2020-2021 Project Report

Conservation Northwest's Cascades to Olympics Program and Community Wildlife Monitoring Program in Partnership with the Veterans Ecological Trade Collective

Camera Monitoring Report

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INTRODUCTION

Project Overview:

For three years now, Conservation Northwest's (CNW) Cascades to Olympics Program, the Washington Department of Veterans Affairs (WDVA), and the Veterans Ecological Trades Collective (VETC) have partnered to monitor wildlife activity on the VETC's 120-acre farm in southern Thurston County, WA. Utilizing motion-sensor remote cameras to record the presence of wildlife in the area, this project was developed to validate habitat connectivity models that determined that VETC's farm is ideally located within a historically critical wildlife corridor prior to the construction of I-5. The goal of this project is to advocate for the building of an animal crossing structure across I-5 that reestablishes the ecologically important connection between the Cascade Mountains, and the Willapa hills, the coast, and the mountains of the Olympic peninsula (Figure 1),(WWHCWG, 2022, unpublished).

Figure 1: Map of the Cascade Mountains, Willapa hills, the coast, and Olympic Mountains with major highways that fragment large zones of habitat in the region (WWHCWG, 2022, unpublished).

Main project objectives:

1. Record wildlife presence and abundance to further validate location as a wildlife corridor.
2. Record species' presence to inform future conservation decisions.
3. Provide engaging learning opportunities and experience for students, volunteers, and veteran interns.
4. Enhance collaboration with local private landowners committed to conservation.

Migratory animals often require a large habitat in developed rural lands, often privately held, to maintain historic migration routes. Localized populations in rural areas between our wildlands can serve as important corridors that facilitate movement and gene flow within and among regions.

However, the populations in, or moving through, these fragmented landscapes face unique sets of challenges. Suitable habitat is often too small, too distant, or separated by significant barriers such as fencing and freeways. Depending on the species, they may be subject to conflict with humans.

For these reasons, it is extremely important we foster conservation partnerships with private landowners with significant acreage in rural areas who are willing and able to help facilitate habitat restoration and/or conservation efforts. In Thurston County, many agricultural landowners are already taking part in some coordinated effort with one or more conservation or environmental organizations to improve or sustain the

viability of some portion of their lands for wildlife use (Mounts, 2013).

This project serves as a baseline study to: A) establish a relationship between CNW and VETC, B) record species utilizing habitat on the VETC's property and abundance thereof, C) create a partnership with Veterans Conservation Corps of the Washington State Department of Veterans Affairs to obtain conservation minded interns for CNW's habitat connectivity internship program, and D) validate wildlife corridor models to assess the need for wildlife crossing structures across Interstate 5.

This report summarizes photographed wildlife on the VETC farm, from 2020 - 2021.

Methods & Materials

Study Area:

The Veteran Ecological Trades Collective manages the 120-acre study area and is located within a historically critical corridor on the East side of I-5 in southern Thurston County (Figure 2). Regional habitat connectivity models have indicated that this section of Interstate 5 is considered a major hindrance to wildlife movement between the Cascade Mountains and the Olympic Peninsula (WWHCWG, 2022). Traffic on this divided highway flows north and south with three lanes on either side of an approximately 3-foot-tall cement median. The study area is comprised of remnant pastureland, second secession forest, and a few ponds.

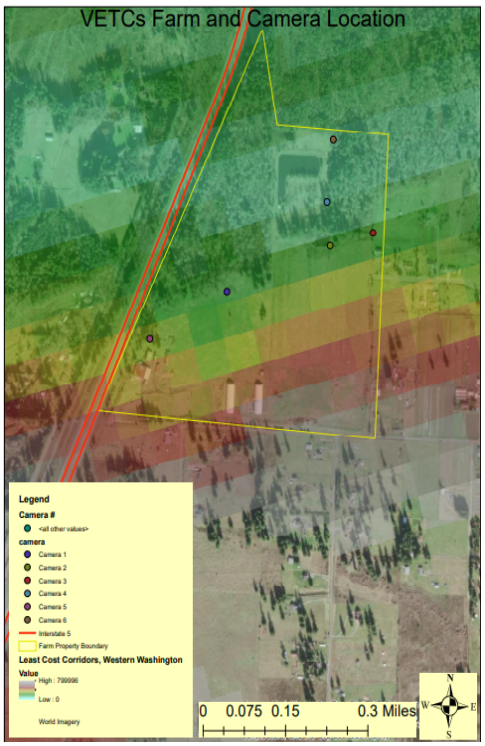

Figure 2: VETCs Farm (yellow polygon); Least-Cost Corridor "naturalness" blue permeable, green-yellow semi-permeable; camera locations colored points, and I-5 in red (Gallo et al., 2019).

Field Methods:

Photographic data was collected by remote, motion-activated trail cameras at six established collection sites on the VETC property. Collection sites were selected to maximize representative sampling across habitat types found on the property. Data collection has been continuous on the property, though not necessarily at every collection site since project inception on October 1, 2020.

Two models of remote sensing cameras were used to collect data on site, the Blaze Video Trail Camera, and the Campark T20 Mini Trail Camera. The data (i.e., photographic images of animals) once captured by the cameras, were stored on removable PNY Performance SanDisk Ultra Gen 10 16GB SD cards. Each trail camera was powered by either four or eight Ni-MH AA rechargeable batteries.

Trail cameras are checked periodically by interns, typically at two-to-three-week intervals, to ensure cameras are functioning properly and to swap SD cards and replace low batteries as needed. Once collected, interns uploaded the data to CNW's Community Wildlife Monitoring Projects (CWMP) online Lightroom database for image processing. False positive photographs, meaning those with no wildlife present, are deleted. Photos are grouped by year, site location, date and time, and individual camera. Each image is individually titled and embedded with metadata indicating the observed animal's species, and the total number of individual animals in the photo series among other categorical information. When species identification is difficult to determine, interns flag photos for further review.

DATA

As this was an initial study for a new project area, we were unsure what to expect. The project yielded a significant number of overall observations during 2020 and 2021 (n = 1489, positively identified = 1393) establishing the project area as frequently used by area wildlife (Table 1). The project recorded 9 mammal species including domestic dogs. Most birds were not identified to species and just classified as "bird," though 5 bird species were identified. Black-tailed Deer, Roosevelt Elk, and Coyote were the most identified species, accounting for 83% of the total observations (Figure 3). Bobcat and Black Bear were among the least observed species.

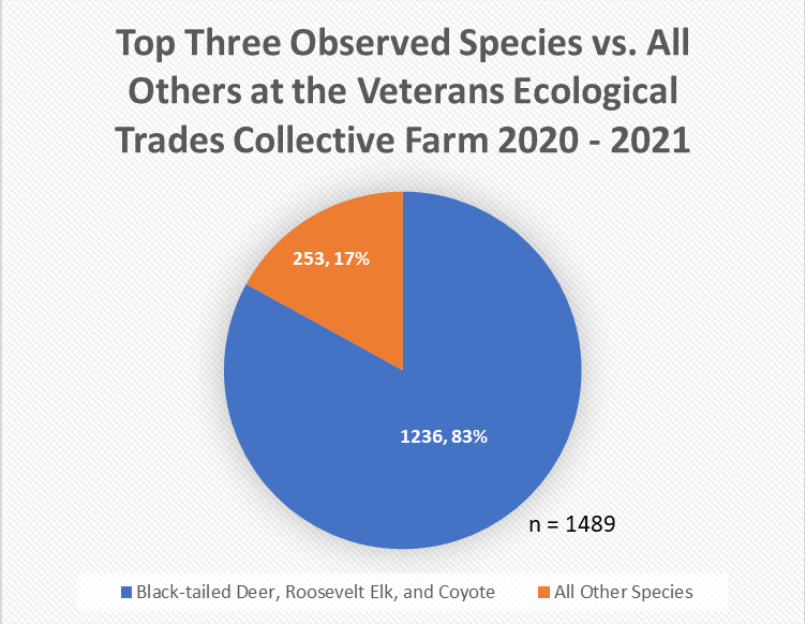

Figure 3: This chart compares the top three observed species against the remaining species at the Veterans Ecological Trade Collective from 2020 - 2021.

Black-tailed Deer	568
Coyote	375
Roosevelt Elk	293
Eastern Cottontail	58
Bobcat	26
Eastern Gray Squirrel	25
Townsend's Chipmunk	21
Bird	14
Domestic Dog	3
Ring-necked Pheasant	2
Raccoon	2
California Scrub Jay	2
Steller's Jay	1
Duck	1
Great Blue Heron	1
Black Bear	1
Unidentified	96
Total Observations	1489

Table 1: Animal observations collected from 2020 - 2021 at the Veterans Ecological Trades Collective.

RESULTS

Data collected and processed during this 15 month implementation period indicates a high level of wildlife presence in the study area (n = 1489, positively identified = 1393)(Table 1). These findings will serve as a baseline of information for the project going forward. The most observed species (Black-tail Deer, Coyote, and Roosevelt Elk) (Figure 3) are species of economic, cultural, and ecological importance to resource managers as well as the general public across the region.

CONCLUSION & RECOMMENDATIONS

The implementation of this project met our primary objectives. The data we have collected shows that there are large animals such as Elk and Black-taild Deer waiting for the opportunity to cross Interstate 5. We view the project thus far as very successful. There is still a lot of work to do to gain the economic and political support needed to realize our ultimate habitat connectivity goal, to connect the Cascade Mountains to the Olympic Mountains.

REFERENCES

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Washington Wildlife Habitat Connectivity Working Group (WWHCWG). *Unpublished* (2022). **Unpublished Data and Presentation available upon request.** *Mapping 5 focal species in Coastal SW Washington State. More info at* ***http://waconnected.org***