



Piping Plovers Along The Coast



Objectives:

Students will graphically compare the nesting success of the threatened piping plover on the northern and southern barrier islands off the Eastern Shore of Virginia.

Background:

The piping plover (*Charadrius melodus*), a small sand-colored shorebird, was listed as a federally threatened wildlife species in 1986. Since then nesting surveys have been conducted on Virginia's Eastern Shore and on barrier islands in order to keep track of its reproduction success. In Virginia, plovers nest on sandy beaches interspersed with shell fragments that help conceal the 4 eggs laid in a shallow scrape on the sand. Unfortunately, not all of the eggs will hatch or young will survive but if the average fledge rate (i.e., the number of young that achieve sustained flight divided by the number of nesting pairs) equals or exceeds 1.24, the population will remain stable or increase.

Several factors contribute to the success or failure of the nest and young. If the breeding pair chooses a spot too close to the high tide mark or if there are unusually heavy summer rains the nest may be washed away. Predators, such as foxes, raccoons and gulls will feed on the eggs and the young. Even humans, who walk unknowingly, too close to the nesting pairs, may cause the parents to leave the nest exposing the eggs to avian predators and to the hot sun.

The nesting survey is done each year in early June. Most of the count is done on foot using 2 biologists, when they spot an adult bird they kneel down and watch. Birds exhibiting any type of breeding behavior or if a mate appears the birds are counted as a breeding pair. Occasionally, a lone adult is spotted and it too is included in the count as a single individual. This allows us to obtain an overall estimate of the number of potential breeding adults in the population. For purposes of this exercise only breeding pairs will be considered.

The northern barrier islands include Assateague, Wallops, Assawoman, Metompkin and Cedar and the southern islands include Parramore, Hog, Cobb, Little Cobb, Wreck, Ship Shoal, Myrtle, Smith and Fisherman. Barrier islands are constantly moving and what was a sandy beach may be washed away in a single hurricane season. Plovers and other beach nesting shorebirds tend to return to the same beach to nest each year.

Additional information about the piping plover may be found at http://www.dgif.virginia.gov/wildlife/piping_plovers.html . To discover ways you can help Virginia's wildlife visit <http://www.bewildvirginia.org/>

Questions:

Which group of islands has the highest average of breeding pairs?

On what group of islands is the population growing at a greater rate?

Table 1:

Year	Nesting pairs on northern barrier islands	Nesting pairs on southern barrier islands
1986	68	28
1987	75	21
1988	70	29
1989	95	21
1990	96	20
1991	98	27
1992	73	22
1993	80	21
1994	79	16
1995	89	25
1996	71	13
1997	79	8
1998	87	8
1999	84	5
2000	92	4
2001	117	2
2002	113	7
2003	107	7
2004	141	11
2005	169	23
2006	165	37

For additional Math activities using actual Department of Game and Inland Fisheries wildlife data visit: <http://www.dgif.virginia.gov/education/>

