Environment and Climate Change Canada Response to FAAR Request – Ring of Fire Regional Assessment
Updated March 28, 2025

Attachments:
ECCC-2025 RoF FAAR Update-Wildlife related funding.pdf
ECCC-2025 RoF FAAR Update-WildlifeDataSetsWithinAssessmentArea.pdf

	FAAR Questions	**Response**
PART I	Include any relevant information on associated Indigenous, public or other consultation or engagement activities or projects/activities and identify any partners or collaborations	
1.	**Area(s) of expertise** and ECCC mandate in relation to the regional assessment	Environment and Climate Change Canada (ECCC) has specialist or expert information that may be relevant to the regional assessment in the areas listed below. In each of these subject areas we have expertise related to establishing an adequate baseline, assessing potential effects to biophysical valued components, effectiveness of mitigation measures, methods for monitoring and follow-up, as well as information regarding federal policies, standards, and regulations that may be relevant to the assessment. Wildlife, species at risk, and habitat: • Priority species and places as outlined in the *Pan-Canadian Approach to transforming species at risk conservation in Canada*[1], including boreal caribou and eastern migratory caribou; • Migratory birds, their nests, eggs, and habitat under authority of the *Migratory Birds Convention Act* 1994; • Species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); • Species at risk, individuals, their residences, habitat and critical habitat including recovery strategies, action plans and management plans under ECCC's mandate; • Effectiveness of mitigation measures, including offsetting of residual effects to species at risk, migratory birds, and their habitats that remain after avoidance, minimization, and restoration on-site measures have been exhausted; • Ecological function of wetlands; • Ecotoxicology; and • Cumulative effects. Air quality: • Ambient air quality; • Sources of emissions; • Emissions estimation and measurement; • Atmospheric transport, transformation and dispersion modelling; • Cumulative effects; • Effectiveness of mitigation measures; and • Follow-up monitoring.

[1] https://www.canada.ca/en/services/environment/wildlife-plants-species/species-risk/pan-canadian-approach/species-at-risk-conservation.html

		Water quality and quantity:
		
		• Surface water quality;
		• Contamination sources for surface water and groundwater, including effluent;
		• Wastewater;
		• Water quality predictions and modelling;
		• Seepage and runoff effects;
		• Management of contaminated soils or sediments;
		• Hydrology (streamflow rates data and modelling, flooding and extreme events management, drainage control, water levels, water balances);
		• Geochemistry;
		• Cumulative effects; and
		• Follow-up and monitoring.
		
		Climate and meteorology:
		
		• Long-term climate patterns and norms;
		• Marine winds, waves, and weather; and
		• Sea ice and icebergs.
		
		Greenhouse gas emissions and climate change:
		
		• Estimations of greenhouse gas (GHG) emissions (net and upstream);
		• Carbon sinks;
		• GHG mitigation measures and determination of Best Available Technologies/Best Environmental Practices (BAT/BEP);
		• Credible plans to achieve net-zero GHG emissions by 2050;
		• Climate change science to inform evaluation of potential changes to the environment and project resilience to effects of climate change;
		• Climate change policies; and
		• National GHG projections.
		
		Environmental emergencies:
		
		• Emergency management planning advice and guidance related to potential accidents and malfunctions involving unplanned or uncontrolled releases or spills of hazardous substances into the environment, including scenarios where such releases could result in non-negligible adverse environmental effects within ECCC's mandate; and
		• Coordinates expert review of:
		  • Atmospheric transport and dispersion modelling of contaminants in air;
		  • Fate and behaviour of contaminants; and
		  • Hydrologic trajectory modelling of contaminants in water.

2.	**Regulatory authority(s)** in relation to physical works/activities in the Ring of Fire area	***Fisheries Act* – Pollution Prevention Provisions** *http://laws.justice.gc.ca/eng/acts/F-14* ECCC is responsible for the administration (including the enforcement) of the pollution prevention provisions of the *Fisheries Act*, subsection 36(3) to (6), and the implementation of the *Metal and Diamond Mining Effluent Regulations* (MDMER). Subsection 36(3) of the *Fisheries Act* prohibits the deposit of a deleterious substance in waters frequented by fish unless authorized by regulations. In the definition of deleterious, the *Fisheries Act* includes "any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water." Subsection 36(3) makes no allowance for a mixing or dilution zone. In the absence of a regulation authorizing their release, and to the extent that the substance is a prescribed substance or that it can be demonstrated that this substance is a "deleterious substance" as defined in paragraph subsection 34(1) of the *Fisheries Act*, any release from the construction, operation, reclamation or decommissioning stages of the Project, to any waters frequented by fish, may constitute a violation of the *Fisheries Act*. **Authorization to use a water body frequented by fish as a Tailings Impoundment Area (TIA) under subsection 5(1) of the *Metal and Diamond Mining Effluent Regulations (MDMER)* of the Fisheries Act** Subsection 36(3) of the *Fisheries Act* prohibits the deposit of a deleterious substance in waters frequented by fish unless authorized by regulations. The MDMER authorizes the deposit of a deleterious substance under specified conditions, including deposits into a Tailings Impoundment Area (TIA) that is a water or place set out in Schedule 2 of the Regulations. The use of waters frequented by fish for mine waste disposal can only be authorized by amending the MDMER to list the water body in Schedule 2 of the Regulations, designating it as a TIA. ECCC, on the expert advice from the Department of Fisheries and Oceans, will determine the water bodies that require listing in Schedule 2 of the MDMER. Section 27.1 of the MDMER requires the development and implementation of a fish habitat compensation plan (FHCP) to offset the loss of fish habitat that would occur as a result of the use of a fish-frequented water body for mine waste disposal. The owner or operator of a mine is also required to submit an irrevocable letter of credit to cover the plan's implementation costs. The mining proponent must also demonstrate that the disposal of tailings (including effluents) in these water bodies is the best approach from an environmental, technical, economic and socio-economic perspective in accordance with ECCC's "Guidelines for the Assessment of Alternatives for Mine Waste Disposal" (https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/mining-effluent/metal-diamond-mining-effluent/tailings-impoundment-areas/guidelines-alternatives-mine-waste-disposal.html). Providing this information during the impact assessment can reduce the time required for the regulatory amendment process under the MDMER, following the completion of the impact assessment. The timing of the submission of the assessment of alternatives and the FHCP, is however, determined by the proponent. The Governor in Council (Treasury Board), on the recommendation of the Minister of the Environment, makes the final decision to list water bodies in Schedule 2 of the MDMER.

		Consultations under MDMER As part of the process to determine whether to authorize the deposit of a deleterious substance into a TIA under the MDMER, ECCC, in collaboration with the Department of Fisheries and Oceans (DFO) and mining proponents, consults with the public and impacted Indigenous Nations on a report describing the alternatives considered for mine waste disposal and on proposed fish habitat compensation plans (FHCP), both prepared by mining proponents. The assessment of alternatives report is an analysis conducted by mining proponents to demonstrate that the use of waters frequented by fish for the disposal of mine waste is the best option from an environmental, technical, and socio-economic perspective. This assessment must be prepared in accordance with ECCC's Guidelines on the Assessment of Alternatives (https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/mining-effluent/metal-diamond-mining-effluent/tailings-impoundment-areas/guidelines-alternatives-mine-waste-disposal.html). Section 27.1 of the MDMER also requires from mining proponents the development and implementation of a FHCP to offset the loss of fish habitat resulting from the deposit of mine waste into fish-frequented waters. Where possible, consultations on amendments to Schedule 2 of the MDMER will be coordinated with the consultations undertaken during a federal impact assessment, provided that the assessment of alternatives report has been completed in accordance with ECCC's Guidelines, and that DFO has recommended the proposed FHCP to ECCC for the purposes of public and Indigenous consultations. The Minister of the Environment, on the expert advice from the DFO, may approve the FHCP once all the conditions in the MDMER have been met. The timeline for completion of the regulatory process is between 12-18 months following the completion of consultation with Indigenous groups and the public on the assessment of alternatives for mine waste disposal and the fish habitat compensation plan. For projects that meet certain conditions, however, a streamlined approach for approvals may be recommended to the Governor in Council as per the Department's policy on "Streamlining the Approvals Process for Metal Mines with Tailings Impoundment Areas" (https://www.canada.ca/en/environment-climate-change/services/managing-pollution/sources-industry/mining-effluent/metal-diamond-mining-effluent/tailings-impoundment-areas/approvals-process-metal-mines-impoundment-areas.htm) For more information, contact the *Metal and Diamond Mining Effluent Regulations* inbox, ec.mdmer-remmmd.ec@canada.ca ***Canadian Environmental Protection Act,* 1999** *http://laws.justice.gc.ca/eng/acts/C-15.31* ECCC is responsible for the administration and enforcement of the *Canadian Environmental Protection Act, 1999* (CEPA). CEPA is aimed at preventing pollution and protecting the environment and human health. One of CEPA's major thrusts is the prevention and management of risks posed by harmful substances. This includes products of biotechnology, marine pollution, vehicle, engine and equipment emissions, fuels, hazardous waste, environmental emergencies and other sources of pollution. Authority to require emergency plans for toxic or other hazardous substances set out in Schedule 1 to the *Environmental Emergency Regulations, 2019* (E2 Regulations) is provided in Part 8 of CEPA. The E2 Regulations are aimed at enhancing the protection of the environment and human life and health by promoting the preparedness for response to and recovery from environmental emergencies. The E2 Regulations require those who own, have charge, management or control of toxic and hazardous substances set out in Schedule 1 to the E2 Regulations at or above the specified thresholds to provide required information on the substance(s), their quantities and to prepare and implement environmental emergency plans. ECCC provides expertise related to emergency plans for projects to ensure they remain consistent with the requirements of CEPA. Further, ECCC's reviews of accidents and malfunctions are also based on the Department's mandated interests as they relate to the pollution prevention provisions of the Fisheries Act and the *Migratory Birds Convention Act, 1994.*

Under CEPA, the Canadian Ambient Air Quality Standards (CAAQS) have been established for fine particulate matter (PM2.5), ground-level ozone, nitrogen dioxide and sulphur dioxide. Although the CAAQS are not legally-binding, federal, provincial, and territorial governments have agreed to work collaboratively to implement actions to improve air quality and to report on the achievement of the CAAQS on a regular basis. The CAAQS are underpinned by air quality management levels which call for progressively more rigorous actions by jurisdictions as air quality approaches or exceeds the CAAQS.

Environmental Emergency Regulations 2019* under the *Canadian Environmental Protection Act, 1999

The *Environmental Emergency Regulations 2019,* made under the *Canadian Environmental Protection Act, 1999*, require those in possession of listed hazardous substances, exceeding specific quantity and storage levels, to prepare, implement and exercise an Environmental Emergency plan (E2 plan).

The E2 plan must provide details on prevention, preparedness, response, and recovery measures in the event of an environmental emergency. E2 plans are risk management tools. They allow the regulated community to plan for and manage the consequences of chemical substance releases if there is an uncontrolled, unplanned or accidental release into the environment.

In accordance with the *Environmental Emergency Regulations, 2019*, regulated persons must:

- Report company and substance information to ECCC within prescribed timelines;
- Prepare, bring into effect and periodically exercise an environmental emergency plan for each applicable hazard category when meeting or exceeding specific quantity and/or storage thresholds, within prescribed timelines;
- Ensure that the public is notified of the possibility and potential consequences of an environmental emergency, as well as of the measures that would be taken by a regulated party to protect human life and health, and the environment before, during and after a possible environmental emergency;
- Activate the applicable measures set out in the E2 plan in the event of an environmental emergency;
- Report environmental emergencies to ECCC; and
- Submit updated information on company and regulated substances, and E2 plan where applicable, every 5 years.

Species at Risk Act

https://laws.justice.gc.ca/eng/acts/S-15.3/

The Minister of Environment and Climate Change, Minister of Fisheries, Oceans and the Canadian Coast Guard and Minister of Canadian Cultural Identity and Parks Canada are responsible for the implementation of the federal *Species at Risk Act* (SARA). The Minister of Canadian Cultural Identity and Parks Canada is responsible for species at risk found in lands administered by Parks Canada. The federal Minister of Fisheries, and Oceans and the Canadian Coast Guard is responsible for aquatic species at risk. The federal Minister of Environment and Climate Change is responsible for non-aquatic species at risk on federal lands and for migratory birds protected by the *Migratory Birds Convention Act, 1994*. The federal Minister of Environment and Climate Change is also responsible for the administration of SARA, including the listing of species on Schedule 1 (List of Wildlife Species at Risk).

The purpose of SARA is to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming endangered or threatened. Schedule 1 of SARA provides a list of wildlife species at risk in Canada that are considered extirpated, endangered, threatened, or of special concern.

		SARA provides measures for the protection of listed threatened, endangered or extirpated species and their residences. Subsection 32(1) of SARA states that no person shall kill, harm, harass capture or take an individual of a wildlife species listed as an extirpated, endangered or threatened, and Section 33 states that no person shall damage or destroy the residence of one or more individuals of a wildlife species listed as endangered or threatened or as an extirpated species if a recovery strategy recommends the reintroduction of the species into the wild in Canada. For species listed in Schedule 1 of SARA as Extirpated, Endangered or Threatened, a permit may be required from ECCC (section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued: if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species. Permits are also required by those persons conducting activities that contravene the critical habitat destruction prohibitions (subsection 58(1)). For more information on how designated critical habitat is protected on non-federal lands in Canada for species that are both migratory birds protected under the Migratory Birds Convention Act, 1994 (MBCA) and listed as endangered, threatened or extirpated on Schedule 1 of SARA, please visit: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/critical-habitat-statements/protection-statement-habitat-mbca-1994-applies-migratory-birds-listed-under-sara.html. Prohibitions are in place for individuals and residences on federal lands in a province, reserve or any other lands under the *Indian Act*, or lands under the authority of the Minister of the Environment, and for birds listed under the *Migratory Birds Convention Act, 1994* wherever they occur regardless of land tenure. Species that are both a migratory bird protected under the MBCA and listed on Schedule 1 of SARA as endangered, threatened, or extirpated, receive protections under the MBCA and SARA. For some migratory bird species listed under SARA, the residence prohibition (section 33) will protect nest and/or roost sites that are not active, for example when a species reuses these sites in subsequent years. Please note that the protection afforded may differ between the two pieces of legislation. Refer to the Species at Risk Registry for more information on migratory bird residence and protection requirements: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/residence-descriptions.html Furthermore, prohibitions may be in force on land other than federal land pursuant to other orders or regulations under SARA. It is possible that further prohibitions may come into force in the future through orders in Council for individuals, residences and critical habitat on non-federal lands and / or through ministerial order for critical habitat on federal lands. It is also possible that, over the course of the assessment or after the assessment, additional species could be listed under SARA; permits may be required for project activities that affect these additional species. Proponents are advised to monitor for such developments on the SARA Registry https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html. Examples of activities that could require a SARA permit include: • Species surveys that would affect individuals or residences (including capture/release of individuals); • Site preparation (clearing, grubbing, site access, staging, blasting); • Construction and operation of temporary and permanent works and infrastructure; • Creation of new roads, rail lines, or power lines;

		• Infilling of wetlands or watercourses; • Any monitoring that requires capture/release of individuals; and • Sensory disturbance effects (artificial lighting, noise, vibration, human activity, vehicular traffic). ECCC will require detailed information on the potential effects of physical works or activities in the Ring of Fire area, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the project area, and specific effects on federal land, before ECCC can determine whether a SARA permit is required for a specific project or activity. Links to publicly available documents: • Guidelines for permitting under Section 73 of Species at Risk Act https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/policies-guidelines/permitting-under-section-73.html • Species at Risk Permitting Policy https://registrelep-sararegistry.gc.ca/virtual_sara/files/policies/Permitting_EN.pdf In the event that a SARA permit is required, ECCC would evaluate and determine consultation requirements, if any. Section 73 of the SARA describes requirements for consultation with Indigenous communities: • 73(4) If the species is found in an area in respect of which a wildlife management board is authorized by a land claims agreement to perform functions in respect of wildlife species, the competent minister must consult the wildlife management board before entering into an agreement or issuing a permit concerning that species in that area • 73(5) If the species is found in a reserve or any other lands that are set apart for the use and benefit of a band under the *Indian Act,* the competent minister must consult the band before entering into an agreement or issuing a permit concerning that species in that reserve or those other lands ECCC's consultation activities with Indigenous communities would begin following receipt of a SARA permit application. These activities would typically begin with an initial letter to the band council or wildlife management board responsible for the lands where the activity is proposed. This initial contact is then followed by emails, phone calls and/or in person discussions as appropriate. ECCC-led Indigenous consultations related to the issuance of SARA permits will be coordinated with consultation during the impact assessment where possible. If a permit is issued, the description of the activity and how SARA's preconditions were met will be posted on the SARA Registry here: https://species-registry.canada.ca/index-en.html#/permits Under SARA, ECCC also consults on: • Changes to schedule 1 of SARA including adding a new species, and reclassifying or removing a listed species, based on new or updated assessments conducted by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In Ontario, groups consulted include Indigenous peoples known to have the species on their lands; concerned groups and individuals including industries, resource users, landowners and environmental non-governmental organizations; and the provincial government; • Recovery documents mandated under SARA. In Ontario, recovery documents must be prepared in consultation and cooperation with every Aboriginal organization that it is considered will be directly affected by the recovery document, the provincial government, any federal government department who has authority over federal land or other areas on which the species is found, and any other person or organization considered appropriate; and • Orders or regulations for the protection of critical habitat. When such orders or regulations affect a reserve or any other lands that are set apart for the

		use and benefit of a band under the *Indian Act*, the Minister of Indigenous Services and the band must be consulted before making the order or regulation. Consultations include public posting of information, letters, phone calls and in-person meetings. Consultations under SARA occur regularly in the Ring of Fire region, particularly with First Nation communities. Consultations for listing, recovery and protection of species are a legal requirement under SARA and are not considered to directly impact the regional assessment. As such, additional details have not been provided here but can provided on request. ***Migratory Bird Convention Act*** *https://laws.justice.gc.ca/eng/acts/M-7.01/* ECCC is responsible for implementing the *Migratory Birds Convention Act*, 1994 (MBCA) and its *Migratory Birds Regulations, 2022* (MBR 2022) which protect migratory birds, their eggs and their nests, by prohibiting activities that may harm them. Unless a person has a permit or the regulations authorize it, it is prohibited to engage in the following activities: • Capturing, killing, taking, injuring or harassing a migratory bird or attempting to do so; • Destroying, taking or disturbing an egg; and • Damaging, destroying, removing or disturbing a nest, nest shelter, eider duck shelter or duck nesting box, unless the following exceptions apply: o The nest does not contain a live migratory bird or a viable egg; and, o The nest was not built by a species listed in Schedule 1. Modernization of the MBCA in 2022 has additionally identified 18 species of birds whose nests are protected year round (Schedule 1 of MBR 2022). The legislation and regulations apply to all lands and waters in Canada, regardless of ownership. The nests, including unoccupied nests, of species listed in Schedule 1 are protected at all times from destruction, removal, or disturbance, unless the following conditions are met: • Notification of the unoccupied nest has been submitted/received through the Registry for Abandoned Nests; and, • The waiting time designated in the regulations has passed, during which time the nest has not been occupied by a migratory bird. Pileated Woodpecker and Great Blue Heron are the only Schedule 1 species that could potentially occur in the Ring of Fire area. In some situations, it may be possible to obtain a permit to move or destroy an unoccupied nest of a Schedule 1 species. If it is not possible to wait the prescribed period before destroying or relocating the nest of a species listed in Schedule 1, or if there is a need to destroy or relocate the nest of another species of migratory bird where the nest contains a live bird or viable egg and appropriate mitigation measures have been taken, a permit may be available. The MBR 2022 authorizes the issuance of permits for damage or danger, as well as scientific permits, which may apply in certain limited situations. For more information, please visit: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

3.	**Expert information or knowledge** • Include all **existing research, reports and data sets**	In addition to the areas of expertise outlined in questions 1 and 2 please find additional input on existing research, reports and data sets. **AIR** The following datasets are available on the Federal Geospatial Platform. • Air quality analysis for criteria air pollutants (O3, PM2.5, PM10, NO2, SO2) (Regional Deterministic Air Quality Analysis Cumulative Effects products; RDAQA 2013-2019, air quality surface analysis) – 2013 to 2020 https://gcgeo.gc.ca/geonetwork/metadata/eng/0a8f138e-2598-42a8-a7ad-0ebc09fdbc5e also available here: MSC Open Data / Données ouvertes du SMC -RDAQA and viewable here: MSC AniMet /AniMet du SMC - MSC Open Data / Données ouvertes du SMC o 2021-2024 in preparation and should be available at the end of spring 2025. • Wildfire pollution (Pollution from wildfires Cumulative Effects products; RAQDPS-FW 2013-2019, wildfires contribution to PM2.5 pollution) - 2013-2020 https://gcgeo.gc.ca/geonetwork/metadata/eng/1e42f630-a435-4c23-a293-d7cc5709f3bd o also available here: MSC Open Data / Données ouvertes du SMC and viewable here: MSC AniMet /AniMet du SMC - MSC Open Data / Données ouvertes du SMC o 2021-2023 produced and will be made available soon. • Hotspots (Wildfire hotspots Cumulative Effects products; Hotspots 2013-2020 as identified by the Canadian Wildland Fire Information System) - 2013-2020 https://gcgeo.gc.ca/geonetwork/metadata/eng/574c32db-aba7-4919-9c9f-c58398754173 also available here: MSC Open Data / Données ouvertes du SMC and viewable here: MSC AniMet /AniMet du SMC - MSC Open Data / Données ouvertes du SMC o This data belongs to Natural Resources Canada; further updates should be coordinated with them. 2020 to 2024 available soon. • Meteorological reanalysis v3.1, including precipitation – 1980-2024. Meteorological reanalysis available on Canadian Meteorological Centre (CMC) archiving system HPNLS. Contact ECCC for access. Access will also be available through Canadian Surface Reanalysis (CaSR). • Air quality Reforecast and Reanalysis for 2007 to 2017 should be available by April 2025. **WATER** Information on data from the Hydrometric Monitoring Program, for stations in the Ring of Fire area, can be found below under Policies, Programs and Initiatives. **CLIMATE CHANGE** The Canadian Climate Data and Scenarios website (http://climate-scenarios.canada.ca/?page=main) provides multi-model ensemble projections of future climate specific for Canada. Projections of temperature, precipitation and several additional variables are available. The website also links to statistically downscaled climate projections, observed data, derived data products, seasonal forecasts, guidance documents and the recent Canada's Changing Climate Report, 2019 (https://changingclimate.ca/CCCR2019/). Many of these datasets are available as part of the broader collection of climate data, information and resources available through the Canadian Centre for Climate Services (https://www.canada.ca/climate-services).

Information on data from the Air Quality Monitoring Program, for stations in the Ring of Fire area, can be found below under Policies, Programs and Initiatives.

OPEN SCIENCE DATA PLATFORM (OSDP)

The Open Science Data Platform (OSDP) provides information relevant to cumulative effects and development activities across Canada and is publicly available at the following website: https://osdp-psdo.canada.ca/dp/en. More specifically, the platform provides a single window to access data and scientific knowledge relevant to understanding cumulative effects from existing federal, provincial, and territorial on-line databases and registries, including publications from the federal government and its scientists. It provides an interactive geospatial mapping tool to enable mapping of multiple datasets from multiple sources. It offers various features, including keyword-based searching, interactive data visualization on maps, and educational resources covering key topics such as cumulative effects, water, air, climate, biodiversity, land, economy and industry, health, and society and culture. This diverse content may be of value to the Ring of Fire Regional Assessment. In particular, the Platform contains a Content Collection dedicated to the Ring of Fire region, titled "Resources to Understand Cumulative Effects in Northern Ontario" (https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-5F183851-3814-4352-85B8-D292EDC2CCA1)," and five Content Collections on the secondary watersheds in the region:

- Attawapiskat watershed: https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-2C82DC9C-FB7D-4B75-ACE6-E69F57B0EB45
- Ekwan watershed: https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-2C82DC9C-FB7D-4B75-ACE6-E69F57B0EB45/metadata/NRCAN-ROF-1-5F183851-3814-4352-85B8-D292EDC2CCA1/metadata/NRCAN-ROF-1-0FFAED78-7DC7-4B7A-96D5-088F5C091D93
- Lower Albany watershed: https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-2C82DC9C-FB7D-4B75-ACE6-E69F57B0EB45/metadata/NRCAN-ROF-1-5F183851-3814-4352-85B8-D292EDC2CCA1/metadata/NRCAN-ROF-1-8E6A891E-6170-44B8-85E7-820D57179B1E
- Upper Albany watershed: https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-2C82DC9C-FB7D-4B75-ACE6-E69F57B0EB45/metadata/NRCAN-ROF-1-5F183851-3814-4352-85B8-D292EDC2CCA1/metadata/NRCAN-ROF-1-0DAA735C-B358-41A2-B44B-EDB3CD905BFB
- Winisk watershed: https://osdp-psdo.canada.ca/dp/en/search/metadata/NRCAN-ROF-1-2C82DC9C-FB7D-4B75-ACE6-E69F57B0EB45/metadata/NRCAN-ROF-1-5F183851-3814-4352-85B8-D292EDC2CCA1/metadata/NRCAN-ROF-1-74C6FBC0-CD06-4E65-83ED-FD8819FCB675

Each Content Collection connects users to data within the main cumulative effects themes, including air, water, climate and biodiversity.

WILDLIFE/HABITAT

ECCC has a variety of information, expertise and data with respect to wildlife and their habitat. Specific to the Ring of Fire region, the following information is available:

- Reports on species at risk published on the Species at Risk Public Registry;
- Critical habitat for species at risk published in the Open Government Portal;
- Surveys and monitoring of migratory birds, species at risk, and their habitats, available upon request;
- CWS-ON Interim Report on Biodiversity in the Ring of Fire Region, V2.0, 2023 (V3.0 in progress); and
- Summaries of knowledge on relevant species, and habitats including threats, mitigation options, and knowledge gaps, available upon request.

Caribou

The 'Agreement for the Conservation of Caribou, Boreal Population in Ontario', signed on April 21, 2022 between the governments of Canada and Ontario, covers a five year period from 2022-2027. The overarching goal of the agreement is for Ontario, with support from Canada, to work collaboratively with Indigenous and non-Indigenous partners to sustain or improve the environmental conditions necessary for recovery of the boreal caribou at the Range-scale, informed by best available science, for all boreal caribou ranges within Ontario, including the Ring of Fire region. The agreement includes commitments to thirteen conservation measures organized into five themes: Monitoring and Science, Habitat Protection and Restoration, Planning and Management, Updates to boreal caribou Conservation Frameworks, and Stewardship Collaborations and Funding.

Environment and Climate Change Canada. 2022. Agreement for the Conservation of Caribou, Boreal Population in Ontario. Species at Risk Act Conservation Agreements. Environment and Climate Change Canada, Ottawa. 33pp.

For further information on Woodland Caribou, boreal population (hereafter boreal caribou) please see the following reports and references therein:

Environment and Climate Change Canada. 2020. Amended Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal Population, in Canada. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. xiii + 143pp.

Environment Canada, 2011. Scientific Assessment to Inform the Identification of Critical Habitat for Woodland Caribou (Rangifer tarandus caribou), Boreal Population, in Canada: 2011 update. Ottawa, Ontario, Canada. 102 pp. plus appendices.

Environment and Climate Change Canada. 2024. Report on the Progress of the Recovery Strategy Implementation (Period 2017-2022) and the Action Plan Implementation (Period 2018-2023) for Caribou (Rangifer tarandus), Boreal Population, in Canada. Species at Risk Act Recovery Strategy Report Series. Environment and Climate Change Canada, Ottawa. xii + 125 pp.

COSEWIC. 2017. COSEWIC assessment and status report on the Caribou Rangifer tarandus, Eastern Migratory population and Torngat Mountains population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvii + 68 pp.

Environment and Climate Change Canada. 2018. Action Plan for the Woodland Caribou (Rangifer tarandus caribou), Boreal Population, in Canada – Federal Actions. Species at Risk Act Action Plan Series. Environment and Climate Change Canada, Ottawa. vii + 28 pp.

Other Summary Information

The Canadian Wildlife Service (CWS)-ON Interim Report on Biodiversity in the Ring of Fire Region, V2.0, contains details of all work completed by ECCC from March 2020 up to April 2023 in anticipation of the Regional Assessment in the Ring of Fire area including Indigenous engagement; background knowledge and details of survey work related to caribou and caribou predators including potential threats and mitigation; details of survey work related to migratory birds; status of knowledge of species at risk, an assessment of information gaps and priorities for species at risk bats and details of related survey work on species at risk bats and bees; status of knowledge of wetlands in the Ring of Fire region including potential threats and mitigations and preliminary work to develop pathways of effects for peatlands in the Ring of Fire region; and information on research led by ECCC to acknowledge and address limitations of efforts to project the cumulative effects of development scenarios and natural disturbance on wildlife and wildlife habitat in the Ring of Fire region. An update to this Interim report is currently in progress and V3.0 is expected to be completed later in 2025 and will include details of all work completed by ECCC from March 2020 up to December 2024. As much of the work completed by ECCC was completed prior to the delineation of the assessment area boundary, some surveys conducted and associated results and data provided extend partially outside of the assessment area, however

		most work falls within the boundary outlined in the Terms of Reference. **<u>Publicly Available Data</u>** **Canadian Protected and Conserved Areas Database (CPCAD)** The Canadian Protected and Conserved Areas Database (CPCAD) contains the most up to date spatial and attribute data on marine and terrestrial protected areas (PA) and other effective area-based conservation measures (OECM) in Canada. CPCAD is compiled and managed by ECCC, in collaboration with federal, provincial, territorial jurisdictions, and other data providers. Further information on CPCAD and access to associated maps and data can be found here: https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/protected-conserved-areas-database.html#toc2 **Open Government Portal** The Open Government Portal hosts publicly available datasets produced by Canada's Federal agencies. The platform provides a library of datasets and information accessible to the public along with associated metadata including the "Critical Habitat for Species at Risk National Dataset – Canada", which displays the geographic areas within which critical habitat (CH) for terrestrial species at risk, listed on Schedule 1 of the federal Species at Risk Act (SARA), occurs in Canada https://open.canada.ca/data/en/dataset/47caa405-be2b-4e9e-8f53-c478ade2ca74. This dataset includes critical habitat for some species at risk listed on the registry. Note that not all species at risk have critical habitat mapping available. **Species at Risk Public Registry** The Species at Risk Public Registry houses the latest documents relating to the administration of SARA including COSEWIC status assessments, recovery documents, consultation documents, critical habitat orders and supporting information. The Species at Risk Public Registry is available at: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html. **<u>ECCC Datasets – See Attachments to this Response</u>** *General Information Summaries* The attached Excel file "ECCC-2025 RoF FAAR Update-WildlifeDataSetsWithinAssessmentArea.xlsx"- contains information about data sets collected by CWS and its collaborators within the assessment area boundary as outlined in the Regional Assessment in the Ring of Fire Area Terms of Reference. Figure 1 and Figure 2 shows approximate survey locations for the different data sets. Datasets may partially overlap with or be entirely contained within the assessment area boundary. In addition, CWS is preparing general information summaries on wildlife in the RoF region including: • Maps of critical habitat for species at risk (where critical habitat has been defined); • Summary maps of protected areas, Important Bird Areas, and Migratory Bird Sanctuaries; and • A list of SARA listed Species at Risk observed in the RoF region based on available data.

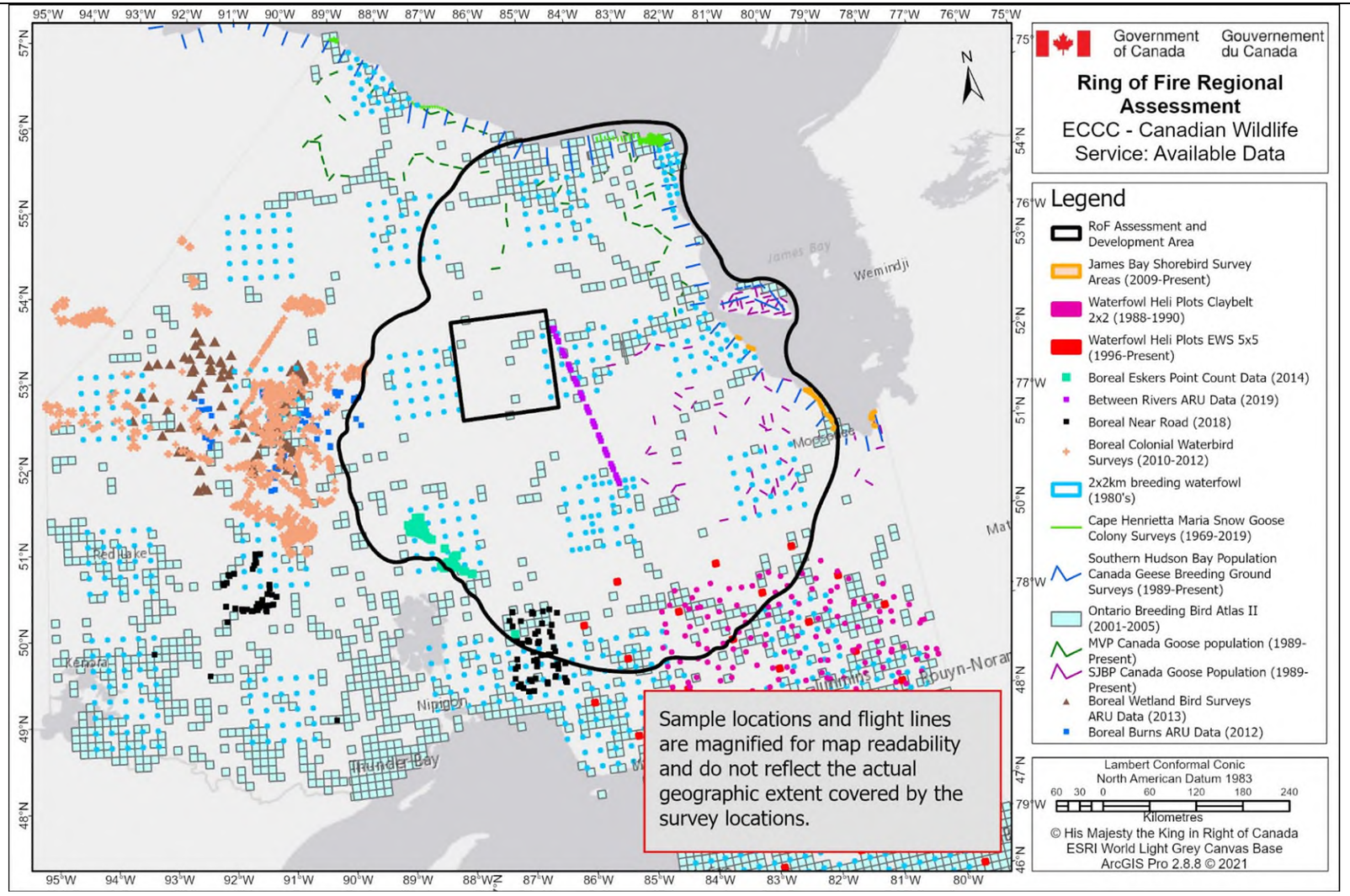

Figure 1: Key surveys started prior to 2021 across the Far North of Ontario led by ECCC or with ECCC involvement that have potential to inform the Regional Assessment. Note that sample locations and flight lines are magnified for map readability and do not reflect the actual geographic extent covered by the survey locations. Relevant data sets are included in “ECCC-2025 RoF FAAR Update-WildlifeDataSetsWithinAssessmentArea.xlsx”

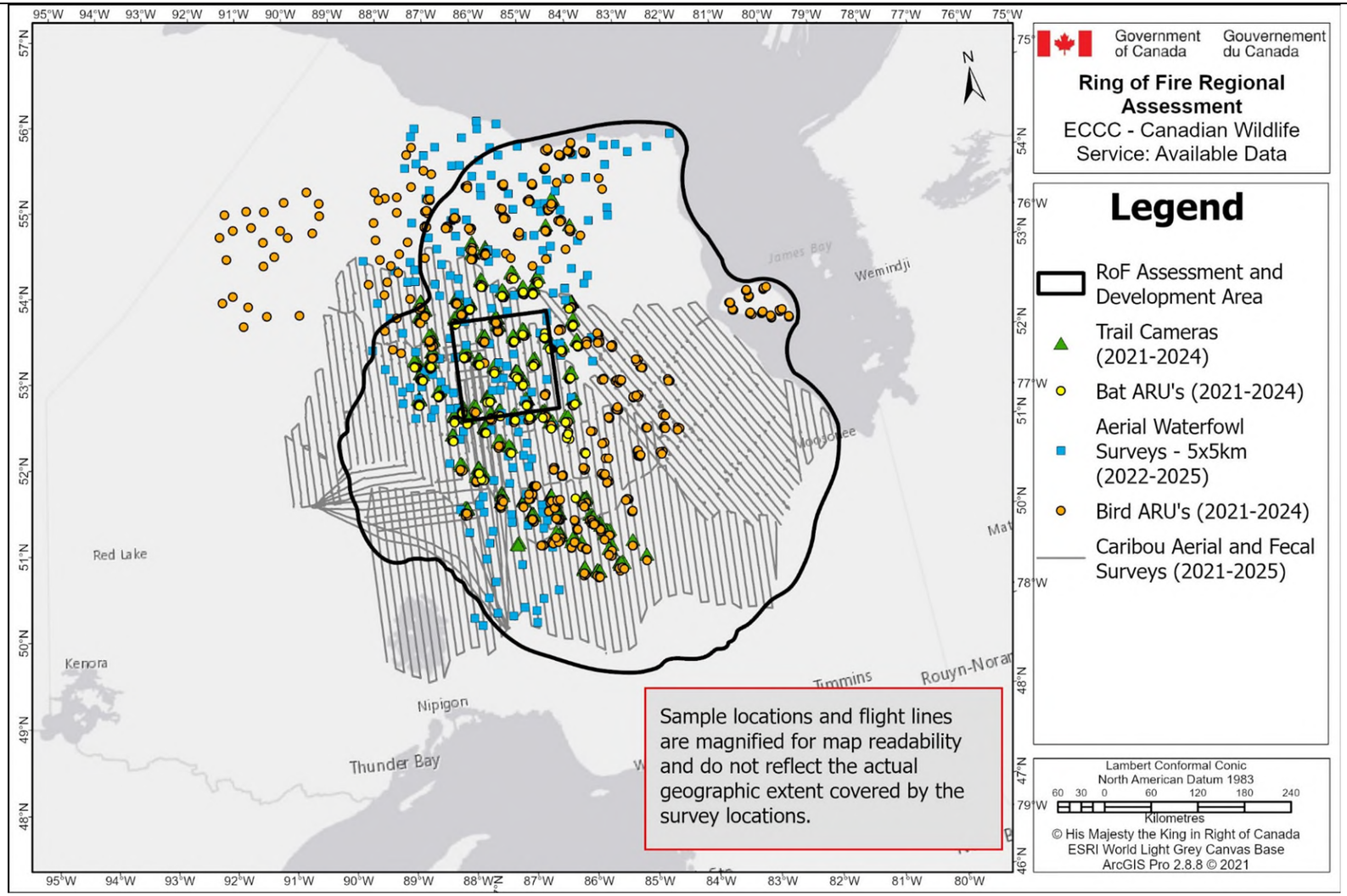

Figure 2: Key surveys started since 2021 across the Far North of Ontario led by ECCC or with ECCC involvement that have potential to inform the Regional Assessment. Note that sample locations and flight lines are magnified for map readability and do not reflect the actual geographic extent covered by the survey locations. Relevant data sets are included in "ECCC-2025 RoF FAAR Update-WildlifeDataSetsWithinAssessmentArea.xlsx". The third Ontario Breeding Bird Atlas (Atlas-3) is also underway, and it is known that some related surveys fall within the Assessment Area.

Reports

The following list provides reports of relevance to the Ring of Fire Regional Assessment based on the Assessment Area as outlined in the Terms of Reference. Reports highlighted in yellow are new for this updated response, either as newly available reports, or reports now relevant based on the assessment area boundary.

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Bennett, K., Brook, R., and St. George, J. Canada Goose Banding Report for James Bay and Hudson Bay, Ontario, Hudson Bay, Manitoba and Akimiski Island, Nunavut Territory, 2024. Ontario Ministry of Natural Resources & Forestry, Peterborough, Ontario & Wildlife Branch - Manitoba Economic Development, Investment, Trade, and Natural Resources, Winnipeg, Manitoba. Unpublished Report to the Interior Canada Goose Population Co-operators, Mississippi Flyway.

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WSP Canada Inc. 2024. Mitigation and Monitoring Options for Caribou in Ontario. Unpublished report prepared on contract to Canadian Wildlife Service – Ontario.

4.	**Policies, Programs or Initiatives**: List and summarize the past, current and planned policies, programs or initiatives of your department or agency that may be relevant to the regional assessment. Include an outline of related funding initiatives in this response and provide information on geographic locations, next steps and timing for the program/initiative	**AIR** The Air Quality Management System is a comprehensive approach for reducing air pollution in Canada and is the product of unprecedented collaboration by the federal, provincial and territorial governments and stakeholders. Air zones are a place-based approach to manage local air quality. Provinces and territories will delineate and manage air zones within their boundaries with the goal to drive continuous improvements in air quality and to prevent the Canadian Ambient Air Quality Standards (CAAQS) from being exceeded. Air management is guided by an Air Zone Management Framework to ensure proactive measures are taken to protect air quality in accordance with the principles of continuous improvement and keeping clean areas clean. (https://ccme.ca/en/air-quality-report). **CLIMATE** Atmospheric Monitoring Currently ECCC has automatic Reference Climate Stations at Peawanuck, Ogoki Post, Weagamow Lake, Big Trout Lake, Lansdowne House, Moosonee, Ogoki Post (Marten Falls First Nation), and Weagamow Lake (North Caribou Lake First Nation). These "Atmospheric Monitoring" sites observe air temperature, humidity, precipitation accumulation, precipitation intensity, snow depth, air pressure, and wind speed and direction. ECCC Climate information is available at http://climate.weather.gc.ca/ or through the Ontario Climate Services office http://climate.weather.gc.ca/contactus/climate_services_e.html. Official weather warnings and forecasts are available at http://weather.gc.ca/ and real-time weather observations are available in XML format on the ECCC datamart at https://dd.weather.gc.ca/observations/swob-ml/ **WATER** Hydrometric Monitoring by the National Hydrometric Program (NHP; conducted in partnership with the province of Ontario) Water Survey Ontario collects and transmits continuous water level data and computes discharge data at hydrometric stations across Northern Ontario. Some stations have longer histories than others do. Gauges are funded by both ECCC and Ontario Ministry of Natural Resources (MNR), primarily, within the Canada-Ontario Agreement on Hydrometric Monitoring. The program is subject to resource availability, and this is verified on a yearly basis. Water quality data is usually not collected, but sampling has in recent years become a funded activity by MNR/Ministry of Environment, Conservation, and Parks (MOECP) for five stations in the Ring of Fire area during the "open-water" (non-winter) months. Funding for this water quality activity is verified on an annual basis by the Administrators of the Canada-Ontario Agreement on Hydrometric Monitoring. Management of Surface water flow activities is guided by national standards of the hydrometric program within the National Hydrologic Service, and additionally by the Ontario Hydrometric Program Coordinators Committee (OHPCC, both ECCC and MNR representatives are the co-leads). The OHPCC meets 4-6 times/year to ensure efficient operations of hydrometric stations, and to discuss operational issues and general discussions, including the topics of network planning and new gauge installation. National Standards for the work of Hydrometric Program can be found by searching for Hydrometric or Water Survey: Government of Canada Publications - Canada.ca Additional information about the NHP can be found here: https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/monitoring/survey/hydrometric-program-national-partnership.html

ECCC has assisted with baseline water quality sample collection at the 5 hydrometric sites in the Ring of Fire area for 2017-2024 (04FC013, 04FC001, 04FC002, 04FB001 04EA001). Samples were analysed by MOECP. Water quality sampling was not completed from 2020 to 2022, but did resume in 2023.

ECCC-Water Survey has assisted with site selection and actively completes hydrometric data collection and computations for 20 stations in the Far North. Stations are funded by ECCC and MNR. One Water Flow monitoring station was installed during initial discussions of the Ring of Fire and continues to be operated and funded directly by Meteorological Service of Canada (MSC) within the area considered to be "Ring of Fire" (Hydrometric Station 04FC003). Water quality data is usually not collected, but sampling has in recent years become a funded activity by MOECP at five of these stations within the Ring of Fire area, during the "open-water" (non-winter) months.

Archived data is available to the public on-line (Water Level and Flow - Environment Canada), and provisional data is available on-line for web-scraping in a "Data Mart" section. A preliminary release of drainage basin polygons associated with monitoring stations is also available through the same website.

ECCC also manages delivery of the Canadian Aquatic Biomonitoring Network (CABIN), a collaborative network for biomonitoring of freshwater ecosystem health using standardized protocols and web accessible tools with corresponding data available through an open data portal: (CABIN Canadian Aquatic Biomonitoring Network - Open Government Portal). Monitoring sites are included in the Ring of Fire area.
Other past projects that took place in the Assessment Area include the following.

Moose River Drainage, 1991-2012:

- Development of methods for assessing cumulative environmental effects using fish populations
- Work expanded in 1997 in collaboration with Ontario Ministry of Natural Resources Environmental Information Partnership with focus on assessing cumulative effects of upstream development on downstream First Nations
- Work also assessed the recovery of fish populations following the closure of the Smooth Rock Falls mill
- Provides baseline for future work with methods transferable to the Far North

Big Trout Lake, 2000s:

- Work conducted at Big Trout Lake to assess polychlorinated biphenyls (PCBs) in dated lake sediment cores at request of Kitchenuhmaykoosib Inninuwug First Nation
- Result of ongoing concerns regarding elevated PCBs in fish and birds in the lake as identified by the First Nations and Inuit Health Division at Health Canada

Characterization of Water Quality Monitoring Sampling Sites, 1990:

- Characterization of the Shamattawa and Kwataboahegan River Basins for the purpose of selecting water quality sampling sites
- Reports included a resource summary (climate, hydrology, geology, vegetation, land use, water quality and quantity)

STRATEGIC ASSESSMENT OF CLIMATE CHANGE

The Strategic Assessment of Climate Change (SACC), published in October 2020, outlines information that the proponent should provide during the impact assessment process on greenhouse gas (GHG) emissions, impacts on carbon sinks, impact on federal emissions reduction efforts and global GHG emissions, GHG mitigation measures, including Best Available Technologies/Best Available Practices (BAT/BEP), and climate change resilience; the circumstances in which an upstream GHG assessment would be required; and the circumstances in which a credible plan for achieving net-zero GHG emissions by 2050

would be required. The SACC will enable consistent, predictable, efficient, and transparent consideration of climate change throughout federal impact assessments. More details are provided in the draft Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment, published in August 2021.

Links:

- Strategic Assessment of Climate Change: https://www.strategicassessmentclimatechange.ca/16736/widgets/65686/documents/40846
- Draft Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment: https://www.strategicassessmentclimatechange.ca/24391/widgets/98155/documents/62220
- Draft Technical Guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience: https://www.canada.ca/en/services/environment/conservation/assessments/strategic-assessments/draft-second-technical-guide-strategic-assessment-climate-change.html

CUMULATIVE EFFECTS

Consistent with the commitments in Building Canada's Clean Future and the Government of Canada interim message on cumulative effects, ECCC is in the early stages of developing a plan to improve the identification and management of cumulative effects that includes Indigenous perspectives and Indigenous Knowledge and that seeks specific opportunities to engage with other levels of government to ensure coordination and collaboration on cumulative effects.

WILDLIFE/HABITAT

Data-collection initiatives

ECCC has been conducting field surveys that will significantly improve understanding of wildlife in the Ring of Fire region, focused on valued components under ECCC's mandate. All upcoming projects are subject to resource availability and approvals. Brief project descriptions are provided below. Datasets are further detailed in the attached excel file "ECCC-2025 RoF FAAR Update-WildlifeDataSetsWithinAssessmentArea.xlsx". Key field programs that ECCC has led or been involved in are summarized below.

Waterfowl and Waterbird Surveys
Helicopter surveys focused on waterfowl (ducks, geese and swans) and other water birds (gulls, terns, loons, etc.) have been initiated to collect baseline information on their abundance, distribution and habitat use/association within the Ring of Fire region. Surveys occurred in spring (mid/late May to early June) in 2022,2023, and 2024. The purpose of these surveys is to provide new and updated data for survey plots surrounding the Ring of Fire mining claims area and planned road corridors. Additional surveys are planned for 2025 - 2026.

Terrestrial bird Surveys
Fieldwork completed to-date has targeted the most extreme baseline data gaps for terrestrial birds in the area of the Ring of Fire mining claim areas. Data collection in the area was primarily gathered through the deployment of autonomous recording units (ARUs). These units collect data on vocal wildlife, which includes singing and calling birds, frogs, and wolves. Thus far, ECCC deployed 469 autonomous recording units using a spatially balanced and habitat representative hierarchical survey design in May 2021, and in March, May, and June 2022. In addition, ECCC deployed 70 ARUs using a line transect survey design in August 2024. During fieldwork, ECCC also collected habitat photos, peat depth measures, peat cores and environmental DNA (eDNA) samples at some locations to improve site habitat classification and contribute to other research in the region. An additional 76 ARUs were deployed in March 2024 near the Ring of Fire mining claims area as part of remote monitoring equipment deployment, with collection of this data expected in early 2026 (Figure 2). The

		ARUs generally collect data for one breeding season before retrieval. The collected data will provide bird abundance and occurrence estimates, which will enable ECCC to improve model accuracy of baseline conditions and impact scenarios for terrestrial birds. Planned future work will include additional terrestrial bird surveys in the Ring of Fire region and will focus on filling critical gaps in data coverage for baseline data in the region. James Bay Shorebird Project Shorebird populations stop to refuel on the coast of James Bay in numbers of hemispheric significance, providing birds with crucial resources for their survival. The overall intent of the James Bay Shorebird Project (2009-2019) was to contribute knowledge and data to support assessment of shorebird population status and trends, stopover ecology, site designations and protection of specific geographic areas used by birds and species recovery and protection. Although the monitoring and research project focused on shorebirds, partner agencies conducted related work on other migratory birds, other wildlife, and habitats on the James Bay coast. Work on this project is anticipated to resume in 2026. Ontario Breeding Bird Atlas III (2021-2025) The Ontario Breeding Bird Atlas (Atlas-3) is a partnership between Birds Canada, Canadian Wildlife Service (ECCC), Ministry of Natural Resources – Government of Ontario, Ontario Field Ornithologists (OFO) and Ontario Nature. Atlas-3 aims to update estimates of the distribution and abundance of Ontario's Breeding birds with data collected over a five-year period. Some data collection for the Atlas-3 has occurred within the Regional Assessment Area and results will aid in addressing knowledge gaps on birds in Ontario's Far North. Caribou Fecal DNA Surveys ECCC's Canadian Wildlife Service in collaboration with ECCC's Science and Technology Branch Wildlife and Landscape Science Directorate, conducted systematic aerial distribution surveys across the provincial Missisa, Ozhiski, James Bay, Nipigon, and Pagwachuan boreal caribou ranges in February and March of 2021- to-2025, covering a total area of 253, 131 km^2 (Figure 2). A contractor conducted aerial fixed-wing distribution surveys followed by the collection of caribou fecal pellets. To date, 2824 fecal samples have been analyzed by ECCC in partnership with Trent University, with another 896 fecal samples collected in 2025 for upcoming analysis. The lab analysis includes DNA profiling of individual caribou, and additional data including reproductive and stress hormones. This analysis will yield insights including caribou abundance, landscape connectivity, demographic structure (i.e., boreal caribou and the eastern migratory caribou population), dispersal, pregnancy rate, and stress levels. Species at Risk Bat Surveys Opportunistic acoustic surveys for bats were conducted in the Hudson Bay Lowlands and Ontario Shield in summer 2021 and 2022 (Figure 2), as part of a wider acoustic survey targeting birds. The information collected contributes to knowledge on the occurrence of bats in the southwestern portion of the James Bay Lowlands ecozone and the Ontario shield ecozone. ECCC deployed additional bat ARUs in March 2024 near the Ring of Fire mining claims area (Figure 2) as part of remote monitoring equipment deployment, with collection of this data expected in 2026. Species at Risk Bees ECCC partnered with Four Rivers Environmental Services Group to pilot pollinator trapping in the Ring of Fire region in 2021. Four Rivers has continued with opportunistic sampling of pollinators during their fieldwork activities in Ontario's Far North. Caribou Predator Surveys Predation is a major contributing factor to population declines of caribou. Human development in previously undeveloped areas, such as the Ring of Fire region, can potentially increase predation risk to caribou by wolves and other predators. The collection of baseline predator data will be used to better understand predation risk to caribou populations in Ontario's Far North. ECCC has partnered with researchers from Wilfrid Laurier University and Natural Resources Canada's Canadian Forestry Service for the deployment of trail cameras in conjunction with ARUs being deployed for terrestrial birds. 273 trail cameras and 267 ARUs were deployed by ECCC staff and contractors in 2022 in the Big Trout Lake ecoregion, the James Bay Lowlands ecoregion, and the

Northern Taiga ecoregion, and retrieved in September 2022, March 2023, and September 2023 (Figure 2). An additional 160 cameras were deployed in March 2024 near the Ring of Fire mining claims area as part of remote monitoring equipment deployment with collection of this data expected in early 2026 (Figure 2).

Wolves are challenging to study due to their low population density and large home ranges. Acoustic surveys provide a highly cost-effective alternative technique to visual surveys and studies suggest that ARUs can detect wolf howls up to 4.6 km away. A portion of the ARUs deployed during terrestrial bird surveys from 2012-2023 have been re-analyzed to identify wolf howls, which can provide information on wolf occurrences and minimum animals counts, both of which provide valuable data on relative caribou predation risk.

Relevant G&C agreements from 20-21 to 24-25

ECCC-led contribution agreements between 2020/21 and 2024/25 support Indigenous communities and organizations in the Ring of Fire region. Projects support objectives including collection and compilation of Indigenous Traditional Knowledge (ITK) and values related to biodiversity, wildlife surveys, carbon assessment, and developing capacity to establish Indigenous Protected and Conserved Areas through Cumulative Effects (CE), Indigenous Partnership Initiative (IPI), Indigenous Partnerships for Species at Risk (IPSAR), Indigenous-led Area Based Conservation (ILABC), and Indigenous-led Nature Based Climate Solutions (ILNCS) funding programs. The agreements support the goals of building capacity and knowledge held by the communities, which may support their participation in the Ring of Fire Regional Assessment. Note that the terms and conditions of many funding contribution agreements with Indigenous recipients stipulate that all intellectual property rights created in association with the project remain the property of the recipient and as such can only be released or shared by the recipient. ECCC also supports Indigenous communities and organizations through Indigenous Guardians funding. More information on Indigenous Guardians can be found at https://www.canada.ca/en/environment-climate-change/services/environmental-funding/indigenous-guardians.html.

The attached Excel file “ECCC-2025 RoF FAAR Update-Wildlife related funding.xlsx” lists ECCC G&C agreements from 2007-2008 to 2025-2026, relevant to the Ring of Fire region. The following list provides ECCC wildlife-related policies, programs and initiatives active in 2025-2026, that may be of relevance to the Ring of Fire region. G&C funding opportunities are available for some of these programs and initiatives.

Cumulative Effects – Funding available through G&C opportunities to:

- Build capacity and engage Indigenous communities to advance the use and integration of Indigenous Knowledge and participation in Regional Assessments; and,
- Continue to support clear and transparent evidence-based decision making in the Impact Assessment process by developing Open Data tools to effectively manage and enhance access to user-friendly biodiversity information.

Habitat Conservation and Protection Programs, Policies and Initiatives

Through the following programs, policies, and initiatives, ECCC will continue to support efforts of partners and Indigenous Peoples to: restore, conserve, connect and protect habitat, in particular contributing to the federal government’s commitments to protecting 25% of Canada’s land and ocean by 2025 and working towards 30% by 2030; and to help manage priority habitats, including ECCC’s Protected Areas, and promote their value to Canadians.

- *Convention on Wetlands of International Importance (Ramsar Convention)* - To lessen the loss of wetlands and to ensure their conservation and sustainable wise use for future generations. Canadian conservation-based stakeholders work together to designate and effectively manage Ramsar sites. Two Ramsar sites occur in the vicinity of the Ring of Fire region; Polar Bear Provincial Park and Southern James Bay.

		• *Federal Policy on Wetland Conservation (FPWC)* **-** To promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future. The FPWC advocates wetland conservation through the full range of federal decisions and responsibilities. Cabinet directed that the FPWC be applied to all policies, plans, programs, projects, and activities conducted by the federal government. This policy commits federal departments to the goal of no net loss of wetland functions in the following three situations: o On federal lands and waters, o In areas affected by the implementation of federal programs where the continuing loss or degradation of wetlands has reached critical levels, and o Where federal activities affect wetlands designated as ecologically or socio-economically important to a region. Due to local circumstances where wetland losses have been severe, in some areas no further loss of any remaining wetland area may be deemed essential. o Within these three situations no further loss of wetland area may be required where wetland losses have been severe • *Protected Areas* - To designate and effectively manage a network of marine and terrestrial National Wildlife Areas (NWAs) and Migratory Bird Sanctuaries (MBSs) for the benefit of migratory birds and species at risk. Co-management of sites is sought where possible. Three MBSs occur in the vicinity of the Ring of Fire region; Hannah Bay MBS, Akimiski Island MBS and Moose River MBS. • *Indigenous Protected and Conserved Areas & other PCA Protected Areas* - To expand Canada's network of protected and conserved areas, including Indigenous protected and conserved areas to contribute to Canada Target 1 of conserving 25% of Canada's terrestrial and inland water areas by 2025 • *Indigenous Guardians Pilot Program* - To support Indigenous Peoples in exercising their responsibilities in protecting and conserving ecosystems, developing and maintaining sustainable economies, and continuing the profound connections between Canadian landscape and Indigenous culture • *North American Waterfowl Management Plan (NAWMP)* - To conserve and restore wetlands, associated uplands and other key habitats for waterfowl and other wildlife populations through the Habitat Joint Ventures partnerships. The Ring of Fire region is part of the Eastern Habitat Joint Venture. • *Nature Smart Climate Solutions Fund (NSCSF) – Indigenous-led Natural Climate Solutions* – To support on-the-ground Indigenous-led ecological restoration/conservation/protection efforts on lands (wetlands, grasslands and forests), waters, and biodiversity to reduce and capture greenhouse gas emissions. It will also support the documentation of Indigenous knowledge on wetlands and identify important wetlands to Indigenous communities. • *Omushkego Wahkohtowin Project Finance for Permanence* (PFP) – will advance reconciliation and nature protection by supporting Indigenous-led partnerships in conservation, and support progress towards Canada's target to protect 25% of lands and oceans by 2025 and 30% by 2030, and co-benefits. <u>Species at Risk Program</u> Continue to advance delivery of the Pan Canadian Approach to Transforming Species at Risk (SAR) Conservation in Canada and Indigenous-led species at risk conservation, with increased focus on projects delivering on the ground action with multi-species benefits. • *Indigenous Partnership for Species at Risk (AFSAR)* - To support the development of Indigenous capacity to participate actively in the implementation of the Species at Risk Act. IPSAR also supports projects that will prevent species, other than species at risk, from becoming a conservation concern. Past and current IPSAR projects are shown in the attached file [ECCC-2025 RoF FAAR Update-Wildlife related funding.xlsx]. • *Pan-Canadian Approach to Transforming Species at Risk Conservation in Canada* – In collaboration with the provinces and territories, the Pan-Canadian approach focuses on conservation of multiple species and ecosystems. Conservation efforts are concentrated on the following three priorities across Canada: o Priority species: Priority species have special meaning for Indigenous Peoples and most Canadians. Delivering conservation outcomes for targeted priority species can have significant co-benefits for other species at risk, wildlife in general, and related biodiversity values. Six federal, provincial and territorial shared priority species have been identified of which one, boreal caribou, occurs in the Ring of Fire region. o Priority places: Priority places are selected to have significant biodiversity, concentrations of species at risk, and opportunities to advance conservation efforts. There are two types of priority places; federal-provincial-territorial priority places and community-nominated priority

places. There are currently no priority places in northern Ontario.
    - Priority sectors and threats: The pan-Canadian approach to species at risk requires collaborative action with partners and stakeholders to implement mitigation measures and to identify opportunities to improve conservation outcomes for species at risk. Key sectors identified under the pan-Canadian approach include agriculture, forestry, and urban development. Key threats include invasive alien species, wildlife disease, and illegal wildlife trade.
- *Indigenous Partnerships* - To support First Nations, Inuit, and Métis efforts to conserve species at risk in a manner that recognizes and enables Indigenous peoples' leadership in the management of lands and resources.

  The program provides directed funding to Indigenous partners for:
    - Building capacity to lead the design and implementation of conservation measures for species at risk and their habitat that consider existing and future interests of partner communities;
    - Negotiating and implementing agreements with interested First Nations, Inuit, and Métis that support Indigenous-led conservation of at- risk species;
    - Supporting the meaningful participation of First Nations, Inuit, and Métis in the implementation of the *Species at Risk Act.*
- *Habitat Stewardship Program* - To support projects that contribute directly to the recovery objectives and population goals of species at risk listed on Schedule 1 of the *Species at Risk Act* and prevent others from becoming a conservation concern.

<u>Migratory Birds and Other Wildlife Programs</u>

Domestic monitoring, conservation action, and management initiatives for migratory birds and other wildlife to deliver evidence-based products that directly support the Pan Canadian Approach to Species at Risk, including listing/recovery, climate change, priority sectors, priority species, conservation planning/action, and Indigenous engagement.

- *NAWMP – Species Wildlife Health* - To support projects that are focused on migratory game birds that are important from a North American Waterfowl Management Plan perspective.
- *Wildlife Health* - To provide country-wide surveillance and support across the country in relation to wildlife health. Projects aim to support:
    - Health and threat monitoring (e.g., parasites, pathogens and diseases, including White-nose syndrome),
    - Assessment of information about these wildlife health issues,
    - Knowledge mobilization, and
    - Program management.
- *Powley* - To provide funding to Métis organizations to gather information on their harvest of migratory birds and be able to participate in cooperative migratory bird conservation and management.
- *Bird Monitoring and Conservation* - To support migratory bird conservation by engaging organizations (especially environmental non-government Organizations and universities, but also other levels of government) in delivery of various projects related to monitoring, management, and conservation of migratory birds.

<u>Operational Framework for Use of Conservation Allowances</u>

- This framework sets the parameters, based on existing legislated authorities, practice and policy, for how and when conservation allowances should be used or recommended by ECCC. Conservation allowances are the third step of the mitigation hierarchy, a three-step approach that first examines options to avoid and minimize environmental impacts. The framework applies where ECCC has a role related to the review or approval of proposed land- or resource-use activities, including those that occur on federal lands or waters, projects, or activities that are subject to federal legislation,

		actions that would affect Indigenous and/or treaty rights, or when ECCC has environmental protection or conservation objectives that would be affected by the proposed activity.
5.	Outline any additional responsibilities, information or knowledge and any **partners or collaborations** that have not been specified, above.	The Accord for the Protection of Species at Risk and the Canada-Ontario Agreement on Species at Risk, outline how the federal and Ontario provincial government cooperate on conservation and protection of species at risk.

New 2025 information is included in red text. For this table, active projects are highlighted in green. Note that the terms and conditions of many funding contribution agreements with Indigenous recipients stipulate that all intellectual property rights created in association with the project remain the property of the recipient.

Fiscal Year(s)	Agreement # or AFSAR project #	Recipient/Organization	Project Title	Program	Reports
2007-2008	AFSAR1227	Eabametoong & Mishkeegogamang	Northern Boreal Initiative - Eabametoong & Mishkeegogamang, Community Based Integrated Land Use Planning Project - Capacity Building and Species of Concern Surveys	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Taa Shi Key Win
2007-2008	AFSAR1216	Webequie First Nation	Webequie, Wunnumin, Kingfisher, and Nibinamik First Nations Woodland Caribou and Wolverine ATK and winter tracking	AFSAR (Aboriginal Fund for Species at Risk)	Final project report TEK Science Report
2007-2008	AFSAR1225	Windigo First Nations Council	Northern Boreal Initiative – Cat Lake & Slate Falls – Land Use Planning – Woodland Caribou Survey – winter and calving habitat	AFSAR (Aboriginal Fund for Species at Risk)	Final project report
2009-2010	AFSAR1424	Keewaytinook Okimakanak Research Institute	Community & youth knowledge sharing of polar bear population in Fort Severn First Nation	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Conservation Strategies for Wabusk in Washeo
2009-2010	AFSAR1403	Mushkegowuk Environmental Research Centre (MERC)	Attawapiskat First Nation's TEK outreach on Polar Bears	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Polar Bear Final Meeting Report
2010-2011	AFSAR1772	Metis Nation of Ontario	SAR-Traditional Knowledge Framework Integration and Community Awareness	AFSAR (Aboriginal Fund for Species at Risk)	Final project report
2011-2012	AFSAR1916 (1113423)	North Caribou Lake First Nation	SAR education & awareness including ATK data collection for North Caribou Lake First Nations Traditional Territory	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Report on Endangered Species - Sturgeon, Caribou and Wolverine
2011-2012	AFSAR1974	Ontario Aboriginal Lands Association	OALA Region Species at Risk Symposiom	AFSAR (Aboriginal Fund for Species at Risk)	Final project report
2012-2014	AFSAR2121 (1200874)	Moose Cree First Nation (MCFN)	Moose Cree in Conservation and Stewardship of Bird Species at Risk within the Homelands	AFSAR (Aboriginal Fund for Species at Risk)	Final and annual project reports Common Nighthawk Survey Report 2012 Red Knot Survey Report 2012
2013-2014	AFSAR2251	Animbiigoo Zaagi'igan Anishinaabek	Woodland Caribou Aboriginal Traditional Knowledge (ATK) and and Traditional Ecological Knowledge (TEK) Research Project	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Elder and Resource Holder Caribou Survey Flight tracks and craterings
2013-2014	1301255	Mishkeegogamang	Mishkeegogamang Ojibway nation collection of Aboriginal Traditional Knowledge of Lake Sturgeon and Woodland Caribou	AFSAR (Aboriginal Fund for Species at Risk)	Project was canceled; no reports available
2014-2015	AFSAR2434 (1405929)	Matawa First Nations Management	Avian species at risk outreach program for Matawa First Nation communities in Northern Ontario's Ring of Fire	AFSAR (Aboriginal Fund for Species at Risk)	Final project report
2014-2015	AFSAR2397 (1404328)	Moose Cree First Nation (MCFN)	Important Bird Areas in the Boreal: Moose Cree capacity building and habitat assessment	AFSAR (Aboriginal Fund for Species at Risk)	Final project report IBA Caretaker Manuel DRAFT Moose River Avian Monitoring Survey - Data
2014-2015	AFSAR2735	Nature Canada	Revising and renaming Important Bird Areas in Southwestern James Bay, Ontario	AFSAR (Aboriginal Fund for Species at Risk)	Final project report
2015-2016	AFSAR2549 (GCXE16E116)	Constance Lake First Nation	Boreal caribou traditional knowledge-based habitat supply model, restoration and monitoring strategy for Constance Lake Traditional Territory in Ontario	AFSAR (Aboriginal Fund for Species at Risk)	Final project report CLFN Boreal Caribou Monitoring and Habitat Supply Model Report (updated)
2015-2016	AFSAR2581 (GCXE16E120)	Matawa First Nations Management	Avian species at risk monitoring and outreach program for Matawa First Nation communities in Northern Ontario's Ring of Fire	AFSAR (Aboriginal Fund for Species at Risk)	Final project report Species list by community
2015-2016	GCXE16E143	Matawa First Nations Management	Building capacity in Eabametoong First Nation to assess, conserve and protect traditionally used wetland areas on and off reserve through baseline data collection and analysis programs	National Wetland Conservation Fund	Final project report with appendices: Laboratory Samples and Analysis Wetland Assessment Field Sheets Outreach materials, photographs, trails map ,sampling locations
2017-2019	AFSAR2987 (GCXE18C033)	Moose Cree First Nation (MCFN)	Moose Cree leadership to protect Species at Risk in the Moose Cree Homelands	AFSAR (Aboriginal Fund for Species at Risk)	Final and annual project reports Point Count Results - July 2018 Species at Risk in the Moose Cree Homelands - HABITAT MODELING OF BIRD SPECIES AT RISK IN THE MOOSE CREE HOMELANDS - FRANCISCO V. DÉNES - MARCH 2019
2018-2019	AFSAR3199 (GCXE19C023)	Matawa First Nations Management	Promoting Stewardship and Recovery of Myotis sp. in the Matawa First Nations Homelands	AFSAR (Aboriginal Fund for Species at Risk)	Final project report & attached outreach materials
2018-2019	GCXE19C060	Matawa First Nations Management	Developing a Community-Based Regional Guardians Program in our Homelands	Indigenous Guardians	Final report and associated outreach and engagement material

2018-2019	GCXE19C089	Matawa First Nations Management	Knowledge Gathering, Research and Capacity Building on Boreal Woodland Caribou Populations within the Homelands of the Matawa member First Nations	Priority Species (Species) - Canada Nature Fund	Final report and associated outreach and engagement material

2018-2019	GCXE19C161	Moose Cree First Nation (MCFN)	North French River Watershed Conservation Plan.	Pathway (Spaces) - Priority I - Canada Nature Fund Target 1 Quick Start program	Final report Draft Report - The Case for Permanently Protecting KAH-PANA-YOW-SIPI (North French River) in Northeastern Ontario
2018-2019	GCXE19C059	Mushkegowuk Guardian Program	Mushkegowuk Council	Guardians Program	Final report
2019-2020	GCXE20C269	Matawa First Nations Management	Four Rivers Regional Guardian Network	Indigenous Guardians	Annual report The following reports are mentioned and may only available upon request from Matawa: Manual 011: Four Rivers database Framework & Sorage Protocol Fish Habitat Assessment Protocol for Matawa member First Nations Constance Lake First Nation: Constance Lake Assessment; and Eabametoong First Nation: Tidy Lake Assessment Matawa case study within the CIER (Centre for Indigenous Environmental Resrouces) report "Hydro -Climatic Monitoring Roadmap : a guide to enabling hydro-climatic monitoring for Indigneous Communities"
2019-2020	GCXE20C002	Matawa First Nations Management	Knowledge Gathering, Research and Capacity Building on Boreal Woodland Caribou Populations within the Homelands of the Matawa member First Nations	Priority Species (Species) - Canada Nature Fund	Final report in preparation
2019-2020	GCXE20C204	Weenusk	Weenusk First Nation Guardians program	Indigenous Guardians	Final report
2019-2021	AFSAR3359 (GCXE20C139)	Matawa First Nations Management	Building Capacity in the Matawa First Nations for Research, Recovery, and Stewardship of Myotis Sp.	AFSAR (Aboriginal Fund for Species at Risk)	Final Report Annual report & attached supporting documents 2019 Transect Surveys - Ginoogaming & Constance Lake First Nation (Preliminary Results) 2019 Stationary Surveys - Ginoogaming First Nation (Preliminary Results)
2019-2021	GCXE20C304	Moose Cree First Nation (MCFN)	Establishing a First Nation Protected Area in the North French River Watershed - capacity building project	Target 1 Challenge - Canada Nature Fund	2019-2020, 2020-2021 Annual Reports; Map of proposed IPCA
2019-2022	GCXE20C305	Kitchenuhmaykoosib Inninuwug First Nation	Establishing an Indigenous Protected Area in the Fawn River Watershed (Kitchenuhmaykoosib Inninuwug homeland) - capacity building project	Target 1 Challenge - Canada Nature Fund	Final report Outstanding Ecological atlas and cultural atlas in preparation
2020-2023	GCXE21C075	Webequie First Nation	Building Capacity through Traditional Knowledge to Conserve and Protect Boreal Woodland Caribou for Future Generations	Cumulative Effects - Impact Assessment and Regulatory System	Funding deferred from 20/21 to 21/22 Annual Project report (21/22) Waiting on Final Report
2020-2026	GCXE21C122	Matawa First Nations Management	Building capacity in Matawa member First Nations for acoustic monitoring of birds and bats in northern Ontario	Cumulative Effects - Impact Assessment and Regulatory System	Annual Project report (20/21) Four Rivers Taking Care of the Spirits of the Land and Water is to Take Care of the People Document DRAFT Annual Project report (21/22) Annual Project report (23/23) in preparation Project funded and in progress for 23/24, 24/25, and 25/26).
2021-2023	GCXE22C185	Constance Lake First Nation	Tracking change: Woodland caribou habitat and monitoring by Constance Lake First Nation	Cumulative Effects - Impact Assessment and Regulatory System	Annual Project report (21/22) Final Report (2021-2023)
2021-2023	GCXE22C079	Mushkegowuk Council	Mushkegowuk Council Indigenous Engagement - Wetlands assessment of possible impacts to Hudson Bay Lowlands and engagement with communities on priority ecosystem components in the Ring of Fire region	Cumulative Effects - Impact Assessment and Regulatory System	Mushkegowuk Wetlands Report 2022 Final Report
2022-2023	GCXE23C457	Attawapiskat First Nation	Caribou recovery in the traditional territories of the Attawapiskat First Nation	Indigenous Partnerships Initiative	Final Project Report
2022-2024	GCXE23C312	Biinjitiwaabik Zaaging Anishinaabek	Lake Nipigon Cumulative Impact Awareness Initiative	Indigenous Guardians	Annual Report (2022-2023)
2022-2024	GCXE23C298	Ginoogaming First Nation	Ginoogaming First Nation Guardians	Indigenous Guardians	Annual report for 2022-2023, submitted final report status unknown
2022-2026	GCXE23C458	Fort Albany First Nation	Caribou recovery in traditional territories of Fort Albany First Nation	Indigenous Partnerships Initiative	Annual Report (2022-2023) Annual Report (2023-2024)

2022-2026	GCXE23C142	Matawa First Nations Management	Advancing Knowledge on at Risk Species in Northern Ontario, Building Capacity in the Matawa member First Nations for Nesting Species at Risk Monitoring Programs	AFSAR (Aboriginal Fund for Species at Risk)	2022-23 ARU Deployment Report 2022-23 Community Science Survey Report 2022-23 Detailed Vegetation Inventory Survey 2022-23 Insect Survey Report 2022-23 Bat Transect Report Geosptial Information: ARU locations, Community Science, Vegetation Survey, Insect Surveys, Bat Transect

2023-2024	GCXE24C084	Attawapiskat First Nation	Kattawapiskak Sipihk N'timihk: Guardians of the Headwaters of the Kattawapiskak River	Indigenous Guardians	No signed agreement on file
2023-2024	GCXE24C096	Constance Lake	Constance Lake First Nation Indigenous Guardians	Indigenous Guardians	
2023-2026	GCXE24C226	Mushkegowuk Council	Building Capacity in Mushkegowuk Council Member First Nations for Biodiversity Surveys in Far Northern Ontario	Cumulative Effects - Impact Assessment and Regulatory System	2023-24 Annual Report
2023-2026	GCXE24C240	Matawa First Nations Management	Matawa Carbon Assessment	Nature Smart Climate Solutions Fund (Indigenous-led Natural Climate Solutions)	Project will assess stored carbon in select upland forest soils and lowland peatlands within the traditional territories of six Matawa member First Nations. Soil cores and surveys of vegetation types Measurements of water levels at sample sites GHG gas flux measurements First step in a longer-term program to establish a carbon management system for Matawa communities to inform land use planning, environmental/impact assessment, and forest management.
2023-2026	GCXE24C052	Constance Lake	Tracking change: Woodland caribou habitat and monitoring by Constance Lake First Nation Phase 2	Indigenous Partnerships Initiative	2023-24 Annual Report
2022-2024	GCXE23C344	Whitesand First Nation	Whitesand First Nation Guardians	Indigenous Guardians	
2022-2024	GCXE23C333	Mushkegowuk Council	Mushkegowuk Council's Regional Guardians Network	Indigenous Guardians	
2021-2024	GCXE22C206	Moose Cree First Nation	Protecting Pei Lay Sheesh Kow in the Moose Cree Homelands	AFSAR	2021-22 Annual Report
2019-2020	GCXE20C052	Métis Nation of Ontario	The project supports the development of Métis Nation of Ontario's migratory bird harvest database.	Powley (Metis)	No Final Report Found, results are unclear
2019-2023	GCXE20C290	Métis Nation of Ontario	The Metis Lands and Waters Guardians Program	Indigenous Guardians	Mid-year project activity report
2020-2026	GCXE21C063	Métis Nation of Ontario	Migratory Birds Harvest by Métis in Ontario	Powley (Metis)	Previously funded: GCXE18C337; GCXE19C073 2021-2022 Annual Report 2021-2022 Final Report 2018-2019 Final Report
2022-2026	GCXE23C178	Métis Nation of Ontario	Metis Nation of Ontario's Species at Risk Project	Indigenous Partnerships	2022-2023 Annual Report 2023-2024 Annual Report
2023-2027	GCXE24C262	Métis Nation of Ontario	Métis Nation of Ontario (MNO) Sofgardé la tèr (land conservation)	NSCSF - ILNCS : Indigenous-led Natural Climate Solutions	Developing emissions reduction project, land assessment rubrics to guide acquisition planning, acquisition of at least 40 hectares of wetlands for long-term conservation and restoration
2022-2026	GCXE23C484	Métis Nation of Ontario	Métis Nation of Ontario - Federal Nature Table	Indigenous distinctions-based Nature Tables	2022-2023 Annual Report 2022-2023 Annual Report
2023-2026	GCXE24C059	Métis Nation of Ontario Secretariat Inc.	Indigenous-led Conservation Capacity Project by Métis Nation of Ontario	IPCAs + other PCAs : ILABC	2023-24 Annual Report
2021-2026	GCXE22S093	Trent University - Dr. Paul Wilson	Implementing genomics-based monitoring to assess the impact of proposed mining activities in the Far North region of Ontario	Cumulative effects	2022-2023 Annual Report
2021-2023	GCXE22S048	Wilfrid Laurier Univeristy - Dr. Jennifer Baltzer	Assessing and projecting cumulative effects of anthropogenic and natural disturbance on vegetation and wildlife in the Ring of Fire area	Cumulative effects	
2021-2023	GCXE22S047	University of Guelph - Dr. Jesse Popp	Prioritizing ethical space to support engagement among scientists and Indigenous communities in the Ring of Fire and beyond	Cumulative effects	
2022-2023	GCXE23S015	University of Guelph - Dr. Catherine Dieleman	Characterization of ecohydrological-carbon relationships and surface-carbon ecosystem service bundles in northern peatlands in the central Hudson Bay region	Cumulative effects	
2023-2025	GCXE24C390	Attawapiskat First Nation	Caribou recovery in traditional territories of Attawapiskat First Nation, Phase 2	Indigenous Partnerships Initiative	2023-2024 Annual Report
2022-2024	GCXE23C146	Missanabie Cree First Nation	Monitoring and Recovery of Little Brown Bat and Northern Long Eared Bat (Northern Myotis) in Missanabie Cree Territory	IPSAR (AFSAR)	2022-2023 annual report 2023-2024 Final Report
2022-2023	GCXE23C256	Wahkohtowin Development GP Incorporated	Nisto Watapi - Rooting our Community's Capacity Toward Nature Based Climate Solutions	NSCSF - ILNCS : Indigenous-led Natural Climate Solutions	
2022-2024	GCXE23C320	Matawa First Nations Management	Four Rivers Regional Guardians Network	Indigenous Guardians	2023-2024 Final Report

2022-2026	GCXE23C337	Métis Nation of Ontario Secretariat Incorporated	Métis Lands and Waters Guardians Program	Indigenous Guardians	2022-2023 Annual Report
2022-2023	GCXE23C370	Wahkohtowin Development GP Inc.	People and the Land – Strengthening our Guardian Program	Indigenous Guardians	
2024-2029	GCXE25C128	Wahkohtowin Development GP Inc.	Indigenous Learning and Knowledge Hub - Wahkohtowin/Restore, Assert, Defend Network	NSCSF - S & D : Natural Climate Solutions - Science for Delivery and Accountability	
2024-2027	GCXE25C165	Métis Nation of Ontario	Métis Nation of Ontario Wetland Protection Project	NSCSF - ILNCS : Indigenous Wetland Knowledge	
2023-2028	GCXE24S072	University of Guelph	Quantifying Carbon-Wildlife Ecosystem Service Bundles Where The James Bay Lowlands Meet The Boreal Shield: Carbon and Vegetation	NCS Climate Smart Ecosystem	
2023-2028	GCXE24S071	Wilfred Laurier University	Quantifying Carbon-Wildlife Ecosystem Service Bundles Where The James Bay Lowlands Meet The Boreal Shield: Terrestrial Wildlife	NCS Climate Smart Ecosystem	
2024-2027	GCXE25S033	Alberta Biodiversity Monitoring Institute	Leveraging bird model products and expertise to support decisions in the Hudson Bay Lowlands and other sparsely sampled regions	NCS Climate Smart Ecosystem	
2024-2026	GCXE25S038	Mushkegowuk Council	Mushkegowuk First Nations Indicators and Metrics of Forest Integrity	NCS Climate Smart Ecosystem	

New 2025 information is included in red text. Included datasets may be entirely or partially contained within the boundary of the RoF assessment area.

Category	Subcategory	Title	Description	Primary Contact Type (Dept, Branch, Ministry, FN, Other)	Ownership	Partners	Format	External Link (if applicable)	Parameters	Spatial Coverage	Time Period - Start	Time Period - End	Status	Study Objectives	Method
Protected Areas	Planning	Canadian Protected and Conserved Areas Database	The Canadian Protected and Conserved Areas Database (CPCAD) contains the most up to date spatial and attribute data on marine and terrestrial protected areas (PA) and other effective area-based conservation measures (OECM) in Canada. CPCAD is compiled and managed by Environment and Climate Change Canada (ECCC), in collaboration with federal, provincial, territorial jurisdictions, and other data providers.	ECCC	ECCC	Various Data Providers	Spatial	https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/protected-conserved-areas-database.html#toc1		National			Ongoing	Summarize protected and conserved areas across Canada	Contributions from federal, provincial, and territorial governments as well as some local governments, private landowners, and others.
Wildlife	Terrestrial	Critical Habitat for Species at Risk National Dataset-Canada	This dataset displays the geographic areas within which critical habitat (CH) for terrestrial species at risk, listed on Schedule 1 of the federal Species at Risk Act (SARA), occurs in Canada. Note that this includes only terrestrial species and species for which Environment and Climate Change Canada (ECCC) and Parks Canada Agency (PCA) lead. Under SARA, critical habitat is "the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or action plan for the species."	ECCC and Parks Canada Agency (PCA)	ECCC, PCA		Spatial	https://open.canada.ca/data/en/dataset/47caa405-be2b-4e9e-8f53-c478ade2ca74		National			Ongoing	Summarizes identified critical habitat for species at risk. The SAR Public Registry should always be considered as the main source for critical habitat information.	Methods for delineating critical habitat are species specific and details can be found in associated recovery documents. In cases where the data are sensitive, the geographic area within which critical habitat occurs may be represented as grids. These are coarse grids (1, 10, 50 or 100 square kilometres) that serve as indicators to locate critical habitat in the recovery planning document.
Landscape Assessment	Planning	Far North Landscape Pattern Analysis, Terrain Analysis and derived eskers and levees	A large suite of map-based and tabular summaries were generated to quantify the composition and spatial patterns of upland features, habitat classes and the relationships between habitat and underlying landscape features (e.g. eskers, levees); Spatial and compositional patterns and trends were identified for the study area, providing a framework for further analysis of avian and other habitat relationships with upland features in the future	ECCC-CWS	ECCC-CWS, Other		Spatial (Shapefile)	NA		transition between Boreal Shield and Hudson Plains	n/a	n/a	complete		
Wildlife	Terrestrial	Between Rivers ARU Data	Acoustic recordings of breeding birds and other calling wildlife (e.g. amphibians) from 46 automated recording units (ARUs) located along a 220-km transect across the western side of the James Bay Lowlands EcoRegion, between the Attawapiskat and Albany Rivers.	ECCC-CWS	ECCC-CWS		Excel	NA	estimated counts of individuals by bird species	Between Attawapiskat and Albany Rivers	2019	2019	complete	characterize breeding bird community of James Bay Lowlands	ARUs deployed in late May; retrieved in mid-October. Recording schedule June 1 through mid-July, with daily dawn and dusk periods, plus nocturnal periods.
Wildlife	Terrestrial	Boreal Eskers Point Count Data	Breeding bird survey data from 5 road-accessible eskers near the proposed southern end of the N-S transportation corridor.	ECCC-CWS	ECCC-CWS		Excel	NA	estimated counts of individuals by bird species	road-accessible eskers along Ogoki Rd corridor, north/west from Nakina	2014	2014	complete	characterize breeding bird community of eskers along Ogoki Rd	Point Counts conducted in mid-June.
Wildlife	Terrestrial	Ontario Breeding Bird Atlas I, 1981-1985	A five-year province-wide project to document the distribution and abundance of all breeding bird species, repeated every 20 years. The first breeding bird atlas ran from 1981-1985. Data was collected primarily by volunteers. Provides breeding evidence recorded in 100kmx 100km squares in northern Ontario, and 10kmx10km squares in southern Ontario. Data in far northern Ontario, including the RoF region, is biased towards river corridors, as these provided access to the interior of the region.	ECCC-CWS	CWS-partnership	Birds Canada, ECCC-CWS, Ontario Ministry of Natural Resources and Forestry, Ontario Field Ornithologists, and Ontario Nature.	MS Access database	http://www.birdsontario.org/atlas/index.jsp	Breeding evidence and occurrence of breeding birds across the province	Ontario	1981	1985	complete	Understand the distribution, range, and population numbers of breeding bird species in Ontario to create a database that forms the basis of management decisions.	Observations of breeding birds in 10 x 10km across Ontario, primarily collected by skilled volunteers.
Wildlife	Terrestrial	Ontario Breeding Bird Atlas II, - 2001-2005	A five-year province-wide project to document the distribution and abundance of all breeding bird species, repeated every 20 years. The second breeding bird atlas ran from 2001-2005. Data was collected primarily by volunteers, but CWS-ON and other partners supplemented volunteer data with targeted survey efforts in some areas including the Far North and the RoF region. Provides point count data to estimate relative abundance birds, as well as breeding evidence recorded in 100kmx 100km squares in northern Ontario, and 10kmx10km squares in southern Ontario. Data in far northern Ontario, including the RoF region, is biased towards river corridors, as these provided access to the interior of the region.	ECCC-CWS	CWS-partnership	Birds Canada, ECCC-CWS, Ontario Ministry of Natural Resources and Forestry, Ontario Field Ornithologists, and Ontario Nature.	MS Access database	http://www.birdsontario.org/atlas/index.jsp	Point counts of all species observed, habitat characteristics at each survey location. Square level data, rare species data (images of forms are available which contain information not found in the database) are available from CWS	Ontario	2001	2005	complete	Understand the distribution, range, and population numbers of breeding bird species in Ontario to create a database that forms the basis of management decisions.	Point counts and observations of breeding birds in 10 x 10km across Ontario, primarily collected by skilled volunteers.

Wildlife	Terrestrial	Coarse resolution habitat availability maps for BCR 7&8 priority bird species	coarse estimates of potential bird habitat using PLC 27 landcover classes BASED on Provincial Land Cover (PLC) mapping: PLC subject to update and change.	ECCC-CWS	ECCC-CWS		Spatial (geodatabase)	NA	habitat availability as represented by PLC 27 landcover types	all of BCR7 and 8	n/a	n/a	complete	to be used to help locate future studies and to inform of potential bird habitat related to development and resource projects: Not intended as definitive data source: finer scale studies required on a project basis	Bird habitats related to PLC 27 landcover derived from remote sensing and mapped.
Wildlife	Terrestrial	Northern Ontario Waterfowl Plot Survey	Aerial waterfowl survey targeting early nesting ducks; includes Canada geese, some waterbirds and some shorebirds. Ontario-wide surveys were carried out between 1980 and 2007, but in the RoF region, no surveys have been conducted since 1990.	ECCC-CWS	ECCC-CWS		MS Access database	NA	counts of waterfowl by species	Ontario	1980	2007	complete	Estimate density of early nesting duck species	Helicopter survey; 2km x 2km square plots; all wetlands, waterbodies, rivers surveyed
Wildlife	Terrestrial	Ring of Fire Waterfowl Survey	CWS, from 2022 – 2025, will conduct aerial surveys to obtain baseline information / data on breeding season abundance and distribution of early- and late-nesting waterfowl (ducks, geese and swans) and waterbird (Sandhill Cranes, loons, gulls, herons, terns, etc) in anticipation of the Ring of Fire Regional Assessment. Information obtained from this work also will provide data for the 3rd Ontario Breeding Bird Altas (2021 – 2025) that is undertaken every 20 years in Ontario. The surveys will entail flying a series of pre-selected, randomly chosen 5 km x 5 km plots containing appropriate habitats for these species throughout the spring breeding season (May – late-June / early-July) within the Ring of Fire Regional Assessment area.	ECCC-CWS	ECCC-CWS		Spatial (geodatabase) & Excel	NA	Counts or visual estimates of individuals in flocks.	Northcentral Ontario, Boreal Forest and Hudson Bay Lowlands. Specially, data collected within 50 km buffer of N/S proposed road corridor and 100 km buffer of the core RoF mining claims. As well as to the north of the mining claims to the Hudson Bay coastline (vicinity of Peawanuck, Ontario).	2022	2025	ongoing	Estimate density of early nesting and late nesting duck species and distribution within the defined study area. Incidental observations also recorded of other bird and mammal species outside of survey plots.	Helicopter survey; 5km x 5km square plots; all wetlands, waterbodies, rivers surveyed
Wildlife	Terrestrial	Ontario Breeding Bird Atlas - 2021-2025	Data collection for the Ontario Breeding Bird Atlas 3 (Atlas-3) began on January 1, 2021. Volunteer birders will count and record the presence of breeding birds across Ontario – from the south to the north – for five years. Atlas-3 is a partnership between the same five organizations as Atlas-2: Birds Canada, Canadian Wildlife Service (Environment and Climate Change Canada), Ministry of Northern Development, Mines, Natural Resources and Forestry – Government of Ontario, Ontario Field Ornithologists (OFO), and Ontario Nature. Volunteers are central to the success of the Atlas. This enormous project is achievable only through the mass participation of the province's birders. It shows what the birding community can accomplish when we work together with a single purpose.	ECCC-CWS	Partnership (Birds Canada, Canadian Wildlife Service (Environment and Climate Change Canada), Ministry of Northern Development, Mines, Natural Resources and Forestry – Government of Ontario, Ontario Field Ornithologists (OFO), and Ontario Nature)	Birds Canada, Canadian Wildlife Service (Environment and Climate Change Canada), Ministry of Northern Development, Mines, Natural Resources and Forestry – Government of Ontario, Ontario Field Ornithologists (OFO), and Ontario Nature		http://www.birdsontario.org/atlas/index.jsp		Point counts of all species observed, habitat characteristics at each survey location	2021	2025	ongoing	The goal of the Atlas is to map the distribution and relative abundance of Ontario's approximately 300 species of breeding birds – from as far south as Middle Island in Lake Erie, to Hudson Bay in the north.	Point counts, checklists, Recorded point counts, long term ARU deployments. Primary volunteers, but partner organizations also submit their data for inclusion.
Wildlife	Terrestrial	Northern Ontario Caribou Fecal DNA Surveys	Aerial winter distribution surveys and collection of fecal pellets across the provincial boreal caribou Missisa Range in 2021 and 2025, Ozhiski Range in 2022, James Bay Range in 2023, and Nipigon and Pagwachuan Ranges in 2024. Aerial winter (February and/or March) distribution surveys conducted by fixed-wing aircraft and targeted fecal pellet collection by helicopter.	ECCC-CWS	ECCC-CWS, Trent University	Trent University, ECCC-WLSD	Spatial (geodatabase)	NA		Sites located in and around Ring of Fire mining claims area including the Missisa, Ozhiski, James Bay, Nipigon, and Pagwachuan ranges.	2021	2025	Ongoing	Estimate caribou abundance in the region as well as collect samples for subsequent analysis of genetic information as well as pregancy rates and stress levels through hormonal analysis.	Aerial distribution surveys and collection of fecal pellets.
Wildlife	Terrestrial	Bat acoustic surveys in Ring of Fire region	Incidental deployment of bat ARUs in the RoF region to collect bat observations. Data collected nightly during June to September survey window using SM4Bat recording units.	ECCC-CWS	ECCC-CWS		Excel	https://www.nabatmonitoring.org/		Sites located near Ring of Fire mining claims area.	2021	2026	Ongoing	Gain a baseline understanding of existing bat populations, species' habitat requirements, and anticipated threats to bats in the region.	Deployment of bat ARUs

Wildlife	Terrestrial	Wolf Acoustic Surveys in the Ring of Fire Region	Dataset of wolf acoustic recordings collected from autonomous recording units (ARUs) deployed across Ontario's Far North. Sampling period is March - September	ECCC-CWS	ECCC-CWS		Excel	NA		Sites located in and around Ring of Fire mining claims area.	2019	2026	Ongoing	Collection of baseline predator data in Ring of Fire Region that can be used to assess caribou's predation risk in the region.	Visual scanning of acoustic spectrograms
Wildlife	Terrestrial	Remote camera trap deployments in Ontario's Far North	Remote camera trap deployment began in 2022 across Ontario's Far North, with the focus being for wolves, Boreal and Eastern Migratory Caribou.	ECCC-CWS	ECCC-CWS, Wilfred Laurier University	ECCC-WLSD, Wilfrid Laurier University	Excel;Spatial	NA		Sites located in and around Ring of Fire mining claims area.	2022	2026	Ongoing	Collect data on caribou, and caribou predators for the purpose of evaluating predation risk for boreal caribou. Data on other wildlife, including wolverine and moose is also captured by the cameras	Deployment, retrieval and/or refreshment of remote recorders (trail cameras)
Wildlife	Terrestrial	Acoustic surveys in Ring of Fire region	Deployment of ARUs in Ontario's Far North to collect observations of migratory songbirds and other incidentally observed species. Deployment began in 2021 with further deployments in 2022, 2023, and 2024.	ECCC-CWS	ECCC-CWS		Spatial (geodatabase) & Excel	NA		Sites located near Ring of Fire mining claims area.	2021	2026	Ongoing	Collection of acoustic information in Ring of Fire to assess abundance and distribution of migratory songbirds and other species	Deployment, retrieval, and interpretation of autonomous recording units (ARU)
Wildlife	Terrestrial	Boreal Burns ARU Data	Acoustic recordings of breeding birds and other calling wildlife (e.g. amphibians) from automated recording units (ARUs) located in a randomly-dispersed selection boreal burns (1-20 years post-fire), across a central-western sub-region of Ontario's Far North. Acoustic interpretations of the dawn and dusk bird community are available. Targeted interpretation was also done to characterize temporal patterns of common nighthawk and olive-sided flycatcher.	ECCC-CWS	ECCC-CWS		Excel	NA	estimated counts of individuals by bird species	central-western sub-region of Ontario's Far North	2012	2012	complete	characterize breeding bird community of boreal burns; model temporal patterns of common nighthawk and olive-sided flycatcher	ARUs deployed in late May; retrieved in mid-September. Recording schedule June 1 through mid-August, with regular dawn and dusk periods, plus nocturnal periods.
Wildlife	Terrestrial	Boreal Colonial Waterbird Surveys	Aerial and Boat Surveys of Boreal Lakes in Northwestern Ontario for Colonial Waterbirds and other incidental species nesting at these locations.	ECCC-CWS	ECCC-CWS		Excel	NA	Habitat availability and breeding waterbird counts	central-western sub-region of Ontario's Far North including Lake St. Joseph	2010	2012	complete	Population and distribution surveys of colonial waterbirds in the boreal forest	Aerial and boat surveys
Wildlife	Terrestrial	Boreal Lake Water Clarity	Water Clarity Raster derived from LandSat Imagery of Boreal Lakes.	ECCC-CWS	CWS-contractor		Raster	NA			2014	2014	complete		
Wildlife	Terrestrial	Boreal Wetland Bird Surveys ARU Data	Acoustic recordings from ARUs located in a randomly-dispersed selection of boreal wetlands, across a central-western sub-region of Ontario's Far North. Acoustic interpretations of the dawn and dusk bird community and DIY air photos taken by helicopter pilot and used to quantify habitat composition are available.	ECCC-CWS	ECCC-CWS		Excel, jpeg	NA	estimated counts of individuals by bird species, geo-referenced air photos	central-western sub-region of Ontario's Far North	2013	2013	complete	characterize breeding bird community of sedge- dominated boreal wetlands, document habitat conditions at time of bird sampling	ARUs deployed in late May; retrieved in mid-September. Recording schedule June 1 through mid-August, with regular dawn and dusk periods, plus nocturnal periods. DSLR mounted vertically to floor of helicopter cabin, aimed orthogonally to the ground through the pilot's long-line window. Pilot hovered at 2,000' a.g.l. above each ARU station, and captured several photos using a remote trigger.

Wildlife	Terrestrial	Hudson Bay Lowlands Shorebird Survey 2005	Pilot study to test aerial survey methods for generating breeding shorebird population indices. All wildlife observed was recorded in addition to breeding shorebirds	ECCC-CWS	CWS-partnership	OMNRF	Excel	NA	Numbers of shorebirds	Hudson Bay lowlands	2005	2005	complete	develop methods to estimate breeding density of shorebird species in peatland habitat	Helicopter aerial survey of counts within fixed width strip transects geese (individuals & nests) along transects.
Wildlife	Terrestrial	Lesser Yellowlegs Tracking Project	Listed below are the studies four primary activities. 1. Deploy GPS Argos PinPoint and geolocator tags on breeding adults to identify migratory timing and routes, including key stopover sites and wintering locations utilized by individual Lesser Yellowlegs within sub-populations in Alaska and Canada. 2. Individually mark and resight individual Lesser Yellowlegs to estimate apparent annual survival rates. 3. Collect biological samples to examine potential genetic variation in sub-populations of Lesser Yellowlegs. Collect information on reproductive rates of Lesser Yellowlegs to better understand nest and brood survival, and juvenile recruitment.	ECCC-CWS	CWS-partnership	OMNRF	Other	NA	migration tracks, annual survival rates	sites across Canada and Alaksa including James Bay	2018	2019	ongoing	The study aims to fill knowledge gaps and investigate the causes of declines fo Lesser Yellowlegs, which includes unregulated hunting on wintering grounds.	GPS Argos PinPoint and geolocator tags
Wildlife	Terrestrial	James Bay Shorebird Project	A partnership to survey southbound staging shorebirds. This work initially included surveys at sites known to support staging shorebirds, with an emphasis on Red Knot (C. canutus rufa) to enable identification of critical habitat, as well as surveys for two federal Species at Risk, the Yellow Rail (Coturnicops noveboracensis) and Short-eared Owl (Asio flammeus). Additional work to collect natural heritage information has been conducted in concert with more recent surveys. Currently, the project involves annual surveys of shorebirds staging at established survey sites along the southwestern coast of James Bay. The goals of the project are to: • Produce reliable estimates of shorebird species staging along the south-western James Bay coast; • understand local and flyway scale movement patterns of shorebirds staging in James Bay; and • identify sites and habitats needed to sustain staging shorebirds. The objectives to meet these goals are to estimate the: • variability in shorebird migration phenology (both annually and among species); • length of stay of staging shorebirds; • annual variation in the abundance of staging shorebirds; • habitat and food resource availability for staging shorebirds; and • minimum proportion of the global Red Knot, subspecies rufa, population that uses the southwestern James Bay coast.	ECCC-CWS	CWS-partnership	OMNRF, Royal Ontario Museum, ECCC-STB	MS Access database	NA	estimated counts of shorebird individuals by species, tag detections and flag resightings, bird banding data, effort data, incidental species sightings, red blood cell inventory,	James Bay coast	2009	2019	ongoing variable	The overall objective of the project is to contribute to shorebird population assessments and conservation, site designations and protection (e.g. Important Bird Area and WHSRN), and species recovery and protection (e.g. Endangered rufa Red Knot , other declining shorebirds).	ground and aerial-based flock counts, re-sighting of unmarked birds, MOTUS
Wildlife	Terrestrial	Hudson Bay & James Bay Moulting Scoter Survey	Aerial-photographic survey of scoters (primarily male black scoter) along the Hudson Bay Coastline of Ontario.	ECCC-CWS / OMNRF	ECCC- CWS Partnership, CWS holds data	ECCC-CWS, OMNRF	Geodatabase	NA	Counts or visual estimates of individuals in flocks.	Hudson and James Bay coastline (0 - 15 km offshore) of Ontario.	1977	2013	Periodic, variable	Abundance and distribution of moulting scoters along Hudson / James Bay coastline of Ontario.	Aerial (fixed-wing aircraft), cruise-style survey along coastline (0 - 15 km offshore) using aerial photographic and visual estimation methods to determine abundance and distribution of moulting scoters (primarily Black Scoter, few Surf Scoter and White-winged Scoter).
Wildlife	Terrestrial	Ontario Clay Belt Waterfowl Survey	The Clay Belt is a unique region in the boreal forest having a rich clay soil in contrast to the low fertility habitats of the muskeg and exposed-bedrock shield surrounding it. This higher fertility of the Clay Belt is evidenced by higher rates of wetland occupancy by waterfowl than in the adjoining areas. This waterfowl study was initiated in part to assist in the planning of wetland conservation efforts by Ducks Unlimited Canada [DUC] in the Clay Belt of northeastern Ontario, which had been identified as a Key Program Area through the Eastern Habitat Joint Venture.	ECCC-CWS / OMNRF	ECCC – CWS Partnership, CWS holds data	ECCC-CWS, OMNRF, DUC	MS Access database	NA	Counts of singles, pairs, flocks (sex and age identification, to extent possible) and brood surveys	Great Claybelt region of northeastern Ontario	1988	1990	Complete	Objectives: (1) to determine species composition, density, and distribution of the waterfowl community, (2) to determine habitat	Aerial (helicopter), plot-based (141, 2 km x 2 km plots) survey of potential waterfowl breeding habitats in the Great Claybelt in northeastern Ontario. Different survey years, timed for early or late nesting waterfowl as well as brood

													correlates of nesting and brood-rearing waterfowl, and (3) to develop a wildlife habitat map using LANDSAT.	surveys.
Wildlife	Terrestrial	James Bay & Hudson Bay Migrant Waterfowl Survey	Migrant Waterfowl Surveys provide periodic data on spring- and fall-migrant waterfowl abundance, spatial and temporal distributions, and use along the shorelines of the Great Lakes and Hudson / James Bay in Ontario. Surveys for waterfowl and other non-target avian species (shorebirds, gulls, waterbirds, etc.) have been conducted between spring and fall along the Ontario coastline and nearshore waters of Hudson & James Bay (Spring 1977, 1978, 1990 & 1995; Summer 1977 – 1979, 1985, 1990, 1991, 1995, & 1997; Fall 1976 – 1981, 1990 – 1995, 1998 & 2001).	ECCC-CWS	ECCC-CWS, CWS holds data	NA	Geodatabase	NA	Counts or visual estimates of individuals in flocks.	Hudson and James Bay coastlines of Ontario.	1977	2001	Periodic, variable	Abundance and distribution of migrant waterfowl along coastlines of Ontario.	Aerial (fixed-wing aircraft), cruise-style survey conducted within survey sectors where visual estimation is used to determine abundance of waterfowl species (and other waterbird species).
Wildlife	Terrestrial	Eastern Waterfowl Survey (in part Waterfowl Breeding Population & Habitat Survey)	Provides annual data on abundance, geographic distribution, trends and population estimates of breeding waterfowl species in eastern North America (primarily southern portions and boreal forest regions of Ontario, Quebec & Atlantic provinces).	ECCC-CWS	ECCC- CWS Partnership, CWS holds data	ECCC- CWS, USFWS, Atlantic Flyway States & Provinces	MS Access database	NA	Counts of singles, pairs, flocks (sex and age identification, to extent possible)	Boreal portion of northcentral Ontario	1996 (some plots, 1996 – 2015)	Present	Annual, ongoing	Provides annual information on the population status of waterfowl in eastern North America to aid in conservation and harvest management decisions in Canada and the US.	Aerial (helicopter), plot-based (5km x 5 Km) survey of potential waterfowl breeding habitats in mixed wood & boreal forest regions within Ontario, Quebec & Atlantic provinces (i.e., the Eastern Survey Area).
Wildlife	Terrestrial	Waterfowl Breeding Population & Habitat Survey	Provides annual data on abundance, geographic distribution, trends and population estimates of breeding waterfowl species in much of northern North America (primarily Ontario [including northern and western regions], the US Prairie Pothole Region, Prairie, Pacific and Northern Canadian provinces & Alaska).	USFWS / ECCC-CWS	ECCC- CWS Partnership, USGS / USFWS	ECCC- CWS, USFWS, Mississippi, Central & Pacific Flyway States & provinces	Geodatabase	NA	Counts of singles, pairs, flocks (sex and age identification, to extent possible)	Boreal and Hudson Bay Lowlands portion of northern Ontario	1955 (some strata, 1996 – 2010)	Present	Annual, ongoing	Provides annual information on the population status of waterfowl in eastern North America to aid in conservation and harvest management decisions in Canada and the US.	Aerial (fixed-wing aircraft), transect-based survey (series of transects distributed within numerous survey strata) through potential waterfowl breeding habitats within major waterfowl breeding areas throughout North America (i.e., the Traditional Survey Area).
Wildlife	Terrestrial	Canada Goose Breeding Surveys - Southern Hudson Bay Population	Aerial transect-based survey of Canada Geese within the Hudson / James Bay Lowlands (incl. Akimiski Island, Nunavut) of Ontario and Manitoba. Formerly individual surveys for former SJBP, MVP and EPP Canada Goose Populations. Survey design has been altered over time as goose populations were amalgamated for management purposes. Most recent survey design change in 2016.	OMNRF / ECCC-CWS	ECCC- CWS Partnership, OMNRF	ECCC-CWS, OMNRF, Mississippi Flyway States & Provinces, USFWS	Excel	NA	Counts or visual estimates of individuals.	James Bay & Hudson Bay Lowlands and coastline (including Akimiski Island, Nunavut) of Ontario as well as Manitoba.	1989	present	Annual, ongoing	Abundance and distribution of breeding population of Canda Geese nesting in the Hudson / James Bay Lowlands of Ontario.	Aerial (fixed-wing aircraft), transect-based survey of visual estimates / counts of Canada Geese (individuals & nests) and other waterfowl / other incidental avian species.
Wildlife	Terrestrial	Cape Henrietta Maria Snow Goose Colony Surveys	Aerial photo survey of Snow Geese pairs / nests at Cape Henrietta Maria on Hudson Bay Coastline of Ontario.	OMNRF / ECCC-CWS	ECCC- CWS Partnership, OMNRF	OMNRF, ECCC-CWS	Excel	NA	Counts or visual estimates of individuals (pairs) or nests.	Cape Henrietta Maria lesser snow goose colony in Polar Bear Provincial Park along the Hudson & James Bay coastlines of Ontario.	1969	2019	Periodic, ongoing	Abundance (pair / nests) and distribution of nesting snow geese at Cape Henrietta Maria.	Aerial (fixed-wing aircraft), survey of visual estimates / counts or photo counts of snow geese (individuals & nests) along transects.
Wildlife	Terrestrial	Hudson Bay Lowlands Breeding Scoter Survey	Aerial survey (one-time) of scoters breeding inland from the Hudson Bay coastline of Ontario.	OMNRF / ECCC-CWS	ECCC- CWS Partnership, OMNRF	OMNRF, ECCC-CWS	Geodatabase	NA	Counts of singles, pairs, flocks (sex and age identification, to extent possible)	Hudson Bay Lowlands south of Peawanuck in the Winisk River region Ontario (area: 10,000 km^2).	2009	2009	Completed	Abundance, distribution and habitat use of breeding scoters (Black, Surf and White-winged) within the Hudson Bay	Aerial (helicopter), transect-based survey inland from the Hudson Bay coastline (~15 – 250 km) using visual counts of birds in various distance bands from the aircraft along transects within suspected breeding habitat for scoters species.

														Lowlands in the Far North of Ontario.	
Wildlife	Terrestrial	Southern Hudson Bay Population Canada Goose Banding Program	Banding during summer (June/July) of flightless adults and pre-fledged young along the James Bay and Hudson Bay coastlines (including Akimiski Island, Nunavut) of Ontario. To determine broadscale movements, seasonal habitat use, migration routes, harvest rates, survival rates, productivity of Canada geese.	OMNRF / ECCC-CWS	ECCC- CWS Partnership, OMNRF	ECCC-CWS, OMNRF, Mississippi Flyway States & Provinces, USFWS	Banding database, housed by USGS Bird Banding Laboratory & CWS Bird Banding Office (seek OMNRF permission for access)	NA	Mark / Recapture data of leg banded birds via recapture, resighting or recovery of birds (found dead or harvested during hunting season)	James Bay & Hudson Bay (including Akimiski Island, Nunavut) coastline of Ontario.	1989	present	Annual, ongoing	To determine broadscale movements, seasonal habitat use, migration routes, harvest rates, survival rates, productivity of Canada geese (primarily of those belonging to Southern Hudson Bay Population).	Broad-scale mark-recapture program using aluminum leg bands to mark adult and pre-fledged young during the summer (June/July) when birds are flightless.
Wildlife	Terrestrial	James Bay and Hudson Bay Snow Goose Banding Program	Banding during summer (June/July) of flightless adults and pre-fledged young along the James Bay and Hudson Bay coastlines (including Akimiski Island, Nunavut) of Ontario. To determine broadscale movements, seasonal habitat use, migration routes, harvest rates, survival rates, productivity of Lesser Snow geese.	OMNRF / ECCC-CWS	ECCC- CWS Partnership, OMNRF	OMNRF, ECCC-CWS	Banding database, housed by USGS Bird Banding Laboratory & CWS Bird Banding Office (seek OMNRF permission for access)	NA	Mark / Recapture data of leg banded birds via recapture, resighting or recovery of birds (found dead or harvested during hunting season)	James Bay & Hudson Bay (including Akimiski Island, Nunavut) coastline of Ontario.	1989	present	Annual, ongoing	To determine broadscale movements, seasonal habitat use, migration routes, harvest rates, survival rates and productivity of Lesser Snow geese.	Broad-scale mark-recapture program using aluminum leg bands to mark adult and pre-fledged young during the summer (June/July) when birds are flightless.
Wildlife	Terrestrial	The Atlantic & Great Lakes Sea Duck Migration Study – Long-tailed Duck Satellite Telemetry Data	Satellite telemetry data from Long-tailed Duck captured at Lake Ontario and tracked throughout their annual cycle (winter, spring/fall staging and breeding locations); data on other sea duck species (Black Scoter, Surf Scoter & White-winged Scoter) may be available upon request to SDJV & partners.	ECCC-CWS	ECCC-CWS Partnership, Biodiversity Research Institute [BRI]	Sea Duck Joint Venture Partners (See Acknowledgements)	Geodatabase	NA	Satellite-telemetry based location data	Atlantic coastline of US, US & CDN Great Lakes region & Hudson / James Bay & eastern Arctic Canada.	2011	2012	Complete	Track migration movements and seasonal habitat use of Sea Ducks (Long-tailed Duck, Black Scoter, Surf Scoter and White-winged Scoter) in eastern North America.	Satellite telemetry tracking of individuals captured at wintering areas in eastern North America (US and Canada: Great Lakes & Atlantic coast).
Wildlife	Terrestrial	The Black Duck & Eastern Mallard Telemetry Study	Satellite telemetry data from American Black Duck and Mallards captured in eastern North America (Atlantic Flyway [AF] States & Provinces, including Ontario) and tracked throughout their annual cycle.	ECCC-CWS	ECCC-CWS Partnership, Ornitrack - Ornitela	ECCC-CWS, USFWS, AF States & Provinces, University of Saskatchewan	Geodatabase	NA	Satellite-telemetry based location data	Atlantic US states & provinces along with Great Lakes region, Ontario boreal & Hudson Bay Lowlands of Canada.	2022	2026	Annual, ongoing	Track migration movements and seasonal habitat use of American Black Ducks & Mallards in eastern North America	Satellite telemetry tracking of individuals captured at wintering areas in eastern North America (US and Canada: Great Lakes region & Atlantic coast).