Sea Grant VIRGINIA BRIDGE ocean science education DATA Series

For the Birds!

Lesson Time : 60-90 minutes
Grade Level : 9-12
Vocabulary: vulnerable, longlining, bycatch

Summary
Compare marine bird sighting report data from the Great Backyard Bird Count (GBBC).

Objectives

- List at least 3 marine bird species from your area.
- Report on threats to marine bird species.
- Compare bird count data and support or argue the accuracy of the data.

Introduction

These graceful inhabitants of both water and air see our oceans and coasts from a unique perspective. Shorebirds (such as sandpipers, plovers, oystercatchers, and turnstones) and seabirds (such as albatrosses, gulls, terns, and pelicans) glide over thousands of miles during their annual migrations from breeding sites to feeding sites. These winged beauties have amazing stamina and endurance but are also extremely vulnerable to changes in their environment, whether human-induced or otherwise.

Scientists are concerned about declines in particular species of marine birds, a trend that can be attributed to a variety of factors. The greatest reason for the decline of shorebird populations is loss of wetland habitat. When coastal areas are developed for human use, critical areas used by birds to reproduce and forage are lost. Particularly devastating are significant changes to habitat in areas known to be critical stopover points on migration routes. Other factors responsible for lower shorebird numbers include pollution, pesticide use, and the often unpredictable harsh weather conditions during the breeding season in the Arctic.

Currently, it is believed that the greatest risk to a seabird's daily existence is getting snagged by a hook holding a tempting morsel of bait on a commercial fisherman's longline. Longlining (fishing with a main line to which many branch lines with baited hooks are attached) is actually a more environmentally sound way of catching fish than trawling with vast nets. However, some feel that measures to reduce bird bycatch can reasonably be adopted by the longline industry. The species of seabirds most frequently taken in longlines are albatrosses and petrels in the South Pacific and South Atlantic fisheries, Arctic fulmar in the North Atlantic and albatrosses, gulls and

fulmars in the North Pacific fisheries. Losses of large numbers of these birds can be particularly devastating to their populations since most of the seabirds at risk reproduce very slowly. Other threats to seabirds include marine debris, such as plastics mistaken for food items, and abandoned, drifting nets which cause entanglement.

Among bird species which are known to be incidentally caught in fisheries, the marbled murrelet is the only one listed both under the U.S. Endangered Species Act and the Migratory Bird Treaty Act. The marbled murrelet is a seabird which feeds in near shore waters but nests as far as 50 miles inland. It is dependent on old-growth forests for nesting sites, and due to significant logging in the Pacific Northwest, it has lost 90%-95% of its original onshore nesting and breeding habitat, bringing it near extinction in the U.S. and in serious decline in Canada. With population levels already pushed so low, even small additional impacts from fisheries are of serious concern. Fishing industry groups are willing to work with bird protection organizations and environmentalists to stop onshore practices which destroy critical habitat for this species. It is hoped that lessons learned from dealing with this species will also be transferable to other species and other geographic regions.

Data Activity

Since 1998, the Great Backyard Bird Count (GBBC) has been conducted by the Audubon Society and the Cornell Lab of Ornithology. Volunteers in North America participate in this four-day event every February, recording observations from their homes. Let's peek at the results, focusing on the sightings of shorebirds and seabirds.

Ask each student to select a bird from the following lists to compare sightings over recent years. Go to the Results page of the GBBC. Have your students record the total number of their species counted in all states and the number counted in your state this year. Compare these numbers with previous years.

Shorebirds:
Great Egret
Great Blue Heron
Black-bellied Plover
Snowy Plover
American Oystercatcher
Black-necked Stilt
American Avocet
Spotted Sandpiper
Purple Sandpiper
Black Turnstone
Common Snipe

Seabirds:
Common Loon
Horned Grebe
Western Grebe
Northern Gannet
American White Pelican
Brown Pelican
Great Cormorant
Double-crested Cormorant
Neotropical Cormorant
Marbled Murrelet
Laughing Gull
California Gull
Herring Gull
Great Black-backed Gull
Royal Tern

Discussion

1. What does the GBBC data indicate for your species? Are the number of birds counted for your species increasing or decreasing? What might be some reasons for this?
2. Research your species further to see if GBBC data agrees with other current observed trends.
3. What factors may affect the accuracy of the GBBC data? (e.g. the number and location of counters, reliability of bird identification, etc.)

The GBBC webpage is filled with great information. The State Tallies page provides lists of all species counted for each state/province, while the Top Ten Lists can tell you which species most frequently sighted and which localities are see the most birds. You can also learn how to become a Backyard Bird Counter and participate in next year's count.