

THE HEAT IS ON

Species feeling the effects of climate change



Ringed Seal

Pusa hispida

Region:

Arctic

Area affected:

Western Hudson Bay

Climatic change:

Ice loss

Impact:

Pup mortality

ABOUT THIS SPECIES

Ringed seals, the smallest of the Arctic seals, are distributed around the entire North Polar region. They are generally a dark gray in color, with lighter, ring-shaped markings that give them their name. Unlike most seals, they can maintain breathing holes in the polar ice sheets, so they aren't limited to the zones near the ice edge. In fact, they prefer areas with the thickest ice, because females nurse their pups for over a month—much longer than other species—so they require ice that remains stable well into the late spring. They also need a thick snowpack on top of the ice where they can dig a den to keep the pups warm and protected from predation by polar bears, arctic foxes and even glaucous gulls.

DESCRIPTION OF IMPACT

Given the wide and northerly distribution of ringed seals, it is difficult to assess whether climate change is affecting the overall population. However, in the more accessible Hudson Bay region, researchers have detected a strong correlation between climate changes and a decline in pup survival. The data from the 1970s to 2001 show that the period since 1990 was characterized by warmer spring temperatures, earlier break-up of sea ice in the spring, and less snow cover. **In particular, the researchers found that when the snow layer atop the ice measured less than one foot deep, far fewer pups survived to maturity.**

References

Ferguson, S. H. et al. 2005. Climate change and ringed seal (*Phoca hispida*) recruitment in western Hudson Bay. *Marine Mammal Science* 21(1): 121-135. <http://onlinelibrary.wiley.com/doi/10.1111/j.1748-7692.2005.tb01212.x/abstract>

Kovacs, K. M. et al. 2011. Impacts of changing sea-ice conditions on Arctic marine mammals. *Marine Biodiversity* 41: 181-194. <http://link.springer.com/article/10.1007/s12526-010-0061-0>



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1130 17th Street, NW
Washington, DC 20036-4604

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