

# PoLAR EcoChains



## **Polar Bear (*Ursus maritimus*)** –Taxonomic name means 'sea bear'

*Physical Description:* Largest of the bear family, males grow to 3+ meters (11 ft) and 700 kg (1,500 lbs), females to 2.5 meters (8 ft) and 300 kg (600 lbs)

*Food Web - Prey:* Apex predators; the most carnivorous of the bears. Main food source is ringed seals; while they will eat other food they require the high fat intake in ring seals. They consume seal heavily in spring and summer to build fat stores.

*Food Web - Predator:* Arctic subsistence residents still hunt a reduced number of polar bear except in Russia and Norway where it is forbidden. Residents consume the meat, and use the hide for clothing, boots and handicrafts.

## SEA ICE & CLIMATE

*Sea Ice:* Dependent on sea ice, they relying almost entirely on the marine sea ice environment for their survival. Polar bear are common on the annual ice around the perimeter of the Arctic but also use the multi-year ice. Where ice lasts through the summer they will use it year round. They use the ice for travel, as a hunting platform, for breeding and in some areas for their birthing dens. Hunting ringed seal is a major use. They wait at seal breathing holes, stalk openings in the ice, and locate seals hauled out to rest.

*Climate Impacts:* The loss of sea ice has had a significant affect on polar bear, correlating with a decline in body condition, a drop in survival rates and reduced population size in portions of their range (see map).

## ADAPTIVE FEATURES

*Adaptive features:* **Light color** allows them to blend in with the flat, treeless environment on the sea ice, in fact when bear hunt they will cover their back nose with a white paw. **Hollow fur** traps air to make the bear more buoyant, and provides insulation against the cold environment. **Black skin** under their fur holds the heat, helping to warm the bear. **Long, stiff hair and webbing** on their feet between the pads provides traction on the ice, helps them swim in ice cold water. **Wide paw** distributes their weight when they walk on the sea ice.

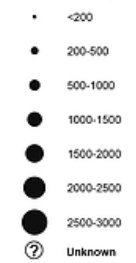
## LIFECYCLE

*Lifecycle:* Polar bear live to ~25 yrs. Females must be close to 250 kg (500 lbs) to carry a cub, as they fast for up to 240 days when pregnant and need the fat store. Litter size is generally 2 cubs. Low reproductive rates and long generational span makes them a vulnerable population.

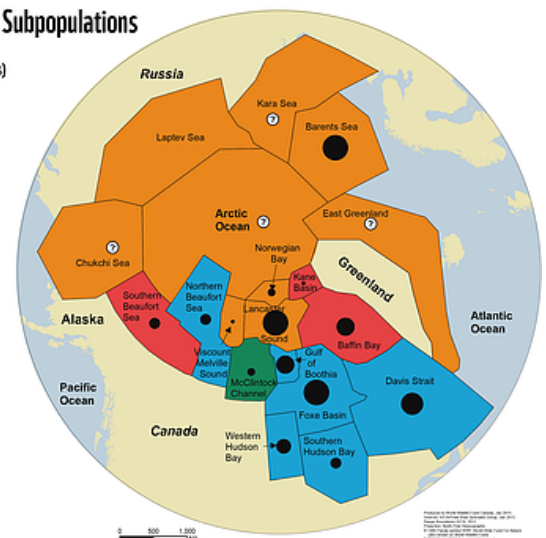
## DISTRIBUTION

### Trends in Polar Bear Subpopulations

SUBPOPULATION SIZE (Number of bears)



POPULATION TREND (2014)



*Distribution Map:* Polar bear live only in the Arctic, mainly in the coastal areas. ~60% live in Canada, but they are also found in Alaska, Russia, Greenland and Svalbard, Norway. In this map black dots show population size. Blue areas stable, green increasing, red declining, orange are limited data.

*Conservation Status* – ranges from Threatened in the U.S. to Vulnerable Internationally.