Assessing BASH Risk Potential of Migrating and Breeding Osprey in the Mid-Atlantic Chesapeake Bay Region, Capture and Marking Techniques, Project 06/07-292

Introduction: This fact sheet describes the materials, procedure, application, and results of Osprey captured and marked as part of the Department of Defense Legacy Resource Management Project 06/07-292, Assessing BASH Risk Potential of Migrating and Breeding Osprey in the Mid-Atlantic Chesapeake Bay Region. The project encompassed a collaborative multi-agency effort where breeding adults and nestlings were live-captured, fitted with satellite transmitters, and released from nest locations surrounding Langley Air Force Base in the Back River on the western shore of the Chesapeake Bay of Virginia.

Approach: Raptor trapping methods used included: (1) nest trap, (2) dho-gaza trap, (3) padded pole trap, and (4) hand-capture. Application of each method was dependent upon the nest size, accessibility, and age or sex of the targeted Osprey. All traps were consistently monitored and evaluated for efficiency. The nest trap was the most effective for capturing nesting Osprey, whereas the dho-gaza and padded pole traps were ineffective. The hand-capture technique was useful for capturing flightless Osprey nestlings between the ages of 7-8 weeks of age. Carpet-noose style nest traps (60 cm X 91 cm) were constructed from hardware cloth with 13kg test monofilament nooses glued to the cloth at 6 cm spacing. These traps were designed to cover the nest and arch over a clutch of eggs, nestlings, or fish bait. Osprey walking or standing on the nest trap are captured when the nooses close around one or more talons. Stationary traps, anchored with weights, were used at duck blind nests. Observers monitored the trap from a boat located a short distance from the nest. A second team remained hidden inside the duck blind and responded when an Osprey became entangled by the nooses. Tethered traps were used to capture Ospreys nesting on channel markers or water pylons. Traps are tied to the nesting substrate using parachute cord fixed with a piece of insulation foam to keep the trap and captured bird afloat. Observers in a boat monitored the trap from a short distance and responded immediately when a captured Osprey fell into the water.

Accomplishments: The project team captured and marked a total of 20 adult (11 female and 5 male) and 4 nestling Osprey during 2006 and 2007, including 3 breeding pairs. All captures occurred at artificial nesting substrates. Capture times ranged from 3 to 37 minutes. All birds were marked with leg bands and 14 Osprey were fitted with GPS-capable satellite telemetry packages. We captured more females than males. Female Osprey were likely easier to capture due to their intrinsic parental behavior to incubate eggs or brood nestlings. Males were more reluctant to approach nest traps, often observing and defending nests from a nearby perch. Two males were caught using nest traps baited with fish. Inexperienced first or second year breeding Osprey might be easier to catch than older more experienced adults.

Benefits: The Osprey (*Pandion haliaetus*) is one of the most widely distributed birds in the Northern Hemisphere and thus poses a risk to military flight operations. This project utilizes advanced satellite tracking technology to monitor and predict the breeding, migratory, and wintering movements of Osprey to better understand military airspace use, habitat preferences, and aircraft collision risk. Ultimately, incorporation of Osprey movement information into natural resource management plans and military flight mission planning systems will allow for military flight operations to occur at times and locations that minimize the risk of Osprey-aircraft collisions.

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