Researching Case Studies of Depleted Fish Species
# Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

<table>
<thead>
<tr>
<th>Target</th>
<th>Ongoing Assessment</th>
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<tbody>
<tr>
<td>I can write informative/explanatory texts that convey ideas and concepts using relevant information that is carefully selected and organized. (W.6.2)</td>
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<tr>
<td>I can conduct short research projects to answer a question. (W.6.7)</td>
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## Supporting Learning Target

- I can research to find relevant and compelling factual information and quotes about depleted fish species to use as a case study in my informative consumer brochure.

- Structured notes: The rest of Chapter 7 of *World without Fish* (from homework)
- Researching graphic organizer: Lesson 3
## Agenda

1. **Opening**
   - A. Engaging the Reader: The Rest of Chapter 7 of *World without Fish* (5 minutes)
   - B. Unpacking the Learning Target (3 minutes)
2. **Work Time**
   - A. Researching Facts: Part 1 of the Jigsaw (27 minutes)
3. **Closing and Assessment**
   - A. Triad Share: Part 2 of the Jigsaw (10 minutes)
4. **Homework**
   - A. Read Chapter 8 of *World without Fish*. Remember to record new words on your word-catcher. As you read, mark the text with evidence flags to help you answer the focus question on your structured notes:
     - What are the sustainable fishing methods Mark Kurlansky suggests? What makes them sustainable?
   - B. Continue reading your independent reading book.

## Teaching Notes

- In this lesson, students work in triads to research a case study of a depleted fish species. As in Lesson 2, this is done in a Jigsaw, so each triad is given a different research resource and they partner with another triad in the Closing and Assessment to share what they have found.
- Continue to emphasize to students that the ideas presented are just one point of view and that there are other points of view out there about the idea of overfishing and fish depletion.
- In advance:
  - Prepare the research articles for each triad (see supporting materials). Each triad needs to be allocated one research article, and you need enough of each article for one per student. The articles provided range in difficulty—determine how to allocate articles by considering the reading level of students in each triad. Each triad needs to be given a glossary for its vocabulary article, too. An excerpt of *World without Fish* is also used as a research resource, so consider allocating this to triads with students who require more support with reading, as they should already be familiar with the text.
  - Post: Learning target.
Lesson Vocabulary | Materials
--- | ---
 factual information, compelling, case study; see glossaries for vocabulary words | • Performance Task Prompt: Informative Consumer Guide (from Lesson 1; one per student)
• Researching graphic organizer: Lesson 3 (one per student)
• Research articles and glossaries (one per student in assigned triad; see Teaching Notes):
  – *World without Fish*: Pages 46–49 (book; distributed in Unit 1; one per student)
  – “A Rapidly Disappearing Fish” (one per student)
  – “Case Study: Atlantic Bluefin Tuna” (one per student)
• Evidence flags (three per student for homework)
• Structured notes (from Unit 2, Lesson 1; one new blank copy per student)

A. Engaging the Reader: The Rest of Chapter 7 of *World without Fish* (5 minutes)
• Remind students of the homework: to read the rest of Chapter 7 of *World without Fish* and to answer the focus question on their structured notes: According to Mark Kurlansky, what are some other solutions to the issue of fish depletion? According to Kurlansky, why won’t they work?
• Ask students to take out their structured notes.
• Invite students to turn to an elbow partner and share what they wrote for homework on their structured notes.
• Remind them to make revisions where necessary.
• Select volunteers to share their answers with the whole group. Listen for students to explain that limiting the amount of time fishermen spend fishing is one solution, but it won’t work because fishermen will lose money. Another solution is to temporarily close off some fishing areas, but that won’t work because fishermen then move on to destroy somewhere else.

Meeting Students’ Needs
• Opening the lesson by asking students to share their homework makes them accountable for completing it. It also gives you the opportunity to monitor which students are not doing their homework.
### Opening (continued)

**B. Unpacking the Learning Target (3 minutes)**

- Direct students’ attention to the posted learning target and read it aloud:
  
  * “I can research to find relevant and compelling factual information and quotes about depleted fish species to use as a case study in my informative consumer brochure.”

- Remind students that **factual information** is information that is undeniably true, **relevant** information is that which is on the topic being researched, and **compelling** quotes are those that will encourage the reader to keep reading. Although informative, we want readers to read all the way to the end to be fully informed of the issue.

- Ask students to take their **Performance Task Prompt: Informative Consumer Guide** and quietly move to sit with their triads.

- Ask students to discuss in triads:
  
  * “What is a case study?”
  * “Why do you think it is useful to include a case study in your informative consumer brochure? How does reading a case study help the consumer understand the problem better?”

- Cold call students to share their responses. Listen for students to explain that a case study is a particular example that highlights the problem. It is useful because it emotionally involves consumers and helps them understand the issue with an example.

### Meeting Students’ Needs

- Learning targets are a research-based strategy that helps all students, especially challenged learners.
### Work Time

<table>
<thead>
<tr>
<th><strong>A. Researching Facts: Part 1 of the Jigsaw (27 minutes)</strong></th>
<th><strong>Meeting Students’ Needs</strong></th>
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<tr>
<td>- Distribute Researching graphic organizer: Lesson 3.</td>
<td>- If students have been grouped homogeneously, focus your attention on those triads that need additional support reading the research materials.</td>
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<td>- Display the Performance Task Prompt: Informative Consumer Guide and invite students to refer to their own copies.</td>
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<td>- Focus students on the second bullet of the Performance Task Prompt: “Include a case study of a fish species that has severely depleted and the impact it has had.”</td>
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<td>- Turn students’ attention to their Researching graphic organizer, asking them to focus on the line for a “Refined research question” at the top of the page. Tell students to discuss in triads:</td>
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<td>* “You are going to research more about a specific species of fish that has been depleted due to overfishing by reading a case study. What do you think a refined research question might be for this lesson? Why?”</td>
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<td>* Select volunteers to share their ideas with the class. Listen for students to suggest a question like: “What happened to a particular species of fish that became depleted?”</td>
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<td>- Invite students to record a refined research question on the lines of their Researching graphic organizer.</td>
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<td>- Invite students to read through the directions and the column headings with you.</td>
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<td>- Tell students that they will research a case study to include in their informative consumer guides. Explain that similar to the previous lesson, they will do a Jigsaw, where different triads read different articles about the depletion of different fish species to research. Then, they will come together during the Closing and Assessment to share what they found out; this way, they can share the workload of researching.</td>
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<td>- Distribute the research articles and glossaries.</td>
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<td>- Remind students to discuss their ideas before writing anything on their individual graphic organizers.</td>
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<td>- Invite triads to begin researching.</td>
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<td>- Circulate to support students in reading the texts and underlining factual information. Ask probing questions as necessary:</td>
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<td>* “Does this information answer your refined focus question?”</td>
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<td>* “Is this factual information? Is it something that is undeniably true?”</td>
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<tr>
<td>* “Why is this quote compelling?”</td>
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## Closing and Assessment

**A. Triad Share: Part 2 of the Jigsaw (10 minutes)**
- Invite triads to pair up with another triad to share the factual information they collected about case studies of fish depletion.
- Invite triads to add any new pieces of factual information to their graphic organizer.
- Preview homework and distribute **structured notes** and **evidence flags**.

### Meeting Students’ Needs
- Inviting triads to share their work can function as a self-check and can enable triads to push each other’s thinking further.

## Homework

- Read Chapter 8 of *World without Fish*. Remember to record new words on your word-catcher. As you read, mark the text with evidence flags to help you answer the focus question on your structured notes:
  - What are the sustainable fishing methods Mark Kurlansky suggests? What makes them sustainable?
- Continue reading your independent reading book.

### Meeting Students’ Needs
- Inviting triads to share their work can function as a self-check and can enable triads to push each other’s thinking further.
Researching Graphic Organizer: Lesson 3

Name: 
Date: 

Refined research question: 

Directions:
1. Read through the text carefully. Use the glossary to help you with words that are unfamiliar.
2. Reread the text and discuss in your triads the relevant factual information that will help you describe the issue to consumers.
3. If you are reading a paper text, underline any relevant factual information that will help you describe the issue to consumers.
4. Reread the text and discuss in your triads any relevant and compelling quotes that will help you describe the problem to consumers.
5. In a different color, underline any relevant and compelling quotes that will help you describe the issue in a compelling way to consumers.
6. Record the source in the first column (title and author).
7. Record the information in the second column. Record quotes in quotation marks.
8. In the third column, describe how this information/quote answers your refined question.

<table>
<thead>
<tr>
<th>Source (title and author)</th>
<th>Information/Quotes (copy quotes word for word in quotation marks)</th>
<th>How does it answer the question?</th>
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<td>How does it answer the question?</td>
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Chilean sea bass is one of the most popular fishes sold in restaurants and grocery stores in the United States.

The fish, which is really called the “Patagonian toothfish” by fishermen, was virtually unknown 15 years ago. In the mid-1990s, its popularity rose both here and in Asia, causing massive increases in catches.

The toothfish is a very slow-growing species found in the cold waters of the southern hemisphere. Typically, the fish can live as long as 50 years, but most fish are caught before they have the chance to reproduce.

Legal and illegal fishermen are overfishing this rapidly disappearing species now to the point of extinction. It is difficult to properly regulate the amount of fish many “pirate” fishermen bring in and many areas are in danger of being depleted completely.

Fishermen continue in search of illegal groups of the Chilean sea bass because of their high worth at market (about $10 per pound in the U.S.). Environmental groups like Greenpeace and others are lobbying major food stores to convince them to stop carrying the fish. It’s impossible to know whether public demand or the fish supply will end first.
They can weigh over half a ton, grow to over four meters in length, and dive to depths of 1,000 meters. They accelerate as fast as a sports car and reach speeds of 70 km/h, propelled by a rapidly vibrating, whip-thin tail. They even raise their body temperature far above that of the surrounding water in order to traverse frigid arctic waters.

Bluefin tuna are unique, perfectly adapted products of evolution. They are also dangerously close to becoming extinct.

Coveted for their dense, dark red meat used in sushi (where it is known as “toro”), bluefin support an unsustainable $7.2 billion industry that has driven tuna stocks to the brink of collapse. In 2009, WWF predicted that without drastic measures, Atlantic bluefin will disappear by 2012. Unfortunately, attempts to implement such measures—most recently at the 2010 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)—have failed.
### Case Study: Atlantic Bluefin Tuna

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<td>propelled</td>
<td>moved along</td>
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<tr>
<td>traverse</td>
<td>cross</td>
</tr>
<tr>
<td>frigid</td>
<td>very cold</td>
</tr>
<tr>
<td>coveted</td>
<td>wanted</td>
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