



The effects oil spills

An oil spill is the release of a liquid petroleum hydrocarbon into the environment, especially in the sea, because of human activity. This is a form of pollution which has catastrophic environmental effects. Oil damages wildlife through smothering¹, as well as by absorption, inhalation and ingestion. Spilled oil has catastrophic effects on plants and wildlife: it initially spreads into a thin, wide layer floating on top of the water. When sea birds and otters contact the oil slick, they become physically covered with oil. The oil on the surface breaks down over time, and heavier elements sink to the bottom where they can smother aquatic plants and invertebrates, killing them outright² or interfering with their reproduction and growth. The most toxic compounds in spilled oil tend to evaporate into the air. Animals may inhale these toxic vapours, damaging their nervous system and organs. The oil that remains behind is far from harmless, as well – animals that ingest oil from spills may die im-

GLOSSARY

- 1 suffocating, choking
- 2 directly, immediately

mediately or suffer damage to their digestive tracts. Unfortunately, some detergents used to clean up after oil spills are themselves toxic to marine plants and animals. Animals that are not directly killed by an oil spill may still suffer indirectly due to habitat damage. Delicate habitats, such as coral reefs, are susceptible to poisoning or smothering by oil. Healthy coral reefs act as a nursery for other aquatic life, so their death affects several other species.

Oil that enters **tidal flats**, **marshes** or **mangrove forests** can destroy plant life important to many other species in the area, taking years or decades to recover. Oil spills affect the food chain too: because eating contaminated food can cause an organism to become contaminated itself, an oil spill can affect several links in the food chain. If a fish eats oil-contaminated plankton and a human eats the fish, the oil spill affects the human indirectly. Some animals, such as oysters, filter food from the water, which can concentrate toxins in their bodies. These toxins may disperse when water conditions improve but make them inedible for a time.

(adapted from *National Geographic*)

Tidal flats are coastal wetlands that form when mud is deposited by waves. Tidal flats, **marshes** and **mangrove forests** are important ecosystems that support a large population of wildlife. They are often vitally important for migratory birds and other animals like crabs, molluscs and other fish species.

ACTIVITIES

1 Use information from the text to complete these statements.

- 1 Man is responsible for oil spills which are
- 2 Spilled oil spreads into
- 3 Sea birds and otters may be
- 4 Heavier elements sink to the bottom because
- 5 The most toxic compounds in spilled oil tend to evaporate into the air and animals
- 6 Ingested oil may cause animals
- 7 Detergents used to clean up after
- 8 Some animals, such as oysters, cannot be eaten for a time because

2 How do oil spills affect the environment and the ecosystem? Find information from the text and fill in the table.

1 Sea birds and otters	
2 Plants and invertebrates at the bottom of the sea	
3 Animals that inhale or ingest toxic compounds	
4 Habitats	
5 Marshes and mangroves	
6 Food chain	

- 3 Discuss the consequences of oil spills and use the information from the table to write a short paragraph about it.
- 4 What are some of the worst oil spills in history? What do you know about them? Do some research then write a report and discuss your results with your classmates.
- 5 Oil spills have devastating and long-term effects on the environment: what can we do to prevent them? Discuss your ideas in groups.