

WebQuest: Oil Spill in the Gulf

Introduction:

Assessing the environmental impact of an industrial accident, such as an oil spill, can be a challenge for scientists. There are multiple variables that must be assessed for a complete picture to emerge. This is proving to be the case of the Gulf of Mexico oil spill. In a recent article published in the journal *Science*, the authors suggest five key questions that scientists will be trying to answer as they begin to assess the impact of this disaster (Kerr et al., *Five questions on the spill*, 2010). These questions are:

- ☉ What's happening to the oil?
- ☉ What's happening to life on the sea floor?
- ☉ What's happening to marine life?
- ☉ What's happening to coastal ecosystems?
- ☉ What's happening to fisheries?

Activity:

In this activity you and your group will be writing an environmental impact report using the five key questions as stated in the article as a guide (Article can be found online here: <http://news.sciencemag.org/scienceinsider/2010/05/five-questions-on-the-oil-spill.html>). In addition to the article, you will be responsible to find additional web resources to use in writing your report. You should split the work between group members, each researching and writing a specific section of the report.

Background Knowledge:

This section should contain background information about the Gulf of Mexico oil spill. Locate at least two news articles from a reputable news source (CNN, FOX News, MSNBC, etc.), and answer the following questions:

- When and where did the spill occur?
- Who are the responsible parties? (in our current consensus)
- How did it happen? (in our current consensus)
- Include any other important background information.

Include citations for your sources in proper MLA format.

Questions 1: What's happening to the oil?

This section of the report should include information about the oil that is spilling into the Gulf of Mexico. In addition to the article locate several sources and use them to discuss the nature of the oil spill. This sections should discuss the following:

- How much oil is spilling into the Gulf? (present estimates)
- Where is it heading? (where are the ocean currents taking the oil?)
- What are chemistry and physical properties of the oil as it is first spilt, and as it weathers?
- What are dispersants? How are they being used clean up the oil? What are the pros and cons of using them?
- What else is being done or can be done to clean up the oil as it spills into the Gulf?
- Include anything else you feel is important

Include citations for your sources in proper MLA format.

Question 2: What's happening to life on the sea floor?

This section of the report should include information about the life on the sea floor. Locate several additional sources to help you answer the following questions about the sea floor:

- What are the two types of communities found on the sea floor of the gulf?
- Discuss the sources of energy for these communities and the interspecific interactions you might observe?
- What is being done to study the benthic communities of the gulf?
- Include anything else you feel is important

Include citations for your sources in proper MLA format.

Question 3: What's happening to marine life?

This section should include information about the marine organisms that live in the open sea. In addition to the article, locate several sources to help answer the following questions:

- What organisms live in the gulf?
- Describe the interspecific interactions of these organisms?
- What organisms are scientists particularly worried about?
- How many organisms have been found dead so far?
- What can be done, if anything, to help organisms affected by the oil spill?
- Include anything else you feel is important

Include citations for your sources in proper MLA format.

Question 4: What's happening to coastal ecosystems?

This section of the report should include background information on the impact of the spill on the coastal ecosystem. In addition to the article, locate several sources to help answer the following questions:

- What effects can an oil spill have on the surrounding coastline?
- How might the oil affect the coastal food web?
- How are coastal birds affected by the oil spill?
- What can be done, if anything, to prevent oil from washing up on shore?
- Include anything else you feel is important.

Include citations for your sources in proper MLA format.

Question 5: What's happening to fisheries?

Fishing is an important industry along the gulf coast. In this sections discuss the impact of the oil spill on the gulf coast fisheries. Locate additional sources to help answer the following questions:

- Estimate how much the fisheries along the gulf coast are worth. (in tons of fish, or in dollar amounts, or both).
- What kinds of organisms are caught in the gulf coast?
- Why are the fisheries affected by this disaster? (Health concerns, etc.)
- When will it be safe to open the fisheries again? How will we know?
- In the mean time what, if anything, is being done to help the fishermen? Is there anything they can do to help?
- Include anything else you feel is important.

Include citations for your sources in proper MLA format.

A picture is worth a thousand words

Locate pictures from the Gulf of Mexico oil spill to illustrate your report. Make sure to site the source of your images and the photographer/ illustrator who created the images.

Once each group member has researched and written their section of the report. Come together as a group and collaboratively integrate each section into a single coherent paper. Include a bibliography in the back of the report. Your sources should be listed by alphabetically by section.