

CITIZEN WILDLIFE MONITORING PROJECT
2019-2020 WINTER FIELD SEASON REPORT



April 2020

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Cover photo: Sophie Mazowita, CWMP volunteer team documenting American marten tracks on Snoqualmie Pass transect.

Executive Summary

The Citizen Wildlife Monitoring Project (CWMP) uses trained volunteers to record the presence and movement of wildlife through snow tracking surveys and remote camera installations in the Washington Cascades and other wildlands across Washington State and British Columbia. This report summarizes snow-tracking efforts along Interstate 90 in the Washington Cascades for the winter of 2019-2020. This field season marked the 14th winter of survey work in this study area.

This winter we had a slightly lower survey effort on our standard transects due in large part to several storm systems that shut down Interstate 90 during time periods when we had a large number of transects scheduled. Despite this, our overall number of field days was similar to years past with the addition of a pilot project west of the pass and an increased effort with our surveys for American martens.

Along with the original long-term transects which the project has been monitoring for over a decade, this winter's field work included a number of additional activities. We continued to carry out surveys for American marten in habitat north and south of the highway corridor to better understand the distribution of this species in relationship to the interstate. We collaborated with the Washington Department of Transportation to test several new transect locations west of Snoqualmie Pass and initiated a new system for arranging transect teams for these low elevation sites when snow conditions were favorable. An ongoing partnership with Wilderness Awareness School (Duvall, Washington) brought students from their yearlong wildlife tracking training program out into the field to assist with a single survey. Additionally, the Forest Service initiated a closure order for land adjacent to the recently built crossing structures to prevent human use of them which could deter wildlife activity. CWMP added monitoring of illegal human use of closure areas to the data it collects while conducting transects in these areas.

Project Overview

CWMP is a community science project led by Conservation Northwest in coordination with a number of project partners. The program utilizes remote cameras year-round to document rare and sensitive species throughout core areas in the Cascades, as well as for more common species in strategically important locations. During the winter months, trained CWMP volunteers use snow tracking to monitor the presence, location, and movement of wildlife near proposed or existing wildlife crossing structures east of Snoqualmie Pass along Interstate 90 in the Washington Cascades. Since its inception, CWMP has remained an asset to wildlife agencies and professionals by providing supplemental monitoring efforts in areas identified as either potential core habitat or vital connectivity corridors between core habitats for some of our region's rarest wildlife. Our main project objectives are:

1. To engage and educate citizens about the detection and monitoring of sensitive wildlife species and in critical habitat areas;
2. To record wildlife presence in the I-90 corridor and along the I-90 Snoqualmie Pass East Project in strategic locations and in core habitat through remote cameras and snow tracking;
3. To record the presence of rare and sensitive species that regional and national conservation efforts aim to recover including fisher, gray wolf, grizzly bear, lynx, and wolverine;

4. To facilitate the exchange of information about wildlife, including data from monitoring efforts, between public agencies, organizations, and interested individuals.

CWMP is designed to support the conservation of our region's wildlife and wildlands by enhancing our knowledge of wildlife-habitat connections in our region, supporting the monitoring and management efforts of transportation and wildlife agencies, and providing engaging educational field experiences for volunteers.

The winter portion of CWMP is focused on snow-tracking along a 15-mile corridor on I-90 and providing data for the I-90 Snoqualmie Pass East Project. The I-90 Snoqualmie Pass East Project is a 15-mile highway improvement project that includes measures for connecting wildlife habitat, such as the construction of wildlife crossings. Construction on a number of key parts of the I-90 Snoqualmie Pass East Project is completed. This includes broad underpasses and a conspicuous wildlife overpass that motorists drive under and wildlife travel across. Construction activities were not active during the snow-tracking season.

In the past four years, CWMP has expanded its winter survey effort in the vicinity of Snoqualmie Pass. Track surveys for American marten north and south of Interstate 90 are an effort to better understand the range of this species and impact of the highway and human development on the connectivity of their population. Two new transects were established west of Snoqualmie Pass along the interstate, in conjunction with WSDOT. These are aimed at understanding landscape permeability along this stretch of the interstate and were successfully piloted this year. Efforts at these sites will be refined and continued in the coming year.

A complete description of the Citizen Wildlife Monitoring Project's goals and methods, as well as a record of previous season reports, is available online at <https://www.conservationnw.org/our-work/wildlife/wildlife-monitoring/>.

Methodology

Study Area

Snoqualmie Pass (3022 feet, 921 meters) is the lowest pass in the Washington Cascades. Interstate 90 traverses the pass from west to east as a divided highway with two to four lanes of traffic in each direction throughout the study area. A large downhill ski complex sits at the summit of the pass, along with associated human infrastructure. A few miles east of the pass, a large irrigation water reservoir on the headwaters of the Yakima River fills much of the valley bottom. The human footprint at the pass along with the high speed and heavily trafficked interstate highway makes Snoqualmie Pass the most tenuous wildlife corridor in the Washington Cascades. Ongoing reconstruction by the Washington Department of Transportation on Interstate 90 east of Snoqualmie Pass has been designed to improve road safety for motorists and increase the permeability of the road for wildlife.

Field Methods

The winter portion of CWMP employs trained volunteers to walk transects adjacent to the interstate and document the tracks of wildlife. Set transects are monitored three times over the course of the winter on average and were established at locations where crossing structures either exist and are being improved or have been targeted for installation. Transects run parallel to the highway about 150 meters

from the roadbed. Field teams document tracks and signs of any mammal species larger than a snowshoe hare found along the route. At least one set of tracks is trailed on each transect per visit in an attempt to document the animal's relationship to the interstate. Observations are photo-documented in the field and all photos are reviewed by expert observers out of the field to assess observer reliability. All species of high conservation value are thoroughly documented, including photo-documentation, to ensure the accuracy of identification.

American marten surveys are not along prescribed routes. Rather, general locations are assigned to a field team to survey. These survey areas are based on an attempt to fill in a more complete picture of landscapes currently occupied and unoccupied by the species adjacent to the highway corridor. This information will hopefully help identify any potential points of linkage for northern and southern populations and obstacles to connectivity for them. A route is selected based on access considerations and how to best cover the area. Teams record a GPS track of the route they take so that the project can document locations that have been surveyed and the amount of effort. Teams record tracks of American marten when they are detected as per the project protocol for on-transect surveys.

This winter we piloted several new transect locations at lower elevation west of Snoqualmie Pass. Due to variable snow cover at these locations we created a system for us to arrange transect teams and dates on short notice when the forecast called for good conditions. This system was marginally successful. Revisions to it for next winter will hopefully allow for a greater survey effort in these locations.

Results

Summary of 2019-2020 Transect Data

This winter yielded a relatively low number of overall observations and number of species (richness) recorded on our transects, likely due to a slightly decreased survey effort. Several transects were visited less than the targeted three times over the course of the winter. This was due to weather conditions which shut down travel on the interstate during several weekends where we had a number of transects scheduled, many of which were never rescheduled.

All Transects: This winter's field work identified a fairly standard suite of wildlife in the study area for the winter. Volunteers detected 8 species across all transect sites (Table 1), and coyotes continue to be the most frequently detected species (40%). Bobcat detections were half of what they have been for most of the project (2020 = 7%, average = 17%).

Table 1. Proportion of detections by species and year across all I-90 Transects on Snoqualmie Pass

Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ambiguous	0.14	0.14	0.07	0.28	0.21		0.08	0.10	0.17	0.31	0.13	0.32	0.16	0.22
Beaver	0.10		0.02	0.16	0.09	0.13	0.11	0.07	0.11	0.02		0.01	0.04	0.02

Black Bear	0.01	0.01				0.02		0.03						
Bobcat	0.32	0.24	0.28	0.12	0.08	0.09	0.23	0.09	0.09	0.15	0.19	0.19	0.14	0.07
Cougar	0.03	0.04		0.05		0.01	0.01					0.01		
Coyote	0.21	0.46	0.42	0.30	0.40	0.64	0.43	0.45	0.27	0.40	0.38	0.26	0.38	0.43
Elk	0.03	0.01	0.15	0.03	0.07	0.02	0.08	0.09	0.15	0.07	0.21	0.10	0.14	0.07
American Marten	0.08		0.01		0.06			0.04			0.02	0.01	0.04	0.06
Mule Deer	0.04	0.04	0.01	0.04	0.03	0.05	0.02	0.04	0.14	0.02	0.02	0.01	0.06	0.02
Porcupine							0.02							
Raccoon	0.01			0.02	0.03	0.03	0.02	0.07	0.06	0.01	0.04	0.04	0.01	0.06
River Otter	0.03	0.05	0.05		0.02	0.01	0.01	0.03	0.01	0.02	0.00	0.01	0.03	0.06
<i>Richness</i>	<i>10</i>	<i>7</i>	<i>7</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>7</i>	<i>7</i>	<i>7</i>	<i>9</i>	<i>8</i>	<i>8</i>

Snoqualmie Pass Transect: Bobcat, raccoon and American marten were the three species detected. For the second year in a row, volunteers detected no species along the southern transect, and for the first time since 2014, volunteers found no coyote, though an abundance of domestic dog tracks on the transect could have obscured sign (Table 2). We detected no species attempting to cross the highway (Map A1). Species Detection and Trailing Maps are found in Appendix A.

Table 2. Number of species detections by year and side of I-90 at Snoqualmie Pass Transect, Snoqualmie Pass Washington.

Side of I-90	Species	2014	2015	2016	2017	2018	2019	2020
North								
	Bobcat			1	1	1	2	1
	Coyote	10	10	5	3	5	5	
	Elk			1				
	American Marten	6			1		4	3

	Mule Deer	2	2				
	Raccoon	12	2		2	2	1
	<i>Richness</i>	4	3	3	4	3	3
South							
	Black Bear	4					
	Coyote		6	1	1	3	
	Raccoon		6	1		1	
	<i>Richness</i>	1	2	2	1	2	0

Table 3. Number of species detections by year and side of I-90 at Gold Creek Transect, Snoqualmie Pass Washington.

	<i>Richness</i>	4	3	3	4	4	3	3	5	7	1	0	3	3	4
<hr/>															
South															
Beaver				6		2		4	4					1	
Bobcat								2		1					
Coyote	1	1	3	1	2	3	1	6	4	1				1	1
Mule Deer					1	2			2					1	
River Otter	1				1			2					1	2	
	<i>Richness</i>	2	1	1	2	3	3	1	4	3	2	0	1	4	1

Price Noble Transects: Volunteers were able to successfully survey both sides of the highway and complete three visits, enabled by greatly increased ease of access following an arrangement with WSDOT and USFS for survey teams to access the area from a pull-off close to the west end of these transects, directly off of the eastbound lanes of the interstate, and use of one of the undercrossing structures to access the north side. Volunteers detected four species: bobcat, coyote, elk, and river otter (Table 4). Trailing efforts detected a river otter crossing at Price Creek undercrossing, with confirmation from WSDOT video footage. The proximity of trails towards the crossing structures, and presence of coyote and elk on both sides of the highway suggest both species are likely using crossing structures (Map A3).

Table 4. Number of species detections by year and side of I-90 at Price Noble Transect, Snoqualmie Pass Washington.

Side of I-90	Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<hr/>															
North															
Beaver						2	1	1							
Black Bear			1												
Bobcat	9	4	14	5		3	11	6	2	1	2	4	3	1	
Cougar	2	2		3									1		
Coyote	4	7	13	6	5	6	13	22	10	3	2	1	8	5	

Elk			4			2	2	8	8		6	2	2	1
Mule Deer	1		1		1		1		2	2	1			
Porcupine							1							
Raccoon					1		1							
River Otter			1											1
<i>Richness</i>	4	4	5	3	4	4	7	3	4	3	4	4	3	4
South														
Beaver	3			6		7	5	6	10	1				
Black Bear	1													
Bobcat	5	13	4	2		2	3	2	8	1	2		2	1
Coyote	1	14	6	1	10	11	15	2	12	7	4	2	9	
Elk			8		3		5	4	10		1		5	2
Mule Deer	2			1			1	2	12				2	
Raccoon					1	3	1							
River Otter		1	1			1				2			1	
<i>Richness</i>	5	3	4	4	3	5	6	5	5	4	3	1	5	2

Easton Hill: This year, the north transect was only visited twice and volunteers only detected coyotes (Table 5), with no evidence of the species crossing the highway (Map A4).

Table 5. Number of species detections by year and side of I-90 at Easton Hill Transect, Snoqualmie Pass Washington.

Side of I-90	Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
North															

Bobcat	1	2	3	5	5	1	5	2	6	2	4	5	6	
Cougar		1		1			1							
Coyote		10	11	2	6	6	5	8	8	14	7	2	6	1
Elk	2	1	6	2	4		3	2	10	6	1	2	2	
Mule Deer				1	1		1	6						
<i>Richness</i>	2	4	3	5	4	2	5	4	3	3	3	3	3	1

South														
Black Bear						2		2						
Bobcat	5	1	15				11	2	1	7		2		
Cougar				1		1								
Coyote			17	8	1	22	15	22	4	4	1	4	3	8
Elk			1	1			1	6	8					
Mule Deer				1					16				1	
Porcupine							1							
Raccoon								2					1	
<i>Richness</i>	1	1	3	4	1	3	4	5	4	2	1	2	3	1

Illegal Access to Wildlife Closure Area: We documented only minor human use of the newly established wildlife closure area along the interstate adjacent to crossing structures. We only detected three instances of recreational activities within the closure area. At Gold Creek there was a single detection of a snowshoer North of the highway within the closure area. At Price Noble, volunteers detected the tracks of snowshoers along the Northern transect, and the tracks of a snowmobile along the Southern transect.

Compared to the much larger human use of the crossing structures themselves documented in years past, our findings would suggest the closure is being respected by and large and is decreasing the likelihood of human recreation negatively influencing wildlife use of crossing structures. Along with documenting illegal use in the closure area, this winter CWMP coordinated with the USFS and WSDOT to

manage our survey access points so as to avoid encouraging others to travel in the closure area. These measures appear to have been successful.

Low elevation westside transect and pilot transects: The lack of snow continues to be the primary challenge for volunteers in completing the low elevation transects west of I-90 including both the established Denny Creek, and the new transects we piloted this year. Additionally, this winter we piloted a new system for surveying these lower elevation sites which involved recruiting teams to survey them on short notice when the forecast indicated favorable tracking conditions. Further refinement to this system will be required to access a greater level of volunteer effort when conditions are good.

Table 6. Number of species detections by year and side of I-90 at four low elevation transects, Snoqualmie Pass Washington.

Transect	Elk	Mule Deer	Coyote	Raccoon	Richness
Denny					
Talus Slope North			2		1
John Wayne South				2	1
MP 47 North			1		1
MP 47 South	1	1	3		3

This year, volunteers were only able to survey each of the low elevation transects once (Table 6). Volunteers detected no species at Denny Creek, and coyote and raccoon at the John Wayne and Talus Slope transects, and coyote, elk, and deer along the Milepost 47 transects (Map A5 and Map A6).

Summary of 2019-2020 Trailing Data

Volunteers documented 18 trailing events of seven species at all locations besides Denny Creek (Table 7). The range of trailing events ranged from 31 meters (coyote) to 1,437 meters (raccoon). Excluding the raccoon trailing event, on average volunteers were able to follow trails for 232 meters (Confidence Interval = 94 meters). The majority of trailing events were of coyotes ($n = 11$, 61%) and river otter ($n=2$, 11%). The remaining five species had one trailing event each. Volunteers documented the use of the Price Creek undercrossing structure by a river otter and the probable use by coyotes at Gold Creek. Species trailed were most frequently travelling parallel to the highway or not trailed long enough to determine the relationship to the roadway. Volunteers did document a mule deer at the Mile Post 47 potentially entering the highway.

Trailing maps can be found in Appendix A.

Table 7. Trailing effort by Species

Species	Trailing Events
Coyote	11
American Marten	1
Mule Deer	1
River Otter	2
Elk	1
Raccoon	1
Bobcat	1
<i>Total</i>	<i>18</i>

Summary of Marten Survey Data

This season, volunteers walked 37.3 km of survey routes looking for American marten north and south of I-90. American marten was detected only north of the highway (Map A8), all in locations where we have previously detected the species. Our marten surveys continue to show no evidence of connections between marten populations north and south of interstate 90. One significant hole in our survey effort is in quality habitat just west of Snoqualmie Pass. Limited access options and avalanche hazard makes surveying this area out of reach for our current volunteer effort.

Citizen Science Effort

Table 8. Summary of Winter 2019 -2020 Volunteer Participation

8A. Volunteer Hours by Category	
Volunteer Category	Number of Volunteers
# Team Leaders	8
# Team Members	40
Total Volunteers	48
8B. Field Effort by Category	
Category	Number of Field Days

# Transect/Marten Survey Field Days	33
# Volunteer Field Days Total	107

8C. Hours by Category of Volunteer

Category	Number of Hours
Winter Training Team Lead Hours	72
Winter Training Team Member Hours	320
Project Leadership Volunteer Hours	74
Transect + Marten Survey Volunteer Hours	842
Total Volunteer Hours	1,408

Table 9. Number of Visits and Volunteer Hours by Transect

Transect	North	South	Volunteer Hours
Denny	1	1	90
Gold Creek	2	1	58
Snoqualmie Pass	3	3	119.5
Price Noble	3	3	183
Easton Hill	2	3	183.5
John Wayne	N/A	1	15
Talus Slope	1	N/A	15

MP 47	1	1	12
Marten Survey		7	166
Total Visits		33	
Total Hours			842

Forty-eight volunteers provided 842 hours of survey effort over 33 field visit days this season (Table 8).

Volunteer Feedback

We sent an online survey to volunteers at the end of the field season, with the intention of (1) gauging the success of our community education and engagement goal and (2) gathering feedback to improve the volunteer experience. We received 25 responses, representing 53% of our volunteer base.

Survey results on the whole were very positive, and 84% of respondents stated an interest in volunteering again next year. Asked what they most appreciated or enjoyed about their participation, most volunteers named the learning opportunity and social connections (12 and 9 mentions, respectively). Other positives were the tracks and observations themselves, outdoor time, team leads, and beauty of the survey locations.

The volunteer training was well received, though survey respondents suggested re-examining the timing of this training in relation to the survey dates. They also recommended sharing the presentation and other training materials for reference later in the season.

Scheduling was the main area needing improvement; volunteers expressed dissatisfaction with the team sign-up process, transect cancellations, rescheduling difficulties, and roadblocks in deploying rapid response transect teams. There was also a question of the equity and inclusivity of this volunteer opportunity. CWMP strives to be inclusive of a diverse volunteer base but also sees an overabundance of interest and a waitlist for volunteers each year, resulting in word-of-mouth volunteer recruitment and limited outreach to new audiences.

The limiting factor for bringing on more volunteers is the availability of volunteer team leaders who have the required tracking and technological skills. There should be added emphasis on recruitment and development of volunteer team leaders for 2020-2021, seeing as we had only 8 out of the desired 10 team leads this year. Capping teams at 5 allows for more active volunteer participation and easier carpooling.

Lastly, volunteers were asked to rate their agreement with a series of statements about their feelings of enjoyment, knowledge and skill improvement, safety, meaningful contribution, and understanding of conservation impact through participation in the project. Ratings averaged agree/strongly agree across the board, but notably the statement “I feel that I made a meaningful contribution to this project” received the lowest rating, including 9 responses of only “somewhat agree,” “neither agree nor

disagree,” or “somewhat disagree.” One respondent added that group size was large enough that they didn’t feel their individual presence was *necessary* for the project. While that may be true, there are opportunities to encourage sense of meaningful contribution to the project through (1) ensuring all interested team members have the opportunity to take an active role in data collection and (2) making it clear to volunteers that their participation and education is a primary goal of this project, so their presence in and of itself is meaningful. We could also encourage their role as ambassadors of the project to their networks and the general public.

Partnership with WAS

This year we also partnered with Wilderness Awareness School’s Wildlife Tracking Intensive class, a year-long college-level training program in Duvall, Washington. The class helped survey Denny Creek. While students found no species along the transects, students generally had a good experience and were excited to participate in applied conservation research. To increase the capacity of the Tracking Intensive to help in future years, staff and teaching assistants should participate in the team leader and general volunteer training in the future.

Recommendations for CWMP Winter-Tracking training and field days

1. Consider revisions to systems for scheduling transect dates, forming volunteer teams, and arranging westside transect response teams.
2. Develop and include training for scat collection.
3. Make training materials available to volunteers after the in-person training.
4. Increase the capacity of the WAS Tracking Intensive to help in future years, invite staff and teaching assistants to participate in the team leader and general volunteer training.
5. Set a clear system for communication and oversight to make sure transects get completed as scheduled, WSDOT is contacted about plowing/access, and volunteers receive project updates.
6. Look into recruiting backcountry skiers with avalanche training to do a marten survey for us west of the pass.
7. Look into active recruitment and training of new team leaders.
8. Examine possibilities for outreach to demographics not currently well represented in the volunteer pool.

Acknowledgements

We appreciate supportive grants from WDFW ALEA Cooperative Grants Program, James M. Lea Foundation, and Wilburforce Foundation that supported CWMP in 2019-2020. This project would not be possible without your generous support. The North Bend Branch of Starbucks Coffee generously stored our field equipment and offered an excellent meeting location for our field teams for the duration of the season. We thank individual advisory council members and project collaborators for the talent, time, and guidance they provide to the project (see Appendix D for a complete list of our advisory council members).

Most importantly, we are grateful for our dedicated volunteers, whose hard work and commitment to quality in and out of the field made this season possible. Without the ongoing volunteer commitments and leadership of Mallory Clarke and Adam Martin the quality of this project would be impossible to

maintain. The addition of Sophie Mazowita to the volunteer leadership team this year was also invaluable.

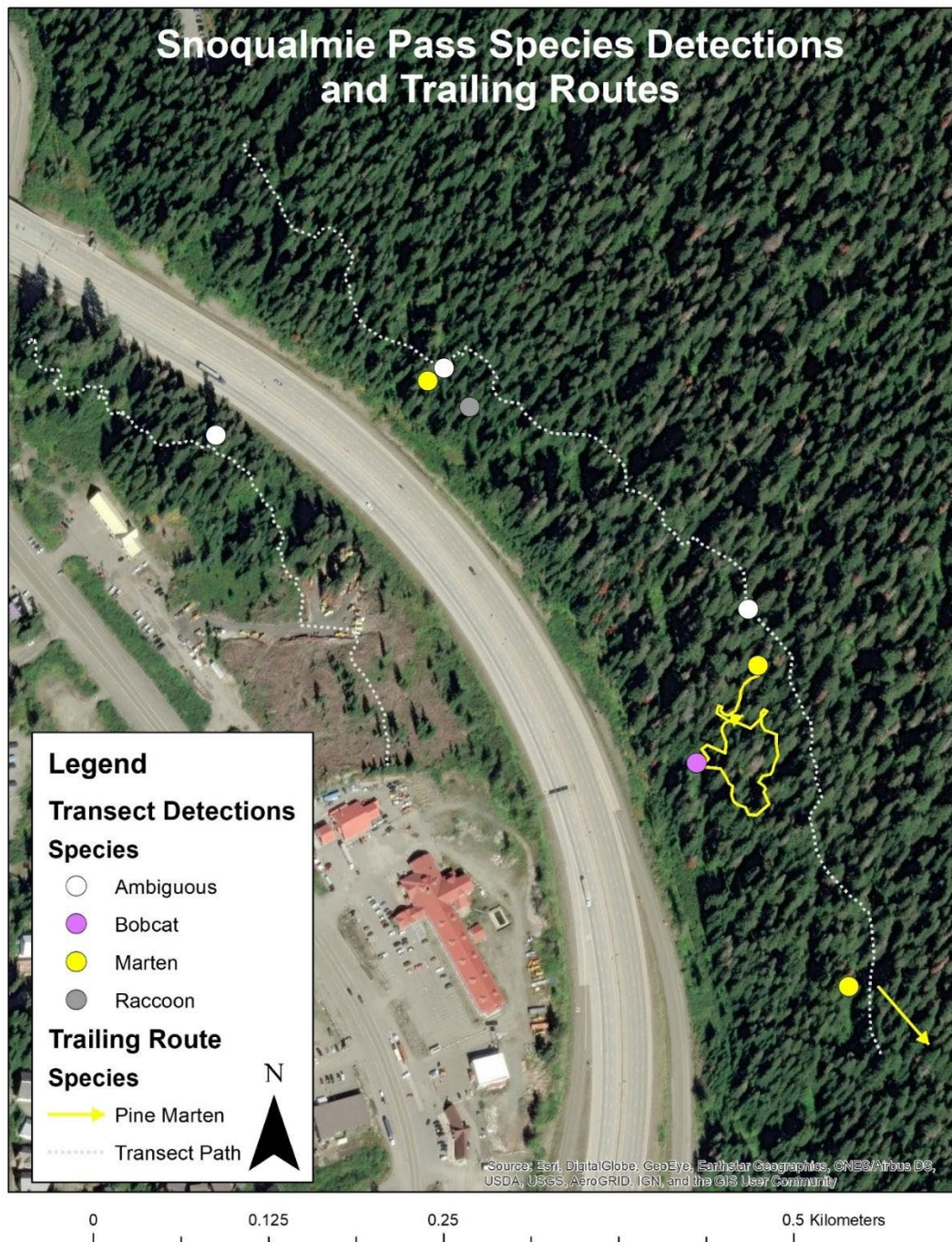
Team Leaders: Evan Adkins, Laurel Baum, Brian Booth, James Ciesluk, Mallory Clarke, Brooke Nelson, Adam Martin, and Sophie Mazowita.

Team Members: Adam Cypress, Adam Hess, Alexander Bigby, Alia Richardson, Anthony Denice, Brandon Moberg, Caitlin O'Brien-Carelli, Christian Holtz, Christine Estrada, Dan Kapner, Elizabeth Petras, Gwen Shlichta, Holly Walter, Julian Theberge, Karen Collins, Kate Pfeilschiefter, Katie Southard, Kurt Hellmann, Kyle Schultheis, Laura Bridenback, Logan Flanner, Lucas Veverka, Luis Ruvalcaba, Makie Matsumoto-Hervol, Matthew Carruth, Monicac Diaz, Raquel Naranjo, Rebecca Lavigne, Rowan Davis, Ryan Summerlin, Sam Montgomery, Samara Travella, Scott Nelson, Shard Milne, Stevie Tong, Susie Fritsch, Sydney Tomechko, Timothy Gibbons, Tricia Enfield, Trista Becker.

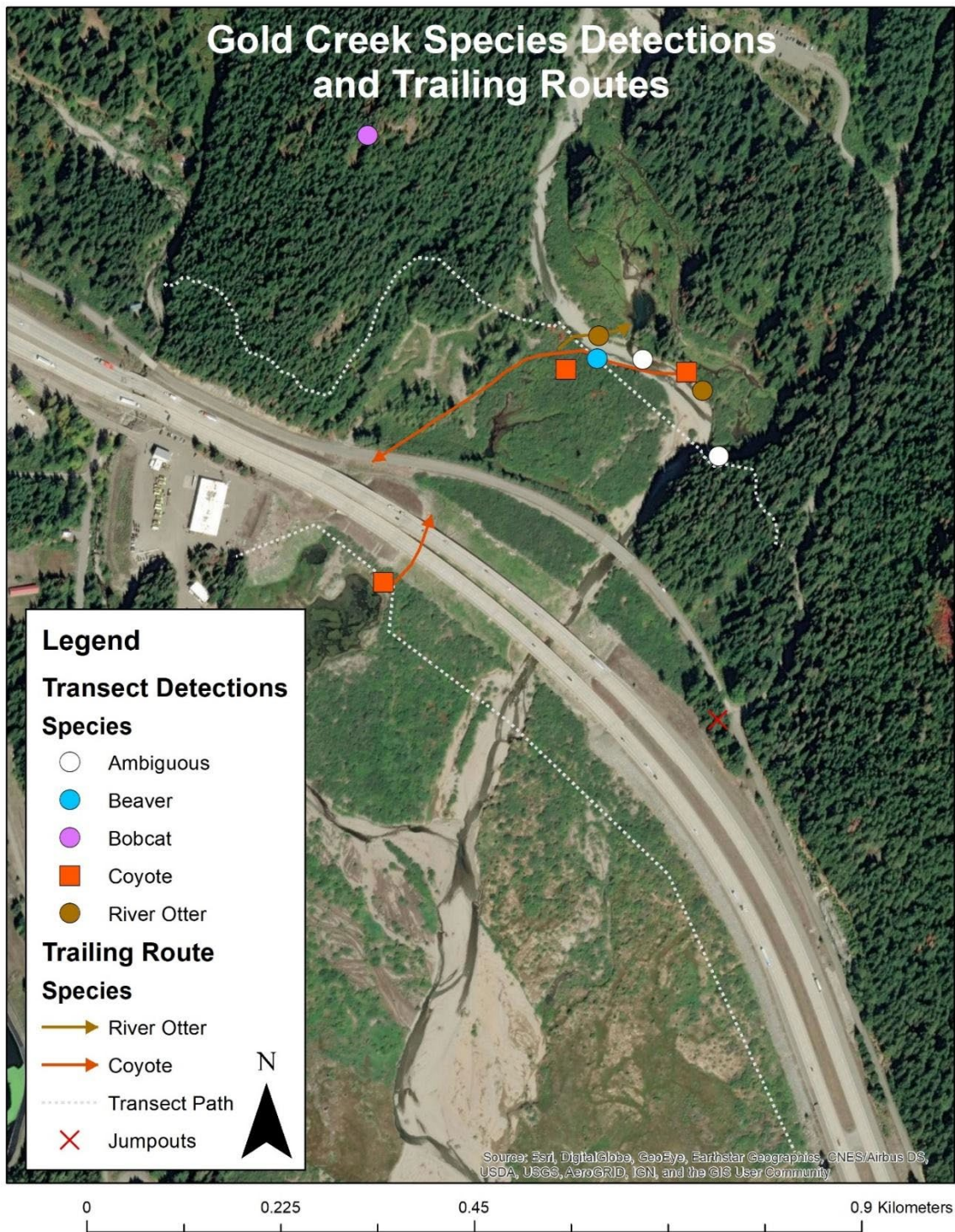
We have many volunteers and active supporters who contribute their time and expertise in various ways throughout the course of the program and the potential to miss people ever looms. Thank you to any we have missed!

Appendix A: Species Detections and Trailing Route Maps

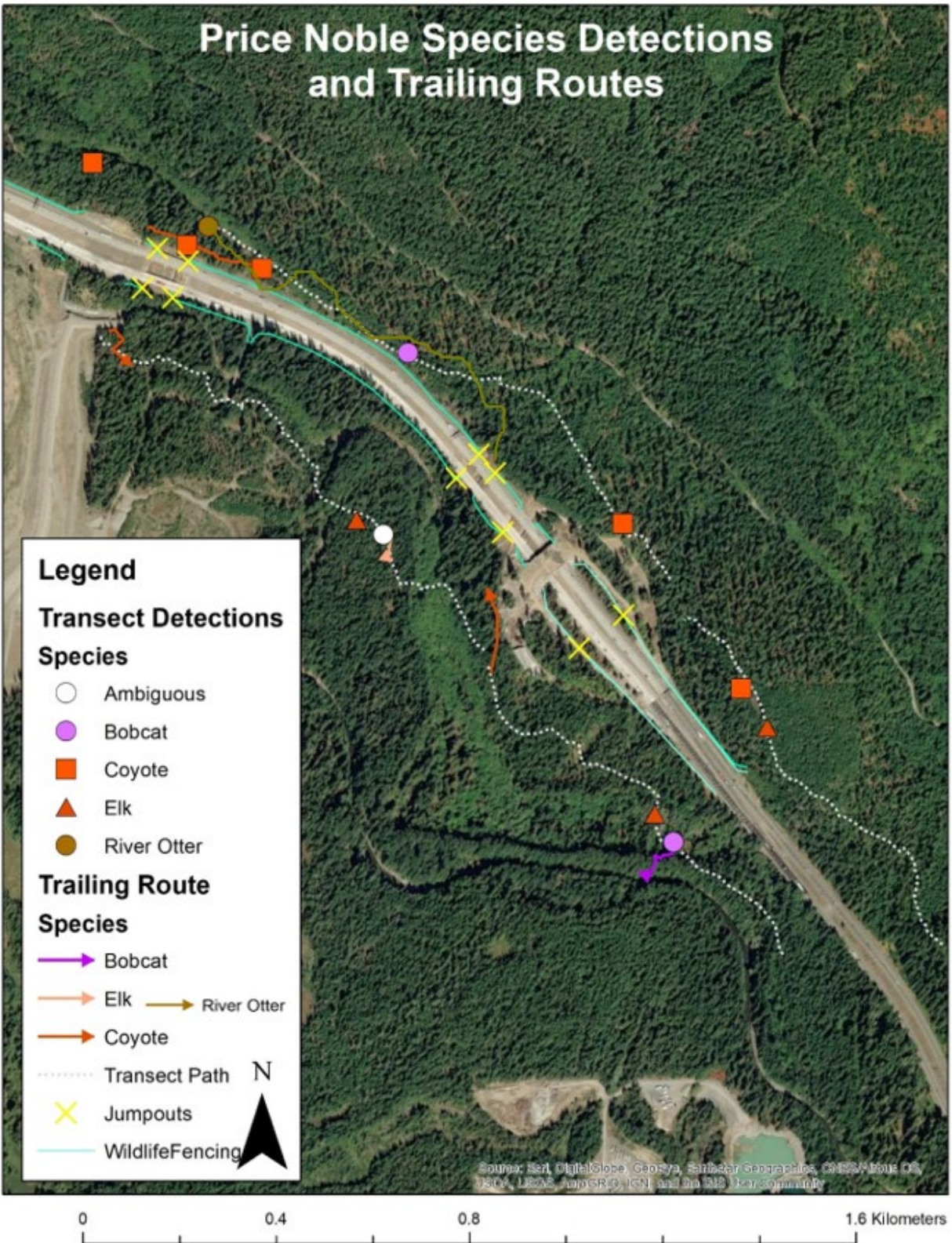
Map A1.



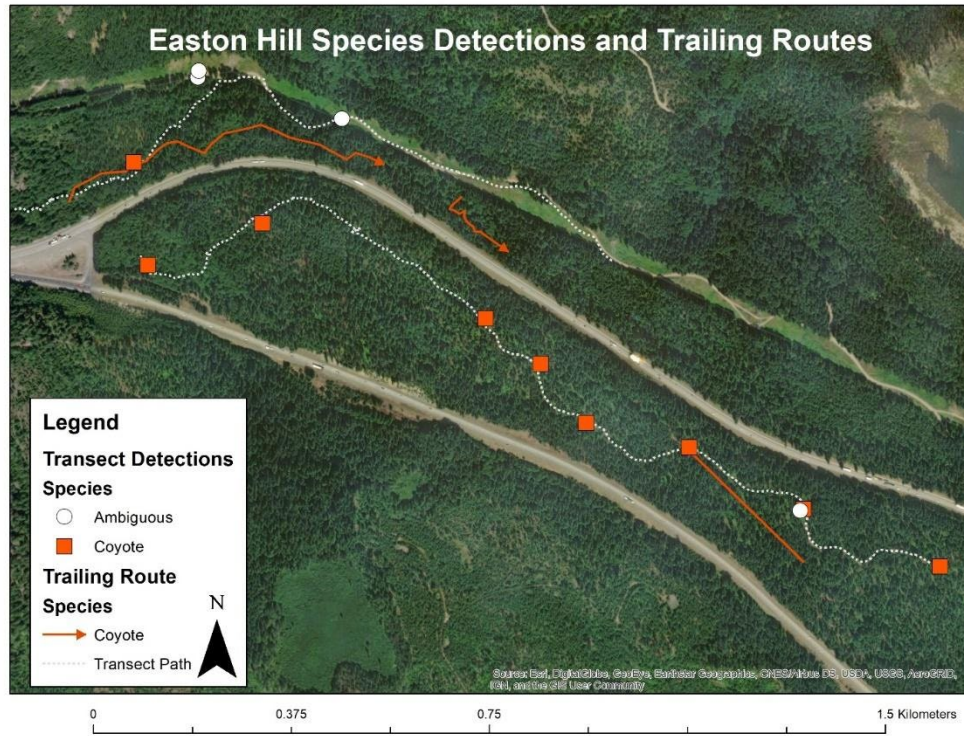
Map A2.



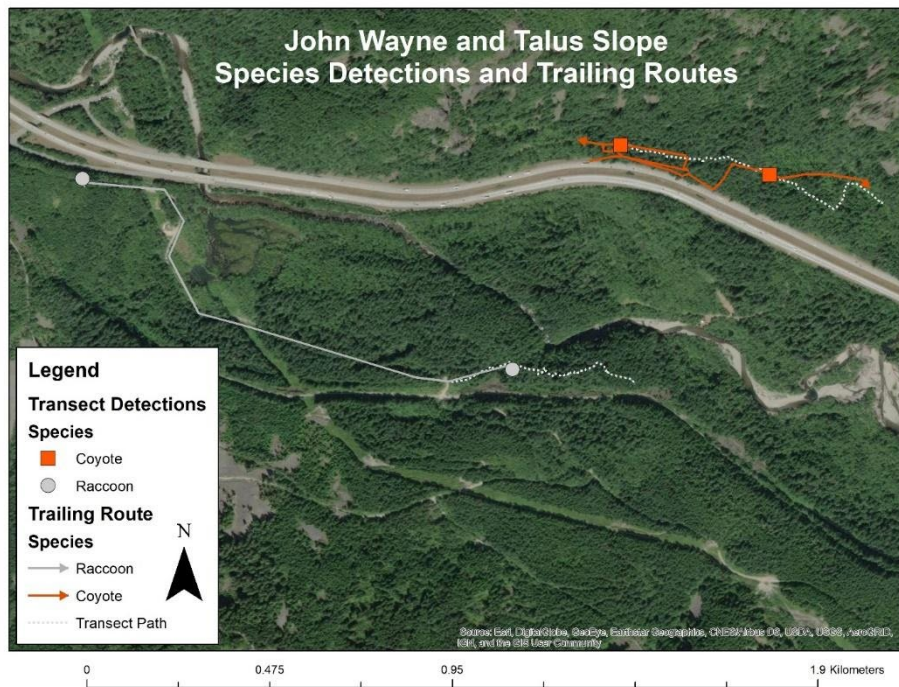
Map A3.



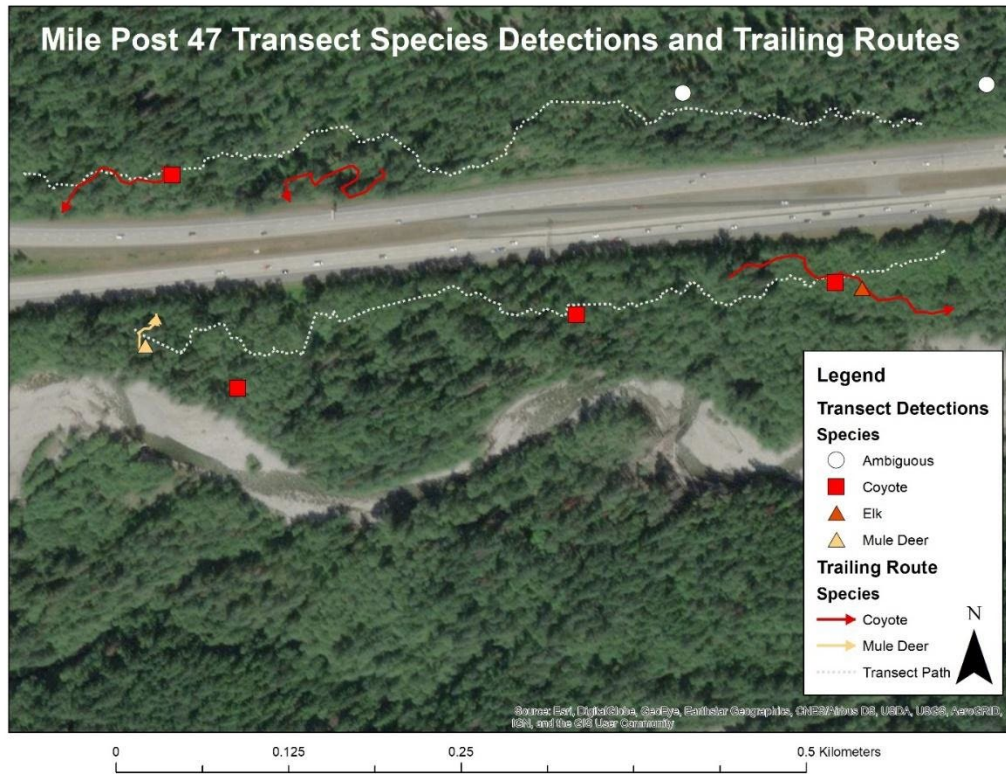
Map A4.



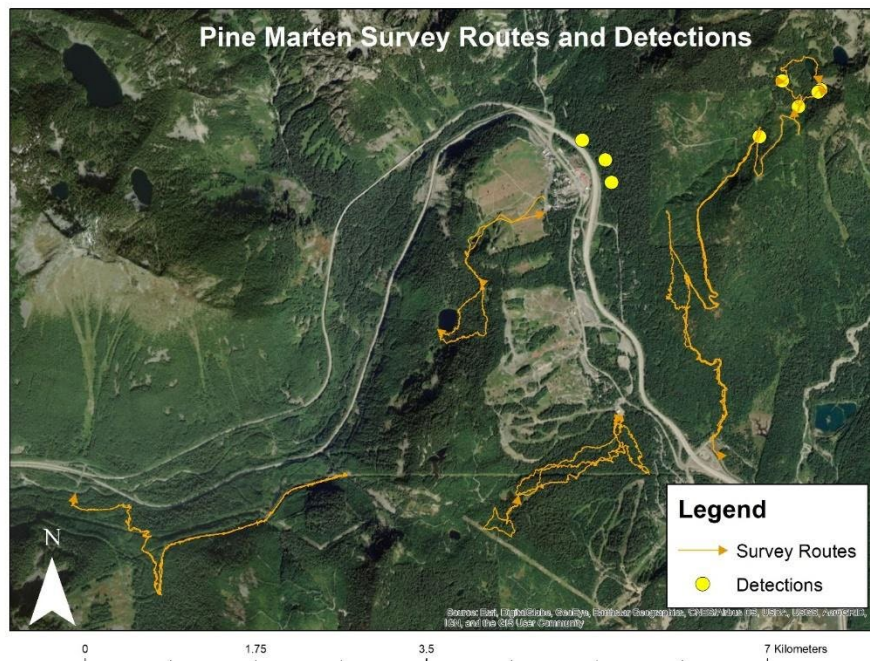
Map A5.



A6.



Appendix B: American Martin Survey Maps



Appendix C: Advisory Council

(Cascades Carnivore Project) Jocelyn Akins;
(Colville National Forest) Chris Loggers; Kelsey Retich;
(BC Ministry of Forests, Lands and Natural Resources) Aaron Reid;
(Gifford Pinchot National Forest) Carol Chandler, John Jakubowski;
(Mt. Baker Snoqualmie National Forest) Sonny Paz, Jesse Plumage;
(North Cascades National Park) Anne Braaten; Jason Ranson; Roger Christophersen;
(Okanogan-Wenatchee National Forest) Monte Kuk, Patty Garvey-Darda, Joan St. Hilaire, Matt Marsh,
Jesse McCarty, Jo Ellen Richards, John Rohrer, Aja Woodrow, Don Youkey;
(PNW Research Station, USDA Forest Service) Keith Aubrey, Cathy Raley;
(US Fish and Wildlife Service) Gregg Kurz;
(WA Conservation Science Institute) Bill Gaines;
(WA Dept. of Fish and Wildlife) Dana Base, Scott Becker, Ben Maletzke, William Moore, Annemarie
Prince, Trent Roussin, David Volsen, Scott Fitkin;
(WA Department of Transportation) Glen Kalisz; Kelly McAllister, Mark Norman, Josh Zylstra;
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Appendix D: Species Priority List

Tracking priority for this study in descending order

Level 1: Wolverine, fisher, Canada lynx, wolf, American marten, grizzly bear, cougar, mountain goat

Level 2: Elk, mule deer, mountain red fox

Level 3: Black Bear, bobcat, coyote, raccoon, river otter, beaver, any other wild mammals larger than a snowshoe hare encountered in the field

Do Not Record: Snowshoe hare and smaller animals

KEY Level 1 species should be trailed wherever possible. In the case of the top 5 species (wolverine, fisher, Canada lynx, wolf and American marten), these can be trailed even before a transect is completed because they are critical rare species. Level 2 species should be trailed in the absence of Level 1 species, after completing the outward leg of your transect and where time is available. Level 3 species should only be trailed if there are no Level 1 or Level 2 species present on the transect.