

## **EXPLORATION 1: SHOREBIRD MIGRATION EXTENSION**

### **Phenomenon**

“Predators now wipe out 70 percent of shorebird nests in the far north, a shift in historical patterns that scientists pin on climate change.” ([Audubon](#))

### **Consider the Following**

Migratory birds insert themselves into all the ecosystems they pass through. Conditions in one ecosystem that affect survival of shorebirds and offspring can change the population of shorebirds. Increases and decreases in shorebird populations affect ecosystems where the birds nest, rest, and winter. Consider the following simplified Arctic scenario.

[Arctic foxes](#) are predators that consume [lemmings](#). Arctic foxes prefer lemmings, but when lemming populations are low, Arctic foxes will raid eggs and hatchlings from shorebird nests. Milder winters in the Arctic have led to less snowpack for lemming burrows. Lemming survival rates have decreased as a result of the decreased snow cover needed for protection from predators. In the spring, when shorebirds return to the Arctic for nesting, there are fewer lemmings.

- How might a decrease in the lemming population affect the survival of shorebird eggs and hatchlings during breeding season in the Arctic?
- What might scientists observe in the fall as shorebirds stop at the national park on their migration to wintering grounds?

Create a PowerPoint presentation to show how changes in the lemming population affect the migratory shorebird population as a result of changes in fox predation.

Learn more by reading “[The Arctic Is No Longer a Safe Haven for Breeding Shorebirds.](#)”