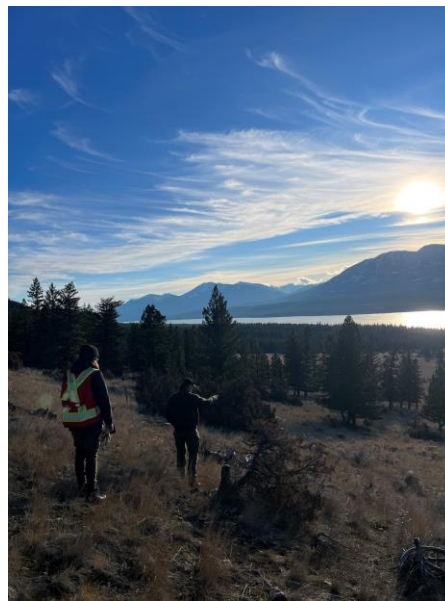




## Kootenay Connect: Columbia Lake Focal Area 7CL SAR Restoration



March 15, 2026 Final Report



Kootenay Connect is a project facilitated by the Kootenay Conservation Program



Environment and  
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## 1.0 Project Summary and Goal

Marion Creek Benchlands, Thunder Hill Ranch, Dutch Creek Hoodoos and Columbia Lake Lot 48 Conservation Areas are part of an important complex of conservation and protected lands adjacent to Columbia Lake. These lands have been conserved by the Nature Conservancy of Canada (NCC) and are stewarded for the benefit of the imperiled Interior Douglas-fir (IDF) ecosystem, focal species at risk (SAR), and the maintenance of wildlife movement corridors. The goal of this project is to build from previous restoration work, to enhance dry open forest habitats in the Columbia Lake Focal Area for the benefit of species at risk.

The focal SAR relying on the IDF ecosystem in this area include American Badger (*Taxidea taxus jeffersonii*, Endangered, COSEWIC, 2012), Bighorn Sheep (*Ovis canadensis*, Blue Listed, BC CDC, 2015), Grizzly Bear (*Ursus arctos*, Special Concern, COSEWIC, 2018), Lewis's Woodpecker (*Melanerpes lewis*, Threatened, COSEWIC, 2024), and Common Nighthawk (*Chordeiles minor*, Special Concern, COSEWIC, 2023).

As few as 100 mature badgers live in the East Kootenay region where they are vulnerable to increasing threats from vehicle collision mortality. The loss of open areas to forest succession and urban development threatens badgers by contributing to ongoing habitat decline (COSEWIC, 2012).

Over 25% of Bighorn Sheep winter range in the upper Columbia area has been converted since the 1940s, effectively displacing the local herds from this land. Relying on the availability of good escape terrain, lambing sites, winter range, mineral licks, and sufficient forage, these mammals have been impacted by habitat conversion, fragmentation, and forest encroachment (BC CDC, 2015).

While generalists, Grizzly Bears are highly sensitive to human disturbance and are at high mortality risk where roads allow motorized access into their habitat. Genetic isolation is threatening southern populations where habitat fragmentation is impacting movement patterns and reproduction (COSEWIC, 2018).

In Canada, Lewis's Woodpecker breeds only in British Columbia. Its population is small, with fewer than 1000 individuals, and there is evidence of ongoing declines in parts of its Canadian range where it has been monitored over time. Threats include habitat loss and degradation from increasing urban and agriculture development, and fire suppression (COSEWIC, 2024).

Common Nighthawk has been threatened by the decline in abundance of aerial insects from pesticide use, among other anthropogenic impacts. These birds rely on relatively open, forested habitats with an abundance of insects to forage (COSEWIC, 2023).

Around Columbia Lake, changes to the natural fire regime caused by decades of wildfire suppression efforts have contributed greatly to the reduction of high-quality habitat for the focal SAR. Grassland and open range conditions are gradually transitioning into conifer forests through in-growth and encroachment processes. With this change, many habitat attributes necessary to sustain populations of at-risk species are being impaired.

In the Columbia Lake Focal Area, it has become clear that one of the most effective ways to improve habitat for these species is to reduce young forest densities and promote the transition to mature open forest stands. Treatment prescriptions for restoring mature open IDF stands include reducing conifer stem density through forest thinning. Over the past 7 years, our work has focused on thinning targeted high-priority areas where encroachment of forest in-growth is the most dense, as well as in zones where high-quality habitat can be created through thinning.

In addition to forest thinning, habitat improvement can be achieved through prescribed burning. Work is underway led by Ktunaxa Nation Council and ʔakisq̓nuk First Nation, the BC Wildfire Service, the Nature Conservancy of Canada, and BC Parks, to carry out prescribed burning on the east side of Columbia Lake. Over the past 7 years, work has focused on preparing for this return of fire to the landscape by pile-burning woody debris to remove extra fuel, decommissioning derelict fencing, and treating invasive species.

This final report provides an update for work that The Nature Conservancy of Canada (NCC) has been carrying out in the Columbia Lake Focal Area in Year 7, as part of the Kootenay Connect initiative.

## 2.0 Results

### **1. SAR Restoration in Year 7**

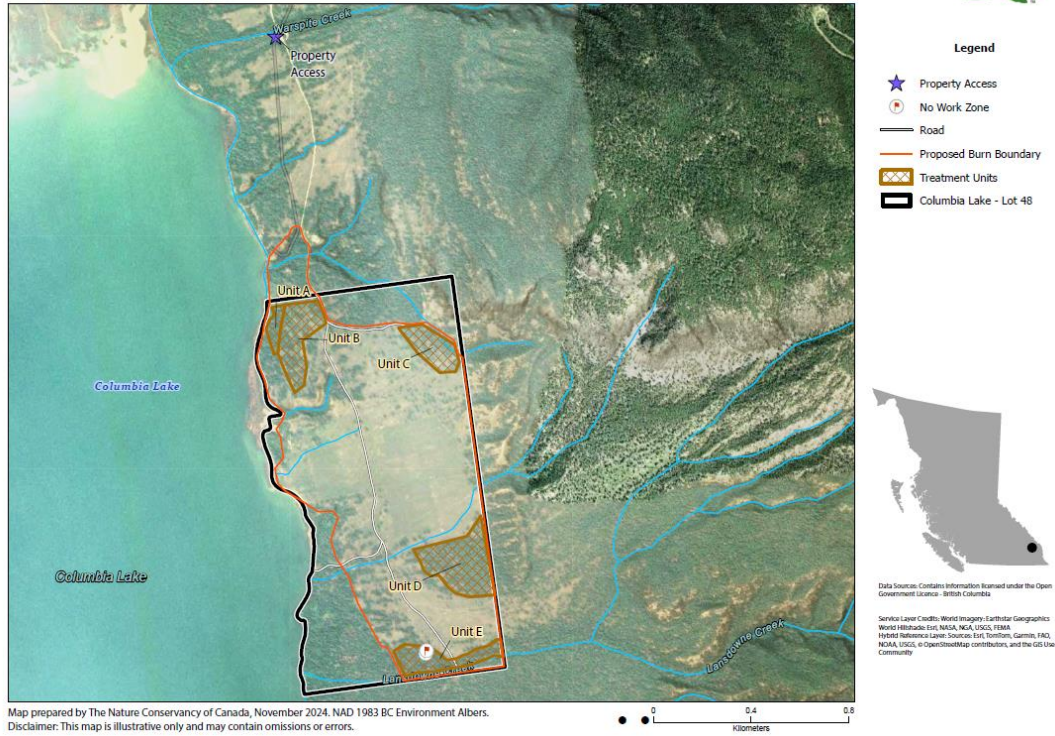
Building on the success of previous forest thinning work at Columbia Lake Lot 48, NCC entered a partnership with the Ktunaxa Nation Council (KNC) to work towards bringing prescribed fire back to the landscape on the east side of Columbia Lake. NCC and KNC staff first met on the land in April 2024 to discuss this possibility and worked with Burn Boss Colleen Ross to discuss this potential and the preparatory work required.

KNC led the initiation of the Lot 48 Burn Plan in 2024. KNC contracted Colleen Ross to complete this work, with input from ʔakisq̓nuk First Nation, NCC, and Ktunaxa Community Members. The Burn Plan is currently undergoing final revisions as of February 2026. This type of ecosystem restoring prescribed burn will benefit focal species at risk including American Badger, Bighorn Sheep, Lewis's Woodpecker, and Common Nighthawk, by restoring open forest and grassland habitat.

In fall 2024, Colleen Ross was contracted by NCC to develop an Ecological Restoration (ER) Prescription for Columbia Lake Lot 48. This prescription builds off the Lot 48 Burn Plan, and identifies low intensity prescribed burning as a restoration treatment appropriate for preventing the ongoing ingress/ingrowth of coniferous trees on the landscape. The recommended ER work was carried out in 2025 and early 2026, which included hand thinning treatment required to prepare the stand for burning. This treatment focused on removing regenerating conifers and juniper that would not be killed by low intensity fire and also on removing fuel loading to mitigate the danger of high-intensity fire which would be ecologically damaging. This is particularly important where fuel loading occurs under mature trees which are a target for retention. Five priority treatment units were identified and treatment was completed in 2025.

# Columbia Lake - Lot 48

## Proposed Thinning



**Figure 1:** Map of hand thinning treatment units A-E on NCC's Columbia Lake Lot 48, which were completed in December 2025.

Prior to initiating thinning work NCC worked with KNC staff to review the ER Prescription. In October 2024, NCC staff, KNC ʔa-kanusti and Lands staff met on the land and walked identified units for treatment. In November 2024, NCC staff met with KNC Archeology Coordinator Jessee Thomas to walk the proposed prescribed burn perimeter and the hand treatment units to identify any archeology concerns. Feedback from these site visits were incorporated into the workplan for treatment, the Burn Plan, and into the information shared with thinning contractors.

In January 2025, Seven Feathers Contracting and Consulting were contracted by NCC to complete 16 hectares of thinning work. Due to higher-than-average snowfall and cold weather, as well as contractor availability, Seven Feathers was only able to partially complete the work. A second contractor, Momentum Mountain Solutions, was engaged to complete the hand-thinning and pile burning work in November 2025.



Photo 1: A contractor works to extinguish a hotspot following pile-burning at Lot 48, as part of forest thinning treatments and prescribed burn preparations.

Seven Feathers was also contracted to remove 2700 metres of derelict fencing around Lot 48, which was completed in December 2025. This was to improve wildlife habitat connectivity and reduce risk to bighorn sheep, as the fence was redundant and no longer needed from a human/recreational use perspective.

In addition to coordinating thinning work at Columbia Lake Lot 48, NCC coordinated the completion of open forest ecological restoration treatments on Thunder Hill Ranch. This work is guided by the Thunder Hill Ranch Forest Cover Management Plan (Jeff Allen, RPF, 2005).

In fall 2025, NCC posted a Request for Quotations to complete forest thinning and maintenance treatments on two units at Thunder Hill Ranch. Seven contractors sent in quotes, and Goodwin Ventures was awarded the contract. The target of this work was to restore the forest to an open forest structure, which directly benefits focal species at risk which rely on the habitat provided by open forests, including American Badger, Lewis's Woodpecker, and Common Nighthawk. Throughout December 2025, and January/February 2026, Goodwin Ventures completed 58.12 hectares of thinning work at Thunder Hill Ranch. 39.2 of this was maintenance thinning, cutting dense ingrowth from previous thinning work several years prior to maintain the open forest structure. The remaining 18.92 hectares consisted of thinning on a previously untreated unit, opening up the forest structure and piling the stems for later burning.

# Thunder Hill Ranch Conservation Area

## 2025 Forest Thinning Units



- Thinning Unit 1 (18.9 ha)
- Thinning Unit 2 (39.2 ha)
- Thunder Hill Ranch



Map prepared by The Nature Conservancy of Canada, October 2025. NAD 1983 BC Environment Albers.  
Disclaimer: This map is illustrative only and may contain omissions or errors.

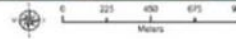


Figure 2: Map of hand thinning treatment unit (Thinning Unit 1) and maintenance thinning treatment unit (Thinning Unit 2) on NCC's Thunder Hill Ranch.



Photo 2: Photo of Thinning Unit 1 at Thunder Hill Ranch before treatment (left), and after treatment (right).



Photo 3: Before completion of Thinning Unit 2 (maintenance unit) at Thunder Hill Ranch, showing conifer ingress.



Photo 4: After completion of Thinning Unit 2 (maintenance unit) at Thunder Hill Ranch – small conifer ingrowth has been “lopped and scattered”.

Invasive plant management is an important part of open forest restoration, as invasive plants may increase in abundance following forest thinning or prescribed burning due to an increase in sunlight and growing space. To mitigate this risk, we completed invasive plant management as part of forest restoration activities. NCC coordinates this work with the East Kootenay Invasive Species Council on an annual basis. Forest thinning areas and access corridors were surveyed and treated with herbicide by a certified herbicide applicator in July 2025. Herbicide was applied at Columbia Lake Lot 48 to treat Diffuse knapweed (*Centaurea diffusa*) in anticipation of forest thinning work. Invasive plant treatment at Thunder Hill Ranch was coordinated and completed by the Columbia Lake Ranch managers and staff. Spot

treatments of Common burdock were carried out by NCC staff at Thunder Hill Ranch in an area disturbed by previous restoration activities.

### 3.0 Summary of Measurable Outcomes

The key measurable outcomes of Year 7 are as follows:

1. Developed a Forest Thinning and Prescribed Fire Preparatory Prescription for Columbia Lake Lot 48
2. Completed 58.12 hectares of open forest thinning treatments at Thunder Hill Ranch
3. Completed 15.97 hectares of open forest thinning and pile burning treatments at Columbia Lake Lot 48
4. Removed 2700 metres of derelict fencing at Columbia Lake Lot 48

### 3.0 References

BC CDC 2015: [Conservation Status Report](#)

COSEWIC 2012: [American Badger jeffersonii subspecies \(Taxidea taxus jeffersonii\), Eastern population - Species search - Species at risk registry](#)

COSEWIC 2018: [Grizzly Bear \(Ursus arctos\), Western population - Species search - Species at risk registry](#)

COSEWIC 2023: [Common Nighthawk \(Chordeiles minor\) - Species search - Species at risk registry](#)

COSEWIC 2024: [Lewis's Woodpecker \(Melanerpes lewis\) - Species search - Species at risk registry](#)