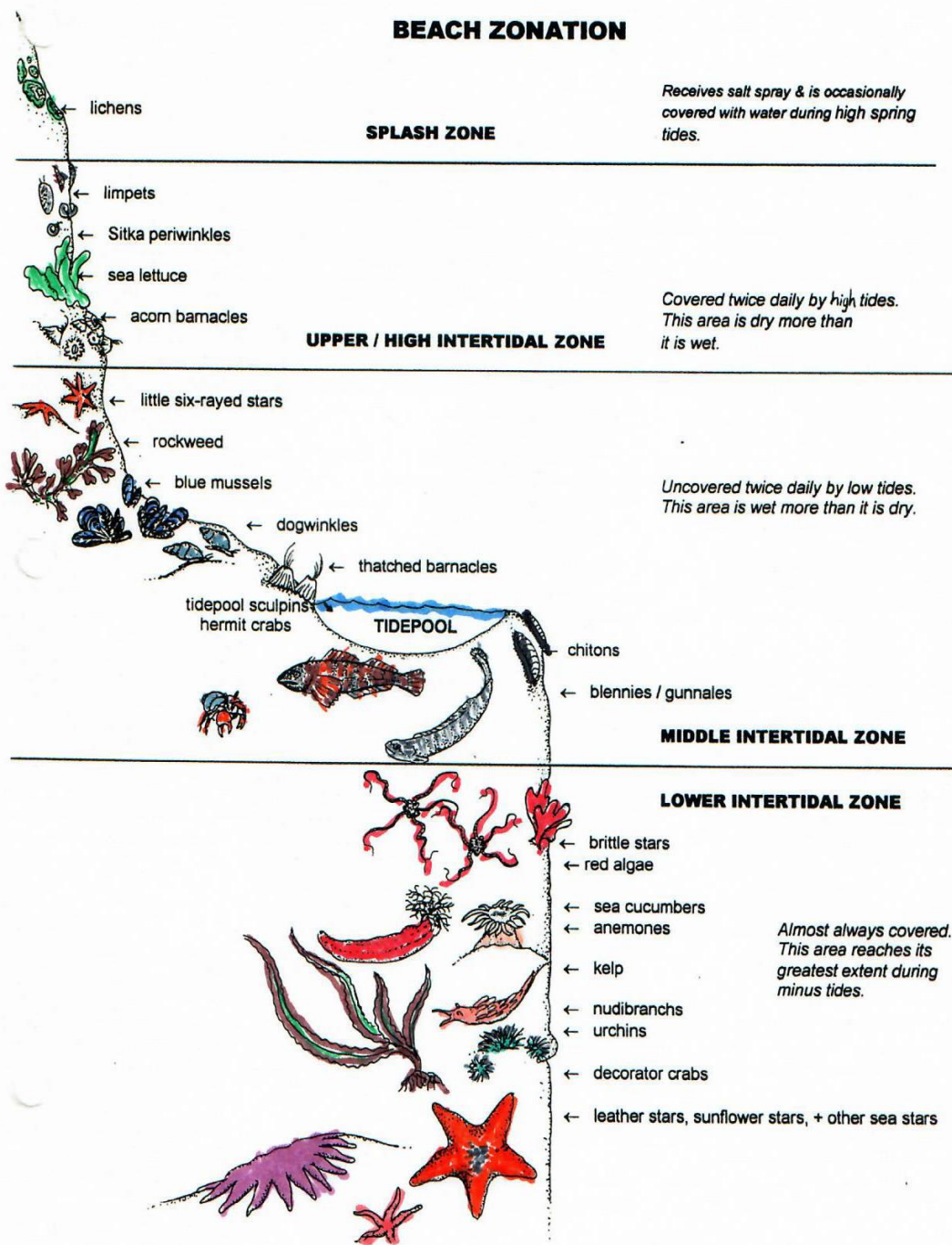
Soy Sauce

\*Seal Oil to your own taste

Minced Garlic to your taste

\*Seal oil can be replaced with olive oil or butter.

## BEACH ZONATION



Courtesy of Catie Bursch and Kachemak Bay Reserves and coloring by Nancy Yeaton



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<sup>i</sup> Meganeck, Vera, YouTube: *Bidarkies; Subsistence Intertidal Food Harvesting in Alaska*



Vera Meganeck, born in Port Graham, Alaska. Vera's parents were Larry and Polly Meganeck. She had four children, she worked in the cannery in the summer and she relied on the resources from the land and sea. Often Vera would row out to catch fresh fish for her meals.

<sup>ii</sup> "Living from the Sea." *Imam Cimiucia Our Changing Sea*. By Anne K. Salomon. Fairbanks, AK: Alaska Sea Grant College Program, 2011. 2. Print