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Abstracts

## FEATURE ARTICLES

### LONG-TERM DECLINES AND DECADAL PATTERNS IN POPULATION TRENDS OF SONGBIRDS IN WESTERN NORTH AMERICA, 1979–1999

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*Abstract.* We analyzed population trends from a constant-effort mist-netting study conducted in central coastal California during the autumns of 1979–1999. Of 31 taxa captured in sufficient numbers, 16 underwent statistically significant declines and none increased. Twice as many species declined from 1989–1999 as compared to 1979–1989. Overall, our results were similar to those of regional Breeding Bird Surveys determined for the same species during the same period. In an attempt to identify possible causes for trends, we grouped species by various life-history categories including nest height, nest type, likelihood of cowbird parasitism, wintering location, winter food preference, and tolerance for human presence on the breeding grounds. All groups underwent significant declines, although high nesters, common cowbird hosts, and Neotropical migrants declined faster than their respective counterparts. While life-history attributes explained differences in trends between groups, there was significant heterogeneity of trends within groups. Capture rates of certain species and groups appeared to be affected by various climate variables, and accelerating declines since 1990 may reflect effects of large-scale climate cycles, particularly on long-distance migrants. We suggest that long-term population trajectories of songbird populations across North America may be better understood in the context of the Pacific Decadal Oscillation. Interpretation of our results is, in some cases, problematic due to the complex interaction of methodological limitations and environmental variables, especially habitat change on the study site. We recommend the use of multiple methods and multiple sites for monitoring trends in songbird population abundance during fall migration.

*Key words:* *climate regime, fall migration, habitat change, migration monitoring, Pacific Decadal Oscillation, population trend, songbird declines.*