

BRANDT'S CORMORANT SINKS AT SEA

TERENCE R. WAHL, 3041 Eldridge, Bellingham, Washington 98225

Cormorants' limited degree of plumage waterproofing, the spread-winged posture attributed to the need to dry their feathers, their need to rest and roost out of the water, and their nearshore foraging distribution have been commented upon by many (e.g., Schneider and Hunt 1984, Boekelheide et al. 1990, Siegel-Causey and Litvinenko 1993). I am unaware of descriptions of consequences for cormorants should they be unable leave the water before saturation.

Counts of seabirds made on >330 one-day trips off Grays Harbor, Washington, between 1971 and 2000 (see Wahl and Tweit 2000) included a total of 26,340 Double-crested (*Phalacrocorax auritus*), Brandt's (*P. penicillatus*), Pelagic (*P. pelagicus*), and unidentified cormorants. Their nearshore distribution was obvious: 74% of the birds were in Grays Harbor and channel, 22% were between there and a depth of 20 m, and about 4% were in water 20–50 m deep, most of them just outside the 20-m contour. Thus essentially all birds were within 20 km of shore—only 97 were seen from there to the edge of the continental shelf.

In addition to these one-day trips I spent several weeks aboard the R./V. *Thomas G. Thompson*, of the University of Washington Department of Oceanography, on research cruises from near shore to 126° 30' W, about 160 km offshore. On 18 September 1976, during one such cruise, I first noted a Brandt's Cormorant perched on the bow at 47° 07' N, 124° 54' W, about 138 km offshore. Over the next 5 days the bird (presumably the same individual) roosted aboard the ship and foraged nearby. The ship was under way much of the time and, even when it was stopped on station, people seldom visited the bow but remained on the afterdeck. The ship traveled east and west on a sampling track to 125° 01' W offshore and closest to land at 124° 41' W, about 35 km offshore.

On 23 September at 0615 the ship stopped on station at 47° 07' N, 124° 45' W, when the sea was nearly flat. Shortly thereafter scientists and crew had scattered all over the ship. At 0830 I observed the cormorant in the water, about 50 m away. I do not know how long the bird had been in the water, but the ship had been collecting phytoplankton samples on a box pattern with stops about 0.7 to 2.2 km apart, and the bird could have been foraging for 2 to 3 hours with the slow-moving ship easily within sight. It was apparent that the bird was slowly settling lower in the water. When it was low in the water, with only its head and neck erect and exposed, two gulls (*Larus occidentalis* or *L. glaucescens*) approached and pecked at it briefly, eliciting little response from the cormorant. Just before the ship moved off station at 0850 I noted only the bird's head above the surface. My attention was diverted for a few seconds, and when I looked again the bird had sunk. I saw no evidence of a struggle resulting from underwater attack. It had appeared healthy the day before and flew normally. I concluded that the bird was either scared off the ship or, on return from foraging, had been intimidated by people, would not return to the ship, and became waterlogged and drowned.

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