

WHITE PELICAN REPRODUCTION IN THE MOLLY ISLANDS
BREEDING COLONY, YELLOWSTONE NATIONAL PARK

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Objectives

Compared to other North American white pelican, Pelecanus erythrorhynchos, breeding colonies, the Molly Islands Colony is a minor colony consisting of +450 adults (Lier and Behle, 1966; Diem and Condon, 1967; Sloan, 1973; Diem, 1976). Despite its small size, the colony is unique for these reasons: (1) it is the only white pelican breeding colony in a national park; (2) the location of the colony at an elevation of 7,733 ft (2,357 m) is the highest recorded for any breeding colony of the species; (3) discovered in 1890, the colony has had variable surveillance since 1917, with relatively intense monitoring since 1965; (4) the breeding population is composed of birds from both coasts of North America; and (5) the colony's nesting sites on the two Molly Islands change frequently with no predictable pattern. The major objective of this project is to continue monitoring changes in the reproductive success of the Molly Islands white pelican colony and to continue studies of the factors influencing those changes.

Procedures

Nesting and fledgling censuses continue to be taken from a boat 100-200 ft from shore. Because landing in the colony would be too much of a destructive disturbance, clutch data cannot be collected. Some errors in nest counting probably occur, however, the fledgling censuses are very accurate.

Results

Nesting and fledgling counts for the Molly Islands white pelican colony in 1977 and 1978 are presented in Table 1. The production of young pelicans in both years represented the highest number of fledglings recorded for this colony since 1961. During the 33 years since 1945, only 7 years are known to have had a crop of juveniles which could have fledged 230 or more birds (1946-374; 1952-300; 1956-280; 1960-275; 1961-290; 1977-302; and 1978-230). Also, note that only in 1946 and 1977 were there enough young produced to have potentially fledged 302 or more birds.

In both 1977 and 1978, nesting was earlier than usual and some 3-4 week old pelicans were observed on Sandy Island during the nest count. The 1978 nesting effort was not as well synchronized as in 1977 or previous good production years. Early hatching on Sandy Island did occur in 1978, but not in the numbers recorded in 1977. There were more diverse age groups

represented between 3-4 weeks of age and eggs yet being incubated during the July 9 nest census. Observed mortality of juvenile pelicans appeared to be low in 1978 with the remains of only 1 dead chick recorded on Rocky Island and 7 dead chicks observed on Sandy Island on August 15.

Analysis of the factors influencing the pelican reproduction success in these 2 years follows that previously reported (Diem, 1976), however, it is not yet complete.

Double crested cormorant, Phalacrocorax auritus, reproduction on Rocky Island in 1978 was the highest recorded since the early 1960's. Eleven nests were recorded on Rocky Island in two nesting aggregations. Half of these cormorant nests appeared to have young 2-3 weeks of age. The elevated nests made it impossible to obtain a count of those young. The one cormorant aggregation of 7 nests was on a new site next to the pelican nesting aggregation on the southerly portion of the Rocky Island.

California gull, Larus californicus, chicks were abundant on the northerly half of Rocky Island. Their average age appeared to be + 3 weeks on July 9. There was no evidence of Caspian tern, Hydroprogne caspia, nesting on Rocky Island; however, 20-30 individuals were observed roosting on the northerly tip of Sandy Island.

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Table 1. Numbers of white pelican nests and young fledged in the Molly Islands breeding colony, 1977-78.

Year	Location	Date	No. of Nests	No. of Nesting Aggregations	Date	Total No. of Fledglings
1977	Rocky Island	7/7	22	3		
	Sandy Island	7/7	195+	5	8/11	302
1978	Rocky Island	7/9	24	1		
	Sandy Island	7/9	167+	6	8/15	230