

# DARK WATERS

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An oily wave hitting the shore of Orange Beach, Alabama (Martin).

## Oil in Our Oceans

**“Together natural and human sources contribute about 380 million gallons of petroleum to the oceans each year” (Disasters).**

About seventy percent of the earth’s surface is covered with water bordered by land. The oceans are a huge source of food, recreation and transportation for human beings. The oceans have also long been used as a dumping ground for chemicals, sewage and waste.

“Together natural and human sources contribute about 380 million gallons of petroleum to the

oceans each year. Of this, about 45 percent comes from natural seeps, and the remainder may be attributed to human activities....” (Disasters). Seeps occur naturally as oil seeps out of the sea floor and into the water. The marine ecosystem has adapted to the seepage and some microorganisms even use the oil for food. Oil spills from tankers and platforms overwhelm the ecosystem because of their volume and the spills typically happen near a shoreline (Disasters).

The misuse of petroleum based products by consumers’ accounts for about seventy percent of petroleum pollution. Automobiles, personal watercraft, and even fuel abandoned by aircraft, are all sources of marine contamination. The oil based products are commonly spilled or disposed of in waterways that eventually make their way to the open sea. Tankers, oil exploration procedures and pipelines account for about 22 percent of the oil discharged into the sea (Disasters). Lee Davis, author of several books on disasters, explains that the majority of the pollution from tankers comes from “routine operations such as flushing tanks” and not from collisions or accidents (137). Flushing occurs after a tanker has emptied its cargo and fills its tank with sea water to ballast the ship for the return voyage. When the tanker returns home it pumps out the seawater containing residual oil from the tank. Davis estimates that the oil dumped during flushing of oil tankers amounts to about 2.8 million barrels of oil annually (137). These sources combined make oil the “most common pollutant in the oceans” (Sharma). A 1999 study by the U.S. Coast Guard predicted that “a spill of 10,000 gallons or more could be expected about once every five years at the end of the last century....” and “one is likely to occur every 3.6 years by 2025” (McClure).

**“Oil spills are part of doing business in a world dependent on fossil fuels, and oil spills are a constant, hammering threat to the**

## ecology of the planet” (Davis 135).

With the high demand for petroleum, oil companies are more than willing to take risks.

In his book, *Environmental Disasters*, Lee Davis describes the effects of the widespread use of petroleum. “Oil spills are part of doing business in a world dependent upon fossil fuels, and oil spills are a constant, hammering threat to the ecology of the planet” (135).

### Effects

Oil spills can have devastating effects on the environment. According to the Australian Government there are many variables to consider when gauging the potential effects of an oil spill. These include: location, weather, type of oil or fuel, volume of oil, the migration and breeding patterns of wildlife, tidal currents and the weather at sea during the spill. An M.I.T. scientific study analyzed the recovery of ecosystems after a spill and concluded that oxidation, evaporation and “bacterial action rates” were all factors as well (Davis 136). Some spills have more of an impact than others depending on these factors.



A bird struggles to survive after being coated with oil (Sharma).

## **“Thirty thousand birds were washed up on the shores of Sweden in a single pollution event” (Davis 136).**

Oil has varying effects on the wildlife. Birds seem to be affected worse than others. Oil affects birds by blanketing them in a thick layer of black goop. The oil destroys the insulating and waterproofing properties of a bird’s feathers and leaves them vulnerable to hypothermia. The birds become unable to fly and escape predators. Weighted down with oil the birds become unable to move, drink and look for food. Many birds try to preen themselves and in doing so, swallow oil that eventually poisons them (Australian and Disasters). Birds are an important part of the ecosystem and food chain. Many water birds are scavengers that naturally clean the beaches and shorelines, without them the beaches would be littered with garbage. Lee Davis describes the tragic effect that an oil spill can have on birds when he writes:

In a single year, the Newfoundland coast has numbered its water-bird kill in the hundreds of thousands. The razor-billed auk, once a common sight, has been killed off at the rate of a million birds in two years. It is now extinct. Thirty thousand birds were washed up on the shores of Sweden in a single pollution event. One bad winter, and the English shoreline has been littered with 100,000 dead or dying birds. (136)

Birds are not the only wildlife affected by oil spills. Oil sticks to the fur of seal pups suffocating them and destroying their ability to stay warm. Many of the seal pups drown, unable to swim with their fins stuck to their bodies. The oil can also cover the scent of a seal pup, making them unrecognizable to their mothers. The pups are abandoned and eventually starve to death. Oil ingested by animals can be poisonous. The poison does damage to their

organs, digestion, breeding and ability to fight off disease (Australian).

## Disasters

The Deepwater Horizon oil rig in the Gulf of Mexico exploded on April 20, 2010, killing



11 people and injuring 17 others. According to nola.com, the rig was nine years old and had a history of safety problems. It was the deepest offshore well in the world reaching a depth of 35,055 feet below sea level. The

A crew cleaning the shoreline in Orange Beach, Alabama (Martin).

semi submersible drilling

platform, leased by British Petroleum, was positioned about 41 miles off the coast of Louisiana in an area known as Macondo Prospect. The rig sank as a result of the explosion on April 22, 2010 and left a leaking pipeline on the ocean floor at a depth of about 5,000 feet. As of June 16, 2010 the Deepwater Horizon well has leaked an estimated 73 to 126 million gallons of oil into the ocean (Wikipedia). "The Deepwater Horizon spill has surpassed in volume the 1989 Exxon Valdez oil spill as the largest ever to originate in U.S. controlled waters..." (Wikipedia). The spill is fast becoming the largest oil spill in history rivaling that of the Ixtoc I oil spill of 1979 that discharged an estimated 140 million gallons of crude into the Gulf of Mexico. On April, 30,

2010 the oil from Deep Horizon reached the shoreline of Louisiana and has since spread along the gulf coast (Wikipedia). The oil continues to flow from the broken riser. The result is one of the largest environmental disasters to date.

On March, 24 1989, the Exxon Valdez, an oil tanker, hit an underwater reef spilling 10.8 million gallons

of Alaskan crude into the sea. It was the largest oil spill in U.S. history to date. The contents of the tanker

Name	Location	Quantity (In millions of gallons)	Date
Arabian Gulf/Kuwait	Persian Gulf, Kuwait	380-520	January 19, 1991
IXTOC 1	Bay of Campeche, Mexico	140	June 3, 1979
Atlantic Empress	off Tobago	90	July 19, 1979
Kolva River	Kolva River tributary, Russia	84	September 8, 1994
Nowruz Oil Field	Persian Gulf, Iran	80	February 10, 1983
Castillo de Bellver	off Saldanha Bay, South Africa	79	August 5, 1983
Amoco Cadiz	Portsal, France	69	March 16, 1978
AST Summer	off Angola	51-81	May 28, 1991
Haven	Genoa, Italy	45	April 11, 1991
Odyssey	off Nova Scotia, Canada	41	November 10, 1988
Prestige	off Spain	20	November 13, 2002

The ten largest oil spills by volume since 1967 (Disasters).

blackened 1,244 miles of shoreline along Alaska’s southern coast (Davis 166). According to pollutionissues.com the Exxon Valdez spill is responsible for taking the lives of “900 bald eagles, 250,000 seabirds, 2,800 sea otters, and 300 harbor seals...” Experts agree that “population-level consequences are difficult to measure” and “for every dead bird found after an oil slick contamination, there are at least nine more whose bodies are never recovered” (Disasters and Davis 163). This makes the number of deaths related to oil spills difficult to measure.

The biggest oil spill in history was an intentional release of oil into the Persian Gulf as a military defense. During the Gulf War from January 23-November 7, 1991 the country of Iraq released between 380-520 million gallons of crude oil into the Persian Gulf. The spill was nearly

twice the size of the 1979 oil spill from the Ixtoc-I. Although the spill had very little impact on the military attack, the spill had devastating and far reaching effects on the marine wildlife and bird populations (Davis 212 and Disasters). The toll on seabirds and on shore birds was immense. "Thirty thousand recorded seabirds...., 14 dugongs, 57 bottlenose dolphins and 13 humpback dolphins" were found dead from the spill (Davis 212). Two unique species of Kuwaiti fish called subaitee and hamour were completely wiped out in the area. Some of the shoreline in the gulf is the largest breeding ground for Green and Hawksbill turtles. The endangered and rare turtles were coated in oil (Davis 212).

The evidence of our dependence on fossil fuels is floating in our oceans. Consumers are either unaware of the consequences or are willing to accept the ongoing abuse of the environment to continue using petroleum. Most of the petroleum in our water is a result of human negligence and carelessness driven by America's insatiable hunger for fuel.

## Works Cited

- Australian Government. Australian Maritime Safety Authority. "The Effects of Oil on Wildlife."  
*amsa.gov.au*. Web. 27 Jun. 2010.
- Davis, Lee. *Environmental Disasters: A Chronicle of Individual, Industrial and Governmental Carelessness*. New York: VB Hermitage, 1998. Print.
- "Disasters: Oil Spills." *pollutionissues.com*. Pollution Issues. n.d. Web. 25 Jun. 2010.
- Martin, Dave. "Louisiana Oil Spill 2010 Photos: Gulf of Mexico Disaster Unfolds."  
*huffingtonpost.com*. The Huffington Post, 24 Jun. 2010. Web. 25 Jun. 2010.
- McClure, Robert. "15 years after Exxon Valdez, oil spill prevention efforts still lagging."  
*seattlepi.com*. The Seattle Post-Intelligencer, 24 Mar. 2004. Web. 24 Jun. 2010.
- Sharma, Partha Das. "Keeping World Environment Safer and Greener."  
*safeenvironment.wordpress.com*. Safe Environment, 17 Sept. 2008. Web. 26 Jun. 2010.
- The Associated Press. "Deepwater Horizon rig had history of spills, fires before big Gulf of Mexico oil spill." *nola.com*. 30 Apr. 2010. Web. 26 Jun. 2010.
- Wikipedia contributors. "Deepwater Horizon oil spill." *en.wikipedia.org*. Wikipedia, The Free Encyclopedia, 25 Jun. 2010. Web. 26 Jun. 2010.
- Wikipedia contributors. "Oil Spill." *en.wikipedia.org*. Wikipedia, The Free Encyclopedia, 25 Jun. 2010. Web. 25 Jun. 2010.

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