Seabirds Threats and Conservation

- People and Seabirds
  - 72 of the world's approximately 315 seabird species are classified as threatened and a further 27 as near-threatened.
  - Seabirds as Food
    - Seabird bones have been recovered from Pleistocene sites in Scotland and Ireland
    - Other prehistoric sites with abundant seabird bones include the N. Atlantic, N. Pacific and Southwestern Pacific
    - The Chathams:
      - Colonized by Polynesians who lived off fish and seabirds, including Albratross, Petrels and Terns
    - The British Isles
      - Commonly hunted seabirds and seabird eggs include Great Auks, Gulls, Gannets, Cormorants, Guillemots, Razorbills, Petrels, Shags, Kittiwakes and Terns
    - St. Kildan
      - Culture was based on seabirds and heroic acts of climbing cliffs in order to retrieve Fulmars and Gannets
      - Islanders regulated the harvest so as not to deplete the stock.
    - The Faroes
      - Still catch seabirds today
        - Gannets, puffins and guillemots
      - Birds are exploited in rotation
      - Hunter noted that young, non-breeding pairs did not fly straight into the colony, as breeders did, but made their approach in a large circle and only these were captured.
  - Other Examples
    - Gannets were used for fish food in the Great Banks
    - Oil used to be extracted from auks and penguins.
    - Fledgling mutton bird (short-tailed shearwater)
      - Very fatty and succulent. Eaten fresh or salted
      - Up to 500,000 taken per year, without an apparent effect on the population.
  - Other forms of Exploitation
    - Plumes
      - Short-Tailed Albatross
        - From 1887 to 1973 the population in Japan went from 5 million to 57 pairs
      - New England gulls were almost wiped out by 1900.
  - Hazards to Seabirds
    - Introduction of Predators
      - Foreign animals have been brought to many isolated islands, seriously affecting indigenous bird populations
        - Rats, cats, dogs, pigs, goats and donkeys
- Rats kill albatrosses on pacific islands
- Pigs root out shearwater burrows
- Colony of red-footed boobies were exterminated on South Trinidad by goats

- Biological Controls
  - Herring Gulls can be an invasive species, attacking native seabirds
  - Some attempts have been made to get rid of them
  - Because they are long-lived, the culling must take place for a long time
    - Foxes were released in a Massachusetts gull colony
    - Foxes killed young gulls and some adults, but starved to death and the gulls repopulated

- Long lining
  - Long lining is a form of fishing by which fisherman let out a line up to 200km long that has a thousands of baited hooks attached to it.
  - The bait not only attracts fish, but birds as well, which become tangled in the lines.
  - Long lining has increased since many fishermen have moved away from seine netting.
  - Ways to reduce the impact of long lining
    - Keep birds away from the hooks by using a bird-scaring devices such as a streamer line.
    - Keep the baited hooks away from the birds
      - Most of the vulnerable birds feed only during the day, so ensuring that fishermen only set lines at night is very effective.

- Tourism
  - Disturbs nesting birds
    - Even one intrusion into a nesting colony can kill >100 eggs.
    - Even careful research can be detrimental
      - The task of checking ringed Eynhallow Fulmars led to 25% egg loss.

- Guano Gathering
  - People harvest guano (bird poop) for the phosphate
  - Peru, Baja and South Africa are major sites for guano harvesting
  - This disturb the birds, but they have been successfully conserved, in general.

- Pollution
  - Oil
- Oil clogs plumage, destroys insulation and kills through chilling and stress.
- North Sea, North Atlantic and the English Channel are some of the sites with greatest impact of oil on seabirds
- 50,000 birds/year killed by oil off the coast of Britain.

- Toxic Chemicals
  - Organochlorides (PCB)
    - PCB caused egg shell thinning in Florida Brown Pelicans, leading to large die-offs.
  - Heavy metals
  - Dioxins, dibenzofurans and napthalenes
  - DDT derivatives were found in Antarctic Penguins

- Changes in Food Resources Due to Human Activity
  - Penguin populations have increased in Antarctica because humans have removed so many whales, thus freeing up more food (krill) for use by penguins, and other predators.
  - Peruvian anchovy fishing has led to reductions in seabird populations
    - Peru, a protein starved nation, pays high prices for fish, most of which is sent to the U.S. and turned into fish-meal to feed chickens.

- Deleterious Effects of Seabirds on Humans
  - Hit Airplanes
    - Airplanes on Midway Island in Hawaii were hit 300-400 times/year by seabirds between 1959 and 1963.
  - Disease
    - Gulls can carry diseases
      - Salmonellae, Tuberculosis
  - General Nuisance
    - In England, gulls eat up to 33% of food intended for pigs.