



Habitat restoration for bats in agricultural ecosystems

A WDFW wildlife diversity grant project

Bats provide important agricultural pest control services, but traditional agricultural pest control threatens bats by reducing their insect prey. This project aims to assess the value of habitat restoration in agricultural ecosystems (agroecosystems) for bat conservation, with a focus on Townsend's big-eared bat, a state candidate species in Washington.

Using camera traps and acoustic monitors, the project monitors nocturnal flying insect abundance and bat foraging activity in different land-use types in Douglas County, including cropland, protected land, and restored Conservation Reserve Program (CRP) lands. Results will inform land management practices that support bats, benefiting both biodiversity and sustainable agriculture.



Credit: Laura Rogers

Project name: Does habitat restoration in agroecosystems contribute to bat conservation? An assessment for Townsend's big-eared bat in Eastern Washington

Primary species benefitting: Townsend's big-eared bat

Grant total: \$79,717

Grantee & associated entity: Dr. Christopher Cosma, Conservation Biology Institute

Webpage: consbio.org

Bats help farmers by controlling insect pests, reducing the need for harmful pesticides. Restoring natural habitats near farmland may provide bats with resources, like insect prey, that help them thrive. Finding ways to support bats in agricultural areas can improve environmental health and human food supply. This project investigates whether restored land supports bats in an agricultural region of Eastern Washington, home to the potentially threatened Townsend's big-eared bat. Project results will help identify ways to support bat species like Townsend's in agricultural areas, which will also improve agricultural production.



Credit: Chris Cosma

Credit: D. Corcoran



Credit: Chris Cosma



Project goals and outcomes

- Evaluate how different land-use types (cropland, protected land, and restored CRP land) affect bat diversity, foraging activity, and nocturnal flying insect abundance in agroecosystems.
- Provide updated data on the population density, range, and habitat use of Townsend's big-eared bat in Douglas County to inform its conservation status.
- Improve non-invasive monitoring techniques for bats and nocturnal flying insects that can be used in future conservation efforts.

Improving knowledge of bats in agricultural landscapes

This project will generate comprehensive spatial and temporal data on bat diversity, foraging activity, and nocturnal flying insect abundance, shedding light on how land management practices affect bats and their insect prey in Douglas County's agricultural landscape.

This data will provide actionable information for improving the conservation value of CRP lands, which overlap the ranges of several threatened and endangered species in Washington and beyond. Being able to gather data on the presence of Townsend's big-eared bats in these agricultural landscapes is an important step in helping evaluate the species conservation status in the state.



Credit: Chris Cosma

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