

Real Estate for Sea Birds



*Do birds, like humans, consciously choose
their dwelling places?
Are they particular about their shelter or will they
use whatever is available?*

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Photos by Jenneke Visser

Brown pelicans dive near the Port of New Orleans office every afternoon, but it wasn't always so. The number of live births in our state bird's population dropped to almost nothing in the late 1960s, and state officials had to work to restore it by introducing brown pelican eggs from Florida. Why do they dive around the Port of New Orleans every day? Are they nesting close by?

"Sea birds like the brown pelican take temporary shelter close to food sources in available plants in their environments, but they are more particular about selecting nesting places," says Dr. Jenneke Visser of the Louisiana State University Coastal Ecology Institute. If certain criteria are not met, the birds will not nest and reproduce successfully.

After spending two years studying the nesting preferences of pelicans and their natural neighbors, the sandwich terns and the royal terns, Visser, Bill Vermilion of the US Fish and Wildlife Service, Greg Linscombe of Louisiana Department of Wildlife and Fisheries, and Dr. Charles Sasser and Elaine Evers of LSU's Coastal Ecology Institute concluded that each sea bird species has nest site priorities. All three species do choose their nesting places.

The birds identify strongly with the realtor's expression, "Location, location, location." These colonial nesting birds prefer neighborhoods close to their kin, and they tend to stay for generations. The three species in this study like nesting around each other. Royal terns and sandwich terns almost always group together and nest on the ground in sand, shell, or mud. All of the adults in the community guard and herd the chicks, but parents know and feed their own offspring. Pelicans like to nest in shrubs,

particularly mangroves. Although they, too, nest in a colony, they don't tend their young communally.

To continue to dwell and reproduce in Louisiana, these seabirds need space for their growing colonies. But the barrier and back barrier islands preferred by these three species have been losing land at the rate of about 63 hectares per year. Caused by the complex interaction of subsidence, sea level rise, wave processes, storms, inadequate sediment supply and human disturbance, such land loss cannot be easily reversed. However seabirds are known to use man-made islands. Restoration of some existing seabird islands using dredged material protected by rock dikes or breakwaters has already occurred along the Louisiana coast. More is anticipated.

Visser's research on 14 natural and man-made islands was designed to help artificial habitats succeed. "This information will provide an understanding of habitat requirements for these species," Linscombe says. "Management decisions including habitat protection and restoration planning will be based on much better information than previous efforts."

The results of the study show that each species has a primary criterion for its nesting location. Brown pelicans prefer to nest high enough to avoid flooding and at least 1.7 miles from the mainland or other land masses. That distance is enough to

discourage development of resident predator populations. The terns select wide beaches above high tide sea level to accommodate their communal life style. A gentle slope to the sea is also important. "Young terns and pelicans learn to swim before they learn to fly," Visser said. "They like to 'hang out' at the beach while their parents are hunting for food."

All three species find food for their colonies in the adjacent Gulf of Mexico,




Pelicans like to nest in shrubbery, especially black mangroves. When the elevation is comfortably high, these sea birds will also nest on the ground.

although brown pelicans do not forage as far from the nesting site as do terns. However, when constructing artificial habitats in other areas, naturalists will have to consider the distance to an adequate food source for these birds, Visser said.

While the primary consideration is location, the secondary consideration is the nest itself. All three species of sea birds are

known to make do with whatever is available. The terns will lay eggs in mud, sand, or shells, but the colonies nesting in shell deposits are larger and stronger. Shells provide camouflage for the eggs as well as a calcium source for the egg-laying females, Visser explained. Similarly, pelicans will nest in a variety of dune shrubs, but they prefer mangroves. If the elevation is high enough, they will even nest on the ground.

Since pelicans and terns cannot communicate these preferences to people, the research team had a challenging task. Using a long list of possible criteria, they spent many hours observing and measuring on natural and restored islands with resident pelican and tern populations. The criteria included island size, distance to nearest neighboring island, distance to mainland, distance to ocean, plant species on the island, percent of island surrounded by deep water, length of open water perpendicular to the side of the island and used by the colony, percent of shell substrate, percent of sand substrate, shape of substrate, width of beach, distance to nearest inlet between bay and sea, percent of human disturbance, area adjacent to shallow bay, elevation above mean high water, and other species present. Studies such as this one will contribute to sustaining the population of Louisiana's state bird, and the US population of terns (77 percent of the US breeding population of sandwich terns live in Louisiana). "As new coastal restoration efforts are planned, more emphasis can be placed on habitat diversity and placement of vegetation in addition to beach and dune design," Linscombe concluded. "These data will also change the way we, and all agencies involved in planning and permitting projects in the state, view islands for future habitat." 



The oyster shells and rocks of on-ground nests provide natural camouflage for tern chicks (top photo). Manipulating the color of the nesting material in the picture reveals the chicks clearly.



Royal terns and sandwich terns nest and live together on Louisiana's barrier islands. Note the orange beaks on royal terns, and black beaks with yellow tips on sandwich terns. A birders' saying to remember the difference: the sandwich tern dipped his black beak into the mustard on a sandwich.