



## Current and Future Management of Burned Forests to Protect Cavity-Using Birds and Other Boreal Wildlife

Report to Yukon Fish And Wildlife Enhancement Trust

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### PROJECT ACTIVITIES

*What activities did you complete during your project?*

Our 'birds & burns' research continued for a fifth year in 2025, with field work at five sites across central and southeast Yukon (Figure 1). We conducted standardized searches for new active nests in tree cavities and checked all previously identified tree cavities for reuse. To date we have monitored 465 tree cavities for reuse for up to 4 years and documented 519 active nest cavities. Nesting species include five woodpeckers (Black-backed Woodpecker, n=169; American Three-toed Woodpecker, n=115; Northern Flicker, n=46; Hairy Woodpecker, n=19; Yellow-bellied Sapsucker, n=5), six secondary-nesting bird species (Mountain Bluebird, n=57; Tree Swallow, n=51; Boreal Chickadee, n=12; American Kestrel, n=3; Boreal Owl, n=1; Northern Hawk Owl, n=1), two small mammal species (Red Squirrel, n=19; Northern Flying Squirrel, n=1), and wasps. In 2025 we added the use of endoscopes to check tree cavities for reuse, which allowed us to document evidence of reuse within cavities when external indicators were not detected. In addition to searching for new active nest cavities and tracking reuse in old cavities, we deployed Automated Recording Units (ARUs) at our study sites from 2023-2025 (except one site in 2024 due to flooding). In total, we have captured over 19,000 hours of audio recordings. Also, as in previous years, we completed a bird species checklist at the end of each field day in 2025; over the five years of the study, we have documented 88 avian species across all study sites. Finally in 2025 we collected cavity tree and habitat data for all new cavity trees identified that year.

*How did your activities contribute to you goals and objectives?*

The objectives of this project are to:

1. Describe the structure and composition of the cavity-nesting community in recently burned forests, including identifying keystone excavators, and changes in community composition over time.
2. Describe nest tree selection and determine the influence of pre-fire forest condition and patterns of fire severity on the cavity-nesting community.
3. Develop guidelines for how many years post-fire sites should be protected from harvest to avoid impacts to burn specialists and keystone cavity excavators, and subsequently what, where, and how much of standing deadwood needs to be retained within harvest blocks to avoid impacts of harvesting on cavity-nesters.

Our 5-year study allows us to describe the cavity nest web of recently burned forests, including identifying keystone cavity excavators and documenting changes in community composition over time

since fire (Objective 1). Keystone excavators are those woodpeckers whose cavities are disproportionately important to other cavity-nesting species, particularly species that are unable to excavate their own cavity. Pending final analysis, two woodpeckers that are specialists on burned boreal forest are candidates as keystone excavators for non-excavating, secondary-nesting avian and mammalian species – Black-backed and American Three-toed Woodpeckers. Further, as our study sites are now 3-7 years post-fire we are documenting shifts in the community – declines in nesting activity of the keystone excavators and increases by two secondary nesting-species, in particular Tree Swallow and Mountain Bluebird. Also over the five years of the study we have collected data on each nest cavity tree – including tree species, diameter, and decay condition – and on the surrounding habitat – including forest composition and fire severity (Objective 2). Combined the data collected for Objectives 1 and 2 from 2021-2025 will support the development of forest harvest recommendations (Objective 3).

*Note any variances to your goals, objectives or work plan and explain why they occurred.*

There were no significant variances to our objectives or activities in 2025. Unlike in previous years, we did not experience delays or logistical constraints due to flooding or wildfire.

*Explain how the results of your work contributed to the protection, enhancement or restoration of fish, wildlife or their habitat.*

As noted previously, this project will aid in developing guidelines for forest management – what, where, and how much deadwood to harvest in recent burns – to avoid impacts to potential nest sites for post-fire specialists, keystone cavity excavators, and the entire cavity-using community.

*If you were to do the project again what would you do differently?*

In 2025 our field activities proceeded as planned and the project is on track to meet our objectives.

## **COMMUNICATIONS**

*What did you do to ensure your results were shared with the appropriate groups, people or governments?*

We have just completed a report of 2025 field activities that summarizes the results for all five years of the project. It will be distributed to all relevant First Nations and other partners in the coming months.

*Describe how you recognized the Enhancement Trust and/or its mandate.*

All funders and partners are acknowledged in the field report that will be distributed. In addition, the YFWET is recognized in reports to other funders and in presentations, such as at the Biodiversity Forum in 2025.

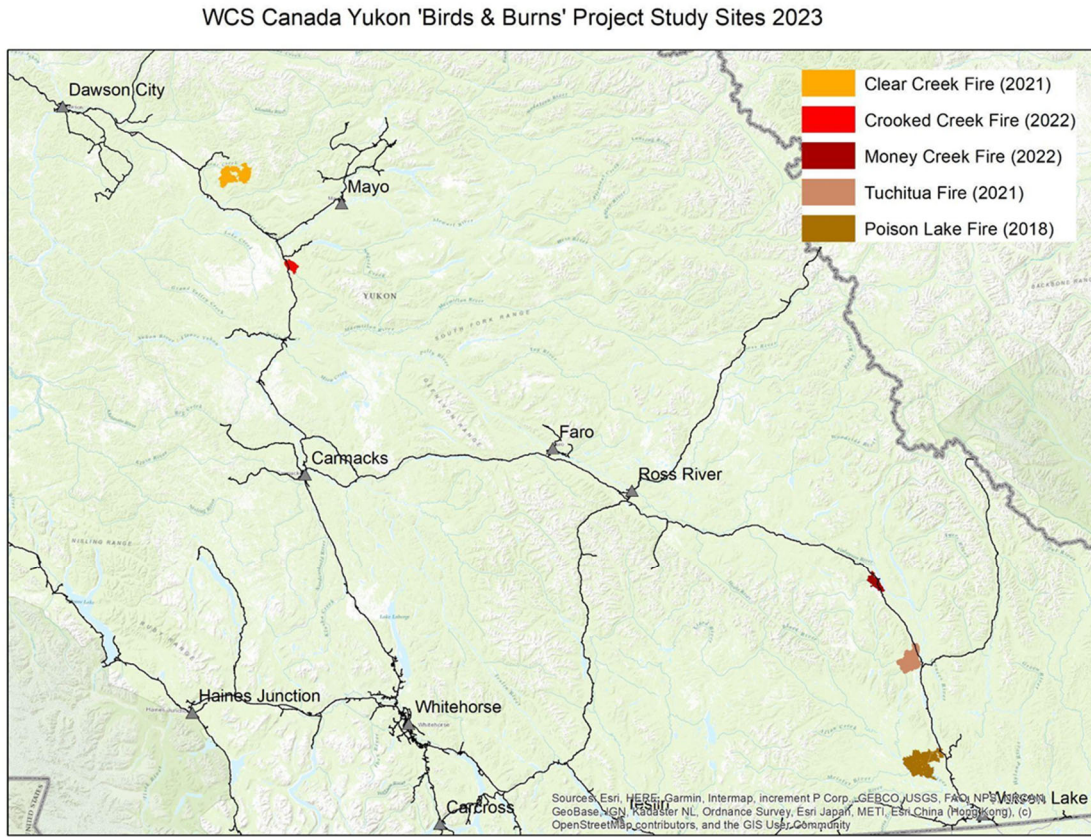
*Identify any communication materials, strategies or techniques that you used to promote your project and its objectives.*

Notes and pictures from the field are shared in internal and external WCS Canada newsletters and in communications and outreach via our social media channels. In 2025 we published a '[Day in the Life](#)' series for the Yukon Birds & Burns Project, profiling the many species that nest in these forests in addition to cavity-nesting birds. In 2025 we presented our research at the Yukon Biodiversity Forum, and recognized YFWET alongside other funders.

*Include photos of the project in action or the finished product.*

See Photos at end of report.

**Figure 1.** Map of the five study sites of the Birds & Burns Project in central and southeast Yukon. Year of fire in parentheses in legend.



**Figure 2.** Images from nest cavities captured using an endoscope camera at select tree cavities in 2025. Clockwise from top left: Boreal Chickadee eggs; Tee Swallow adult on eggs; sleeping young Red Squirrel; Mountain Bluebird nestlings.

