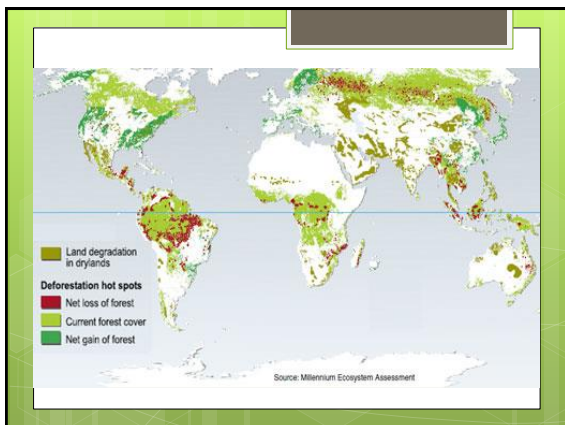
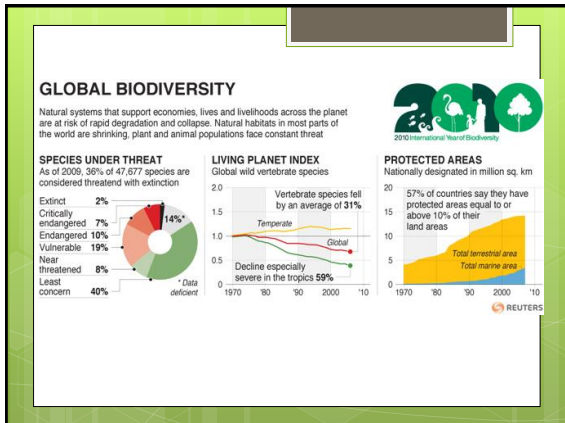
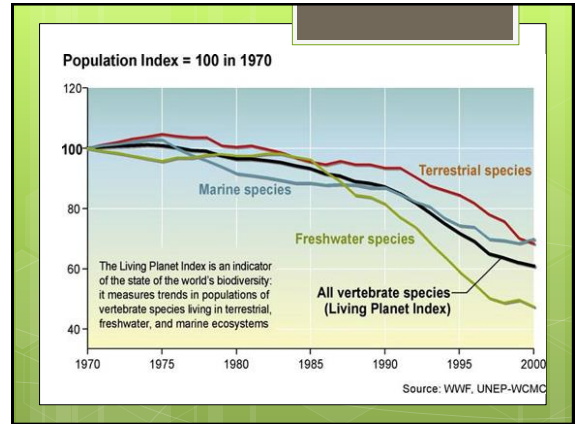


# Conservation of Biodiversity



## Overharvesting/ Overexploitation

**Whales**  
Overharvesting of plankton-eating whales may have caused an increase in plankton-eating pollock populations.

**Nutritious fish**  
Populations of nutritious fish like ocean perch and herring declined, likely due to overfishing, competition with pollock, or climate change.

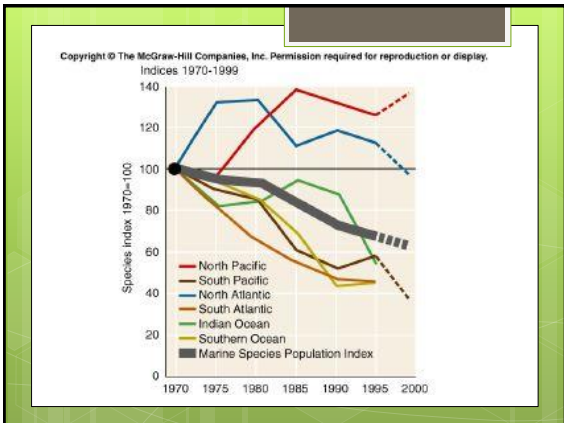
**Sea lions and harbor seals**  
Sea lion and harbor seal populations drastically declined in Alaska, probably because the less-nutritious pollock could not sustain them.

**Killer whales**  
With the decline in their prey populations of sea lions and seals, killer whales turned to a new source of food: sea otters.

**Kelp forests**  
Overly thinned by the sea urchins, the kelp beds no longer support a diversity of fish species, which may lead to a decline in populations of eagles that feed on the fish.

**Sea urchins**  
Usually the preferred food of sea otters, sea urchin populations now explode and feed on kelp.

**Sea otters**  
Sea otter populations declined so drastically that they disappeared in some areas.



## Pollution

- Industrial, domestic, and agricultural

### Eutrophication

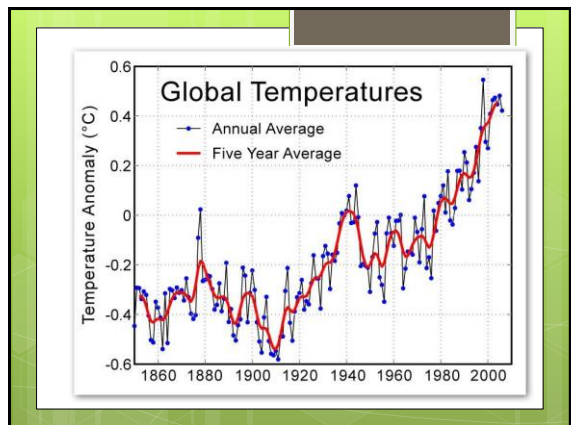
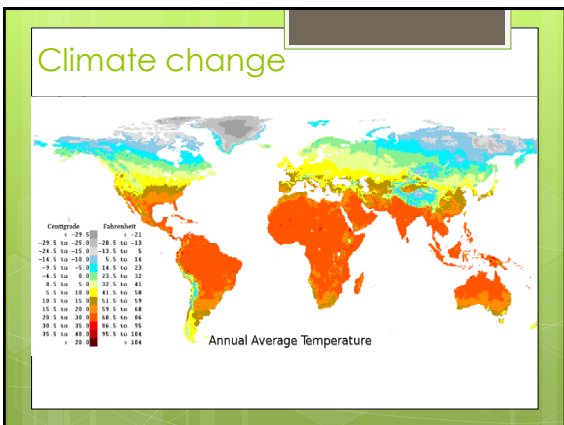
Nitrogen Phosphorus  
These nutrients cause an increase in phytoplankton.

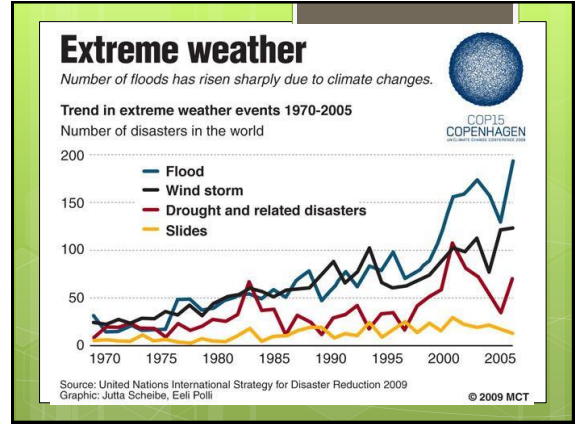
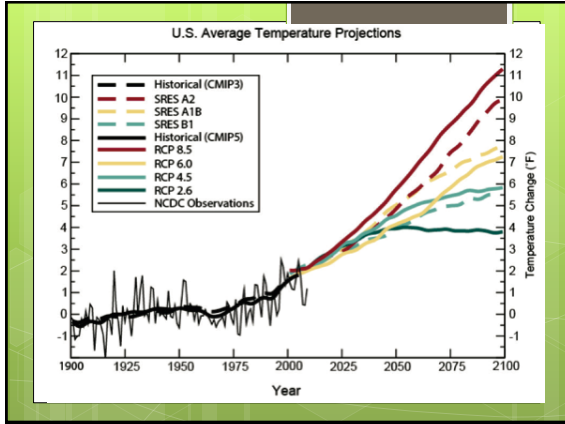
Algae Bloom  
Algae Die  
Decay

Phytoplankton growth on Sediment Oxygen

Sediments from land block sunlight  
Sediment

Loss: Food, Habitat & Oxygen Production





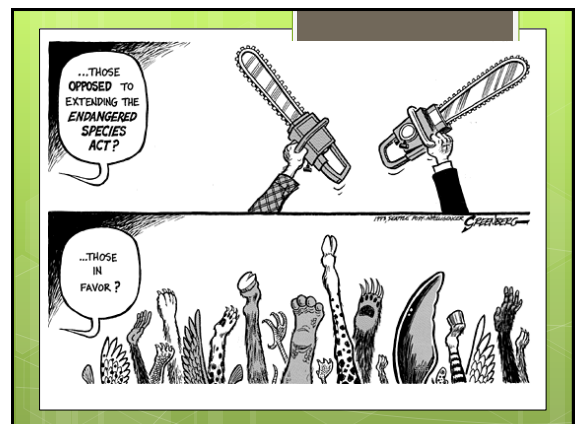
### What's been done?

- Combination of domestic and international agreements and legislation
- Global agreements are essential for successful preservation

- Convention on International Trade in Endangered Species of Wild Fauna and Flora
- 1973 to control international trade
- Signed by 175 countries
- Red list:** list of organisms with either strict limitations or some limitations on trade

### Endangered Species Act – 1973

- Implemented CITES
- US Fish and Wildlife determine what's endangered, threatened, at risk
- Government can purchase habitat for these organisms
- Restricts certain human activities in places where endangered organisms live



## Protecting Regions

- Protecting resources, tracts of land, etc.
- National Parks, preserves, etc.



## National Parks

- Often focus on especially fragile ecosystems or ones with key species
- Umbrella species: a species which when protected, protects other species



## Zoos

- Can preserve species for the future, especially when habitats are vulnerable or lost
- Captive breeding programs
  - Some advantages, numerous disadvantages (behavior, inbreeding, etc)
  - Often rely on IVF



## Botanic Gardens and Seed Banks

- Preserve seeds or living plant tissue for future generations
- Can reintroduce to ecosystems
- Research cultivation and preservation techniques
- Store heritage lines that might go extinct

