

ASSESSING THE IMPACTS OF OIL: FIRST STEPS

Resources	Pre-assessment Studies
All Resources	Review historical information to help document pre-spill conditions.
Water Column and Sediment Water Oil Sediment	Document the amount of oil in the water, and determine how and where the oil is moving. <ul style="list-style-type: none"> • <i>Water quality surveys</i> document the presence of oil at various depths. • <i>Transect surveys and sentinel stations</i> detect submerged oil. • <i>Plume modeling and other studies</i> provide detail about the type of oil and how it moves in water. • <i>Sediment sampling</i> documents the presence of oil across habitats.
Shorelines Beaches Wetlands Mudflats Mangroves	Document the extent and amount of oil on shoreline habitats. <ul style="list-style-type: none"> • <i>Aerial surveys</i> provide a bird's-eye view of coastlines to determine the extent of oil; the resulting maps and data help target future ground surveys. • <i>Ground surveys</i> allow scientists to collect more detailed data on the degree of oiling (e.g., light vs. heavy), types and quality of habitat, and focus future data collection.
Aquatic Vegetation Seagrasses Sargassum	Document the presence/diversity of aquatic vegetation, and determine if it has been oiled. <ul style="list-style-type: none"> • <i>Aerial surveys</i> help identify where and to what extent aquatic vegetation may be oiled. • <i>Ground surveys</i> help identify the location, extent, and quality of oiled aquatic vegetation.
Fisheries Plankton Fish larvae Nearshore fish Offshore fish	Document the presence/diversity of fish and plankton, and determine if they have been oiled. <ul style="list-style-type: none"> • <i>Plankton, invertebrate, fish, and fish larvae surveys</i> help determine the presence and/or abundance of these resources both in oiled and non-oiled open water areas.
Shellfish Oysters Mussels Shrimp Crabs	Document the presence/diversity of shellfish, and determine extent of oiling. <ul style="list-style-type: none"> • <i>Oyster surveys</i> document the presence and/or abundance of oysters in affected areas and allow scientists to collect oyster tissue for lab analysis. • <i>Mussel collections</i> at monitoring stations help identify if mussels have been oiled and, if so, provide data for future studies. • <i>Shrimp collections</i> help document the presence and abundance of shrimp in the open water and in oil plumes.
Corals Shallow water corals Deep water corals	Document the presence/diversity of corals, and determine if they have been oiled. <ul style="list-style-type: none"> • <i>Shallow-water coral surveys and tissue collection</i> identify and evaluate exposure to existing communities. • <i>Deep-water coral surveys and tissue collection</i> identify and evaluate exposure to existing communities. • <i>Monitoring devices</i> are installed in coral communities to determine exposure to oil.
Marine Mammals and Turtles Whales Manatees Dolphins Sea Turtles	Document the presence/diversity of marine mammals and turtles, and determine if they have been oiled. <ul style="list-style-type: none"> • <i>Aerial surveys</i> document the location of marine mammals and turtles before they have been impacted by oil and document the location and number of marine mammals and turtles that may be oiled, distressed, or dead. These surveys also document the potential changes in marine mammal behavior and distribution. • <i>Tissue sampling</i> from live and dead sea turtles and marine mammals helps assess oil exposure. • <i>Acoustic technology and satellite tags</i> help scientists study the behavior and movement of marine mammals.
Birds Shorebirds Colonial seabirds Open water (pelagic) seabirds Marsh (secretive) birds	Document the presence/diversity of birds, and determine if they have been oiled. <ul style="list-style-type: none"> • <i>Ground surveys</i> identify injured, dead, or oiled birds on shorelines. • <i>Aerial and photograph surveys</i> of open sea, shorelines, and islands help identify the location and abundance of birds, and determine if they have been oiled. • <i>Ground and boat surveys</i> in marshes document the abundance and degree of oil affecting marsh birds. <i>Radio transmitters</i> allow scientists to assess bird movement and mortality. • <i>Point and transect boat surveys</i> help scientists monitor pelagic birds.
Terrestrial Species Terrapins Crocodiles Small Mammals	Document the presence/diversity of terrestrial species, and determine if they have been oiled. <ul style="list-style-type: none"> • <i>Ground surveys</i> help identify oiled animals and/or habitats.
Human Use Public beaches and parks Public facilities Cultural uses	Document the many ways humans use and enjoy the natural resources of the Gulf, if these uses or enjoyment have been impacted by the spill, and if so, to what extent. <ul style="list-style-type: none"> • <i>Overflight surveys</i> to identify public beach use. • <i>Intercept surveys</i> to identify public boat ramp use. • <i>Information review</i> to survey cultural uses.

