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SUCCESSFUL NESTING BY WILSON'S PLOVERS IN INDIAN RIVER COUNTY, FLORIDA

BRIAN TOLAND[1]
U. S. Fish and Wildlife Service, P. O. Box 2676
Vero Beach, Florida 32961

Wilson's Plovers *(Charadrius wilsonia)* breed sporadically along both coasts of Florida on sandy beaches and mudflats, usually excavating a nest scrape within a short distance of salt or brackish water (Sprandel 1996). Although the Breeding Bird Atlas confirmed Wilson's Plovers in 6.1% (63 of 1036) of the quadrangles surveyed prior to 1992 (Kale et al. 1992), there has been no complete census of breeding numbers of Wilson's Plovers in Florida. Population declines may have occurred in response to increased human use of Florida beaches (Weston 1965, Cruickshank 1980, Sprandel 1996).

Confirmed breeding by Wilson's Plovers has been lacking between Merritt Island and Jupiter Inlet on the east coast of Florida (Kale et al. 1992). This note reports successful nesting by Wilson's Plovers during 1996 and 1997 in the City of Vero Beach, Indian River County, Florida.

The study area comprised a 1,500 m length of beach and primary dune on the barrier island in Vero Beach, Florida. This section of beach started at the end of Pirate Cove Lane and extended to Seahorse bend. The primary dune vegetation included sea oats *(Uniola paniculata),* railroad vine *(Ipomoea pes-caprae),* sea rocket *(Cakile fusiformis),* beach bean *(Canavalia maritima),* beach-star *(Remirea maritima),* beach elder *(Iva imbricata),* and beach croton *(Croton punctatus),* transitioning into saw palmetto *(Serenoa repens),* prickly pear cactus *(Opuntia stricta),* sea daisy *(Borrichia frutescens),* and sea grape *(Coccoloba uvifera).*

I surveyed the beach for Wilson's Plovers by walking transects weekly from 1 April through 15 August each year. Nests were located by observing behaviors such as: plovers flying to or from the primary dune line, males chasing other birds in the "hunched" territorial display, mockbrooding, or broken-wing distraction displays (Bergstrom 1988b, Sprandel 1996). When a Wilson's Plover nest was located, I recorded nest site characteristics and the stage of nesting. Subsequent visits were made to each nest site to document the fate of each nesting attempt. I documented two breeding pairs of Wilson's Plovers in the study area during both 1996 and 1997. Wilson's Plover nest scrapes were excavated along the foredune within 5 m of the leading edge of the vegetation (Figure 1). Nest scrapes were placed along intact dunes that ranged from 40 to 60 m in width. Vegetation around three active nest scrapes consisted predominantly of beach croton, with lesser numbers of beach-star. Incubating adult Wilson's Plovers were extremely difficult to see due to the camouflaging effect of the surrounding beach croton.

Wilson's Plover nesting dates were estimated using five to six days for laying of the average three egg clutch and an average 25-day incubation period (Bergstrom 1988a, Sprandel 1996). For initial nesting attempts, the mean date for initiation of egg laying was 21 April (range = 14 April-4 May), the mean incubation date was 30 April (range = 20 April- 10 May) and the mean hatching date was 20 May (range = 13 May-3 June). Wilson' Plover modal clutch size is three eggs with a range of two to four (Sprandel

[1]*Current address: Brevard County Office of Natural Resources Management, 2725 Judge Fran Jamieson Way, Bldg. A, Viera, Florida 32940*

Figure 1. Nest of a Wilson's Plover and foredune vegetation in Indian County, Florida. The nest scrape with three eggs is located in the small clump of beach croton in the center of the photo.

1996). During this study, Wilson's Plovers were successful in fledging at least one young 40% (2 of 5) of the nesting attempts. Mean annual productivity (number of fledglings per nesting pair per year) was 0.4 for all nesting attempts.

Wilson's Plovers require about eight days before renesting is attempted after a failed nesting attempt (Bergstrom 1986, Sprandel 1996). Two renesting attempts that were documented during this study consisted of 3 eggs each. One renesting attempt resulted in incubation beginning during the last week in May and the other attempt initiated incubation during the first week of June. Three of the five documented nesting attempts failed, including two during the first week after hatching and one during incubation. Causes of nest failure were difficult to identify, but chicks that disappeared at around 1 week of age were probably lost to predators. The nest failure that occurred during incubation resulted from an extremely heavy thunderstorm that apparently cracked the eggs. The most likely predators on Wilson's Plover eggs and chicks include gulls, Fish Crows *(Corvus ossifragus),* raccoons *(Procyon lotor),* and domestic pets.

Human recreational activities, including sun bathing, picnicking, fishing, and walking dogs were the most important causes of disturbance to roosting and nesting Wilson's Plovers. Additional surveys for breeding Wilson's Plovers should be initiated in southern Brevard, Indian River, and St. Lucie Counties, focusing on stretches of beach with intact dune systems. Suitability of such habitats for nesting Wilson's Plovers could be enhanced by enforcing pet leash laws, acquisition or restoration of beach habitat, educational signage, and fencing off of nest sites in foredune habitat.

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