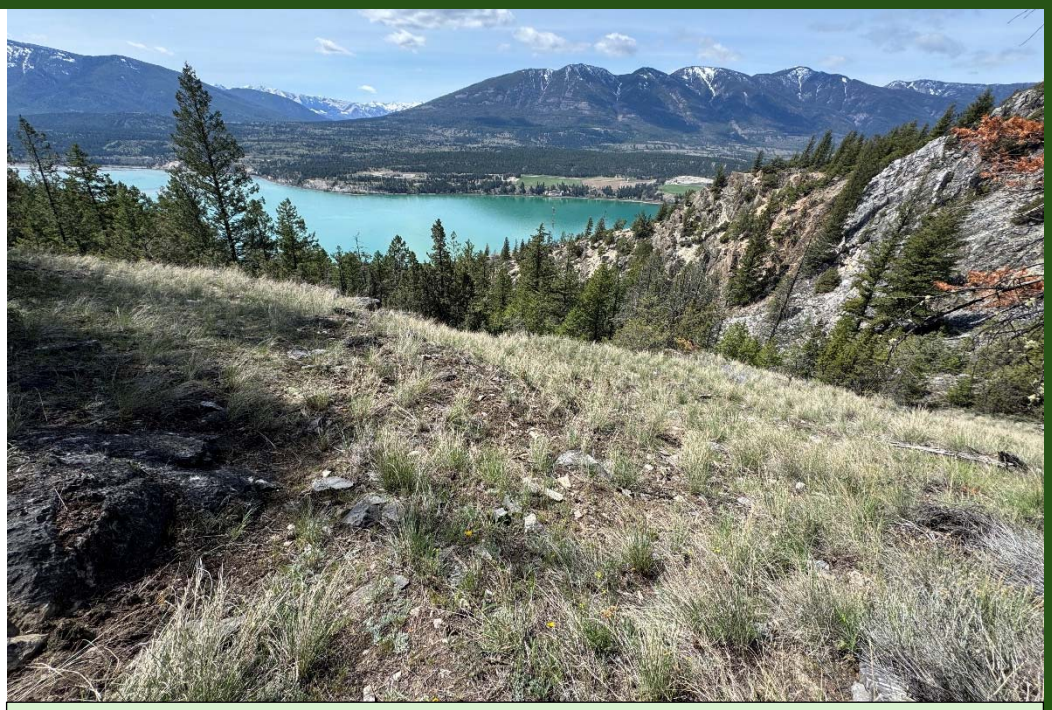
2025

ER Warden Annual Report for Columbia Lake Ecological Reserve



View looking northeast to Columbia Lake and the Purcell Mountains from the clifftops in Columbia Lake Ecological Reserve, April 30, 2025.

Ian W. Hatter, MSc.

For BC Parks

1/1/2025

Report completed by: Ian W. Hatter, ER Warden for Columbia Lake Ecological Reserve, and Dr. Jenny Feick, ER Warden for Mt. Sabine Ecological Reserve. All photos were taken in 2025 by Jenny Feick unless otherwise credited.

ER Warden Annual Report for Columbia Lake Ecological Reserve

Contents

List of Figures (Maps, Tables, Pictures)

1.0 Basic Information

1.1. Full Name of ER Warden: Ian Wesley Hatter, assisted by ER Warden Jenny Lynn Feick

1.2. Ecological Reserve Name: Columbia Lake, ER#20

1.3. Number of Times ER Visited in 2025: Ten (Apr. 30, May 25, Jun. 6, Jun. 11, Jun. 24, Jul. 11, Jul. 27, Aug. 17, Sept. 16, and Oct. 23)

1.4 Number of Hours spent Volunteering in the Ecological Reserve: **Total** = 34 hr, 15 min. x 2

Figure 1: Volunteer Hours Per Visit Inside Columbia Lake Ecological Reserve in 2025

Date	Time Start	Time End	Time in ER
April 30	11:45 am	4:45 pm	5 hr.
May 25	10:40 am	12:40 pm	2 hr.
June 6	8:45 am	2:30 pm	5 hr., 45 min.
June 11	11:00 am	3:00 pm	4 hr.
June 24	10:30 am	12.05 pm	1 hr., 45 min.
July 11	10:30 am	3:00 pm	4 hr., 30 min.
July 27	1:00 pm	3:30 pm	2 hr., 30 min.
August 17	12:00 pm	2:15 pm	2 hr., 15 min.
September 16	12:00 pm	4:30 pm	4 hr., 30 min.
October 23	12.25 pm	2:25 pm	2 hr.

Both Ian Hatter and Jenny Feick conducted the field visits. Vehicle travel time to/from the starting point (Invermere) to the reserve is one hour, so we spent two hours per trip travelling.

After each field visit, we spent many hours posting iNaturalist observations. Ian Hatter did e-Bird reports (Location: Columbia Lake Ecological Reserve), developed maps, and made trip report notes. Jenny Feick spent numerous hours over several months corresponding with iNaturalist identifiers, as well as others.[1] She also prepared and presented two PowerPoint shows on ecological reserves that included current information about Columbia Lake Ecological Reserve (See Section 5.2 Outreach). Ian Hatter spent at least one week of 8-10-hour days compiling the Columbia Lake ER report with help from Jenny Feick.

2.0 Description of Observations in the Ecological Reserve during Visits.

2.1. Extent of the Ecological Reserve Visited, &/or Tour Route:

Jenny Feick and I accessed the ER from the Camp One Access Road. During our ten visits, we visited parts of the ER that we had not seen in previous years, including rugged terrain (See Figure 16 in Appendix J), and a hilltop on the north side of the ER (See Figure 17). The areas we have not yet visited are inaccessible cliffs where travel would be extremely difficult and

[1] Denise LeMaster of Invermere, Mike Fenger, Harry Crosby, Gary Fletcher, and Louise Beinhauer of the Friends of Ecological Reserves of BC, Canal Flats resident Waltraud Moos, geologist Kevin Root, forester Randy Moody, Kootenay Connect's manager Marcy Mahr, and biologists Ian Adams and Trevor Kinley.

dangerous (Figure 18). We also made repeat visits to monitor stream orchids and white clematis, and to install, check and remove a wildlife camera along a game trail. See Appendix A for maps of our routes for the ten trips (Figures 3, 4, 5, 6, 7, 8, 9, 10, 11, & 12), and Appendix B for a map showing where all of our iNaturalist observations have been made since 2022 (See Figure 13).

2.2. Biodiversity (Plant, Animal and Fungi Species) Observed:

The biodiversity lists for the Columbia Lake Ecological Reserve now contain 547 (species) entries,[2] including: 3 millipedes (1 alien sp., 2 new species), 20 arachnids (8 research grade,[3] 7 new), 85 insects (20 research grade, 7 new), 49 birds (8 research grade, 22 new), 12 mammals (6 research grade, 1 species-at-risk), 33 fungi including rusts (7 research grade, 2 species-at-risk, 15 new) 47 lichens (19 research grade, 1 species-at-risk, 19 new), 39 mosses (12 research grade, 1 species-at-risk, 25 new), 13 ferns and fern allies (9 research grade, 3 species-at-risk, 4 new), 10 gymnosperms (9 research grade, 1 species-at-risk, 1 new), and 236 angiosperms (162 research grade, 20 alien species, 3 species-at-risk, 53 new). See attached lists in Appendices C and D. These lists are based on what we see or hear in the reserve, as well as what evidence we find (e.g., track, scat, construction, gall, etc.), and all observations from all observers in the BC Parks iNaturalist project for the Columbia Lake Ecological Reserve.

Several species identified last year were crossed off the list after identifiers in iNaturalist provided updated identifications. In some cases, they could not verify the species without additional detailed or difficult to get information (e.g., photographs of the underside of an organism, cross-sections of a stem, microscopic investigation of a collected specimen, DNA barcoding, etc.) and could only identify the genus or a group within a genus, or a higher-level taxonomic level, e.g., family or order. Taxonomic groups that are challenging to identify to a species level using iNaturalist include most of the arthropod groups (See Figures 19 and 20) and the species of deer based on scat or tracks, many fungi (See Figure 21) and lichens (See Figure 22), most mosses (See Figure 23), some ferns, spruce, and among the flowering plants, grasses, willows, paintbrush, golden-rods, cinquefoils, meadow-rues, wild roses, and members of the aster family (See Figure 24). In some cases, this would mean disturbing or collecting specimens.

This year we also recorded the number of flowering plant species by taxonomic order (See Figure 2 next page).

[2] An entry could be an organism identified to the species level or a higher taxonomic classification (Subgenus, Genus, Subclass, Class, Subfamily, Family, Suborder, Order, etc.).

[3] In iNaturalist, "Research Grade" is a designation for observations with a high-quality, community-verified identification, making them suitable for scientific research. To achieve this, an observation must have one or more photos and/or sounds, a valid date, accurate GPS location data, and a 2/3 majority consensus on identification at species level or lower, usually requiring at least two identifiers to agree on the identification. Research grade can only be assigned to a species level identification.

Figure 2: No. of Flowering Plant Species by Order Observed in Columbia Lake Ecological Reserve

Flowering Plant Order	# of species
Apiales	6
Asparagales	14
Asterales	73
Boraginales	5
Brassicales	5
Caryophyllales	4
Cornales	3
Dipsacales	8
Ericales	6
Fabales	8
Fagales	3
Gentianales	4
Lamiales	15
Liliales	7
Malpighailes	9
Poales	32
Rosales	13
Ranunculales	12
Santalales	2
Sapindales	2
Saxifragales	5

As of February 28, 2026, out of the 2674 observations made in iNaturalist, 401 species have been identified by 13 observers (See list in Appendix B) and verified by 270 Identifiers from the iNaturalist community. Of the 2674 observations of organisms, 1672 or ~63% achieved research grade. These figures change as additional Identifiers peruse the data in the project, and either assign research grade to observations or dispute the initial identification.[4] These observations include 12 species at risk, five that are research grade (See Figures 25, 26, 27, 28, & 29).

Appendix E lists the birds and mammals identified during each of the ten visits to the ecological reserve. Bird species diversity was greatest on June 6 (30 species identified) and dropped off substantially after July 11 (25 species identified).

[4] For example, on March 1, 2026, dog vomit slime mold was added as a new species for 2025 and assigned research grade, Engelmann's aster was replaced by something more generic, white prairie aster was confirmed as research grade, Greene's mountain-ash was changed to European mountain-ash, an alien species, and lambsquarters, an alien species was changed to Freemont's goosefoot, a native species.

2.3. New Plant and Animal Species Observed:

In 2025, 145 new organism listings[5] were observed (see Appendices B, C, & D). New listings include two millipedes, seven arachnids (See Figure 30), seven insects, 12 birds, 15 fungi (See Figure 31), 19 lichens (See Figure 32), 25 mosses, four ferns, one conifer, and 53 flowering plants, including the Foothill deathcamas, a significant range extension, confirmed as research grade by iNaturalist Identifier and Curator Taylor Justason, a Parks Canada Ecologist, (See Figure 33) and the Green-band mariposa lily, an uncommon variety of the Sagebrush mariposa lily, confirmed as research grade by iNaturalist Identifier Jeffrey Murphy, a Canadian scientist (See Figure 34). iNaturalist Identifier and Curator Mark Egger from Seattle, Washington, USA alerted us that Columbia Lake Ecological Reserve appears to be a hotspot for paintbrush hybrids (See Figure 35) and that there may even be a previously unidentified one near the karst springs. Due to logistical challenges and safety concerns, none of the 2025 field visits took place when nocturnal species such as bats could be observed.

3.0 Issues

3.1. Public Access Issues:

Public access continues to be the Camp One Access Road that runs along the west side of ecological reserve (See Figure 36). Quads and trail bikes have no difficulty travelling along the road, but it is becoming increasingly difficult for all wheel SUVs. On our first visit on April 30, we saw no sign of recent winter logging or use of the fire pit located within the reserve. There continues to be an abundance of alien plant species along the edge of the access road (e.g. dandelions) and wherever trail bikes have entered and driven through the reserve.

3.2. Signage Issues:

The perimeter of this ER is well marked with signs on the south-western side. An ER sign also denotes the northwest perimeter. However, the remaining boundary is unmarked, and public confusion continues about where exactly the CLER boundaries are on the northeast, east, and southeast sides of the reserve. The illegal tree-cutting that took place in the winter of 2023/24 was within 200 metres of a sign (See Figure 37). The damage is still evident (See Figure 38).

3.3. Maintenance Issues:

The access road to the ecological reserve (Camp One Road) has continued to deteriorate since 2023. On our first visit (April 30), we dodged washouts (See Figure 39) and removed numerous small boulders from the road to reach the perimeter of the reserve. Water runs down and across the road and in places, pools on the road (See Figure 40). Once past the Spirit Trail junction, the access road's condition is no longer passible by vehicles other than ATVs. No maintenance is done on this road. The Town of Canal Flats still posts its sign denoting it as an "unmaintained trail".

[5] Sometimes these are new species. Others are more generic taxonomic groups, Including genera, family, order, etc. Sometimes the iNaturalist common name changed, as in the case of prickly wild rose becoming rosier acicularis.

4.0. Human Activities

4.1. Visitor Activities:

Mountain bikers, motorcyclists and quad riders riding the Camp One Access Road were seen occasionally on our site visits (See Figure 41). On June 6, four joggers were observed running on the road heading from Canal Flats to Fairmont (See Figure 42).

On June 11, Mike Fenger, a Board member of the Friends of Ecological Reserves of BC, and Joy Kruger accompanied us to the Columbia Lake Ecological Reserve to see the reserve and gain an understanding of the type of activities we carried out in the reserve and issues or challenges we faced (See Figure 43). Mike reported back to the FER Board of Directors at their next meeting.

On June 11, we met Waltraud Moos from Canal Flats who was visiting the ecological reserve. Waltraud, an ardent naturalist who lives in Canal Flats, was checking for flowering giant helleborine in the ecological reserve and expressed an interest in being an auxiliary warden for the reserve. She mentioned meeting Naturalist Bryan McArthur from Golden, a member of the Committee on the Status of Endangered Species in Canada (COSEWIC), and gave us his contact information. On June 27, she reported that someone in a pick-up truck appeared to be flying a drone above the reserve, which we reported to Darin Welch and Liza Pegura in BC Parks on June 28. That day, Ms. Moos also alerted us to the presence of poison ivy in the ecological reserve. On July 9, she sent us pictures of the poison ivy and described where we could find it to take photographs to post on the BC Parks iNaturalist project for Columbia Lake Ecological Reserve. When we checked the site on July 11, we saw that Western poison ivy is intermingled with a similar-looking plant called wild sarsaparilla (See Figure 44). On July 9, she also told us that the peak of the stream orchid blooming had not yet happened and that she thought she could see a few white clematis in bloom but could not obtain pictures of sufficient quality to confirm.

5.0. Warden Activities:

See Appendix G for the status of tasks that were planned for 2025 field season and other action items identified in previous years.

5.1 iNaturalist and Ebird Observations

This year, as in previous years, much of our focus was on expanding the fauna, fungi and flora species lists for Columbia Lakes Ecological Reserves (see Appendices B, C, D and E). Bird observations were made visually aided by binoculars and aurally aided by the Merlin App.

5.2. Outreach

Jenny Feick made two presentations in 2025 about ecological reserves, highlighting Mount Sabine and Columbia Lake. On May 8, Jenny did a luncheon presentation for the Wings Over the Rockies Nature Festival entitled “The Ecological Reserves of BC, Hidden Gems of BC’s Protected Areas System” for an audience of 50 people, including Denise LeMaster, whose family donated land adjacent to the Columbia Lake ER to the BC Nature Trust to protect tufa springs, limber pine and bighorn sheep habitat (See https://www.naturetrust.bc.ca/news/kootenay-conservation-youth-crew-hard-at-work). Ms. LeMaster said her father hoped their land would become part of the Columbia Lake ER but it ended up in the East Side Columbia Lake Wildlife

Management Area (WHA). On the evening of December 16, Jenny presented a talk called "Ecological Reserves in the Columbia Headwaters" to the Board of Directors of the Friends of Ecological Reserves via Zoom. This informed an upcoming meeting FER had with Community Engagement Specialist Kate Zealand and other BC Parks staff in Victoria. A pdf of the talk, which includes Columbia Lake Ecological Reserve, can be seen at – https://ecoreserves.bc.ca/2025/12/16/presentation-to-the-fer-board-on-columbia-lake-and-mount-sabine-ers-by-jenny-feick/.

5.3. Alien Plant Removal

We continue to identify and remove alien invasive plant species (21 species currently identified, see Appendix C). This year we uprooted and removed ~ 60 Common mullein plants (See Figure 45) from one site within the ecological reserve (near the location of Camera trap: see Fig. 8). All removed plants were taken to and disposed of at the Columbia Valley Landfill site.

5.4. Columbia Lake Ecological Reserve PEF Wildlife Camera Project

In 2025, ER warden Ian Hatter received approval from the Park Enhancement Fund (PEF) through the BC Parks Licence Plate Program for partial funding in the amount of $650 to secure a wildlife camera for the Columbia Lake Ecological Reserve (Project title: Wildlife Monitoring Columbia Lake Reserve). Unfortunately, the price of the camera and necessary accessories escalated from when the application was submitted on May 28, 2025, to when it was approved on July 9, 2025, due to changing economic conditions, including US President Trump's tariffs. As a result, Navaranda Smith, Community Liaison Officer, in consultation with Amanda Webber-Roy, Conservation Specialist, both from BC Parks Kootenay Region in Nelson purchased a wildlife camera compatible with other BC Parks wildlife monitoring cameras (See Figure 46) and sent it and the necessary accessories to us in Invermere by late July, 2025.

After assembling and testing the camera, we set up the camera trap along a game trail in the ecological reserve on August 17 (See Figure 47). Figure 10 shows the camera location [Camera 1] within the reserve). We checked the camera for photos and replaced the SIM card on September 16 (See Figure 48). We reviewed the next set of pictures on October 23, when we removed the camera. During its 67-day operational period, the wildlife camera photographed two mule deer does with fawns, a bighorn sheep ewe, and a bighorn sheep yearling ram in the reserve. While we had already obtained indirect evidence of deer and bighorn sheep (from scats and tracks) using the reserve, the photos confirmed their presence within the reserve (See Appendix F for wildlife camera photos). The post-project information was submitted to BC Parks using their online form on March 1, 2026.

It is very hot and dry in the Columbia Lake Ecological Reserve in the summer and early autumn with little green vegetation, except near the karst springs (See Figure 49). We have noticed that mammal activity in the reserve and neighbouring areas tends to be greatest in the spring. It starts to increase again in late fall. The majority of the ungulate and snowshoe hare scat that we see in the reserve looks like winter scat (See Figure 50). The East Side Columbia Lake WHA was set aside to protect Ungulate **Winter** Range (See Figure 51) and we suspect that there is a

greater variety and quantity of wildlife using the reserve from November to April (See Figure 52). Joan Galloway with the Wings Over the Rockies Nature Festival Society and Wildsight has noticed more wildlife sightings during that period, including wolverine, in wildlife camera traps that she has deployed in the Columbia Valley near Windermere. Mid-October to late April may be a more fruitful time period to use a wildlife camera in this particular reserve.

5.5. Giant Helleborine (Stream orchid) Monitoring

This was the third year we monitored Stream orchids at two patches in the reserve (See Figure 3 for location, titled GIANT HELI). On July 9, **2023** we counted 177 orchids in the south patch. Later that year, we found a second patch (north patch) but did not count them (post flowering). On July 19, **2024** we counted an average of 175 plants from three replicate counts (178, 163,184) in the south patch, and an average of 32 (33, 33, 30) in the north patch.

This past field season, on July 11, **2025**, we counted an average of 93 plants from three replicate counts (97, 95, 86) in the south patch (See Figure 53) and an average of 12 (12, 12, 12) in the north patch. On July 27, **2025**, we recounted the orchids, finding an average of 149 plants from three replicate counts (140, 154, 152) in the south patch and 18 (17, 17, 18) in the north patch. Flowers looked near end of term (starting to wilt). Our **2025** count was about 80% of what was observed during the 2024 count with little difference between the 2023 and 2024 counts.

Besides our counts, on July 9, **2025**, Canal Flats resident, Waltraud Moos, checked for Stream orchid flowers. She noted only a few blooming in the south and north patches, with more blooming in the south patch. On July 18, **2025**, she checked for flowers again and counted 120 plants in the south patch and 20 in the north patch.

6.0. Wardens' Proposals or Suggestions:

1. **Improve communications between ER Wardens and BC Parks:**
    a. **Improve email communications between ER Wardens and BC Parks Regional staff**. At a minimum, if an ER Warden sends an email, acknowledge its receipt, indicate when to expect a response, and provide a response, including feedback on plans for the 2026 field season and specific issues (e.g., specimen disturbance or collection in order to make species-level identifications for biodiversity lists).
    b. **BC Parks to Provide Updates Previously Identified by ER Wardens:** It would be helpful to obtain an update from BC Parks staff about boundary marking along the north-eastern boundary of the Columbia Lake ER, drone use for studying the geology of the limestone cliffs and monitoring limber pine for white pine blister rust, and using a camera trap for wildlife monitoring during the winter.
    c. **Meet:** An ER Warden regional meeting is long overdue.
    d. **Joint Site Visit:** Ideally, a BC Parks employee should accompany the ER Wardens on a site visit to Columbia Lake Ecological Reserve in 2026.

2. **Carry out specific field work tasks as well as follow up and other actions. See Appendix H for plans for the 2026 field season.**
    a. **Make more detailed photographic observations for iNaturalist** - More time is needed per field visit in order to obtain the type and number of pictures required by iNaturalist Identifiers to verify the observations as research grade or get as precise an identification as possible. The organisms requiring additional pictures include: arthropods, chipmunks, fungi, lichens, mosses, ferns, and numerous flowering plants, e.g., grasses, willows, paintbrush, and bog orchids. In some cases, to get the type of pictures required for identification, the organism would need to be damaged (e.g., to photograph the underside of a gilled mushroom) or collected (e.g., arthropods, mosses and lichens).
    b. **Conduct site visits with experts to learn more about the reserve** – This includes Geologist Kevin Root from Windermere, Bryan Kelly-McArthur from Golden, Conservation biologist Randy Moody from Kimberley, and iNaturalist Identifier and Paintbrush expert Mark Egger, from Seattle, Washington.
    c. **Explore possibility to acoustically monitor bats in the reserve –** Follow up on Biologist Ian Adams' suggestion in 2023 to obtain and use bat acoustic monitoring devices to detect what bat species use the reserve. This would require collaboration with bat monitoring groups and researchers. Some funding would be needed to pay for data interpretation, necessitating submission to the Community Park Enhancement Fund or PEF in May 2026 (See Appendix I).
    d. **Monitor wildlife use in winter with a Camera Trap** – Obtain permission to use the wildlife camera purchased in 2025 through the PEF during the 2026/27 winter. To date, we have only employed the camera from mid-August–late October and most mammal use takes place in the late fall/winter/early spring.
    e. **Initiate Succession Planning** – We recommend that BC Parks accept Waltraud Moos's application to become an Ecological Reserve Warden and ensure that she is onboarded by the spring of 2026. This will facilitate her being able to assist us in the 2026 field season. Jenny Feick and I can mentor her so that she can assume the role of ER Warden for both the Mount Sabine and Columbia Lake ecological reserves in the future. Given all of the help she provided in 2025, we encouraged her to apply to become an ER warden. She submitted her application in mid-September, 2025. As of March 2, 2026, she had not heard back from BC Parks to confirm if her application was accepted.

APPENDIX A: ER Wardens' 2025 Travel Routes for Columbia Lake Ecological Reserve

The following maps show the routes taken by ER Wardens Ian Hatter and Jenny Feick on their ten field visits to Columbia Lake Ecological Reserve from April 30 to Oct. 23, 2025.

Figure 3: Map of ER Wardens' Travel Route on April 30, 2025. GPS route: ~ 5 km.

Figure 4: Map of ER Wardens' Travel Route on May 25, 2025. GPS route: 10.7 km

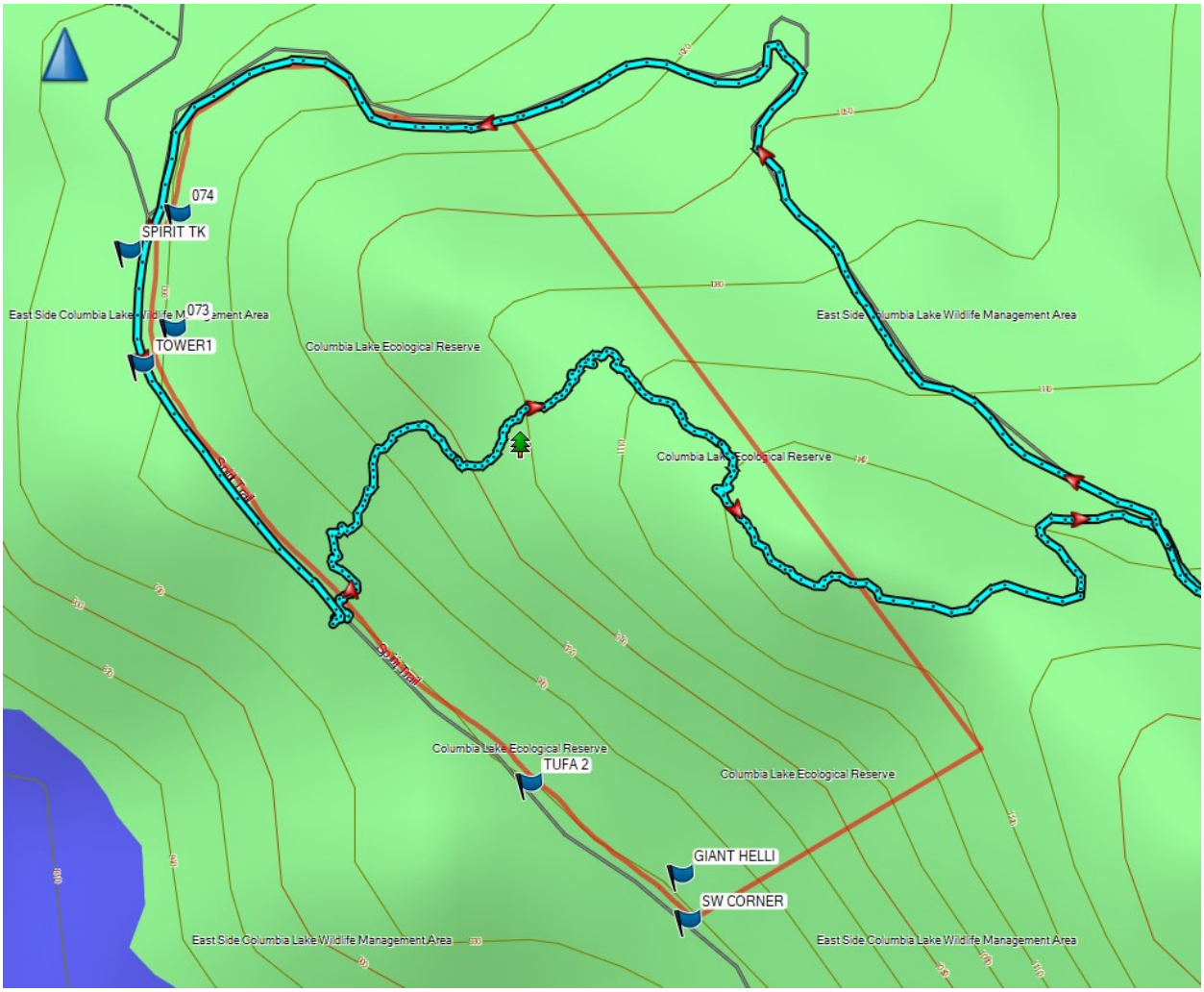


Figure 5: Map of ER Wardens' Travel Route on June 6, 2025. GPS route: 5.7 km.

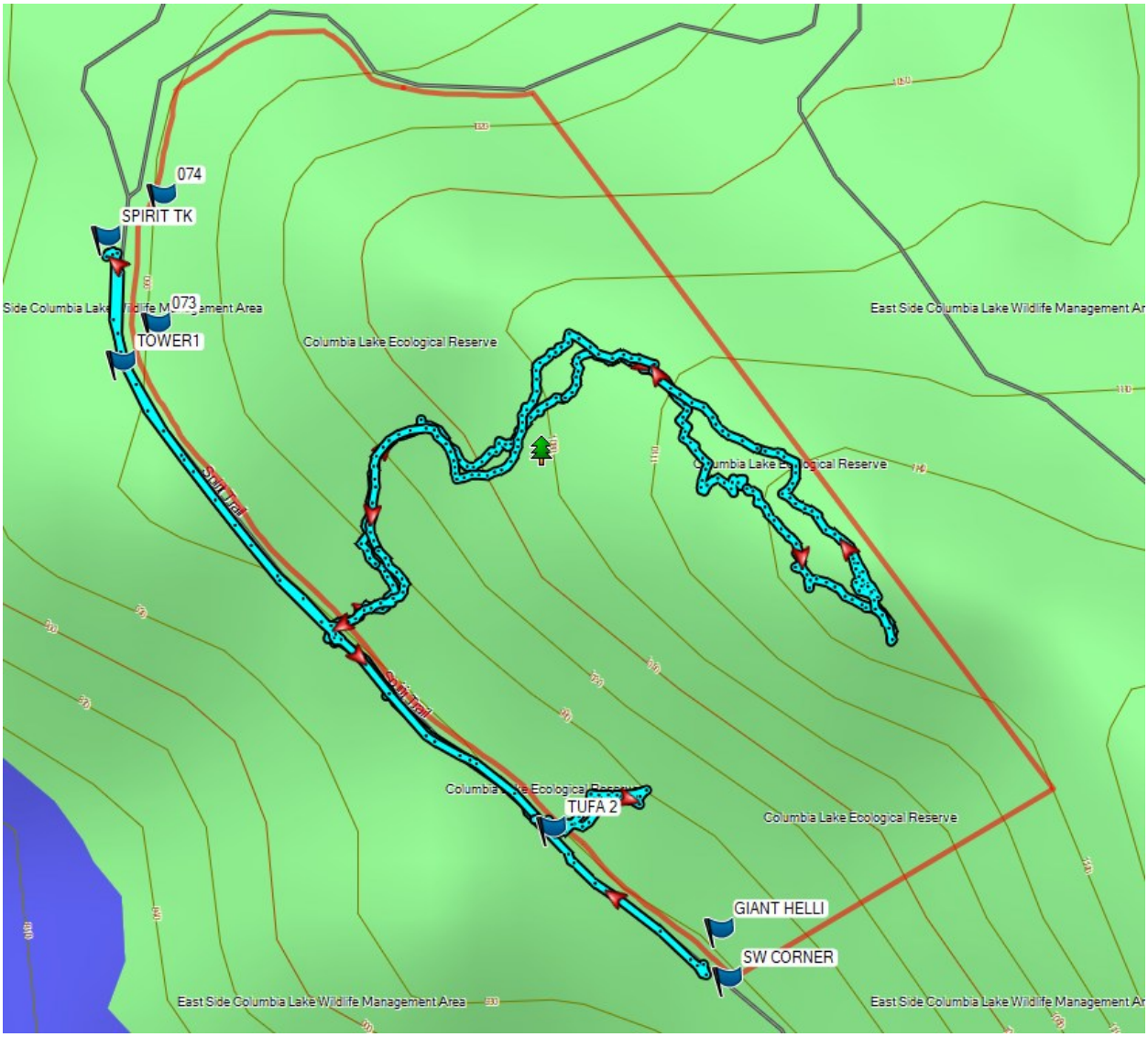


Figure 6: Map of ER Wardens' Travel Route on June 11, 2025. GPS route: 5.3 km.

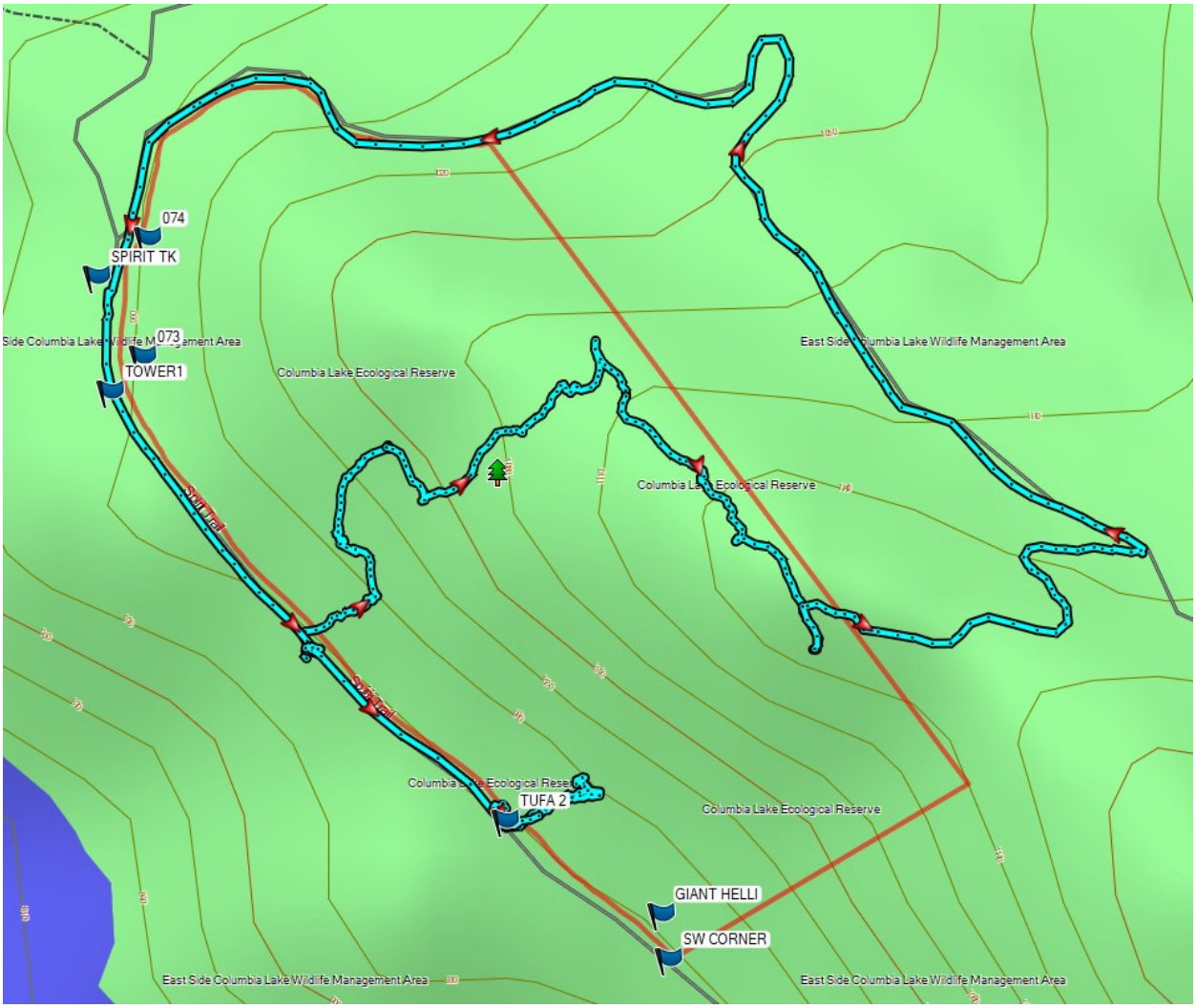


Figure 7: Map of ER Wardens' Travel Route on June 24, 2025. GPS route: 12.6 km (includes travel to and from the Mt. Sabine ER.)

Figure 8: Map of ER Wardens' Travel Route on July 11, 2025. GPS route: 4.3 km.

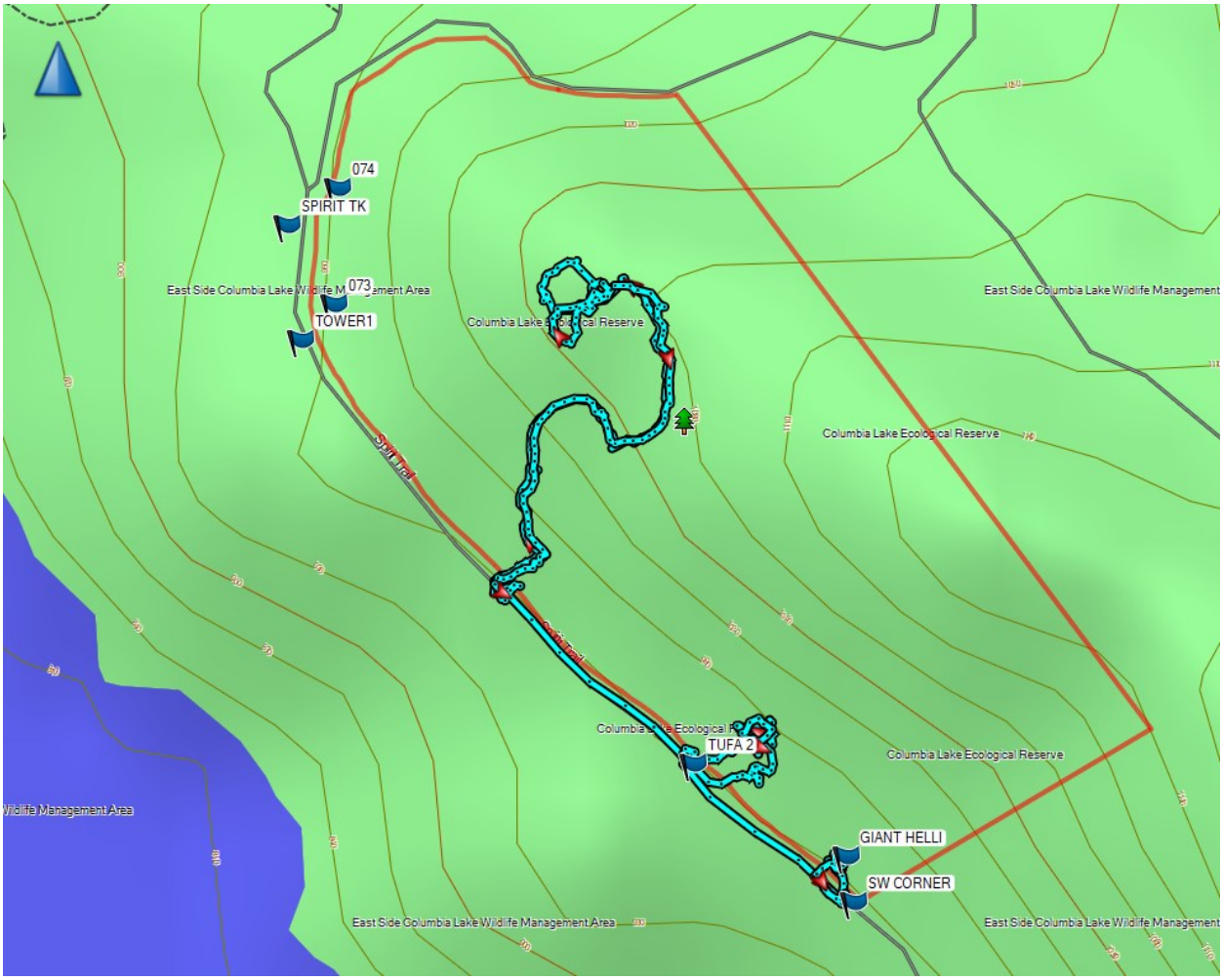


Figure 9: Map of ER Wardens' Travel Route on July 27, 2025. GPS route: 2.0 km.

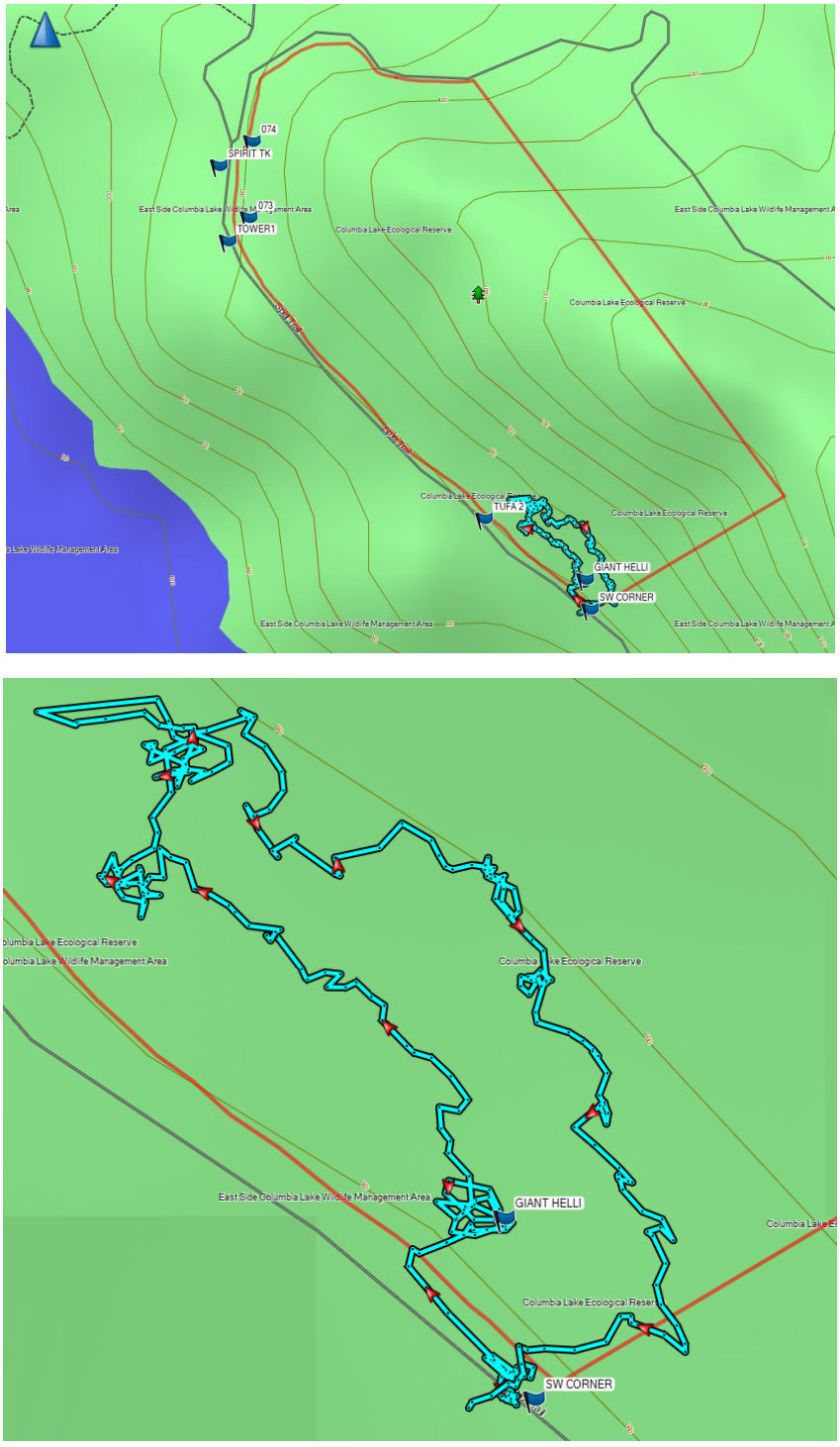


Figure 10: Map of ER Wardens' Travel Route on August 17, 2025. GPS route: 1.6 km. Camera 1 marks spot where camera trap established.

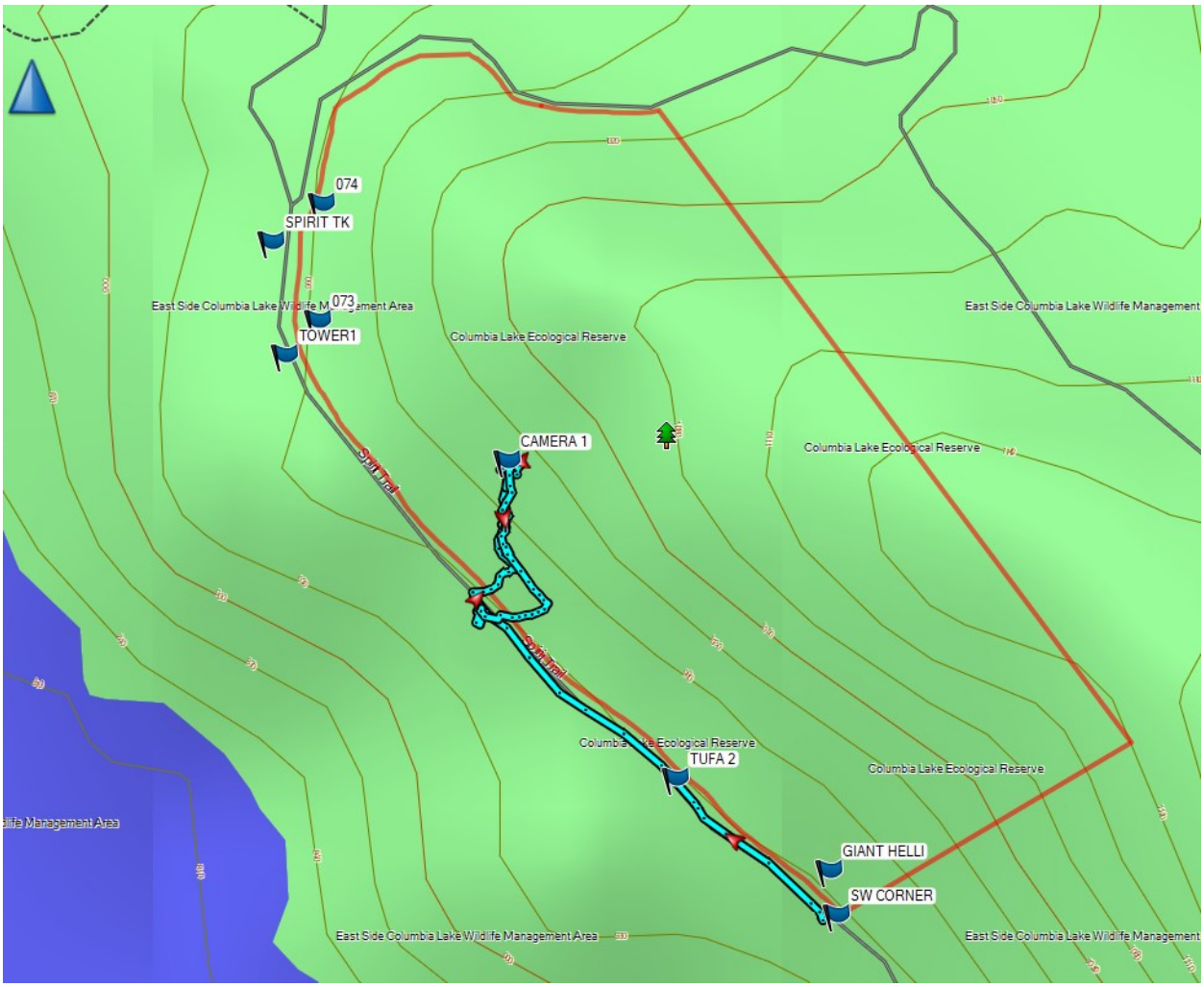


Figure 11: Map of ER Wardens' Travel Route on September 16, 2025. GPS route: 2.6 km. Camera 1 marks spot where camera trap established.

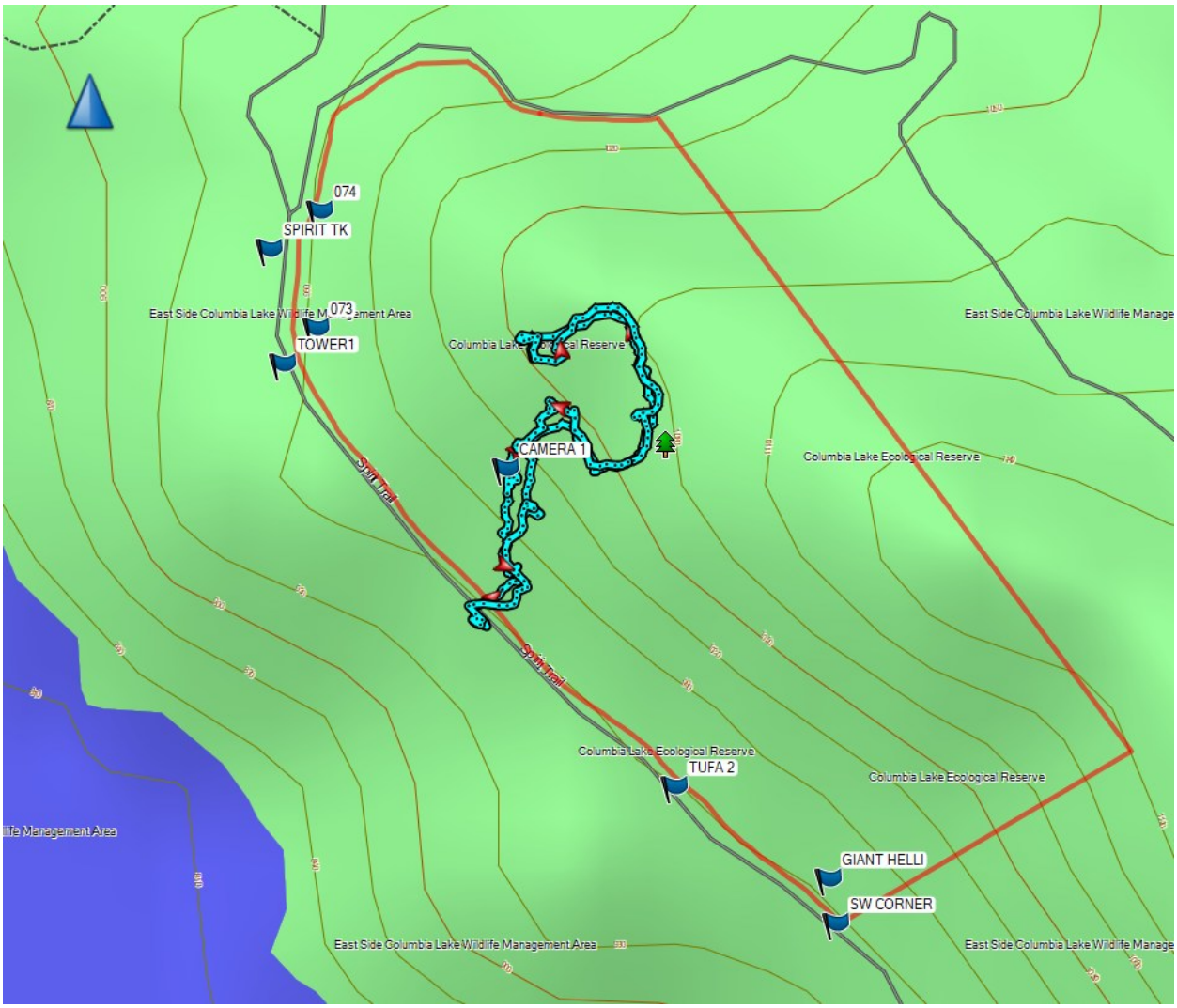
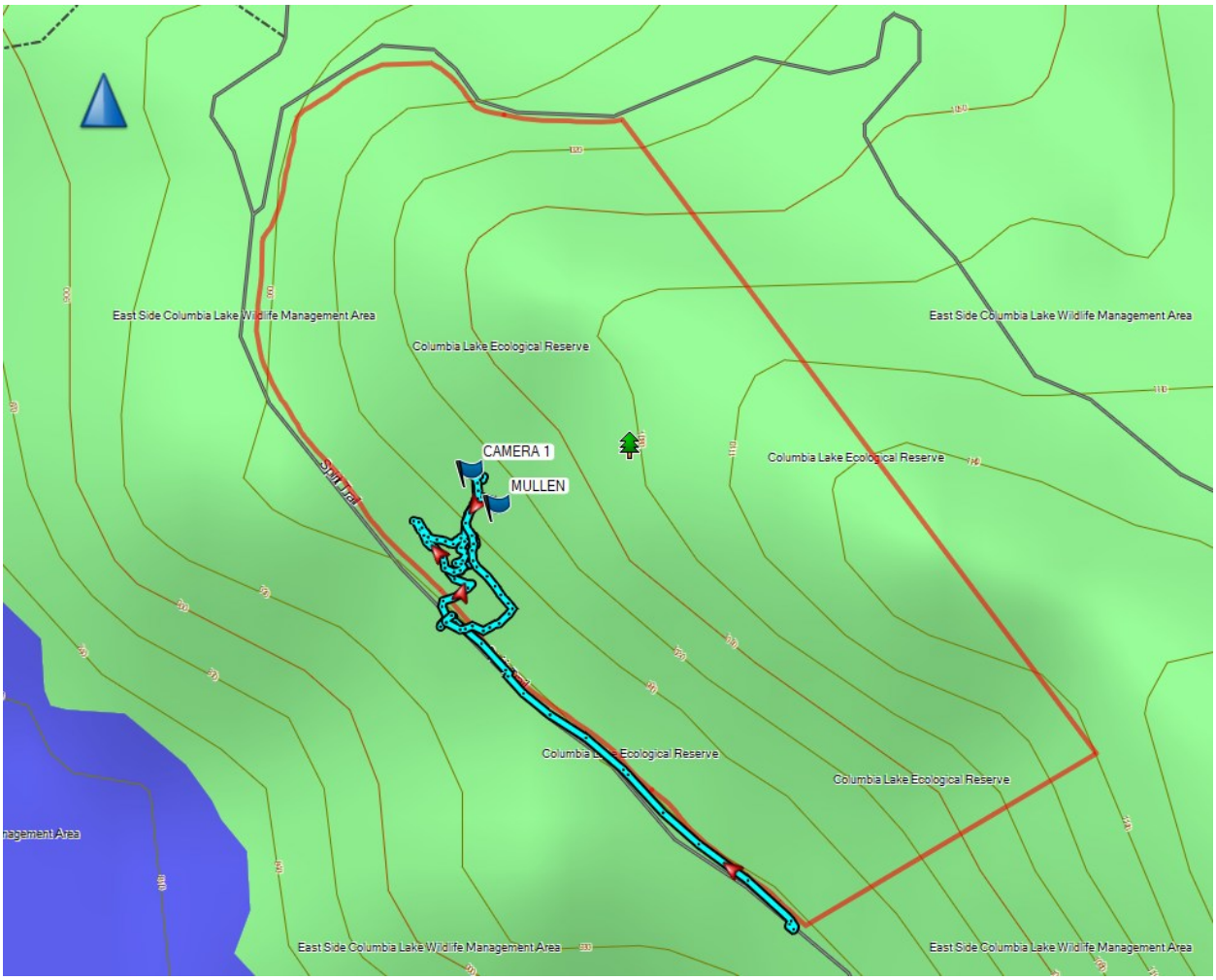


Figure 12: Map of ER Wardens' Travel Route on October 23, 2025. GPS route: 1.6 km. Camera 1 marks spot where camera trap established.



APPENDIX B: iNaturalist Observations in Columbia Lake Ecological Reserve

iNaturalist Statistics as of February 28, 2026 for Columbia Lake Ecological Reserve include:

- **No. of Observations:** 2674 observations up from 1657 in 2024, a 61% increase.
- **Research Grade:** 1672 observations or 63% were classified as research grade[6] (up from 869 or 53% in 2024), ~10% increase in confirmed identifications to this level.
- **Species Numbers:** 401 species confirmed (up from 342 in 2024), a 17% increase.
- **Identifiers:** 270 identifiers (up from 180 in 2024), a 50% increase, indicating greater interest in observations made in the Columbia Lake Ecological Reserve.
- **Observers:** 13 in total[7] including Jenny Feick and Ian Hatter.

Figure 13: Map of iNaturalist Observations in Columbia Lake Ecological Reserve (as of 28/02/26).

Areas without observations are largely in cliffy terrain where travel is extremely difficult.

Key to Observations

Green	Plant
Pink	Fungi or Lichen
Blue	Mammal
Red	Arthropod

[6] In iNaturalist, "Research Grade" is a designation for observations with a high-quality, community-verified identification, making them suitable for scientific research. To achieve this, an observation must have one or more photos and/or sounds, a valid date, accurate GPS location data, and a 2/3 majority consensus on identification at species level or lower, usually requiring at least two identifiers to agree on the identification.

[7] List of observers include Jenny Feick, Shane Johnson, Finn McGhee, Ian Hatter, Rebecca Reader-Lee, Abby Hyde, Jack Bindernagel, Lisa Pegura, Brett (brettxmccull7), Ian Adams, Yip van M (yipvanm), Annie Pumphrey, and Robyn (rangerrobyn). Names provided are from the iNaturalist profiles and indicate how individuals wish to be identified.

APPENDIX C: Fauna, Fungi and Flora of Columbia Lake Ecological Reserve (Common Name First)

This list includes both the common and scientific names for species observed during ten site visits in 2025 (in alphabetical order by common name). Names **in bold** refer to a change in 2025, usually a species or other taxonomic level first identified in 2025, but sometimes a name change. Names underlined refer to species that are designated as research grade by iNaturalist, (i.e. an observation considered reliable enough for scientific research). Names with an asterisk (*) refer to alien species. Names with two asterisks (**) refer to species at risk (i.e. vulnerable, threatened or endangered). Naming protocols follow iNaturalist and eBird. Names are listed in alphabetical order according to common name.

Animals	***Animalia***
Arthropods	***Arthropoda***
Myriapods (Centipedes and Millipedes)	***Myriapoda***
Diplopods (Millipedes)	***Diplopoda***
Barrel millipede*	***Cylindroiulus caeruleocinctus****
Round-backed millipede	Superorder *Juliformia*
Snake millipede	**Order *Julida***
Arachnids	***Arachnida***
Bowl-and-doily spider	*Frontinella pyramitela*
Cat-faced orbweaver	***Araneus gemmoides***
Entelegyne spider	Infra-order *Entelegynae*
Filmy dome spider	*Neriene radiata*
Gall and rust mite	*Eriophyes sp.*
Gall and rust mite	**Family *Eriophyidae***
Goldenrod crab spider	*Misumena vatia*
Ground crab spider	***Xysticus sp.***
Mesh weaver spider	Family *Dictynidae*
Orbweaver	**Superfamily *Araneoidea***
Plum finger gall mite	*Eriophyes emarginatae*
Proszynski's jumping spider	***Evarcha proszynskii***
Rocky Mountain maple felt mite	*Aceria calaceris*
Rocky Mountain wood tick	*Dermacentor andersoni*
Running crab spider	*Philodromus sp.*
Sheet-weaver spider	*Pityohyphantes sp.*
Slender crab spider	***Tibellus sp.***
Stealthy ground spider	***Gnaphosa sp.***
Velvet mite	Family *Erythraeidae*
Woodland jumping spider	***Complex Evarcha falcata***

Insects	*Insecta*
Adelgid	***Adelges sp.***
Ant	**Family *Formicidae***
Antlion	**Family *Myrmeleontidae***
Anthemid aphid	*Macrosiphoniella sp.*
Aphid ("black aphid")	Tribe *aphidini*
Aphid ("green aphid")	Family *aphididae*
Aphid ("red aphid")	Subfamily *aphidinae*
Armoured resin bee	***Heriades sp.***
Armoured resin bee	***Heriades* Subgenus *Neotrypetes***
Bee	Epifamily *anthophila*
Bee-mimic beetle	*Trichiotinus assimilis*
Bourdon à ceinture rouge	***Bombus rufocinctus***
Cicada	*Okanagana sp.*
Cicada	Subfamily *tibicininae*
Cicada	Subtribe *tibicinina*
Click beetle	*Prosternon bombycinum*
Crackling forest grasshopper	*Trimerotoropis verruculata*
Cyclorrhaphan fly	Infraorder *Cyclorrhapha*
Delicate cycnia moth	*Cycnia tenera*
Distinct lace bug	*Corythucha distincta*
Douglas fir adelgid	*Adelges cooleyi*
Douglas-fir beetle	***Dendroctonus pseudotsugae***
Fall webworm moth	*Hyphantria cunea*
False flower beetle	**Subfamily *Anaspidinae***
Field crescent butterfly	*Phyciodes pulchella*
Flood water mosquito	**Subgenus *Ochlerotatus***
Flower moth	*Landryia sp.*
Gall midge	*Blaesodiplosis sp.*
Gall wasp	***Periclistus sp.***
Great basin bumble bee	*Bombus centralis*
Hercules carpenter ant	*Camponotus herculeanus*
Hydaspe fritillary	***Argynnis hydaspe***
Ichneumonid/braconid wasp	Superfamily *Ichneumonoidea*
Ichneumonid wasp	Family *Ichneumonidae*
Impolite mound ant	*Formica subpolita*
Inland floodwater mosquito	*Aedes vexans*
Jewel beetle	*Anthaxia prasina*
Jewel beetle	Genus *Anthaxia*
Jewel beetle	**Subgenus *Melanthaxia***
Large daisy aphid	*Uroleucon sp.*
Leaf-miner fly	*Aulagromyza sp.*

Leaf-miner fly	Subfamily *Phytomyzinae*
Leaf miner fly	*Phytomyza sp.*
Leaf-miner fly	Complex *Phytomyza periclymeni* Superspecies
Lethal antlion	***Myrmeleon exitialis***
Long-legged fly	Family *Dolichopodidae*
Lorquin's admiral	*Himenitis lorquini*
Many-spined twig gall wasp	*Diplolepis spinosa*
Metallic sweat bee	**Genus *Lasioglossum,* Subgenus *Dialictus***
Metallic wood-boring beetle	**Genus *Anthaxia* Subgenus *Melanthaxia***
Morril lace bug	*Corythucha morrilli*
Moth fly	Subfamily *Psychodinae*
Mourning cloak butterfly	*Nymphalis antiopa*
Native dragonfly	*Aeshna sp.*
New world red bearded ant	***Formica neorufibarbis***
Nomad bee	*Nomada sp.*
None-biting midge	Family *Chironomidae*
None-biting midge	*Chironomus sp.*
None-biting midge	Subgenus *Chironomus*
North American spur-throated grasshopper	***Melanoplus sp.***
North American tarnished plant bug	***Lygus lineolaris***
Northern crescent butterfly	*Phyciodes cocyta*
Northern checkerspot butterfly	*Chlosyne palla*
Ornate checkered beetle	***Trichodes ornatuss***
Pit-trapping antlion	Tribe *Myrmeleontina*
Planthopper	Infraorder *Fulgoromorpha*
Plume moth	Subfamily *Pterophorinae*
Rabbitbrush stem gall moth	*Gnorimoschema octomaculella*
Short-faced bee	*Duporea sp.*
Simple wave moth	***Scopula junctaria***
Soldier beetle	*Rhagonycha sp.*
Spittlebug/froghopper	Superfamily *Ceracopoidea*
Two-tailed swallowtail	*Papilio multicaudata*
Turfgrass ant	***Lasius neoniger***
Typical bark beetle	*Scolytus sp.*
Typical cicadas	**Family *Cicadidae***
Typical weevil wasp	*Cerceris sp.*
Ugly-nest caterpillar moth	*Archips cerasivorana*
Uhler's stink bug	Subgenus *Chlorochroa*
Varigated meadow hawk	***Sympetrum corruptum***
Western black carpenter ant	*Camponotus modoc*
Western thatching ant	***Formica obscuripes***
Wood boring beetle	**Tribe *Agrilini***

Wood, mound, and field ant	***Formica sp.***
Wooly aphid	**Family *Adelgidae***

Chordates, Vertebrates	***Chordata, Vertebrata***
Birds	***Aves***
American crow	*Corvus brachyrhyncho*
American kestrel	*Falco sparverius*
American robin	*Turdus migratorius*
American three-toed woodpecker	***Picoides dorsalis***
Bald eagle	*Haliaeetus leucocephalus*
Barn swallow	***Hirundo rustica***
Black-billed magpie	*Pica hudsonia*
Black-capped chickadee	*Poecile atricapillus*
Canada goose	*Branta canadensis*
Cassin's vireo	*Vireo cassinii*
Cedar waxwing	***Bombycilla cedrorum***
Chipping sparrow	*Spizella passerina*
Clark's nutcracker	*Nucifraga columbiana*
Common nighthawk	*Chordeiles minor*
Common raven	*Corvus corax*
Dark-eyed junco	*Junco hyemalis*
Downy woodpecker	***Picoides pubescens***
Dusky flycatcher	*Empidonax oberhoiseri*
Falcon	*Falco sp.*
Golden-crowned kinglet	*Regulus satrapa*
Hairy woodpecker	***Leuconotopicus villosus***
Hammond's flycatcher	*Empidonax hammondii*
Hermit thrush	***Catharus guttatus***
Hummingbird	*Selasphorus sp.*
Lazuli bunting	***Passerina amoena***
MacGillivray's warbler	*Geothlypis tolmiei*
Merlin	***Falco columbarius***
Mountain chickadee	*Poecile gambeli*
Northern flicker	*Colaptes auratus*
Pileated woodpecker	*Dryocopus pileatus*
Pine grosbeak	***Pinicola enucleator***
Pine siskin	*Spinus pinus*
Red-breasted merganser	***Mergus serrator***
Red-breasted nuthatch	*Sitta canadensis*
Red-eyed vireo	***Vireo olivaceus***
Red-naped sapsucker	*Sphyrapicus nuchalis*
Red-tailed hawk	*Buteo jamaicensis*

Ruby-crowned kinglet	*Rugulus calendula*
Ruffed grouse	*Bonasa umbellus*
Rufous hummingbird	*Selasphorus rufus*
Spotted towhee	*Pipilo maculatus*
Swainson's thrush	*Catharus ustulatus*
Townsend's solitaire	*Myadestes townsendi*
Turkey vulture	*Cathartes aura*
Violet-green swallow	*Tachycineta thalassina*
Warbling vireo	*Vireo gilvus*
Western tanager	*Piranga ludoviciana*
Western wood peewee	***Contopus sordidulus***
Yellow-rumped warbler	*Setophaga coronata*

Mammals

Mammalia

American black bear	*Ursus americanus*
American red squirrel	*Tamiasciurus hudsonicus*
Bighorn sheep**	*Ovis canadensis***
Bushy-tailed woodrat	*Neotoma cinerea*
Least chipmunk	*Neotamias minimus*
Red fox	*Vulpes vulpes*
Rocky Mountain elk	*Cervus canadensis ssp. canadensis*
Rocky Mountain mule deer	*Odocoileus hemionus ssp. hemionus*
Snowshoe hare	*Lepus americanus*
Western chipmunk	*Neotamias sp.*
White-tailed deer	*Odocoileus virginianus*
Yellow-pine chipmunk	*Neotamias amoenus*

Fungi & Lichens

Non-lichenized fungi

Fungi

Fungi (Non-Lecanoromycetes)

Birch polypore	***Fomitopsis betulina***
Brittlegill	***Russula sp.***
Candle flame lichen	*Candelaria sp.*
Cedar-apple rust	*Gymnosporangium juniper-virginianae*
Cedar-hawthorn rust	*Gymnosporangium globosum*
Common gilled mushroom	Order *Agaricales*
Common gilled mushroom	Family *Omphalotaceae*
Conifer mazegill	***Gloeophyllum sepiarium***
Copper brittlegill	***Russula decolorans***
Corky bark disease	*Diplodia tumefaciens*
Earthstar	***Geastrum sp.***
Field/button mushroom	***Agaricus sp.***

Juniper broom rust	*Gymnosporangium nidus-avis*
Leaf curl fungi	*Taphrina sp.*
Lilac bonnet	*Mycena pura*
Map fungus	*Coccomyces dentatus*
Multiflora rose rust	*Phragmidium rosae-multiflorae*
Northern cinnabar polypore	***Trametes cinnabarina***
Orange-yellow rust	***Puccinia caricis-shepherdiae***
Pet-de-loup	**Family *Lycoperdaceae***
Pinelitter gingertail	*Xeromphalina cauticinalis*
Rose rust	***Phragmidium mucronatum***
Russet scaly tricholoma	***Tricholoma vaccinum***
Rust fungi	Order *Pucciniales*
Rust fungi	*Phragmidium sp.*
Rustgill/gym**	***Gymnopilus sp.****
Snowmelt clitocybe**	***Clitocybe albirhiza****
Spruce witch's broom rust	*Chrysomyxa arctostaphyli*
Stocked hairy fairy cup	*Lachnum birgineum*
Tarspot fungus	*Rhytisma arbuti*
Tinder polypore	***Fomes excavatus***
Turkey-tail	***Trametes sp.***
Veiled polypore	*Cryptoporus volvatus*

Lichens

	Lecanoromycetes
Alternating dog lichen	***Peltigera didactyla***
Antlered powderhorn	***Cladonia subulata***
Beard lichen	*Usnea sp.*
Black-eye lichen	*Tephromela atra*
Black-eyed rosette lichen	***Physcia phaea***
Blue-gray rosette lichen	*Physcia caesia*
Bristly beard lichen	*Usnea hirta*
Blushing scale lichen	*Psora decipiens*
Bottlebrush frost lichen**	*Physconia detersa**
Drummond's rock pimple lichen	***Staurothele drummondii***
Effervescent tarpaper lichen	***Collema furfuraceum***
Elegant sunburst lichen	*Rusavskia elegans*
Fishscale lichen	***Psora sp.***
Gold cobblestone lichen	*Pleopsidium flavum*
Hairy shadow lichen	***Phaeophyscia hirsuta***
Hooded tube lichen	***Hypogymnia physodes***
Horsehair lichen	*Bryoria sp.*
Lapland beard lichen	*Usnea perplexans*
Leather lichen	*Dermatocarpon miniatum*

Lesser sulphur-cup lichen	***Cladonia deformis***
Lung lichen	*Lobaria sp.*
Mealy pixie cup	*Cladonia chlorophaea*
Mountain wolf lichen	*Letharia lupina*
Netted shield lichen	***Parmelia sulcata***
Orange rock posy	***Physcia phaea***
Pebbled pixie cup	*Cladonia pyxidata*
Pelt lichen	*Peltigera sp.*
Pixie cup/reindeer lichen	*Cladonia sp.*
Powder-tipped rosette lichen	*Physeia dubia*
Powdery sunburst lichen	*Xanthomendoza ulophyllodes*
Rock whitewash	***Phlyctis petraea***
Rosette/frost lichen	**Family *Physciacae***
Rosette lichen	***Physcia sp.***
Rosette pixie-cup lichen	***Cladonia pocillum***
Salted shield lichen	***Parmelia saxatilis***
Shield lichen	*Parmelia sulcata*
Smooth-footed powderhorn	*Cladonia ochrochlora*
Split-peg lichen	*Cladonia cariosa*
Sugared sunburst lichen	*Rusavskia sorediata*
Sunburst lichen	**Order *Teloschistales***
Sunburst lichen/firedot	**Subfamily *Xanthorioideae***
Sunken disk lichen	***Aspicilia sp.***
Trumpet lichen	*Cladonia fimbriata*
Veinless pelt lichen	*Peltigera malacea*
Witch's hair	*Alectoria sarmentosa*
Wolf lichen	***Letharia sp.***
Wolf lichen	*Letharia vulpina*

Plants	***Plantae***
Cryptogams (no seeds)	***Cryptogamae (no seeds)***
Bryophytes	***Bryophyta***
Bristle moss	**Family *Orthotrichaceae***
Bristle-moss	***Pulvigera sp.***
Bristly haircap moss	***Polytrichum piliferum***
Brocade moss	***Callicladium imponens***
Brook-moss	***Hygrohypnum sp.***
Bryum moss	**Family *Bryaceae***
Bud-headed groove-moss	*Aulacomnium androgynum*
Claw-leaved hook-moss	***Palustriella falcata***
Feather moss	***Brachythecium sp.***

Feather moss	**Order *Hypnales***
Fern-leaved hook-moss	*Cratoneuron filicinum*
Fir tamarisk-moss	*Abietinella abietina*
Forkmoss	***Dicranum sp.***
Fragile fork-moss	*Dicranum tauricum*
Grimmia dry rock moss**	*Grimmia laevigata***
Homalothecium moss	*Homalothecium sp.*
Hook-moss	***Drepanocladus sp.***
Hypnum moss	**Family *Hypnaceae***
Joint-toothed moss	**Family *Bartramiaceae***
Joint-toothed moss	Family *Pottiaceae*
Joint-toothed moss	***Ptychostomum sp.***
Joint-toothed moss	**Class *Bryopsida***
Kneiff's hook-moss	***Drepanocladus aduncus***
Red-stemmed feather moss	*Pleurozium schreberi*
Revolute hypnum moss	***Roaldia revoluta***
Rhizomnium moss	*Rhizomnium glabrescens*
Rock moss	*Schistionium sp.*
Scorpion moss	***Scorpidium sp.***
Sessile grimmia	***Schistidium apocarpum***
Smooth-stalk feather-moss	***Brachythecium salebrosum***
Spreading-leaved grimmia	***Grimmia ramondii***
Stairstep moss	*Hylocomium splendens*
Star moss	*Syntrichia ruralis*
Tangled thread moss	***Hygroamblystegium varium***
Thyme moss	*Plagiomnium sp.*
Thyme-moss	**Family *Mniaceae***
Twisted moss	**Complex *Tortella tortuosa***
Whitish feather moss	***Brachythecium albicans***
Woodsy thyme-moss	*Plagiomnium cuspidatum*

Ferns and Fern Allies — *Pteridophyta*

Cliff fern	***Woodsia sp.***
Cliffbrake	***Pellaea sp.***
Fee's lip fern	*Myriopteris gracilis*
Field horsetail	*Equisetum arvense*
Fragile fern	*Cystopteris fragilis*
Gastony's Cliffbrake**	*Pellaea gastonyi***
Horsetail	*Equisetum sp.*
Oregon woodsia	*Woodsia oregana*
Rocky Mountain woodsia	*Woodsia scopulina*
Rough horsetail	***Equisetum hyemale***

Simple cliffbrake**	*Pellaea glabella simplex***
Smooth cliffbrake**	*Pellaea glabella***
Western scouringrush	***Equisetum hyemale* ssp. *affini***
Phanaerogams (has seeds)	***Phanaerogamae (has seeds)***
Gymnosperms (no flowers)	***Gymnosperma (no flowers)***
Common juniper	*Juniperus communis*
Creeping juniper	*Juniperus horizontalis*
Douglas-fir	*Pseudotsuga menziesii*
Interior spruce	***Picea albertiana***
Juniper	*Juniperus sp.*
Limber pine**	*Pinus flexilis***
Western ponderosa pine	*Pinus ponderosa*
Rocky Mountain juniper	*Juniperus scopulorum*
Rocky Mountains Douglas-fir	*Pseudotsuga menziesii glauca*
White spruce	*Picea glauca*
Angiosperms (has flowers)	***Angiospermae (has flowers)***
Alfalfa*	*Medicago sativa**
Alaskan bellflower	*Campanula alaskana*
American aster	***Symphyotrichum sp.***
American groundsel/ragwort	*Packera sp.*
Arrowleaf balsamroot	*Balsamorhiza sagittata*
Aster	*Subfamily Asteroideae*
Aster	***Tribe Astereae***
Balsam ragwort	*Packera paupercula*
Bastard toadflax	*Comandra umbellata*
Bearberry	*Arctostaphylos uva-ursi*
Beardtongue	*Penstemon sp.*
Beautiful sedge	*Carex concinna*
Bicolor sedge	*Carex Sect. bicolores*
Big rough fescue	***Festuca campestris***
Bigseed biscuitroot	*Lomatium macrocarpum*
Blazingstar	*Mentzelia sp.*
Black cottonwood	*Populus trichocarpa*
Bluebunch wheatgrass	*Pseudoroegneria spicata*
Blue wild rye	***Elymus glacus***
Bog orchid	*Platanthera sp.*
Bonneville shooting star	***Primula conjugens***
Boreal sage	***Artemisia borealis***
Boreal sweet-vetch	***Hedysarum boreale***
Bull thistle*	***Cirsium vulgare****

Bulrush sedge	*Carex scirpoidea*
Bush penstemon	*Penstemon fruticosus*
Butterwort	***Pingicula sp.***
Caespitose fleabane	*Erigeron caespitosus*
Canada bluegrass*	***Poa compressa****
Canada hawkweed	*Hieracium umbellatum*
Canadian bluejoint	*Calamagrostis canadensis*
Canadian buffalo-berry	*Sheperdia canadensis*
Canadian gooseberry	*Ribes oxyacanthoides*
Carrotleaf biscuitroot	*Lomatium multifidum*
Cheatgrass*	*Bromus tectorum**
Choke cherry	*Prunus virginiana*
Cinquifoil	***Potentilla sp.***
Coast goldenrod	***Solidago spathulata***
Common blue lettuce	*Lactuca pulchella*
Common butterwort	*Pinguicula vulgaris*
Common dandelion*	*Taraxacum officinale**
Common gaillardia	*Gaillardia aristata*
Common lambsquarters*	*Chenopodium album**
Common mullein*	*Verbascum thapsus**
Common snowberry	*Symphoricarpos albus*
Common yarrow	*Achillea millefolium*
Cool-season grass	**Subfamily *Pooideae***
Creeping mahonia	*Berber repens*
Crested-tongue beardtongue	*Penstemon eriantherus*
Cutleaf anemone	*Anemone multifida*
Cut-leaf fleabane	*Erigeron compositus*
Dandelion*	***Taraxacum sp.****
Dark-throated shooting star	*Primula pauciflora*
Douglas' bladderpod	*Physaria douglasii*
Dropseed rockcress	***Boechera pendulocarpa***
Elegant goldenrod	*Solidago lepida*
Englemann's aster	*Dogllingeria englemannii*
False goldenaster	*Heterotheca sp.*
Fescues	*Festuca sp.*
Field locoweed	*Oxytropis campestris*
Field sagewort	*Artemisia campestris*
Fleabane	***Erigeron sp.***
Foothill deathcamas	***Toxicoscordion paniculatum***
Fragrant bedstraw	***Galium triflorum***
Fremont's goosefoot	*Chenopodium fremontii*
Fringed brome	***Bromus ciliatus***

Fringed sagebrush	*Artemisia frigida*
Giant red paintbrush	***Castilleja miniata***
Glaucous honeysuckle	*Lonicera dioica*
Golden corydalis	*Corydalis aurea*
Golden sedge	*Carex aurea*
Grayleaf willow	*Salix glauca*
Great Basin wildrye	*Leymus cinereus*
Green alder	*Alnus alnobetula*
Green-band mariposa lily	***Calochortus macrocarpus var. macrocarpus***
Green bog orchid	*Platanthera huronensis*
Green-flowered wintergreen	*Pyrola chlorantha*
Greene's mountain ash	*Sorbus scopulina*
Groundsels	*Senecio sp.*
Hardy slipper orchid	***Cypripedium sp.***
Hawksbeard	***Crepis sp.***
Hair-like sedge	*Carex capillaris*
Hairy false goldenaster	*Heteroheca villosa*
Heartleaf arnica	*Arnica cordifolia*
Hemp dogbane	*Apocynum cannabinum*
Hillside arnica	*Arnica fulgens*
Honeysuckle	***Lonicera sp.***
Hooker's pussytoes	***Antennaria racemosa***
Hooker's thistle	*Cirsium hookerianum*
Hookedspur violet	*Viola adunca*
Horned butterwort	*Pinguicula macroceras*
Inland sedge	*Carex interior*
Lanceleaf stonecrop	*Sedum lanceolatum*
Leafy aster	*Symphyotrichum foliaceum*
Lewis flax*	*Linum lewisii**
Lindley's aster	*Symphyotrichum ciliolatum*
Linearleaf phacelia	*Phacelia linearis*
Locoweed	*Oxytrotis sp.*
Longleaf fleabane	***Erigeron corymbosus***
Low milkvetch	*Astragalus lotiflorus*
Low pussytoes	***Antennaria dimorpha***
Kalm's lobelia	*Lobelia kalmii*
Knapweed*	*Centaurea sp.**
MacKenzie's willow	***Salix prolixa***
Maryland sanicle	*Sanicula marilandica*
Matte saxifrage	*Saxifraga bronchialis*
Meadow deathcamas	*Toxicoscordion venenosum*
Meadow-rue	*Thalictrum sp.*

Menzies' catchfly	*Silene menziesii*
Missouri goldenrod	*Solidago missouriensis*
Mountain ash	*Sorbus sp.*
Mountain deathcamas	*Anticlea elegans*
Mountain tansymustard	***Descurainia incisa***
Narrow-leaved hawksbeard*	***Crepis tectorum****
Narrow-leaved wirelettuce	*Stephanomeria tenuifolia*
Nodding onion	*Allium cernuum*
North wind bog orchid	*Platanthera aquilonis*
Northern bedstraw	*Galium boreale*
Northern bog sedge	*Carex alascana*
Northern bog violet	*Viola nephrophylla*
Northern comandra	*Geocaulon lividum*
Northern goldenrod	*Solidago multiradiata*
Northern paintbrush	***Castilleja septentrionalis***
Northern sweetgrass	*Anthoxanthum hirtum*
Northern stickseed	***Hackelia deflexa***
Northwestern sedge	***Carex concinnoides***
Northwestern wild rye	*Leymus innovates*
Oregon grape	*Berberis aquifolium*
Oxeye daisy*	*Leucanthemun vulgare**
Paintbrush	*Castilleja sp.*
Paintbrush hybrid	***Castilleja miniata x C. septentrionalis***
Paintbrush hybrid	***Castilleja septentrionalis x C. rhexiifolia***
Paintbrush hybrid	***Castilleja septentrionalis x C. purpurascens***
Paper birch	*Betula papyrifera*
Perennial sow thistle*	*Sonchus arvensis**
Pine reed grass	*Calamagrostis rubescens*
Pipsissewa	*Chimaphila umbellate*
Prairie cinquefoil	*Potentilla pensylvanica*
Prairie junegrass	*Koeleria macrantha*
Prairie pasqueflower	*Pulsatilla nuttalliana*
Prairie smoke	*Geum triflorum*
Purple clematis	*Clematis occidentalis*
Pussytoes	***Antennaria sp.***
Red baneberry	*Actaea rubra*
Red osier dogwood	*Cornus sericea*
Red-seeded dandelion*	***Taraxacum erythrospermum****
Reflexed rockcress	*Boechera retrofracta*
Rhexia-leaved paintbrush	*Castilleja rhexiifolia*
Rocky Mountain groundsel	*Packera streptanthifolia*
Rocky Mountain maple	*Acer glabrum*

Rosier acicularie	***Rosa acicularis***
Rosy pussytoes	*Antennaria rosea*
Rough-fruited fairybells	*Prosartes trachycarpa*
Roundleaf alumroot	*Heuchera cylindrica*
Rubber rabbitbrush	*Ericameria nauseosa*
Sagebrush mariposa lily	*Calochortus macrocarpus*
Sand ricegrass	*Eriocoma hymenoides*
Saskatoon	*Amelanchier alnifolia*
Shaggy fleabane	*Erigeron pumilus*
Sheathed sedge	*Carex vaginata*
Shinyleaf meadowsweet	*Spirea lucida*
Shooting star	*Primula sp.*
Short-fruit willow	*Salix brachycarpa*
Showy aster	*Eurybia conspicua*
Shrubby cinquefoil	*Dasiphora fruticosa*
Silverleaf phacelia	*Phacelia hastata*
Slender bog orchid	*Platanthera stricta*
Slender hawksbeard	*Crepis atribarba*
Slender wheatgrass	***Elymyus trachycaulus***
Small-leaf pussytoes	*Antennaria parvifolia*
Small round-leaved orchid	*Galearis rotundifolia*
Smooth blue aster	*Symphyotrichum laeve*
Smooth fleabane	*Erigeron glabellus*
Snowberry	***Symphoricarpos sp.***
Sow thistle*	*Sonchus sp.**
Spreading dogbane	*Apocynum androsaemifolium*
Spike trisetum	*Koeleria spicata*
Starry false Solomon's-seal	*Maianthernum stellatum*
Sticky goldenrod	*Solidago simplex*
Stream orchid**	*Epipactis gigantea***
Strict blue-eyed grass	*Sisyrinchium montanum*
Striped coralroot	*Corallorhiza striata*
Subalpine fleabane	*Erigeron glacialis*
Sutherland's larkspur	*Delphinium southerlandii*
Swamp meadow-grass	*Poa palustris*
Tall goldenrod*	*Solidago altissima**
Ternate desert-parsley	*Lomatium triternatum*
Thread-leaf fleabane	*Erigeron filifolius*
Timber milkvetch	*Astragalus miser*
Timothy grass*	*Phleum pretense**
Trembling aspen	*Populus tremuloides*
True sedge	*Carex sp.*

Tufted hair grass	*Deschampsia cespitosa*
Twinberry honeysuckle	*Lonicera involucrata*
Twinflower	*Linnaea borealis*
Two-rowed stickseed*	***Lappula squarrosa****
Umber pussytoes	*Antennaria umbrinella*
Umbrella desert-parsley	***Lomatium simplex***
Utah honeysuckle	***Lonicera utahensis***
Veiny meadow-rue	*Thalictrum venulosum*
Violet	***Viola sp.***
Virginia strawberry	*Fragaria virginiana*
Water birch	*Betula occidentalis*
Wavyleaf thistle	*Cirsium undulatum*
Western aster**	***Symphyotrichum ascendens****
Western fescue	*Festuca occidentalis*
Western meadow aster	*Symphyotrichum campestre*
Western meadow-rue	*Thalictrum occidentale*
Western paintbrush	*Castilleja oxidentalis*
Western poison ivy	*Toxicodendron rydbergii*
Western rattlesnake plantain	*Goodyera oblongifolia*
Western snowberry	*Symphoricarpos occidentalis*
Western sticky goldenrod	*Solidago spathulata ssp. glutinosa*
Western stoneseed	*Lithospermum ruderale*
Western white clematis	*Clematis ligusticifolia*
White bog orchid**	***Platanthera dilatata****
White-grained mountain ricegrass	*Oryzopsis asperifolia*
White-margined goldenrod	***Solidago Subsect. humiles***
White-point vetch	***Oxytropis sericea***
White prairie aster	*Symphyotiachum falcatum*
White sweet clover*	*Meliotus alba**
Whitestem blazingstar	***Mentzelia albicaulis***
Wild buckwheat	*Eriogonum sp.*
Wild lettuces	*Lactuca sp.*
Wild sarsaparilla	*Aralia nudicaulis*
Wood lily	*Lilium philadelphicum*
Wood whitlow-grass	***Draba nemorosa***
Woods' rose	*Rosa woodsii*
Woolly groundsel	*Packera cana*
Woolly yarrow	***Achillea borealis***
Wormwood/Sagebrush	***Artemisia sp.***
Yellow beardtongue	*Penstemon confertus*
Yellow lady's slipper	*Cyparipedium parviflorum*
Yellow salsify*	*Tragopogon dubius**

Yellow-spot saxifrage	*Saxifraga bronchialis austromontana*
Yoho paintbrush	*Castilleja purpurascens*

APPENDIX D: Fauna, Fungi and Flora of Columbia Lake Ecological Reserve (Scientific Name First)

This list includes both the scientific and common names for species observed during ten site visits in 2025 (in alphabetical order by scientific name). Names **in bold** refer to a change in 2025, usually a species or other taxonomic level first identified in 2025, but sometimes a name change. Names underlined refer to species that are designated as research grade by iNaturalist, (i.e. an observation considered reliable enough for scientific research). Names with an asterisk (*) refer to alien species. Names with two asterisks (**) refer to species at risk (i.e. vulnerable, threatened or endangered). Naming protocols follow iNaturalist and eBird. Names are listed in alphabetical order according to scientific name.

Animalia	**Animals**
Arthropoda	**Arthropods**
Myriapoda	**Myriapods (Centipedes and Millipedes)**
Diplopoda	**Diplopods (Millipedes)**
Cylindroiulus caeruleocinctus*	**Barrel millipede***
Order *Julida*	**Snake millipede**
Superorder *Juliformia*	Round-backed millipede
Arachnida	**Arachnids**
Aceria calaceris	Rocky Mountain maple felt mite
Araneus gemmoides	**Cat-faced orbweaver**
Complex Evarcha falcata	**Woodland jumping spider**
Dermacentor andersoni	Rocky Mountain wood tick
Eriophyes emarginatae	Plum finger gall mite
Eriophyes sp.	Gall and rust mite
Evarcha proszynskii	**Proszynski's jumping spider**
Family *Dictynidae*	Mesh weaver spider
Family *Eriophyidae*	**Gall and rust mite**
Family *Erythraeidae*	Velvet mite
Frontinella pyramitela	Bowl-and-doily spider
Gnaphosa sp.	**Stealthy ground spider**
Infra-order *Entelegynae*	Entelegyne spider
Misumena vatia	Goldenrod crab spider
Neriene radiata	Filmy dome spider
Philodromus sp.	Running crab spider
Pityohyphantes sp.	Sheet-weaver spider
Superfamily *Araneoidea*	**Orbweaver**
Tibellus sp.	**Slender crab spider**
Xysticus sp.	**Ground crab spider**

Insecta	Insects
Adelges cooleyi	Douglas fir adelgid
Adelges sp.	**Adelgid**
Aedes vexans	Inland floodwater mosquito
Aeshna sp.	Native dragonfly
Anthaxia prasina	Jewel beetle
Archips cerasivorana	Ugly-nest caterpillar moth
Argynnis hydaspe	**Hydaspe fritillary**
Aulagromyza sp.	Leaf-miner fly
Blaesodiplosis sp.	Gall midge
Bombus centralis	Great basin bumble bee
Bombus rufocinctus	**Bourdon à ceinture rouge**
Camponotus herculeanus	Hercules carpenter ant
Camponotus modoc	Western black carpenter ant
Cerceris sp.	Typical weevil wasp
Chironomus sp.	None-biting midge
Chlosyne palla	Northern checkerspot butterfly
Complex *Phytomyza periclymeni* Superspecies	Leaf-miner fly
Corythucha distincta	Distinct lace bug
Corythucha morrilli	Morril lace bug
Cycnia tenera	Delicate cycnia moth
Dendroctonus pseudotsugae	**Douglas-fir beetle**
Diplolepis spinosa	Many-spined twig gall wasp
Duporea sp.	Short-faced bee
Epifamily *anthophila*	Bee
Family *Adelgidae*	**Wooly aphid**
Family *aphididae*	Aphid ("green aphid")
Family *Chironomidae*	None-biting midge
Family *Cicadidae*	**Typical cicadas**
Family *Dolichopodidae*	Long-legged fly
Family *Formicidae*	**Ant**
Family *Ichneumonidae*	Ichneumonid wasp
Family *Myrmeleontidae*	**Antlion**
Formica neorufibarbis	**New world red bearded ant**
Formica obscuripes	**Western thatching ant**
Formica sp.	**Wood, mound, and field ant**
Formica subpolita	Impolite mound ant
Genus *Anthaxia*	Jewel beetle
Genus *Anthaxia* Subgenus *Melanthaxia*	**Metallic wood-boring beetle**
Genus *Lasioglossum,* Subgenus *Dialictus*	**Metallic sweat bee**
Gnorimoschema octomaculella	Rabbitbrush stem gall moth
Heriades sp.	**Armoured resin bee**

Heriades* Subgenus *Neotrypetes	**Armoured resin bee**
Himenitis lorquini	Lorquin's admiral
Hyphantria cunea	Fall webworm moth
Infraorder *Cyclorrhapha*	Cyclorrhaphan fly
Infraorder *Fulgoromorpha*	Planthopper
Landryia sp.	Flower moth
Lasius neoniger	**Turfgrass ant**
Lygus lineolaris	**North American tarnished plant bug**
Macrosiphoniella sp.	Anthemid aphid
Melanoplus sp.	**North American spur-throated grasshopper**
Myrmeleon exitialis	**Lethal antlion**
Nomada sp.	Nomad bee
Nymphalis antiopa	Mourning cloak butterfly
Okanagana sp.	Cicada
Papilio multicaudata	Two-tailed swallowtail
Periclistus sp.	**Gall wasp**
Phyciodes cocyta	Northern crescent butterfly
Phyciodes pulchella	Field crescent butterfly
Phytomyza sp.	Leaf miner fly
Prosternon bombycinum	Click beetle
Rhagonycha sp.	Soldier beetle
Scolytus sp.	Typical bark beetle
Scopula junctaria	**Simple wave moth**
Subfamily *Anaspidinae*	**False flower beetle**
Subfamily *Aphidinae*	Aphid ("red aphid")
Subfamily *Phytomyzinae*	Leaf-miner fly
Subfamily *Psychodinae*	Moth fly
Subfamily *Pterophorinae*	Plume moth
Subfamily *Tibicininae*	Cicada
Subgenus *Chironomus*	None-biting midge
Subgenus *Chlorochroa*	Uhler's stink bug
Subgenus *Melanthaxia*	**Jewel beetle**
Subgenus *Ochlerotatus*	**Flood water mosquito**
Subtribe *tibicinina*	Cicada
Superfamily *Ceracopoidea*	Spittlebug/froghopper
Superfamily *Ichneumonoidea*	Ichneumonid/braconid wasp
Sympetrum corruptum	**Varigated meadow hawk**
Tribe *Myrmeleontina*	Pit-trapping antlion
Tribe *Agrilini*	**Wood boring beetle**
Tribe *aphidini*	Aphid ("black aphid")
Trichiotinus assimilis	Bee-mimic beetle
Trichodes ornatuss	**Ornate checkered beetle**

Trimerotoropis verruculata	Crackling forest grasshopper
Uroleucon sp.	Large daisy aphid

Chordata, Vertebrata
Aves

Chordates, Vertebrates
Birds

Bombycilla cedrorum	**Cedar waxwing**
Bonasa umbellus	Ruffed grouse
Branta canadensis	Canada goose
Buteo jamaicensis	Red-tailed hawk
Cathartes aura	Turkey vulture
Catharus guttatus	**Hermit thrush**
Catharus ustulatus	Swainson's thrush
Chordeiles minor	Common nighthawk
Colaptes auratus	Northern flicker
Contopus sordidulus	**Western wood peewee**
Corvus brachyrhyncho	American crow
Corvus corax	Common raven
Dryocopus pileatus	Pileated woodpecker
Empidonax hammondii	Hammond's flycatcher
Empidonax oberhoiseri	Dusky flycatcher
Falco columbarius	**Merlin**
Falco sp.	Falcon
Falco sparverius	American kestrel
Geothlypis tolmiei	MacGillivray's warbler
Haliaeetus leucocephalus	Bald eagle
Hirundo rustica	**Barn swallow**
Junco hyemalis	Dark-eyed junco
Leuconotopicus villosus	**Hairy woodpecker**
Mergus serrator	**Red-breasted merganser**
Myadestes townsendi	Townsend's solitaire
Nucifraga columbiana	Clark's nutcracker
Passerina amoena	**Lazuli bunting**
Pica hudsonia	Black-billed magpie
Picoides dorsalis	**American three-toed woodpecker**
Picoides pubescens	**Downy woodpecker**
Pinicola enucleator	**Pine grosbeak**
Pipilo maculatus	Spotted towhee
Piranga ludoviciana	Western tanager
Poecile atricapillus	Black-capped chickadee
Poecile gambeli	Mountain chickadee
Regulus satrapa	Golden-crowned kinglet
Rugulus calendula	Ruby-crowned kinglet

Selasphorus rufus	Rufous hummingbird
Selasphorus sp.	Hummingbird
Setophaga coronata	Yellow-rumped warbler
Sitta canadensis	Red-breasted nuthatch
Sphyrapicus nuchalis	Red-naped sapsucker
Spinus pinus	Pine siskin
Spizella passerina	Chipping sparrow
Tachycineta thalassina	Violet-green swallow
Turdus migratorius	American robin
Vireo cassinii	Cassin's vireo
Vireo gilvus	Warbling vireo
Vireo olivaceus	**Red-eyed vireo**

Mammalia	**Mammals**
Cervus canadensis ssp. canadensis	Rocky Mountain elk
Lepus americanus	Snowshoe hare
Neotamias amoenus	Yellow-pine chipmunk
Neotamias minimus	Least chipmunk
Neotamias sp.	Western chipmunk
Neotoma cinerea	Bushy-tailed woodrat
Odocoileus hemionus ssp. hemionus	Rocky Mountain mule deer
Odocoileus virginianus	White-tailed deer
*Ovis canadensis***	Bighorn sheep**
Tamiasciurus hudsonicus	American red squirrel
Ursus americanus	American black bear
Vulpes vulpes	Red fox

Fungi	**Fungi & Lichens**
Fungi (Non-Lecanoromycetes)	**Non-lichenized fungi**
Agaricus sp.	**Field/button mushroom**
Candelaria sp.	Candle flame lichen
Chrysomyxa arctostaphyli	Spruce witch's broom rust
Clitocybe albirhiza*	**Snowmelt clitocybe****
Coccomyces dentatus	Map fungus
Cryptoporus volvatus	Veiled polypore
Diplodia tumefaciens	Corky bark disease
Family *Lycoperdaceae*	**Pet-de-loup**
Family *Omphalotaceae*	Common gilled mushroom
Fomes excavatus	**Tinder polypore**
Fomitopsis betulina	**Birch polypore**
Geastrum sp.	**Earthstar**

Gloeophyllum sepiarium	**Conifer mazegill**
Gymnopilus sp.**	**Rustgill/gym****
Gymnosporangium globosum	Cedar-hawthorn rust
Gymnosporangium juniper-virginianae	Cedar-apple rust
Gymnosporangium nidus-avis	Juniper broom rust
Lachnum birgineum	Stocked hairy fairy cup
Mycena pura	Lilac bonnet
Order *Agaricales*	Common gilled mushroom
Order *Pucciniales*	Rust fungi
Phragmidium mucronatum	**Rose rust**
Phragmidium rosae-multiflorae	Multiflora rose rust
Phragmidium sp.	Rust fungi
Puccinia caricis-shepherdiae	**Orange-yellow rust**
Rhytisma arbuti	Tarspot fungus
Russula decolorans	**Copper brittlegill**
Russula sp.	**Brittlegill**
Taphrina sp.	Leaf curl fungi
Trametes cinnabarina	**Northern cinnabar polypore**
Trametes sp.	**Turkey-tail**
Tricholoma vaccinum	**Russet scaly tricholoma**
Xeromphalina cauticinalis	Pinelitter gingertail

Lecanoromycetes

Lichens

Alectoria sarmentosa	Witch's hair
Aspicilia sp.	**Sunken disk lichen**
Bryoria sp.	Horsehair lichen
Cladonia cariosa	Split-peg lichen
Cladonia chlorophaea	Mealy pixie cup
Cladonia deformis	**Lesser sulphur-cup lichen**
Cladonia fimbriata	Trumpet lichen
Cladonia ochrochlora	Smooth-footed powderhorn
Cladonia pocillum	**Rosette pixie-cup lichen**
Cladonia pyxidata	Pebbled pixie cup
Cladonia sp.	Pixie cup/reindeer lichen
Cladonia subulata	**Antlered powderhorn**
Collema furfuraceum	**Effervescent tarpaper lichen**
Dermatocarpon miniatum	Leather lichen
Family *Physciacae*	**Rosette/frost lichen**
Hypogymnia physodes	**Hooded tube lichen**
Letharia lupina	Mountain wolf lichen
Letharia sp.	**Wolf lichen**
Letharia vulpina	Wolf lichen

Lobaria sp.	Lung lichen
Order *Teloschistales*	**Sunburst lichen**
Parmelia saxatilis	**Salted shield lichen**
Parmelia sulcata	**Netted shield lichen**
Parmelia sulcata	Shield lichen
Peltigera didactyla	**Alternating dog lichen**
Peltigera malacea	Veinless pelt lichen
Peltigera sp.	Pelt lichen
Phaeophyscia hirsuta	**Hairy shadow lichen**
Phlyctis petraea	**Rock whitewash**
Physcia caesia	Blue-gray rosette lichen
Physcia phaea	**Black-eyed rosette lichen**
Physcia phaea	**Orange rock posy**
Physcia sp.	**Rosette lichen**
*Physconia detersa***	Bottlebrush frost lichen**
Physeia dubia	Powder-tipped rosette lichen
Pleopsidium flavum	Gold cobblestone lichen
Psora decipiens	Blushing scale lichen
Psora sp.	**Fishscale lichen**
Rusavskia elegans	Elegant sunburst lichen
Rusavskia sorediata	Sugared sunburst lichen
Staurothele drummondii	**Drummond's rock pimple lichen**
Subfamily *Xanthorioideae*	**Sunburst lichen/firedot**
Tephromela atra	Black-eye lichen
Usnea hirta	Bristly beard lichen
Usnea perplexans	Lapland beard lichen
Usnea sp.	Beard lichen
Xanthomendoza ulophyllodes	Powdery sunburst lichen

Plantae	**Plants**
Cryptogamae (no seeds)	**Cryptogams (no seeds)**
Bryophyta	**Bryophytes**
Abietinella abietina	Fir tamarisk-moss
Aulacomnium androgynum	Bud-headed groove-moss
Brachythecium albicans	**Whitish feather moss**
Brachythecium salebrosum	**Smooth-stalk feather-moss**
Brachythecium sp.	**Feather moss**
Callicladium imponens	**Brocade moss**
Class *Bryopsida*	**Joint-toothed moss**
Complex *Tortella tortuosa*	**Twisted moss**
Cratoneuron filicinum	Fern-leaved hook-moss

Dicranum sp.	**Forkmoss**
Dicranum tauricum	Fragile fork-moss
Drepanocladus aduncus	**Kneiff's hook-moss**
Drepanocladus sp.	**Hook-moss**
Family *Bartramiaceae*	**Joint-toothed moss**
Family *Bryaceae*	**Bryum moss**
Family *Hypnaceae*	**Hypnum moss**
Family *Mniaceae*	**Thyme-moss**
Family *Orthotrichaceae*	**Bristle moss**
Family *Pottiaceae*	Joint-toothed moss
*Grimmia laevigata***	Grimmia dry rock moss**
Grimmia ramondii	**Spreading-leaved grimmia**
Homalothecium sp.	Homalothecium moss
Hygroamblystegium varium	**Tangled thread moss**
Hygrohypnum sp.	**Brook-moss**
Hylocomium splendens	Stairstep moss
Order *Hypnales*	**Feather moss**
Palustriella falcata	**Claw-leaved hook-moss**
Plagiomnium cuspidatum	Woodsy thyme-moss
Plagiomnium sp.	Thyme moss
Pleurozium schreberi	Red-stemmed feather moss
Polytrichum piliferum	**Bristly haircap moss**
Ptychostomum sp.	**Joint-toothed moss**
Pulvigera sp.	**Bristle-moss**
Rhizomnium glabrescens	Rhizomnium moss
Roaldia revoluta	**Revolute hypnum moss**
Schistidium apocarpum	**Sessile grimmia**
Schistionium sp.	Rock moss
Scorpidium sp.	**Scorpion moss**
Syntrichia ruralis	Star moss

Pteridophyta — Ferns and Fern Allies

Cystopteris fragilis	Fragile fern
Equisetum arvense	Field horsetail
Equisetum hyemale	**Rough horsetail**
Equisetum hyemale* ssp. *affini	**Western scouringrush**
Equisetum sp.	Horsetail
Myriopteris gracilis	Fee's lip fern
*Pellaea gastonyi***	Gastony's Cliffbrake**
*Pellaea glabella simplex***	Simple cliffbrake**
*Pellaea glabella***	Smooth cliffbrake**
Pellaea sp.	**Cliffbrake**

Woodsia oregana	Oregon woodsia
Woodsia scopulina	Rocky Mountain woodsia
Woodsia sp.	**Cliff fern**
Phanaerogamae (has seeds)	**Phanaerogams (has seeds)**
Gymnosperma (no flowers)	**Gymnosperms (no flowers)**
Juniperus communis	Common juniper
Juniperus horizontalis	Creeping juniper
Juniperus scopulorum	Rocky Mountain juniper
Juniperus sp.	Juniper
Picea albertiana	**Interior spruce**
Picea glauca	White spruce
*Pinus flexilis***	Limber pine**
Pinus ponderosa	Western ponderosa pine
Pseudotsuga menziesii	Douglas-fir
Pseudotsuga menziesii glauca	Rocky Mountains Douglas-fir
Angiospermae (has flowers)	**Angiosperms (has flowers)**
Acer glabrum	Rocky Mountain maple
Achillea borealis	**Woolly yarrow**
Achillea millefolium	Common yarrow
Actaea rubra	Red baneberry
Allium cernuum	Nodding onion
Alnus alnobetula	Green alder
Amelanchier alnifolia	Saskatoon
Anemone multifida	Cutleaf anemone
Antennaria dimorpha	**Low pussytoes**
Antennaria parvifolia	Small-leaf pussytoes
Antennaria racemosa	**Hooker's pussytoes**
Antennaria rosea	Rosy pussytoes
Antennaria sp.	**Pussytoes**
Antennaria umbrinella	Umber pussytoes
Anthoxanthum hirtum	Northern sweetgrass
Anticlea elegans	Mountain deathcamas
Apocynum androsaemifolium	Spreading dogbane
Apocynum cannabinum	Hemp dogbane
Aralia nudicaulis	Wild sarsaparilla
Arctostaphylos uva-ursi	Bearberry
Arnica cordifolia	Heartleaf arnica
Arnica fulgens	Hillside arnica
Artemisia borealis	**Boreal sage**
Artemisia campestris	Field sagewort

Artemisia frigida	Fringed sagebrush
Artemisia sp.	**Wormwood/Sagebrush**
Astragalus lotiflorus	Low milkvetch
Astragalus miser	Timber milkvetch
Balsamorhiza sagittata	Arrowleaf balsamroot
Berber repens	Creeping mahonia
Berberis aquifolium	Oregon grape
Betula occidentalis	Water birch
Betula papyrifera	Paper birch
Boechera pendulocarpa	**Dropseed rockcress**
Boechera retrofracta	Reflexed rockcress
Bromus ciliatus	**Fringed brome**
*Bromus tectorum**	Cheatgrass*
Calamagrostis canadensis	Canadian bluejoint
Calamagrostis rubescens	Pine reed grass
Calochortus macrocarpus	Sagebrush mariposa lily
Calochortus macrocarpus var. macrocarpus	**Green-band mariposa lily**
Campanula alaskana	Alaskan bellflower
Carex alascana	Northern bog sedge
Carex aurea	Golden sedge
Carex capillaris	Hair-like sedge
Carex concinna	Beautiful sedge
Carex concinnoides	**Northwestern sedge**
Carex interior	Inland sedge
Carex scirpoidea	Bulrush sedge
Carex Sect. bicolores	Bicolor sedge
Carex sp.	True sedge
Carex vaginata	Sheathed sedge
Castilleja miniata	**Giant red paintbrush**
Castilleja miniata x C. septentrionalis	**Paintbrush hybrid**
Castilleja oxidentalis	Western paintbrush
Castilleja purpurascens	Yoho paintbrush
Castilleja rhexiifolia	Rhexia-leaved paintbrush
Castilleja septentrionalis	**Northern paintbrush**
Castilleja septentrionalis x C. purpurascens	**Paintbrush hybrid**
Castilleja septentrionalis x C. rhexiifolia	**Paintbrush hybrid**
Castilleja sp.	Paintbrush
*Centaurea sp.**	Knapweed*
*Chenopodium album**	Common lambsquarters*
Chenopodium fremontii	Fremont's goosefoot
Chimaphila umbellate	Pipsissewa
Cirsium hookerianum	Hooker's thistle

Cirsium undulatum	Wavyleaf thistle
Cirsium vulgare*	**Bull thistle***
Clematis ligusticifolia	Western white clematis
Clematis occidentalis	Purple clematis
Comandra umbellata	Bastard toadflax
Corallorhiza striata	Striped coralroot
Cornus sericea	Red osier dogwood
Corydalis aurea	Golden corydalis
Crepis atribarba	Slender hawksbeard
Crepis sp.	**Hawksbeard**
Crepis tectorum*	**Narrow-leaved hawksbeard***
Cyparipedium parviflorum	Yellow lady's slipper
Cypripedium sp.	**Hardy slipper orchid**
Dasiphora fruticosa	Shrubby cinquefoil
Delphinium southerlandii	Sutherland's larkspur
Deschampsia cespitosa	Tufted hair grass
Descurainia incisa	**Mountain tansymustard**
Dogllingeria englemannii	Englemann's aster
Draba nemorosa	**Wood whitlow-grass**
Elymus glacus	**Blue wild rye**
Elymyus trachycaulus	**Slender wheatgrass**
*Epipactis gigantea***	Stream orchid**
Ericameria nauseosa	Rubber rabbitbrush
Erigeron caespitosus	Caespitose fleabane
Erigeron compositus	Cut-leaf fleabane
Erigeron corymbosus	**Longleaf fleabane**
Erigeron filifolius	Thread-leaf fleabane
Erigeron glabellus	Smooth fleabane
Erigeron glacialis	Subalpine fleabane
Erigeron pumilus	Shaggy fleabane
Erigeron sp.	**Fleabane**
Eriocoma hymenoides	Sand ricegrass
Eriogonum sp.	Wild buckwheat
Eurybia conspicua	Showy aster
Festuca campestris	**Big rough fescue**
Festuca occidentalis	Western fescue
Festuca sp.	Fescues
Fragaria virginiana	Virginia strawberry
Gaillardia aristata	Common gaillardia
Galearis rotundifolia	Small round-leaved orchid
Galium boreale	Northern bedstraw
Galium triflorum	**Fragrant bedstraw**

Geocaulon lividum	Northern comandra
Geum triflorum	Prairie smoke
Goodyera oblongifolia	Western rattlesnake plantain
Hackelia deflexa	**Northern stickseed**
Hedysarum boreale	**Boreal sweet-vetch**
Heteroheca villosa	Hairy false goldenaster
Heterotheca sp.	False goldenaster
Heuchera cylindrica	Roundleaf alumroot
Hieracium umbellatum	Canada hawkweed
Koeleria macrantha	Prairie junegrass
Koeleria spicata	Spike trisetum
Lactuca pulchella	Common blue lettuce
Lactuca sp.	Wild lettuces
Lappula squarrosa*	**Two-rowed stickseed***
*Leucanthemun vulgare**	Oxeye daisy*
Leymus cinereus	Great Basin wildrye
Leymus innovates	Northwestern wild rye
Lilium philadelphicum	Wood lily
Linnaea borealis	Twinflower
*Linum lewisii**	Lewis flax*
Lithospermum ruderale	Western stoneseed
Lobelia kalmii	Kalm's lobelia
Lomatium macrocarpum	Bigseed biscuitroot
Lomatium multifidum	Carrotleaf biscuitroot
Lomatium simplex	**Umbrella desert-parsley**
Lomatium triternatum	Ternate desert-parsley
Lonicera dioica	Glaucous honeysuckle
Lonicera involucrata	Twinberry honeysuckle
Lonicera sp.	**Honeysuckle**
Lonicera utahensis	**Utah honeysuckle**
Maianthernum stellatum	Starry false Solomon's-seal
*Medicago sativa**	Alfalfa*
*Meliotus alba**	White sweet clover*
Mentzelia albicaulis	**Whitestem blazingstar**
Mentzelia sp.	Blazingstar
Oryzopsis asperifolia	White-grained mountain ricegrass
Oxytropis campestris	Field locoweed
Oxytropis sericea	**White-point vetch**
Oxytrotis sp.	Locoweed
Packera cana	Woolly groundsel
Packera paupercula	Balsam ragwort
Packera sp.	American groundsel/ragwort

Packera streptanthifolia	Rocky Mountain groundsel
Penstemon confertus	Yellow beardtongue
Penstemon eriantherus	Crested-tongue beardtongue
Penstemon fruticosus	Bush penstemon
Penstemon sp.	Beardtongue
Phacelia hastata	Silverleaf phacelia
Phacelia linearis	Linearleaf phacelia
*Phleum pretense**	Timothy grass*
Physaria douglasii	Douglas' bladderpod
Pingicula sp.	**Butterwort**
Pinguicula macroceras	Horned butterwort
Pinguicula vulgaris	Common butterwort
Platanthera aquilonis	North wind bog orchid
Platanthera dilatata	**White bog orchid****
Platanthera huronensis	Green bog orchid
Platanthera sp.	Bog orchid
Platanthera stricta	Slender bog orchid
Poa compressa*	**Canada bluegrass***
Poa palustris	Swamp meadow-grass
Populus tremuloides	Trembling aspen
Populus trichocarpa	Black cottonwood
Potentilla pensylvanica	Prairie cinquefoil
Potentilla sp.	**Cinquifoil**
Primula conjugens	**Bonneville shooting star**
Primula pauciflora	Dark-throated shooting star
Primula sp.	Shooting star
Prosartes trachycarpa	Rough-fruited fairybells
Prunus virginiana	Choke cherry
Pseudoroegneria spicata	Bluebunch wheatgrass
Pulsatilla nuttalliana	Prairie pasqueflower
Pyrola chlorantha	Green-flowered wintergreen
Ribes oxyacanthoides	Canadian gooseberry
Rosa acicularis	**Rosier acicularie**
Rosa woodsii	Woods' rose
Salix brachycarpa	Short-fruit willow
Salix glauca	Grayleaf willow
Salix prolixa	**MacKenzie's willow**
Sanicula marilandica	Maryland sanicle
Saxifraga bronchialis	Matte saxifrage
Saxifraga bronchialis austromontana	Yellow-spot saxifrage
Sedum lanceolatum	Lanceleaf stonecrop
Senecio sp.	Groundsels

Sheperdia canadensis	Canadian buffalo-berry
Silene menziesii	Menzies' catchfly
Sisyrinchium montanum	Strict blue-eyed grass
*Solidago altissima**	Tall goldenrod*
Solidago lepida	Elegant goldenrod
Solidago missouriensis	Missouri goldenrod
Solidago multiradiata	Northern goldenrod
Solidago simplex	Sticky goldenrod
Solidago spathulata	**Coast goldenrod**
Solidago spathulata ssp. glutinosa	Western sticky goldenrod
Solidago Subsect. humiles	**White-margined goldenrod**
*Sonchus arvensis**	Perennial sow thistle*
*Sonchus sp.**	Sow thistle*
Sorbus scopulina	Greene's mountain ash
Sorbus sp.	Mountain ash
Spirea lucida	Shinyleaf meadowsweet
Stephanomeria tenuifolia	Narrow-leaved wirelettuce
Subfamily Asteroideae	Aster
Subfamily *Pooideae*	**Cool-season grass**
Symphoricarpos albus	Common snowberry
Symphoricarpos occidentalis	Western snowberry
Symphoricarpos sp.	**Snowberry**
Symphyotiachum falcatum	White prairie aster
Symphyotrichum ascendens*	**Western aster****
Symphyotrichum campestre	Western meadow aster
Symphyotrichum ciliolatum	Lindley's aster
Symphyotrichum foliaceum	Leafy aster
Symphyotrichum laeve	Smooth blue aster
Symphyotrichum sp.	**American aster**
Taraxacum erythrospermum*	**Red-seeded dandelion***
*Taraxacum officinale**	Common dandelion*
Taraxacum sp.*	**Dandelion***
Thalictrum occidentale	Western meadow-rue
Thalictrum sp.	Meadow-rue
Thalictrum venulosum	Veiny meadow-rue
Toxicodendron rydbergii	Western poison ivy
Toxicoscordion paniculatum	**Foothill deathcamas**
Toxicoscordion venenosum	Meadow deathcamas
*Tragopogon dubius**	Yellow salsify*
Tribe Astereae	**Aster**
*Verbascum thapsus**	Common mullein*
Viola adunca	Hookedspur violet

Viola nephrophylla	Northern bog violet
Viola sp.	**Violet**

APPENDIX E: Bird and mammal species lists by date of visit to Columbia Lake Ecological Reserve.

CODE	Species	30-Apr	25-May	06-Jun	11-Jun	24-Jun	11-Jul	27-Jul	17-Aug	16-Sep	23-Oct	%
AMCR	American Crow						✓					10.0%
AMKE	American Kestrel											0.0%
AMRO	American Robin	✓	✓	✓	✓	✓	✓		✓			70.0%
BAEA	Bald Eagle		✓	✓			✓			✓		30.0%
BASW	Barn Swallow			✓								10.0%
BBMA	Black-billed Magpie			✓								10.0%
BCCH	Black-capped Chickadee			✓			✓				✓	20.0%
CAGA	Canada Goose		✓	✓								20.0%
CAVI	Cassin's Vireo			✓		✓	✓					30.0%
CEWA	Cedar Waxwing						✓	✓				20.0%
CHSP	Chipping Sparrow		✓	✓		✓	✓		✓			50.0%
CLNU	Clark's Nutcracker		✓				✓	✓	✓	✓	✓	40.0%
CORA	Common Raven	✓	✓	✓		✓	✓			✓	✓	50.0%
DEJU	Dark-eyed Junco	✓	✓	✓	✓	✓	✓		✓	✓		70.0%
DOWO	Downy Woodpecker						✓					10.0%
DUFL	Dusky Flycatcher		✓	✓	✓	✓	✓					50.0%
GCKI	Golden-crowned Kinglet			✓	✓	✓			✓			40.0%
HAWO	Hairy Woodpecker						✓					10.0%
HAFL	Hammond's Flycatcher		✓	✓	✓	✓	✓	✓				60.0%
HETR	Hermit Trush						✓					10.0%
LABU	Lazuli Bunting			✓								10.0%
MAWA	MacGillivray's Warbler			✓	✓		✓					30.0%
MERL	Merlin			✓								10.0%
MOCH	Mountain Chickadee	✓			✓		✓	✓	✓		✓	50.0%
NOFL	Northern Flicker	✓			✓	✓	✓			✓	✓	40.0%
PIGR	Pine Grosbeak			✓								10.0%
PISI	Pine Siskin			✓				✓				20.0%
PIWO	Pileated Woodpecker	✓		✓								20.0%
VGSW	Violet-green Swallow											0.0%
RBME	Red-breasted Merganser					✓						10.0%
RBNU	Red-breasted Nuthatch	✓	✓	✓			✓		✓	✓	✓	50.0%
REVI	Red-eyed Vireo			✓								10.0%
RNSA	Red-naped Sapsucker			✓			✓					20.0%
RTHA	Red-tailed Hawk								✓			10.0%
RCKI	Ruby-crowned Kinglet	✓	✓	✓		✓						40.0%
RUHU	Rufous Hummingbird											
RUGR	Ruffed Grouse	✓										10.0%
SPTO	Spotted Towhee		✓	✓		✓						30.0%
SWTH	Swainson's Thrush			✓	✓	✓	✓					40.0%
TOSO	Towsend's Solitaire	✓								✓	✓	10.0%
TUVU	Turkey Vulture	✓	✓	✓	✓	✓	✓			✓		60.0%
VGSW	Violet-green Swallow			✓								10.0%
WAVI	Warbling Vireo		✓		✓	✓	✓					40.0%
WETA	Western Tanager		✓	✓	✓	✓	✓	✓				60.0%
WWPE	Western Wood Pewee			✓								10.0%
YRWA	Yellow-rumped Warbler	✓	✓	✓	✓	✓	✓		✓			70.0%
	TOTAL SPECIES	**12**	**16**	**30**	**13**	**17**	**25**	**6**	**9**	**8**	**7**	

Species	30-Apr	25-May	06-Jun	11-Jun	24-Jun	11-Jul	27-Jul	17-Aug	16-Sep	23-Oct
Yellow Pine Chipmunk	O									
Red Squirrel			O			O	O		O	
Rocky Mountain Elk	S	S	S	S	S				S	
Rocky Mountain Bighorn Sheep	S	S	S	S	S	S			S	S
Rocky Mountain Mule Deer*	O, S	S	S	S	S	O, S	S	S	S	S
Snowshoe Hare	S	S		S				S	S	
Total Mammal Species	**5**	**4**	**4**	**4**	**3**	**3**	**2**	**2**	**5**	**2**
S= Scat or tracks										
O = Observed or Heard										
* We have not seen any white-tailed deer, and assume all deer scat observed are from mule deer which are common in Columbia Lake ER										

APPENDIX F: Wildlife photos from camera trap located inside the Columbia Lake Ecological Reserve.

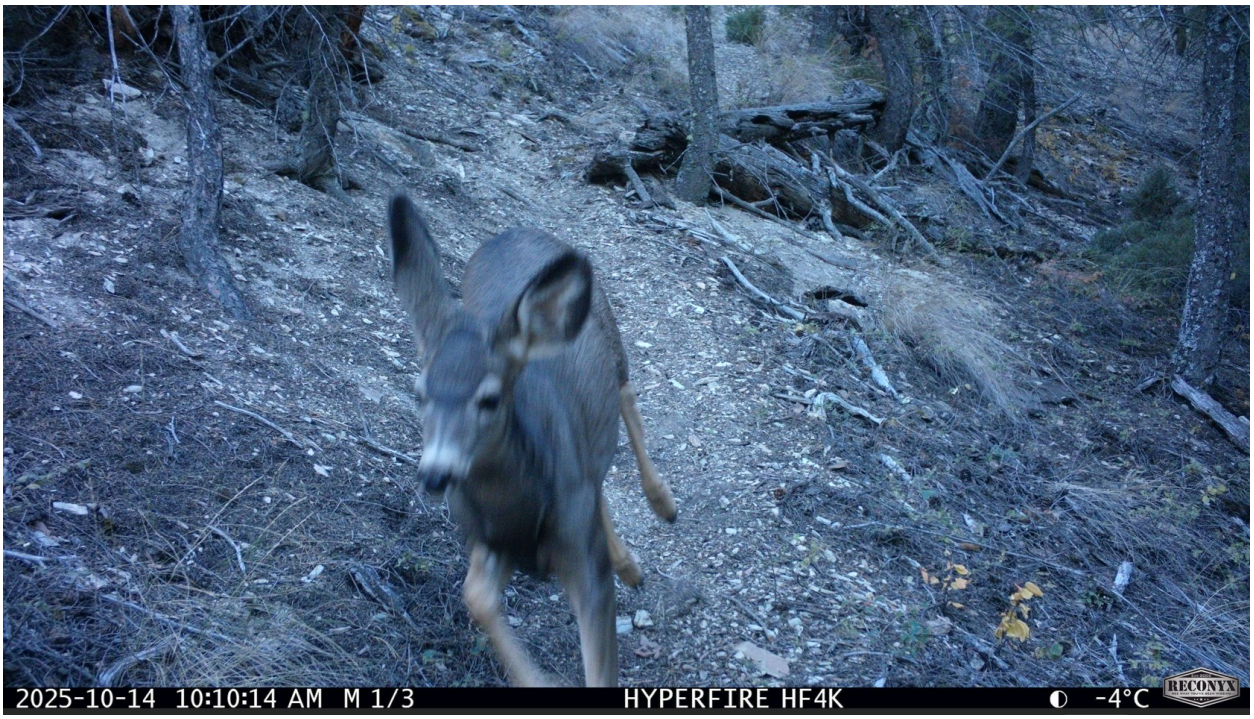
See Figure 10 for camera trap location.

a) Mule deer doe photographed on August 19, 2025 with summer coat.

b) Mule deer fawn photographed on August 19, 2025 with summer coat.

c) Mule deer doe photographed on October 14, 2025 with winter coat.

d) Mule deer fawn photographed on October 14, 2025 with winter coat.



e) Bighorn sheep ewe photographed on October 10, 2025.

f) Bighorn sheep yearling ram photographed on October 10, 2025.

APPENDIX G: Warden Activities in 2025

Figure 14: Status of Tasks Identified in the 2024 ER Warden Report Planned for 2025

Task	Done	In Progress	Comments
Obtain generic BC Parks Ecological Reserve signs and clearly mark the upper boundary of the CLER		✓	Signs have still not been received from BC Parks or placed by BC Parks to mark upper boundary. Thus, trail bikers and other visitors do not know if they are in the ER on its northeastern side.
Contact BC Parks Regional staff about site visit in 2025, boundary signs and marking		✓	No warden meeting held in 2025. Periodic and helpful communication with Navaranda Smith once she started work in March 2025, but no site visit or discussion about signage.
Move the sign that is in the wrong place on the northern side of the ER	✓		Sign was removed and placed in appropriate location (we assume by BC Parks).
Apply for PEF grant to purchase and install a wildlife camera in Columbia Lake ER.	✓		Application completed, submitted on time & was successful. Camera trap was installed on August 17, 2025, checked on September 16 and removed on October 23, 2025. Photos obtained of mule deer and bighorn sheep travelling within the ER.
Make natural history observations, especially in areas of the ER not yet visited. Post observations to iNaturalist and eBird.	✓		See Appendices B, C D & E. Also see https://www.inaturalist.org/projects/columbia-lake-ecological-reserve for iNaturalist observations. Bird observations are posted on eBird under Columbia Lake Ecological Reserve, and are summarized in Appendix E (including both birds and mammals). Visited hilltop on N side of ER for 1st time.
Inventory Indigenous cultural & archaeological resources (location and significance) in collaboration with the Ktunaxa First Nation		✓	The ER Wardens received no information on whether or not this idea was pursued by BC Parks.

Figure 15: Status of Other Action Items Identified in Previous Warden Reports (2022, 2023 & 2024)

Task (Proponent)	Done	In Progress	Comments
Explore use of wildlife camera for monitoring wildlife in Columbia Lake ER (ER Wardens/BC Parks)	✓		Encouraged to submit application to PEF in May 2025. Application was successful and camera trap installed. See Figure 14.
Explore use of permitted drone for monitoring white pine blister rust in Columbia Lake ER (ER Wardens/BC Parks)		✓	It is impossible for us to access most of the limber pine trees up close due to rugged terrain. The issue was discussed at the March 4, 2024 East Kootenay ER Warden AGM and BC Parks did not support the use of drones for monitoring in ERs. An option is to hire Randy Moody who previously surveyed the ER for the rust ~ten years ago and who told us in Oct 2025 that it should be done again.
Determine jurisdiction of Camp One Access Road (Darin Welch, BC Parks)		✓	No update provided by BC Parks (sign at start of road refers to the Village of Canal Flats)
Monitor biodiversity inside the ER (ER Wardens, Ian Hatter & Jenny Feick)		✓	Instead of setting up formal Biodiversity Plots inside the ER, wardens try to visit different parts of the ER on each visit. Areas that currently remain unvisited are primarily due to ruggedness of terrain (i.e. steep limestone cliffs).
Mark the Upper Boundary of Columbia Lake ER (BC Parks)		✓	No update provided by BC Parks (See Figure 14).
Discuss feasibility of boundary adjustments to CLER to include additional values (ER Wardens & BC Parks). A slight expansion of existing boundary would allow protection of additional tufa springs and species at risk.		✓	No opportunity to discuss as no ER Warden meeting was held in 2025. Last one was March 4, 2024.

APPENDIX H: Plans for the 2026 Field Season

In 2026, the ER Wardens plan to:

1. Communicate with Navaranda Smith in BC Parks about status of action items and issues identified in this and previous warden reports for the Columbia Lake Ecological Reserve.
2. Request permission to install the wildlife camera used in 2025 in a different location in the ER and through the winter season (2026-27).
3. Contact iNaturalist identifiers to encourage them to assist with identifications of observations made in the BC Parks iNaturalist Columbia Lake Ecological Reserve Project.
4. Continue to make natural history observations, especially in areas of the ecological reserve not yet visited, where safe to do so (See Figure 54), keeping in mind iNaturalist Identifier guidelines and BC Parks protocols. Post observations to iNaturalist and eBird.
5. Focus iNaturalist observations on species difficult to identify from quick reconnaissance surveys. See Appendix G in the Mt. Sabine ER 2025 annual report for tips on photographing hard to identify organisms, as well as comments from Identifiers on observations in the BC Parks iNaturalist Project for Columbia Lake Ecological Reserve.
6. Continue to remove litter found within the Columbia Lake Ecological Reserve.
7. Continue to remove alien invasive plant species when found (e.g. Common mullein, Dandelions) in the Columbia Lake Ecological Reserve.
8. Investigate the geology of the limestone cliffs with geologist Kevin Root, and request permission for him to use a drone operated by Kevin Root to inspect cliffs.
9. Accompany Paintbrush specialist, Mark Egger from Seattle, Washington, when he investigates and identifies Paintbrush hybrids in mid-July 2026. His analysis of iNaturalist records suggests the area surrounding the tufa springs contains hybrids and potentially an as yet undescribed species of Paintbrush.
10. Set up a field trip with naturalist, Bryan Kelly-McArthur, who lives in Golden BC. Bryan is an excellent naturalist and photographer, and a member of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). He expressed an interest in visiting the reserve to study arachnids, fungi and vascular plants that live there.
11. Set up another site visit with Mike Fenger, member and former president of the Friends of Ecological Reserves in early May, 2026.
12. Make iNaturalist observations of flora associated with the karst spring and tufa formations just outside the reserve and compare species assemblage with tufa formations within the reserve (See Figure 55).

APPENDIX I: Information About Potential Bat Monitoring in Columbia Lake Ecological Reserve from Biologist Ian Adams in Cranbrook

Ian Adams sent us the following email detailing information about monitoring bats on March 3, 2024, followed by another on March 2, 2026.

"Hi Jenny & Ian

The detector units I've been using are Anabat Swifts by Titley. They may now be called Rangers (not sure) https://www.titley-scientific.com/review/product/list/id/294/

They are enclosed in a Pelican case-like protective case with ports for various plug-ins, especially the microphone.

The weblink above shows the microphone attached directly to the unit. I've always used a cord to mount the mic on top of a pole. I use a 16' painter's pole attached to something reasonably secure - fence post or metal t-post banged into the ground with guy-lines for stability.

Here's a deployed station at Tobacco Plains. The mic is at the top of the pole, the recorder unit is at the base on the ground.

It's best to be deployed in a fairly open environment as bat calls are most accurately identified to species when there's no clutter for them to navigate around. In open situations, their echolocation calls are most species specific.

The units are georeferenced to the deployed location and programmed to be active from 30 min before sunset to 30 min after sunrise. They can record either full spectrum bat calls or zero-cross format. Full spectrum calls allow a more accurate identification but take up a lot more space on the SD card. I've learned lots about bat acoustic recording and analysis in the last few years! For a week or two at Columbia Lake, you'd probably be fine with full spectrum.

I have been renting the units from Susan Dulc, who just completed her masters on bats at Creston. However, **I do not have plans to rent them in 2024**. I will be renting them from her in 2025 when we'll be doing recordings again at Tobacco Plains.

There may be other recorders available via WCS and the NA Bat program in 2024. There's also Nicole Bessler, a bio in Kimberley who works with bats (and may be doing grad work, I'm not sure) who does acoustic work as well. We could ask her if she's be interested in a week or to at CLER.

The other issue is analysis. I do not analyze the calls - that's a whole other skill set!! Brian Paterson seems to be the go-to guy for that work. He has done all the analysis for the recording sessions I've done in the last 5 years or so. Analysis of a week's worth of bat data is likely in the $750 range for his services. Depends entirely on how many calls are recorded. Might be worth asking BC Parks if there'd be some $$ available for analysis. Good opportunity for some Parks license plate money! I wouldn't be much but there's no point in recording bats if there isn't someone available to analyze the calls.

Alternatively, I have an Echo Meter Touch 2 recorder that plugs into my phone or tablet (tablet works better). This little gizmo:
https://www.wildlifeacoustics.com/products/echo-meter-touch-2-android-2

It records full spectrum bat calls and the associated app does offer auto-id for species. (sort of a Merlin for bats) That's fraught with large opportunities for false i.d.'s (Merlin is much more accurate) but doesn't seem too bad for our local bats. We could do a few evenings of "listening" for bats in a few locations. Problem is you have to be close to the bat and present. e.g. of that output: https://inaturalist.ca/observations/197767458
Yes, you can upload the recording to iNat (it's a sound recording like any other, we just can't hear it) and, if you're lucky, someone else will run it through some bat call software and weigh in on it like this: https://inaturalist.ca/observations/133163646

I'll also find out where the nearest NA Bat station(s) are to CLER. That should provide some general info on who's in the neighbourhood.

Hope this helps and isn't too overwhelming!

-i."

"Hi both

I've sent a request to Jason Rae who (I think) heads up the NA Bat work in the area with WCS Canada. If not, he'll know who does. I've asked where the nearest NA Bat station is to Canal.
I think Biodiversity Pathways is taking up the NA Bat work, so you may end up with people there.

Funding wise, you'd need to $$ to cover recording unit rental (including any shipping fees, etc.), your time to deploy and take down (if volunteer, this would be an in kind contribution) and fees for someone to analyze the recordings. You'd want each site to record for at least 7 nights, that seems to be the accepted length of time for species richness to reach some level of asymptote.

But best to wait on that to find out more about any possible station nearby.

cheers!
-i."

APPENDIX J: Some of the Pictures Taken in 2025 Field Season

For pictures of the fauna, fungi and flora in Columbia Lake Ecological Reserve, see https://www.inaturalist.org/projects/columbia-lake-ecological-reserve .

Figure 16: Ian Hatter photographing plants on limestone cliffs in the Columbia Lake Ecological Reserve, June 6, 2025.

Figure 17: View south from north hilltop in Columbia Lake Ecological Reserve, July 11, 2025.

Figure 18: The Columbia Lake Ecological Reserve contains many inaccessible cliffs, September 16, 2025.

Figure 19: This slender crab spider can only be identified to genus (Tibellus sp.) unless we photograph its underside, May 25, 2025.

Figure 20: Identifying this Aedes mosquito to species requires a picture showing the top of its abdomen, June 24, 2025.

Figure 21: To determine what species of brittlegill this is, one needs a picture of the underside of its gills, July 27, 2025.

Figure 22: Pixie cup and reindeer lichens (Genus Cladonia) need close examination and chemical tests to identify, June 24, 2025.

Figure 23: Without microscopic examination of a specimen, this moss can only be named to the Family level (Bryaceae), April 30, 2025.

Figure 24: An iNaturalist Identifier said of this member of the Family Asteraceae, "No leaves, no ID.", June 6, 2025.

Figure 25: Rocky Mountain bighorn sheep, like this ewe just outside the reserve, are listed as "Vulnerable" in B.C., June 16, 2025.

Figure 26: Gastony's cliffbrake, a fern, is listed as "Vulnerable" in Canada, July 11, 2025.

Figure 27: Limber pines are classified as 'Imperiled" in Canada, April 30, 2025.

Figure 28: Stream orchids are listed as "Special Concern" in Canada, July 11, 2025.

Figure 29: NatureServe deems white bog orchids as "Vulnerable", July 13, 2024 (Photo by brettxmccull7).

Figure 30: Cat-faced orbweaver, new on September 16, 2025 (Photo by Ian Hatter).

Figure 31: Northern cinnabar polypore, new on July 27, 2025.

Figure 32: Effervescent Tarpaper Lichen, new on September 16, 2025.

Figure 33: Range extension for Foothill deathcamas, June 6, 2025.

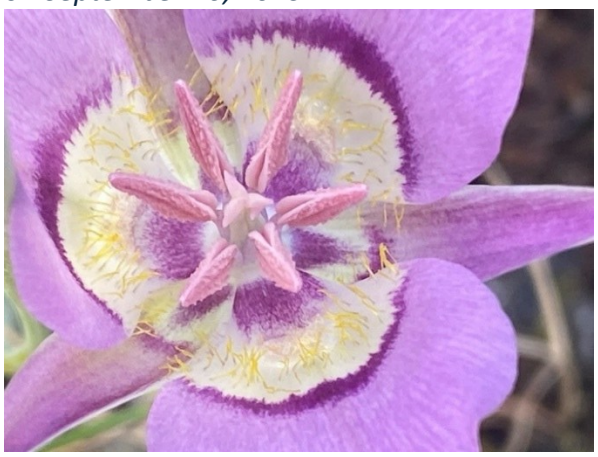


Figure 34: One of our sagebrush mariposa lily observations July 9, 2023 was identified in 2025 as the Green-band Mariposa Lily.

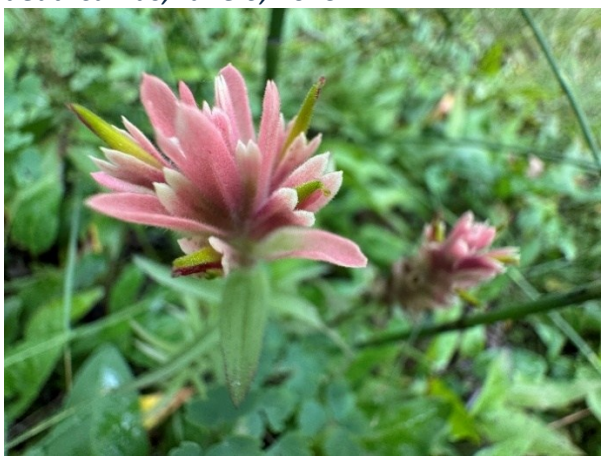


Figure 35: One of the many curious hybrid paintbrush Mark Egger identified this year, July 27, 2025.

Figure 36: The Camp One Access Road and hydro line beside the reserve (note: eco-reserve sign), June 6, 2025.

Figure 37: This eco-reserve sign is 200 m from the site of previous illegal tree-cutting in the reserve, June 24, 2025.

Figure 38: Remnants of illegal tree-cutting in the reserve carried out in the winter of 2023/24, April 30, 2025.

Figure 39: Our Subaru travelling up the Camp One Access Road to access the reserve, April 30, 2025.

Figure 40: Our Subaru dodging water on the Camp One Access Road, September 16, 2025.

Figure 41: Trail biker on the Camp One Access Road, June 27, 2025.

Figure 42: Trail runners passing by the reserve en route to Fairmont, June 6, 2025.

Figure 43: Mike Fenger from FER and Joy Kruger visiting the reserve, June 16, 2025.

Figure 44: Western poison ivy (left) and wild sarsaparilla (right), July 27, 2025.

Figure 45: Ian Hatter removing dead common mullein from the reserve, October 23, 2025.

Figure 46: The BC Parks wildlife camera deployed in the reserve from August 17 to October 23, September 16, 2025.

Figure 47: Ian Hatter installing and checking the wildlife camera along a game trail in the reserve, August 17, 2025.

Figure 48: Ian Hatter checking pictures in the wildlife camera, September 16, 2025.

Figure 49: Most of the reserve is arid in the summer and fall, October 23, 2025.

Figure 50: Bighorn sheep leave scads of scat during the winter months all over the rugged terrain of the reserve, September 16, 2025.

Figure 51: The East Side Columbia Lake Wildlife Management Area, designated Ungulate Winter Range (beige on map) surrounds the reserve, September 16, 2025.

Figure 52: Bighorn rams in the East Side Columbia Lake WMA near the reserve, May 25, 2025.

Figure 53: Ian Hatter counting stream orchid plants in bloom, July 27, 2025.

Figure 54: Ian Hatter making field notes in the reserve, October 23, 2025.

Figure 55: Karst spring just outside the reserve below the access road, April 30, 2025.