

Think It Speak It: Oil Spill Meeting

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Organization:	LSU AgCenter – 4-H Youth Wetlands Program
Subject area	Science
Grade	High school
Lesson Length	60 minutes



Focus/Overview: This lesson engages students in role playing a town meeting. Students will develop a greater understanding of the many issues related to the Deepwater Horizon oil spill and how it impacts different people in the community.

Student Learning Objective(s):

The students will....

- ... describe and examine the issues related to the Deepwater Horizon Oil Spill through different perspectives.
- ... discuss the complexity of the issue.
- ... practice listening, speaking and using critical thinking skills.
- ... perform civic conflict resolution.

Louisiana SCIENCE Grade Level Expectations

GRADE LEVEL	TARGET GLEs
HS Geography: GLE #44	Analyze the relationship between a country's standard of living and its locally accessible natural resources (e.g., the effects of oil or natural gas reserves in a region) (G-1D-H3)
HS Geography: GLE #45	Describe the impact of the scarcity of natural resources (e.g., water shortage) or pollution (e.g., air, water) (G-1D-H3)
HS Geography: GLE #46	Assess the role of government in preserving natural resources and protecting the physical environment (G-1D-H4)
HS Geography: GLE #47	Evaluate the effectiveness of policies and programs related to conservation and use of natural resources (G-1D-H4)
HS Geography: GLE #48	Evaluate import and export policies in regard to a country's needs for resources (G-1D-H4)
HS Geography: GLE #49	Debate a position on an environmental issue involving conservation or use of natural resources (e.g., private vs. public interest) (G-1D-H5)
HS Geography: GLE #50	Evaluate options for solving a local or regional problem involving physical processes or environmental challenges (e.g., government disaster aid, environmental clean-up cost responsibility) (G-1D-H5)
HS Inquiry: GLE #11	Evaluate selected theories based on supporting scientific evidence (SI-H-B1)
HS Inquiry: GLE #14	Cite examples of scientific advances and emerging technologies and how they affect society (e.g., MRI, DNA in forensics) (SI-H-B3)
HS Biology: GLE #27	Analyze positive and negative effects of human actions on ecosystems (LS-H-D4) (SE-H-A7)
HS Biology: GLE #35	Explain how selected organisms respond to a variety of stimuli (LS-H-F3)
HS Env Sci: GLE #9	Cite and explain examples of organisms adaptations to environmental pressures over time (SE-H-A8)

HS Env Sci: GLE #12	Give examples and describe the effect of pollutants on selected populations (SE-H-A11)
HS Env Sci: GLE #18	Identify the factors that affect sustainable development (SE-H-B6)
HS Env Sci: GLE #19	Determine the interrelationships of clean water, land, and air to the success of organisms in a given population (SE-H-C1)
HS Env Sci: GLE #21	Analyze the effect of common social, economic, technological, and political considerations on environmental policy (SE-H-C3)
HS Env Sci: GLE #22	Analyze the risk-benefit ratio for selected environmental situations (SE-H-C4)
HS Env Sci: GLE #16	Describe the relationship between public support and the enforcement of environmental policies (SE-H-C5)
HS Env Sci: GLE #25	Discuss how education and collaboration can affect the prevention and control of a selected pollutant (SE-H-D2) (SE-H-D3)
HS Env Sci: GLE #26	Determine local actions that can affect the global environment (SE-H-D4)
HS Env Sci: GLE #27	Describe how accountability toward the environment affects sustainability (SE-H-D5)
HS Chem: GLE #47	Assess environmental issues related to the storage, containment, and disposal of wastes associated with energy production and use (PS-H-G4)

Materials Needed

- *Coast in Crisis: The Deepwater Horizon Oil Spill* (**Blackline Master #1**)
- Role play cards (laminated if possible) (**Blackline Master #2**)
- Props for town meeting – students can choose a simple prop to represent their profession or occupation
- Chalkboard/Whiteboard and writing utensil
- A map of Louisiana

Advance Preparation

1. Make copies of *Coast in Crisis: the Deepwater Horizon Oil Spill* (**Blackline Master #1**) for each group).
2. Copy and laminate role play cards (**Blackline Master #2**).
3. Hang map showing Louisiana, Louisiana coastal zone, or oil spill contamination areas to show students the affected areas.
4. Collect any props for town meeting.

Background Information

Each group of students will receive a character card describing a group of people affected by the Deepwater Horizon oil spill. Students will familiarize themselves with their character by reading the information on their card. The teacher or chosen student will act as the chairperson and the students will participate in a town meeting at which they take turns answering questions as their character group. The teacher should also assign a recorder who will record each speaker's opinions/recommendations as the meeting progresses.

The importance of this lesson is that students learn that resolving a problem, such as response to an oil spill, is very complex. The town meeting takes place after the oil spill has ended and the well has been capped. During the town meeting, the students should see how compromise is often the final outcome when making a decision that affects an entire community.

Procedure

Engage (Introduction)

1. Ask the students to remember their first thoughts after they heard about the oil spill. Ask them if any of their thoughts have changed as the response to the spill progressed and the well was capped. Ask them what they have done and what people they know did in the weeks that followed.
2. Distribute copies to be read silently or aloud by of the *Coastal Crisis: the Deepwater Horizon Oil Spill (Blackline Master #1)*. Explain the situation surrounding the oil spill in any way you wish to help your students understand the issues.
3. Discuss the concepts involved so the students understand the big picture concerning the oil spill. Consider posting a map of Louisiana to assist students in understanding the location of the spill and affected areas. (The website <http://www.geoplatform.gov/gulfresponse/> has interactive maps of the oil spill).

Explore/Explain (Activity)

1. Divide the class into eight groups.
2. Hand out *Coastal Crisis: the Deepwater Horizon Oil (Blackline Master #1)* to each group.
3. Each group will then receive a character card putting them “in the shoes” of a person that has been affected by the Deepwater Horizon oil spill. The students should familiarize themselves with their character by reading what is on the card. Tell the students that they will be participating in a town meeting today that will be facilitated by a chairperson (teacher or chosen student).
4. Elaborate that the purpose of a town meeting is to bring citizens of a community together to deliberate about a matter of concern and reach a fair conclusion that is best for everyone involved. The idea is to create a democracy, where all sides can exchange ideas in an open forum and be represented in a decision that will affect their community. The town meeting is occurring after the oil leak has stopped and the well has been successfully capped.
5. Begin the town meeting by setting ground rules.
6. Lead a brainstorming session on town meeting guidelines by asking the students what rules they feel are important to have a discussion on this difficult issue. Help students decide on five rules to follow throughout the meeting. Ideas that may be included are sharing the floor (one group or person should not dominate), speak to other groups not the chairperson, be respectful of others, listen to the person speaking – this will help the students learn and understand.
7. List these five rules on the board for all the class to observe and follow.
8. If the students have props to represent their character group, allow them to use them now.
9. The chairperson should now call the town meeting to order. Allow each group a few minutes to introduce themselves and tell others about the effect the Deepwater Horizon oil spill has had on their members.
10. Once everyone has had a chance to speak the chairperson, the chairperson will ask the questions below one at a time and allow the students to brainstorm as a group and develop a response as their characters. The groups can respectfully debate between one another and the chairperson can add to the questions if the meeting is going well. Record any important comments/recommendations on the board.
 - a. Questions:
 - i. What should be next on the agenda as a response to the spill?
 - ii. Do you feel that all parties are addressing this tragedy to the best of their abilities?
 - iii. What are the critical facts about this problem?
 - iv. What arguments can you make against other groups?
 - v. What trade-offs are the groups willing or unwilling to accept?

- vi. What personal values influence your thinking on this issue?
- vii. What do you see as the tension between the groups?
- viii. Why is this issue so difficult to discuss?
- ix. On what do the groups agree?
- x. *Students may pose any additional questions*

Expand (Apply or Practice)

When the discussion is over, give the students time to reflect aloud as a class on the discussion by asking following questions:

- a. How has their personal thinking changed?
- b. How satisfied are they with the outcome of the discussion?
- c. Ask the students what could have made the meeting flow better?
- d. Who had the most difficult role? Why?
- e. Who had the least difficult role? Why?
- f. Could they imagine putting themselves into another character group? How would that change their opinions on the issue?
- g. What might the students do to act upon the class discussion?

Evaluate

The students will have achieved the objectives if (a) all were actively engaged in a meaningful discussion (if the students kept the discussion calm, did not interrupt each other, and respected each other's opinion through active listening), and if (b) the students could generate a decision that the entire group agrees upon (or a majority).

Students will write a reflection in the voice of their character.

Recommended links and sources:

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This lesson was Adapted from *The Great Marsh Dilemma* Activity 1-17 in Educator's Guide to the Barataria-Terrebonne Estuary Barataria-Terrebonne National Estuary Program (BTNEP)/LSU AgCenter: Coastal Land Loss and Restoration.

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This lesson was developed by LSU Agricultural Center's 4-H Youth Wetlands Program in response to the BP Horizon blowout oil spill, in partnership with Louisiana teachers, Louisiana Sea Grant College Program, Audubon Aquarium of the Americas, Louisiana Department of Wildlife and Fisheries, LSU Department of Education Theory, Policy and Practice, UNO Pontchartrain Institute for Environmental Studies, SELU Department of Teaching and Learning, Barataria-Terrebonne National Estuary Program, Louisiana Universities Marine Consortium, Louisiana Department of Natural Resources and Louisiana Department of Human Health.

Blackline Master #1

Coastal Crisis: The Deepwater Horizon Oil Spill

Time frame: Past Tense (after the spill is over and the well has been capped)

What happened?

Hundreds of oil wells have been drilled deep below the seabed in the Gulf of Mexico. Each deep-water well has a pipe that carries the oil from below the seabed up to a platform floating on the water's surface. The oil is collected at the platform and shipped to land to be processed for use.

April 20, 2010, a new well was being drilled. Suddenly, there was a blowout. Some natural gas and oil accidentally escaped from the well causing an explosion below the platform. The explosion killed 11 workers and injured 17 on board. When the damaged platform sank, it broke the pipe leading from the well. The busted pipe is leaked thousands of barrels oil crude oil at several places along the Gulf of Mexico seabed. The pipe leaked oil for XX days. Total oil set into the environment is estimated at XXX barrels.

How did this happen?

While the answer is not known for sure, experts believe that this disaster was due to one or a combination of the following factors: the cement used to seal up the well after it was drilled may have failed to do the job; a faulty blowout preventer might have been installed; the drilling crew may have overlooked signs of trouble as they hurried to leave the rig and get on to the next job; and lastly, officials should have been creating and enforcing stronger safety and environmental protection laws.

How much oil has spilled?

While it's hard to predict exactly how much oil gushed into the Gulf, an independent study estimates that a total of 4.9 million barrels (42 gal/barrel) were released before the well was capped on July 15, 2010. As more and more oil leaked from the well, the slick spread farther and farther. Signs of oil washed up onto the coasts of Louisiana, Alabama, Mississippi, and Florida, and into wetlands in some areas in Louisiana. The presence of oil will continue to present a serious threat to plants and animals that live in these areas. Many fear that this thick, sticky oil has suffocated the roots of vital wetland plants and impaired or killed many birds, fish, shrimp, crabs, and endangered sea turtles. The number of dead animals collected as of August 13, 2010, was 4,768, with 4,080 being birds and 525 being sea turtles.

Many have been comparing this to the Exxon Valdez spill that occurred on March 20, 1989, when an oil tanker ran upon a rocky Bligh Reef in Alaska. While not the largest spill in the world, it was one of the largest in U.S. history and widely referred to as the most devastating to wildlife worldwide. The tanker spilled 11 million *gallons* of oil, eventually touching more than 1,000 miles of beaches. To put the Gulf spill into prospective, we're up to at least 10 times the oil spilled by the Exxon Valdez. How bad is that though? Well, it would take just a pint of oil to contaminate 125,000 gallons of drinking water. That is more than 15 people drink in a lifetime.

What are some options for cleaning up this spill?

- **Containment & Recovery**- surround the oil with booms to contain it, prevent spreading and recover the oil (for cleaning and reuse) with skimmers.
- **Sorbents**- Remove oil with absorbent pads made from diaper-like substances. Sometimes made from natural materials.
- **Dispersants**- Chemicals that act like detergents to break oil up into tiny droplets making it easier for naturally occurring oil-eating bacteria to consume and speed up degradation.
- **Burning**- Usually 95-98% efficient, but does produce toxic (same as if oil burned was intended for fuel) black smoke that is released into the atmosphere.
- **Bioremediation**- Enhances natural biodegradation by providing natural oil-eating bacteria with needed fertilizers or oxygen.
- **Shoreline cleanup**- Manual and mechanical cleaning techniques with rakes, bulldozers and by hand remove oiled debris and sand. High-pressure hosing to rinse oil back into water to

be skimmed up. Often times high-pressure hosing forces oil deeper into sediments or under rocks.

- **Do nothing-** Sometimes cleanup techniques can do more harm than good. In open ocean spills, cleanup is difficult and not efficient. Wave action and photo-oxidation (from sun) helps to break oil down. In marshes, each contaminated area is unique and is assessed by a professional whether to actively clean up or to leave it alone.

Oil spill intelligence report

The problem lies in that no two oil spills are the same. Oil is processed in different ways so that we can turn it into products we need and use such as fuel, electricity generation, machinery, asphalt, wax, medicines, ink, plastics, fertilizers, pesticides, and paints/varnishes. The oil that gushed out of the ground in the Gulf was dark, thick, and sticky unlike the oil that had been processed and spilled from the Exxon Valdez. Additionally, oil responds differently to salt water than it does to fresh water. The leak occurred when the Deepwater Horizon was drilling at 5,000 feet below sea level, which made capping the well very difficult. After numerous attempts, the gushing wellhead was capped on July 15, 2010, and the leak stopped 86 days after the explosion. On September 19, 2010, the digging of the relief well was successfully completed and the federal government declared the well "effectively dead".



Think it, Speak it: Oil Spill Character Cards

British Petroleum Representative

We at BP pride ourselves in being one of the world's largest energy companies. We have approximately 80, 000 employees in more than 100 countries worldwide. We provide our customers with energy to heat their homes and light to see the world, along with other petroleum-related products needed in everyday life. We also provide fuel for transportation and are considered the largest gasoline retailer in the United States. What we do at BP is find oil and natural gas, extract it from hard to reach places, and transport it from land and sea to make useful products out of it. When we find a drilling location out at sea, we build large structures that house workers and machinery needed to drill wells in the ocean bed, known as platforms. We take strict safety precautions to ensure our platforms are strong and steady enough to handle the oil and gas that will be extracted. At the time of the explosion, we were drilling an exploratory well at a water depth of approximately 5,000 feet. We still do not know what exactly caused the BP Oil Spill aboard the Deepwater Horizon, but it should have never happened, and we are sorry that it did. The spill scared everybody, including us at BP. The fact that we had such a hard time capping this well and stopping the flow of oil was disappointing. We accept full responsibility of this leak and pledge to clean up the oil and gas in the Gulf of Mexico and to pay all legitimate claims arising from the spill. There has been debate over how much oil spewed out of the leak. Well, no matter what the amount was, it will not change our response to this crisis. We have issued an all-out response and we're doing everything we can clean up the coast. Words cannot express how we feel about this tragedy. Many of us at BP live and work in the Gulf region and we want to do everything we can to make this right and restore the lives of people affected by this oil spill.



Think it, Speak it: Oil Spill Character Cards

Federal Government Representative

The spill was the worst in the nation's history. No two oil spills are the same, thus the cleanup process was not easy. This spill is still a complex issue. We were dealing with a well being drilled 5,000 feet below sea level, in cold, salt water in the midst of prime season for shrimping, and bird nesting. We had the best and the brightest working sleeplessly on addressing these issues. We hold BP fully responsible and are overseeing their operations. Due to their knowledge of the subject matter and equipment, we are letting them run the cleanup operation, but all of their plans are monitored and approved by the federal government. We will demand that they pay every dime they owe for the damage they've done and the painful losses that they've cost. We are working every day to decrease our dependence on foreign oil and look into alternative fuel sources. In response to this crisis on the coast, President Obama proposed to place a moratorium on deep water drilling permits so we can learn about what went wrong and ensure this does not happen in the future. The president also temporarily suspended any planned exploration drilling off the coasts of Alaska and Virginia and on 33 wells under way in the Gulf of Mexico. We would like to assure Americans that we are working as quickly as possible to clean up the spilled oil. We are willing to try any reasonable strategy and have deployed the military to help build berms and booms. We're working hard to get it right.



Think it, Speak it: Oil Spill Character Cards

Concerned Citizen

The worst part of this whole tragedy was the feeling like we didn't know what was going on and we couldn't do anything to make it right. I watched all of this on the news and at the end of every day all I had was more questions. When the well was leaking, I was wondering how much oil was spilling? When will it stop? Now that the well has been capped, I wonder what does this mean for the cost of seafood? What does this mean for gas prices? What does this mean for all of the animals? What does this mean for our tourism? What will happen if we have an active hurricane season as predicted? Is the government even doing anything? This was the evening news top story for months and no one seems to know anything. This is like Katrina all over again. Here we are, sitting, waiting for help. I went to visit Elmer's Island Wildlife Refuge during the spill. Even after all the warnings, it looked worse than I imagined. There were signs of oil stretched down the beach; when cleanup workers dragged their rakes along an already-cleaned patch of sand, more auburn crude oozed up. Beneath the surface were slimy washed-up globules that, one worker said, "were so big you could park a car on them." I met a woman while I was down at Elmer's Island that said the smell of oil was so strong in her house one night that she had to shut all her windows and turn on her AC (who has the money to run that all the time anyway?). If her asthma kept acting up, she was worried she would have to go on her breathing machine again. I don't think we necessarily should stop offshore drilling, it gives many Louisianans jobs, but I just want some answers. I'm living here, I witnessed the spill and now the clean-up, but what does this mean for us? How will our weakened coastline affect prices, jobs, and even our natural wetland buffer for this upcoming hurricane season? I've lost everything once before and I don't want it to happen again.



Think it, Speak it: Oil Spill Character Cards

Commercial Fisherman

Everyone knows that our lives as commercial fisherman have depended on what we catch from the waters in Louisiana marshes and the Gulf of Mexico. One third of America's seafood comes from coastal Louisiana and we are home to one of the largest oyster beds in the world. In 2006 alone, the commercial fisherman in Louisiana landed over 844 million pounds of seafood, making up 21% of the total catch by weight in the lower 48 states. Because of the oil spill, the federal government closed 30% of water that we use to collect our catch. This oil spill caused most of our industry to be shutdown and may result in long-term damage to our resources and our ability to make a living along the coast. The unknown for the future is the worst part. We support the oil industry and we need each other. For many years commercial fisherman and the oil companies have co-existed in the marshes and the Gulf and work hand in hand. Many of my relatives, along with my children have worked with the oil companies when bad economic times have caused the demand for seafood to go down. To make matters worse, we are getting bad publicity that the small amount of seafood coming from Louisiana is contaminated. The truth is, we are all working with the Department of Health and Hospitals to make sure this is not the case! Most of us are logging serious overtime to go above and beyond routine inspections of our product. Everyone wants to point fingers, wanting to blame the Coast Guard, the Federal Government, or BP, but we just want it cleaned up. BP hired us for cleanup efforts, which is helping. Since Katrina, more than 50,000 fishing jobs have been lost. We just hope that doesn't happen again with the spill. BP promises to help all coastal businesses harmed by the spill, which is great, but we're just not sure when that help is coming. This spill has changed Louisiana and the rest of the Gulf region forever. This tragedy is going to make BP and the whole oil and gas industry open their eyes; we are all going to learn from it and come out better in the end.



Think it, Speak it: Oil Spill Character Cards

Response Volunteer

As soon as I heard about the oil spill I knew I had to come down and help. I signed up with every local volunteer organization, but all I got were e-mails saying "thanks for your support, this is a huge task and we're working on organizing." I was there to help! Let's mobilize! For many months, the news showed nothing but oiled birds and talked about the need for volunteers in the Gulf. It broke my heart to see that, but organizations seemingly didn't need me. Why not? This was an environmental disaster, there were plenty of us to provide the man power, but it feels like they kept us sitting on the sidelines. It's not even just us. An article that I read in the newspaper claims BP ignored foreign offers of equipment and made little use of the volunteers. The Coast Guard said there have been 107 offers of help from 44 nations, ranging from technical advice to skimmer boats and booms. If people are willing to help, why not accept their offer? More than 2,000 boats signed up for oil spill cleanup duty under BP's Vessel of Opportunity program. That's why I don't want to believe what I heard recently, that many fishing boats hired for the cleanup did a lot of waiting around. During the spill, I looked online at one of the oil spill websites and it seems like they need DID need volunteers, just doing things that don't really interest me. Like volunteers to report when they see oiled wildlife and oiled shorelines and people to pick up litter and debris along the shoreline. Some organizations are even requesting donations and help with paperwork; that is something I may look into next week. I am proud to say that I am one of more than 20,000 volunteers that signed up to help in Louisiana, Florida, Alabama, and Mississippi. I just hope I get to take part in some part of the clean-up effort.

Think it, Speak it: Oil Spill Character Cards

Member of an Environmental Organization

It doesn't take a scientist to list the implications of this spill. Some people said it wasn't bad until it reached the shore, but a lot of animals live in the ocean, and a spill like this becomes bad for marine life as soon as it hits the water. You have endangered sea turtles, the larvae of bluefin tuna, shrimp, crabs, oysters, grouper, and all the microscopic animals that live on the bottom of the ocean and serve as the basis for the entire food chain. We keep waiting to see how bad it is at the shore, but we may never completely understand the full impacts on ocean life. The oil is going to hit the seafood industry hard. How could it not? The Gulf Coast produces 40 percent of the seafood catch in the lower 48. How many fish, shrimp, and crab will disappear with the loss of so much of their nursery habitat? Without fish to catch, fishermen won't be bringing in money for themselves or for our state economy. We've all seen how this is affecting the birds too. Some are so covered in oil that they are barely recognizable. As of September 17, 2010, a total of 5,951 dead birds, 585 sea turtles and 92 mammals have been collected since the disaster. The scary thing is that the majority of oiled animals will probably perish unseen in remote, inaccessible wetlands or far out at sea. The species most affected have been gulls, terns, and Louisiana's state bird, the brown pelican. Oil has a lot of negative impacts on birds, like they lose their buoyancy and ability to keep warm, suffer lesions, not to mention the life-threatening conditions that arise from ingesting oil. Aside from the obvious affects on animals, the oil has encroached into Louisiana's already suffering wetland ecosystems that provide habitat for a variety of species and act as a natural storm buffer. Many birds nest along the coastline and millions of migratory birds use the Gulf Coast as a stopover point. Because of this oil spill they may face habitat and food shortages. We need to ban offshore drilling to avoid this happening yet again. President Obama had taken an important step to halt the most imminent environmental threat to the coast, but the danger will remain until there is a permanent ban on drilling in the Atlantic. BP's oil catastrophe in the Gulf is a wake-up call for our nation. Giving "Big Oil" more access to our nation's waters will only lead to more pollution, more lost jobs and more damage to our economy. But now that it's happened, what should we do? Burning the oil produces toxic smoke, building sand berms takes sediment from where it needs to be and alters the flow of water along the coast, dispersants are extremely toxic, sorbents aren't enough for a spill this size, and we're waiting to get more skimmers. I'm aware that this is a complex issue, but the Federal government and BP are supposed to be the pros. Do what you've been trained to do and do it fast because those that are suffering the most don't have a voice to tell you!



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Scientists and University Researchers

The oil has invaded the waters and shoreline of Louisiana but we are not sure at this point if it is killing these unique wetland ecosystems or simply adding to the already existing problem of wetland loss. The consistency of this oil leads us to think that it will not penetrate the soil and new aboveground growth will form next growing season. As long as there is not repeated exposure to the oil on this new growth, the wetlands may actually bounce back from this disaster. We asked BP to stop using the dispersants because each of these chemicals has some level of toxicity that may be harmful to ocean life. The long-term effects are unknown because there has not been enough research done on these dispersants and any use of them should be done with extreme caution. We also question whether the sand berms will work to keep oil off the shore. The construction of these berms would require a lot of work from a lot of people, along with an enormous amount of sand. More importantly, there could be unintended environmental consequences. We do not know how these structures will impact storm surge or waves or currents. We may also end up redirecting oil to areas not barricaded off by the structures. On the other hand, if the berms do not immediately erode during hurricane season, the concern is that they will block passages that carry water and organisms to the wetlands. This means, we could possibly kill the wetlands due to lack of nutrients and tidal flushing, and not oil.

All in all, many of us worry that cleanup efforts are being done without enough scientific oversight and may lead to more environmental damage than good. Because of the soft soils found in Louisiana wetlands, something as simple as walking (much less driving buggies and boats across these sensitive areas) could have negative effects on vegetation. Any cleanup effort that may increase erosion, such as high pressure spraying, should not be considered. Two promising options appear to be burning the oil off of shallow water grassy areas and biostimulation/bioremediation (where large sections of oiled marsh are sprayed with a microbial stew consisting of nutrients and three naturally occurring bacteria that eat oil). The best option, however, may be to do nothing. Right now it seems everyone is trying to satisfy the "do something" crowd. The gulf is resilient; it may be able to handle the oil. We all generally agree it will be years before the effect of the oil settling into these unique wetland ecosystems will be known, but not all see an apocalyptic outcome. We hate being viewed as people who might be attempting to obstruct any action that will save the coast. We are just as heartbroken and furious about the impacts of this spill, but doing something just to say you are doing something is not the right thing to do.



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Recreational User

Our vacation this year wasn't really a day at the beach, like we intended it to be! We got to Grand Isle on a Friday night and the oil showed up on Saturday morning. There were big tar balls down the beach with cleanup workers raking the same spots over and over – I wish they would have been doing more! Red flags told us not to get into the Gulf, but we didn't even want to because of the strong smell and orange sheen floating on top of the water. We ended up cutting our vacation short since we couldn't even hang out on the beach. We hated to leave because we had reservations at our favorite seafood restaurant in town but no one wanted to eat contaminated seafood anyway. Our relatives went to Florida to go scuba diving in what they THOUGHT was clean water, but the beaches were closed there too. They have been diving for years and love exploring the Gulf of Mexico's wooden shipwrecks, artificial reefs, and the plants and wildlife found underwater. It's a shame that their summer was ruined too by BP!

We might be able to find a place off of the coast to take a trip later this year but we usually spend most of those months at our camp, fishing and duck hunting. It makes us sick to even think about the hunting season. The Gulf Coast is a popular wintering spot and a stop-over place for millions of migrating birds. We've been told that Gulf Coast **bird** watchers continue to survey beaches and marshes for **birds**. The birders are supposed to be keeping an eye on nesting birds too, near water and along inland areas. We are just hoping that this disaster doesn't affect our bird watching and duck hunting this year, or in the years to come. One good thing is that ducks are pretty adaptable; we can only hope that they are able to move around and avoid the oil. We are trying to remain hopeful! We have no experience with this type of disaster; so we will all just have to wait and see.

