

Student Stewards - SFS Post Activity

*to be completed after SFS Outdoor Stream Exploration and Habitat Restoration Field Trip

Subject

Responsible Stewardship, youth voice, and collective action

Objectives

After completing this activity, the students will:

- Explain 1 threat that salmon are facing in their region
- Identify 1 action they can commit to taking in their everyday lives that will benefit salmon
- Discover how collective actions of all students can lead to lasting change and benefit salmon recovery efforts

Materials

This is an indoor lesson, but components can be done outdoors (referred to in procedure below) This can be done in a classroom or outdoors

- Computers for students to access links to final salmon trivia
- Printed copies of salmon pledge (1/student)
- Printed copies of Stewardship Lifecycle Activity cards (1/student)
- Writing materials (pens/pencils)
- Coloring materials (markers/crayons/colored pencils)
- Camera
- Computer to access links and background information

Size/Setting/Duration

Entire class / inside or outside / ~60 minutes spread out over one week (5 days)

Background

After completing the in-classroom introduction activity and field trip, students have learned some of the threats salmon are facing in various stages of their lifecycle. Throughout the Salish Sea, populations of salmon are declining. Three species in the salmonid family that reside in Puget Sound are federally listed as threatened under the Endangered Species Act. For further explanation, see *Salmonids* from Sound Institute, University of Washington. <https://www.eopugetsound.org/terms/363>

Chinook Salmon	Threatened
Chum Salmon	
Sockeye Salmon	
Pink Salmon	
Coho Salmon	
Steelhead	Threatened

Cutthroat trout	
Bull Trout	Threatened

One of the components of this activity is student-led research. Below are some locally relevant links summarizing issues impacting salmon along with steps people can take to support salmon recovery efforts in our region, which students can use as potential research sources.

“Global Warming is Pushing Pacific Salmon to the Brink”

<https://insideclimatenews.org/news/29072019/pacific-salmon-climate-change-threat-endangered-columbia-river-california-idaho-oregon-study/>

“Pacific Northwest heat wave sets up “grim” migration for salmon on Columbia, Snake rivers”

<https://www.seattletimes.com/seattle-news/environment/pacific-northwest-heat-wave-sets-up-grim-migration-for-salmon-on-columbia-snake-rivers/>

“Avoid Overfishing”

<https://www.seafoodwatch.org/seafood-basics/sustainable-solutions/avoid-overfishing>

“Wild Salmon: Protecting the Icon of the Pacific Northwest”

<https://duquark.com/2019/12/20/wild-salmon-protecting-the-icon-of-the-pacific-northwest/>

“Environmental impact of salmon decline: This isn’t just about fish”

<https://www.seafoodwatch.org/seafood-basics/sustainable-solutions/avoid-overfishing>

“What can humans do to save the Pacific Northwest’s Iconic Salmon?”

<https://www.smithsonianmag.com/science-nature/what-can-humans-do-save-pacific-northwests-iconic-salmon-180952769/>

“Middle Fork Nooksack River Fish Passage Project”

<https://cob.org/services/environment/restoration/middlefork>

Set up

1. Make enough copies of the salmon pledge for each of your students. Included in the appendix section are both English and Spanish versions that can be printed or copied.
2. Make enough copies of the Stewardship Lifecycle Activity for each of your students. Included in the appendix section are “game cards” in both English and Spanish versions that can be printed and copied, along with a sample completed copy.

Procedure

1. Begin by recapping the field trip with students. You will receive an email from NSEA's staff indicating how many pounds of invasive vegetation were removed or how many native trees and shrubs were planted. Here are some questions you can ask students to bridge the field trip with this activity.
 - a. What was the name of the waterway we studied?
 - b. That waterway is home to which species of Pacific salmon?
 - c. What were some observations we made about the waterway and riparian zone?
 - d. What was your conclusion about the health of the water for salmon?
 - e. What are some human actions that may be impacting this waterway?

2. Refer to the links in the background section and break students into groups to research threats salmon are facing in our region and actions that humans can take to mitigate those threats. Give each group of students 10-15 minutes to research, and then generate a discussion where each group has a chance to present and lead into the next step. Consider going outside for group presentations and the pledge activity in the next step. Students can utilize background information links provided, or find their own, and if they need inspiration, sample topics can include:
 - a. Polluted water
 - b. Habitat loss
 - c. Climate change
 - d. Predator/Prey connection

3. Hand out copies of the salmon pledge to each student. Each student thinks of an action they can take in their everyday lives to help salmon and writes this down on their salmon pledge as an action they pledge to take. This should be something students can reasonably do in their lives because these pledges will be re-visited throughout the duration of the activity. Encourage students to share with their peers what their salmon pledges are, along with steps each student can share for how they may accomplish their salmon pledge.

4. Display students' salmon pledges so others can see! Some options to display these salmon pledges in your school may include:
 - a. On a corkboard or bulletin board in the hallway – students could design a “mural” or showcase their pledges for others in the school to see
 - b. On the walls of your classroom
 - c. If your classroom participates in the Salmon in the Classroom program – next to the tank they are raising salmon in

5. Hand out a copy of the Stewardship Lifecycle Activity to each student. The goal of this activity is for students to carry out their pledge by taking actions to advance in the lifecycle from egg to spawning adult. Each time they take action towards their salmon pledge, they get to move to the next stage. For example, if a pledge was to use less water, an action may be turning the water off when they brush their teeth or taking a shorter shower/bath. It is suggested to re-visit this game card once per day. Build in time each day to allow students to record an action they took that matches their salmon pledge – there is space in each stage where they can write these down. Continue to have daily check-in's to have students tally their actions throughout the week. Encourage discussion throughout about how actions students are continuing to take over a period of time are having a lasting impact and how 1 student doing an action is good, but how collective actions done by multiple students make more lasting positive impacts and help contribute to salmon recovery efforts.
6. Upon completing the Stewardship Lifecycle Activity, you have an opportunity to foster youth voice and share more broadly with other teachers and schools in our region! Start by taking a photo of the students with their activity boards and salmon pledges. Next, with you “driving” and students watching, you can upload to a shared folder using Wakelet software by accessing this [link](#); instructions for how to do this are included in the appendix section. After uploading your classroom's photo, explore with the students to see efforts being done throughout our region to take action to help salmon!
If you'd like to take this further, you can record a short, 30-60 second video showcasing students' pledges and actions they took to progress through the activity. As with above, you can “drive” while students watch and upload your video to a shared folder using Flipgrid software by accessing this [link](#); instructions for how to do this are included in the appendix section.
7. Have students complete their final salmon trivia, which is in digital format. You will receive a link emailed to you from NSEA staff that is specific to your classroom. Please ensure students are completing their final salmon trivia. On average, we have found it takes approximately 5-10 minutes for students to complete final salmon trivia.

Conclusion

By the time students complete this activity, they will have a better understanding of impacts that salmon face in all stages of their lifecycle, and how many of these threats are connected to humans. The actions we take can both directly and indirectly affect salmon populations, which are in decline in our region. Students will understand that making a salmon pledge and taking action on an individual level can help salmon but doing so collectively as a classroom or even more broadly, as 4th graders throughout Whatcom County, will leave more impactful, lasting positive impacts on salmon recovery efforts in our local watersheds. Keep checking back using the Wakelet [link](#)

throughout the school year to check out salmon pledges being displayed in schools throughout Whatcom County!

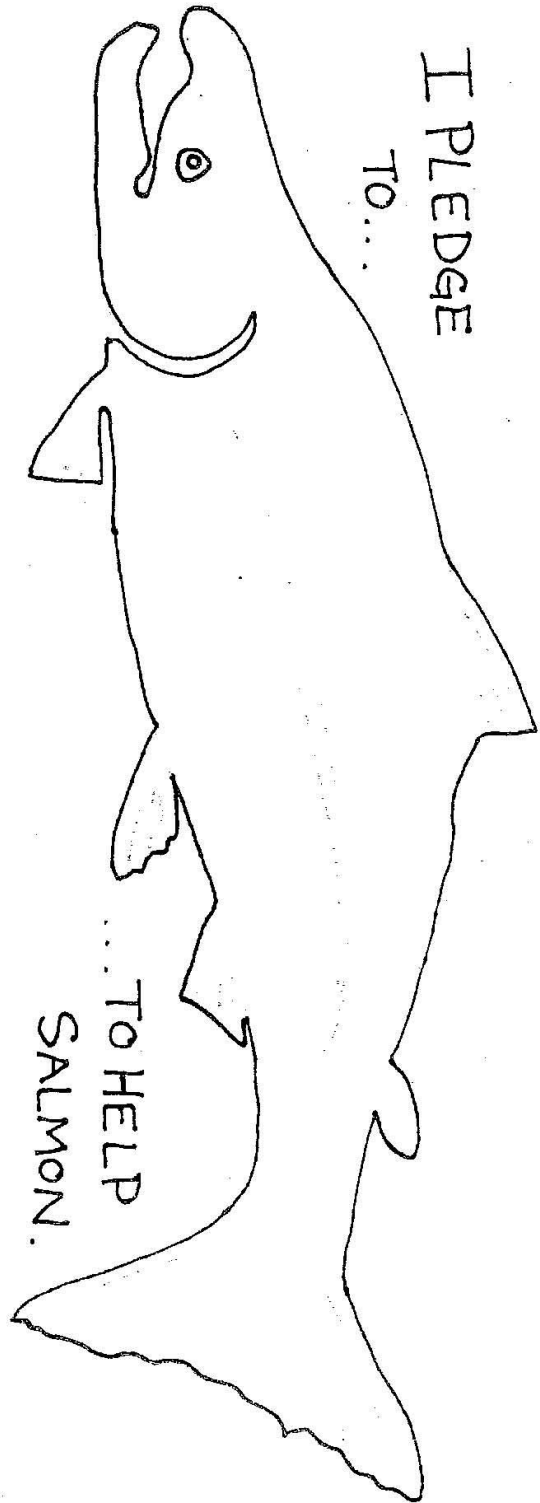
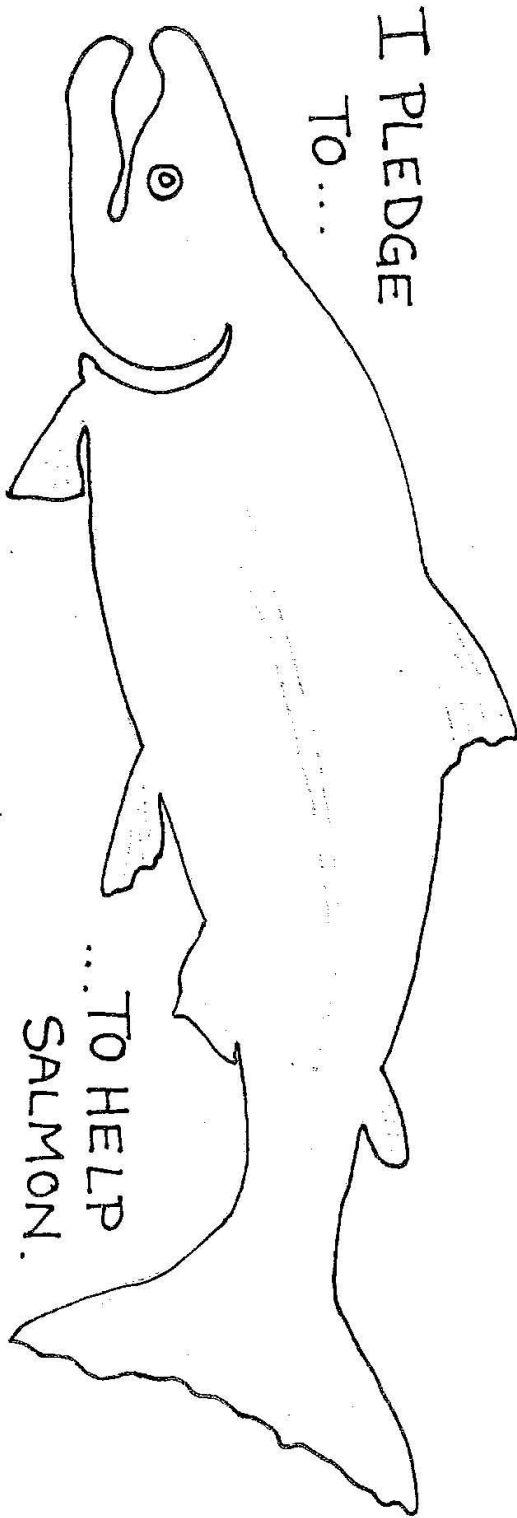
Extensions

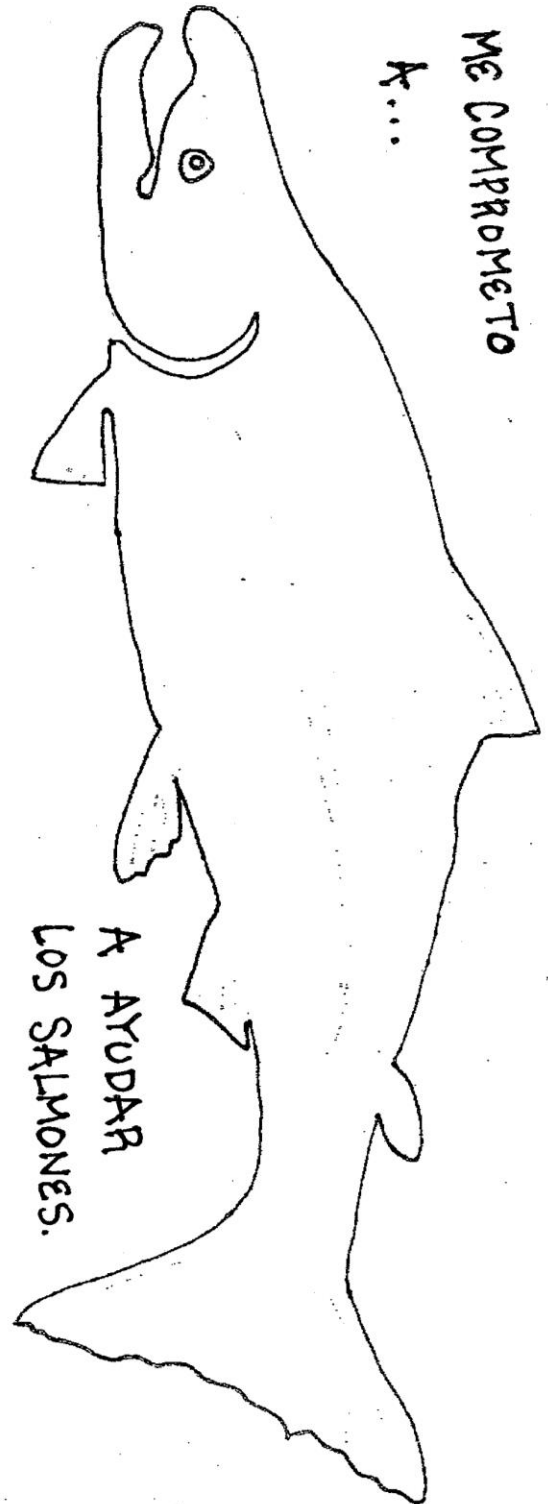
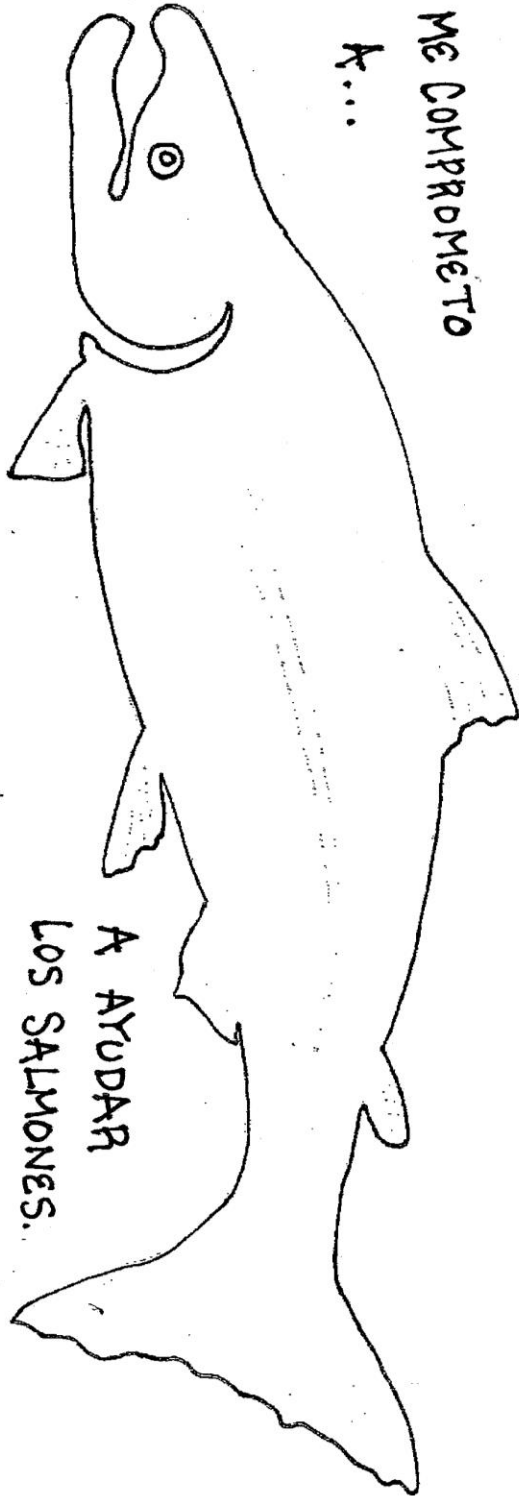
To extend this lesson and incorporate another avenue for student voice, you can encourage students to write a letter to their local elected official. Even though students can't vote, this doesn't mean they cannot share their concerns. Writing letters to elected officials to encourage them to take action to protect salmon and their habitat is a powerful way youth can allow their voices to be heard. To find a lesson plan that outlines how this can be done, including additional resources outlining threats facing salmon and how students can find their local elected officials, click on this [link](#).

Next Generation Science Standards

Performance Expectation		
<p>4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</p>		
<p>5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>		
Scientific and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<ul style="list-style-type: none"> ▪ Asking questions and defining problems ▪ Obtaining, evaluating, and communicating information ▪ Analyzing and interpreting data ▪ Engaging in argument from evidence ▪ Constructing explanations and designing solutions 	<ul style="list-style-type: none"> ▪ ESS3.B Natural Hazards ▪ ESS3.C Human Impacts on Earth Systems ▪ LS2.A Interdependent Relationship in Ecosystems ▪ ETS1.B Designing Solutions to Engineering Problems 	<ul style="list-style-type: none"> ▪ Cause and effect ▪ Systems and system models ▪ Structure and function ▪ Stability and change

Appendix





Name _____

Stewardship Lifecycle Activity

Start here! See if you can make it to spawning adult by doing an action each day to help salmon!



My action was:



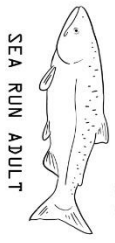
My action was:



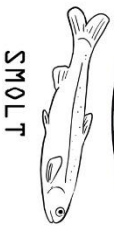
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My action was:

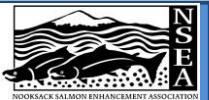
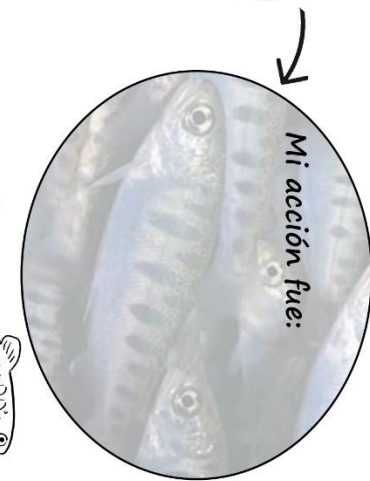
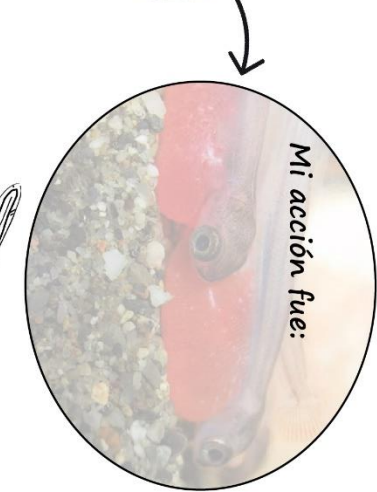


My action was:



Nombre _____

Actividad del ciclo de vida de la mayordomía



Instructions for uploading your classroom's photo to Wakelet (do this while students are watching):

1. Click on this [link](#)
2. Input your name into the box as prompted
If the page remains blank, refresh the page and insert your name again
3. Click the green "Edit" button at the top of the page
4. Select the green "+" under the collection's title
5. Hover over the icons that appear to the right of the "+" and click the "Image" icon
6. Upload your image from your device
7. You will see your image appear below the title when it is posted; hover over the image and select "edit" on the upper right-hand corner of the image
8. In the "Add credit or caption" spot, add your school's name and your class name (e.g. Salmon Elementary; Mr. Redd's class)
9. Add a description if desired, select the green "Done" in the image box, then click the green "Done" in the upper right-hand corner of the page
10. Scroll and check out all the photos from the other classes! Check back to see new classes added throughout the school year!

Instructions for uploading your classroom's video to Flipgrid (do this while students are watching):

1. Click on this [link](#)
*Note: Flipgrid requires you to have either a Google or Microsoft email platform. All teacher emails have been added, but if you can't access this, email nzabel@n-sea.org.
2. Click on "Add Response" button. A page will come up asking to use your microphone and camera. Exit out of that screen.
3. Click on "Import Video" button (needs to be .mov, .mp4, or .webm formats)
4. Drag and drop your file, or click to upload
5. The video will start playing, and you can choose to trim if you would like. When you are ready to submit, click "next."
6. In the Description box, type your school's name and your classroom (example: NSEA Elementary, Sammy classroom)
7. The video will upload. Then, check out the other responses from other classes!