

Narwhal NDF Greenland

A small bird is perched on the horizon line of a vast, textured, light-colored landscape, possibly a snowfield or a large-scale biological surface. The texture consists of numerous small, rounded, interconnected shapes, giving it a porous or cellular appearance. The horizon is a straight line across the upper third of the image.

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Background



- CITES formally adopted in 2004 by the Greenland Home Rule Government
- Greenland Institute of Natural Resources became the Scientific Authority
- First NDF in 2005 for narwhal
- Later NDFs for polar bear, beluga and walrus
(so far only NDF for beluga positive)

Internal NDF guidelines



- Integrate NDF in our traditional work on sustainable use of living resources
- NDF do not evaluate sustainable use directly
- It relies instead on scientific recommendations of international organizations like NAMMCO, JCNB, IWC and IUCN PBTC

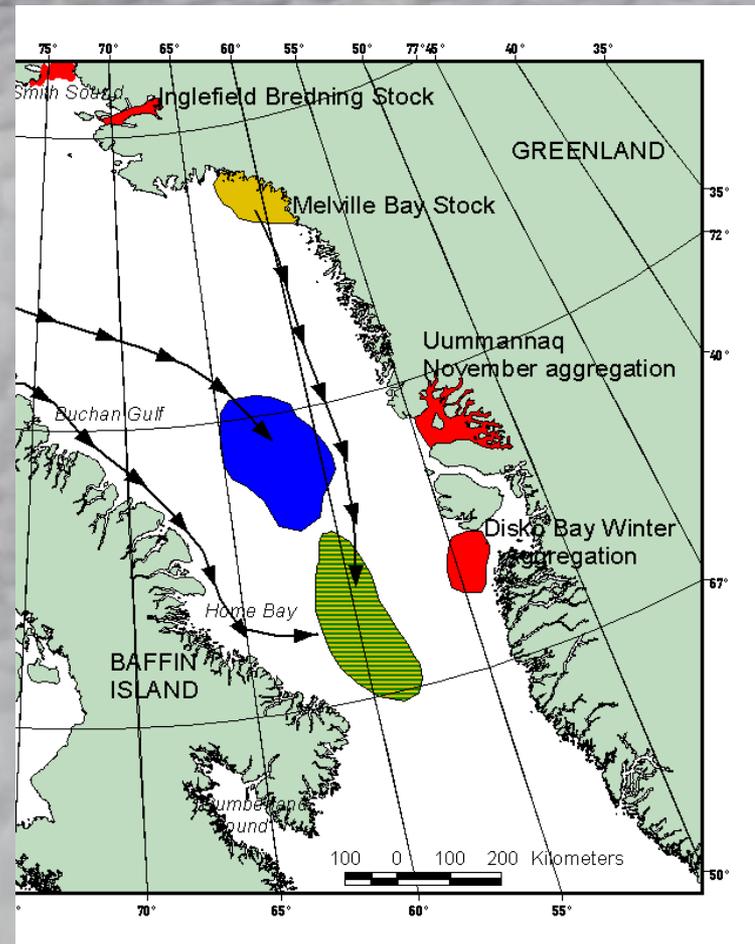
Narwhal distribution

- Arctic North Atlantic
- Mainly Arctic Canada and Greenland
- Summer: site fidelity to fjord systems
- Winter: in drift ice

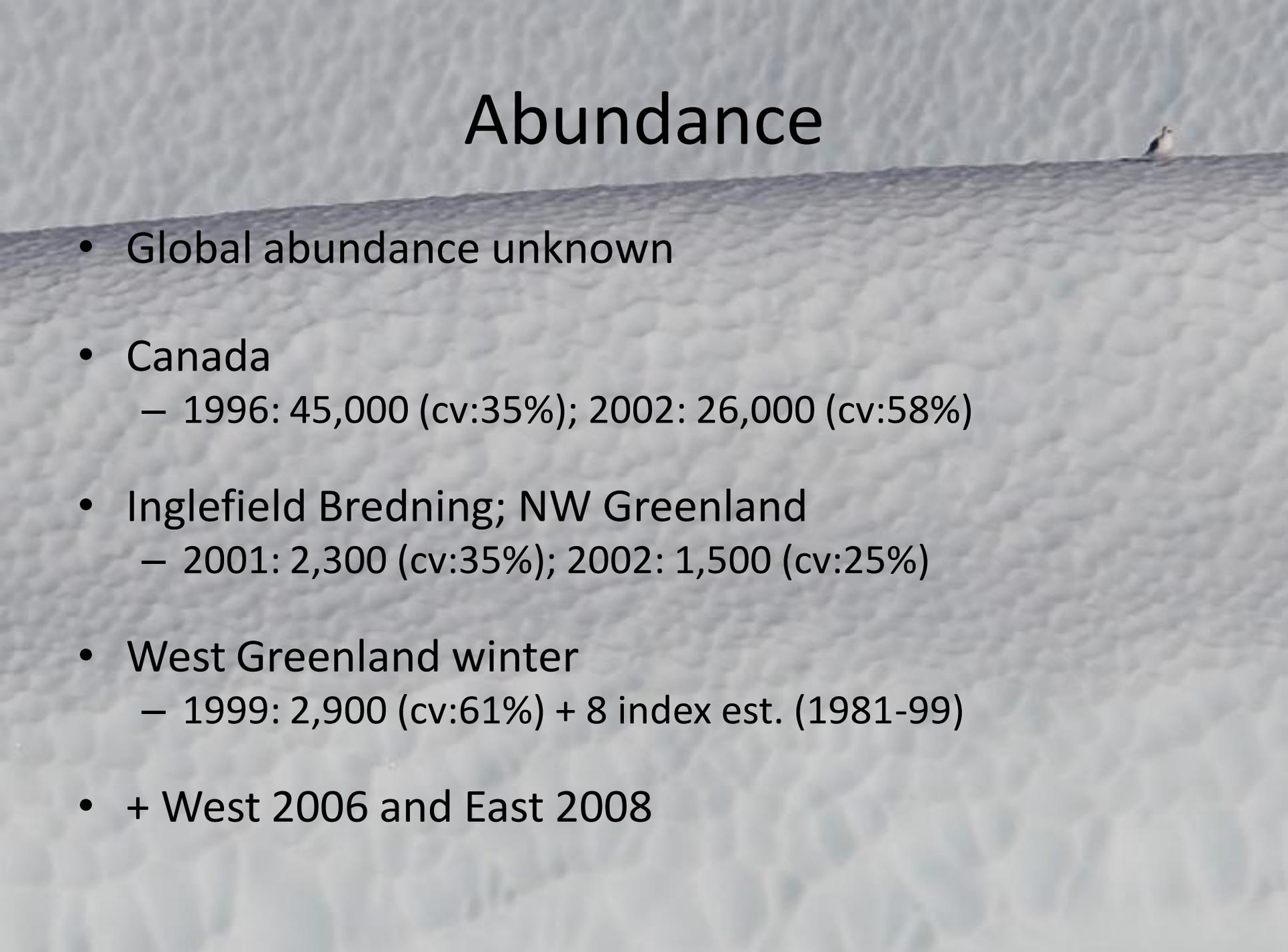


Stock structure

- Separate summer areas (3 NW Greenland + East Greenland + several in Canada)
- More common but apparent separate wintering grounds
- Winter/fall areas with animals of unknown origin



Abundance



- Global abundance unknown
- Canada
 - 1996: 45,000 (cv:35%); 2002: 26,000 (cv:58%)
- Inglefield Breeding; NW Greenland
 - 2001: 2,300 (cv:35%); 2002: 1,500 (cv:25%)
- West Greenland winter
 - 1999: 2,900 (cv:61%) + 8 index est. (1981-99)
- + West 2006 and East 2008

Subsistence hunt



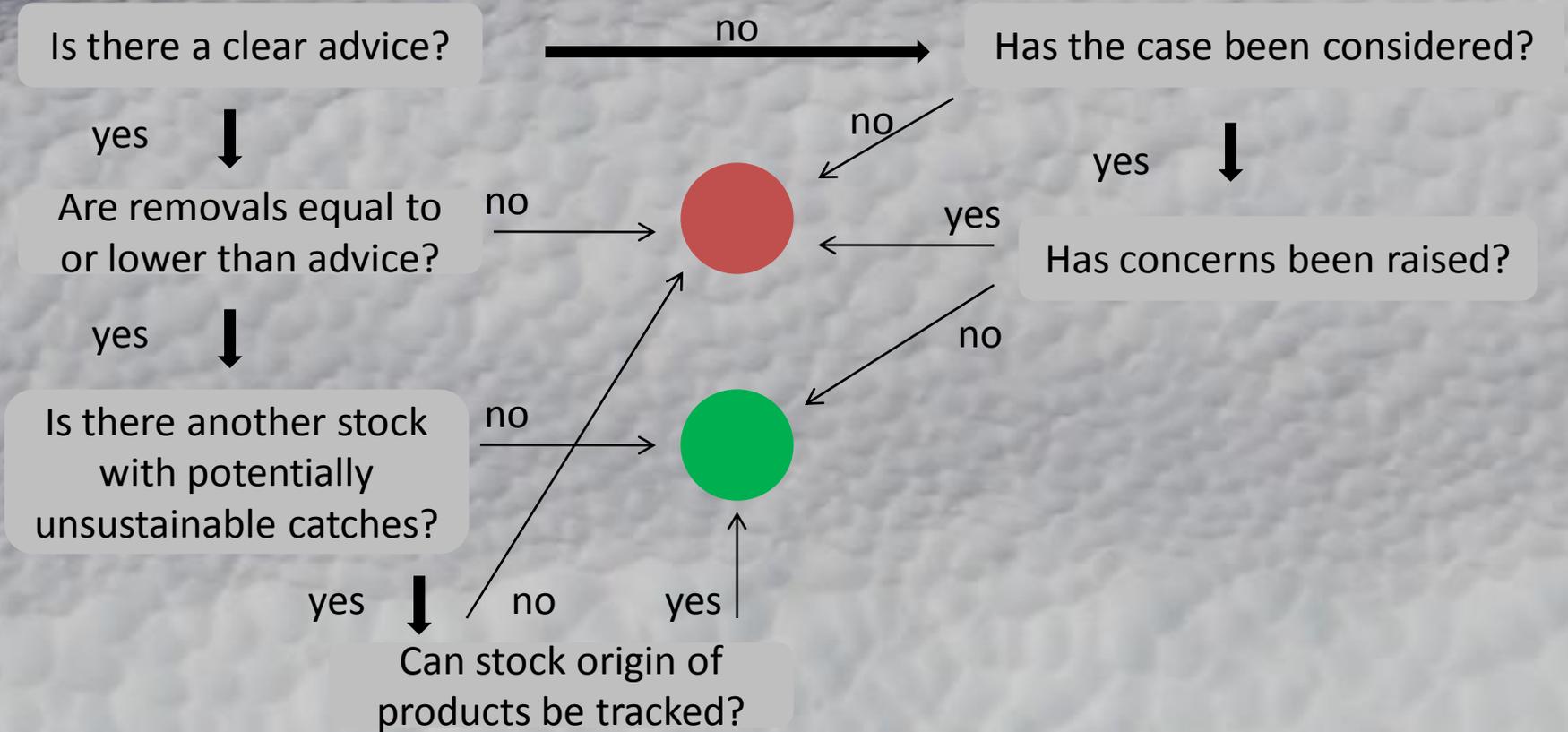
- Meat and skin are consumed locally or distributed within Greenland. Tusks are often sold and resold a number of times before they reach the final consumer
- Prior to 2005 unregulated: 700 /year
- Since 2005 quota system in West Greenland, free hunt in East Greenland
- 2008-9 quota 300 narwhals in west
- Average catch 95 /year in east

Bayesian assessment



- Density-regulated population model (age-structured & discrete)
- Projected over the known catch history
- Some correction for underreporting and struck & lost
- All accepted abundance estimates (relative/absolute)
- Prior knowledge on life history and growth rate
- Uncertainty in stock structure
- Probability of population increase for given catches (5-10 years)

NDF decision guideline

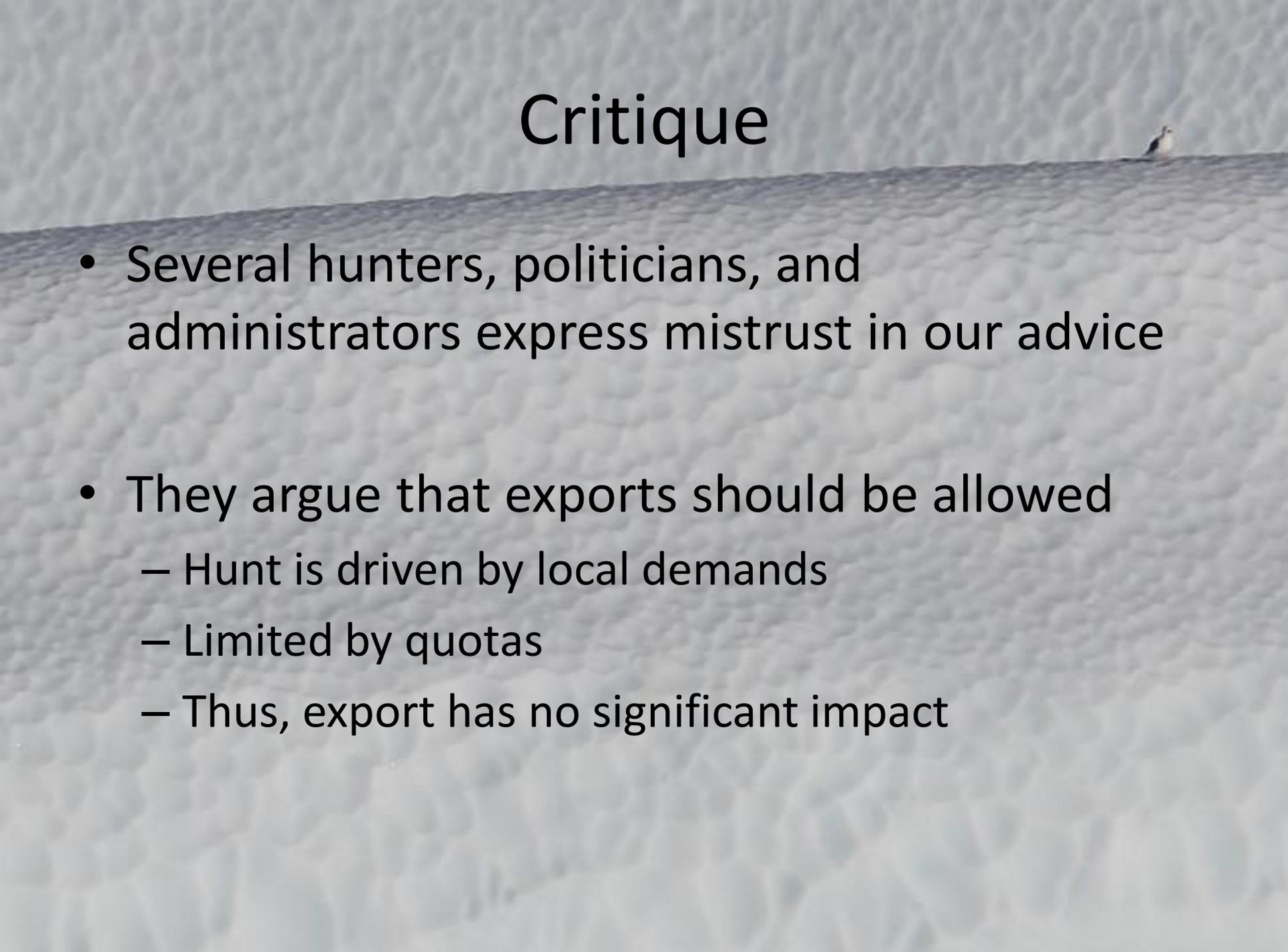


Export impact analysis



- Hunt unsustainable but independent of export
 - Is not considered for species where exported products have an important economical value
 - Impossible to prove
 - In such cases export analysis is redundant
 - Green light depends on sustainability

Critique

A small bird is perched on the crest of a sand dune in the upper right corner of the slide. The background is a vast, flat expanse of sand under a clear blue sky.

- Several hunters, politicians, and administrators express mistrust in our advice
- They argue that exports should be allowed
 - Hunt is driven by local demands
 - Limited by quotas
 - Thus, export has no significant impact