



UCCE American Kestrel Program – 2026 Napa County Wildlife Conservation Commission Project Report

Project Summary: Our objective was to monitor American Kestrel nest boxes in Napa County as part of a long-term regional research and monitoring program established in 2023. The data we collect contributes to the larger understanding of the interactions of American Kestrels and working landscapes and supports the conservation of a declining species. To accomplish this, we employed a part-time technician and experienced raptor biologist, Robyn Boothby, to support the ongoing research, monitoring, and outreach efforts in Napa County. The NWCC funds partially supported Robyn's salary. Robyn worked at the interface of collaborators, landowners, and researchers and played a critical role in managing communication, coordination, and fieldwork efforts in Napa in the 2026 field season.

This project contributes to the enhancement of wildlife habitat and contributes to scientific research that can improve wildlife conservation and management in Napa County. Many natural tree cavities have been removed for development and agriculture, although properly placed and maintained nest boxes can provide a viable alternative for American Kestrel nest sites. The results of this project will generate science-based management recommendations to optimize American Kestrel nest box networks and inform us of their population status in Napa County. Involvement of local land managers and student researchers has fostered a wildlife conservation mindset within the community and helped train the next generation of scientists.



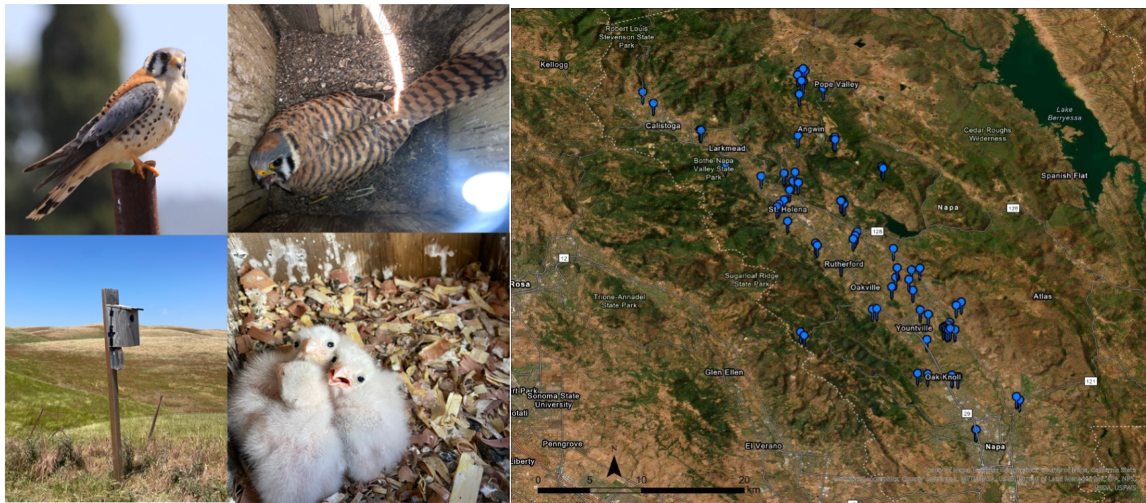
Photo: American Kestrel preys upon a rodent in a vineyard. Credit: R Bourbour

Project Accomplishments— 2026 Mid-season update:

Research

To date in the 2026 field season, we monitored over 73 nest boxes with more than 274 individual visits in Napa County, including 152 nests and over 707 visits by our team in the larger regional network. We closely monitored over 15 active American Kestrel and 5 Western Screech Owl nests in Napa County, where we gathered information on nest success and phenology. (Western Screech Owls use the same nest boxes.)

We partnered with UC Davis graduate student Mary Badger to deploy state of the art GPS tracking technology on over 15 breeding adult American Kestrels to learn about their home range and habitat selection for a second year. Research efforts also included placing cameras and nest temperature sensors to track provisioning rates related to temperature and land use. We banded and collected trace DNA for a diet study on over 100 American Kestrels. As part of this effort, we recruited four UC Davis student interns who participated in hands on field research efforts, important on the job training and experience for the next generation of wildlife scientists.



Right: (Clockwise) Breeding Kestrels-- adult male perched outside of nest box, adult female incubating in nest box, young nestlings, and nest box with camera set up. **Left:** American Kestrel nest box locations in the monitoring network across Napa County.

Extension and Science Communication

Over 10 new land managers joined the monitoring network, and we had over 15 existing land managers participate in the field during research and monitoring work. We spoke at three scientific conferences (a local, national, and an international conference) about research and gave two online presentations to local Bird Alliance chapters.

We engaged the Napa winegrape growing community at an in person vertebrate pest management workshop and the larger California viticulturist community online through a webinar. We also hosted a 3-part online seminar series geared towards general members of the public.



Top: Napa vineyard vertebrate pest workshop. **Bottom Left:** Interns and vineyard managers get hands on experience in the field. **Bottom Right:** Presentation at scientific conference.

Anticipated Impacts

The results of this project will continue to be translated into practical, science-based management guidelines and extension materials designed for land managers, agricultural producers, and the public. This research will be the focus of multiple peer-reviewed publications with a conservation and management in agroecosystems focus. These materials and recommendations will be broadly applicable across land use types and operational scales, supporting both agricultural and community-based stewardship of American Kestrel habitat.

At the local and regional scale, increased awareness and understanding of American Kestrels and their role in IPM on agricultural landscapes has already begun to facilitate the adoption and expansion of nest box networks by producers and land managers in the region. This work will increase the availability of nesting habitat, optimally managed landscapes, and will help establish baseline information on kestrel population health.

Thank you to the Hrdy Family, J Kreidler, T Slyker, T Clark, J McNerney, K Hunting, S Skalos, H Fendell Hummel, S Wilson, B Esquivel, A Heming, A Varni, A Gromperts, and all property owners and managers who have contributed to this work and allowed access for research and monitoring.