
Oil Spills - Major Form of Pollution

One major form of pollution that affects marine life is oil spills. Oil is extremely toxic to marine life and the harmful effects occur as soon as the oil hits the water. Oil spills are very dangerous for marine birds, mammals, fish, and shellfish. About 1.3 million gallons of petroleum are spilled into U.S. waters from tankers and pipelines each year. According to the National Ocean Service, oil destroys the insulating ability of fur-bearing mammals, such as sea otters, and the water repellency of a bird's feathers, thus exposing these creatures to the harsh elements. Without the ability to repel water and insulate from the cold water, birds and mammals may die from hypothermia. Some birds and animals will ingest the oil when they try to clean themselves, which may poison them. In addition, the transfer of oil to eggs and young may result in reduced survival. Although fish may not be exposed to the oil immediately, the oil can reach them if it is mixed into the water column.

According to the National Ocean Service, when adult fish come in contact with oil, they may experience fin erosion, reduced growth, enlarged livers, reproduction impairment, and changes in heart and respiration rates. Oil also negatively affects the survival of eggs and juvenile fish. As stated by the IPIECA and IOGP, planktonic organisms such as zooplankton and jellyfish are relatively sensitive to toxic effects from oil exposure, particularly small oil droplets and water soluble fractions. Laboratory studies have reported a range of acute, chronic and sublethal effects on various species and life stages. Large numbers of juvenile lobsters, clams and other species can be killed by exposure to high concentrations of naturally dispersed oil. Coral reefs can be affected by oil spills. Once oil comes in contact with corals, it can hinder their reproduction, behavior, growth, and development or even kill them.

The entire coral reef ecosystem can suffer from an oil spill, including the species of fish, crabs, and other marine invertebrates that live in and around coral reefs. Turtles are vulnerable to oil when they come in contact with it at the surface of the sea or onshore. When they are at the surface they can become oiled, or in the worst case scenario, smothered. Juvenile turtles are much more sensitive to oil toxicity than the adults, spend more time at the surface of the sea, and some may swallow small tar balls. If there was a severe impact on turtle nesting sites, the local populations might decrease. All in all, oil spills have many negative effects on marine ecosystems. Oil is highly dangerous and toxic to marine life. Hopefully, in the future, we can prevent oil spills and the destructive consequences that affect marine ecosystems.