

## Oil, Seabirds, and Science

The effects of the Exxon Valdez oil spill

- 24 March 1989
- 10 million gallons
- Largest spill in U.S. history
- Oil traveled 900 km and covered 2100 km shoreline



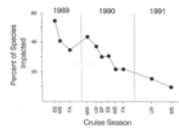
## Effects of the spill

- 30,000 dead birds retrieved, 74% murre
- First estimate (USFWS), 60%-70% killed based on carcasses
- Wiens/Boersma (Exxon), conclude no effect using counts at colony



## The "advocacy trap"

- Counts indicate that populations recover quickly
  - Are northern seabirds "resilient"?
  - Have floaters moved in?
- Who is in the trap?

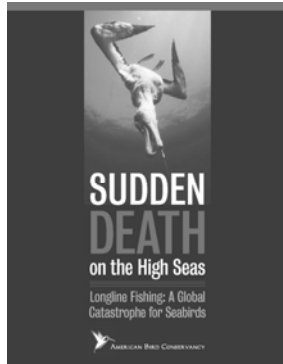


## Shorebird conservation

- 31 species migrate from the Arctic to South America
  - Species that breed farther north winter farther south
  - Birds concentrate on stopover and breeding sites so population estimates fairly precise
    - Morrison et al. 2001. Estimates of shorebird populations in North America. Occasional paper #104, Canadian Wildlife service

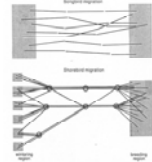


## Seabirds and Longlines



## Shorebird conservation

- Fragile life histories
  - Low reproductive rates
  - Single brood, short breeding season
  - K-selected, sensitive to changes in adult mortality
- Stopover sites limited
  - Birds have high energy demands during migration
  - Stopover sites under pressure from humans



## Western Hemisphere shorebird reserve network

- The network, established by an international consortium of public and private organizations, currently consists of more than 90 sites divided into two categories: hemispheric reserves defined by an international panel of biologists as supporting either more than 500,000 birds or at least 30% of a species' population, international sites supporting more than 100,000 birds or at least 10% of a population, and regional reserves defined as supporting more than 20,000 birds or 5% of a species' population

