

## Colonial Nesting Seabird Guild

**Sandwich Tern** *Thalasseus sandvicensis*

**Least Tern** *Sterna albifrons*

**Royal Tern** *Thalasseus maximus*

**Common Tern** *Sterna hirundo*

**Eastern Brown Pelican** *Pelecanus occidentalis*

**Forster's Tern** *Sterna forsteri*

**Gull-billed Tern** *Gelochelidon nilotica*

**Black Skimmer** *Rynchops nigra*

**Willet** *Catoptrophorus semipalmatus*

**Wilson's Plover** *Charadrius wilsonia*

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## DESCRIPTION

### Taxonomy and Basic Description

This guild ranges from the diminutive least tern (wing span of 50.8 cm or 20 inches) to the sizeable pelican (wing span of 228.6 cm or 90 inches). Members represent four families, but are grouped into a guild because they nest on small coastal islands in mixed colonies. The three families are: Pelecanidae (pelicans), Rynchopidae (skimmers) and Laridae (gulls and terns).

Smallest of North American terns, the least tern measures 21 to 23 cm (8.3 to 9.1 inches). This tern has a black cap with a white forehead. Least terns are grey above and white below with two black outer primaries. The bill is yellow or orange with a dark tip (Thompson et al. 1997).

The sandwich tern is intermediate in size between the royal and common tern but with a much different body shape than either. Sandwich terns are sized 34 to 45 cm (13.4 to 17.7 inches) and weigh between 180 and 300 g (6.3 to 10.6 oz.). This tern is the only crested tern with a black bill, the tip of which is yellow. They are uniformly gray above, darker on their outer primaries, with a white rump and tail. Underneath, sandwich terns are white with dark grayish edges under the primaries. The cap is entirely black with a spiky crest (Shealer 1999).

The gull-billed tern is another medium sized tern measuring 33 to 38 cm (13 to 15 inches) (Parnell et al. 1995). The gull-billed tern has a black bill and is similar in size to the sandwich but has a stockier, gull-like build, longer legs and a thicker, shorter bill. The upper wing of the gull-billed tern is uniform with a black line on the edge of the primaries, a gray rump and a similar tail. Gull-billed terns have black ear patches (Shealer 1999).

Common terns are medium terns with a length of 31 to 35 cm (12.2 to 13.8 inches), including elongated outer tail feathers forming a 6 to 9 cm (2.4 to 3.5 inches) fork. These terns weigh between 110 and 145 g (43 to 57 ounces). Adult breeding common terns are light gray above and below with a black cap, orange-red legs and an orange-red bill with black tip. There is extensive black on outer primaries that is very obvious on the closed wing (Nisbet 2002)

Forster's terns are typically 33 to 36 cm (13 to 14 in.) long and weigh 130 to 190 g (4.6 to 7.0 ounces). Both sexes are mostly white during breeding season with mostly white plumage and a black cap, pale gray wings and a deeply forked tail. These terns have orange legs and variably black-tipped orange bills (McNicholl et al. 2001).

The royal tern is the largest crested tern with a length of 45 to 50 cm (18 to 20 inches) and a weight of 350 to 450 g (12 to 16 ounces). Both sexes of the royal tern have long orange bills and forked tails. The breeding plumage of the royal tern is gray above and white below with a full black cap and shaggy crest. The rump is very pale gray with a white tail. The legs and feet are black and the eyes dark brown (Buckley and Buckley 2002).

The black skimmer is a slim bird with a black back and white belly. Males and females vary greatly in size with lengths between 40 and 50 cm (16 to 20 inches). Weight for females averages 265 g (9.3 ounces) and for males weight averages 365 g (12.9 ounces). The bill of the black skimmer is unique, half red and half black, long and laterally flattened (Gochfield and Burger 1994).

The brown pelican is one of two North American pelicans and is easily distinguished from its counterpart, the white pelican. White pelicans are larger with white bodies and black primaries. Brown pelicans are gray to gray-brown with a black-brown belly. This coastal seabird is very large measuring 100 to 137 cm (3.3 to 4.5 feet) with a long bill (25 to 38 cm, 9.8 to 14.9 inches) and extensible gular pouch (Shields 2002).

The willet is a large sandpiper, colored gray to brown with a white rump and black and white wing pattern. Willets measure 33 to 41 cm (13 to 16 inches) in length and 200 to 330 g (7 to 12 ounces) (Lowther et al. 2001).

The Wilson's plover is a medium sized, ringed plover found strictly in coastal habitats. Wilson's plovers measure 165 to 200 mm (6.5 to 7.9 inches) and weigh between 55 and 70 g (1.9 to 2.5 ounces). These birds have large, heavy black bills with gray to gray-brown upperparts and white underparts and a black to brown breast-band (Corbat and Bergstrom 2000).

## Status

Least terns are listed as state threatened, but coastal populations have no official federal designation since they are most abundant along the Gulf and Atlantic coasts. Nevertheless, least terns are classified threatened, endangered or species of concern for most states because of loss of nesting habitat (Thompson et al 1997).

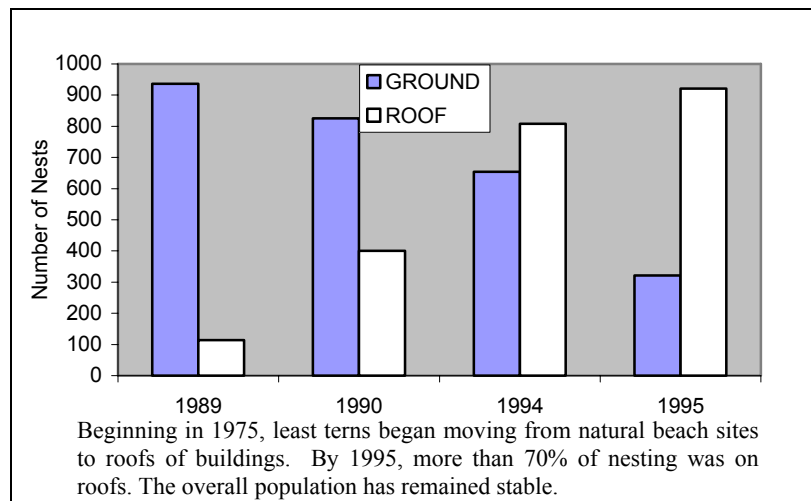
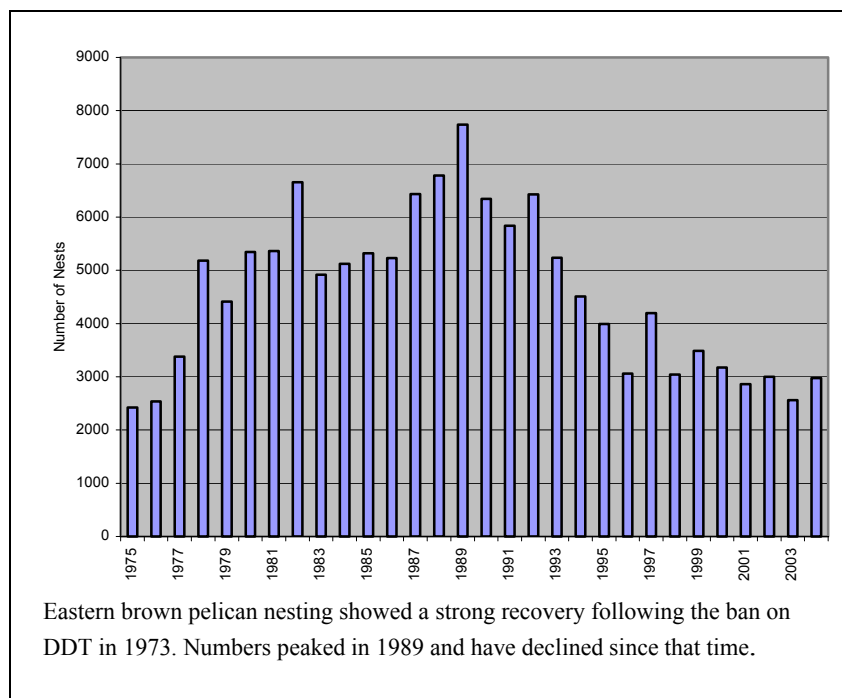
Eastern brown pelicans were formally listed as endangered, but the east coast population was removed from the list in 1985 as both numbers and reproductive success recovered. The South Carolina

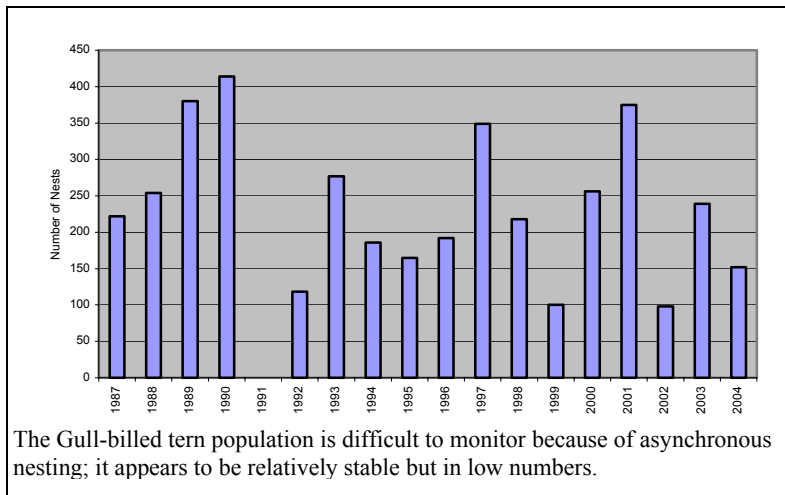
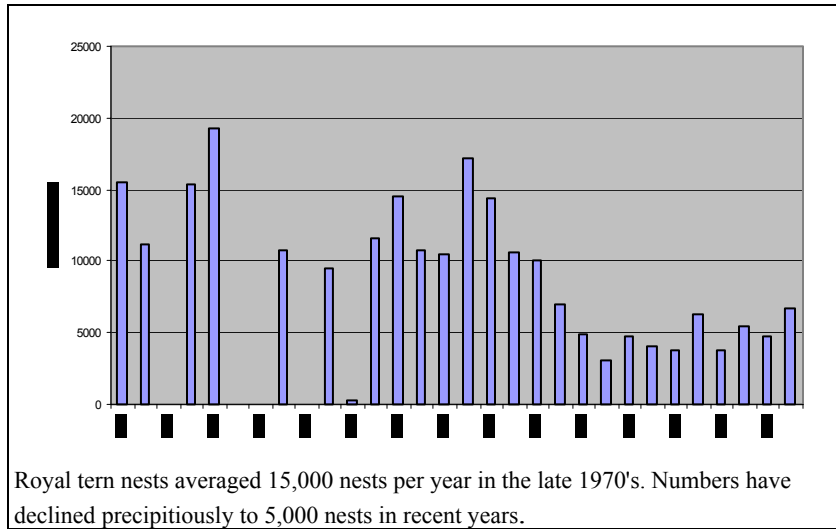
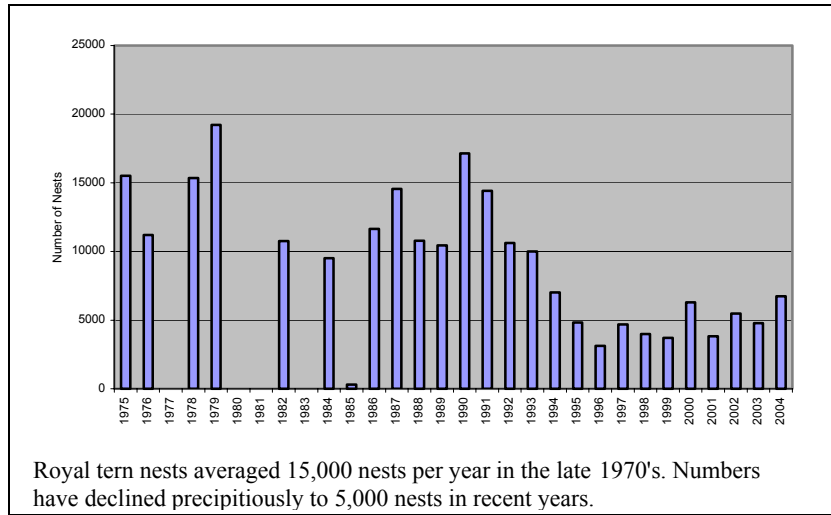


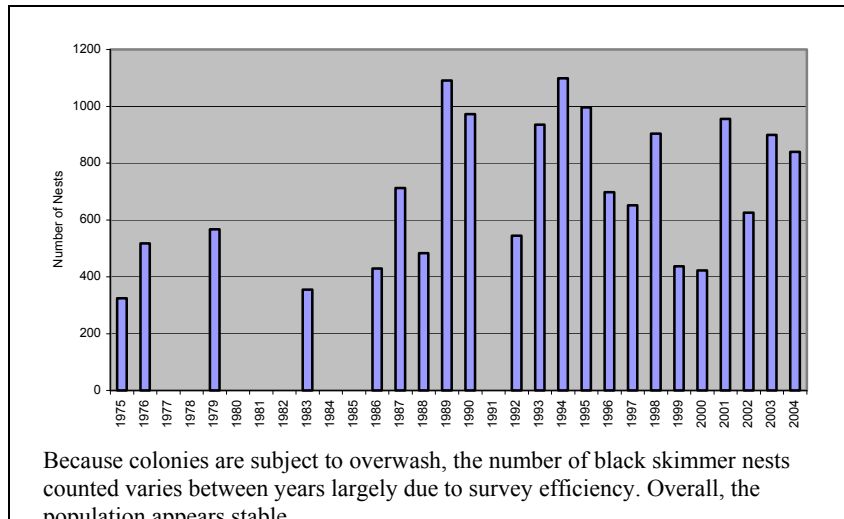
Department of Natural Resources (SCDNR) Heritage Trust Program lists the pelican as imperiled (S1/S2) statewide and restricted (G3) globally. The royal and gull-billed terns are currently under U.S. FWS status review. Gull-billed terns and black skimmers are listed as state species of concern.

## POPULATION DISTRIBUTION AND SIZE

This guild of birds supports populations with thousands of nesting pairs, but most are in decline. All of the birds are subject to loss of suitable nesting habitat, which can cause abrupt changes in numbers. Members of this guild have been in decline in recent years, excluding the laughing gull, which has increased dramatically. Common and Forster's terns are peripheral and occur in low numbers. A more detailed status review through 1996 can be found in Wilkinson (1997).

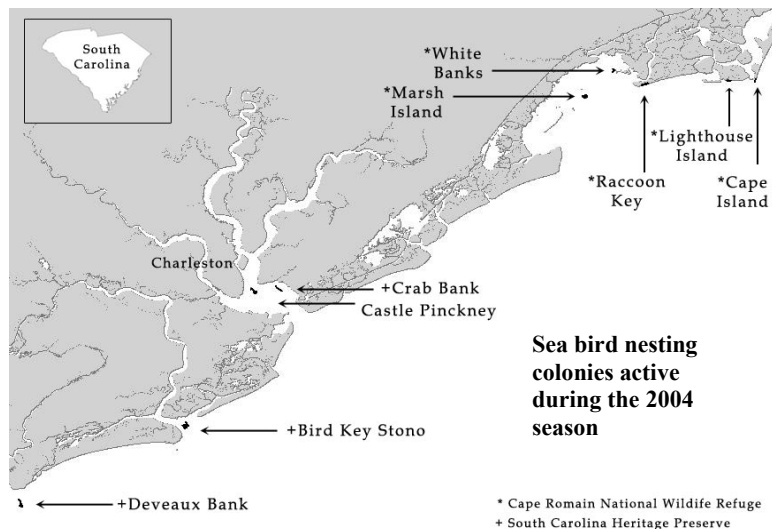






## HABITAT AND NATURAL COMMUNITY REQUIREMENTS

Seabirds usually nest on isolated coastal islands that are high enough to prevent over-washing and too small to support mammalian predators. Nesting sites that were previously used in St. Helena Sound, Port Royal Sound and at the mouth of the Savannah River have eroded away. There are nine remaining active nesting sites in the state; all are located in Charleston County. Colony sites with multiple species require habitats ranging from bare sand or shell to low grass or shrub vegetation. The ends of larger islands are used by several species. Nesting colonies serve as information exchange centers to facilitate location of prey that has a patchy and changing distribution. In addition, least terns began nesting on roofs in 1975. Currently approximately 70 percent of nesting occurs on roofs and requires an innovative management approach.



This guild is principally picivorous and feeds in nearshore and estuarine waters of the state. During the nesting season, foraging is limited to areas within 10 to 15 miles of nesting sites. Terns typically plunge dive for food, while pelicans and skimmers have specialized foraging strategies. This guild also utilizes shrimp trawler bycatch.

## CHALLENGES

Members of this guild share both nesting and foraging sites and are usually impacted by the following factors: loss of suitable nesting habitat; disturbance at nest sites; soft tick infestation; loss of suitable roof nesting sites; oil spills; and loss of prey base.

Seabirds nest at sites that are prone to sudden and dramatic changes. Storms and hurricanes can alter or destroy nesting islands at any time. Loss of a single colony site can result in major lasting impacts to statewide populations. Many of the islands currently in use by seabird colonies are owned by state or federal government agencies.

With ever increasing coastal development and associated boat use, protection of seabird colonies has become increasingly difficult. During the nesting season, several thousand nests can be negatively impacted by a single disturbance event such as a person entering a nesting colony during the heat of the day. Egg temperatures are significantly altered when the brooding parent is forced from the nest. The boating public frequently uses seabird nesting islands as public recreation areas. Dogs that often accompany their owners are a particular problem as they run through the colonies destroying eggs, killing or injuring chicks and leaving unattended chicks vulnerable to aerial predators.

Nest abandonment associated with tick infestations has frequently affected pelican rookeries in the state and may be contributing to recent declines in nesting pairs. These ticks (*Ornithodoros* spp.) feed mostly at night and complete a blood meal in a matter of hours; therefore, they are infrequently seen on the birds. Close examination of nests is required to detect the presence of ticks except when they are present at high densities. Infestations can involve thousands of ticks per nest and result in nest abandonment.

Least terns have been able to maintain their nesting population by utilizing roofs with a pea-gravel substrate for nesting. A large proportion of the current population was hatched and has nested exclusively on roofs. During Hurricane Hugo, the fact that the pea-gravel can become ballistic in high winds was discovered and is now only rarely used on roofs; this resulted in fewer suitable roofs available for tern nesting. Further, although roof nesting sites can be productive, they frequently flood during thunderstorms, lack perimeter barriers to prevent chicks from falling and may receive excessive disturbance.

## CONSERVATION ACCOMPLISHMENTS

Nesting areas are posted and closed on an annual basis. In addition, three nesting islands have been protected as State Heritage Sites. Long-term complete annual census data are available for most species and extensive banding has been conducted on several of the guild members. Experimental spraying of ticks has been conducted to evaluate its effectiveness in protecting offspring. Finally, one nesting island has been constructed for use by nesting seabirds.



## CONSERVATION RECOMMENDATIONS

- Protect birds during the nesting season; adequate and timely posting and effective law enforcement is required.
- Establish or maintain suitable nesting islands at 48 km (30 mile) intervals along the coast to maximize use of foraging habitat during the nesting season.
- Evaluate management actions and determine population trends using annual monitoring with complete ground counts.
- Continue cooperative efforts with U.S. Fish and Wildlife Service to census and manage nesting sites within Cape Romain National Wildlife Refuge.
- Document impacts of soft tick infestations and provide suitable treatment as needed.
- Conduct cooperative projects with U.S. Army Corps of Engineers to construct and maintain seabird-nesting sites under the authority of Section 204 of the Water Resources Development Act of 1992.
- Develop public education program by creating and maintaining a web site with information on the status, management and natural history of seabirds in South Carolina.
- Develop oil spill contingency plans to protect nesting sites and provide rehabilitation of oiled birds.
- Maintain fish prey base for long-term success of these species.

## MEASURES OF SUCCESS

This guild of birds is subject to rapid shifts in distribution and abundance and will require adaptive management to respond to these changes. Attaining performance goals in nesting pairs will represent a measure of success.

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