

**ELA Common Core Content Standards:** Reading Standards for Literature 1, 2, 3, 4, 5, 6 Reading Standards: Foundational Skills 1, 2 Writing Standards 1, 2 Speaking and Listening Standards 1, 2

Estimated duration:

2 sessions, 1 hour each

**Goal:** Students will learn about the importance of water and water quality to the survival of many species, including those people who depend on these aquatic species and water quality for sustenance and traditional ceremonies. They will write a letter to their Senators and Representatives to tell them how important healthy rivers are.

**Teacher Background:** Dams block the natural functions of the river, impoverish its spawning gravel for miles downstream, and reduce the impact of natural high-water events that in the past scoured out and reduced fish parasites and algae and kept riparian areas healthy.

Fish native to this area need cold, clean water with lots of oxygen in it, but the Iron Gate, Copco I, Copco II, and J.C. Boyle dams heat up water in the Klamath River to lethal temperatures during the hottest parts of the year and deplete oxygen supplies fish need to survive. Overheated and oxygen deficient waters provide prime conditions for toxic algae to bloom in the reservoirs behind the dams at levels now thousands of times higher than what the World Health Organization says is safe to swim in or drink<sup>1</sup>. Some of these algae can cause severe liver damage and other serious health problems in both humans and fish.

Theme/Big Idea:	We need to speak for ourselves and the voiceless
Big Questions:	Why is water so important to people, plants, and animals?
Vocabulary:	culture, community, survival, contaminated, produce, riparian

#### Materials:

Vocabulary Black Line Master (included) Traditional and Contemporary Dams information (included)

<sup>&</sup>lt;sup>1</sup> For more information, see the World Health Organization Guidelines for safe recreational water environments: <u>http://www.who.int/water\_sanitation\_health/bathing/srwe1execsum/en/index7.html</u> [retrieved 11/30/2015]

Water Use picture cards (32 included) Dam pictures - traditional and contemporary (included) Fish kill pictures (included) Large poster board or white board (not included) Third Grade worksheets (3 included)

**Preparation:** Cut out 'water use' picture cards individually. Have white board or poster paper ready for use. Write the following sentence on the white board: *fish do note like blue-greenn algae*? Look up the addresses of the federal, state and local representatives for your district.

**Discussion Circle:** Tell students that today we are going to talk about the importance of water, and why it is so crucial for the survival of all living things. Tell children that if they agree that this is important say, *"ishaha*<sup>2</sup>" (then students will call out "ISH-ah-ha," which means WATER in Karuk!).

**Daily Language Practice:** Have children correct the following sentence: *fish do note like blue-greenn algae?* 

**Developing Vocabulary:** Display the **Vocabulary Black Line Master** (included) on the document reader. Teacher/Student reads the first sentence aloud. Point to the underlined word and have students read it aloud with you. Ask what they think it means based on context clues. Clarify definition. Follow a similar procedure for remaining sentences.

You may use these vocabulary definitions if you like, and you might tell students that they were all taken from the online Merriam-Webster Learner's Dictionary except for the last word, which is a difficult but important word, and not one that children generally use.

<u>culture</u> - beliefs, customs, arts, etc., of a particular society, group, place, or time <u>community</u> - group of people who live in the same area (such as a city, town, or neighborhood); group of people who have the same interests, religion, race, etc. <u>survival</u> - state or fact of continuing to live or exist especially in spite of difficult conditions <u>contaminated</u> - to make (something) dangerous, dirty, or impure by adding something harmful or undesirable to it

<u>diverted</u> - to change the direction or use of (something)

<u>produce</u> - to make or create (something) by machines or by a natural process

*riparian* - of or relating to wetlands adjacent to rivers and streams.

<sup>&</sup>lt;sup>2</sup> *ishaha* • N • water; juice Variant: *isha*. It means literally: 'that which is drunk'. Pronounced something like: ISH-ah-ha. Soundfile located at: <u>http://linguistics.berkeley.edu/~karuk/audio/MP3/ishaha\_VS.MP3</u>

**Building Background:** Explain to students that all plants, animals, and people depend on water for their survival. Plants need water to grow; the animals like rabbit, deer, bird, and elk need water to drink and plants to survive, and people drink water, often eat animal meat, and use plants to eat and make medicine.

In order for plants, animals, fish and people to survive they need to have clean, uncontaminated water. Ask students what they think might happen if fish live in water that is contaminated? (They might get sick.)

What do you think would happen if animals and people eat the fish that live in contaminated water? (They might get sick.)

Ask students to name things that would contaminate the water? (Chemicals, gas, oil, dirty diapers, trash, sewer, fertilizer, etc.)

Notice how all these things (plants, fish, animals, & people) are dependent on the water. What do you think might happen if we didn't have clean water to drink and use? (Plants might die, fish might die, animals might die, people might die, etc.)

**Categorize/Classify:** On a large piece of paper or the white board create 4 columns, and a heading labeled "water uses." Label each column: people, animals, fish, plants

Hold up the picture cards one at a time in random order and ask students what column each image should go in. For example, hold up the picture card "drink." Ask students, "Do people drink water?" Do plants drink water? Do animals drink water?" If they answer yes place the picture card, or write the word under each title that drinks water.

Possible water uses for people:

\*drink \*bathe \*wash clothes \*water garden, flowers & grass, \*put out fires \*cool off \* swim \*food \*survival \*make electricity \*wash dishes \*recreation \*beauty \*tranquility \*ceremony

#### Please remind students to never have electrical things near water!

Possible water uses for animals:

\*drink \*cool off \*survival \*bathe \*swim \*food

Possible water uses for fish:

\*swim \*survival \*spawn or reproduce \*breathe \*habitat, their home \*cool off \*food

Possible water uses for <u>plants</u>:

\*survival \*drink \*get nutrients/food \*habitat \*cool off

After you have finished placing the 'water use' picture cards in the appropriate categories, ask students to identify the same uses of water that people, animals, fish and plants share.

**Grammar Review:** Assign students **Action in a Sentence** worksheet. Remind children that an action part of a sentence tells what someone or something does. Display **Action Part of a Sentence** Black Line Master on document reader. Ask for a volunteer to read the first sentence. Ask what word in this sentence shows action. Ask students to draw a line to separate the naming part from the action part of the sentence. Then have them underline the action word. Repeat with the rest of the sentences.

Spelling: Assign students Long "O" Sound Worksheet (included)

**Preparing to Read:** Let students know that now we are going to talk about something that is sad. Sometimes the truth is hard to say and share, but it's important to talk about the things that change the land and the people. When we learn and talk about bad things that have happened, we can discover ways to prevent them from happening in the future. Show students a picture of the 2002 fish kill (included). Ask students if they know where and when this picture was taken (lower Klamath River). Ask if they know why so many fish died? (Not enough water in the river caused high temperatures, which created disease in the fish.)

Have students raise their hands if they know what a "dam" is? Now ask them what they think the purpose of a "dam" is?

Read Aloud: the information on Traditional and Contemporary Dams.

**Strategy Focus: Compare/Contrast:** Compare and contrast traditional and contemporary dams using a Venn diagram.



**Strategy Focus – Evaluate:** Pass the special item around the circle, and let students talk about how they feel about the dams and the effect they have on the river, the fish, animals, and people. After everyone has a turn talking share your feelings as well, then ask them how many of them like to eat fish. Ask students "Did you know that Indians, and other people that live above the Klamath River dams can't eat salmon any more unless they buy it from a store or restaurant, or trade for it? Why do you think that is? (There are no fish ladders on the dams, and fish can't go past the dam.)

Explain to students that although today's topic is very sad and upsetting, there are things that can be done to help the salmon and the river. There are several groups of people that have been working very hard to make sure there is enough water for salmon to be healthy. These groups of people have persuaded Klamath River dam owners to agree to take the dams down so the fish can swim all the way back up the river like they used to - if they can convince congress to agree. We can help by writing letters to our congressmen and other representatives telling them how important it is to have healthy rivers and thanking them for the work they are doing.

**Oral Traditions:** The following simple sentences can be used to describe the Klamath River, called Ishkêesh in the Karuk language. On UC Berkeley's online Karuk Dictionary website, these sentence sound files can be downloaded and played. The recordings of the Karuk Elder and one of the last fluent speakers, Vina Smith, can be heard, as well as other fluent speakers.

*hûut kích peeshkéesh?* How's the river?

yáv umúsahiti pa'ishkéesh. The river looks good.

*axvíthirar peeshkéesh.* The river is dirty.

*peeshkêesh tu'uh.* The river is rising.

*peeshkêesh tupiváxrah.* The river is drying up. **Writing Assignment:** Students write a letter to their Senators and Representatives to tell them how important it is to have healthy rivers and asking them to help.

Assign students *River* Color Worksheet. Teacher displays the worksheet on the document reader and reads the directions aloud. Students draw the pictures to complete worksheet on their own.

#### **Optional:**

**Art activity**: Have students think about what the riparian environment should look like to achieve a healthy place for plants, animals and people to live. Then have them use paper, crayons, pencils or paint to "free-hand" draw their idea of a healthy riparian environment.

**Reading activity**: Read <u>The Fishing Trip</u>, written and produced by Lorraine Adams and Lynn Bruvold – Eaglecrest Books (borrow a set of 6 from Karuk Tribal Libraries). Ask a representative from a Tribe, an environmental group or health organization come to talk to the students about the work they do.

# Vocabulary

- 1. How can we learn about our native <u>culture</u>?
- 2. I know a lot of people in my community.
- 3. We need clean water for <u>survival</u>.
- 4. <u>Contaminated</u> water can make you sick.
- 5. The farmers <u>diverted</u> the river to water their crops.
- 6. Clouds produce rain.
- 7. A healthy <u>riparian</u> environment provides shelter and food for many animals and people.

Name

## Action Part of a Sentence

Draw a line to separate the naming part of the sentence from the action part of the sentence, and then underline the action word.

- 1. Fish live in the river.
- 2. We eat fish.
- 3. I will set the net.
- 4. The net catches a lot of fish.
- 5. My dad grabbed the fish out of the net.
- 6. My mom will cook the fish.

## Name\_

Complete each sentence using words from the word bank.

## Long 'O' Spelling

	toe	old	grow	hold	willow		
	load	low	boat	snow	most		
1.	If the river gets too, the water will get warm.						
2.	When the melts it turns into water.						
3.	We catch of our fish with a gill net.						
4.	Tie your up, or it will float away.						
5.	l will neve	r be too		to fish.			
6.	your net into the front of the boat.						
7.	Do not drop the anchor on your						
8.	onto the fish by its gills so it won't get away.						
9.	river.		trees		by the		

## Name\_\_\_\_\_ *River* Color Worksheet



- 1. Draw people swimming in the river.
- 2. Draw fish in the river.
- 3. Draw Willow trees by the river.

### **Traditional and Contemporary Dams**

Did you know that there are different kinds of dams? The Yurok, Hupa and Karuk tribes would build a fish dam across the river yearly, so that they could catch enough salmon for all the people in the villages to eat through the winter (*Hold up or show picture of the Native fish dam*).

It took 10 days to build the fish dam. People then fished for 10 days; after the 10 days they would take the fish dam down. As they were building the fish dam they would leave openings in it so that some of the salmon could still pass through to spawn. They built it this way to make sure that there would always be enough salmon for the people to eat and to insure the salmon's survival.

When you look at a picture of the fish dam, can you see that the river can still pass through the fish dam? Can you see the openings in the fish dam? Do you think that the salmon can pass through the fish dam to spawn? Do you think it slows down the river flow? Who thinks the fish dam is good for the people and the salmon?

The other kind of dam is very high, it goes clear across the river, and doesn't have any openings for the salmon to pass through so they can go up the river to spawn. It also doesn't allow very much water to flow through; this can make the river get too low and warm. If the river gets too low and warm, it causes a kind of plant to grow called blue-green algae. The blue-green algae use a lot of the oxygen in the river. When this happens, the salmon don't have enough oxygen to breathe. This is not good for the salmon or animals that depend on the salmon for food (like people).

Look at the picture of the dam and how big it is. Do you think that a salmon can get over or through the dam? Who can tell me what will happen if the salmon can't get back upstream to spawn, which means to lay their eggs? What do you think might happen if the river flow gets to low and warm? Will the fish get sick and die if blue-green algae grow in the river? Why do you think it is called blue-green algae? What happens to the salmon if the river doesn't have enough oxygen? Who thinks this kind of dam is good for the salmon or the people?

Ask students if they know why there's not a lot of water in the river. Show them a picture of the Trinity Dam. Explain that 75-90% of the water from the Trinity River is diverted to provide water for farmers, and to produce electricity. Show them a picture of the water being pumped away through tunnels.

Tell students that the Trinity River joins the Klamath River at Weitchpec, and there are dams on both rivers. Show them a picture of Copco Dam. Ask them what they see. Notice the green parts on the dam; ask if they know what it is (blue-green algae, which is toxic/poisonous to fish, people, plants and animals.) Show them the picture of Iron Gate Dam on the Klamath River. Call attention to the blue-green algae on the edge of the river in the Keno Dam photograph. This moss is not only poisonous to people and animals, it uses up a lot of the oxygen in the water, and fish can't breathe.



drinking



washing clothes



Watering the plants



watering grass



cool off



watering plants



putting out fires



survival



bathing



food



swimming







cool off



swimming



survival



food

Grade 3, Lesson 1





bathing





food



supply nutrients/food



cool off

#### Grade 3, Lesson 1

#### Water Rights and Dams



drinking









reproduce



food

habitat



beauty

swimming





cool off



recreation



put out fires

#### Grade 3, Lesson 1



ceremony





transportation

tranquility



beauty



recreation



traditional fish dam



traditional fish dam



Iron Gate Dam



Keno Dam



water diversion pipes at J.C. Boyle Dam



Klamath River



Keno Dam



blue-green algae makes the river sick (and those who use it)



2002 Fish Kill



fish can't breath in blue-green algae

