

# Implementing Bat Boxes on CWU's Campus to Promote Local Bat Populations

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## Introduction:

Bats are a crucial species in the local ecosystem due to the control of pest species. Bats as a species are in danger due to loss of habitat from human encroachment. Bats per night consume nearly half their body weight of pest species, leading to a saving of \$3.7 billion for farmers as well as lowering populations of species such as mosquitoes. Installing bat boxes provides a means for vulnerable species such as the small Brown bat and the Silver Hair bat (Figure 1), which are the most common species in Kittitas County.



**Figure 1.** Images of the Little Brown bat (left) and Silver bat (right), species with steady populations Ellensburg.

Figure 1 - <https://www.prositepestcontrol.com/blog/2021/february/are-bats-in-kittitas-county-dangerous/>

## Recommendations for the Future:

By increasing bat habitat there will be an increase in biodiversity and research opportunities on campus. The rare and endangered Hoary bat (Figure 5) should be the main target for any potential projects that support bat conservation.



**Figure 5.** The Hoary bat, which is an endangered species

Figure 5 - <https://wdfw.wa.gov/species-habitats/species/lasiurus-cinereus>

## Benefits of Installing Bat Boxes

- Common bats to Ellensburg include the Little Brown bat, Silver bat (Figure 1), and Fringed Ear bat (Figure 2).
- To provide roosting habitat for bats, bat boxes were installed across CWU's campus (Figure 3).
- Locations for the bat boxes were selected based on waterways and dense forest patches.
- Prefabricated bat boxes were purchased for installation (Figure 3). Benefits of these boxes are being fabricated at a large level using commercial means while still being sustainable by using services that show low liability for the campus.



**Figure 2.** Image of Fringed Ear bat, commonly found in Kittitas County.

Figure 2: <https://www.eopugetsound.org/articles/fringed-myotis-myotis-thysanodes>

## Summary

This project will support the local bat population by providing additional roosting sites and will lead to a reduction in pest species. This further benefits local communities and farms through the regulation of diseases in crops and will even allow for the means of population research. By allowing the bats to have steadier habitats across the campus there is a significant chance to gain a population of endangered species, the Hoary bat. As well as potentially getting funding for harboring an endangered species, guano is produced, giving the Wildcat Farm free nitrogen dense fertilizer, potentially increasing the yield of fruits and vegetables.

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**Figure 3:** Outer-Trails Bat Box made of Japanese Cedar.  
**Figure 4:** Campus map with inclusion of water zones and habitable zones.

Figure 3: <https://www.amazon.com/Outer-Trails-Prestained-Hardware-Included>

Figure 4: <https://www.cwu.edu/admissions-aid/visit/campus-map/index.php>

## Sustainable Development Goals



<https://sdgs.un.org/goals>