POLAR BEAR THREATS

Large carnivores are sensitive indicators of ecosystem health. A polar bear at risk is often a sign of something

CLIMATE CHANGE

Climate change, and the loss of sea ice habitat, is the greatest threat to polar bears. The impacts of this change are felt first and worst in the Arctic.

How does climate change affect polar bears?

-> Fewer opportunities to feed

Polar bears rely on sea ice to hunt and store energy for the summer and autumn, when food can be scarce. Sea ice now melts earlier in the spring and forms later in the autumn in the bears' southern range, like Hudson Bay and James Bay in Canada. As the bears spend longer periods without food, their health declines. For every week earlier the ice breaks up in Hudson Bay, bears come ashore roughly 10 kg (22 lbs) lighter and in poorer condition.

-> Fewer cubs

Unhealthy bears can mean lower reproduction rates, higher cub mortality – and eventually, local extinction. The main causes of death for cubs are lack of food or lack of fat on nursing mothers.

TOXIC POLLUTION

As top predators, polar bears are exposed to high levels of pollutants through their food. The popular image is of polar bears living in a pure, frozen wilderness is misleading. The Arctic food chain contains high levels of some toxic chemicals.

How do toxic chemicals affect polar bears?

-> Disruption of biological functions

Bears with high levels of some POPs (persistent organic pollutants) have low levels of vitamin A, thyroid hormones, and some antibodies. These are important for a wide range of biological functions, such as growth, reproduction, and the ability to fight off diseases. Females with partially-developed male sexual organs — Pseudohermaphrodites — have been observed in 1.5 % of the polar bears sampled on Svalbard in recent years. Scientists believe this could be the result of long-range pollutants.

-> Danger to cubs

In some areas, the mother bears' milk contains particularly high concentrations of these chemicals. The milk can actually poison the cubs, leading to lower survival rates.

OIL EXPLORATION

The oil and gas business is increasingly moving into the Arctic as more accessible reserves in the south dry up. Polar bear populations are expected to come under increased pressure if oil developments in the Arctic go ahead according to industry plans. Offshore operations pose the greatest risk, since routine emissions, spills or leaks will be discharged directly into the sea or on the sea ice.

How does oil exploration affect polar bears?

-> Reduced insulation

Contact with oil spills can reduce the insulating effect of the bears' fur. The bear must then use more energy to keep warm, and compensate by increasing its caloric intake—which may be difficult.

-> Poisoning

Polar bears can ingest oil through grooming and through eating contaminated prey. The ingested oil can cause liver and kidney damage, and has long-term toxicity. Bears can be poisoned by even a limited amount of oil on their fur.

-> Disturbance

Seismic blasting, construction, transportation and operation of oil facilities can negatively affect polar bears.

-> Destruction of habitat

If a major oil spill occurs at or near areas with high concentrations of polar bear denning sites, for example Hopen Island in the Barents Sea, it could have population-wide consequences.There is currently no proven effective method for cleaning or controlling an oil spill in icy, arctic waters, where difficult weather conditions are common.

https://www.arcticwwf.org/wildlife/polar-bear/polar-bear-threats/

True or False: Polar bears rely on sea ice to hunt and store energy.

The lack of food is a major problem for the young, not for the mother.

Polar bear are hermaphrodites

Contact of the oil with the polar bear's coat can add a protection against the Arctic winter.

Questions:

With your own words, explain why bear cubs are in danger of extinction.