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FACT SHEET

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Wildlife of Gulf of Mexico and Vulnerability to Oil

Many charismatic and commercially important species found in the Gulf of Mexico may be at risk from even a small oil spill.

These species include:

- oysters
- snapper
- grouper
- tuna
- marlin
- dolphins
- whales
- turtles
- corals (shallow and deep sea)
- sharks

The Gulf of Mexico is an important spawning area for fish. **Fish larvae** are particularly sensitive to oil. Even at very low levels, oil can cause growth deformities and death in fish larvae.

The Gulf of Mexico is one of only two nurseries worldwide for the severely overfished **Atlantic bluefin tuna**. Each spring (April – June), bluefin gather in the Gulf and entrust their fertilized eggs to the loop current to begin their journey along Florida's coast. More than 90 percent of bluefin tuna spawning here are returning to the place they were born. There is a "hot spot" of concentrated bluefin occurrence during spawning season in the northern slope waters of the Gulf. The fish enter the Gulf along the continental slope through the Straits of Florida, and move into the northern slope of the Gulf where the warm waters present favorable conditions for development of eggs and larva.

Reef fish, such as snapper and grouper, support fishing communities all along the Gulf coast. Several of these reef fish are at risk of commercial extinction and their future depends on successful spawning when large groups gather at specific reef banks or cliffs.

Gag grouper spawning peaks in early April, so their babies are currently drifting around the Gulf of Mexico on their way to nursery habitats in estuaries and salt marshes along the gulf coast (where the oil is headed). Gag grouper is one of the most valuable finfish from the Gulf of Mexico for both commercial and recreational fishing.

Red snapper spawning starts in late May, peaking from June-August. Red snapper is the poster child for overfishing and one of the most well-known fish from the Gulf of Mexico. If the spill continues through the summer, this year's generation of fish could be severely impacted.

Oysters and other bivalves can become contaminated with oil. They are filter feeders and pull toxic substances out of the water as they feed, these substances can accumulate in their flesh and pass up the food web as they are eaten by other species, including humans. Long-term contamination can occur when large amounts of oil are trapped in the sediment.

Spiny Lobsters begin their life swimming and floating at the surface (where the oil is). Young swimming lobsters from the the Caribbean, Mexico, and the US swim through the Gulf of Mexico all year round. Peak season in Florida starts in April. Juvenile lobsters ride the current toward the coast to land in seagrass beds (in the same direction that the oil is headed).

Shrimp are vulnerable to oil throughout most of their early life stages. Shrimp eggs are released deep in Gulf waters and float around in the water column. April-May and Sept-Nov are peak spawning times from Brown shrimp, so it's likely that there are eggs floating around now and may come in contact with oil. **Brown shrimp are the most important species in the Gulf fishery.**

As the eggs grow and turn into larvae they feed on plankton, which may have also come in contact with oil. Maturing larvae are carried towards shore by tides and currents and then into estuarine waters where larvae begin to look like shrimp and cling to the bottom most of the time. Oil is also carried to these areas by the same tides and currents and can contaminate estuaries and marshes that serve as habitat for young shrimp.

In the estuaries larvae develop into juveniles, small juveniles prefer shallow, salty water along the edges of marshes - which if contaminated with oil can remain contaminated for many years. Juveniles grow larger and turn into sub-adults when they get ready to return to the open waters of the Gulf.

Back in the Gulf adults live on the bottom at 60-500 feet and feed opportunistically on what is available. Here they are less likely to come in direct contact with oil, but could be eating food that is contaminated with oil.

Five species of **sea turtles,** four of which are endangered (Kemp Ridley, Hawksbill, Green and Leatherback) are found in the Gulf waters and nest on its beaches. Turtles breathe air, so need to surface to breathe. When on the surface of the water, turtles can breathe and ingest oil, as well as become coated in it, which can block airways and fill stomachs, and damage tissues and organs. Turtles are not only vulnerable to oil in water but also on beaches where they nest. Some turtles in the Gulf are about to start their nesting season (May), whiles others nest all year round. Oil on beaches can cause developmental defects and death in turtle eggs. Sea turtles nest on the coast in the northern Gulf of Mexico, including loggerhead, green and Kemp's Ridley. Before nesting, mother turtles swim in coastal waters where they are vulnerable to oiling when they surface to breathe. The loggerhead sea turtle is threatened and may soon be uplisted as endangered because of its continued decline. Kemp's Ridley is endangered throughout its range and green sea turtles are endangered in Florida.

28 species of **whales and dolphins** are known to occur in the Gulf, 20 live in it year round, including bottlenose dolphins and endangered sperm whales. Bottlenose dolphins are the most common species of cetacean in the Gulf, they breed in the summer and give birth from March to May. **Bottle nose dolphins and other marine mammals**, including **sperm whales** and endangered **North Atlantic Right Whales** are found in the Gulf and are vulnerable to oil as they are air breathers and spend time on the surface, like turtles.

Habitats such as **coral reefs, wetlands and mangroves** are also found throughout the Gulf. These provide feeding, breeding and spawning grounds for multitudes of species that could be devastated by an oil spill.

Seabirds are also found in the Gulf, especially in the mangroves and wetlands – areas that are extremely difficult to clean up when contaminated by oil.

There are no large populations of pelagic birds that float or feed in the offshore areas of the Gulf of Mexico; however coastal birds are highly at risk if the oil comes ashore. These include brown and white pelicans, terns, gulls, shorebirds, skimmers and herons. Nesting and feeding areas, such as marshes and beaches, could become oiled.

Brown Pelicans are permanent residents of the coastal areas of the Gulf of Mexico. They dive from the air for fish and also eat crustaceans. Brown pelicans were particularly sensitive to DDT and their numbers plummeted due to its use. This species was only removed from the US

endangered species list last year. Brown pelicans are slow to reproduce and they have just started their breeding season. Oil can be transferred from adults' feet and feathers to eggs, which are particularly vulnerable to oil.

Spring migration takes place form March to early May.

Bottlenose dolphins, sea turtles, birds, lobster, conch, scallops, shrimp and juvenile fish seek food and shelter in the **seagrass ecosystems** of the Gulf. Seagrasses can be smothered by oil spills or they can suffer impacts from its toxicity, including disruption in photosynthesis.

Marsh land along Louisiana's coast is threatened by the spill and oil has already started entering these areas. Marshes are sensitive ecosystems and are vulnerable to oil. When oil contaminates these areas it is very difficult to remove it. Marshes act as nurseries for many important fish and crustacean species, including blue crabs, shrimp and oysters. One way to clean oil out of marshes is to burn the marsh and then let it recover. Marshes are also important habitat for resident and migrating birds that are passing through the area.

Hundreds of feet below the surface of the shores of Mississippi and Alabama, on the edge of the continental shelf, an area of steep-sided, drowned **deep-sea reefs** called the Pinnacles can be found. These formations off of the shelf edge are areas of high biodiversity that are important habitat and spawning sites for commercially fished species in the Gulf of Mexico. There are high densities of invertebrate populations including sponges, and both soft and hard deep sea coral gardens. These coral structures provide important habitat for abundant and diverse fish species. They include grouper, snapper, bass, and amberjack among others. The Pinnacles have also been found to provide critical spawning habitat for groupers and snappers, both commercially important species.

Canyons, thousands of feet below the surface, are carved deep into the Gulf of Mexico. The Mississippi Canyon – the continuation of the Mississippi River, harbors shark eggs on branches of deep sea corals and mussel beds and fields of coral thrive on patches of hard seafloor throughout the canyon. Much is still unknown about these areas and the wildlife they support.

Oil leaking from thousands of feet below the surface rises quickly, likely not settling on fragile deep sea ecosystems. However, oil can be dangerous to wildlife wherever in the water column it is encountered.