# THE **HEAT** IS **ON**

*Species feeling the effects of climate change*


SHAWN DAHLE/NOAA

## 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. These seals are both a keystone species and an indicator species for the Arctic's unique environment. They are generally a dark gray in color with lighter, ringed-shaped markings that give them their name. Pups, however, are distinctly known for the white coats they wear for the first four to six weeks of their lives. Unlike most seals, ringed seals 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 for pupping, molting and nursing, which lasts for over a month—much longer than other seal species. To accommodate these activities, they require ice that remains stable well into the late spring. They also require a thick snowpack on top of the ice where they can dig a den to keep pups warm and protected from predation by polar bears, arctic foxes and occasionally glaucous gulls.

### DESCRIPTION OF IMPACT

Given their remote distribution in the northern Arctic, it is difficult to assess the effects of climate change on the overall population of ringed seals. However, researchers in one of the more accessible reaches of their range, Hudson Bay, have identified a strong correlation between climate change and a decline in ringed seal 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 they found that when the snow layer atop the ice measured less than one foot deep, far fewer pups survived to maturity. It is estimated that by 2100, the snow depth in many parts of ringed seal habitat will be reduced by 70 percent, posing a danger to these pups that rely on snow packs for shelter from extreme temperatures and predation. Melting sea ice means pups are weaned too early, which can reduce their chances of survival significantly. **By the end of the century, the median population of ringed seals is predicted to decline by 50 to 99 percent.**

### *References*


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