



6CW Project Report for CWSP and Kootenay Connect 2024-2025

Conservation of Cottonwood Trees in Columbia Wetlands: saving important wildlife trees

By

Brian Gustafson, MSc., RB.Tech., and Kellie Sych, BNRS, BIT

March 18, 2025



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



Summary

This subproject focuses on monitoring and mitigating the impact of beavers on cottonwood/aspen stands throughout the Columbia Wetlands and includes the installation of wire guards on important cottonwood trees as well as assessment/repair of past wire guards on trees. Previously completed wetland mapping has identified critical stands of cottonwoods for targeted surveying.

Building on the work done in Year 5, the work in Year 6 included assessing beaver activity along the Columbia Wetlands via canoe and identifying high quality wildlife trees or cottonwood stands for future wrapping. Mature cottonwoods with existing nest structures or evidence of wildlife use were prioritized, as well as stands with multiple mature trees and younger recruitment trees. All identified stands showed significant evidence of beaver activity.

Previously installed wire guards were assessed on trees near Radium, Brisco, Parson, and Golden.

Work Plan

1. Assess the status of the previous years' wire guards to protect cottonwood, i.e., did they protect the trees? Adjust wiring as required.

Fieldworkers assessed the condition of previously wrapped cottonwood trees throughout the project area by foot on October 3rd, 2024, and January 8th, 2025. Most wraps were in good condition with no lift or degradation. There was no evidence of beaver chew through the wire, however it was evident beavers were occurring through the area (i.e. slide paths, tracks, felled unwrapped trees). This method remains effective in preserving cottonwoods across the project area, despite beaver activity.

Sites

Radium

On October 3rd, 2024, a total of 21 trees were assessed. One wrapped cottonwood had fallen over due to decay (Figure 1), the remaining 20 were still wrapped well and intact. The crew reinforced the stucco wire using staples on one of the trees as it had been impacted by some fallen branches.

Brisco

The crew assessed 10 of the 29 trees wrapped in the Brisco area on October 3rd, 2024. The remaining 19 were not assessed at the time due to the wetland being inundated with water and the group of trees south of the Brisco bridges are best accessed via private property. The trees assessed were all located north of the Brisco bridges. Two of the 10 wrapped trees had fallen over and been uprooted (Figure 2). There was no evidence to imply beavers were the cause of the trees falling.

The crew returned on January 8th, 2025, to assess 6 out of the remaining 19 trees that were not previously assessed. One wrapped tree had fallen from decay. The crew removed the stucco wire from the fallen tree and wrapped a new tree in the stand. The remaining 13 trees are accessed via private property and have not been assessed.



Figure 1. Wrapped tree fallen from decay in Radium.



Figure 2. Two uprooted wrapped trees fallen in Brisco.

Parson

A total of 11 trees were assessed west of the Parson bridge on October 3rd, 2024. All wrapped trees were in good condition and required minimal modifications. The stucco wire on one of the trees was reinforced using staples.

Golden

The crew assessed the 3 wrapped cottonwoods near the Golden airport on January 8th, 2025. All the trees were still wrapped well and intact.

2. Locate additional large stands of cottonwoods and aspens in the Columbia Wetlands using the CWSP wetland mapping to:
 - a) inform new sites to install wire guards on large wildlife trees and important stands of aspen/cottonwood; and

In addition to an initial desktop overview of the wetland mapping, a survey was completed by canoe between Parson and Nicholson to record high-quality wildlife trees or cottonwood stands for future wrapping along the Columbia Wetlands on September 19th, 2024. GPS locations were recorded using Avenza, and photos of all identified trees and stands are connected to these GPS points. Below is a map of the identified features of note (Figure 3).

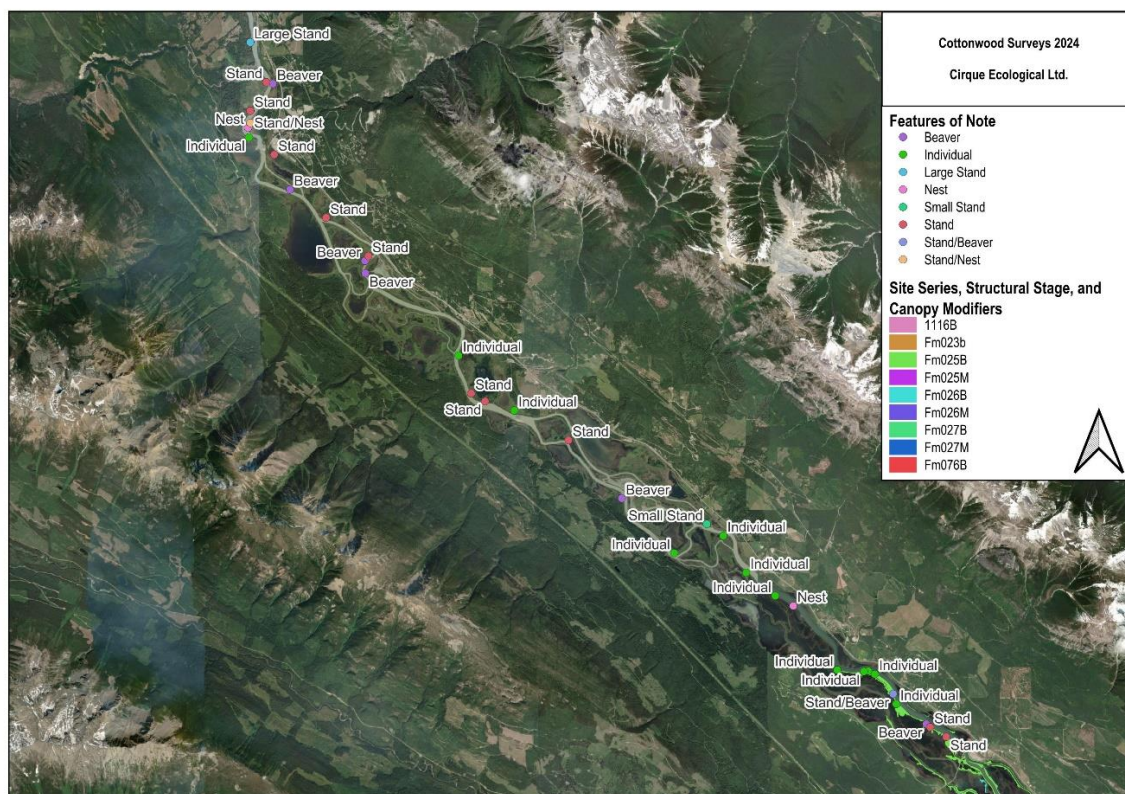


Figure 3. Features identified include individual trees for future wrapping, cottonwood stands, nests, and beaver activity.

b) visit and assess the status of beaver damage.

In addition to recording high-quality wildlife trees and cottonwood stands, the crew assessed beaver activity (i.e., presence of dams and lodges, gnawed trees and shrubs, tracks, etc.) along the Columbia Wetlands (Figure 3). One beaver was observed swimming in the river and one lodge, and one dam were recorded (Appendix 2. Photos.). Slide paths in/out of the river were evident across the survey area (Appendix 2. Photos.).

3. Install wire protectors in the most important wildlife trees and cottonwood stands along the Columbia River.

Stucco wire was installed on 32 trees on January 10th, January 13th, January 17th, and January 20th, 2025. Wire was 48" tall, a minimum of 4" of space was left between the wire and the tree to accommodate growth. The wire was anchored using branches and deadwood found on site, where necessary staples were used.

Measurable outcomes:

1. **Results and recommendations** from the assessment of how well the previous years' wire guards protected cottonwoods and aspens from beaver harvesting in the Columbia Wetlands.

All trees assessed from previous wrapping appeared to be successfully defending the trees against beaver chew and harvesting. Some wiring had come a bit loose over the base of the trees and were re-anchored. Additionally, some wiring had been damaged from branches falling, these were reinforced using staples. Where possible, the crew removed stucco wiring from felled wrapped trees and wrapped a new tree in the vicinity. We recommend continuing to wrap trees in areas where beaver use is apparent.

2. **Map of all locations where wire protectors** were installed on important cottonwood trees and stands in Year 6 as well as earlier years, i.e., Year 3 (2021-2022) and Year 4 (2022-2023).

See Appendix 1.

3. Install at least **30 wire guards** on a minimum of **10 important wildlife trees in 2 stands** along the Columbia River and in 2 stands of cottonwood/aspens in fall.

A total of 32 wire guards have been installed. Efforts were focused on wrapping high-quality wildlife trees and cottonwood stands where beaver activity was apparent, and no trees were wrapped yet. Two cottonwoods were wrapped near the Golden airport, 18 were wrapped along the banks of the main river channel from the Parson bridge heading north, and 12 were wrapped south of Radium (Table 1).

Table 1. Cottonwood protection sites visited in 2024 or 2025.

| Sites | Notes | Date Checked/ Wrapped |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Radium | <ul style="list-style-type: none">21 previously wrapped trees were assessed | October 3 rd , 2024 |
| Brisco | <ul style="list-style-type: none">10/29 previously wrapped trees were assessed6/19 remaining unchecked previously wrapped trees were assessed | October 3 rd , 2024 January 8 th 2025 |
| Parson | <ul style="list-style-type: none">11 previously wrapped trees were assessed | October 3 rd , 2024 |
| Golden | <ul style="list-style-type: none">3 previously wrapped trees were assessed | January 8 th , 2025 |
| Golden Airport | <ul style="list-style-type: none">2 trees wrappedtrees between 30 and 60 cmbeaver chew in the vicinity | January 10 th , 2025 |
| Northside Parson Bridge | <ul style="list-style-type: none">9 trees wrappedtrees between 25 and 100 cm | January 13 th , 2025 |

| Sites | Notes | Date Wrapped | Checked/ |
|----------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------|----------|
| Radium Mill North | <ul style="list-style-type: none"> • 12 trees wrapped • trees between 21 and 69 cm | January 17 th , 2025 | |
| Northside Parson Bridge | <ul style="list-style-type: none"> • 9 trees wrapped • trees between 25 and 100 cm | January 20 th , 2025 | |

Limitations

Fieldwork in the wetlands during winter presents several limitations, primarily related to access and safety. Ice conditions can be unpredictable. With the milder winters the Columbia Valley has been experiencing, the ice over river channels and marshes was often too thin or non-existent to support safe travel, posing a risk to fieldworkers. Additionally, reaching previously wrapped or identified trees for future wrapping required at times long walks through the wetlands, further complicated by open water, snow or ice. Access was also restricted by private property boundaries, requiring permission or alternative routes.

To enhance coverage and efficiency, a motorized boat used during the summer would be highly beneficial, allowing fieldworkers to navigate more effectively through the wetland project area to wrap and check previously wrapped trees while minimizing physical strain and potential hazards.

Appendix 1. Maps

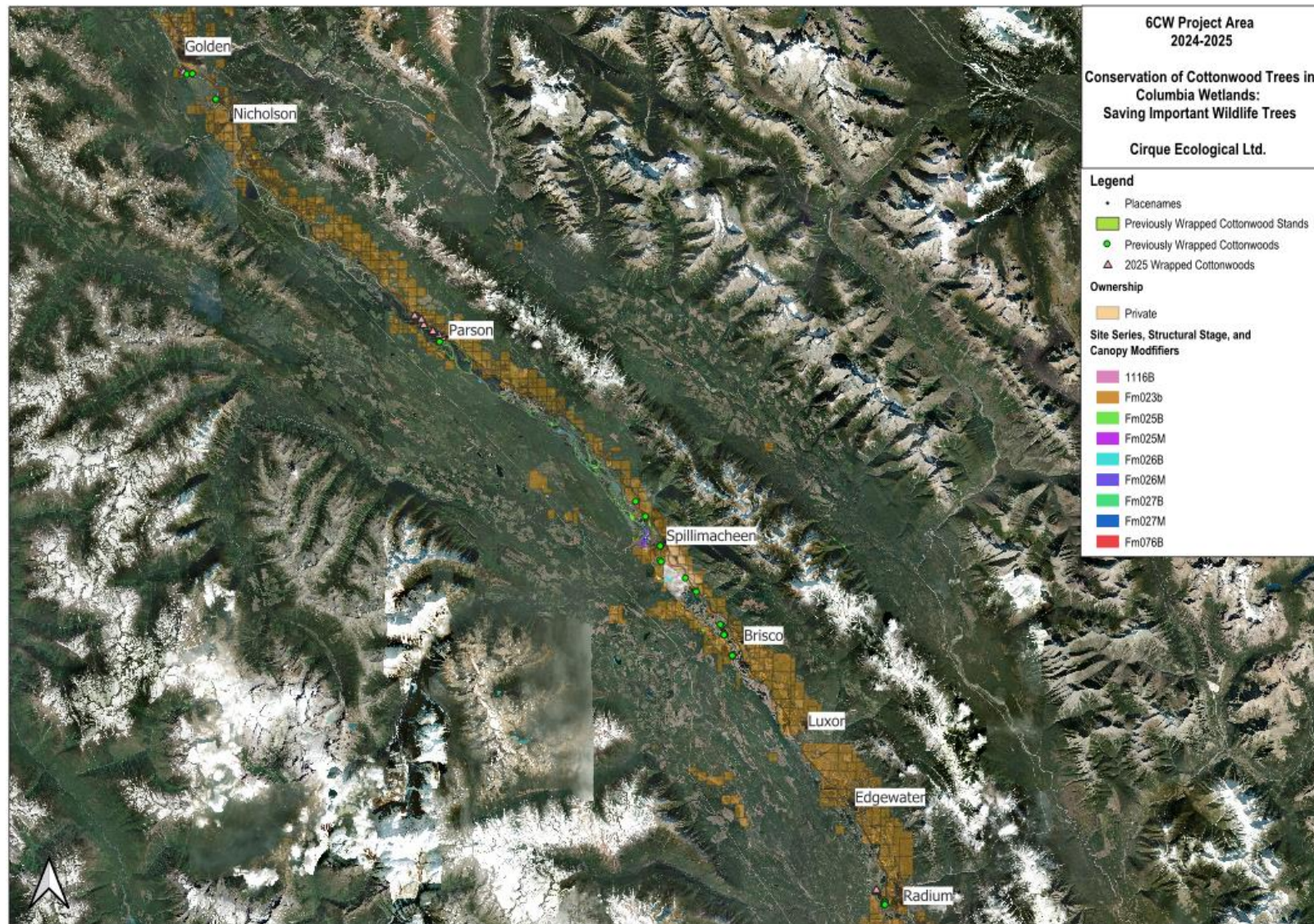


Figure 4. The project area for Year 6 of the Conservation of Cottonwood Trees Project in the Columbia Wetlands for CWSP and Kootenay Connect.

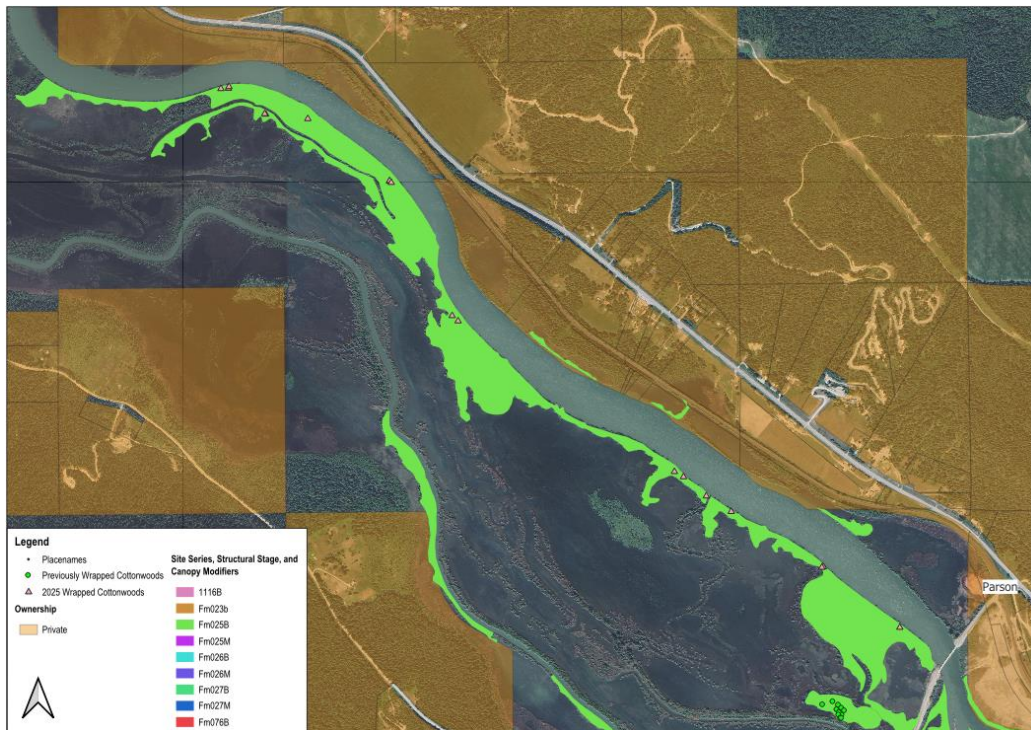


Figure 5. Locations of previously and newly wrapped cottonwoods near Parson.

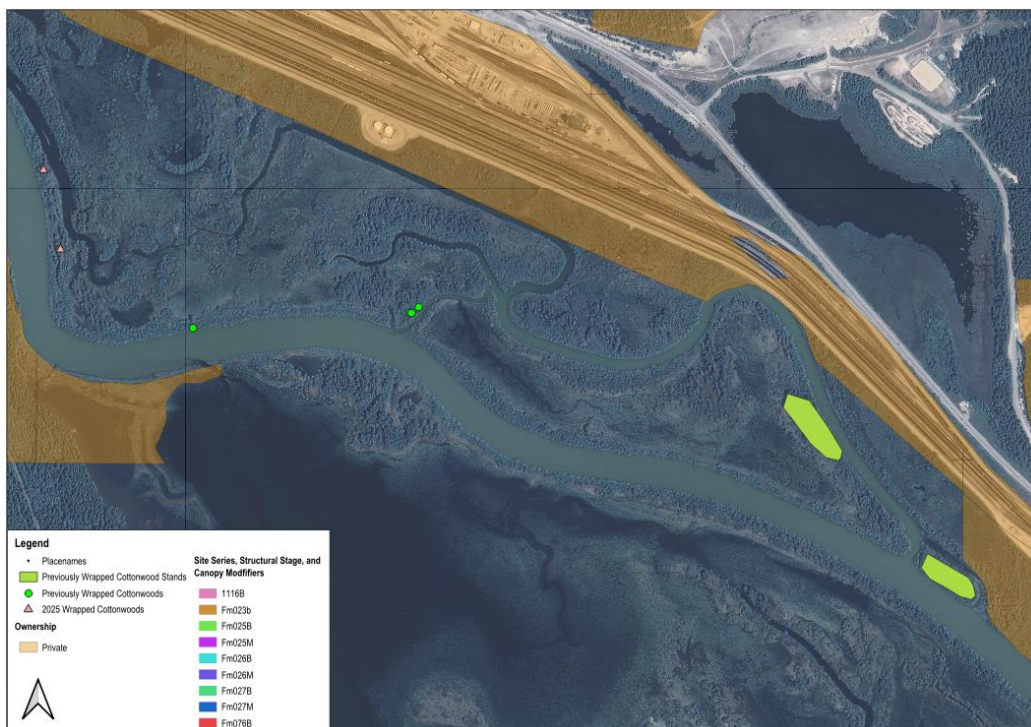


Figure 6. Locations of previously and newly wrapped cottonwoods near the Golden Airport. Green polygons indicate stands where rigorous wrapping occurred.

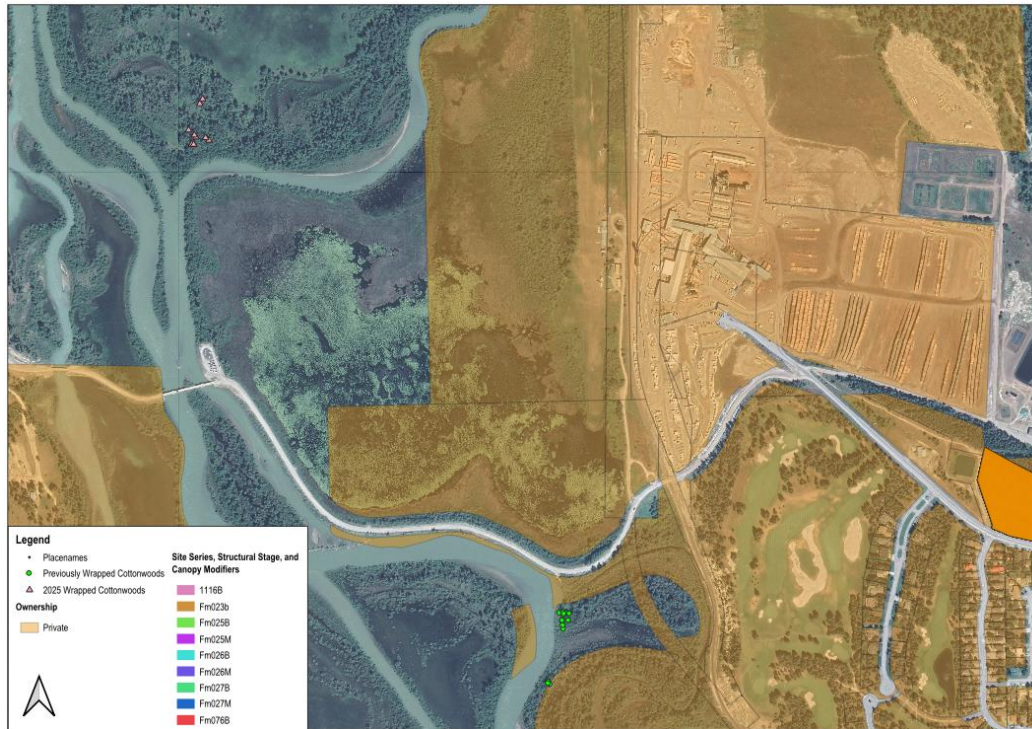


Figure 7. Locations of previously and newly wrapped cottonwoods near Radium.

Appendix 2. Photos.

Table 2. Photos taken during fall and winter fieldwork.

| | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|--|-----------------------|--------------------------------------------------------------------------------------|---------------------------------|--|
| Mature cottonwood stands identified for future wrapping. Photo on the left shows an eagle perched at the top of the cottonwood. | | | | | |
| DIRECTION 322 deg(T) | | 11n 513595 5666217 | ACCURACY 5 m DATUM WGS84 | DIRECTION 118 deg(T) | |
| | | | | 11n 511941 5667783 | |
| | | | | ACCURACY 5 m DATUM WGS84 | |
|  | | |  | | |
| 2024-09-19 12:49:23-06:00 | | | 2024-09-19 13:16:34-06:00 | | |
| Uneven-aged large cottonwood stands identified while canoeing. Photo on the left displayed a large nest. | | | | | |
| DIRECTION 141 deg(T) | | 11n 506571 5673817 | ACCURACY 5 m DATUM WGS84 | DIRECTION 319 deg(T) | |
| | | | | 11n 507714 5673109 | |
| | | | | ACCURACY 2.38 km DATUM WGS84 | |
|  | | |  | | |
| 2024-09-19 15:06:39-06:00 | | | 2024-09-19 15:08:42-06:00 | | |
| Wire guard installation being completed near Radium. | | | | | |
|  | | |  | | |

Beaver chew observed on two single standing mature cottonwoods near the Golden airport.



Beaver lodge being constructed.



Beaver dam blocking inlet from the wetlands to the river.



Slide paths observed while canoeing along the Columbia River.



Fall fieldwork was complete by foot or canoe to assess previously wrapped trees or identify trees to be wrapped in the future.



Winter fieldwork consisted of wrapping the identified cottonwoods. Access was by foot along the frozen wetland.

