

# **Deepwater Horizon Oil Spill**

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**Abstract:**

The deepwater horizon oil spill was a drastic and catastrophic spill of oil in the Gulf of Mexico that occurred in April of 2010. The oil spill caused a loss of 8.7 billion dollars, and 22,000 people lost their jobs. It also harmed a lot of the population of sea life, many that people fished to make a living. It also killed 11 people and injured 17 people. To this day there are still lasting effects of the 2010 deepwater horizon oil spill in the water. We interviewed a worker of the seafood industry at the time. He stated that they lost wages, because they were instructed not to catch anything for a year. Likely because the animals they caught would be contaminated with chemicals from the oil spill. He also states that the boats were not running for about a year, likely because they were instructed not to catch anything. Because of this he lost a lot of wages. Many other people were in the same situation as him and lost money that they counted on to make a living. We also went to the gulf of Mexico 5 different times to test the water. Each time we went we tested the sediment, dissolved oxygen, Nitrate Nitrogen Low range, total Alkalinity, and salinity levels. Our research from this experience shows that there are still many lasting effects of the 2010 deepwater horizon oil spill in the water, one including chemicals still in the gulf of Mexico waters.

**Research Questions:**

1. What is the long term effect of an oil spill?
2. What caused the deep water horizon oil spill?
3. How did the deep water horizon oil spill affect the marine environment?

**Introduction:**

The Deepwater Horizon Oil Spill happened April 20, 2010. It was an oil rig explosion that leaked oil into the waters of the Gulf of Mexico. The oil rig exploded because there was not

enough cement between the production casing and the protection casing, this caused a failure in the Blowout Preventer or BOP. It killed 11 people and injured 17. Many birds and animals that lived in these waters were affected by the oil spill. This was one of the biggest oil spills in history, and there can still be remains found of it in the waters of the Gulf of Mexico.

Right after the oil spill the Gulf was covered in an oily sludge that was at the top of the water. This oil spill affected the whole ecosystem of the gulf of Mexico from plants, animals, shorelines of barrier islands. The oil contaminated the shorelines of the barrier islands and made it hard for fishing in the Gulf of Mexico.

The oil spill in 2010 increased the hypoxic areas. Hypoxic areas are known as "Dead zones". The term 'hypoxic' means that little oxygen can be traced. The amount of oxygen in the ocean is presumed to be at 1-30%. There is very little chance of surviving due to the need of at least 30% of oxygen in the ocean to survive. Most living organisms in the Gulf died off because of the oil spill.

Even Though the Deepwater Horizon Oil Spill happened over 10 years ago it is still affecting our water. There can still be traces of crude oil found in the soils of the wetlands. When wetlands undergo drain conditions, the oil stops the oxygen flow causing the plants to not have enough oxygen flow. This causes the plants to not have the oxygen flow they need. This lack of oxygen caused the wetland plants to be under stress. This stress can have a bigger effect by causing erosion to the wetlands. This is all a cause of the oil spill.

The Deepwater Horizon Oil Spill affected the waters of the Gulf as well. The water in the gulf is now almost fully recovered. Right after the oil spill the Gulf was covered in an oily sludge that was at the top of the water. This oil spill affected the whole ecosystem of the gulf of Mexico

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The animals in these areas were deeply hurt. Many animals were drenched in oil after the spill. The oil destroys the mammals top layer of skin, therefore it introduces them to dangerous elements which can kill them. Since the spill, the number of some animals have increased, but the species diversity is very low. Which means that some animals have increases in population, but there aren't as many species.

Whilst the effects of the Deepwater Horizon Oil Spill created issues for the environment, it also created issues for surrounding businesses. An article published by *AmericanProgress.org* claims , “.. *The Canadian Journal of Fisheries and Aquatic Sciences* determined that over seven years, the oil spill could have an \$8.7 billion impact on the economy of the Gulf of Mexico including loss in revenue, profit, wages, and close to 22,000 jobs.” This left many citizens without jobs, therefore no income. This would prevent them from being able to properly provide for their home and well beings.

The Oil spill had a huge effect on the coast and some of it is still around but it wasn't long before most of it was gone. During the time it started they immediately took action to the spill and started to try to stop and clean it. Before they sealed the well to stop the spread they started control fires, which slowed down the spread of the oil. Government scientists and workers started to take action by using skimmers and dispersants in the water to break down and take away the oil. Some of the oil spread to the shore line and some evaporated but as time went on most of the oil soon just disappeared.

### **Research Methods:**

Interview: Robert Wolcott, Ex-Shrimpboater

### How did the Deepwater Horizon Oil Spill affect your income?

You were not allowed to catch shrimp anywhere, the oil spill affected so it stopped me from making any money for a year.

### How was the Shrimp Boating Industry affected by the oil spill?

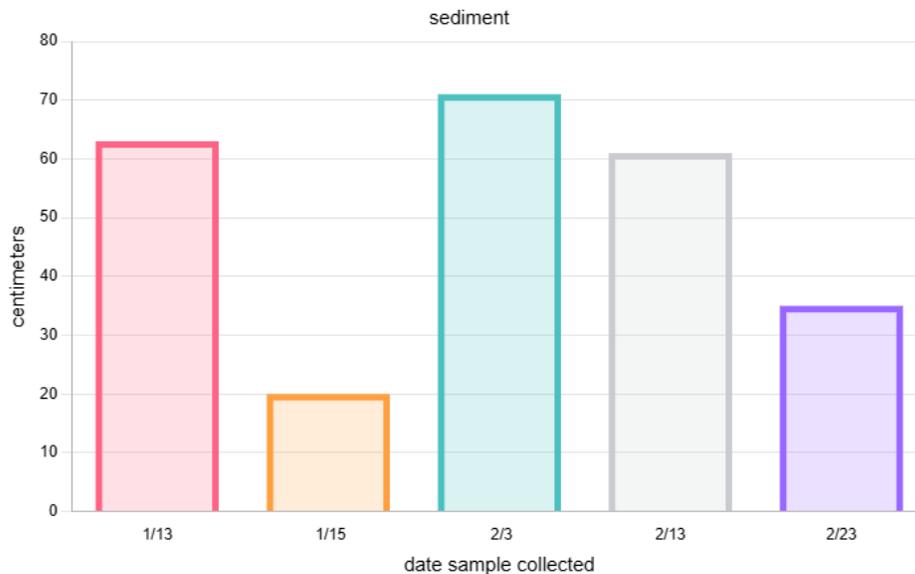
All of the boats were not working for a year.

### How did the oil spill affect shrimp boating for you personally?

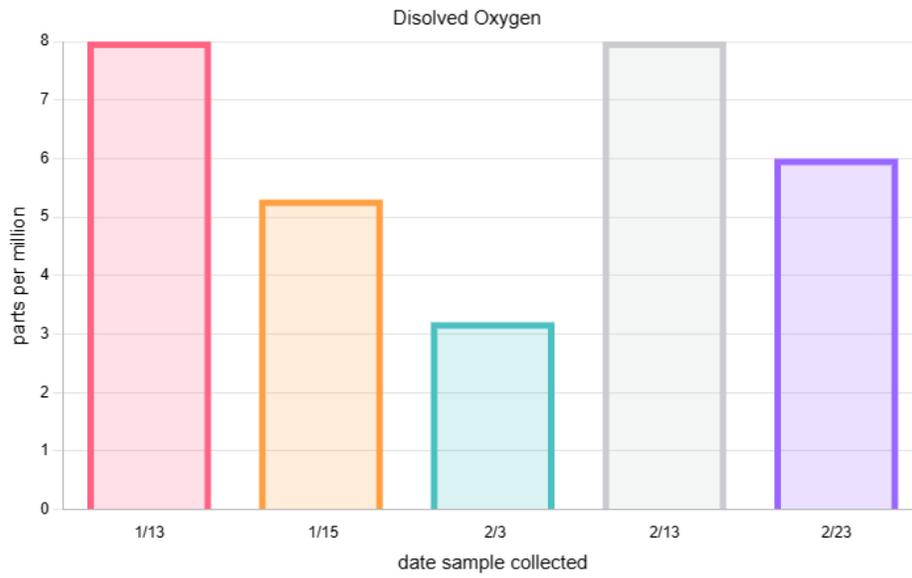
Prices went down and fuel went up. It made it hard for a crew to make money. I owned a boat so I had to keep doing it (shrimp boating). At least half of the profit went to fuel.

We went out to the beach and tested water on the pier. We pulled in a bucket of water and bottled up water and capped it until the air bubbles were all out. We tested the water several times to find out what is in it. Then we tested how much sediment is in the water by filling up a big tube and looking over the top until we couldn't see the black and white disk at the bottom. We did for at least 5 days to collect our data.

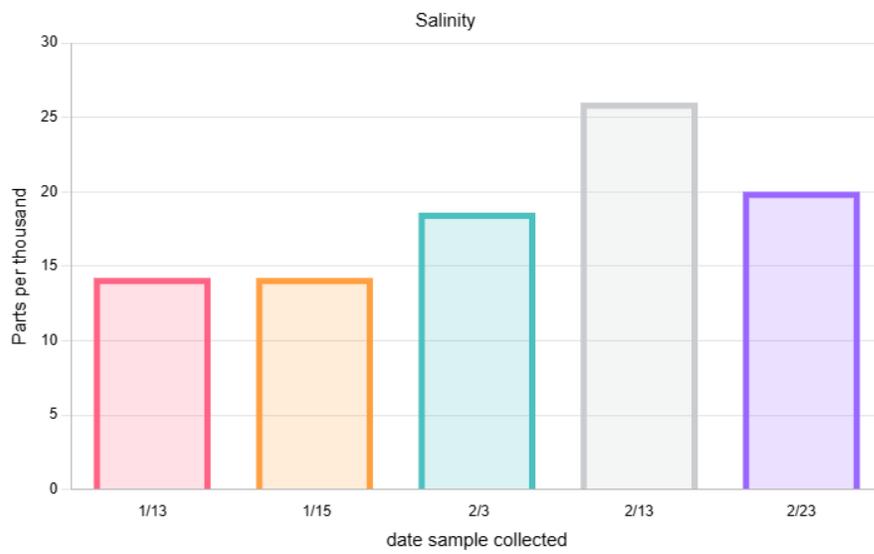
Results: *(Including GLOBE Data!)*



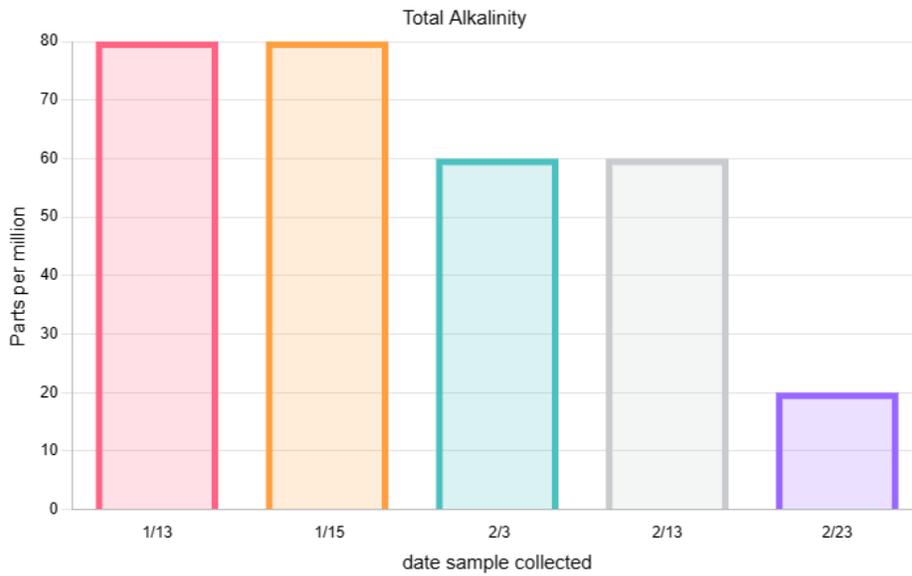
*In this graph you can see the sediment levels for each day we tested and how they changed.*



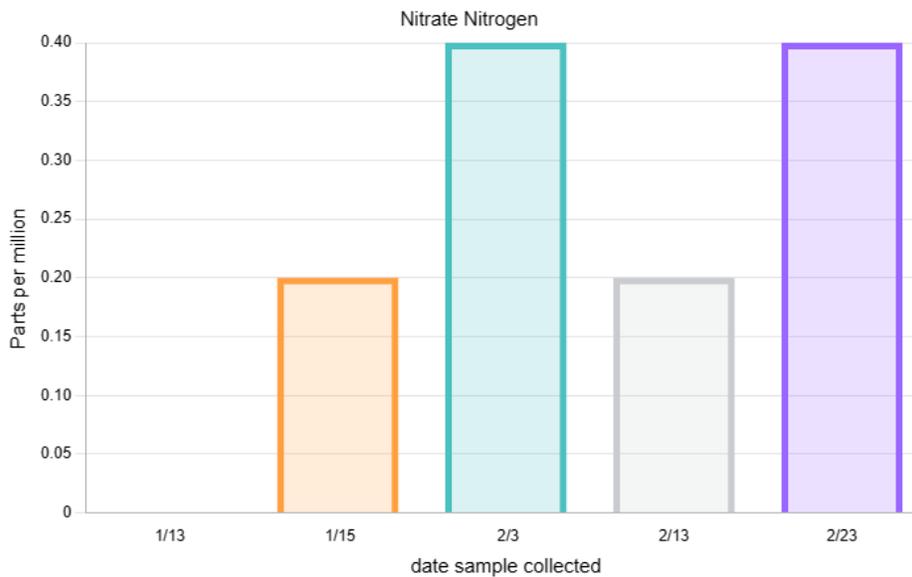
*This graph shows the dissolved oxygen each day that we tested the waters.*



*This Graph show sthe Salinity in the water when we tested it.*



*This graph shows the Total Alkalinity in the water each day we tested it.*



*This graph shows the Nitrate nitrogen in the water each day we tested it.*

**Discussion:**

With our data we still see little amounts of chemicals from the oil spill still in our ocean. These chemicals from the oil spill can still be causing harm to our ocean life and economy so it

is important that we find ways to try and get rid of these chemicals. Ways that we can solve this problem is by cleaning the ocean, or trying to prevent another oil spill. By cleaning the ocean we are getting those little amounts of chemicals out of the ocean helping our ocean ecosystems. By trying to prevent the oil spills we are reducing the probability that one could happen again destroying our ocean ecosystems, and economy. These methods could help us solve the problems the oil spill caused.

#### Conclusion:

The Oil spill had a huge effect on the coast and some of it is still around but it wasn't long before most of it was gone. This was one of the biggest oil spills in history, and there can still be remains found of it in the waters of the Gulf of Mexico. The data shows that there are still little amounts of chemicals and sediment in the water. The oil spill affected us then and still does today. Back when the spill happened they had to temporarily stop the seafood industry because of contamination, so it left people with no jobs. Now, the oil spill directly still affects today but is less now. This is because we have found ways to clean up a large amount of it but there are still many things in the water that were affected by the oil spill that's still around today.

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Optional) Badge Descriptions/Justifications:

