**Chapter 5.3: Open Ocean**

* 85% of all pollution comes from activities on land
* Runoffs to rivers 🡪 rivers to oceans
* Occurs near the coast, effects coral reefs and estuaries
* Pollutants dumped directly into ocean
  + Thought that burns on shellfish caused by wastewater sludge
* Ocean ships dump wastewater/garbage overboard
* Accidental oil spills
  + 1989 Exxon Valdez – Prince William Sound, Alaska
    - Oil spills account for only 5% of oil pollution
    - Spillage when loading/unloading
    - Off shore rigs leak
* Plastic is a big pollutant
  + Fishing lines strangle/entangle
  + Plastic bags suffocate/blockages in stomach
    - Turtles think they’re jellyfish
  + Six pack rings 🡪 around necks of birds (strangle) and bodies of fish (cuts body)

**Prevention**

* Laws regulate/prohibit pollution of the seas
* MARPOL (international convention for the prevention of pollution from ships)
  + Prohibits discharge of oil and disposal of abandonment of plastics in ocean/coastal waters
* 1974 Helsinki Convention
  + 120 nations seeking control of land based ocean pollution
    - Toxic dumping, runoff, raw wastewater
  + Prohibitions of DDT, cadmium, mercury
  + 15 marine refuges (sea turtles, monk seals, etc)

**In the U.S.**

* Marine Protection, Research and Sanctuaries Act
* Oil Pollution Act 1990
  + Oil tankers need double hulls’
* Martine Mammal Protection Act
  + Protects endangered mammals
    - Hard to monitor EVERY ship in ocean
    - Works on an honor system
* Hard to assess who owns oceans
  + Do we go 3 mi, 12 mi, 200 mi from coast?
* **Law of the Sea Treaty**
  + Laws of a coastal nation extend 12 km (12 nautical miles) from coast line
    - Area is called **territorial sea**
    - 1 nautical mile = 1.852 km = 1.15 mi
  + 3rd United Nations Conference on Law of Sea
    - Between 1973-1982
      * Resulted in Law of Sea Treaty
* Area that extends 370 km (200 nautical miles) is called exclusive economic zone
  + A nation has control over economic activity, environmental preservation and research in this area.
* Rest of ocean is communal and controlled by the International Seabed Authority
* 134 countries signed agreement
  + Some of the most powerful developed nations did not sign treaty
    - U.S. did not
    - Objections to seabed
      * Mineral mining