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**Late fledging dates, renesting, and large clutches of Prairie Falcons.**—Most reported hatching dates for Prairie Falcons (*Falco mexicanus*) are earlier than 17 June (Becker and Ball 1983). Late nesting and renesting across the species' range are not well documented, and their importance to resource managers needs to be elucidated. Here we present information on 14 nesting attempts with hatching dates of 12 June or later and discuss their importance.

Nesting surveys were conducted from 1973 through 1983 at the Birds of Prey Area (BPA) in southern Idaho (data from KS), in northeastern New Mexico in 1974 (SWP), in northeastern Colorado from 1976 through 1978 (SWP), in southwestern Wyoming from 1981 through 1984 (SWP), and in western North Dakota from 1982 through 1984 (GTA and RKM). Hatching dates were estimated by back-dating from the ages of nestlings or from observations of pipping eggs. Ages of nestlings were estimated at the times of aerie visits and by comparing photographs of nestlings to those in Moritsch (1983). We use "aerie" to mean a cavity in which Prairie Falcons nested or attempted to nest. "Nest site" refers to an aerie and its surroundings. There may be more than one aerie at a nest site, though each site is occupied by only one pair of Prairie Falcons in a nesting season.

During the 11-year study period at the BPA, 8 of 517 nesting attempts (1.5%) that could be dated reliably had hatching dates of 12 June or later (Table 1). Two of these were confirmed renesting attempts. We found no relationship between the occurrence of late nesting attempts at the BPA and temperature or precipitation during the time when incubation normally occurs (Kendall's tau, all  $P > 0.05$ ), nor did we find any unusual nest-site characteristics common to the late nesting attempts.

We suspect, however, that 3 late nesting dates in North Dakota in 1984 (18% of the known nesting attempts in the state) represent renesting that followed a 26–27 April blizzard. GTA and RKM found 2 additional aeries in which nesting attempts failed, presumably due to wet and cold conditions during and just after the storm. Apparently, renesting was not attempted at either nest site. In one aerie, sand moved by melting snow flowed into the nesting scrape and partly buried the eggs. We are uncertain how the blizzard may have affected other aeries in which first nesting attempts failed, as they appeared undamaged by the storm. Perhaps male Prairie Falcons were unable to hunt successfully for several days, and females became less attentive and abandoned their nests. The storm likely promoted rapid chilling of eggs of all but the most attentive adults. Morrison and Walton (1980) indicated clutch replacement periods of 13–25 days for Prairie Falcons. The hatching dates at the 3 nest sites with apparent renesting attempts indicate that the adults could have renested and completed incubation by the time the sites were checked in late June and early July.

The largest clutch previously reported for Prairie Falcons is 6 eggs (Bent 1938). A clutch of 7 Prairie Falcon eggs was found at the BPA in 1978 in a nest used by Common Ravens (*Corvus corax*) in 1977. The 7 eggs were not believed to be the result of a renesting effort, and probably comprised a single large clutch. None of these eggs hatched.

The aerie with the latest hatching date in North Dakota in 1984 contained 7 eggs and one nestling on 8 July. There are at least four explanations for the large clutch. An adult falcon had appeared to be incubating in the aerie on 17 April and on 12 and 22 May, but we cannot be certain it was always the same bird. Therefore, a second female may have laid eggs in the aerie, either as a replacement female or in a nesting attempt coincidental with that of the first female. One female present at the site during the entire nesting season may have laid a replacement clutch of 8 eggs or she may have laid a replacement clutch among

TABLE 1  
LATE NESTING ATTEMPTS BY PRAIRIE FALCONS, 1973–1984

Hatching date	Fledging date <sup>a</sup>	Year	Outcome	Renesting attempt
Idaho (BPA)				
12 June	20 July	1978	Failed	Yes
14 June	22 July	1983	Fledged	?
16 June	24 July	1980	Failed	Yes
18 June	26 July	1980	Fledged	?
22 June	30 July	1974	Failed	?
23 June	31 July	1974	Failed	?
24 June	1 Aug	1981	Unknown	?
29 June	6 Aug	1976	Fledged	?
New Mexico				
26 June	3 Aug	1974	Fledged	?
Wyoming				
16 June	22 July	1983	Fledged <sup>b</sup>	?
30 June	7 Aug <sup>c</sup>	1983	Fledged	Yes
North Dakota				
19 June	27 July	1984	Fledged	Yes? <sup>d</sup>
20 June	28 July	1984	Fledged <sup>e</sup>	Yes? <sup>d</sup>
6 July	13 Aug	1984	Failed	Yes? <sup>d</sup>

<sup>a</sup> Based on a mean 38-day nestling period observed at 92 aeries at the BPA with reliably estimated hatching and fledging dates.

<sup>b</sup> Nesting by a one-year-old female.

<sup>c</sup> Actual fledging date 12 August.

<sup>d</sup> See text.

<sup>e</sup> Based on behavior of adults on 5 August.

eggs that failed to hatch. We believe it is most likely that one female laid a replacement clutch in the aerie without removing her first clutch. The 6 eggs that remained in the aerie on 31 July were laid in 1984. We could not separate them into different sets based on markings, sizes, or contents. We found this aerie and a possible alternate in 1983, but we do not know if other suitable cavities were available. Although Tyler (1923) stated that the same aerie usually is used for renesting, we know of no other observations of aerie reuse in the same season.

SWP found an aerie in northeastern Colorado in 1977 in which a female was incubating 7 eggs. Three of the 7 eggs were dry, and probably had been in the aerie at least since the previous year. The 4 eggs from 1977 hatched, and 4 young fledged. Thus, it appears that a female Prairie Falcon may lay a new clutch among older eggs.

Wrege and Cade (1977) found that for captive Peregrine Falcons (*F. peregrinus*) egg laying was later for younger females. One-year-old birds comprised 33% of the breeding population of female Prairie Falcons captured in 1976 and 1977 in northeastern Colorado (Platt 1977). Juvenile females contributed 50% of the known recruitment in that study. In our study, we know only that one of the 2 females involved in the late nesting attempts in Wyoming in 1983 was a juvenile (Table 1). Late nesting in other areas also may be partly a result of nesting efforts by first year females.

The late nestings reported here for Idaho (1974 and 1980), Wyoming (1983), and North Dakota (1984) are the only instances known to us of more than one late nesting in an area in the same season. In Idaho, New Mexico, and Wyoming, late nesting appeared unrelated to the weather that prevailed during times when incubation normally occurs, and we did not find any unusual nest-site characteristics common to late nesting attempts. We suspect that the late nesting attempts in North Dakota were due to harsh weather earlier in the nesting season. Late nesting or renesting by Prairie Falcons apparently occurs throughout the range of the species. Renesting may be more common in years when spring weather causes first nesting attempts to fail. Therefore, late fledging also may occur more frequently than previously thought, particularly in the northern part of the range of the species. Eight (62%) of the late nesting attempts with known fates that we report here were successful. Projected fledging dates for the 14 nesting attempts, based on a 38-day nestling period, range from 20 July to 13 August (Table 1). Possible late nesting and renesting attempts and reuse of aeries in a single season should be considered when planning management of human activities near Prairie Falcon aeries.

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