

HIGHLIGHTS

Recovering Xantus's murrelets on Anacapa Island

Xantus's murrelet (*Synthliboramphus hypoleucus*) is one of the rarest and most intriguing of the many seabirds inhabiting Channel Islands National Park (see photo). These small, inconspicuous black-and-white birds, subtropical relatives of the more familiar puffins and murres, inhabit 12 islands off the coast of southern and Baja California. Perhaps half of the world's population of this species (10,000–15,000 birds) resides in the national park on Santa Barbara, San Miguel, Santa Cruz, and Anacapa Islands.

Unfortunately, nonnative predators have been introduced to most known Xantus's murrelet breeding islands, and predator eradication programs have become a necessary tool toward ensuring the survival of this sensitive species. Nonnative black rats (*Rattus rattus*) have severely impacted murrelets on Anacapa Island over the last century, but a small population of the birds has persisted in largely inaccessible habitats around the island. The continued survival and recovery of this remnant colony led to the Anacapa Island Restoration Program. Sponsored by the American Trader Trustee Council, this ambitious project is designed to restore the natural balance of the island ecosystem by eradicating the predatory black rat. The project was planned and carried out by Island Conservation, a nonprofit conservation organization, and the National Park Service.

Rats were eliminated from Anacapa Island in two phases: (1) East Anacapa in December 2001, and (2) Middle and West Anacapa in November 2002. Because Xantus's murrelet was identified as the species most likely to benefit from the removal of rats, the California Institute of Environmental Studies (CIES), Humboldt State University, and Channel Islands National Marine Sanctuary began murrelet monitoring in 2000 to measure nesting effort and breeding success before and after rat eradication.

The murrelets' secretive habits and hard-to-observe nesting areas (see photo, below) made these studies particularly challenging. The birds visit the colony only at night and conceal their nests in small crevices in steep, rocky cliffs or sea caves. Nevertheless, the nest monitoring program has amply demonstrated the benefits of removing rats from Anacapa. The number of murrelet nests increased 81% in 2003–2005, compared to



Darrell Whitworth, CIES



Larry Harris, Channel Islands Naturalist Corps; used by permission



2000–2002 (see graph). A much higher proportion of nests also successfully hatched in 2003–2005 (82%) compared to less than half (42%) from 2000–2002.

Most notably, no murrelet nests have been destroyed by rats since 2002, while nearly half (42%) of all nests found in 2000–2002 were taken by rats. Extensive nest searches have also revealed that the murrelet colony is slowly expanding into areas on Anacapa Island previously occupied by rats. Five nests were observed on the cliffs in Landing Cove in 2005, where none were known prior to 2003.

In 2004 nesting effort was relatively low due to factors unrelated to rat predation. Certainly, both natural factors (e.g., reduced prey availability) and human-related factors (e.g., oil spills) will continue to affect the rate of murrelet population recovery. However, rats were likely the primary factor that had led to low colony size and poor reproductive success at Anacapa over the last century; their eradication has greatly improved the survival prospects for this important seabird colony. Ongoing monitoring is needed to document continued recovery of Xantus's Murrelet on Anacapa Island, and funds for this activity will be available through at least 2006.

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Xantus's Murrelet Nesting Effort and Hatching Success
Before and After Rat Eradication on Anacapa Island

