



Changes in double-crested cormorants in the San Francisco Bay area

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In the San Francisco Bay area the Double-crested Cormorant population has recovered from significant declines to reach breeding population sizes comparable to those from the late 19th century, when only one colony offshore at the South Farallon Islands was known.

To better understand how the cormorant populations changed through time, we looked at colony numbers in the San Francisco Bay area over a 42-year period (1975-2017). We divided the area into sub-regions: 1) the North Bay, 2) the Bridges (i.e., the old and new Bay Bridges and the Richmond-San Rafael Bridge) 3) the South Bay, and 4) the Outer Coast. We also included data from the South Farallon Islands colony, which was the largest colony in this region until the early 1970s, and double-crested cormorants from this colony were known to fly to mainland estuaries to feed.

Colonies started to form in the mid- to late-1970s in the North Bay, while colonies in the South Bay were first observed in the

late 1980s. The Outer Coast did not host any double-crested cormorant colonies until the late 1990s.

Beginning in the mid-1980s, double-crested cormorants began using the Bridges as breeding habitat. The Bridges hosted the largest colonies in the San Francisco Bay area for many years (1990-2007). In two years (2008-09), the colonies on the Bridges had declined by almost 600 breeding pairs, and from 2009-2017, the Outer Coast had the largest numbers of breeding cormorants in the San Francisco Bay area.

One of the possible reasons the Bridges colonies dropped in numbers is the construction of the new San Francisco-Oakland Bay Bridge (SFOBB), which started in 2003 and was completed in 2017. However, a more likely reason for the decline was a lack of prey available in the region, as other sub-regions also experienced declines during the 2008-09 period. However, it is also worth noting that cormorants did not start using the platforms created for them on

the new SFOBB until the old SFOBB was completely demolished.

This paper shows the ability of this species to use human-made structures for nesting habitat and increase their population in this highly urbanized area, despite ongoing disturbance and variations in prey availability.

Main Points

The only colony of double-crested cormorants in the region before the 1970s was at the offshore South Farallon Islands.

Two bridges in San Francisco Bay hosted the largest colonies in the Bay for almost 3 decades (1990-2007), after which Outer Coast colonies became the largest colonies.

The ability of double-crested cormorants to nest on human-made structures helped them expand into the highly-urbanized San Francisco Bay area.

Rauzon MJ, Elliott ML, Capitolo PJ, Tarjan LM, McChesney GJ, Kelly JP, Carter HR. 2019. **Changes in abundance and distribution of nesting double-crested cormorants *Phalacrocorax auritus* in the San Francisco Bay area, 1975-2017.** *Marine Ornithology* 47: 127-138.