

Session 2: Asking Questions

Focus: Obtaining & Evaluating Information

Grade Level: 7-12

Session Length: 45-60 minutes, with an additional 30-45 minute independent assignment

Driving Questions

- What do we need to know about California’s MPA system?
- How can we determine if an information source is reliable?

NGSS Links

- Asking Questions
- Obtaining, Evaluating, & Communicating Information

Systems Thinking Characteristics

- Identifying System Components & Processes

In the second session of the MPA Exploration, students develop questions with their research team and conduct background research to learn more about California’s MPA system and the Marine Life Protection Act.

Students are introduced to the idea of why California needs Marine Protected Areas. Next, research teams identify what they want to learn about MPAs. Students are introduced to the idea of lateral reading while looking for background resources, practice conducting a lateral search, and then independently apply the lateral search technique to find resources to answer their questions. Finally, they share their findings with their research team.

Learning Outcomes & Assessments

<i>By the end of this module, students will be able to...</i>	<i>You can assess this using...</i>
1. Describe the role that Marine Protected Areas and the Marine Life Protection Act play in protecting California’s marine ecosystems.	Whole class discussion; Field notebook reflection
2. Use lateral search techniques to evaluate media sources while conducting background research.	Field notebook entry; Research team discussion
3. Communicate the results of their background research to their research team.	Research team discussion
4. Reflect on why it is important to evaluate the source of information while conducting background research.	Whole class discussion; Field notebook reflection

Session Overview

Section	Description	Length	Format
Launch	Students examine graphics related to the historic crash of the sardine fishing industry and reflect on how the Marine Life Protection Act helps to protect California’s marine ecosystems.	15-20 minutes	Whole class
Explore	Research teams brainstorm questions that they have about MPAs. They are introduced to the concept of lateral reading and practice conducting a lateral search using provided resources.	20 minutes	Research teams or individual
	Afterwards, students work independently to find resources to answer their questions.	30-45 minutes	Individual
Share	Students share their findings with their research teammates.	15 minutes	Research teams
Reflect	Students reflect on why it is important to evaluate information sources and what questions they still have about MPAs.	5-10 minutes	Individual

Virtual Materials

- Session 2 Google Slides Presentation: <https://bit.ly/2VEUG8I>
- Session 1 Field Notebook Template (optional): <https://bit.ly/3g4rp0g>

Each student will need...

- A device with internet access (a computer, smartphone, or tablet will all work!)
- Field notebook and pencil

Before You Start Teaching

- Copy over the [Session 2 Slideshow](#) to your own Google Drive account. Test to make sure that the videos work. (If not, you may have to check the permissions on the Crystal Cove Conservancy Youtube Account.)
- Decide how you will structure the session. The first part (Launch and the first half of Explore) will be helpful to do during class time, but the second half of Explore can be assigned as independent work.
- Review the links in [Slide 9](#) and decide the best way to get them to students.

Background Information Resources

If you'd like to learn more about the topics covered today, check out the following resources!

Marine Protected Areas

- [California's MPA Network on Youtube](#)
- [Southern California MPA Maps & Regulations](#) from the California Department of Fish and Wildlife
- [California MPAs](#)

Lateral Reading Technique

- [How to Read News like a Fact Checker](#)
- [Check Yourself with Lateral Reading](#)

Learning Sequence

Launch

Why do we need MPAs? (15-20 minutes)

1. Open the [Session 2 Slideshow](#) and play the video on [Slide 2](#) for your class. In this video, Holly will briefly introduce Session 2. After watching the video, move on to [Slide 3](#), which gives an overview of what students will do and learn during Session 2.
2. Continue to [Slide 4](#) and play the video, where Holly poses the question: Why do we need a statewide system of MPAs in California?
3. Show [Slide 5](#) to students and ask them to spend five minutes reflecting on the graph and photo that they see there. In their field notebook, ask them to respond to the following questions:
 - What does the graph show?
 - What is the connection between the graph and the photos?
4. Once students have had a few minutes to think, move on to [Slide 6](#) and invite them to share their ideas about the graph and photo. You can use the questions on the slide as a starting point for the discussion:
 - How do you think California's sardine population crashed in the 1960s?
 - How might this have affected people who worked on fishing boats or in the canning industry? The price of sardines? The marine ecosystem?
 - What could we do to prevent this from happening?

As students share their thoughts about possible solutions, encourage them to think about different viewpoints. How can they balance the competing interests of consumers and concerns about the environment? Are there places where the fishing industry and environmentalists might agree? Where might they disagree? How would the average low-income worker in a sardine factory feel about all this? How about a low-income family who relies on sardines for food?

Highlight for students that this is really the challenge of protecting marine ecosystems: we need to find a way to balance our serious concerns about protecting the environment with our very real reliance on the ocean for sustenance and jobs.

Explore

Explore Part 1: Asking Questions (15-20 minutes)

1. Move on to *Slide 7* and play the video, which will give students an overview of California's Marine Life Protection Act and introduce them to the system of MPAs that were established as a result. The video will also introduce the task for the session: Students will work in their research teams to brainstorm questions they they have about the MPA system as a whole, and then use lateral reading techniques to find and evaluate resources to answer their questions.
2. Once the video is done, move on to *Slide 8* and reiterate the task for students: They will work in their research teams to brainstorm questions about California's MPA system, recording their questions in their field notebook. When they are done brainstorming all of their questions, they should go back through their list and identify the 4-5 questions that they think are most important.
3. Break students into their research teams and give them 5-10 minutes to brainstorm their questions. If possible, give them a 2 minute reminder before the end of the brainstorming time to identify which questions are most important.

If there is time, ask the research teams to share their questions with the whole class.

Explore Part 2: Introduction to Lateral Reading (15-20 minutes)

4. Move on to *Slide 9* and play the video for students, which will introduce them to the idea of reading laterally.

After playing the video, advance to *Slide 10*, which includes an initial question -- "What is the history of California's MPA system?" -- along with a few example resources. Ask students to pick one of the resources to practice performing a lateral search and open it in their browser.

Once the class is ready, move on to *Slide 11*, which will give them a screencast demonstration of how to perform a lateral search.

5. Advance to *Slide 12* and use it to review the steps of a lateral search: After each student chooses an article, they should open three separate windows and perform three web searches: for the author or creator (if known), for the organization or publication that published the article, and for 1-2 experts quoted in the text. They can keep track of what they find in their field notebook.

After reviewing the results of their lateral search, each student should determine what they should keep in mind about the author or publishing organization’s perspective while interpreting the source. They should also take notes on what they learn from it.

6. Give students 10 minutes to work individually so they can practice performing a lateral search.

7. After students finish their initial lateral search, bring the class back together. Invite 3-4 students to share what they found about the different sources.

Some highlights of the different sources include:

<i>Source</i>	<i>Description</i>
<i>The California MPA Network: Safeguarding an Underwater Wilderness</i> (Video)	This video was created by California’s Department of Fish and Wildlife in 2018. CDFW oversees the implementation of the MLPA in California. The video presents perspectives of stakeholders who believe the MPA system is a success six years after it was established.
<i>California’s Tribes Peacefully Take Control of the MLPA Taskforce Meeting</i> (Article)	This 2010 article was published by Intercontinental Cry, an independent newsroom that focuses on Indigenous issues. It includes a media contact from the Coastal Justice Coalition, a tribal-led activist group. Stories involving historically-excluded groups like California’s tribal nations are often not covered in traditional media. (For instance, the tribal perspective isn’t mentioned in the other three sources in this exercise.) Although the creators of this piece have a clear point-of-view, their work still provides insight into the perspective of the represented tribes, which may be impossible to find in other places.
<i>Go Fish? Not in No-Fishing Zones on California’s Pacific</i> (Video)	This 2011 video was created by PBS. In it, reporter Spencer Michels presents the perspectives of fishermen and environmentalists on the MLPA, which was in the process of being implemented at the time. This piece is an example of what we might think of as “traditional” journalism. It attempts to present different sides of a contentious issue.
<i>Overview: What is the Marine Life Protection Act (MLPA)?</i> (Article)	This Beachpedia wiki article was created by Surfrider, an environmental organization that was a strong proponent of the MLPA. This piece is an example of why it is important to perform lateral searches. Sometimes, it is not clear which author or organization is responsible for a particular resource. Lateral reading can help you to learn more about the creator so that you are able to judge whether the information presented is reliable or not. (In this case, we do consider Surfrider reliable, but they also have a clear opinion on the MLPA that may not be obvious at first!)

Move on to *Slide 13* and ask students to spend a few minutes reflecting on the process of lateral reading. Why is it important to evaluate sources of information, especially when you're looking for information about a politically-tricky topic like MPAs?

Explore Part 3: Using Lateral Search Techniques to Answer Questions about MPAs (30-45 minutes)

8. Depending on time, move on to *Slide 14* and play the video for students. (If there is not time, you can assign the next few slides to watch independently or in their research teams). This short video will introduce students' next task: to come up with a plan and use lateral search techniques to answer their research team's questions about MPAs.

Advance to *Slide 15*, and ask students to break into their research teams. They should review their questions about MPAs and decide who will research each question.

9. Give students time to work independently to find the answers to their questions. They should keep track of all of the resources they find in their field notebook, along with the results of the lateral searches they use to evaluate each resource.

Make sure they have a clear plan to regroup and share their findings with their research team, whether this will be done during your next class session or independently!

Share

What did you find? (15 minutes)

1. Open *Slide 16* in the *Session 2 slideshow*. Have students return to their research teams and share the results of their background research. Each student should take two minutes to informally present the following:

- What was your question?
- What sources did you look at to help answer your question?
- Were the sources reliable, or was there anything you needed to keep in mind while reading and interpreting them?
- What new information did you learn?

As students share, move between groups and listen to their conversations. Encourage them to reflect on the process of evaluating their resources. Did they find any authors with a particular point of view that needed to be taken into account? Did they find any resources that didn't seem reliable?

2. If there is time, gather the entire class for a group discussion. Invite them to share any interesting or surprising information that they learned about MPAs, or ways that the lateral searching helped them to understand an author's perspective.



Reflecting on Session 2 (5 minutes)

1. Tell students that they have one last task. In the slideshow, advance to *Slide 17* and play the video, where Holly will invite them to spend a few minutes reflecting.
2. Move on to *Slide 18*, which will share reflection questions. Ask students to spend five minutes reflecting on their experiences today in their field notebook.
3. Finally, if you are able, thank the class for their time today. Tell them that when you gather again, they will return to thinking specifically about the Crystal Cove SMCA and start building a model of the ecosystem there.