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Effects of Disturbance and Predation on Nesting American Oystercatchers

Description:

The American Oystercatcher (*Haematopus palliatus*) is one of four shorebird species in highest need of conservation attention (“extremely high”) according to Hunter (2001) in The Southeastern Coastal Plains - Caribbean Regional Shorebird Plan (SE Regional Shorebird Plan) of the U.S. Shorebird Conservation Plan. George (2001) estimated extremely low American Oystercatcher’s nesting success in the egg stage (12-27%) and in success at fledging young (0-6%) in recent studies along the Georgia coast. In North Carolina from 1997-1999, Davis et al. (2001) found that only 13% of the nests hatched at least one egg ($n = 245$ nests). Prior to these two studies, Nol (1989) also found low hatching success (13-14%) for American Oystercatchers in Virginia. These apparent nesting and fledging successes will more than likely not sustain a stable or increasing population. Hunter (2001) summarized that potential factors affecting oystercatchers during the breeding season include vehicular use on beaches and public use of beaches in general, especially where pets (i.e., dogs) are allowed to run freely. In Georgia, George (2001) found that the most frequent direct causes of nest failure were predation and flooding from high spring tides and storms. Failures of nests in North Carolina were also attributed to predation (76%) and storm overwashes or severe weather (Davis et al. 2001). Both direct and indirect factors likely result in poor reproductive success. Davis et al. (2001) also hypothesized that predators, such as feral cats and racoons (*Procyon lotor*), which are more abundant in areas of human activity may reduce survival of oystercatcher nests and hatchlings. Rappole (1981) suggested that vehicular traffic from residents and all-night surveys for turtle nests may cause oystercatcher nesting failures on Little Cumberland Island, Georgia. Recent studies in Georgia have not focused on exact identification of causes of nest, egg, and hatchling

losses; hence, studies are needed to identify these causes specifically. Additional studies are needed to identify effects of disturbances (e.g., dogs, people, or vehicles), survival through fledging, and causes of mortality for the American Oystercatcher (Davis 2001, George 2001, Hunter 2001). Research objectives of the SE Regional Shorebird Plan (Hunter 2001) that coincide with concerns of the Georgia Department of Natural Resources and the investigators of this study are: 1) to determine depredation levels and its sources for oystercatcher nests in the egg and hatchlings stages and 2) to determine disturbance tolerance levels (primarily relative to activities of humans and their pets) and its effect on oystercatcher nesting success. Quantifying the direct and indirect effects of human disturbance (beach driving, pedestrian traffic, ATV traffic especially by technicians monitoring sea turtle nests, and dogs) and the effects of predator abundance will be vital to future management of the American Oystercatcher and its habitat within the southeastern region. We propose to establish study sites on barrier islands (e.g., Cumberland Island) that provide nesting habitat for 12 or more oystercatcher pairs and that receive beach use from recreational boaters and sea turtle technicians. Oystercatcher nests will be located and monitored from March to July during two nesting seasons. To assess depredation of nests, we will visit each nest every 2-3 days and use tracks and other signs to identify predators if a nest fails because of predation. Video monitors (10 with infrared for nighttime monitoring) will be used on all nests in each area (disturbed and undisturbed) to monitor disturbances. Video techniques and sampling will be identical to studies in North Carolina. During the second year of the study we will divide the nesting areas into an experimental and control for developing and testing management techniques.



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Progress to Date:

No results to date.

Management Implications:

Management guidelines will be provided to reduce disturbance and therefore increase survival of nesting American Oystercatchers.

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