

Polar Bear (*Ursus maritimus*) A Species at Risk in Canada



Odessa Liu
Faculty of Environmental Studies
ES/ENVS 2420: Ecology &
Conservation Science

Methodology

Research for primary sources was conducted through the Environment Complete and ProQuest databases, with the assistance from the Faculty of Environmental Studies Library Research Guide. All data for this research project was found online within various peer-reviewed journal articles and referenced appropriately using guidelines outlined by the Arctic Institute of North America.

Climate Change

- Canadian Arctic is one of the fastest warming ecosystems in the world.
- Species is often considered as a marine mammal as it spends most of its time on sea ice for mating as well as foraging prey such as the ringed seal (*Pusa hispida*) and the beluga whale (*Delphinapterus leucas*).
- Without the ability to travel across sea ice to mate or feed, individuals have been found in gradually poorer physical conditions as food availability is decreased and the demand for energy to constantly swim increases.

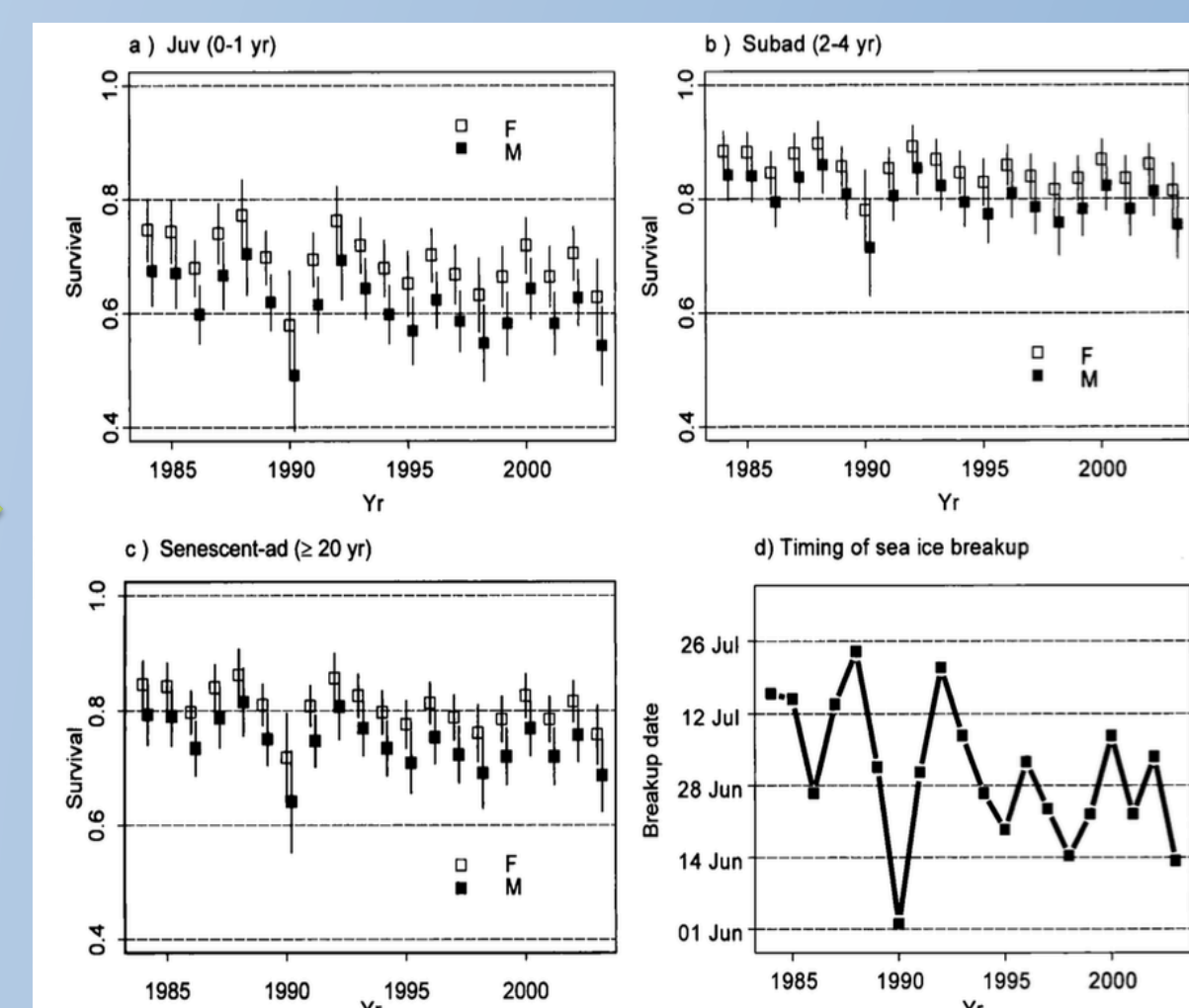
Survival and 95% confidence intervals for juvenile (a), and subadult (b), and mature (c) polar bears in the Western Hudson Bay subpopulation compared to the timing of sea ice breakup from 1984-2004 (Regehr, et al., 2007).

Abstract

Polar bears (*Ursus maritimus*) are one of numerous species at risk in Canada today. Since the majority of the world's polar bears reside in the Canadian Arctic, preserving each of these rapidly declining subpopulations will thus preserve the majority of polar bears as an entire species. Today, various studies are being conducted among these areas of northern Canada in order to better understand the species' physiology, changing habitat, relationship to the surrounding communities, and factors that are contributing to population declines. Some factors include exposure to organic and inorganic substances, contamination, hunting, and the melting of polar ice habitats are all major contributors to the declining population of polar bears in Canada. Efforts to save these declining numbers have also been identified among both environmental and legislative parties. In order to comprehend and assess the current status of the polar bear species, data from various disciplines must be collected and compiled into an appropriate report with a dominant conservation context.

Significance

- 2/3 of the world's current polar bear population inhabit the Canadian Arctic, authorizing Canada to have considerable influence on conservation from local to international levels.
- Species at Risk Act (SARA) and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designate the species at Schedule 1: Special Concern.



Designated subpopulations of polar bears in Canada & Protected Areas (Environment Canada, 2015).

Results: Conservation Context

- Environment Canada has played a vital role in the conservation of polar bear subpopulations throughout the Canadian Arctic in collaboration with all respective provincial governments.
 - 2011: National Polar Bear Conservation Strategy.
- Co-management strategy between various stakeholders involved – First Nations communities, federal and provincial jurisdictional governments, and researchers.
 - Controversy in this strategy has been examined as well.
- Aid from non-profit organizations such as WWF.
- All parties aiming to diversify conservation efforts, as there are numerous combined threats to populations.

