



## Curriculum for Grades 6-12

### About

Bristol Bay, Alaska is the *last* fully-intact wild salmon system left on Earth. It is also home to the worlds' last functioning salmon culture. The Yupik, Dena'ina, and Alutiiq Peoples have thrived here since time immemorial because of Bristol Bay's abundance of wild salmon. Today, half the world's supply of sockeye salmon comes from Bristol Bay. It supports more than 14,000 American jobs a year and contributes over 1.5 billion dollars to our economy – year after year. In the last seven years, Bristol Bay's wild, sustainable sockeye salmon runs have yielded over 450 million sockeye salmon returning to their pristine birth-houses. 2020 saw over 50 million salmon return again to sustain new life for themselves, us, and 137 other species. 2022 beat that record by far with about 75 million salmon returning to their native spawning grounds!

If built, the proposed Pebble Mine would be one of the world's largest open-pit gold and copper mines - and will be located directly in the headwaters of Bristol Bay's primary salmon watersheds. Businesses and consumers who depend on access to salmon would be jeopardized.

*The Wild* director, Mark Titus, grew up fishing for salmon. He worked in the Bristol Bay salmon industry for years and has many close friends and family who still fish in the Bay. To him, this issue is personal.

The documentary film, *The Wild*, and the accompanying curriculum provide an exceptional opportunity for you and your students to engage in a real-life struggle to save the last fully-intact wild salmon system left on Earth. The film introduces students to stunning visuals of the pristine wilderness that is the Bristol Bay watershed and to those who survive and thrive on the bounty of this salmon run. They also learn of the very real and immediate threat to this unique place, delving deeply into the issues and perspectives of a variety of stakeholders. By taking action, students can play a vital role in preserving this rare and valuable resource, as well as the lives of those who depend on the return of this healthy salmon run.

**Update:** On January 31, 2023, the United States Environmental Protection Agency (EPA) delivered the proposed Pebble Mine a final death blow – issuing a 404(c) Clean Water Act veto to end the threat of the Pebble Mine in Bristol Bay. This action protects the Bristol Bay fishery, the last fully intact wild salmon fishery in the U.S., from development and damage by mining deposits and spills.

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**Time frame:** One class period (about 60 minutes)

**Objectives:**

- 1) To have students reflect on a place where they feel a deep connection.
- 2) To introduce students to key people from the film *The Wild* who have a stake in saving Bristol Bay and its watershed.

### Lesson 2: Saving Bristol Bay – understanding different perspectives

**Time frame:** One class period (about 60 minutes)

**Objectives:**

- 1) To gain a broader understanding of the complex issues around saving Bristol Bay and the Pebble Mine by watching the second half of the documentary film, *The Wild*.
- 2) To gain deeper understanding of the issues various stakeholders faced in the film by reflecting on quotes, discussion questions, and writing prompts.

### Lesson 3: Analyzing Complex Questions and Issues

**Time frame:** One class period (about 60 minutes)

**Objectives:**

- 1) To gain a broader understanding of the issues around saving Bristol Bay and the Pebble Mine by grappling with complex discussion questions.
- 2) To see the issues brought forth in the film through the eyes of fellow classmates.

### Lesson 4: The History of Bristol Bay and the Pebble Mine

**Time frame:** One to two class periods (about 60-120 minutes)

**Objectives:**

- 1) To understand the historical background of the Bristol Bay watershed.
- 2) To create a graphic representation of the timeline of events and decisions that have affected the permitting process of the Pebble Mine.
- 3) For students to rank the decisions and events that have affected the protection of the Bristol Bay watershed as neutral, positive, or negative.

### Lesson 5: The Issues from Stakeholder Perspectives

**Time frame:** One class period (about 60 minutes)

**Objectives:**

- 1) To understand the complex issues in the movement to protect the Bristol Bay watershed from the perspective of various stakeholders.
- 2) To take on the perspective of a particular stakeholder group in preparation for a

panel discussion.

## **Lesson 6: Stakeholder Presentations and Discussion**

**Time frame:** One class period (about 60 minutes)

**Objectives:**

- 1) To apply the information gained about the movement to protect the Bristol Bay watershed in a panel discussion that involves various stakeholder groups involved in the issue.
- 2) To be able to discuss the complex issues involved in the protection of the Bristol Bay watershed with classmates in a manner that is fact-based and respectful.

## **Lesson 7: Taking Action – How do you save what you love?**

**Time frame:** Two class periods (about 120 minutes)

**Objectives:**

- 1) To have students reflect again on a place or places where they feel a deep connection.
- 2) To have students take action on ways they can save a place or places where they feel a deep connection.

# Getting Started

## Documentary films

1) *The Wild* - It is recommended that you preview the film prior to using it in your classroom. It is 64 minutes in length. To access the film for free, click on this link:  
<https://www.youtube.com/watch?v=lq2i9oxWqRk&feature=youtu.be>

2) *The Breach* is director Mark Titus' award-winning 2014 documentary film that provides additional context before viewing *The Wild*. It focuses on the loss of salmon in Alaska and the convoluted pressures from various sources that threaten the future of wild salmon. You may chose to show this film to your students prior to beginning this unit. It is 90 minutes in length.

Teachers can access the film for free here:  
<https://www.youtube.com/watch?v=nycAaXjOExU&feature=youtu.be>

## Prior knowledge

Students should have some background about watersheds prior to beginning this unit. These resources can be helpful in providing some foundational knowledge on watersheds:

1) Short and simple video on "What is a Watershed?"  
<https://vimeo.com/94478212>

2) More comprehensive reading from "How Stuff Works". Read Pages 1-4  
<https://science.howstuffworks.com/environmental/conservation/issues/watershed.htm>

3) Locate and view the watershed in your area:  
[https://water.usgs.gov/wsc/map\\_index.html](https://water.usgs.gov/wsc/map_index.html)

# Lesson 1 – *The Wild*: how do you save what you love?

## Objectives

- 1) To have students reflect on a place where they feel a deep connection.
- 2) To introduce students to key people from the film *The Wild* who have a stake in saving Bristol Bay and its watershed.

## Time Frame

One class period (about 60 minutes)

## What You Need

### For the class:

- 1 link to the documentary *The Wild*. It is 64 minutes in length. To access the film for free, click on this link: <https://www.youtube.com/watch?v=lq2i9oxWqRk&feature=youtu.be>

### For each group of 4 students:

- 1 set of 4 quotes from the document, “Featured Speakers From the Film, *The Wild*” found at this link:  
[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

### For each student:

- Science notebook
- 1 quote from a Featured Speaker from the film

**Note:** *There are 10 Featured Speakers total. Divide the quotes from the speakers among your students so that each speaker is represented at least once.*

## Preparation

### The Day Before Class

1. Conduct a trial run for streaming *The Wild* to your students. Make sure the video can be seen and heard by all students in your class. It is 64 minutes in length. To access the film for free, click on this link: <https://www.youtube.com/watch?v=lq2i9oxWqRk&feature=youtu.be>
2. Create a way to present these guiding questions to the class as they begin the unit:
  - Think of a natural place that you feel connected to.
  - Have you been there recently?
  - Has it changed since you first made your connection? If so, how? If not, why not?
  - What is the future for this place you are connected to?

3. Post this quote where it can be seen by the class and remain for the entire unit:  
“Everything is connected by water. Sea to cloud → cloud to rain → rain to river → river to sea. When you touch water in one place, you’re touching it everywhere.”

4. Make copies of “Featured Speakers from the film, *The Wild*” found at this link:  
[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing).

There are 10 featured speakers. Divide the 10 speakers between your students so each student has one quote. Divide the quotes from the speakers among your students so that each speaker is represented at least once. The quotes can be found at this link:  
[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

Students will work in groups to share information about key people in the film to instill curiosity about what’s to come. Quotes from the film will go along with the name and occupation. These are the Featured Speakers:

- Tom Colicchio – chef
- Adrian Grenier – actor
- Zaria Forman - artist
- David Chambers - scientist
- Rick Halford - former Alaska state Senator, 1982-2002
- Alannah Hurley - Yupik subsistence fisherwoman
- Steve Kurian – salmon boat captain and drift netter
- Avery McCammon - student
- Tom Collier – CEO, Pebble Limited Partnership
- John Shivley – Chairman of the Board, Pebble Limited Partnership

## Begin the Lesson

1. Post the guiding questions for your students to answer. Have them think for a bit, then write their answers in their notebooks.

- Think of a natural place that you feel connected to.
- Have you been there recently?
- Has it changed since you first made your connection? If so, how? If not, why not?
- What is the future for this place you are connected to?

2. After most of the class has finished writing, have them take turns sharing anything they feel comfortable telling their group. Give students a few minutes to add any notes to their answers after hearing perspectives of others. As time permits, allow any students to share some of their answers with the class.

3. Reveal the quote about water:

“Everything is connected by water. Sea to cloud → cloud to rain → rain to river → river to sea. When you touch water in one place, you’re touching it everywhere.”

In their notebooks, ask students to copy this quote, then have them write any impressions or thoughts they have. Ask if anyone would like to share their thoughts with the class. Take a few comments. Students will have the opportunity to reflect on this quote throughout the unit.

## **Meet the Featured Speakers from *The Wild***

1. Explain that they are now going to ‘meet’ ten people who were interviewed in the documentary film, *The Wild*. Each of these people are concerned about a mine being built upstream from the last wild salmon run in the world in Bristol Bay, Alaska. Ask if any students have heard of the Pebble Mine. Take a show of hands, but do not discuss the issue at this time.
2. Each table group will receive quotes from a different person interviewed in the film. They will divide the quotes up so each student has at least one.
3. Once students have read the quotes, they will underline or highlight what they find interesting and want to share with the rest of the group. They also need to answer the question, “If I met this person, what would I ask them?”
4. At their tables, students will share what they think is the most important or interesting part about this person and their quote, and what questions they would want to ask if they could meet this person.
5. Allow 5 minutes or so for table discussions, then hold a class discussion. Write the name of each featured speaker on the board and have your class share what they thought was the most important or interesting thing they learned from reading the quote. Ask for questions your students would ask of the Featured Speakers if they could meet them.
6. Collect the quotes from the students to be used in Lesson 2.

## **Show Part I of the Documentary, *The Wild***

1. Show the first part of the documentary, *The Wild*. You may want to have students jot down questions while they watch the film. Depending on your class schedule, a recommended stop time is at 22:42 where the director says, “Somewhere inside me, a small spark of strength is starting to flicker just by being around these salmon people. Their love for these beings feeds my own”.
2. While the film is showing, record the comments students made about each Featured Speaker to use in Lessons 2 and 5.
3. Spend a few minutes to debrief the first part of the film. Ask students to jot down their first impressions in their notebooks. What impacted them the most? What do they want to know now?

4. Ask if any Featured Speakers stand out at this point.

**Homework:** Have students describe how one of the Featured Speakers is connected to a place. What is the connection? Would you feel the same way? Why or why not?



# Lesson 2 – Saving Bristol Bay: understanding different perspectives

## Objectives

- 1) To gain a broader understanding of the complex issues around saving Bristol Bay and the Pebble Mine by watching the second half of the documentary film, *The Wild*.
- 2) To gain deeper understanding of the issues various stakeholders faced in the film by reflecting on quotes, discussion questions, and writing prompts.

## Time Frame

One class period (about 60 minutes)

## What You Need

### For the class:

- 1 link to the documentary *The Wild*; It is 64 minutes in length. To access the film for free, click on this link: <https://www.youtube.com/watch?v=lq2i9oxWqRk&feature=youtu.be>

### For each group of 4 students:

- 1 set of 4 quotes from the document, “Featured Speakers From the Film, *The Wild*” from Session 1. It can be accessed at this link: [https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

### For each student:

- Science notebook
- 1 quote from a Featured Speaker from the film; students use the same speaker and quote they used in Lesson 1

## Preparation

1. Have the quotes from the Featured Speakers ready to hand out to the students. They will use the same person/quote they used in Lesson 1.
2. Decide how you will capture additional student comments about the Featured Speakers in a digital format that can be projected to the class.

## **Begin the Lesson**

### **Debrief the homework**

1. Ask students to review their homework. If they have not done so already, have them put it in their notebook. At their tables, have students describe how one of the Featured Speakers is connected to a place. What is the connection? Would you feel the same way as the speaker? Why or why not?
2. Ask if any students would like to share comments from their table discussions.
3. Have students go back to their notes from Lesson 1 where they answered these questions:
  - Think of a natural place that you feel connected to.
  - Have you been there recently?
  - Has it changed since you first made your connection? If so, how? If not, why not?
  - What is the future for this place you are connected to?

Allow them to add any more thoughts to their answers.

### **Watch Part II of the film *The Wild***

Watch Part II of the film from 22:42 to end. (37 more minutes). Allow students to have the film paused if they want to jot down notes.

### **Debrief the film**

1. Have students write their thoughts about the film in their notebooks. Ask for any strong impressions. Which stakeholders in the film impressed them the most and why?
2. The director, Mark Titus, mentions that one of the first things he discovered in his recovery from alcohol addiction is that the disease is fed by isolation. He says there is an antidote – community. Have students reflect on how Mark’s discovery might influence those who try to save a place they love. Have them jot some ideas in their notebooks, then share any observations with their table group. After allowing for discussion at their tables, ask if anyone wants to share some of the discussion from their group.
3. Have students who read the same Featured Speaker quote meet in small groups. Have them discuss that person’s perspective in the film. Ensure that each student in the group gets to speak.
  - How do they feel about that person now?
  - What questions would they ask them today?After their group discussions, have students write their thoughts in their notebooks.
4. Project the digital list of the Featured Speakers from Lesson 1. Have students share any additional information they want to add to the list.

5. Collect the quotes from the Featured Speakers to use in Lesson 5.

# Lesson 3 – Analyzing Complex Questions and Issues

## Objectives

- 1) To gain a broader understanding of the issues around saving Bristol Bay and the Pebble Mine by grappling with complex discussion questions.
- 2) To see the issues brought forth in the film through the eyes of fellow classmates.

## Time Frame

One class period (about 60 minutes)

## What You Need

### For the class:

- a way to project a list of key issues that will be created by the class

### For each group of 4 students:

- 1 discussion question from the document, “Complex Questions and Issues” found at this link:  
[https://drive.google.com/file/d/1mgBqu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBqu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

### For each student:

- Science notebook

## Preparation

1. Make one copy of “Complex Questions and Issues” found at this link:  
[https://drive.google.com/file/d/1mgBqu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBqu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

There are 7 questions. Feel free to add or delete questions as appropriate for your class.

2. Cut the questions into strips so one strip is assigned to each group of students.
3. Decide how you will create a student-generated list of the key issues in the movement to protect Bristol Bay so that the class can see it. This will be added to and revised as the unit goes on, so a digital option might be best.

## Begin the Lesson

### Reflecting on the connection to water

1. Point to the quote about water:

“Everything is connected by water. Sea to cloud → cloud to rain → rain to river → river to sea. When you touch water in one place, you’re touching it everywhere.”

2. Have students add any thoughts they have to this entry in their notebooks.

3. When most of the class is through writing, ask if anyone would like to share some additional thoughts on this quote.

## **Diving deeper with complex questions and issues**

1. Divide the class into groups based on the number of questions you will hand out. You may allow students to select the question they are most interested in addressing, or assign them to each group.

2. Have one student read the question aloud to their group, then have the students take time to write thorough answers to the question in their notebooks.

3. Once most of the class has finished, have the students share their answers with their group. Encourage them to add information to their notes as each student speaks. You may want to structure the discussion where each student gets to speak without comments from other students. It is a listening opportunity first. Once each student has shared their thoughts with the group, they may have a discussion at their table. Reinforce that all ideas are valid and thoughtful discourse is important.

4. Allow for lively discussion. Move around the room to take note of ideas and comments you may want to bring up in the class discussion. Continue to reinforce respectful discourse among students, and that all ideas are valid.

## **Class Discussion**

1. Ask each group to choose the two most important discussion items that came up at their table. You may have them then choose a presenter who will share this with the class, or allow the whole group to come to the front of the room and share their perspectives.

2. After the presentations, have the class help you create a list of the key issues they see in the movement to protect the Bristol Bay watershed. You may choose to have students access this document digitally, or record it in their notebooks.

# Lesson 4 – The History of Bristol Bay & the Pebble Mine

## Objectives

- 1) To understand the historical background of the Bristol Bay watershed.
- 2) To create a graphic representation of the timeline of events and decisions that have affected the permitting process of the Pebble Mine.
- 3) For students to rank the decisions and events that have affected the protection of the Bristol Bay watershed as neutral, positive, or negative.

## Time Frame

One – two class periods (about 60-120 minutes), depending on the abilities of your students to graphically represent the timeline events, the degree of student interest, and your goals for the lesson.

## What You Need

### For each student:

- 1 copy of “The History of Bristol Bay & the Pebble Mine”
- 1 copy of “Fact Sheet”
- 1 copy of “Pebble Mine Operation”.

The documents above are found at this link:

[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

- Science notebook

## Preparation

1. Make one copy of the three student handouts for each student. The documents are found at this link:  
[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)
2. Be able to display the “Key Issues” list created in Lesson 3.
3. Decide how you would like your students to create a timeline to graphically illustrate important events in the history of Bristol Bay and the Pebble Mine along with relevant facts. Be prepared to provide scaffolding to support the abilities of your students. Each table group will create one timeline to share with the class. A digital representation that can be projected may be the most effective, but feel free to allow students to be creative as well as informative in their representations. Table groups will also need to be able to revise their work in the next lessons.

4. Decide if you want students to work in groups as they see fit, or assign roles for students in each group. Roles could be:

- Graphic designer: creates the format used to list the events in the timeline.
- Researcher: looks up URLs provided in the timeline; makes summaries of the information
- In-depth Researcher: finds other pertinent information to add to the timeline

5. Make one copy of “Additional Data to Add to the Timeline” for each student. The document is found at this link:

[https://drive.google.com/file/d/1mgBgu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBgu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing)

## **Begin the Lesson**

### **Creating a timeline of events in the history of Bristol Bay**

1. Ask students to look over their notes and put a star next to any information that they think is critical in the history of the movement to protect Bristol Bay. In their opinion, have them identify what events were neutral, what events were positive, and what events were negative for the protection of the Bristol Bay watershed.

2. Display the “Key Issues” list from Lesson 3. Ask if students want to add anything else to the list, or to revise anything currently on the list.

3. Hand out the “Timeline of Events and Issues in Bristol Bay” to each student. Give them a few minutes to read over the events. Ask them to highlight anything they think is particularly important. They should note anything that is confusing or unclear to them.

4. Hold a short class discussion to clarify any of the events that students noted. Vocabulary and legal terms may be the most difficult. Suggest that students look up the definitions and share them at their table rather than having you define them.

5. Working alone, have students assign a value to each event in the timeline as neutral, positive, or negative with respect to its relevance to the protection of the Bristol Bay watershed.

6. Task each table group with creating their own timeline from the information given to them. It’s not an exhaustive list, but contains important events.

7. If you are going to assign roles for students, do that now. Roles could be:

- Graphic designer: creates the format used to list the events in the timeline.
- Researcher: looks up URLs provided in the timeline; makes summaries of the information
- In-depth Researcher: finds other pertinent information to add to the timeline

8. Allow ample time for students to grapple with how they want to represent the information. Circulate around the room to provide support as needed.

**NOTE:** If this takes one class period, you may choose to end the lesson here. If table groups can access the information online, you can assign additional documentation for homework.

## **Sharing group timelines of events in the history of Bristol Bay**

1. Once groups have finished their timelines, ask them to prepare to share them with the class. They can present their findings as a group, or select a representative to be their spokesperson. Ask them to identify the three most important issues or events on the timeline.
2. Have each group share their timelines with the class, including identifying their opinion of the three most important issues or events in their timeline. Allow for any questions from the class to clarify their presentation.

## **Adding data to the timeline of events in the history of Bristol Bay**

1. Hand out one copy of the two additional handouts: “Fact Sheet” and “Pebble Mine Operation” for each student. You may want to suggest that they include a way to represent the relationship between the number of jobs created in both the salmon and mining industries, correlated to the income created by these industries.
2. Have table groups decide how they will add this information to their timeline, then add the data. Suggest that they create a format to add more information as the unit progresses.
3. If table groups finish before others, have them add to the key issues they see in the movement to protect the Bristol Bay watershed.
4. Once groups are done, have them come up to present their representations of the additional data. They may choose a representative to speak, or come up as a whole table group.
5. After each group has presented their timelines, have all groups reflect on their timelines and make any changes they want to at this time.
6. With this additional information, have table groups reflect on their ranking of events and issues on their timelines. They can revise their ranking system of neutral, positive, or negative impacts on the protection of the Bristol Bay watershed.
7. Project the “Key Issues in the Movement to Protect Bristol Bay”. Have the class assist you in adding to this list. Once you are finished, have them go back to their notebooks and add anything to their notes.
8. You may want to wait to introduce the “News Flash” that the EPA decided on January 31, 2023 to use the Clean Water Act to veto the Pebble Mine, thus taking its development off the table. It may distract from the purpose of the unit if students think it’s a done deal and no debate is necessary. Some students may already know of this decision, however.



## **Homework: Reflecting on the connection to water**

1. For their homework, have students refer back to the quote about water:  
“Everything is connected by water. Sea to cloud → cloud to rain → rain to river → river to sea. When you touch water in one place, you’re touching it everywhere.”
2. In their notebooks, have them reflect on what they learned in this panel discussion and add any thoughts they have.

# Lesson 5 – The Issues From Stakeholder Perspectives

## Objectives

1) To understand the complex issues in the movement to protect the Bristol Bay watershed from the perspective of various stakeholders.

2) To take on the perspective of a particular stakeholder group in preparation for a panel discussion.

## Time Frame

One class period (about 60 minutes)

## What You Need

### For the class:

- the quotes from the Featured Speakers ready to hand out to the students.

### For each group of 4 students:

- one quote from the Featured Speakers that fits with their stakeholder group
- a device with access to the film *The Wild*

### For each student:

- Science notebook

## Preparation

1. Decide how you will divide students to conduct research on the stakeholder groups listed below. They may individually choose a group, or you can assign them.

- Food Industry
- Tribal Stakeholders
- Students
- Citizens who love wild places like Bristol Bay
- Scientific Community
- Mine Owners
- Commercial Fishing Industry
- Politicians
- Sport Fishing Industry

You may choose to provide the names of the people in the stakeholder groups or let the students find that information for themselves. A list is provided for you here:

- **Food Industry:** Tom Colicchio/Tom Douglas – chefs
- **Scientific Community:** Dr. David Chambers; Dr. Dan Schindler
- **Politicians:** Rick Halford - former Alaska state Senator, 1982-2002, Alaska Governor Dunleavy, EPA heads Pruitt and Wheeler

- **Tribal Stakeholders:** Alannah Hurley - Yupik subsistence fisherwoman; Apay'uq Moore – artist

Informational video from a tribal perspective:

<https://www.youtube.com/watch?v=y9K7Ecd14FM>

- **Commercial Fishing Industry:** Steve Kurian – drift netter; boat captain; Amanda Wlaysewski – fish processor; Curt 'Ole' Olson; other fishermen/women
- **Sport Fishing Industry:** Nanci Morris Lyon and her daughter
- **Students:** Avery McCammon
- **Mine Owners:** Tom Collier – CEO, John Shivley - Chairman of the Board; Pebble Limited Partnership
- **Citizens Who Love Wild Places Like Bristol Bay:** Zariah Forman, Mark Harmon, Mark Titus, Adrian Grenier, Yvon Chouinard, Steve Gleason, Bella Hammond

2. Decide how long the presentations will be. For example, if you have 9 stakeholder groups, the timing may go like this if you have a 60-minute class:

- Introduction to the presentations – 5 minutes
- Group presentations (9 groups X 3 minutes each) – 27 minutes
- Write new information in their notebooks after each presentation (9 X 2 mins.) – 18 minutes
- Group discussion – 10 minutes

To gain extra time, you may want to combine a group or two, or eliminate a stakeholder group. You may also choose to split the presentations and group discussions over 2 class periods.

3. Gather the quotes from the Featured Speakers you saved from Lesson 2, or print out one copy of the document, “Featured Speakers From the Film, *The Wild*” found at this link: [https://drive.google.com/file/d/1mgBqu\\_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing](https://drive.google.com/file/d/1mgBqu_tbNF4Z1Y57UfrSpvC6eFufwjCZ/view?usp=sharing).

Cut the quotes into separate strips of paper.

4. Have materials ready for groups to make a sign indicating the name of their stakeholder group to be used to identify them during the presentations.

5. You may choose to set the stage for their stakeholder presentations by showing a clip from the film with the “Alaska Forum on the Environment” at timestamp 53:32 – 54:21. Explain that there are individuals in this presentation representing different stakeholders. In their presentations, they will be sitting with their table group with all participants having the opportunity to speak.

## Begin the Lesson

### Reflect on their homework

1. Ask students to review what they wrote for homework about the quote on water. Have their views changed since their first ideas were written?
2. Ask if anyone would like to share what they are thinking at this point in the unit. Are they willing to share how their views have changed?

### Conducting research on stakeholder perspectives

1. Tell students they are now going to take the historical information gathered in the past lesson to gain a deeper understanding of each of the stakeholder groups featured in the film. They will be using this information to give a presentation on the issues that face their group, taking on the role of the stakeholders. It will be followed by a group discussion where all of the members of the stakeholder group will be able to speak.
2. Give students a few minutes to go back to their notebooks and reflect on the Featured Speaker they learned about and add any additional information.
3. Project the digital list of the Featured Speakers from Lesson 2. Have students share any additional information they want to add to the class list.
4. Give them a few moments to add anything else to their notebooks.
5. Tell students they will now research the issues from the standpoint of a stakeholder group, not just from the standpoint of the individual Featured Speakers.
6. Break students into stakeholder groups, depending on your method of assigning groups or letting them choose.
7. Hand out quotes from the Featured Speakers that relate to the stakeholder group. If they choose, students may access the film on their devices for information by [clicking on this link](#).
8. In researching the issues faced by each stakeholder group, have them answer the following questions:
  - What are the most important issues that this stakeholder group has regarding the protection of the Bristol Bay watershed and the permitting process for the Pebble Mine?
  - What key events in the timeline have affected this stakeholder group?
  - What actions are being taken by this group regarding the Pebble Mine?
  - What suggestions do we have for actions this group can take next?
9. Students should be encouraged to create or obtain audio/visual aids for their presentations. They will also choose who will present what portion of the stakeholder

presentation. You may want to structure a way for all students to participate in some way, either as a presenter or as one who creates the presentation materials. They should notify you of what kind of A/V requirements they will need for the stakeholder presentation in the next lesson.

10. Have groups assign one student to make a sign indicating the name of their stakeholder group to be used to identify them during the presentations.

11. Suggest that their presentations be limited to 3 minutes, or whatever your class time will allow in the next lesson. Following each presentation, there will be a few minutes for students to write additional information in their notebooks. A discussion with the entire class will follow the stakeholder presentations.

12. As time permits, provide time for students to share any insights they have gained about their stakeholder group. Allow students to add this information to their notebooks.

13. If necessary, students can work on their group presentations for homework.

# Lesson 6 – Stakeholder Presentations and Discussion

## Objectives

- 1) To apply the information gained about the movement to protect the Bristol Bay watershed in a panel discussion that involves various stakeholder groups involved in the issue.
- 2) To be able to discuss the complex issues involved in the protection of the Bristol Bay watershed with classmates in a manner that is fact-based and respectful.

## Time Frame

One class period (about 60 minutes)

## What You Need

### For the class:

- a room set-up conducive to panel presentations and class discussion
- the “Key Issues” list from Lesson 4

### For each group of 4 students:

- Their answers to the following questions:
  - What are the most important issues that this stakeholder group has regarding the protection of the Bristol Bay watershed and the permitting process for the Pebble Mine?
  - What key events in the timeline have affected this stakeholder group?
  - What actions are being taken by this group regarding the Pebble Mine?
  - What suggestions do we have for actions this group can take next?
- A/V materials for their presentation

### For each student:

- Science notebook to add information from the presentations

## Preparation

1. Decide how you will set up the room for a panel presentation and follow-up discussion. It is most successful when students can sit as table groups and see each other. You may want to reserve a space in a more open room for this, or be able to move tables and desks into a circle.
2. Provide A/V devices to meet the requested needs for the panel presentations. Decide if you want to collect all their A/V presentations at the beginning or let each group bring up whatever they are choosing to present when they speak.

3. Be able to display the “Key Issues” list from Lesson 4 with the ability to update it after each presentation.

## **Begin the Lesson**

### **Stakeholder presentations**

1. Explain that students will participate in a panel presentation and discussion in a similar fashion to what they observed in the film during the clip of the “Alaska Forum on the Environment”.

2. Each stakeholder group will take turns presenting their information they collected to answer the following questions:

- What are the most important issues that this stakeholder group has regarding the protection of the Bristol Bay watershed and the permitting process for the Pebble Mine?
- What key events in the timeline have affected this stakeholder group?
- What actions are being taken by this group regarding the Pebble Mine?
- What suggestions do we have for actions this group can take next?

3. Decide what order the groups will go in so they can be prepared. Queue up any A/V support you may need for each group, or let them bring up their materials when it is their turn to speak.

4. Remind the class that they will be respectful listeners to each presentation. They should jot down any information they want to save in their notebooks. There will be time for discussion at the end.

5. Call up each stakeholder group to present their perspectives on the issues. After each presentation, provide time for students to add more information to their notebooks. Then have them suggest additions to the “Key Issues” list you have made so far. Project this list during the stakeholder discussion that follows.

### **Stakeholder discussions**

1. Explain that students will participate in a stakeholder discussion in a similar fashion to what they observed in the film during the clip of the “Alaska Forum on the Environment”. They will be respectful in their questions and answers, and rely on facts to support their claims. Be careful not to let all the groups gang up on the mine owners.

2. Begin by asking if there are any questions for specific stakeholder groups. Choose a volunteer from that group to respond. Allow for additional members of that group to respond. You may want to limit their time so other groups can participate.

3. Continue in this fashion as long as time allows and student interest is high. You may choose to ask questions of specific groups yourself if students are having difficulty getting the discussion going.
4. Provide time at the end of the discussion for students to add information to their notebooks. They can also do this for homework.

### **Good News! The Pebble Mine will not be built!**

1. Provide the “News Flash” that the EPA decided on January 31, 2023 to use the Clean Water Act to veto the Pebble Mine, thus taking its development off the table. Let the news sink in, then let them talk at their tables about how they feel about this.
2. Allow for a class discussion on the news. Assign students to look up the decision and bring important facts to share to class with them for the next class.

### **Homework: Reflecting on the connection to water**

1. For their homework, have students refer back to the quote about water:  
“Everything is connected by water. Sea to cloud → cloud to rain → rain to river → river to sea. When you touch water in one place, you’re touching it everywhere.”
2. In their notebooks, have them reflect on what they learned in this stakeholder discussion and add any thoughts they have.
3. Students may want to record their ideas about hearing the news about the EPA’s decision in their notebooks. You may want to have them find other good news stories to share about places that were preserved.



# Lesson 7 – Action Taking: how do you save what you love?

## Objectives

- 1) To have students reflect again on a place or places where they feel a deep connection.
- 2) To have students take action on ways they can save a place or places where they feel a deep connection.

## Time Frame

One to two class periods (about 60-120 minutes)

## What You Need

### For the class:

- the “Key Issues” list from Lesson 6
- be able to project [the web page from Eva’s Wild](#) that describes how best to learn more about Bristol Bay and how to protect wild salmon

### For each student:

- Science notebook

## Preparation

1. Be ready to project the questions that began the unit:
  - Think of a natural place that you feel connected to.
  - Have you been there recently?
  - Has it changed since you first made your connection? If so, how? If not, why not?
  - What is the future for this place you are connected to?
2. Decide how you will record student ideas on ways to save natural areas important to them, so that all can see them.
3. View the video of the song, “Listen What the Children Say – We Love Bristol Bay” and decide if it is something you think may be inspirational or helpful to get your students thinking about what they can do to save natural areas they care about.  
<https://www.youtube.com/watch?v=EifRPTRZHwM>

## Begin the Lesson

### Reflect on their homework

1. Ask students to review what they wrote for homework about the quote on water. Have their views changed since their first ideas were written?
2. Ask if anyone would like to share what they are thinking at this point in the unit. Are they willing to share how their views have changed?

## Action taking – how do you save what you love?

1. Project the questions that began the unit:
  - Think of a natural place that you feel connected to.
  - Have you been there recently?
  - Has it changed since you first made your connection? If so, how? If not, why not?
  - What is the future for this place you are connected to?
2. Have students find their answers in their notebooks. Ask them to add anything to what they originally wrote.
3. Ask students if any of their places are currently in danger of being destroyed or changed for the worse? Take a raise of hands. Allow a few students to share their thoughts.
4. Ask those students who raised their hands to think about what steps could be done to save the place they feel connected to. They can write their answers in their notebooks.
5. For those students who didn't raise their hands, they can either think of another place they know about that is in danger, or do some quick research to find a place that is in danger and come up with some ideas of what they could do to help.
6. After most of the class has finished writing in their notebooks, allow students to share their ideas at their table. They should write the group's ideas in their notebooks.
7. One at a time, have a spokesperson for each table share their list of ideas. They don't have to go into great detail at this time, just give enough information so the class gets the idea of the activity, project, or plan (APP). Record their ideas on the board or projected from an electronic device so all can see.
8. At their tables, have students rank each idea using the following criteria. They can further define the parameters if you want. It is fine to leave them a bit vague for now.
  - **Student interest:** Are we interested in doing this APP?  
 1 - not really interested      2 - moderately interested      3 - we really like it
  - **Viability:** What is the possibility that we can do this?  
 1 - difficult                      2 - not too difficult                      3 - easy
  - **Cost:** How much will it cost to implement the APP?  
 1 - high cost                      2 - moderately expensive                      3 - inexpensive or free

- **Time:** How long will it take to complete the APP?

1- a long time

2 - not too long

3 - we can do this quickly

- **Effect on preserving a place we love:** What effect will the APP have on saving this special place?

1- not much

2 - a moderate effect

3 - a big effect

9. After most groups are finished, instruct table groups to add up the values they assigned to each of the four categories and assign a total number to each APP.

10. Return to the list generated on the board or electronic device. If using a board, have one student from each table bring up their total numbers for each APP and list them on the board. If projecting on an electronic device, have each table group either input their numbers, or give them to you for input.

11. Give the class a few minutes to evaluate the list. Ask if they have anything to add or clarify. Resort the list, or create a new one, ranking the APPs by the highest number (15) to the lowest (5).

12. Conduct a class discussion about what APPs they would like to initiate. Be sure to assess which may rank high (easy to do, low cost, short timeline, and make a big impact), but not have much student interest, and put them lower on the list.

13. Once a short list of those APPs with the highest interest and most potential for success has been created, ask students to identify themselves as leaders or part of the support team for each APP. Provide guidance on realistic goals and numbers of APPs that can be taken on at once. Remind students that once they finish one project, they can always start another from the list, or come up with new ones they want to do.

14. Have students regroup based on the APPs they are interested in working on. Ask them to begin planning how they might address the APP: what resources they need, who they need to meet with, what obstacles they currently see, etc. Ask how they will measure the success of their project. Have them include that in their plan. They can design a timeline and insert items from the list they made. They need to decide how they will measure their success with this APP. What is the impact their APP will have on saving a place that is loved or special to them?

15. Circulate around the room to see that the leaders aren't taking over, or aren't being assertive enough. Make sure each student has a place to be involved. It's fine if one student wants to take on an APP by themselves. Answer questions, but try to provide as little guidance as possible so students can take responsibility for their ideas and APPs. The goal is not to succeed with ease, but to learn how to make realistic plans and evaluate as you go, including setbacks, bureaucratic obstacles, or unknown issues that may arise.

16. At this point, the projects will take on a life of their own. Students may want to start an action group, partner with a community group, or work on their own time out of school. Share your plans for scaffolding and support as the students begin planning their APPs so that engaged and excited students can move their ideas forward. This may require time outside of class as you move on to a new unit. Adult mentors, school advisors, or student leaders may need to be involved to support the students. Some may effectively address their ideas all on their own. Provide contact information for mentors, advisors, and student leaders that can serve as support for the students.

## **Extend the Lesson**

1. Students may create a presentation of their findings and plans to share with other classrooms, community groups, etc. This could take the form of a panel discussion or a town hall meeting.