

TABLE 2. Bald Eagle productivity, Seymour Canal, southeast Alaska.

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Mean
Percent active nests	34	29	25	32	33	38	43	19	19	23	29
Eggs and young	39	44	33	38	42	58	71	23	23	27	40
Eggs and young/active nest	1.56	1.83	1.57	1.36	1.45	1.66	1.82	1.35	1.35	1.35	1.56

per successful nest. White et al. (1971) found 1.5 feathered young per successful nest in 1969 on Amchitka Island.

Corr (1974) reported the loss of 2 of 75 nests during the 1967–1968 winter season and 23 of 115 nests during 1968–1969. Most of those lost in the second year were in a narrow beach fringe of timber left after logging operations and the nests succumbed to a severe storm. The 5% annual nest loss rate in Seymour Canal may hold true for southeast Alaska in general, because its exposure, terrain and vegetation are representative. This loss rate implies an average nest life expectancy of 20 years and a 50% loss of the original nests after a period of 13 years.

The annual variation in the number of young produced for Seymour Canal (range 23 to 71) indicates that environmental factors or density dependent control factors are operating, but the mechanism is unknown. Continued low productivity accompanied by a static population level may suggest that Bald Eagles in southeast Alaska have reached saturation relative to the available food supply, possibly for the first time since the bounty was abolished in 1953.

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NOTES ON THE BREEDING AND OCCURRENCE OF WESTERN GREBES ON THE MEXICAN PLATEAU

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Although the Western Grebe (*Aechmophorus occidentalis*) has been known from the interior highlands of Mexico since 1858 (Lawrence in Baird et al. 1858), until recently very little information has been gathered and published on the species in that region. Palmer (1962) drew attention to the dearth of information from there, and subsequently Dickerman (1963, 1973) provided data on 49 museum specimens, some many decades old, from presumably resident populations in Chihuahua, Zacatecas, Nayarit, Jalisco, Michoacán, Guerrero, Guanajuato, San Luis Potosí, and Puebla. Dickerman (1973) also reported five nests and one preflight young from Nayarit, one preflight young from Jalisco, and one “dumped” egg from Puebla to indicate breeding in those three states. In this paper I present additional data on the breeding, distribution, color phases,

and status of Western Grebes on the Mexican Plateau that I obtained during fieldwork there in the period between April 1973 and June 1978. This work brings to 30 the number of localities in the interior highlands of northern and central Mexico where Western Grebes have been collected or observed (Fig. 1).

Chihuahua. I found Western Grebes at Presa de la Colina (27°35'N, 105°24'W; 25 km SW Ciudad Camargo) on 20 April 1973 and counted 30 there, including one adult escorting one large downy young that I judged to be about half grown, on 2 August 1976. The only additional locality in Chihuahua where the species has been recorded in this century is the large Presa Boquilla (Lago Toronto), about 5 km upstream from Presa de la Colina on the Río Conchos (Dickerman 1963).

Durango. I found up to 200 Western Grebes at Presa San Bartolo (24°32'N, 104°40'W; 55 km N Durango) on visits there in May and August 1975, July 1976, May and July 1977, and May 1978, and recorded eight downy young in six apparently separate broods on 15 July 1977. Six of the chicks, which comprised four of the broods, were quite small and probably were no more than one to two weeks old; the remaining two chicks were about one-third and one-half the sizes of their attendant adults. In two instances



FIGURE 1. Map of northern and central Mexico showing localities in the interior highlands of Western Grebe specimens or sight records through June 1978. Data compiled from this study and from Ferrari-Perez (1886), Ogilvie-Grant (1898), Lea and Edwards (1950), Dickerman (1963, 1973), and Hubbard and Crossin (1974). *Chihuahua*: (1) Laguna de Santa María, (2) Presa Boquilla, (3) Presa de la Colina. *Durango*: (4) Laguna de Santiaguillo, (5) Presa San Bartolo, (6) Presa Peña del Aguila. *Zacatecas*: (7) unspecified locality. *Nayarit*: (8) Laguna Santa María del Oro, (9) Laguna San Pedro Lagunillas. *Jalisco*: (10) Laguna de Magdalena, (11) Presa de la Vega, (12) Laguna de Atotonilco, (13) Laguna de Zacoalco, (14) Laguna de Zapotlán, (15) Laguna de Cajititlán, (16) Arandas, (17) Lagos de Moreno, (18) Lago de Chapala. *Michoacán*: (19) Lago de Pátzcuaro, (20) Lago de Cuitzeo. *Guanajuato*: (21) Lago de Yuriria, (22) Irapuato, (23) Tupadero, (24) Silao. *San Luis Potosí*: (25) Laguna de Rusias, (26) Laguna de Media Luna. *State of Mexico*: (27) Valley of Mexico. *Guerrero*: (28) Laguna de Tuxpan. *Puebla*: (29) Laguna de Epatlán, (30) Laguna de San Felipe.

I observed small chicks on the backs of adults. At Laguna de Santiaguillo, 40 km northwest of Presa San Bartolo, I found the species to be fairly common on visits in May and June 1975, July of 1976 and 1977, and May 1978; on one visit I counted 50 individuals from a small section of shore and estimated at least 100 were present on the lake. I observed pairs engaged in courtship behavior at Laguna de Santiaguillo on 14 May 1975 and 28 July 1976. Western Grebes were first reported from Laguna de Santiaguillo by Hubbard and Crossin (1974) who recorded "dozens" there on 13–18 November 1971 and at least two there on 19–24 April 1972. The only additional reference to Western Grebes in Durango is of a sight record on 7 June 1958 at Presa Peña del Aguila, 35 km south of Presa San Bartolo (Dickerman 1973); I did not encounter the species at that locality.

Zacatecas. Apparently only one specimen, from an unspecified locality, is extant for Zacatecas, and I did not see the species in the state. Davis (1951), however, commented that he had seen adults with young in the state in June and July.

Nayarit. I observed pairs engaged in courtship behavior on 5 July 1973 at Laguna San Pedro Lagunillas (21°10'N, 104°44'W; 40 km SSE Tepic), where Dickerman (1973) found Western Grebes nesting. The species was still in residence there, despite the construction of a new highway adjacent to the site, as recently as 30 May 1978, when I counted 10 during an aerial survey. Although only 50 km from the Pacific coast, San Pedro Lagunillas lies at an elevation of about 1,200 m and is properly considered a western extension of the southern portion of the Mexican Plateau.

Michoacán. Dickerman (1963) implied that Western Grebes no longer occurred at Lago de Cuitzeo, but I found them there on 29 April 1973 and, during an aerial survey of the lake on 27 May 1978, saw a single group of 300 birds. The only additional reference to the species occurring in Michoacán, other than at the eastern end of Lago de Chapala, is of a single individual seen at Lago de Pátzcuaro on 29 April 1947 (Lea and Edwards 1950); on five visits to that lake, including two aerial surveys, I did not encounter the species.

Jalisco. I found Western Grebes to be resident at Laguna de Zapotlán (19°45'N, 103°30'W; 2 km N Ciudad Guzmán), where I noted 100–200 on numerous visits there in April–September and in December; this lake, described in an earlier paper (Williams 1975), supports a wide assemblage of breeding waterbirds including Eared Grebes (*Podiceps nigricollis*) and Pied-billed Grebes (*Podilymbus podiceps*). Although I frequently saw Western Grebe courtship activity, I did not encounter downy young at Laguna de Zapotlán. However, a hunter who regularly shot ducks there reported to me his seeing "fluffy young riding the parents' backs" while hunting there in mid-December 1973. Although he did not know the name or nature of the bird in question, he convincingly described adult Western Grebes with small downy young. In 1974 he reported seeing a single adult with young on about 7 December, but when I made a partial inspection of the lake on 17 December 1974 I encountered only adults. Other permanent wetlands in Jalisco where I found Western Grebes were Laguna de Atotonilco (7 June 1975) and adjacent Laguna de Zacoalco (17 May 1974), Laguna de Cajititlán (17 June 1974), Presa de la Vega (30 May 1978), and at the eastern end of Lago de Chapala (10 June 1975); this last locality spans both Jalisco and Michoacán. Single individuals appeared on small, seasonal reservoirs in mid-August and were, I believe, local birds that dispersed to areas that became habitable after the summer rains commenced. I observed Western Grebes at such seasonal wetlands immediately east of Laguna de Cajititlán and in the vicinity of Arandas. I found that Pied-billed Grebes and Least Grebes (*Tachybaptus dominicus*) nested (into September

at least) in seasonal wetlands in Jalisco, but to date I have no evidence that Western Grebes do so.

Dickerman (1973) commented on the apparently extended breeding season of Western Grebes in the southern portion of the Mexican Plateau, recording an egg and large young in May and other eggs in October. Reports of small downy young at Laguna de Zapotlán in December add credence to that theory. Actually, I found (Williams 1980, unpubl. data) that several species of waterbirds of that region appear to have extended or delayed breeding seasons, and I believe this phenomenon to be a natural consequence of favorable conditions arising from the summer-fall rainy season and the mild temperatures that prevail through the autumn months. In southern California, Lee (1967) reported downy young in late winter (February) which suggests that populations of Western Grebes elsewhere can adapt breeding schedules to local conditions.

During my fieldwork I was not fully cognizant of the characters separating light- and dark-phase Western Grebes (see Storer 1965). In my field notes I routinely described birds in Durango and Jalisco as gray or otherwise rather pale on the back and as showing considerable white on the side of the head. On 27 July 1976 at Presa San Bartolo, Durango, I described members of displaying pairs as being white to above the eye (light-phase); a single individual I photographed at nearby Laguna de Santiaguillo on 14 May 1975 appeared to be a light-phase bird. At least one of six adults photographed randomly in June, July, and September at Laguna de Zapotlán, Jalisco, appeared to be a dark-phase bird, and a single dead individual that I picked up from the waters of that lake on 17 August 1974 had the black on the head extending to just ("one-eighth inch") below the eye (dark-phase). Thus my observations concur generally with those of Dickerman (1973), who found that specimens from northern Mexico were all light-phase birds while those from the southwestern and southern edges of the plateau, collected at all seasons but presumed to be residents, included both light- and dark-phase individuals.

Recent studies in the United States by Ratti (1979) and Nuechterlein (1980) have suggested that the two color phases behave as separate species in areas where they are sympatric. Whether this is the case in Mexico, however, remains to be determined. Dickerman (1963, 1973) described the Western Grebes from the Mexican Plateau as belonging to a measurably smaller subspecies (*A. o. clarkii*) represented by both light- and dark-phase birds as well as birds exhibiting intermediate characters. He (Dickerman 1963) designated a light-phase bird of the small Mexican race as the type of *clarkii*; hence, if the two color phases are eventually considered full species, *clarkii* would be the name of the light species and *occidentalis* the dark one. New subspecific names would then have to be given to the large, light northern birds and to the small, dark Mexican birds. Additional field study of breeding Mexican populations is necessary to determine color phase ratios, breeding patterns, and proportions of intermediate-plumaged birds in these southernmost populations.

In the Central Highlands the cutting of tule (*Scirpus*) by local people is a prevalent and long-established practice on the large natural lakes such as Zapotlán in Jalisco and Cuitzeo in Michoacán. Such activity, which supports local mat-weaving industries, is probably detrimental to nesting colonies of Western Grebes and perhaps explains why the species is apparently unsuccessful at the heavily-exploited Lago de Pátzcuaro. In the Northern Highlands, however, Western Grebes occur mainly on man-made reservoirs constructed during the present century and where tule-cutting is not widely practiced. Just to the north in New Mexico, Western Grebes have recently been found breeding and/or summering on reservoirs such as Caballo and Elephant Butte (Witzeman et al. 1977, Hubbard 1978). It

seems reasonable that the availability of such reservoirs in northern Mexico and in the southwestern United States has contributed to the recent success of the species in the region.

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BROAD-BILLED PRION AT MOLLENDO, PERU: FIRST RECORD FOR THE PACIFIC COAST OF SOUTH AMERICA

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While checking the tidelines on a beach near Mollendo (Dept. Arequipa), Perú, on 3 October 1980, I found a two-to-three month old carcass of a Broad-billed Prion (*Pachyptila vittata*) among several dead Slender-billed Prions (*P. belcheri*). Its very broad flat bill (width 21.6 mm) was unmistakable and further identified it as the subspecies *P. v. vittata*.

Realizing that this species was hitherto unrecorded from the west coast of South America, I retrieved the skull and sent it to Manuel A. Plenge of Lima, Perú, who forwarded

it to the Museum of Zoology, Louisiana State University, Baton Rouge, where the identification was confirmed and where it is now deposited (LSUMZ 97456).

The Broad-billed Prion is known to breed at Tristan da Cunha and Gough islands in the southern Indian Ocean and on several islands in the New Zealand region, it being most likely that the Mollendo bird originated in the latter area.

For many years there was only one questionable record of this species in South America, from Porto Seguro, Bahia, Brazil (Ihering and Ihering, *As aves do Brasil, Catalogo da Fauna Brasileira* 1:38, 1907). Recently several specimens have been collected along the Argentine coast and are now lodged in the U.S. National and San Diego museums of natural history. The likely source of all these Atlantic coast birds would appear to be Tristan da Cunha.

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