

INTERBREEDING OF THE GLAUCOUS-WINGED GULL AND WESTERN GULL IN THE PACIFIC NORTHWEST

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The fifth edition of the A.O.U. Check-list (1957) states that the Glaucous-winged Gull (*Larus glaucescens*) breeds from western Alaska south to Copalis Rocks, Washington. In the southern part of its breeding range (Vancouver Island to Copalis Rocks) it is sympatric with the northernmost populations of the Western Gull (*L. occidentalis*) (Pearse, 1946; Jewett et al., 1953). In the summers of 1969-1971 several pairs of Glaucous-winged Gulls nested on Yaquina Head, Oregon (44°40'N, 124°05'W) 300 km south of the previously reported southernmost breeding colony for this species. Approximately 60 ± 10 pairs of Western Gulls also nested on Yaquina Head. In addition three *L. glaucescens* were paired with *L. occidentalis* in the colony (Fig. 1). In 1971, six known hybrids were banded from a total of three nests.

In the summers of 1970 and 1971, breeding sites from Cape Perpetua, Oregon, north to Destruction Island, Washington, were surveyed for Glaucous-winged Gulls; the species was observed in both pure and mixed pairs on Yaquina Head and Jocky Cap in Oregon, and on Destruction Island, Washington (Fig. 2). Mixed pairs have also been observed in southern British Columbia (R. H. Drent, pers. comm.; Table 2). Adults which were morphologically intermediate between Glaucous-winged and Western gulls were observed infrequently on Yaquina Head, but were common on Destruction Island.

Previous workers have suggested that interbreeding might occur between *L. glaucescens* and *L. occidentalis*, but these suggestions were based on educated guesses (Swarth, 1934, p38) or on observations of gulls which were intermediate in morphological characteristics between the two species (Zella Schultz, pers. comm.) However, Pearse (1946) reported an apparent mixed pair on Pachena Rock, off Vancouver Island, B.C., in 1943, and saw several apparent adult hybrids in 1944; and Dawson (1923; p1383) saw a mixed pair with young in Washington in 1910. Because the Glaucous-winged Gull is steadily increasing in British Columbia (Veermer, 1963), it is likely that the area of sympatry may expand even farther south and additional interbreeding may result.

The interbreeding between Glaucous-winged and Western gulls presents an excellent field situation for approaching some of the

INTERBREEDING OF GULLS

Pair Composition	Year	Eggs Laid	Young Hatched	Young Fledged
Pure	1969	X	0	0
Pure	1970	X	X	1
Pure	1971	0	0	0
Pure	1971	X	X	3
Mixed	1969	X	0	0
Mixed	1969	X	X	0
Mixed	1969	X	X	3
Mixed	1970	X	X	0
Mixed	1970	X	X	0
Mixed	1970	X	X	2
Mixed	1971	X	X	1
Mixed	1971	X	X	3
Mixed	1971	X	X	3

Table 1. Summary of nesting data for Glaucous-winged Gulls nesting on Yaquina Head, Oregon, 1969-71. Pure pairs were entirely Glaucous-winged; in mixed pairs a Glaucous-winged paired with a Western Gull.



FIGURE 1. A Glaucous-winged-Western Gull pair nesting on Yaquina Head, Oregon. The Glaucous-winged Gull mounted during the three observed instances of copulation. This was one of three mixed pairs nesting on Yaquina Head in 1970.

Photo by Fred L. Ramsey

INTERBREEDING OF GULLS



FIGURE 2. A mixed species pair incubating a nest with two eggs at Destruction Island, Washington, June 1, 1971. The dark primaried gull may possibly be of mixed parentage *Larus glaucescens*, X *Larus occidentalis*.

Photos by J. M. Scott

INTERBREEDING OF GULLS

questions posed by Short (1969) and others regarding the biological significance of interbreeding between two closely related species. 1) What is the situation with respect to the occurrence or lack of occurrence of hybrids? 2) What are the distribution and habits of parental forms and hybrids? 3) What are the relative frequencies of hybrid and parental phenotypes in the area of hybridization? 4) What type of backcrossing is occurring? 5) What are the population dynamics of the forms involved? Studies which may provide some information on these and other questions are in progress.

Pair Composition	Location	Date	Comments	Observer
Mixed	Jocky Cap, Clatsop Co., Ore.	July 3, 1971	Glaucous-winged feeding one young.	J. M. Scott
Glaucous-winged	Jocky Cap, Clatsop Co., Ore.	July 3, 1971	Single bird on territory.	J. M. Scott
Western	Jocky Cap, Clatsop Co., Ore.	July 3, 1971	Estimated 70 pairs nesting on island.	F. M. Zeillemaker
Mixed	Destruction Is., Washington	June 1-2 1971	Four mixed pairs on nests. At least one had two eggs.	J. M. Scott
Glaucous-winged	Destruction Is., Washington	June 9-10 1971	30 nesting pairs on island.	Rex VanWarmer
Western	Destruction Is., Washington	June 9-10 1971	195 nesting pairs on island.	Rex VanWarmer
Mixed	Sea Lion Rocks, Wickanninnish Bay, Long Beach, B.C.	July 26, 27, 1969	Western and Glaucous-winged with three young. Approximately 1500 pairs of Glaucous-winged Gulls nest on this island.	R. H. Drent

Table 2. Summary of nesting data at sites in Oregon, Washington, and British Columbia at which interbreeding between Glaucous-winged and Western gulls has been observed.

INTERBREEDING OF GULLS

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