

# Long-term monitoring shows protected areas safeguard landbird populations

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To stop and reverse population declines of landbird species across North America, we need to know whether our assumptions about conservation actions are correct. While there are many reasons for these declines, habitat loss has been identified as one of the primary causes. Protected areas have long been assumed to be an effective conservation practice. But do protected areas safeguard bird populations?

Our study used two long-term datasets to investigate whether protected areas in coastal California effectively safeguard bird populations from widespread declining population trends. In collaboration with the National Park Service, researchers at the Palomarin Field Station conducted surveys for 25 years in Point Reyes National Seashore, Golden Gate National Recreation Area, Mount Tamalpais State Park, and Marin County Parks. We analyzed population trends from these protected areas and compared them to population trends from Breeding Bird Survey data collected throughout coastal California by expert volunteers.

Of the 14 species analyzed, we found that 9 had better trends in protected areas compared to average population trends in California. In addition, we found evidence of benefits to both resident species, which spend their entire life cycle in these protected areas such as Spotted Towhee and Wrentit, and migratory species, which spend at least half of the year outside these protected areas, such as Swainson's Thrush and Orange-crowned Warbler.

The protected areas we studied effectively conserved populations of many bird species. However, for unknown reasons not all species experienced benefits, highlighting the ongoing need for studies to determine the causes of continuing declines and determine what conservation actions will be more effective for those species. Two species that have worse trends in the protected areas, Black-headed Grosbeak and Olive-sided Flycatcher, warrant further research. These results support protecting intact habitats as a conservation tool, along with research and monitoring to determine what species may need additional conservation help.

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## Main Points

Many bird species in protected areas in coastal Marin County, California had better long-term population trends than in the surrounding region.

Benefits were not universal, highlighting that habitat protection alone is not the conservation solution for all species, with additional research and action needed for some.

Evaluating the effectiveness of habitat protection and conducting long-term monitoring are critical first steps to informing successful conservation planning.

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