

2023 - 2024 Cascades Wolverine Project Progress Report

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*Photo 1. Community science observation from Karlie Mangette,
Mount Rainier National Park, July 2024*

Introduction

Based in the Methow Valley of North Central Washington State, Cascades Wolverine Project (CWP) supports wolverine recovery in the Washington Cascades connecting science, storytelling, and recreation for the benefit of people and wildlife. The team includes Claire Waichler, David Moskowitz, Anna Machowicz, Drew Lovell, and Steph Williams, along with many skilled volunteers including a dedicated crew: Nick March, Alyssa Lovell, Jan Sodt, Brian McConnell, Jesse Snyder, Leo Kleine, and many Holden Village staff.

We work in collaboration with Conservation Northwest (CNW), Home Range Wildlife Research (HRWR), Wildlife Conservation Society Canada (WCS), University of Utah (UU), Laboratoire des Sciences du Climat et l'Environnement, France (LSCE), Woodland Park Zoo (WPZ), Pacific Northwest Research Station (PNW), U. S. Forest Service (USFS), Washington Department of Fish & Wildlife (WDFW), and Rivershed SPC. Cascades Wolverine Project is an active member of the Washington Wolverine Research and Monitoring Group (WWRMG), a collaborative working group composed of state, federal, tribal, and nonprofit non-governmental entities. We also contribute to the Cascades Carnivore Monitoring Program (CCMP). Funding has been provided by Patagonia's Environmental

Grants Program in partnership with Goats Beard Mountain Supplies, the Charlotte Martin Foundation, and private donations. The project's primary fiscal sponsor is Conservation Northwest, a 501c3 nonprofit organization.

Project Objectives

1. Multi-year monitoring in the North Cascades

Study area – We installed remote-camera stations within the northern and eastern portions of the North Cascades Ecoregion, specifically in the Chelan and Methow watersheds of Okanogan-Wenatchee National Forest, and the North Fork Nooksack watershed of Mt. Baker National Forest. Our study area in the North Cascades falls within the traditional territories of several indigenous peoples, most prominently the Methow, Chelan, and Nooksack Tribes. In collaboration with John Rohrer (retired, USFS), and Scott Fitkin (WDFW) we chose specific drainages based on findings of the North Cascades Wolverine Study (2005-2015), Woodland Park Zoo Senior Conservation Scientist Robert Long of the North Cascades Wolverine Project, and the recently initiated population monitoring effort by Cascades Carnivore Monitoring Project.

Over the previous seven years we have maintained monitoring stations within wolverine habitat, as defined by Copeland, et al. (2010), across five distinct watersheds. In most drainages we have paired stations at higher elevation sites with lower elevation sites. Additionally, each drainage represents differing types and intensities of human land-use. This study aims to continue through the year 2027 in order to complete ten years of consistent monitoring from which to track changes in wolverine occurrence over time, as well as collect genetic samples and chest blaze images of individual wolverines. All sites are accessible within a day by ski-touring or snowmobile-accessed ski-touring from the Methow Valley, the village of Holden, or the town of Glacier, Washington.

Methods – During the 2023 winter field season, we aimed to enhance genetic sampling and chest-blaze imaging by converting several of our stations to run-poles fitted with hair sampling devices. In total we utilized six run-pole stations in addition to four camera-trap stations without run-poles which were equipped with hair-sampling straps and bait attached directly to trees. All ten stations were baited with Gusto scent lure (a skunk and beaver castor-based attractant) and roadkill deer. During the 2024 winter field season, we continued running all stations from the 2023 season plus the Harts Pass station (without run-pole), which we previously utilized during the 2020 field season.

We maintained stations every three to four weeks between January and March, removing all stations between April and September. We submitted wolverine detections and hair samples to Cathy Raley, Paula McKay, and Robert Long who are responsible for maintaining a comprehensive database of verifiable detections of wolverines across the state. Genetic samples were shipped to the National Genomics Center for Wildlife and Fish Conservation at Rocky Mountain Research Station. Photographic data from our monitoring stations was uploaded and processed on Wildlife Insights, a cloud-based platform which trains artificial intelligence to identify species photographed by remote camera traps, and makes this data available to researchers worldwide.

Results – In 2023, three volunteers uploaded and tagged 100,000 images from the stations to Wildlife Insights, accruing 93 hours of effort. Images from 2024 are currently being processed. In each survey period of 2023 and 2024, three stations detected wolverines. In 2024, two additional stations detected lynx (Figure 1). Genetic results confirmed that the male wolverine identified as WAGU-38, identified in 2021, returned again to the Mt. Baker station in 2023 (Photo 5). A new unidentified male showing a distinct chest blaze appeared at the same station in 2024 (Photo 4).

As of 2024, no wolverines have been detected by our stations in the Twisp River area for seven consecutive years, while wolf and fisher have each been detected once. The Early Winters stations have not photo-captured wolverines for five consecutive years, nor have they detected any other rare species over the past four years; the most recent detection of a lynx occurred in 2020. Neither of our stations near Harts Pass or in the West Fork Methow have detected wolverines across five winters of survey effort, while the Harts Pass stations have detected lynx on a few occasions.

Figure 1. 2023 - 2024 CWP wolverine and rare species photographic detection events across all stations

	Camera Station ID	Number of Events		Species: identifier(s)
		2023	2024	
1	Ptarmigan-2021-1	2	2	Wolverine: WAGU-38, and unidentified male
2	Holden-2019-1	1	1	Wolverine: WAGU-40, and unidentified
3	Holden-2019-2	1	2	Wolverine: WAGU-40, and unidentified
4	Twisp River 2020-1	0	0	
5	Twisp River-2022-1	0	0	
6	Early Winters-2017-2	0	0	
7	Early Winters-2017-3	0	0	
8	Silver Star-2019-1	0	0	
9	Harts Pass-2020-2	0	1	Lynx
10	Harts Pass-2020-1	N/A	2	Lynx
11	West Fork-2019-1	0	0	

Note: Multiple camera triggers are listed as a single event whenever photo-captures occurred within one hour.

In addition to our project’s ten-year monitoring effort, we installed three scent-dispenser stations within our study area as part of the collaborative long-term population study of the Cascades Carnivore Monitoring Program, initiated in 2024.

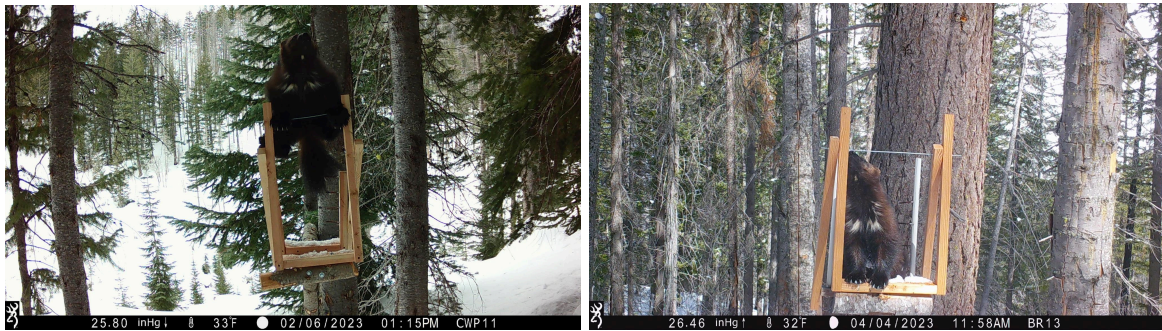


Photo 2. Wolverine detected in the Lake Chelan watershed in 2023. Photo 3. What appears to be the same wolverine detected a month later at a different location in the Lake Chelan watershed.



Photo 4. New wolverine in June of 2024 in the Nooksack River watershed. Photo 5. Wolverine, likely WAGU-38, at the same station as Photo 6, in April of 2023.



Photo 6. Wolverine from the Lake Chelan watershed in January of 2024.

2. Community Science Wildlife Observations

Methods – Through the Cascades Wolverine Project online portal (<https://www.observations.cascadeswolverineproject.org/>) we gathered public incidental observations of wolverines and other rare wildlife, and wildlife tracks. This information was evaluated for accuracy and cataloged along with track observations made directly by project members over the course of winter field work. All observations were reviewed by a minimum of two experts in wolverine identification, and all track observations were reviewed by Track and Sign Specialists certified in wildlife tracking through Cybertracker Conservation International (<https://trackercertification.com/track-and-sign-certifications/>).

Results – The total number of community wildlife observations submitted to CWP from across the Cascades increased from 2022 to 2023 by 38%. From 2023 to 2024 submissions decreased by 11%, yet the number of verifiable wolverine sightings in 2023 nearly doubled in 2024. Table 3 summarizes community science observations per year, including verifiable sightings and likely or definitive wolverine tracks.

In 2023 we implemented a new database for intaking and reviewing wildlife observations, created by volunteer Peter Lambert. The database has increased our capacity for community science, allowing us to work more effectively with experts in wildlife tracking as well as submitting data to the WWRMG. Additionally, our database and workflow integrates with our forthcoming dynamic wildlife observations map designed by Rivershed SPC (<https://www.rivershedspc.com/>) a social purpose corporation based on the west side of the North Cascades. Rivershed very generously donated their time to design the map.

The purpose of the map is to report back to observers and further engage community scientists by displaying their observations across the cascades, with photos of tracks and sightings available as an educational tool. In order to protect both the animals observed and the privacy of observers, our public-facing map obscures precise locations within a grid of 350 square mile hexagons, an area roughly equivalent to a male wolverine's home range. The internal-facing map allows us to geographically analyze community science data, and enhances our ability to collaborate with research partners.

In 2024 we completed a manuscript based on findings from a study we conducted in 2021 testing the reliability of expert observers to identify wolverines from their photographed tracks, based on our methods for community science wildlife track review. For this research we collaborated with Dr. Jeff Rose (University of Utah), Dr. Matthew Scraftord (Wildlife Conservation Society of Canada), and Dr.

Philippe Naveau (Laboratoire des Sciences du Climat et de l'Environnement, France). The manuscript has been submitted for peer review.

Figure 2. Community Wildlife Observations: number of observations made per year

Observation Year	Observations	Verifiable Wolverine Sightings	Definitive or Likely Wolverine Tracks
1955 - 2011	6	0	0
2012	1	0	0
2013	2	1	1
2014	2	1	1
2015	1	0	0
2016	2	0	1
2017	4	0	2
2018	14	2	3
2019	38	1	15
2020	87	6	20
2021	43	7	14
2022	48	11	11
2023	66	12	12
2024	60	22	13
Total	374	63	93

Figure 3. Graph of Community Wildlife Observations per Year

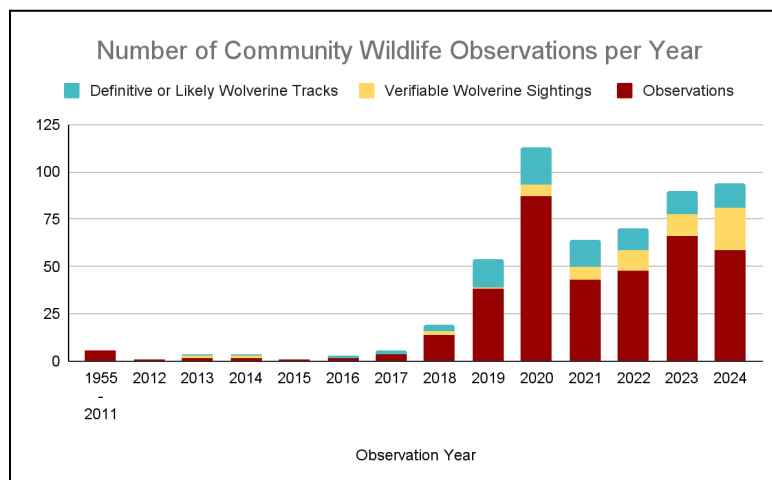




Photo 7. Community science observation of a wolverine from the Glacier Peak Wilderness by Sarah McHugh, July 2024. Photo 8. Community science observation of a wolverine by Naoki Watanabe from Mount Rainier National Park, July 2024.



Left to right: Photo 9. Community science observation of wolverine tracks from near Stevens Pass, Washington from Sara Agopsowicz, November 2024. Photo 10. Community science observation of a wolverine in North Cascades National Park from Ruairi in July of 2022. Photos 11 & 12. Community science observation of wolverine tracks from the Glacier Peak Wilderness, by Sonja Saxe, October 2024

3. Storytelling

A third objective of the Cascades Wolverine Project is to create and share visual content and narratives that engage and educate people about wolverine conservation at both the regional and national levels. Photographs and “stories from the field” are shared through social media, e-newsletters, and partner organizations. Additionally, CWP contributes visual assets to scientific reports, journalistic pieces, and media coverage related to wolverine conservation.

Recent highlights in conservation messaging include screenings of our short film *Finding Gulo* at the IMAX Theater of the Pacific Science Center in Seattle during the spring of 2023, and a feature written about the project in the *Pacific Northwest Magazine* by the *Seattle Times* in the spring of 2024 (<https://www.seattletimes.com/pacific-nw-magazine/methow-researchers-marvel-at-wa-wolverines-existence-and-elusiveness/>). We’ve also been featured on Seattle Public Radio, in *Cascadia Daily News*, at the Mountain Film Festival, and as panelists at an event we co-hosted with Conservation NW at the REI

Flagship Store in Seattle, celebrating the recent listing of wolverines as a threatened species. In 2023 and 2024, we had the pleasure of partnering with the Winthrop Ice Rink, a popular gathering spot in the Methow Valley, to create life-size wolverine tracks in the ice. For a detailed list of outreach activities, see Figure 4. A selection of project photography from 2023–2024 is available in Appendix 1.

In 2024, we launched a ski ambassador program to further engage winter recreationists in the Methow Valley. This program includes distributing flyers, posters, and stickers to local outdoor retailers and Sno-Park trailheads, as well as participating in snowmobile-accessed ski touring and interacting with other recreationists on the subject of wolverine identification and conservation. Ambassadors are trained to make wildlife observations and engage directly with recreationists. In total, 89 hours of volunteer effort were dedicated to the program in 2024, contributed by eight volunteers who interacted with over 31 community members.

Figur 4. List of Public Outreach Efforts 2023 - 2024

Presentations & Events	<ol style="list-style-type: none"> 1. 1/2023 Holden Village: CWP talk 2. 1/2023 Bush School Event, Mazama, WA 3. 1/2023 Methow Valley Elementary School, 1st grade talk 4. 2/2023 Holden Village Community Science talk 5. 3/2023 Pacific Science Center: Finding Gulo IMAX screening, Q&A 6. 5/2023 Northwest Outward Bound School, WA, film screening, Q&A 7. 9/2023 Mountain Film Tour, Mazama, WA, film screening 8. 9/2023 Patagonia Tools Conference, South Lake Tahoe, CA, participant 9. 11/2023 An Evening & Stories About Wolverine Recovery in the North Cascades, Seattle, Audubon Society, talk 10. 1/2024 Okanogan Highlands Alliance Event, film screening 11. 1/2024 Methow Valley Elementary School, 7th grade talk 12. 1/2024 Holden Village talk 13. 1/2024 Methow Valley Elementary School, 2nd grade talk 14. 2/2024 Holden Village Community Science presentation 15. 2/2024 Seattle REI Event: A Giant Leap for Wolverine Conservation, with Conservation NW, CWP, & Dr. Robert Long, panelist 16. 3/2024 Holden Village talk 17. 9/2024 Community Science Event, Aslan Depot Taproom, Bellingham, WA 18. 10/2024 Kittitas County Audubon Society, film screening, virtual Q&A
Media	<ol style="list-style-type: none"> 19. 12/2023 “Few and Far Between: endangered wolverines are difficult to track” KUOW.org online news, feature 20. 12/2023 KUOW Soundside show & podcast, Seattle NPR, interview 21. 4/2024 “Marveling at Wolverines” Pacific Northwest Magazine, cover story

	22. 10/2024 “Wolverines and Climate Change in the Cascadia Bioregion” Cascadia Partner Forum video, contributor 23. 9/2024 “Community Scientists Can Help Track Scarce Wolverines in the Washington Backcountry” Cascadia Daily News, feature
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Reflections

The past year has been remarkable for wolverines in the contiguous U.S. In November 2023, wolverines were officially listed as a threatened species under the Endangered Species Act (ESA). This long-overdue designation provides critical protections for wolverines and their habitat, though it has sparked mixed reactions from stakeholders. Conservationists celebrate the decision, while some winter recreationists may face new restrictions or delays in over-snow vehicle management plans, such as in northern Idaho. In January 2024, Montana Fish, Wildlife, and Parks filed a lawsuit against the U.S. Fish and Wildlife Service, arguing that Montana's wolverine population is already adequately managed without federal protection.

The ESA has a strong history of protecting species, but its effectiveness depends on sufficient funding and regulatory strength—both of which were weakened during the previous Trump administration. With the upcoming term, there is concern that protections could weaken further. While the listing of wolverines is a significant step forward, non-federal and grassroots efforts remain essential for advancing stewardship, research, and advocacy.

For the Cascades Wolverine Project, it has been an exciting couple of years. We’ve overhauled many of our monitoring stations to better track individual wolverines and collect genetic samples, significantly increasing our data collection capabilities. We’ve also expanded our team by hiring a talented project coordinator, added two new snowmobiles, and developed a new community science database. We were excited to install several monitoring stations as part of the new long-awaited 20-year population study led by CCMP.

In 2023 we were invited to participate in the prestigious Patagonia Tools Conference, a five-day intensive for grassroots activists that included a keynote by Amy Bowers Cordalis, recent recipient of the United Nations' highest environmental honor. Inspiration, networking, and practical advice were abundant throughout the conference. Shortly after, we received invaluable organizational consultation from local conservation leader Jason Paulsen, which led to several key organizational improvements, including our inaugural staff retreat. During this two day retreat, we gathered to strategize and enjoy a brisk, rainy afternoon of fieldwork in wolverine country.

We secured two new grants over the past year, and tripled the funds raised during our fall fundraiser. With increased capacity, we are now better equipped to expand our community science program, overhaul our website, publish findings on observer reliability (and eventually the results of our camera trap monitoring and community science efforts), strengthen research partnerships, and continue building a community of winter recreationists who celebrate and protect wolverines and the mountains where they roam.

Acknowledgments

Cascades Wolverine Project is a community-led effort made possible by generous support from volunteers, collaborators, and partners in the North Cascades Ecoregion and beyond. Our study area in the North Cascades falls within the traditional territories of several indigenous peoples, most prominently the Methow, Chelan, and Nooksack Tribes. We are grateful to colleagues in wildlife management, research, and conservation: Dave Werntz, Kurt Hellmann, Tanner Humphries, Cathy Raley, Keith Aubry, Matthew Scrafford, Jeff Rose, Philippe Naveau, Paula MacKay and Robert Long, and Jacob Schimdt. To our Methow Valley partners Goats Beard Mountain Supplies, Home Range Wildlife Research, North Cascades Mountain Hostel, Winthrop Rink, the Mountain Annex, and Headwaters Tree Service, thank you for making this the most amazing community within which to live, work, and play.

We leaned heavily on the expertise and generosity of volunteers Nick March, Jane Hosman, Peter Lambert, Jan Sodt (who tagged photos for 81 hours!) Jesse Snyder, Jason Paulsen, Leo Kleine, Brian McConnell, Will Nielsen, Adam Ü, Erica Engle, Ella Hall, Forest McBrian, Michael Hutchins, Leslie Mittendorf, Alyssa Lovell, Nick Holden, Laura Chedalawada, Georgie Brisbois, Justin Busch, Bob Nielsen, Wendy Sims, Mark Bach, Jaker Elhers, Samantha Goff, Dan Veenhuizen, Phil Marino, Ginger Gionet, Cam Alford, Cooper King, Jack Fiorillo, and Joel Ried. Many thanks to the incredible staff at Holden Village for hosting us each winter and assisting with monitoring stations, all with their characteristic grace and enthusiasm.

To CWP's donors we offer heartfelt thanks, particularly to Kevin and Cassy McGowan, Tom Campbell, Jack Stanford and Bonnie Ellis, Joe and Bernice Schick, Warren and Linda Holmes, the Hall Family–Alex, Suzanne, Marty in honor of their beloved father Jonathan Martin Hall, Tom Campion, Janet Parker, Kathy Lovell, the Caskey Family, Bill Pope, Anne Fox, Christine Roux, Sheila Pera, and many more supporters that make this work not only possible but meaningful. To all the community scientists who offered their wildlife observations we offer our sincere appreciation–stay stoked and send it, and keep sending us your wolverine reports!

Appendix 1: Photography

All images by [David Moskowitz](#). [More images from the project can be viewed on the project's Instagram feed and website.](#)



Wolverine habitat in the Lake Chelan watershed close to the Copper Basin installation.



Professional arborist and splitboarder Will Nielson, owner of Headwaters Tree Service LLC, joined us for our first trip to Harts Pass to help us with fallen trees that threatened our research station. Will was the first splitboarder to join our field work. Canada lynx tracks found near one of our research stations in the Methow River watershed.



Holden Village continues to host CWP for winter field work. The 2023-2024 winter was marked by low snow which increased the ease of access to Harts Pass research stations.



During the fall of 2024, we visited our research station in the Nooksack watershed managed by volunteer Nick March to collect data and make some repairs for this coming winter.



Thanks to a successful capital campaign inspired and generously supported by Kevin and Cassy McGowan, CWP acquired two new snowmobiles for winter field work at the start of the 2022-2023 field season. Classic wolverine habitat in the North Cascades—complex and steep roadless mountainous terrain near treeline. Lake Chelan watershed.