

## Capstone: The Everglades Podcast

Grade: 6-8 & 9-12	Implementation Practice: Scientific Literacy & Communication
Subject Area: Life and Earth Science	Estimated Duration: Two 45-minute periods, two 30-minute homework assignments
Learning Objective Students will be able to: <ul style="list-style-type: none"> <li>- <b>construct</b> a compelling argument from evidence that <b>communicates</b> how water management in the Everglades has impacted biodiversity</li> </ul>	

### Standards Supported

<b>NGSS</b>	Performance Expectations <b>MS-LS2-4.</b> Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. <b>MS-ESS3-4.</b> Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.  <b>HS-LS2-6.</b> Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. <b>HS-ESS3-3.</b> Illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.		
	Disciplinary Core Idea(s)	Science and Engineering Practices	Crosscutting Concept(s)
	<ul style="list-style-type: none"> <li>● ESS3.C: Human Impacts on Earth Systems</li> <li>● LS2.C: Ecosystem Dynamics, Functioning, and Resilience</li> </ul>	<ul style="list-style-type: none"> <li>● Constructing Explanations and Designing Solutions</li> <li>● Engaging in Argument from Evidence</li> </ul>	<ul style="list-style-type: none"> <li>● Cause and Effect</li> <li>● Stability and Change</li> </ul>

### Materials Needed

- Internet enabled devices with microphone and audio editing software
- Capstone Student Sheet

### Note to Instructors Regarding Use of Technology

Please don't be intimidated by the technology needed for this learning experience. Many free audio-recording and audio-editing programs exist. These programs tend to be user-friendly and there are many useful quality tutorials available online.

If using smartphones, Android users can download a free voice recording app like "RecForge II" or "Audio Recorder." iPhone users can use the "Voice Memos" app which comes on the phone. Students using Apple computers can use GarageBand, a free audio editing software and PhotoBooth to make audio recordings.

## Suggested Implementation Timeline

Have students complete the Engage, Explore, and Explain portions in the first class period. If time permits, have them begin work on the Elaborate. Students should work on the Elaborate at home by planning out their podcast and writing their script.

On the second day of class, give students the period to record their podcast. Have students share their podcast with their peers. In order to complete the Evaluate for homework, they can upload the links to their podcast to a discussion or forum in your school's LMS, share links on a group Google Doc, or upload the podcast file to a shared Google folder. It is suggested that each student listen to, and provide feedback on, at least two other podcasts.

Some students will want to spend a longer period of time designing and recording their podcast; it has been my experience that some students get really into this task. Make students aware of the time constraint upfront or adjust as you see fit. Reinforce that the goal of this learning experience is not to become an expert in audio-editing or podcasts, but to apply their scientific knowledge in a creative and novel way.

OFE would love to hear what your students create! Please feel free to send student work to [info@oceanfirsteducation.blue](mailto:info@oceanfirsteducation.blue).

## Instructor Notes

It is recommended that instructors become familiar with how to record, upload, and edit audio files prior to facilitating these tasks with students. You may want to create a sample one-minute podcast as a way to experience firsthand what students will encounter.

Below are some basics of audio editing to discuss with students:

- Acquiring audio files - can upload from a recording device or audio-editing software or from online
- Audio-editing tools:
  - “cut” or “split” tool used to splice one audio segment into two or more segments
  - “delete” tool used to remove audio segments
  - dragging and moving function used to reposition audio segments
  - timeline ruler or grid measures the audio; used to assemble various audio segments into a project; used to align tracks, layers of sound often playing simultaneously
  - volume can be adjusted in each audio segment; can add effects, such as fade in or fade out; royalty-free music and sound effects (Bensound and Freesound), can create own beats or melodies using audio editing software.
  - “Save” and “Export” - file must be saved and exported for sharing.

Use your discretion when determining example podcasts for your students. National Public Radio's Student Podcast Challenge is a good resource for locating podcasts produced by students. It is suggested that you find at least two examples that are appropriate for your students.

## Background Information

Student podcasts are an engaging way to assess student knowledge while at the same time teaching digital literacy, research skills, and the ability to construct an argument from evidence. The process of writing audio text is similar to that of writing an expository essay as both require students to investigate an idea, evaluate evidence, and set forth an argument concerning that idea in a clear and concise manner. An effective podcast considers its audience and employs aspects of rhetoric. Podcasts are a powerful way to communicate science and call people to action. Scientific communication skills are important for students to practice.

## Capstone: The Everglades Podcast Rubric

Name: \_\_\_\_\_

Glow: Student meets or exceeds performance standard	Performance Standard	Grows: Improvement needed in order to meet performance standard
	- Student can use examples to communicate the unique ecology of the Everglades	
	- Student can use examples to communicate how human have impacted the Everglades	
	- Student can communicate the importance of conserving the Everglades	
	- Student's podcast contains a compelling lead	
	- Student's podcast contains audio that sets the scene	
	- Student's podcast communicates information about the Everglades in an engaging way	
	- Student's podcast includes a conclusion	
	- Student's podcast includes other audio elements (other than narration) to add interest	
	- Student can give constructive feedback to others about their podcasts	

**Comments:**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Capstone Student Worksheet

### Guiding Expectations

In this learning experience, you will demonstrate your knowledge of the unique ecology of the Everglades and how human actions have negatively impacted this unique ecosystem. You will be designing and recording a three-minute narrative podcast geared towards making an audience of your peers aware of the plight of the Everglades and how individuals can help.

A podcast is an audio recording distributed via the Internet. A narrative podcast is one in which the narrator, in this case you, tells a story to an envisioned audience in order to entertain, inform, and/or call them to action. Your podcast will be shared with your peers. Your peers will provide feedback on your podcast and you will provide feedback to your peers.

### Engage

Be prepared to discuss the questions below with a partner and then the whole group.

1. Think of a time you read or listened to a story that you found interesting. What was it about the story that captured and held you attention? Answer this question by describing at least two aspects of an interesting story.
2. Listen to the podcast examples provided by your instructor and use them to answer the questions below:
  - a. What audio elements (ex: narration, interviews, ambient sounds, music, sound effects) were included in the podcast? What do these elements add to the podcast?
  - b. What was the structure of the podcast?
  - c. How did the podcast begin and end?
  - d. Was there a narrator? If so, what was the narrator's purpose?

### Explore

Your narrative podcast about the Everglades should be based around the central question:

Why is it important to conserve the Everglades?

Use the planning tables on the following page to help you summarize the information you'd like to share with your audience and plan how you can do so in an interesting way. You may want to copy/paste these tables into another document.

### Podcast Planning: Information Summary

Include at least three points for each section and illustrate each point with an example

Central Question	Why is it important to conserve the Everglades?
Uniqueness of Everglade ecology	
Human impacts of the Everglades	
Importance of Everglades conservation	

### Podcast Planning: Audio Elements

Central Question	Why is it important to conserve the Everglades?
How will you capture and keep your audience's attention?	
What do you hope your audience will do after listening to your podcast?	

Podcast Planning: Audio Elements (continued)	
Central Question	Why is it important to conserve the Everglades?
How will you incorporate narration?	
What sound effects, music, or ambient sound will help you communicate to the audience?	
How will you begin and end the podcast?	

Additional Notes:

## Explain

Use the podcast script table below to write a script for your podcast. Use complete sentences. Keep in mind that spoken language is usually less formal than written language. Use short sentences and the present tense. Write the way you would speak! Keep your audience in mind when planning how to communicate information. You may wish to copy this table into another document.

Podcast Script	
Central Question	Why is it important to conserve the Everglades?
Lead: Introduction to the podcast. Provide an overview and grab interest. Introduce yourself and the purpose of the podcast.	
Scene: Set the stage for the story you will tell.	
Share your knowledge.	
Conclusion: sum up what you hope people learned, call them to action, and sign off.	



### Elaborate

It's time to make your podcast! Don't be intimidated! Remember, the point of this learning experience is for you to demonstrate your knowledge in a creative way, not to be an expert podcaster! There are many resources available online. A quick search will give you all the direction you need.

Step 1 - Record yourself reading your script. Try not to speak too fast or too slow. Imagine you are speaking to a friend. Try to speak with energy.

Step 2 - Gather any other sound elements you are using. This includes ambient sounds, sound effects, and music.

Step 3 - Assemble and edit your audio elements with audio-editing software.

Step 4 - Use the rubric in the Self Reflection at the end of this document to make sure your podcast contains all required elements.

### Evaluate

1. Follow your instructor's directions on how to share your final podcast recording with your peers. Listen to the podcasts of at least two of your peers and be prepared to provide feedback on each. Use the feedback table below to guide you. Use a different table for each podcast.

Podcast Feedback	
Something I like	
A suggestion	

2. Complete the Self Reflection on the next page.

## Capstone Self Reflection

Glow: Things I can do well	Standard	Grows: Things that I need to improve
	- I can use examples to communicate the unique ecology of the Everglades	
	- I can use examples to communicate how human have impacted the Everglades	
	- I can communicate the importance of conserving the Everglades	
	- My podcast contains a compelling lead	
	- My podcast contains audio that sets the scene	
	- My podcast communicates information about the Everglades in an engaging way	
	- My podcast includes a conclusion	
	- My podcast includes other audio elements (other than narration) to add interest	
	- I can give constructive feedback to others about their podcasts	

My favorite part of the Capstone was...

The most important thing I learned is...

Something I'd like to know more about is...