

Wilson Bull., 96(1), 1984, pp. 135–136

Opportunistic feeding by White-tailed Hawks at prescribed burns.—Attraction of certain hawk species to fire and smoke is a recognized phenomenon (Baker, *J. Mammal.* 21:223, 1940; Stevenson and Meitzen, *Wilson Bull.* 58:198–205, 1946; Komarek, *Proc. Ann. Tall Timbers Fire Ecol. Conf.* 9:161–207, 1969). The interpretation is that raptors feed opportunistically upon the prey chased from cover by fire passage (Baker 1940) or left without cover by the burn (Lawrence, *Ecology* 47:278–291, 1966; Beck and Vogl, *J. Mammal.* 53:336–346, 1972).

White-tailed Hawks (*Buteo albicaudatus*) have been reported to congregate at prairie fires on the Texas coast. Stevenson and Meitzen (1946) described two 60-ha gulf cordgrass (*Spartina spartinae*) burns at Aransas National Wildlife Refuge (ANWR) which attracted 28 White-tailed Hawks. The hawks dived through the smoke to capture cotton rats (*Sigmodon hispidus*), pocket mice (*Perognathus* sp.), and grasshoppers (Acrididae). I report herein additional instances of White-tailed Hawks being attracted to fires.

During the afternoon of 14 January 1981, two adjacent 2-ha prescribed burns were conducted on a bunchgrass-annual forb community (Drawe et al., *Welder Wildl. Contrib.* No. 5, Ser. B, 1978) at the Welder Wildlife Refuge (WWR), 80 km NE of Corpus Christi, Texas. These two sites were separated by less than 1 km. Dominant species included seacoast bluestem (*Schizachyrium scoparium*), thin paspalum (*Paspalum setaceum*), and *Croton* spp. A White-tailed Hawk arrived within 5 min after initiation of the backfire and hovered in the smoke column. This behavior continued for the duration of the fire or approximately 20 min. About 10 min after the burn had been completed, this hawk flew to the ground and apparently captured prey.

On 15 January 1981, two adjacent 2-ha burns were initiated at 10:00 at WWR in a mesquite-mixed grass community (Drawe et al. 1978). Dominant plant species on this site included mesquite (*Prosopis glandulosa*), Texas wintergrass (*Stipa leucotricha*), and meadow dropseed (*Sporobolus asper*). Five White-tailed Hawks were attracted to and flew through the smoke. These hawks hunted from aerial vantage points by hovering and gliding and from mesquite trees. This hunting continued for the duration of the burn or about 30–45 min. Prey were captured but I was unable to identify the species.

Approximately 1 h after the end of this fire and 3 km away, a slower, more extensive burn attracted six additional White-tailed Hawks, one of which was in juvenal plumage. This burn was 35 ha but patchy in character. Numerous long-horned grasshoppers (Tettigoniidae) were flying ahead of the fire-front and in the rising smoke. The hawks grasped these grasshoppers in the air with their talons and fed while soaring. Occasionally, a hawk would glide to the ground, capture a grasshopper, and return to the air to consume the prey. This hunting continued for the duration of the fire, 2–3 h. White-tailed Hawks remained perched in trees and shrubs near these burns for nearly a week.

A 40-ha prescribed burn in gulf cordgrass occurred on 2 February 1981 at ANWR. This location is about 32 km NE of the WWR burns. Although it took nearly 1.5 h to complete the backfire, the headfire lasted about 10 min and the total procedure ended by 13:30. This burn attracted 14 White-tailed Hawks. They hovered near the ground and grasped prey in the ash. This feeding behavior continued throughout the afternoon. Other raptors soaring in and near the smoke column and hunting the burn included two Northern Harriers (*Circus cyaneus*), a Black-shouldered Kite (*Elanus leucurus*), an American Kestrel (*Falco sparverius*), and a Short-eared Owl (*Asio flammeus*).

No special effort was made to monitor the raptor populations at the WWR. However,

strip transects for birds were censused six times both before and after the cordgrass burns at the ANWR. The burn site and an adjacent control were surveyed and White-tailed Hawks were not recorded during any transect count. The hawks at the fire came from outside the immediate area of the burn.

In contrast to the WWR burns, the hawks at ANWR were not seen on subsequent days. Instead, numerous Turkey Vultures (*Cathartes aura*) and Caracaras (*Caracara cheriway*) fed on small carrion in the Aransas postburn site for at least 5 days. The Aransas headfire was a rapid conflagration and probably killed many cotton rats and snakes (Tewes, M.S. thesis, Texas A&M Univ., College Station, Texas, 1982). A fast, destructive burn leaving few possible prey could explain the failure of hawks to remain on this postburn.

Finally, on 22 February 1981, four more 2-ha Welder burns were conducted near the previously mentioned locations (two adjacent burns separated by 4 km from the other two adjacent burns); all failed to attract White-tailed Hawks. I have no explanation for this observation.

Although hawks may feed on rodents during and immediately following a fire, this may be only a short-lived advantage. An extensive and complete burn removes much of the vegetative cover and subsequently is poor habitat for most rodent species (Tewes 1982). This situation continues until regrowth provides adequate cover for small mammal re-establishment.

Acknowledgments.—Thanks is extended to L. Drawe, K. Butts, and especially S. Labuda for their assistance with my research. I am grateful to B. Thompson and D. Slack for providing comments on the manuscript. Also, Dr. J. Teer and the Welder Wildlife Foundation provided support for my study via the Edward H. and Winnie H. Smith Fellowship. This is Welder Wildlife Contribution No. 275.—MICHAEL E. TEWES, *Rob and Bessie Welder Wildlife Foundation, P.O. Drawer 1400, Sinton, Texas 78387.* (Present address: *Caesar Kleberg Wildlife Research Inst., Box 218, Texas A&I Univ., Kingsville, Texas 78363.*) Accepted 31 July 1983.

Wilson Bull., 96(1), 1984, pp. 136–137

Swallows foraging on the ground.—Wolinski (Wilson Bull. 92:121–122, 1980) and Sealy (Wilson Bull. 94:368–369, 1982) reported Rough-winged Swallows (*Stelgidopteryx ruficollis*) obtaining food by landing on the ground. Both examples involved beaches, the swallows in one case apparently taking fly larvae from dead fish and in the other dead midges washed up on the beach. Although Sealy (1982) had not seen such actions by other swallows, Bent (U.S. Natl. Mus. Bull. No. 179, 1942 [Dover reprint, 1963]) included references to ground foraging by Tree Swallows (*Tachycineta bicolor*) and Purple Martins (*Progne subis*). Tree Swallows were reported picking up seeds from the ice of a frozen pond on 19 March 1939 and landing on a marshy shore apparently to feed on minute insects, and wintering swallows had taken crustacea that could hardly have been obtained on the wing (Bent 1942). In this note I report two more instances of apparent ground foraging by swallows, and integrate these with previous information to explain possible benefits of such unusual behavior.

On 28 May 1971, at Lac Hébecourt, Abitibi Co., Québec (48°31'N, 79°24'W), I watched about 15 Tree Swallows apparently foraging among decaying vegetation at the strand line on the lakeshore. The birds were hopping around, pecking at the debris, perhaps picking up fly larvae or other invertebrates, during 5 min that I watched from my cabin 30 m away. Their activity was focussed on the vegetation rather than on the much more extensive gravel areas of the beach, which suggested that they were obtaining food rather than grit. I did not approach them to identify possible food organisms, as I did not want to disturb birds which