ASSESSING THE IMPACTS OF OIL: FIRST STEPS

How and where did the oil move? *Dispersants used during response operations break down oil into smaller particles that mix into the water. Oil that is not dispersed may be caught in currents and may settle onto the ocean floor. Spill responders attempt to burn and remove oil that reaches the surface, but the oil they cannot reach is churned by wind and waves to form the brown, foamy "mousse" that reaches our shores.*

Who is assessing the impacts of oil? *Efforts to understand the impacts of oil on ocean life, coastal habitats, and human use began shortly after the spill was discovered. Through the Natural Resource Damage Assessment process, the natural resource agencies are examining oil in the open water, near shore, and on land to assess the scope and scale of the damage and determine how much work is necessary to restore the Gulf of Mexico.*

TOOLS AND METHODS

GROUND SURVEYS

SMALL BOAT OPERATIONS

WATER QUALITY TESTING

AERIAL SURVEYS

UNDERWATER SURVEYS

OIL IN THE OPEN WATER

Oil in the open water may affect the health of microscopic plants and animals that form the basis of the oceanic food web. The eggs and larvae of shrimp, fish, and other commercially and recreationally important species are at risk, as are adult fish, sea turtles, marine mammals, and ocean-going birds. Far beneath the surface, corals and other deepwater communities also may be affected.

OIL IN NEARSHORE HABITATS

Sensitive nearshore communities such as oyster beds and shallow-water corals may lie directly in the path of underwater oil and surface mousse riding the waves to shore. When the oil does hit land, it can severely impact coastal habitats including marshes, mudflats, mangrove stands, and sandy beaches. Organisms that use these habitats, such as birds, crabs, turtles, crocodiles and other aquatic and terrestrial species also are at risk.

OIL AND HUMAN USE

Humans, like wildlife, also rely on the ocean and coasts. From fishing to water sports and sunbathing to birdwatching, humans enjoy and rely on Gulf Coast waters and nearshore environments in many ways.

WATER COLUMN AND SEDIMENTS

- *Water quality surveys*
- *Transect surveys to detect submerged oil*
- *Oil plume modeling*
- *Sediment sampling*

TURTLES AND MARINE MAMMALS

- *Aerial surveys*
- *Tissue sampling*
- *Acoustic monitoring*
- *Satellite tagging*

SHORELINES

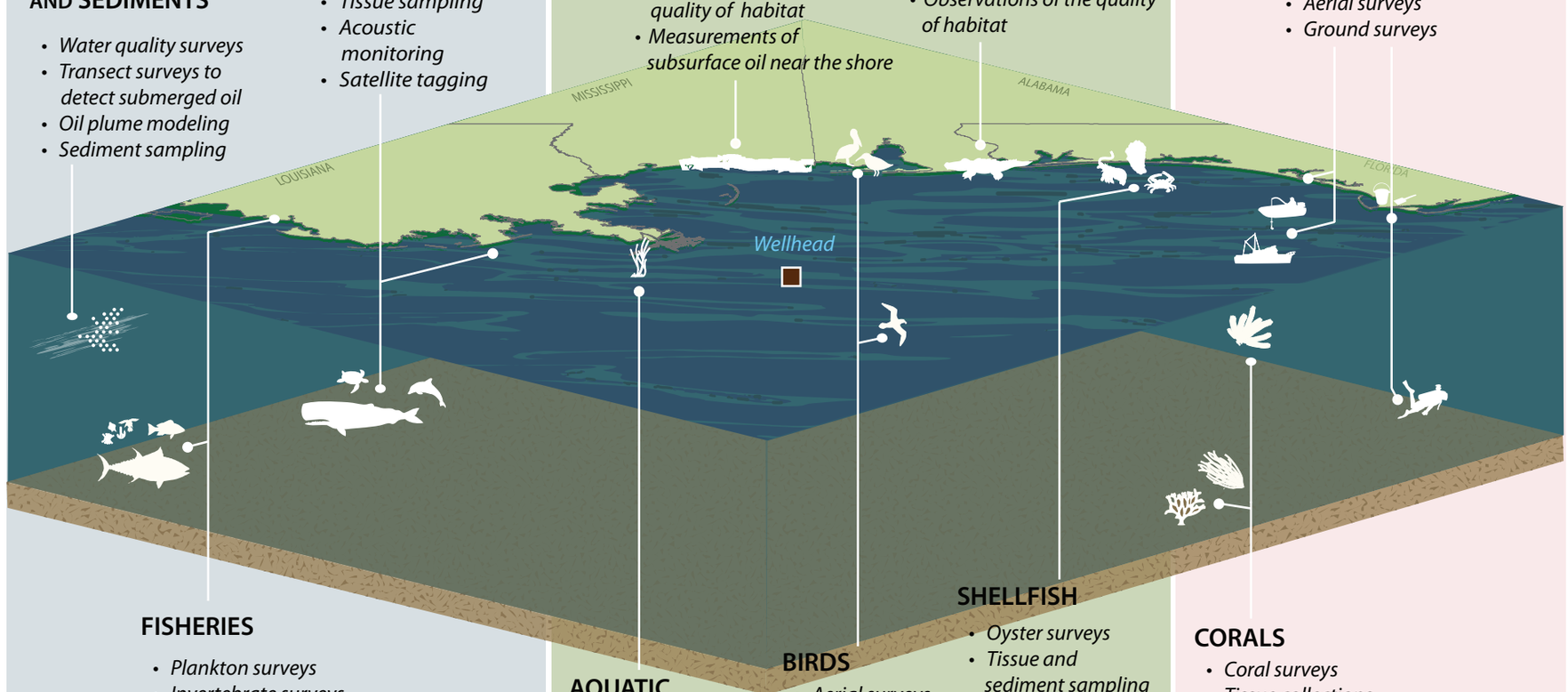
- *Aerial surveys*
- *Ground surveys*
- *Observations of the quality of habitat*
- *Measurements of subsurface oil near the shore*

TERRESTRIAL AND AQUATIC SPECIES

- *Ground surveys*
- *Observations of the quality of habitat*

HUMAN USE

- *Aerial surveys*
- *Ground surveys*



FISHERIES

- *Plankton surveys*
- *Invertebrate surveys*
- *Adult fish surveys*
- *Larval fish surveys*

AQUATIC VEGETATION

- *Aerial surveys*
- *Field surveys in large beds of aquatic vegetation*

BIRDS

- *Aerial surveys*
- *Ground surveys*
- *Nearshore boat surveys*
- *Offshore boat surveys*
- *Radio telemetry*

SHELLFISH

- *Oyster surveys*
- *Tissue and sediment sampling*
- *Mussel collection*
- *Shrimp collection*

CORALS

- *Coral surveys*
- *Tissue collections*
- *Contaminant surveys*