# Cascades Carnivore Monitoring Program
2025 Year-End Report
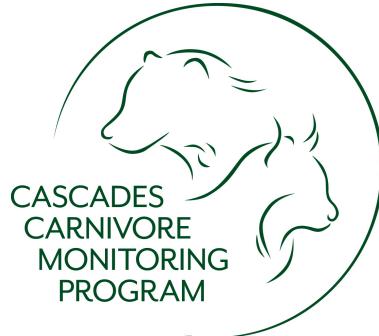
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Photo: Cascades Carnivore Monitoring Program

Introduction

The Cascades Carnivore Monitoring Program (CCMP) provides the methodological, organizational, and data management architecture necessary to support a highly collaborative, long-term monitoring program for wolverines (*Gulo gulo*), Canada lynx (*Lynx canadensis*), and other carnivores of conservation concern in the Cascades. Program development began in 2021, with field efforts launched in 2024.

In late May, we held an in-person training for field crews preparing to conduct field efforts in summer/fall 2025 (Figure 1). The training was attended by two dozen individuals representing more than a dozen agencies, NGOs, Tribes, and academic institutions. We created and provided extensive training videos as added resources.

Figure 1. Field training at Okanogan-Wenatchee Ranger District, May 2025.

Preliminary Results from the 2025 Field Season

In 2024, staff shortages precluded the Forest Service from processing our permit applications to conduct surveys on Wilderness lands. Permits were granted in 2025, allowing us to expand survey efforts to Wilderness as per our survey design. CCMP field personnel visited camera stations between May and October, following the program's on-trail and off-trail protocols.

ON-TRAIL DEPLOYMENTS

For the on-trail (summer-only) protocol, originally developed to prioritize lynx detections, crews deployed passive, unbaited/unscented camera stations along trails and forest roads. A total of 135 on-trail camera stations were installed in 2025 (Figure 2). Of these, 127 stations were removed as planned in the late-summer or fall, with theft and wildfire compromising the remaining 8 stations (Table 1). We also removed an additional 5 on-trail cameras deployed in 2024 but unable to be accessed until this year due to wildfire.
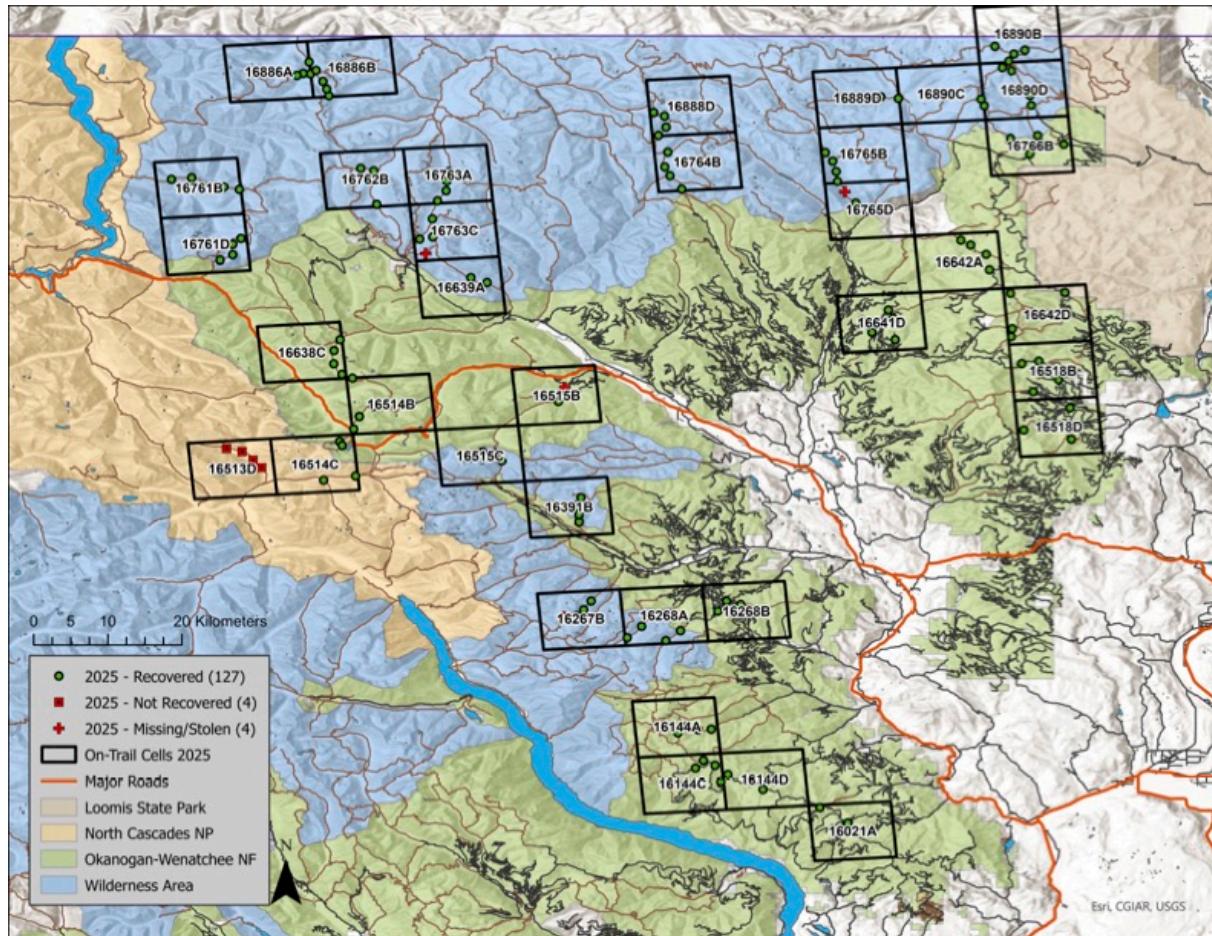
Figure 2. On-trail stations deployed and removed in 2025.

Table 1. Summary of camera station deployments and removals.

2025 Camera Station Status	On-Trail	Off-Trail
New deployment	135	7
Revisited, data retrieved, refurbished		25
Revisited, data retrieved, relocated, refurbished		8
Removed at end of survey season	127	
Unable to be revisited due to wildfire	4	2
Camera or memory card stolen	4	

OFF-TRAIL DEPLOYMENTS

Field crews deployed 7 new off-trail stations and revisited 33 stations that had been deployed in 2024 and left to operate over the winter of 2024/25 (Table 1, Figure 3). Crews collected data from the 33 overwintered stations before refurbishing them; 25/33 were left in place, while 8 were moved to different locations within their original cell. Each station consisted of 2 cameras and an automated scent dispenser programmed to release 3 ml of liquid scent lure every other day (Table 1). Thus, a total of 40 off-trail stations were left to operate over the winter of 2025/26. These survey stations, whose protocol was originally developed to detect wolverines[1], will remain in place for approximately a full year before being removed by crews. Field personnel were unable to revisit an additional 2 stations deployed in 2024 due to wildfire. Assuming safe access becomes feasible, crews will revisit these stations in summer 2026.
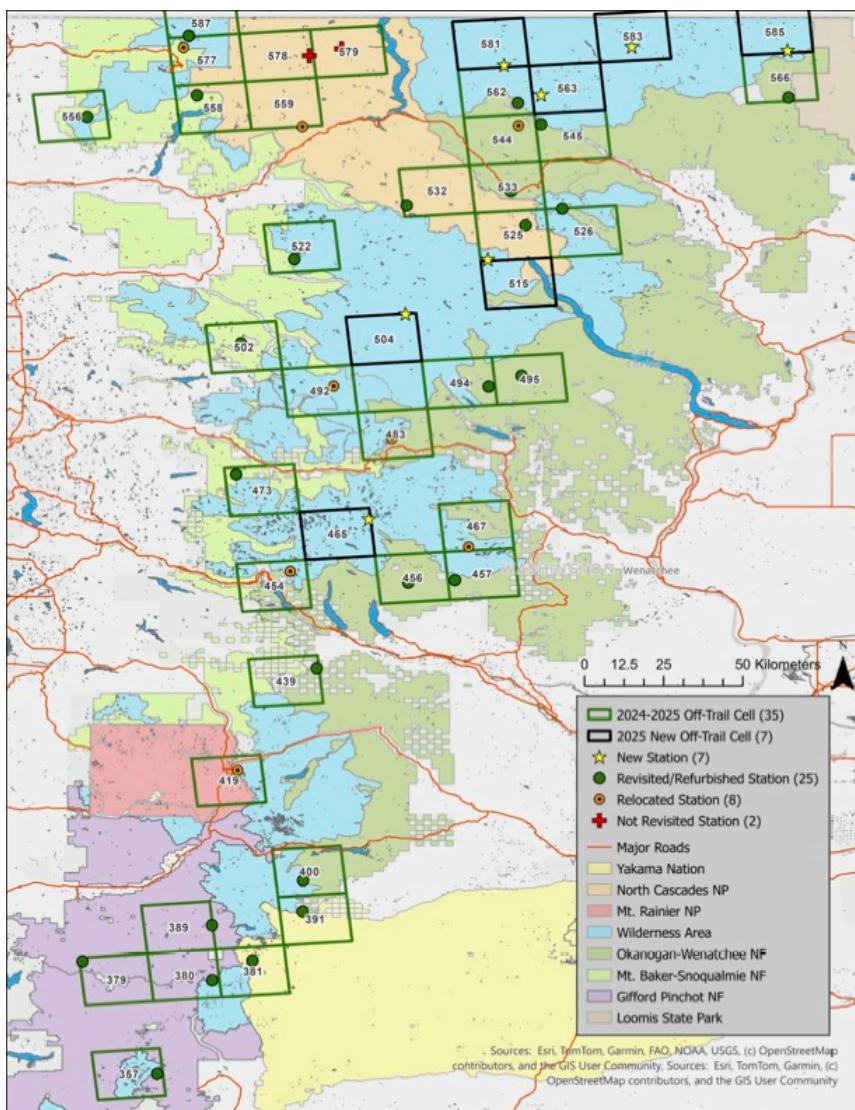

Figure 3. Off-trail stations deployed in 2025. These stations will remain in place for a year.

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[1] Long, Robert & MacKay, Paula & Sauder, Joel & Sinclair, Mike & Aubry, K.B. & Raley, C.M. (2024). An overwinter protocol for detecting wolverines and other carnivores at camera traps paired with automated scent dispensers. *Ecology and Evolution*. 14. 10.1002/ece3.11290.

DATA PROCESSING

We are currently using the Wildlife Insights platform to classify ~1.5 million images collected from on-trail and off-trail cameras in 2025, with images from ~50% of our stations classified to-date (e.g., to wildlife species, blanks, humans). Images are being classified by personnel from several CCMP partner groups and half a dozen trained volunteers from Woodland Park Zoo. Detailed findings will be described in a future report once all data have been classified and analyzed, but preliminary findings include multiple detections of Canada lynx and wolverines, as well as gray wolves (*Canis lupus*), Pacific fishers (*Pekania pennanti*), putative Cascade red foxes (*Vulpes vulpes cascadensis*), and other carnivores of conservation concern (Figure 4).

Figure 4. Canada lynx (above), (b) wolverine, (c) gray wolves (d) fisher, and (e) putative Cascade red fox, photographed by CCMP cameras.

b. Wolverine

c. Gray wolves

d. Fisher
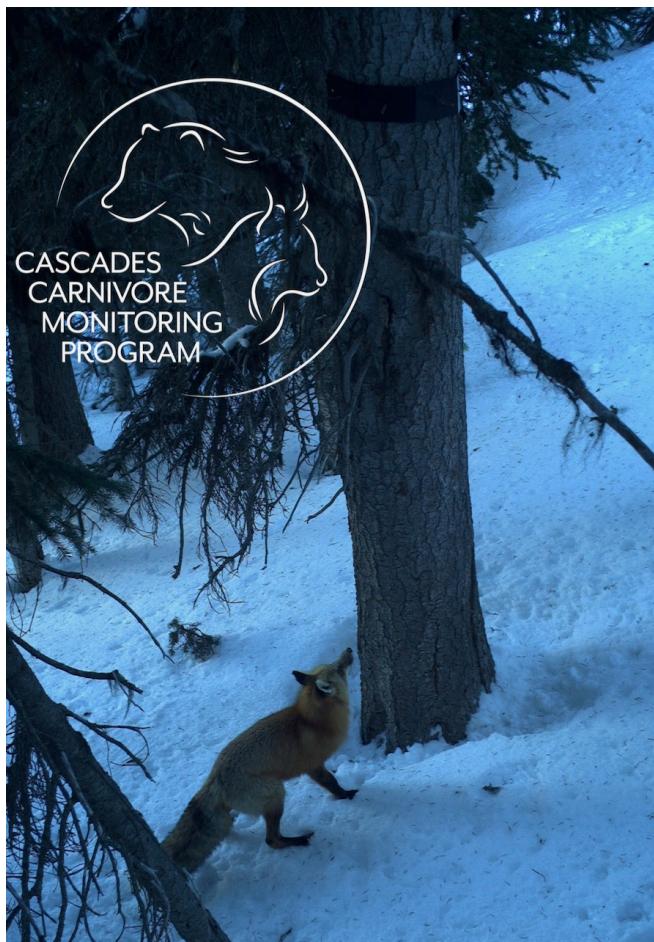
e. Putative Cascade red fox

<u>Transboundary Collaboration</u>

We work closely with British Columbia (B.C.) government biologists and other B.C. entities (i.e., nonprofits, academic researchers, First Nations) who are expanding CCMP's survey design across the border. The shared goal of the Transboundary Research and Action for Carnivore Conservation (TRACC) initiative is to advance transboundary carnivore conservation through bi-national, scientific collaboration among a diversity of partners committed to standardized data collection, integration, and analysis. In September, R. Long and P. MacKay provided a CCMP field training to graduate students at University of B.C., Vancouver (Figure 5).

TRACC surveys to-date have prioritized wolverines, Canada lynx, and grizzly bears (*Ursus arctus horribilis*). Surveys in 2025 were centered in Manning Provincial Park (Figure 6) and extended north to Alexandria Bridge, west to Hope, and east to Princetown. Crews deployed 38 camera stations in July, including 13 off-trail (without scent dispensers) and 25 on-trail. Data from 25 cameras in Manning and Skagit Valley provincial parks were retrieved in October 2025, with data from remaining cameras to be retrieved by March 2026. Preliminary results from on-trail cameras indicate detections of 28 species (mammals and birds), including 50 independent lynx detections at 44% of stations. TRACC's goal for 2026 is to continue monitoring the existing 38 stations and to deploy ~10 off-trail camera stations for overwintering in 2026/27, using the CCMP protocol.

Figure 5. Field training at University of British Columbia, Vancouver, B.C., September 2025.
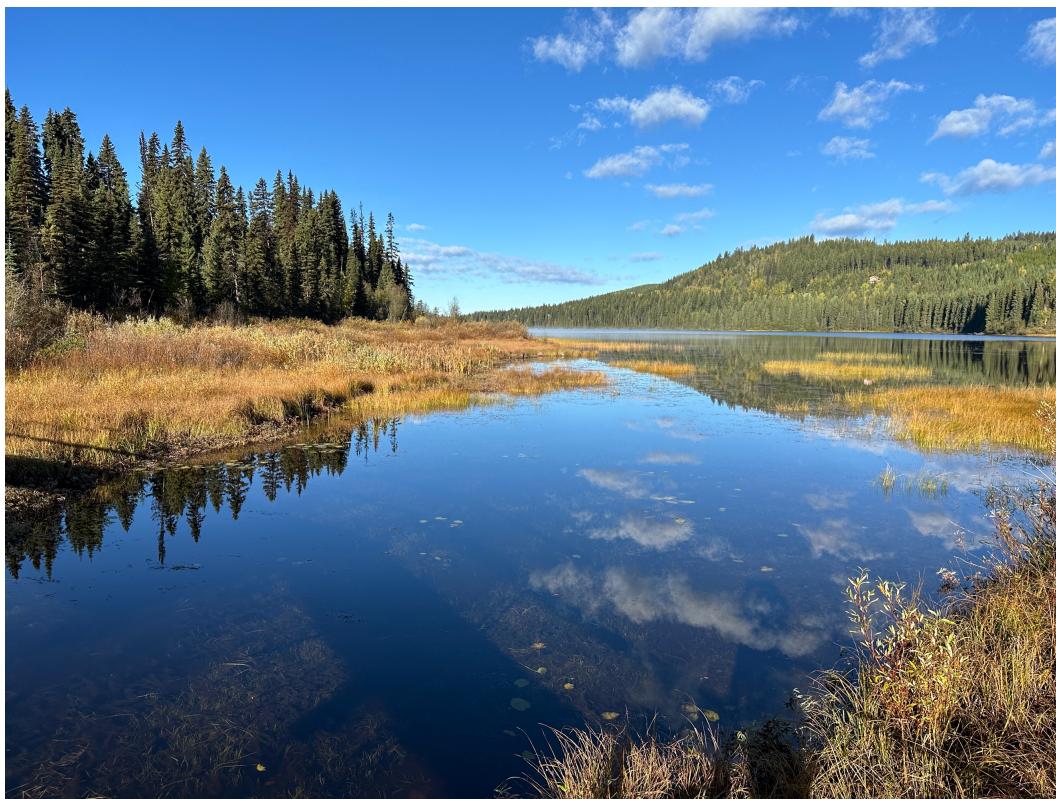
Figure 6. Manning Provincial Park, B.C.

<u>Challenges</u>
Wildfires prohibited access to several of our stations, precluding crews from revisiting survey equipment. In addition, the federal government shutdown, and staffing and funding cuts among some federal partners, limited capacity for field work and project participation.

<u>Next Steps</u>
In 2026, we will be prioritizing two major goals: (1) revisiting 40 off-trail stations to recover image data collected during the previous year, and (2) analyzing all data from the first 2 years of surveys (2024–2026), with a focus on data visualization, occupancy modeling, species co-occurrence patterns, and habitat relationships. In addition, we'll explore options for acquiring and analyzing human recreation datasets in relation to patterns of species occupancy. Finally, our CCMP post-doctoral student, Travis King, will be working with Dr. Beth Gardner (University of Washington) to test new modeling approaches that should yield enhanced insights, more efficient data collection, and expanded opportunities for data use as the project moves forward.

<u>Funding Acknowledgments</u>