

# Conservation Issues

## Objective:

To help student become aware of potential hazards to sea duck populations.

## Concept:

Sea ducks are vulnerable to population declines because of their breeding strategy, their use of diminishing wetland habitat for nesting, and their behavior of congregating in large numbers in their winter feeding grounds. All of these characteristics make them vulnerable to adverse weather conditions or natural or man-made disasters.

## You Will Need:

- ◆ *Sea Duck Species Cards*
- ◆ *Endangered and Threatened Species Cards*
- ◆ *Chairs*
- ◆ *Music and tape player*

## What to Do:

Pass out the sea duck species cards or the species trading cards and the other endangered and threatened animal species cards to be used as name tags for the students. Punch a hole through the cards and thread them with string. Have the students hang them around their necks.

Explain the general rules for musical chairs. As the students move around the chairs the music plays, when it stops each student must find an empty chair.

The student who is left out must find their species on the Endangered Species Situation Handout and read about their plight. The student must follow the instructions for their species. Only those species who are recovering or stable will have instructions to stay in the game, otherwise the student is out.

## **Spectacled Eider**



Photo by Doyle Ohnemus

Remove a chair for each student that is removed from the game after each round.

At the end of the game discuss the different species that were involved and the similarities and differences of their situations. Discuss which causes for a threatened or endangered status were man-made and which were natural. Explore ideas for preventing and/or restoring damaged populations. Discuss pros and cons of each possible solution.

## Follow up and Extensions:

### **Group Discussions:**

Discuss impacts on various populations as a class. Brainstorm ideas for helping threatened or declining species of sea ducks.

This lesson was adapted from *Our Wild Neighbors: An Educational Resource Book About Alaskan Animals* by the Alaska National Park Service.





## Endangered Species

### Possible Reasons for declines in the population of each species

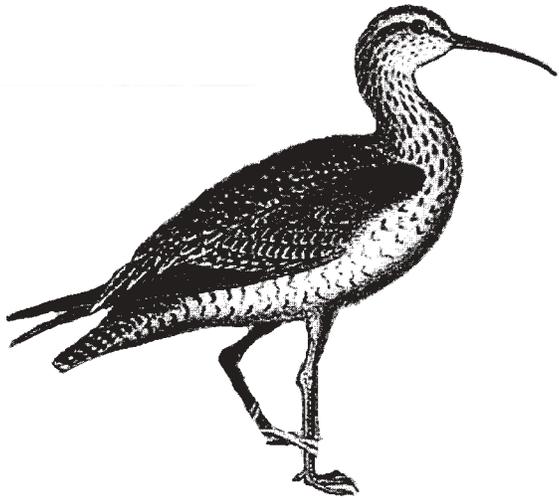
- ⊗ **Common Eider** has suffered severe declines in breeding population in western Alaska and in migrants past Pt. Barrow. It is on the Audubon Watchlist. Concerns are gull and other predation on eggs, vulnerability to oil spills during molt, wintering and migration.
- ⊗ **Steller's Eider** was listed as a Threatened Species in 1997 due to declines in western Alaska and possibly northern Alaskan populations. Concerns are increased subsistence harvest, increased predation on smaller goose nesting colonies in proximity to eider nesting areas, decline in availability of preferred foods in wintering areas for reasons unknown.
- ⊗ **Black Scoter** has had a recent decline in Western Alaska possibly due to contaminants (toxic metals or other chemicals in their food chain) in molting areas.
- ⊗ **Surf Scoter** has had recent declines in breeding in western Canada and possibly Alaska because of their susceptibility to oil spills and other contaminants in intertidal feeding areas that cause winter die-offs.
- ⊗ The eastern population of **Harlequin Ducks** has had significant declines over the last two decades and is listed as a "Species of Concern" in eastern Canada and "threatened" in Maine. The Prince William Sound population suffered greatly from the effects of the *Exxon Valdez* Oil Spill. The western population is vulnerable to oil spills and persistent contaminants reducing productivity and has a low rate of recovery due to high site fidelity (continued use of the same area) to contaminated areas.

## Situation Handout

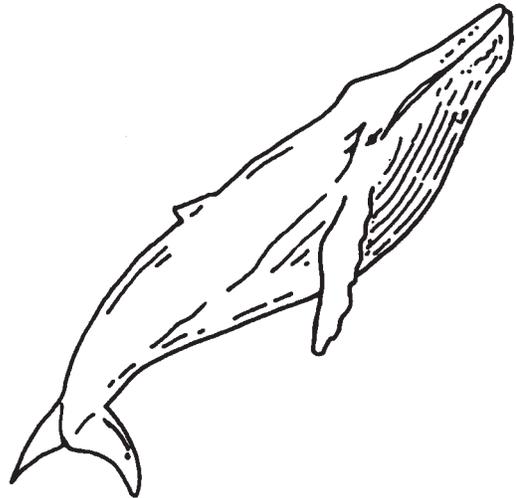
- ⊗ **Long-tailed Duck** has had a long-term decline in western Alaska, but is stable on the Arctic Coastal Plain. It is on the Audubon Watchlist. Concerns for the species are predation by bird and mammal predators in nesting areas, lead shot poisoning and heavy metal contamination.
- ☺ **Bufflehead** populations are stable or increasing - grab a chair and get back in the game!
- ☺ Both **Merganser** species populations are probably increasing but are vulnerable to oil spills in coastal wintering areas - stay in the game!
- ⊗ **Short-tailed Albatross** lost some of their nesting habitat in Japan due to a volcanic eruption on their only nesting island. They are vulnerable to being caught in fishing nets because they are attracted to the bait that looks like the shrimp they feed on.
- ⊗ **Eskimo Curlew** were over-hunted for food from 1870-1890 and are thought to be extinct.
- ⊗ The **Steller Sea Lion** population has steadily declined in Western Alaska. Suspected causes include shooting by fishermen, change in the quantity or quality of the fish they eat, and the effects of climate change on ocean food webs.
- ⊗ The **Humpback Whale** was overhunted and is an endangered species.
- ☺ The **Peregrine Falcon** declined because of the use of DDT for pest control which contaminated the food chain, but Alaskan populations have recovered - grab a chair and stay in the game!
- ⊗ It is unknown why the **Spectacled Eider** has declined. Scientists believe it may be a combination of loss of food source, pollution, and overharvest.



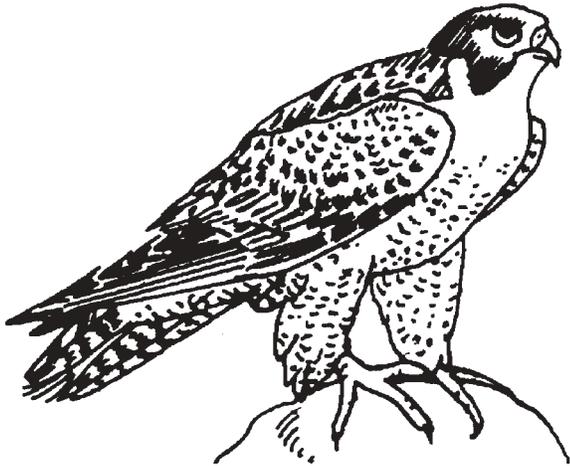
# Endangered Species Cards



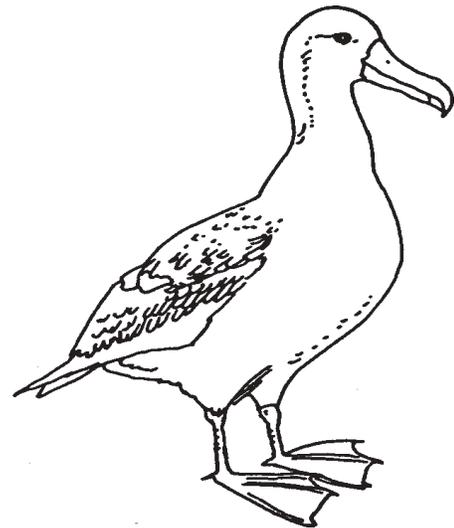
**Eskimo Curlew**



**Humpback Whale**



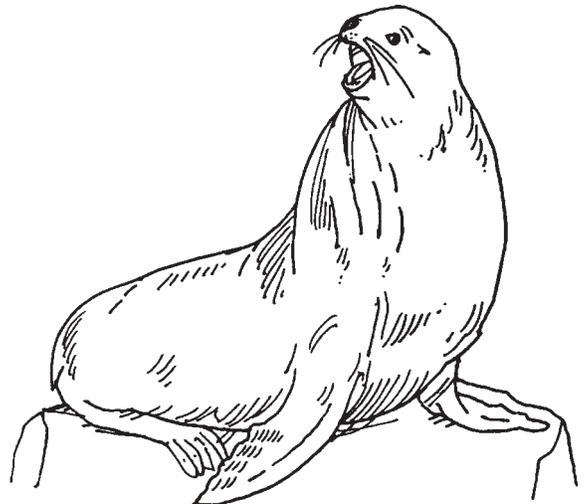
**Peregrine Falcon**



**Short-tailed Albatross**



**Spectacled Eider**



**Steller Sea Lion**