



# ***Ecological Studies and Interpretation of Seabirds on Alcatraz Island, 2009***



## **Final Report to the Golden Gate National Recreation Area (GGNRA) National Park Service (NPS)**

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## **EXECUTIVE SUMMARY**

Alcatraz Island has become a regionally important site for a number of seabird species in the last couple of decades. Population size, breeding phenology, and productivity of most seabirds including Brandt's and Pelagic Cormorants, Western and California Gulls, Pigeon Guillemots, and Black Oystercatchers have been monitored since 1995.

Disturbance to wildlife is a concern on Alcatraz, given its status as a heavily-visited part of the Golden Gate National Recreation Area (GGNRA) and its location in the center of the San Francisco Bay. During weekly monitoring, we recorded and cataloged disturbances to seabird populations from March - August, 2009. In an attempt to reduce human caused disturbances to seabirds and raise awareness of seabird natural history, PRBO has been conducting education and outreach programs since 2006. In 2009 we delivered public outreach programs to target audiences including on-island staff, island visitors, personal watercraft operators, and school children, and made recommendations for further outreach centered on Alcatraz seabirds.

Populations of breeding Brandt's and Pelagic Cormorants on Alcatraz were completely absent in 2009, the first breeding failures since the populations were established in the early 1990's. Brandt's Cormorants did poorly throughout central California where many colonies had little to no breeding attempts and many birds were found dead at colonies and local beaches. Western and California Gull populations also decreased, while the Pigeon Guillemot populations remained steady. Overall productivity for birds that bred in 2009 was lower than the long-term average.

Western Gull breeding numbers decreased to 888 nesting pairs in 2009 (nests taken under a depredation permit from USFWS # MB057058-0 are not included in the total count) from 1034 pairs in 2008. Western Gulls fledged an average of 1.3 chicks/pair in 2009, lower than the long-term mean. We confirmed 20 Pigeon Guillemot sites in 2009, a drop from the 32 confirmed sites in 2008, including one nesting new site in the Sallyport building roof. One pair of Black Oystercatchers bred on the Seawall in 2009. One chick survived to fledge, making it the seventh oystercatcher chick to fledge Alcatraz since 1997. We first discovered California Gulls breeding on Alcatraz in 2004. Since then, this small colony behind the rubble piles on the Parade Ground peaked at 23 pairs in 2007, but has since decreased to 14 nests in 2009. They fledged an average of 1.1 chicks fledged/pair in 2009, lower than the mean since the monitoring began.

Due to the absence of breeding cormorants in 2009, only two disturbances of roosting cormorants were documented during approximately 111 hours of observation throughout the breeding season. Disturbances in both cases caused cormorants to flush their roosting sites and were due to aircraft flying over the island.

The National Park Service approved implementation of a project to install windows on the Laundry Building during the seabird breeding season. Had cormorants bred in 2009, additional disturbance monitoring of this project would have taken place. Precautions were taken to minimize noise levels and a visual barrier was created. However these precautions seemed to have some imperfections and could have contributed to even

more disturbances to breeding cormorants. In recent years, we have begun to see that cumulative effects of disturbance may cause increased behavioral sensitivity in Brandt's Cormorants. It also potentially takes only one ill-timed disturbance to cause colony failure. Therefore, to continue to reduce disturbances, we recommend continued park vigilance in restricting human access and construction activities within view of the western cliffs after early February, especially if activities may influence the sensitive Pelagic Cormorant population which is at risk of disappearance from Alcatraz. We also recommend the continued use of the visual barrier on the fence at the Model Industries Building.

We continue to encourage plans to post signs visible to both visitors on the island and to passing boaters that explain proximity restrictions with the threat of law enforcement as well as plans to re-install historical buoys around the island. Alcatraz Island offers a unique opportunity for the public to view seabird breeding activities up close, and this should be highlighted as a focal point of visitor education and outreach. Recent improvements of signage and a new "Birds of Water" display will play a role in improved visitor appreciation and understanding of the seabird colonies at Alcatraz. Interpretive tours around the island, increased staff training regarding awareness and sensitivity of bird colonies, as well as increased public outreach to marine and air traffic operators also will help educate visitors as well as protect breeding seabirds.

Common Raven predation and/or harassment on Pigeon Guillemots were observed in 2008, and raven predation and/or harassment have been observed in recent years on Brandt's Cormorants, Black-crowned Night Herons, Snowy Egrets, Western Gulls, and Black Oystercatchers on Alcatraz. While we have not made direct observations of raven and Pelagic Cormorant interactions, this is also a possibility. Therefore, increased efforts to investigate the potential for the best methods of Common Raven management are also recommended.

\*The full report is available upon request. For more information contact [sacosta@prbo.org](mailto:sacosta@prbo.org)