

# Marsh Hawk Predation on Black Tern and Pectoral Sandpiper

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The diet of Marsh Hawks (*Circus cyaneus hudsonius*) consists largely of small mammals, although birds, reptiles and amphibians are also taken (Brown and Amadon 1968; Jackson et al. 1972). Bent (1937) includes sandpipers among the prey items. Page and Whitacre (1975:77) discuss Marsh Hawk predation on shorebirds. None of these accounts refers to Black Terns (*Chlidonias niger*) or Pectoral Sandpipers (*Calidris melanotos*). I witnessed 2 instances of such predation at the Grand Forks Sewage Lagoons, Grand Forks, North Dakota during 1976.

On 23 August, at 07:20 CST (19°C, wind N 20 km per hour, clear), I observed a ♂ Marsh Hawk flying south across a lagoon cell toward 2 immature Black Terns sleeping on the shore. The hawk seized one and carried it, still struggling, 25 m to an area of tufted grass. He stood on a grass tuft and, after a few minutes, began to tear at the breast and to feed. One hour later, the hawk was flushed and I found the tern's liver, stomach, most of the intestine, upper mandible, a radio-ulnar bone and feathers.

On 12 October, at 13:40 CST (16°C, wind W 5 km per hour, overcast, light rain) a ♂ Marsh Hawk flew east, low over a dike road, toward 11 Pectoral Sandpipers feeding in shallow water 1 m from shore. When he came into view at 10 m they flushed, and had risen 1 m when the hawk, with his feet, knocked one into the water. He circled back, snatched the bird from the water and carried it 50 m to a ditch west of the road. The remaining sandpipers landed on a shore 400 m from the site of the disturbance.

During mid-to late August Black Terns were abundant at the sewage lagoons. By mid October most birds had departed, though Pectoral Sandpipers were among the last shorebirds to leave.

At least one pair of Marsh Hawks resided from April to October 1976 and 1977 in a *Typha-Spartina* marsh adjacent to the lagoons, and was frequently seen hunting for mice along the dike roads.

During 170 hours of observation in 1976 and 150 hours in 1977 I saw ♂ (3 times) and ♀ (6 times) Marsh Hawks fly low over flocks of shorebirds. The shorebirds always flushed in response. Page and Whitacre (1975) also observed harassment by Marsh Hawks. Bent (1937) reported Marsh Hawks being mobbed by members of a tern colony, but had no evidence that they preyed on terns.

Craighead and Craighead (1956:412) state that a ♂ Marsh Hawk at 21 °C requires 42 g (12% of body weight) of food daily. An immature Black Tern collected in August weighed 55 g (Bell Museum of Natural History, Minneapolis). A recently dead Pectoral Sandpiper found at the sewage lagoons 10 October 1976

weighed 97 g. Each of the kills that I saw could have provided the hawk with sufficient food for that day.

Brown and Amadon (1968:78) state that some raptors usually reject the stomachs of mammals. Stenzel et al. (1976:322) noted rejection of Willet (*Catoptrophorus semipalmatus*) entrails and feathers by raptors, including Marsh Hawks. Similarly, the tern's stomach and other viscera were discarded.

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