LET'S TALK ABOUT CLIMATE CHANGE

NORTHERN WILD SHEEP & GOAT COUNCIL
POSITION PAPER ON CLIMATE CHANGE

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BACKGROUND

The NWSGC convened 15 subject matter experts to put together this position paper, with the following objectives:

1. Document current knowledge around climate change and its impact on mountain goat environments
2. Provide guidance to various groups
3. Develop materials for public communication
4. Identify mitigation and conservation strategies

CLIMATE CHANGE

Scientific consensus is that human-induced climate change is happening. Alpine systems suffer from “alpine amplification” - the changes happen faster and more drastically in alpine environments.

We expect warmer summers, less snowy winters, and an increase in extreme weather events.

HABITAT CHANGES AND WEATHER RESPONSE

- “Green-up” - as the snow recedes, spring plant growth is very nutritious. Currently, reproduction cycles align with green up.

  Mountain goats benefit from slow and widespread green up. Climate change may shorten that window, and reduce overall kid survival rates.

- Gradual shifts in eco-zones and plant growth areas.

  As shrubs advance upwards, crucial alpine meadows will shrink.

- Mountain goats have a specifically winter adapted coat: long, white, highly insulated.

  Random warming events throughout a year will cause thermal stress when the goats haven’t molted

- Mountain goats will change behaviour when too warm.

  They will reduce activity, or alter habitat selection. This could lead to less eating, or higher risk of predation

- Less snowy winters can help with mobility and forage access…

  …but warming cycles in winter can cause unstable snow layers, ice crusting, and winter forage is far less nutritious than green up

SPECIES INTERACTIONS

Many parasites and predators that impact mountain goats are currently limited by weather conditions - namely, the extreme cold and snow of alpine winters.
As climate change causes shifting eco-zones, more and different predators and parasites will be introduced to mountain goat habitats, and resource competition may increase.

MANAGEMENT IMPLICATIONS

- Protect critical habitat from resource extraction and development.
- May need to cross jurisdictions and change responsibilities at different levels.
- Adjust timing windows and/or harvest limits
- routine reassessments and clear decision-analysis framework to justify the increased time, funding, and resources
- recalibrate how we monitor mountain goats and assess herd health
- incorporation of weather monitoring, including satellite based climate data