

ANNUAL PERMANENCY OF THE AMERICAN WHITE PELICAN *Pelecanus erythrorhynchos* IN ENSENADA DE Aripes, BAJA CALIFORNIA SUR, MEXICO

Permanencia anual del pelícano blanco *Pelecanus erythrorhynchos* en la Ensenada de Aripes, Baja California Sur, México

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ABSTRACT. This is the first report of the American White Pelican (*Pelecanus erythrorhynchos*) residing over a three year and three month period at Ensenada de Aripes, Baja California Sur. The pelicans remained in the study area throughout the year. Some non-breeding individuals stay in the region, suggesting that the adults migrate to their nesting areas.

Key words: Baja California Sur, migration, *Pelecanus erythrorhynchos*, American White Pelican.

RESUMEN. Se documenta el primer reporte de la permanencia del pelícano blanco (*Pelecanus erythrorhynchos*) durante un periodo de tres años y tres meses en la Ensenada de Aripes, Baja California Sur, permaneciendo en los sitios de estudio todo el año. Algunos individuos no reproductivos permanecen en la región, esto sugiere que los adultos migran a sus sitios de crianza.

Palabras clave: Baja California, migración, *Pelecanus erythrorhynchos*, pelícano blanco.

INTRODUCTION

American White Pelicans (*Pelecanus erythrorhynchos*) are found in North America and northern Central America, with breeding areas in Canada and the United States, as well as in Mexico in Laguna de Santiaguillo, Durango and Laguna Madre, Tamaulipas (Carroll JJ 1930. Condor 32:202-204; Schaller GB 1964. Condor 66:3-23; Sloan NF 1973. Inland Bird Banding News 45:83-96; Sloan NF 1982. American Birds 36(3); Johnson RF, Sedan HF 1978. Wilson Bulletin 90:348-352; Bunnell FL, Dunbar D, Koza L, Ryder G 1981. Colonial Waterbirds 4:2-11; American Ornithologist Union 1998. Check-list of North American Birds. 7th Ed. Allen Press). The birds spend the Summer along the Pacific coast of California, western United States, from the interior of mainland Mexico to Nicaragua, and along the coast of the Gulf of Mexico from Florida to the Yucatan Peninsula (Thiollay JM 1979. Alauda 47:235-245; American Ornithologist Union 1998. Check-list

of North American Birds. 7th Ed. Allen Press). American White Pelicans have been observed in Baja California Sur since the 1920s (Pearson Auk 38:513-523). Several authors have reported American White Pelicans in various locations in Baja California Sur (Grinnell J 1928. A distributional summation of the ornithology of Lower California. University of California Publications in Zoology; Wilbur S 1987. Birds of Baja California. University of California Press; Howell NG, Webb S 1995; Amador R unpublished data; Danemann GD 1998. Ciencias Marinas 24:389-408). However, reports of the American White Pelican are scarce for Bahía de La Paz and Ensenada de Aripes (24°08' N, 110°23' W) (Massey BW and Palacios E. 1994. Studies in Avian Biology 15:45-57). Occasional observations from 1978 to 1990 (author's observations) have recorded small groups of American White Pelicans feeding behind trawling ships, as well as in areas along the shore of Bahía de La Paz, between Pichilingue and Isla Espíritu Santo. The American White Pelican may be considered a sporadic

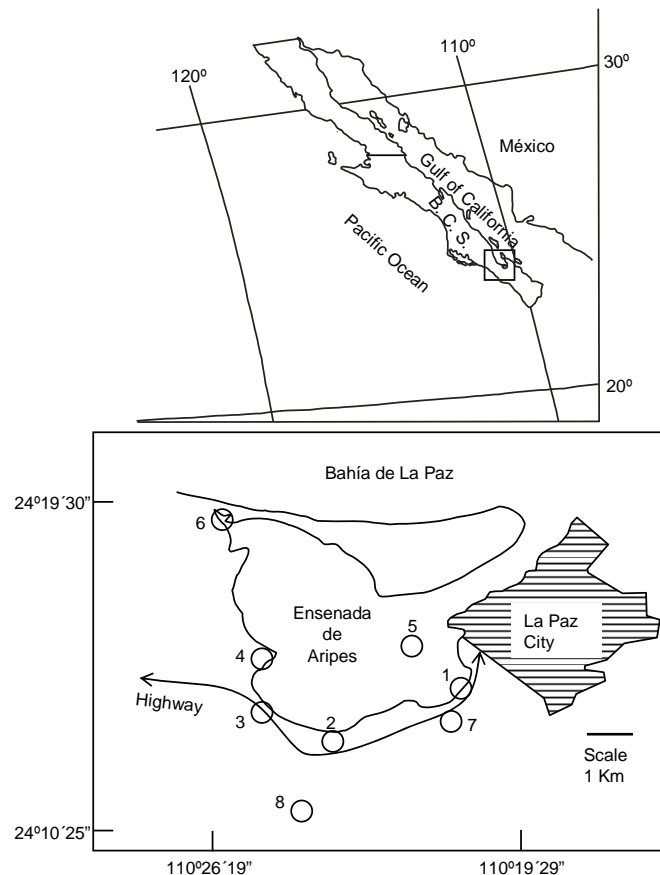


Figura 1. Observation sites: 1) El Zacatal, 2) Chametla, 3) Las Hamacas, 4) El Comitán, 5) Islotes Afegua, 6) Estero Zacatecas, 7) sewage ponds and 8) treated waste water reservoir.

Figura 1. Sitios de observación: 1) El Zacatal, 2) Chametla, 3) Las Hamacas, 4) El Comitán, 5) Islotes Afegua, 6) Estero Zacatecas, 7) lagunas de oxidación y 8) reservorio de aguas tratadas.

Summer visitor throughout most of the Baja California peninsula, or as an irregular, uncommon and rare Summer visitor, always in small groups (Grinnell J 1928. A distributional summation of the ornithology of Lower California. University of California Publication in Zoology; Wilbur S 1987. Birds of Baja California. University of California Press; Howell NG, Webb S 1995. A Guide to the Birds of Mexico and Northern Central America. Oxford University Press). This study documents the first report of the American White Pelican over three years and three months in Ensenada de Aripes (Ensenada de La Paz), a lagoon at the southern end of Bahía de La Paz.

MATERIALS AND METHODS

Ensenada de Aripes is a relatively shallow lagoon (less than 10 m deep) with an area of 4.5 km² (Figure 1). The climate in the region is dry, with little rain and a marked range of daily temperatures. It is semiarid or steppe, and arid or desert, with approximately 250 mm of rainfall, mostly from August to October, and an average annual temperature of 23.5°C (Espenshade EB, Jr 1990. Goode's World Atlas. Rand McNally). Field observations were recorded Monday to Friday, from 08:00 to 09:00 h and from 14:00 to 15:00 h, from October 1998 to November 2001, along the shores of Ensenada de Aripes. Specific observation sites were near the

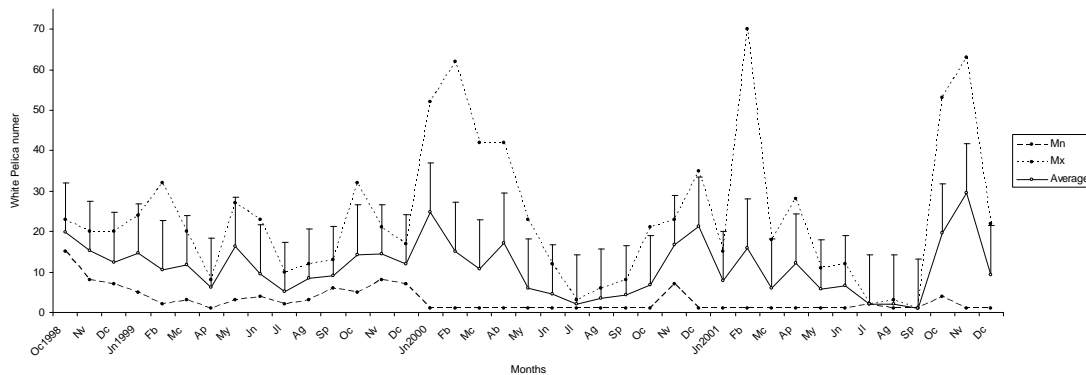


Figura 2. Average and maximum and minimum values of the variations in the White Pelican population in Ensenada de Aripes, B.C.S. The vertical lines are the standard deviation.

Figura 2. Promedio, valores máximo y mínimo de la variación poblacional del pelicano blanco en la Ensenada de Aripes, B.C.S. Las líneas verticales son la desviación estándar.

beach at locations called El Zacatal, Chametla, Las Hamacas and El Comitán (Figure 1). Islotes Afegua and Zacatecas were sporadically visited, while monitoring sewage ponds and a reservoir of treated sewage water. The average and standard deviation were calculated to determine the annual population variation, and an analysis of frequency was carried out to define to that number of population belongs.

RESULTS AND DISCUSSION

In general, the American White Pelican groups varied from 1 to 70 birds. A low number of individuals was observed in Summer and a high number in Winter (Figure 2). At another site, the White Pelican annual maximum number was recorded at 62 during 1990 (author's observations). In this study, the populations varied from one pelican to as many as 70. The average annual number (including over-summering) in a population over the period studied was 12.3 (DS = 12.2; n = 274). Most observations consisted of pelicans resting on the beach (42%), flying between wastewater storage ponds (42%) and feeding (15%). The spatial distribution was: Chametla (41%), El Zacatal (27%), El Comitán (19%), Las Hamacas (9%), Afegua (2%) and Zacatecas (1%). The predominant population over the study period varied from 5 to 10 individuals with a frequency greater than 30%, and for less than 20 individuals, the frequency was

less than 10%. This indicates a low occupation in the White Pelican areas. A solitary American White Pelican was observed in courtship and displaying a yellow bill with a fibrous plate on the upper mandible, on May 3rd 2001 on the beach at Chametla.

This is the first report of over-summering of American White Pelicans in Ensenada de Aripes, Baja California Sur. American White Pelicans were present in greater numbers between early October and late May, in agreement with previous knowledge of migration patterns (Keith JO, O'Neill EJ 2000. *Western Birds* 23:33-37). In these sites, the four months of the study period with the greatest numbers were October 1998, January and December 2000, and November 2001, suggesting that the species arrives from other areas in Autumn and Winter (Figure 2). In contrast, the Spring-Summer season recorded lower numbers, except for two atypical high spikes in population numbers (> 20 individuals) in May and June 1999. The pelican populations remained throughout the year, with only a portion leaving the study area. American White Pelicans have been observed year-round in the region of Guerrero Negro in northern Baja California Sur, but no breeding colony has been reported (Carmona R, Danemann GD 1998. *Ciencias Marinas* 24:389-408). This is the first report of this species over-summering in southern Baja California Sur, although the over-summering dynamics are not clear. It is possible that some first-Winter individuals stayed in Ensenada de Aripes whi-

le the adults and sub-adults returned to the breeding sites, as it is known that juvenile birds have a greater dispersion capacity, can fly farther and may choose any breeding place, unlike the adults (Anderson JGT, Anderson KB 2005. Waterbirds 28 Special Publication 1:55-60). This might explain the lower average monthly numbers from June to September of the last three years (less than six individuals per month, Figure 2). For the remaining part of the year, monthly averages are ten+ individuals, suggesting a permanent presence in the area. The White Pelican presence in the area may be a "non-breeding flock" that remains together and far away from the co-

lonies during the breeding season (Anderson DW, King DT 2005. Waterbirds 28 Special Publication 1:1-8).

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