MARMOT
RECOVERY FOUNDATION

Field Update

Fall 2025

Executive Summary

- Preliminary hill count for the **wild population is 427** (observed mean average), an increase for all regions and across age classes. Final hill counts will be reported in our Annual Report.
- Habitat Restoration was completed at **3 colonies** over 6 work days this fall.
- The field team tracked **83 marmots** that were confirmed alive at the end of the season and into hibernation. These marmots will be included in this winter's overwinter survival analysis.
- There were **13 marmot dispersals** detected this year, including a larger number of dispersals located this fall in Strathcona Park.
- Pup counts are now complete for the season, with **121 pups from 40 litters** this year, the largest reproductive output recorded in the Vancouver Island marmot for a second year in a row.
- All field operations are complete for the 2025 season, and we look forward to sharing final numbers!



Figure 1. Conservation breeding program release, Gob, forages in a meadow on Mt Washington. Photo by Adam Taylor.

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Report composed by Shayn McAskin

Introduction

This is the fifth and final Field Update for the 2025 season. A reduced crew continued field operations from September through early November, completing within-season survival analysis, predator deterrence, habitat restoration, and tracking marmots into hibernation.

General Field Notes:

- Weather this fall was characterized by above average precipitation and early snowfall, which presented challenges for access into remote sites.
- The fall is our time to catch up on tracking down tagged marmots, detecting dispersals, recovering mortalities, and following marmots as they settle in for hibernation. It's also our opportunity to complete habitat restoration, as well as review camera footage from the season as we pull all our cameras from the mountains.
- All field operations are complete for 2025, and our seasonal staff are now off for the winter. Thank you to our field crew and marmot keepers for all the hard work this season, the results in this update reflect the dedication and perseverance of each of you over the past 7 months!

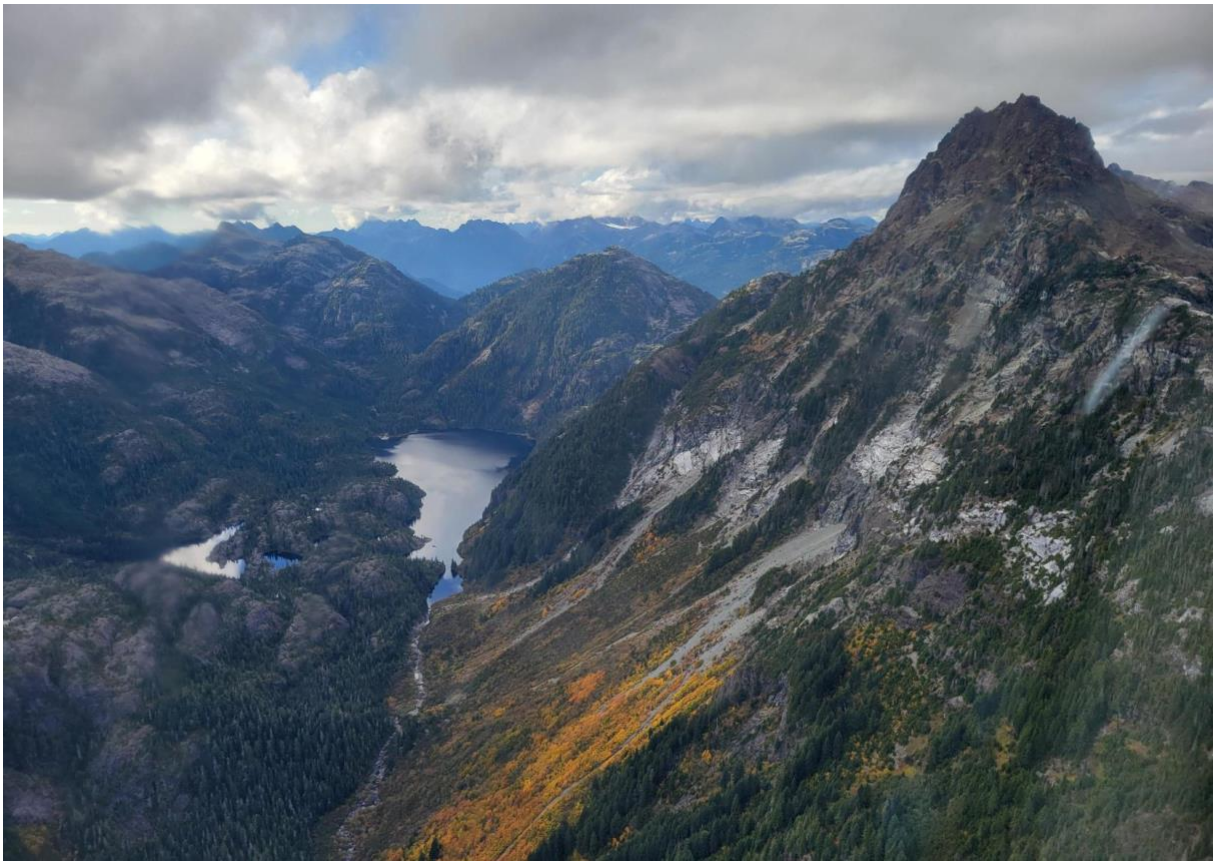


Figure 2. Marmot surveys in remote corners of Strathcona Provincial Park often involve helicopter access due to the difficult terrain. Photo by Heather Heim.

Recovery Activities

The Marmot Recovery Foundation is responsible for delivering in-the-wild recovery activities and conservation breeding to support the wild population of Vancouver Island marmots. The Foundation is guided by the Provincial Recovery Plan which has identified actions necessary to recover the species. These include conservation-breeding for augmentation and re-introduction, facilitated dispersal (translocation) in the wild, habitat restoration, and supporting reproduction and survival through activities such as supplemental feeding and predator deterrence.

Supplemental Feeding:

Spring supplemental feeding was completed in all regions by early June, with the results outlined in the June field update. A total of **29 feeders** were deployed this year across 19 colonies, down from 36 feeders in 2024. Spring feeding was reduced this year due to prior bear activity at some colonies.



Figure 3. A wild marmot in Strathcona Park eating biscuits from a supplemental feeder (left), Translocation release Henrietta makes friends with a wild marmot on Flower Ridge. Photos from MRF Wildlife Camera and Geric Coutts.

Conservation Program Releases and Wild Translocations:

All conservation breeding program releases were completed in July, and translocations were completed by mid-August, as outlined in the July and August field updates. A total of **55 marmots** were released to the wild or translocated this year, down slightly from 77 marmots last year.

Wild Trapping:

All marmot captures were completed by August, and results can be found in the August field update. A total of **42 marmots** were trapped this year, down slightly from 47 marmots last year.

Wild Transmitter Implants:

All wild transmitter implants occurred in June and July this year. A total of **10 wild marmots** received transmitter implants, including 3 known marmot transmitter replacements and 7 new wild marmots. This is comparable to wild marmot implants in recent years (12 in 2024, 10 in 2023).

Predator Deterrent Trials:

As part of trialing predator deterrent technology, Foxlights, that flash an assortment of LED lights in low-light periods, were deployed to Mt Washington in early September. Each foxlight was paired with a wildlife camera to monitor for effects on marmot and predator activity. While primary predators were not detected through the survey period, it was confirmed that no marmots were observed active when the foxlights were flashing. Expanded trials are planned for next year.



Figure 4. A mountain lion at an active marmot feature (left); A deer passes a marmot nestbox as a foxlight flashes lights (right). Photos from MRF Wildlife Cameras.

Habitat Restoration:

In marmot habitat, climate change has resulted in more precipitation arriving as rain, and less as snow. Historically, energy from snow movement, in the form of avalanches and snow creep, has kept the marmot's habitat free of trees. Reduced amounts of snow energy have allowed for elevational tree-creep, slowly changing these historically open habitats into young forests. This reduces the habitat availability and quality for species that rely on sub-alpine and alpine meadows, including marmots.

For marmots, an increase in tree cover in alpine meadows means more stalking cover for predators, and shorter sightlines from important look-out rocks that marmots use to detect and evade predators. Tree roots also compromise burrow systems as ingress progresses. The Foundation monitors tree ingress in marmot meadows and attempts to restore alpine meadows by removing young coniferous saplings before they become established.

This year, Habitat Restoration was conducted at three important marmot colonies with significant tree ingress, including two in the Strathcona Region.

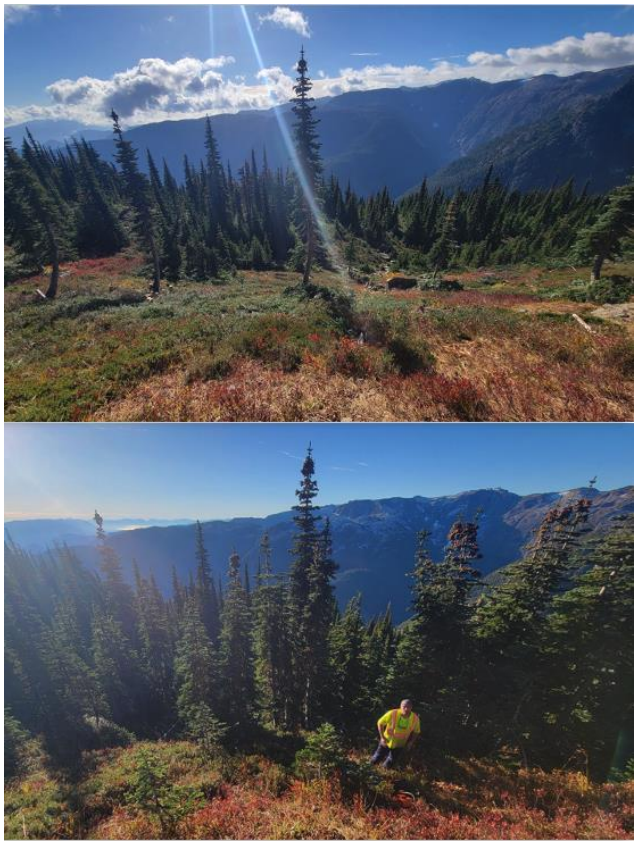


Figure 5. View from hibernaculum before (bottom) and after (top) habitat restoration at a colony in the Strathcona Region.

Table 1. Habitat Restoration Sites in 2025

Region	Colony	Timeframe	Days	Area restored
Strathcona Region	East of Buttle Lake	Mid October	4	2 Hectares
	Mt Washington	Early November	1	0.5 Hectares
Nanaimo Lakes	Mt Landale	Late October	1	0.5 Hectares



Figure 6. Habitat Restoration in action – clearing out conifer ingress in subalpine meadow marmot habitat!

Monitoring Results

Using camera traps, drones, foot surveys, and helicopters, Foundation staff have collected survival and inventory data from all known colonies. The Foundation's monitoring efforts have been supplemented by the Wilder Institute/Calgary Zoo field teams, as well as reports of observations of marmots from other backcountry user groups.

Survey Effort:

Survey effort is measured in the number of total person-hours spent observing marmot habitat at each colony, including ground surveys, drone and helicopter flights.

Table 2. Survey effort by month.

Month	Survey Person-Hours
April	8
May	198
June	422
July	623
August	317
September	140
October	94
November	16
Total	1818



Figure 7. Field crew surveys at Mt Arrowsmith. Photo by Savita Owens-Frank

Camera Trapping Effort:

Motion and IR-activated remote cameras are installed strategically throughout marmot habitat to monitor habitat features or supplemental feeders for marmot activity, and observations of other species at marmot features. Cameras are set to capture 30s videos with 30 min delay between captures.

Table 3. Camera Survey effort by region.

Region	Camera Traps
Clayoquot Plateau	1
Nanaimo Lakes	28
Schoen	3
Strathcona	40
Total	72



Figure 8. The first definitive evidence of marmot occupation on northern Vancouver Island in 10 years. Photo from MRF Wildlife Camera.

Reproduction:

Pup counts are now complete for the season, with **121 pups from 40 litters** this year, the largest reproductive output recorded in the Vancouver Island marmot for a second year in a row after 106 pups last year. A second year of early season forage availability due to low overwinter snowpack may have contributed to the increase in reproductive output.



Figure 9. Marmot pups and adult on the front porch of burrow in Strathcona Park (left), Gilligan sunning on a rock at Drinkwater, after dispersing from Flower Ridge. Photos from MRF Wildlife camera and Heather Heim.

Dispersals:

There were **13 marmots** detected dispersing this year, with 8 marmot dispersals documented in Strathcona Park. Marmot movements are tracked using radio telemetry, and while it is not possible to determine the exact route a marmot takes while dispersing, it is known when a marmot moves from one colony to another, or into ephemeral habitat. A dispersal event is considered any movement greater than 1km away from the usual place of residence for a prolonged period.

Table 4. Marmot Dispersals in 2025.

Region	Origin	Destination	Marmot	Age	Sex	Distance
Nanaimo Lakes	Butler	Unknown	Bosco	1	M	4+ km
	Butler	Bell Creek	Clayo	1	F	2 km
	Sadie	Moriarty	Landon	3	M	13 km
	Gemini	Green	Odell	2	M	17 km
	Green	Hooper				
	Gemini	Sadie	Ultimo	2	M	15 km
Strathcona	Castlecrag	Allan Brooks	Salmon	2	M	7 km
	Castlecrag	Allan Brooks	Sebastion	2	M	7 km
	Celeste	Henshaw Creek	Lyell	2	M	8 km
	Red Pillar	Prices Creek	Miso	2	F	9 km
	Flower Ridge	Drinkwater	Gilligan	2	M	5 km
	Flower Ridge	Prices Creek	Rundle	2	M	2 km
	Drinkwater	Prices Creek	Lamar	2	M	2 km
	Drinkwater	Flower Ridge	Shawn	1	M	5 km

Mortalities:

There were **40 mortalities** detected this year, with 32 located by field crew. Where cause of death was determined, 5 were hibernation related, 13 suspected predation, 1 accidental injury and 1 probable infanticide.



Figure 10. Temperature-sensitive radio transmitter recovered from a mortality. Photo by Heather Heim.

Marmot mortalities are determined by interpreting detection signals from temperature-sensitive radio transmitters, inferring the body temperature of the individual remotely. Mortalities can only be conclusively detected during the core field season while marmots are active (June 1st-September 15th). Once a mortality has been detected, staff attempt to recover the mortality to determine the cause of death, usually by analyzing the location, timing, and condition of the remains.

Overwinter Survival:

From mid-September, the field team tracks known marmots as they prepare for hibernation. Of the 107 known marmots confirmed alive this year, **83 marmots** were confirmed alive this fall and qualify for the 2025/26 overwinter survival analysis, with 45 marmots tracked and pinned to a plugged hibernaculum. The results of the 2024/25 overwinter survival analysis are outlined in the June field update.



Figure 11. A wild marmot, Grubby Mitts, gathers bedding material into her hibernaculum on Mt Arrowsmith (top left), marmots pinned to hibernacula in Strathcona Park (right, bottom left). Photo from MRF Wildlife Camera and Field Crew



Figure 12. Helicopter lands at a glacial fed lake while tracking down dispersals in Strathcona Park. Photo by Shayn McAskin.



Figure 13. The rising sun glows on the horizon as the Habitat Restoration crew hikes into site during a 4 day trip in October. Photo by Heather Heim.