

# Ocean 11

## Pollution 3

### Oil Pollution

1. Oil bearing rocks ooze out 60 million gallons per year.
2. Oil tankers running aground spill about 17 million gallons of oil per year.
3. Industrial waste and automobiles are responsible for 363 million gallons per year. (When people dump motor oil onto the ground, it eventually finds its way to the oceans.) Industrial waste is discharged directly into rivers.

More than 60 million gallons of oil enter the oceans every year, but it's not reported on the news. That's because this oil seeps from oil-bearing rock layers into the ocean as part of a natural process.

When tankers running aground spill oil, that's news, and currently these accidents deposit about 37 million gallons of oil into the ocean every year.

The largest amount of oil entering the ocean through human activity is the 363 million gallons that come from industrial waste and automobiles. When people pour their used motor oil into the ground or into a septic system, it eventually seeps into the groundwater.

Coupled with industrial waste discharged into rivers, oil becomes part of the run-off from watersheds that empty into the ocean.

All of this oil affects ocean ecosystems.

When an oil spill occurs in the ocean, the oil may spread across miles of open water and up onto beaches, littering them with tar balls. The intertidal zones - coastal areas that are the habitat for fish, birds, and other wildlife are often the most vulnerable. Animals may perish when the oil slicks their fur or downy feathers, decreasing the surface area so they are no longer insulated from the cold water. Or the animals may ingest the oil, then become sick or unable to reproduce properly.

When an oil spill occurs along a coastline, it affects the human population, as well as wildlife. Emergency equipment and personnel must be rushed to the scene. The responsible party must be identified to determine who will pay for the cleanup. Usually the cleanup is a group effort by oil companies, government agencies, local groups, and volunteers. People rescue and clean birds and animals and painstakingly scrub the oil from the rocky shores with brushes and detergent. Coming in by sea and by air, crews skim the spreading oil from the water's surface. Oil that cannot be skimmed is emulsified (that is, droplets of oil) are scattered into tiny particles that will then float away and disperse out to sea.

Sometimes microscopic helpers are put to work. Genetic engineers have developed oil-eating bacteria that can be used to ingest the oil, to clean up long after the crews and volunteers have left. The experience gained from several well-publicized oil spills has ushered in an era of greater understanding and international cooperation with regard to containing spills and avoiding environmental disasters that affect our global ocean. One bright spot of news is that ecologists revisiting oil spill sites have found marine population recovery better than they had predicted.

This pollution damages our ecosystems and recreational areas.

This also causes major expenses in personnel, time, energy and equipment.

To treat this problem, microscopic helpers attack the oil and help break it down. (Oil-eating bacteria have been developed by genetic engineers.)

Ecosystems recover. However, it takes many years to do so.

Global cooperation is necessary.



Site of the Exxon Valdez spill. About 40 million litres (10 million gallons) of crude oil fouled 450 kilometres (300 miles) of Alaskan coastline.

| Date | Ship         | Incident and Location                   | Oil Spilled (barrels) |
|------|--------------|---|-----------------------|
| 1969 | Exxon Valdez | Alaskan coast, 11 miles north of Valdez | 11,000                |
| 1970 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1971 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1972 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1973 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1974 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1975 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 1976 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
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| 2019 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 2020 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 2021 | Agulhas      | Agulhas, South Africa                   | 1,000                 |
| 2022 | Agulhas      | Agulhas, South Africa                   | 1,000                 |

## The Arrow Disaster



#### Ocean Pollution – An Essay

Ocean Pollution to some people really doesn't seem like that much of a problem. However, in reality, it is. Plastics, bottles, and wrappers that end up on beaches or along shores take hundreds of years to break down. Even fishermen can cause problems. When out at sea, these people sometimes dump the waste dead fish, heads, and guts overboard. This rotting smell attracts other fish and causes bacterial growth. This slime coats fish and plants, often resulting in death.

Another major cause of ocean pollution is oil. The practice of flushing oil from holding tanks destroys marine life. Ocean spills cause great damage. Sea life and birds get trapped in the oil and die. As well, our beaches are destroyed.

Another problem is the dumping of garbage and human waste.

Ghost fishing is another problem. Nets abandoned or lost continue to trap fish.

