

## **OIL POLLUTION**

Oil is washed into surface water in runoff from roads and parking lots which also pollutes groundwater. Leakage from underground tanks Example of Water Pollution/Marine Pollution

**Oil Spill:** One of the worst oil spill disasters that have occurred is that of the Exxon Valdez. On 24th march 1989 the Exxon Valdez, a tanker more than three football fields wide went off course in a 16-kilometer-wide channel in Prince William Sound near Valdez in Alaska. It hit submerged rocks, creating an environmental disaster. The rapidly spreading oil slick coated more than 1600 kms of shoreline killing between 300,000 and 645,000 water birds and a large number of sea otters, harbor seals, whales and fishes. Exxon spent \$ 2.2. billion directly on the clean-up operations. However, some results of the cleanup effort showed that where high pressure jets of hot water were used to clean beaches coastal plants and animals that had survived the spill were killed. Thus, it did more harm than good. Exxon pleaded guilty in 1991 and agreed to pay the Federal Government and the state of Alaska \$ 1 billion in fines and civil damages. This \$8.5 billion accident might have been prevented if Exxon had spent only \$22.5 million to fit the tanker with a double hull-one inside the other. Such double hulled vessels would be less likely to rupture and spill their contents. The spill highlighted the need for marine pollution prevention.

### **Sources of Ground water pollution are:**

- Urban run-off of untreated or poorly treated waste water and garbage
- Industrial waste storage located above or near aquifers
- Agricultural practices such as the application of large amounts of fertilizers and pesticides, animal feeding operations, etc. in the rural sector

- Leakage from underground storage tanks containing gasoline and other hazardous substances
- Leachate from landfills
- Poorly designed and inadequately maintained septic tanks
- Mining wastes Severe cases of arsenic poisoning also known as Arsenicosis or arsenic toxicity, from contaminated groundwater have been reported from West Bengal which is known as the worst case of groundwater pollution. Arsenicosis develops after two to five years of exposure to arsenic contaminated drinking water depending on the amount of water consumption and the arsenic concentration in water. The permissible limit of arsenic in drinking water is 0.05 ppm (or 0.05 mg/l) or 50 ppb. Similar to arsenicosis, intake of excess fluoride present in drinking water affects teeth and bones resulting in dental and skeletal fluorosis. Dental fluorosis, is a condition that changes the appearance of tooth enamel in young children. Skeletal fluorosis affects the bones and major joints of the body like neck, back bone, shoulder, hip and knee joints resulting in to severe pain, rigidity or stiffness in joints. Severe forms of skeletal fluorosis results in marked disability. Several Asian countries, such as India, face contamination of water resources with fluoride. Permissible limit of fluoride in drinking water is 1.5 ppm (or 1.5 mg/l) according to WHO.