Muskoxen Below Treeline: Ecological Implications of Range Expansion for Large Northern Ungulates

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Rapid changes in species geographic ranges have become increasingly common, driven by species introductions, habitat loss, and climate change. Understanding how range expansions influences a species’ ecology is important for biodiversity conservation, food security, and the protection of critical habitats. This is particularly important for northern regions, where biodiversity is low and the effects of climate change are disproportionate compared to more southern parts of the continent. Muskox (Ɂǝjıre; Ovibos moschatus) provide a unique opportunity to investigate range expansions in a northern context; since recovering from overexploitation, the species is extending the leading edge of their mainland distribution south, into the treeline. We use data from 10 muskoxen collared below treeline to investigate the species home range size and movement associations and compare to published estimates from tundra environments. Preliminary results suggest strong seasonality to muskox movements within the treeline, and low-site fidelity. This research will enhance our understanding of how species reestablish in old environments and will enhance conservation and management strategies in dynamic northern ecosystems.