

Project Name	Region	T4W Action	T4W funding spent	Final Performance Reporting 2020-21: Project Achievements - deliverables & outcomes
Collaborative Wildlife Management	Northeast	4. Data and information	\$ 10,000.00	Stronger relationships were built between Conservation Officer Service, FLNRO biologists, and First Nation communities by involving First Nations in seasonal game checks and in the collection of health samples for Chronic Wasting Disease monitoring and winter tick distribution. Information collected will inform future regulation changes.
Wood Bison - Etthithun Herd - Habitat use and Range Study	Northeast	4. Data and information	\$ 42,801.76	Data was collected on Wood Bison movements and habitat use using GPS collars. The data was used to update the population estimate and range delineation; develop management objectives in conjunction with local First Nations; provide management direction to industry; and inform decisions for habitat protection measures, allocation and Government Action Regulation (GAR) designations.
Moose inventory and Habitat Assessment Management Unit 7-50 and 7-48	Northeast	4. Data and information	\$ 15,000.00	In order to obtain population estimates and demographic ratios, a habitat stratification was completed using GIS and aerial stratified random block surveys were completed for moose in Management Unit 7-50 and 7-48. This updated information will support future management decisions.
Wildlife Management Unit 7-50/41 Stone's sheep, mountain goat, and elk inventory	Northeast	4. Data and information	\$ 35,500.00	This project assessed the following: abundance, density, distribution and recruitment for Stone's sheep in Management Unit 7-75 and 7-41; harvest levels and ram classes for sheep in Management Unit 7-50; sustainable harvest and abundance of mountain goats in Klatches and Chlotapecta Phasor Measurement Units (PMUs); recruitment indices for sheep and elk within/outside caribou recovery wolf control zone; and baseline distribution and abundance of elk and sheep along Tuchodi River in a proposed prescribed burn area.
Identifying travel corridors for grizzly bears	Omineca	4. Data and information	\$ 46,719.97	This project contributes to ongoing work that is assessing the importance of kokanee to grizzly bears in the plateau region. Key outcomes from this project are recommendations for habitat protection and management aimed to ensure habitat conditions that support kokanee life requisites and bears' continued access to this resource.
Threshold analysis for moose	Omineca	4. Data and information	\$ 5,999.70	This contract provided missing data for an internal assessment of moose population trends in relation to landscape and environmental changes within the Omineca region. Past density estimates have been constructed for the 'Prince George South' moose population from 1971 to present and this project worked to incorporate climatic variables into this assessment. University of British Columbia climate modelling specialists were contracted to data mine BCs Climate model to extrapolate monthly temperature and precipitation data from that model specific to the Prince George South area.
Osilinka mountain goat inventory	Omineca	4. Data and information	\$ 10,000.00	Species inventories were completed providing crucial information on abundance, density, distribution and recruitment for mountain goats in Management Unit 7-38. Survey results were used to support licensed allocation decisions.
BC Moose Tracker app support	Skeena	6. Citizen science	\$ 12,146.29	This project enabled the purchase of promotional materials that were distributed to users of the Moose Tracker app to increase awareness and participation. An increase in user numbers and reporting following this promotional effort was observed.
South Skeena moose project & South Skeena moose project 2 and Mapping (SSMM) and Aerial Verification	Skeena	4. Data and information	\$ 244,910.65	The South Skeena Moose Project 1: Moose Forage Biomass Research evaluated post-fire moose browse over time. Data was collected on browse quantity and quality. This information is being applied to moose habitat modelling verification and will inform nutritional carrying capacity and forestry management for burns. A moose suitability model was developed for growing and winter seasons for the southern portion of the Skeena Region. This model is being applied within collaborative Stewardship forums and partnerships to identify legal moose Ungulate Winter Range and develop habitat management recommendations.
Skeena Goshawk Habitat Plan - Implementation Phase	Skeena	4. Data and information	\$ 15,000.00	The project completed a detailed analysis of Goshawk nest occupancy in relation to habitat quality resulting from differing harvest block designs. The data collected was used to create guidance documents for forest professionals on effective operational practices for habitat retention and recruitment.
Fisher Management Planning and Engagement Northeast BC	Northeast	8. Objective-setting	\$ 94,704.30	This project supported the ongoing development of a comprehensive management plan for fisher populations in the northeast that provides clear habitat and population stewardship objectives and prioritizes actions to secure sustainable populations. This plan will help address concerns over cumulative effects of habitat alteration on fisher populations.
Changes in Habitat Suitability for Plains Bison in the Pink Mountain area	Northeast	9. On-the-ground	\$ 6,898.32	A library of archive (1948 to 1952) aerial imagery for the study area was created with the purchase of 215 aerial images. These historic images were used to complete an analysis of vegetation change over time. The resources and results will be made available to researchers and First Nations in the study area.
Protecting fishers from incidental capture: Promoting adoption of fisher exclusion plates by trappers	Northeast	9. On-the-ground	\$ 3,320.00	Modified marten boxes were provided to active trappers and a comprehensive extension program was delivered to improve trapper stewardship knowledge and skills. These activities will reduce incidental harvest of fishers and the compounding additive mortality on declining fisher populations.
Implementation of the Skeena Interior Goshawk Habitat Management Strategy	Skeena	9. On-the-ground	\$ 25,000.00	The project identified a large number of predicted (i.e. suitable) territories across the south Skeena and began the process of working with licensees to identify those that could be managed for under current forest development plans. The known and predicted territories were included on a web tool designed as a public facing portal to facilitate discussion around minimizing impacts on the forest industry.
South Skeena Moose Mapping	Skeena	9. On-the-ground	\$ 24,998.71	Aerial moose winter range assessments were conducted in two Timber Supply Areas to inform future Government Action Regulations designations. This funding provided local moose expertise to guide the development of moose modelling and capacity support for two First Nations to participate in moose winter habitat aerial assessments with FLNRORD. Outcomes of this include regional moose habitat modelling that reflects current research and collaborative habitat modelling verification.
Southern Skeena Mountain Goat Motorized Access Planning	Skeena	9. On-the-ground	\$ 48,250.00	This project completed a detailed analysis to determine priority areas for winter motorized access management for mountain goat in the Bulkley Valley. Two inventory reports were prepared and a report on access management and conservation priorities which will guide future management.

Using large-scale functional habitat restoration tools to enhance moose populations in north-central BC	Omineca	9. On-the-ground	\$ 250,000.00	This project piloted the application of manual and mechanical forest treatment methods in older pine plantations to create canopy gaps and increase spacing to provide future supply of browse and winter range. We treated ~200 hectares through a combination of manual and mechanical treatments. Treatments will be monitored for impacts to habitat and populations to support policy recommendations for wildlife friendly silviculture.
Wildlife Infographic Communications	Skeena	7. Data Accessibility	\$ 15,000.00	The project saw the creation of four infographics to ensure wildlife data are accessible to everyone, are reliable and integrated, and include wildlife harvest statistics, wildlife inventory and monitoring data, and research findings.
Entiako Calf Recruitment Survey	Skeena	4. Data and information	\$ 12,350.00	Surveys were completed in late winter to assess survival rate of calves at heel of collared Entiako cow moose (calves/100 cows). This survey contributes to long-term monitoring of calf recruitment in the Entiako/Tweedsmuir areas to better understand the annual variability in recruitment in relation to Entiako moose population change and support provincial objectives to develop management recommendations for land use and moose management.
Stikine Canyon 6-21C Mountain Goat Total Count Survey	Skeena	4. Data and information	\$ 4,300.00	The project completed an updated population inventory. The data collected was used to create guidance management recommendations and inform harvest management of mountain goats.
Stikine Canyon 6-22A Mountain Goat Total Count Survey	Skeena	4. Data and information	\$ 4,300.00	The project completed an updated population inventory. The data collected was used to create guidance management recommendations and inform harvest management of mountain goats.
Skeena Compulsory Inspection Quality Assurance	Skeena	4. Data and information	\$ 5,000.00	Compulsory Inspection contractors looked at more than 800 compulsory inspection submissions (500 moose, 200+ goats, 86 sheep, and 25 elk and 2 cougar) and addressed inaccuracies and data deficiencies. With the corrections, we can expect better and more durable decisions related to harvest management.
Nadina (6-09G) Mountain Goat Total Count Survey	Skeena	4. Data and information	\$ 3,900.00	The project completed an updated population inventory. The data collected was used to create guidance management recommendations and inform harvest management of mountain goats.
Nass Wildlife Area Compliance Monitoring	Skeena	9. On-the-ground	\$ 29,903.33	Funding was contributed to the Conservation Officer Service to add enforcement patrols to the Nass Wildlife Area during the winter months when poaching of moose and antlerless harvest can be high. Officers conducted 34 separate patrols amounting to 340 Conservation Officers hours. Ninety-seven contacts were made and resulted in 4 violation tickets. In-kind support was received by both the Nisga'a Lisims Government and the Gitanyow First Nation. This is a growing partnership of compliance and resource management.
Nanika (6-09D) Mountain Goat Total Count Survey	Skeena	4. Data and information	\$ 5,200.00	The project completed an updated population inventory. The data collected was used to create guidance management recommendations and inform harvest management of mountain goats.
Auxiliary Bio 21 Wildlife Biologist	Omineca	4. Data and information	\$ 13,023.00	A Wildlife Biologist was hired to provide additional support to the wildlife team to help deliver various inventory and monitoring projects (moose, sheep, and caribou) conducted throughout fiscal 2020/21 under the Omineca Wildlife Program. Such actions include survey planning, support, analysis and reporting.
Comparison of aerial based mule deer inventory and ground transect counts	Omineca	4. Data and information	\$ 10,000.00	Successful aerial survey of randomly selected blocks was completed in the survey area. A density estimate for late winter Mule Deer was obtained, as well as demographic information for Mule Deer, White-tailed Deer, Moose and Elk in the agricultural lands surrounding Vanderhoof. A final report is being developed to compare ground transect counts and aerial survey composition observations.
Mule Deer Winter Range Government Action Regulation (GAR) Order Implementation Monitoring in the Cariboo Chilcotin	Cariboo	10. Land designations	24,999.66	Due, in part, to staff capacity issues, this project had an alternate spending plan approved and delivered the following activities: Mule Deer Winter Range (MDWR) wildfire impact assessment flights were completed to support wildfire recovery planning in MDWR in the Cariboo Region; Analysis of Lights Detection And Radar (LiDAR) data to support identification of MDWR habitat enhancement treatment areas; and Helicopter support for Natural Resource Officer MDWR Government Actions Regulation (GAR) compliance project in the 100 Mile District.
Management Unit 5-02D/5-15D Stratified Random Block (SRB) Moose Survey (Phase III T4W: Top-up of Cariboo Region moose surveys )	Cariboo	4. Data and information	\$ 103,304.64	Stratified random block moose surveys were successfully completed in three management units (5-02D, 5-12B and 5-15D). Summary reports were completed. This information is supporting collaborative harvest management planning of moose and Baskerville caribou herd with the Southern Däkelh Nation Alliance, Northern Secwëpemc the Qelmücw and Tšilhqot'in National Government.
Elk Valley Ungulate Winter Range Restoration	Kootenay Boundary	9. On-the-ground	24,999.00	The Sparwood and District Fish and Wildlife Association used the fund for on-the-ground thinning and fertilization treatments to enhance importation ungulate winter range. Thinning treatments will release understory vegetation to increase forage opportunity. Fertilization will increase the vigor and hardiness of this plant community to support its longevity. This project will advance meaningful and long-lasting stewardship and enhancement of wildlife habitat in the Kootenay Boundary Region.
Fall Mule Deer Aerial Inventory (Management Unit 5-14 & 5-02)	Cariboo	4. Data and information	\$ 25,000.00	Planned deer surveys were cancelled due to unacceptable environmental conditions in Dec 2020. Funding was reallocated to Fraser River Bighorn Sheep inventories which were successfully completed in Management Units 5-02, 5-03, and 5-14 in March 2021. Sheep numbers remain much lower than historic counts. Information from the surveys is supporting collaborative bighorn sheep recovery planning with Tšilhqot'in National Government, Northern Secwëpemc the Qelmücw Tribal Council and Esk'etemc First Nation.
Amending and Developing Ungulate Winter Range (UWR) Orders in the Rocky Mountain Forest District	Kootenay Boundary	10. Land designations	\$ 73,011.75	Resource Selection Function models were developed for Mountain Goat in the Rocky Mountain Natural Resource District to advance Ungulate Winter Range land designation packages for Cranbrook, Invermere and Golden in 2021. The models were critical for successfully identifying high value habitat areas for designation.
East and West Kootenay Moose Inventory	Kootenay Boundary	4. Data and information	\$ 59,568.81	Aerial surveys were completed in the Central Selkirk, Lake Revelstoke and Whatshan Lake study areas to estimate moose population size and composition. Additional funding was leveraged from the BC caribou program to assess moose densities in the Central Selkirk area, which will inform primary prey management strategies to support caribou recovery.
Elk Valley Elk Inventory, West Kootenay Composition Flights	Kootenay Boundary	4. Data and information	\$ 47,813.43	We completed a full inventory of Management Unit 4-23 (Elk Valley) in the East Kootenays, and partial composition counts in priority habitats in Management Units 4-08, 4-09, 4-15 to 4-17, in the West Kootenay. These inventories supported regulation changes for the upcoming 2022-24 regulation cycle. Maintaining updated population status is important for setting appropriate regulations for this upcoming cycle and links into the Collaborative Stewardship Initiative Elk Stewardship Planning project.

Grizzly Bear Specified Area Effectiveness Monitoring	Thompson Okanagan	10. Land designations	\$ 10,850.00	The primary achievement of this project was an assessment of huckleberry habitat protected in a recently approved Government actions Regulation (GAR) order and a resource selection function model for huckleberry. Linking these two models informs the effectiveness of the GAR order and is a first step to linking future monitoring of GAR measures related to huckleberry to monitoring huckleberry habitat more broadly within the population unit. A report of this assessment including recommendations for future huckleberry monitoring was completed. A secondary achievement was supporting the installation of a new gate in the Texas Creek drainage. This gate contributes to access management in the motorized vehicle closure that is in place to protect important spring habitat for grizzly bears that is within a GAR Order area.
Thompson-Okanagan Mule Deer Composition Surveys	Thompson Okanagan	4. Data and information	\$ 67,790.85	Due to poor fall survey conditions (i.e., snow cover), much of this project was not completed. One survey was attempted in Management Units 3-29 and 3-30 but eventually aborted due to poor conditions. Given ongoing challenges in achieving proper conditions to do these surveys, we have started transitioning to methods less sensitive to proper survey conditions (camera traps). To that end, some of this funding was used for the purchase of equipment (cameras) to assist in that transition.
Grizzly Bears in the Stein-Nahatlatch Population Unit	Thompson Okanagan	9. On-the-ground	\$ 36,499.00	This project validated huckleberry modelling in the portion of the Stein-Nahatlatch Grizzly Bear Population Unit (GBPU) south of the Stein River. Data collected during fieldwork in August 2020 confirmed that the area could likely support a much higher grizzly bear density than currently exists there. Moving forward, these results will directly inform recovery planning in this GBPU.
Access management for grizzly bear habitat	Thompson Okanagan	9. On-the-ground	\$ 4,708.00	There is a motorized vehicle closure in place in the Texas Creek drainage to protect important habitat for grizzly bears. The original gate meant to block access during the closure was often bypassed or damaged. A new gate was installed in March 2021. The gate is in a more secure location and should serve as a more effective deterrent to unauthorized use. This will result in better protection for the high value habitats in the area.
Provincial Moose Habitat Account	Thompson Okanagan	8. Objective-setting	\$ 8,700.00	A literature review of past and current published moose research was carried out. The review was compiled into a working draft of a provincial stewardship document that can be updated as new information becomes available. The draft document captures accumulated knowledge and focuses on science-based information that can help support the understanding of current threats and habitat management. When finalized it will be available as a communication tool that can be used to support regional planning and initiatives with First Nations and stakeholders. Additionally, the document can form the basis for updating various provincial stewardship and mapping products for moose.
Protecting mule deer winter range habitat and other ecosystem/wildlife values through fencing Antler's Saddle Conservation Land	Thompson Okanagan	9. On-the-ground	\$ 19,160.80	The final phase of a three-year project to establish 5 km of perimeter fencing and cattle guards at Antler's Saddle Conservation Land was completed. Fencing excludes adjacent tenured livestock grazing from endangered grassland and wetland habitats. This will reduce competition for forage between mule deer and livestock in the area, which is identified ungulate winter range. The fencing will also protect numerous wetland dependent amphibian species from the impacts of livestock access for watering and wallowing. This project involved important partnerships with the Penticton Indian Band of the sylix nation.
Improving mule deer habitat stewardship in southern B.C.	Thompson Okanagan	9. On-the-ground	\$ 60,000.00	To date 400 mule deer have been captured with more than 170 active GPS collars currently on deer. Over 150 mortality investigations have been conducted on adult, juvenile and neonate mule deer. The project is progressing as scheduled and all planned collar deployments (139 individuals) were completed in 2020/2021. Data from the project have been used in development referrals to mitigate disturbance to mule deer from recreation tenures, mountain resort developments, Ministry of Transportation and Infrastructure (MOTI) highway crossings, BC Timber Sales (BCTS) forestry developments and in site selection for ecosystem restoration projects.
Reducing respiratory illness in the Fraser River Bighorn Sheep population	Thompson Okanagan	9. On-the-ground	\$ 26,062.19	Radio collars and health sampling kits were acquired to support the ongoing treatment and recovery of Fraser River Bighorn sheep from a respiratory illness. Resources were also provided to local First Nations to increase capacity for monitoring bighorn sheep post treatment. Wildlife biologists have captured nearly 100 animals and initial results are very promising as lamb survival has improved significantly post treatment. These efforts are a part of a multi-year effort to recover the Fraser River bighorn sheep metapopulation in partnership with local First Nation governments, the Provincial Wildlife Health Team, Wild Sheep Society of BC, and Habitat Conservation Trust Foundation.
Post-fire Recovery Planning (McTaggart-Cowan/nsək'niw't Wildlife Management Area)	Thompson Okanagan	11. Conservation lands	\$ 40,000.00	This funding went towards a desktop assessment by Penticton Indian Band of the effects of the Christie Mountain Fire on wildlife habitat and cultural values in McTaggart-Cowan/nsək'niw't Wildlife Management Area, a conservation land near Penticton, BC, based on Traditional Ecological Knowledge. This information has helped inform collaborative land management decisions in this conservation land in 2021 including closure of the burned area to public use to protect wildlife habitat. Report available on Ecological Reports Catalogue at <a href="https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59111v">https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59111v</a>
Swan Lake Foreshore Inventory and Mapping	Thompson Okanagan	11. Conservation lands	\$ 10,000.00	This funding went towards Phase I of a Foreshore Inventory and Mapping project in the Swan Lake Wildlife Management Area near Vernon, BC in collaboration with Okanagan Indian Band. The purpose of this project is to document wildlife species and habitats associated with Swan Lake in support of future management planning in this conservation land. This first phase involved study design and collection of Traditional Ecological Knowledge associated with Swan Lake and supports Phase II (field investigation, Geographical Information System (GIS) and mapping, reporting) currently underway in 2021 using Together for Wildlife Strategy Action 11 funding.
Wildlife Corridor: Alexander Overpass	Kootenay Boundary	9. On-the-ground	\$ 5,418.78	This money went toward purchasing remote cameras and mounting equipment to go towards the effectiveness monitoring program for our Highway 3 mitigation project. These cameras are helping us quantify what species and how many animals are using the area before mitigation so we can better understand the effectiveness of mitigation activities.
T4W Moose Calf Research - determine factors affecting calf survival	Thompson Okanagan	4. Data and information	\$ 140,900.38	Cow moose were monitored through 202 active radio collars in 2020-21 to assess survival, cause-specific mortality, calf production, and habitat use. An additional 36 collars were deployed on cow moose across all study areas in winter 2020-21, and body condition measurements were taken on 60 cow moose in Prince George South (PGS) and Bonaparte to assess effects on survival and calf production/recruitment. An additional 40 collars were deployed on calf moose in PGS and Bonaparte and survival from collaring to recruitment assessed.

Thompson Okanagan Indigenous-Provincial Stewardship Project	Thompson Okanagan	9. On-the-ground	\$ 37,844.01	The Thompson-Okanagan Region features several high-profile motor vehicle closures and all-terrain vehicle restrictions that were established under the Wildlife Act to protect sensitive alpine habitats and manage hunter effort during post wildfire recovery. To improve compliance and enforcement with these conservation measures, new signage was developed and placed at key entry points into these areas. These actions will help protect the integrity of these ecosystems while improving enforcement efficacy through the Conservation Officer Service or to First Nation territorial patrol observations. Remote cameras were also purchased to increase enforcement capabilities.
Collaborative wildlife with the Okanagan/Sylix	Thompson Okanagan	9. On-the-ground	\$ 25,535.65	FLNRO is collaborating with the Okanagan Nation Alliance (ONA) to monitor Bighorn sheep health, and to develop a disease response plan and stewardship strategies for herds in the South Okanagan. During the 2020/2021 fiscal year, provincial biologists and members from the ONA worked together to: document, assess and monitor the distribution of animals showing signs of disease associated with Mycoplasma ovipneumoniae (M.ovi) or Phoropters ovis; Gather information from Sylix community members on wild sheep and goat herds and their habitat within the south Okanagan, traditional information that will augment western science and improve our understanding of the herd health and population recovery; and draft the elements of a strategy for a health management, monitoring and disease response plan for M. ovi and Phoropters, as a collaborative initiative between the sylix Okanagan Nation and FLNRORD.
Ungulate Winter Range Kootenay-Boundary	Kootenay Boundary	10. Land designations	\$ 15,000.00	Information collation relevant to land designations for ungulates was completed and initial prioritization of Ungulate Winter Range designations for the Kootenay Boundary Region is underway and will be finalized in 2021. A summary report of existing data on mountain goat abundance and distribution surveys conducted in the West Kootenay over the past several decades was completed, and associated survey design for determining mountain goat abundance in the West Kootenay was developed. Validation flights for Mountain Goat Resource Selection Function model were completed to inform spatial extent of Ungulate Winter Range land designations to be completed in 2021.
Habitat Enhancement and Threat Mitigation for wildlife in the Kootenay Boundary	Kootenay Boundary	9. On-the-ground	\$ 39,632.13	The framework is complete for evaluation of current habitat condition and level of threat/disturbance on the landscape for one amphibian and three reptile species. Framework includes desktop and field assessment components. This project led to additional funds to implement in 2021-22. Results will inform and priorities habitat enhancement/threat mitigation prescriptions for subsequent years.  Evaluation of Habitat Recovery Post-Wildfire complete. Results will support land managers in identifying processes that may be successful in supporting post-wildfire ecosystem recovery and highlight challenges and areas for improvement. Results provide information on duration for ecological recovery and trajectories under current climatic conditions for dry forest ecosystems. Report available on Ecological Reports Catalogue at <a href="https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59128">https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59128</a> .
Wildlife habitat enhancement - Galton/Lizards invasive plant treatments	Kootenay Boundary	9. On-the-ground	\$ 27,000.00	Invasive plant treatments were applied to sites to mitigate the spread and establishment of invasive plants both pre- and post- prescribed burning. Invasive plant control and monitoring is a crucial component of habitat enhancement projects to ensure that infestations do not compromise the objectives of these treatments in high-value habitat. Given the right conditions invasive plants can out-compete native plants that provide important forage that wildlife depend on in these winter and transitional ranges.
Wildlife habitat enhancement - Forsyth Creek ecosystem restoration	Kootenay Boundary	9. On-the-ground	\$ 20,000.00	Forest thinning will increase fuel-loading on the ground to prepare the site for prescribed burning. This slashed material will provide continuous fuel to successfully carry the fire to higher elevations of the burn unit. Burning is aimed to enhance habitat for bighorn sheep and other ungulate species by reducing conifer ingrowth, increasing sightlines and rejuvenating forage species.
Invasive Plant Management East Kootenay	Range Branch	9. On-the-ground	\$ 50,000.12	Herbicide treatments are done to control/reduce likelihood of spread of invasive plant species into three areas receiving ecosystem restoration actions (e.g. pre-burn harvesting; ecosystem restoration burns). Total of 22 ha treated. Hawkweeds, Sulphur cinquefoil, spotted knapweed, and St. John's wort were primary invasive plant species targeted at these locations: Horseshoe, Fusee, Old Kimberly Airport, Premier Ridge. There was seeding of approx. 460ha of soil disturbance (e.g. bare mineral soil) to limit invasive plant species establishment and provide interim forage values for ungulates. Monitoring plots were established to measure plant community change over time.
Plains Bison Grazing in a Montane-Boreal Landscape	Range Branch	9. On-the-ground	\$ 40,000.00	A site visit plan was completed collaboratively between BC Conservation Foundation and range branch. This will go towards a monitoring and research project in the Muskwa-Kechika Management Area. Funding was also used for helicopter access to enable vegetation monitoring in support of this project.
Wildlife Stewardship Engagement Cariboo Region	Cariboo	9. On-the-ground	\$ 50,000.00	Project supported enhanced engagement with First Nations and wildlife stakeholders in the Cariboo Region through the hiring of an auxiliary wildlife biologist. Specific achievements include expansion of the Dec and April Wildlife Advisory Committee to include Indigenous representatives, successful delivery of additional wildlife monitoring projects including moose, mountain goat, and sheep surveys.
Prioritizing and planning grassland restoration in the Cariboo	Cariboo	9. On-the-ground	\$ 9,640.71	Workshop involving area professionals, experts and practitioner was held to discuss past work and reporting, history of grassland management in Cariboo with the goal of prioritizing and defining areas and objectives for future grassland restoration work in the Cariboo. Several high priority areas were identified along with common knowledge gaps and issues. This work will contribute to long term grassland management objectives for ecosystem and wildlife values.
Forest Landscape Plan Objectives for Wildlife and Habitat in Interior Douglas Fir	Cariboo	8. Objective-setting	\$ 29,999.03	Completed species literature reviews for 10 common species of interested identified by First Nation partners from the Cumulative Current Density (CCD) Forest Landscape Planning (FLP) group. These literature reviews focused on determining parameters for developing habitat suitability models which are currently being developed and will be used to assess habitat availability, abundance, and co-location within the FLP area. Work focused on wildlife and habitats in Interior Douglas Fir ecosystems.
Conservation Lands Enhancement - log fence rebuild	Cariboo	9. On-the-ground	\$ -	This project did not occur due to high water levels and flooding at this site. The funding was reallocated to the Cariboo Region moose survey project.

Moose Wetland Habitat Restoration Assessments	Cariboo	9. On-the-ground	\$ 11,013.96	Several helicopter flights were completed to enable field assessment of remote moose wetlands that were severely burned in 2017 wildfire areas, mainly within the Plateau and Hanceville fires. Sixteen polygons surrounding important moose wetlands were identified in the Quesnel Natural Resource district and forwarded to district FLNRORD staff for inclusion in 2021 planting surveys and development of planting prescriptions, for inclusion into the planting program. Guidance for planting surveys and prescriptions was developed and discussed with Quesnel district stewardship staff, for distribution to survey contractors.
Conservation Lands Enhancement - Compliance Monitoring Flights	Cariboo	9. On-the-ground	\$ 6,000.00	Four fixed-wing flights were undertaken to evaluate cattle use and impact in the Chilcotin and Marsh Lake conservation lands where livestock are supposed to be excluded. This work assisted with compliance and enforcement by identifying livestock location to facilitate removal of unauthorized animals. This work supports on-the-ground conservation and recovery of sensitive riparian, grassland and upland habitats in lands co-managed with the Nature Trust of BC and Ducks Unlimited.
Lake Revelstoke Moose-Caribou Interactions	Kootenay Boundary	4. Data and information	\$ 20,000.00	Aerial inventories were completed in Wildlife Management Units (WMUs) 4-38 and 4-39 allowing for full moose population estimates to be determined for these units with ongoing predator control for caribou recovery. Regular, full moose population estimates are important for understanding population dynamics in order to inform harvest management decisions, particularly in areas that support antlerless moose harvest.
Elk Valley West bighorn sheep population dynamics and habitat condition	Kootenay Boundary	4. Data and information	\$ 16,484.05	This was year one of a 5-year study. Existing habitat use/range condition was reviewed based on historical mapping and inventory data, and conducted an initial qualitative assessment of the habitat condition on select winter ranges. In general, the habitat conditions on sheep winter ranges were found to be in proper functioning condition. The overall project outcomes are to conduct health sampling, identify seasonal range use and movement corridors, determine survival rates and causes of mortality, and evaluate current habitat condition, and, if required, propose habitat restoration of the Elk Valley West bighorn sheep population.
Southeast BC White-tailed deer movements and Chronic Wasting Disease risk assessment and management	Kootenay Boundary	4. Data and information	\$ 20,000.00	Four collars were deployed on white-tailed deer close to the US border to monitor seasonal movements and potential Chronic Wasting Disease transmission routes. Lack of snow made captures challenging and additional ground trapping will occur in winter 21/22. Partnerships were formed with Ktunaxa Nation and University of British Columbia Okanagan, who contributed 15 collars to this project.
Grizzly Bear Coexistence Solutions	Kootenay Boundary	9. On-the-ground	\$ 4,797.00	A contractor developed a literature review and study design on implementing a grizzly bear aversive conditioning program in the West Kootenay. This is needed to reduce human-caused mortality in high conflict areas. Funds were also used to purchase electric fencing materials to manage attractants in the Meadow Creek area. The contractor secured additional funding through Fish and Wildlife Compensation Program and the Grizzly Bear Foundation to initiate the aversive conditioning program in spring 2021.
Developing Statistical tools for monitoring cougar populations	Kootenay Boundary	4. Data and information	\$ 10,000.00	Using an external consultant, we were able to modernize a previously produced tool that predicts cougar populations and abundance over time based on harvest data and samples taken at harvest. This information provides better links between ungulate numbers and cougar populations, which supports evaluation of harvest sustainability. Currently there is no other broadscale reliable method for estimating cougar abundance. This work is now supporting provincial development of similar modelling tools for cougar and other species.
Dike Restoration – Pollinator Project at Bummers Flats	Kootenay Boundary	9. On-the-ground	\$ 5,000.00	A restoration plan was prepared to guide project delivery for this one-hectare pollinator enhancement project at Bummers Flats conservation property. This project is the first of its kind in our region and aims to create a biologically diverse and functioning herbaceous plant community to attract a wide range of native pollinators and discourage invasive plants. This restoration plan will guide the planting and monitoring of the pollinator meadow while following a rigorous experimental design to help inform future pollinator enhancement projects in our region.
Field Refurbishment – Fertilization at Bull River (Red Barn)	Kootenay Boundary	9. On-the-ground	\$ 5,000.00	Fertilization at Red Barn aims to return the property back to a health functioning grassland state to benefit wildlife following previous seeding treatments from past years. The site has experienced high levels of habitat degradation due to historical farming and ranching practices that resulted in invasive plants infestations and poor forage with limited nutritional value for wildlife. Ungulate species including bighorn sheep, elk, mule deer and white-tailed deer use this property for summer and winter range. Seeding and fertilizing the field with palatable, nutritious herbs and grasses will increase forage for these ungulates.
East Side Columbia Lake Wildlife Management Area (WMA) Management Plan	Kootenay Boundary	11. Conservation lands	\$ 40,000.00	The East Side Columbia Lake Wildlife Management Area (WMA) management plan provides interim recommendations to protect the natural ecological integrity of the area through supporting land use decision making, access restrictions, enforcement protocols and addressing many complex use pressures and interactions associated with the area. The area holds many significant cultural values of First Nations, and this plan includes perspectives from cultural heritage specialists and stakeholders to ensure that the cultural landscape is managed in a way that First Nations cultural, spiritual and environmental values take precedence. The project is a collaboration between Ktunaxa Nation and Resource Management to assist in the government- to-government conversation surround land management.
Cultural Heritage Resource Assessment - Grand Forks Conservation Area	Kootenay Boundary	11. Conservation lands	\$ -	This project did not occur. Money was transferred to East Side Columbia Lake Wildlife Management Area (WMA) Management Plan (Project ID 2021-T4W0123).
Invasive Plant Management Plan – Grand Forks Conservation Area	Kootenay Boundary	11. Conservation lands	\$ 5,000.00	The final report identifies monitoring, inventory and treatment priorities and gaps for invasive plants within the Nature Trust of BC Grand Forks conservation lands. This plan will improve efficiency and effectiveness of funding applications and prioritize on the ground treatment activities over the next 5-years.
Effectiveness Monitoring of fuel and community safety treatments in respect of Mule Deer Winter Range Objectives	Cariboo	4. Data and information	\$ 30,000.00	Winter wildlife track and snow depth transect surveys were completed for two fuel treatment projects and control areas in the Cariboo region (total of 18 transects). An additional 10 transects established in a 3rd fuel treatment area to allow future winter wildlife use and snowfall monitoring. Fuel and community safety treatments in Mule Deer Winter Range are being planned and undertaken adjacent to the communities of Williams Lake, 150 Mile House and 100 Mile House in response to recent severe wildfire seasons. The impacts of these treatments on mule deer and other wildlife use of the area is uncertain. The data collected to date (project started in 2019) and into the future will help better understand wildlife use of these areas as well as any potential recommendations for changes to fuel treatment prescriptions to mitigate any identified impacts.

Factors affecting moose population declines in British Columbia: Big Creek Collar Maintenance	Cariboo	4. Data and information	\$ 17,600.00	Funding for Big Creek moose collaring was used to sustain the long-term provincial research project. Big Creek is one of five study areas. The data collected will directly inform management, stewardship, and conservation of moose at both a regional and provincial scale.
Fraser River Bighorn Sheep Health	Cariboo	4. Data and information	\$ 8,000.00	Funding for the Fraser River Sheep Health project was used to maintain collars and contribute to a multi-regional, collaborative effort to address M.ovi infections in an important sheep population. A working group including many First Nations is now underway to continue this initiative.
Wetlands of Churn Creek Protected Area: distribution, ecological attributes, and dynamics	Cariboo	4. Data and information	\$ 16,500.00	Wetlands are recognized as key wildlife and livestock resources in the Churn Creek Protected Area management plan. Mapping and baseline data collection was completed for wetlands throughout Churn Creek protected area. Time lapse cameras and water level sensors were installed in key locations to support assessment of snowpack melt and water levels. This work addresses a major knowledge gap relating to wetland locations and functions and will assist in long term management in a changing climate.
Roosevelt Elk Inventory and Monitoring	South Coast	4. Data and information	\$ 90,010.28	Elk Population Units (EPUs) were inventoried to determine elk abundance and confirm numbers proposed for elk harvest allocation/allotment in 2021, support future discussions for suggested changes to the allocation/allotment proposed in 2022 and 2023 and inform any future regulatory changes. Surveys and inventories were completed in 13 EPUs during February and March of 2021 to obtain information on elk distribution, obtain bull/cow and calf/cow Ratios and obtain a minimum population estimate for each EPU. Radio collars were deployed on 30 elk to assess elk health, fitness, survival and habitat use and improve the linkage between population and habitat objectives.
Roosevelt Elk habitat selection and supply modelling	West Coast	4. Data and information	\$ 25,862.31	Multi-year project. Elk collars were deployed, biological samples were collected and sent to the Wildlife Health Lab, remote camera stations were maintained and data from cameras was collected.
Mitigating human-elk conflicts on Vancouver Island	West Coast	9. On-the-ground	\$ 26,662.98	Multi-year project. Collars were deployed on a sample of cow elk residing close to Hwy 18 to investigate potential mitigation measures for highway conflict. Seventeen elk were translocated from Hwy 18 to Toquaht watershed. An infographic was developed to highlight the partnerships and successes associated with the elk translocation program (in conjunction with Habitat Conservation Trust Foundation).
Mitigating human-bear conflicts in the West Coast Region	West Coast	9. On-the-ground	\$ 32,919.11	A cost-share electric fencing program was delivered via Wildsafe BC in Bella Coola to assist the community in reducing bears' access to non-natural attractants. Global Positioning System (GPS) collars were purchased for deployment on black bears as part of the orphan bear project in 2021 and for deployment on grizzly bears in conflict as needed. An infographic was developed to explain the orphan bear project. The Wuikinuxv dump was successfully electrified through a partnership with between the Province and Wuikinuxv Nation.
Developing Management Objectives for Elk on Haida Gwaii	West Coast	8. Objective-setting	\$ 3,000.00	The Rocky Mountain elk survey and delineation of Elk Population Units (EPUs) was delayed due to COVID-19. An elk inventory infographic was developed to support community discussions about inventory and its applications for management.
Vancouver Island Black Bear Den Management Study	West Coast	9. On-the-ground	\$ 5,400.00	Early engagement was initiated with all First Nations on Vancouver Island, a Black bear den field form and assessment methods were developed, training was provided to FLNRORD biologists to build internal expertise, 64 structures (54 of those assessed as bear dens) across Vancouver Island were assessed, a pilot Bear Den Database and Field Form was developed in partnership with the Knowledge Management Branch (KMB), and engagement was initiated with forest licensees to promote bear den stewardship and data sharing. Compared to a year ago, the West Coast Region now has 54 more confirmed bear den records to monitor, a database, 5 trained biologists, and ongoing engagement with First Nations and licensees.
Bald Eagle guidelines for urban and rural development near nests: summary fact sheet	West Coast	9. On-the-ground	\$ 3,986.94	An updated Fact Sheet for both Bald Eagles and Ospreys was developed that includes the recommended buffer distances for development previously found in the Raptor Best Management Practices (BMPs). These fact sheets will simplify communication with the public about development guidelines. Secondly, eagle nest data was added to the Wildlife Tree Stewardship Database that is used by local governments and Conservation Officers. Lastly, a preliminary analysis of eagle territory density was completed and productivity trends on east Vancouver Island were identified.
(Survivorship and Dispersal) Behavior of Rehabilitated Orphan Black Bears in the South Coast Region	South Coast	9. On-the-ground	\$ 51,408.04	Given the large amount of orphan cubs in 2019-2020, plans were put in place to monitor 10 rehabbed orphan Black bear cubs beginning in summer of 2021 through till 2022. The objective of this monitoring project is to collect spatial data and mortality information to better understand factors affecting post-release survivorship and risk of future conflict to orphaned Black bears. It is hoped that this monitoring will also help support management decisions regarding best practices for release locations and timing. Project members initiated monitoring of 10 orphaned Black bear cubs that were released between June and August of 2021.
West Coast Region Mountain Goat Ungulate Winter Range Occupancy and Effectiveness Monitoring	West Coast	4. Data and information	\$ 73,668.21	Builds on significant recent work to digitize and spatialize all mountain goat observations and surveys, including flight tracks, and delineate goat management units in the West Coast Region. This project analyzed available data to inform an inventory and survey design that could be used for both: (1) Habitat management objectives, which included Ungulate Winter Range (UWR) occupancy and effectiveness monitoring, and (2) Population objectives. Current understanding of population abundance and trends were improved by: (1) Creating a new Winter habitat model using aerial observations and existing observations/telemetry data and expanding the geographic coverage of the habitat model to include a mid-coast portion of the region; (2) Analyzing existing survey/observation data to detect population trends and develop options for survey design to meet habitat and population objectives; (3) Analyzing the habitat model for habitat supply and levels of protection for UWR effectiveness monitoring at the landscape level; and (4) Conducting flights for UWR occupancy, stand-level effectiveness monitoring and population objectives.
Deer Inventory in the West Coast Region	West Coast	4. Data and information	\$ 14,549.27	Spring and summer Columbian Black-tailed deer surveys were completed with reduced effort in the spring surveys due to COVID-19 restrictions. Survey results do not suggest any hunting regulation changes are required at this time. Maa-nulth transect layout was only partially completed due to COVID-19 restrictions. An infographic describing deer inventories was developed.
Mitigating human-bear conflicts in the West Coast Region – Wuikinuxv Landfill Electric Fencing Uplift	West Coast	9. On-the-ground	\$ 12,746.79	Top-up to complete the Wuikinuxv dump electrification project identified in project ID 2021-T4W073.

Preparing for Assessing the Sustainability of Black bear Harvest in the West Coast Region	West Coast	4. Data and information	\$ 1,884.53	Bait was acquired for implementing a Black bear harvest assessment project when it receives funding.
Comprehensive review of land designations/gap analysis and report	South Coast	10. Land designations	\$ 55,000.07	A draft multi-terrestrial value Stewardship Baseline Objectives Tool (SBOT) was developed for 4 key terrestrial values (i.e., Columbian Black-tailed deer, Roosevelt elk, Northern Goshawk and Marbled Murrelet) using current model iterations to help inform co-location opportunities among values and existing land designations.
Improving Accuracy of Roosevelt Elk Inventory via Modelling of Sightability Correction Factors	South Coast	4. Data and information	\$ 65,246.29	Multi-year project. The objective is to develop an improved method for estimating Roosevelt elk abundance accurately and precisely, with associated variance measures, that accounts for imperfect detection (i.e., Sightability issues) empirically. Taking a multi-year, 3-pronged approach, the sub-objectives are to implement: (1) Aerial Sightability surveys to estimate elk abundance following a logistic regression Bayesian data augmentation approach (2020/21 to 2021/22); (2) Aerial and camera generalized Spatial Mark Resight surveys to estimate elk abundance (2021/22 to 2022/23); and, funding dependent, (3) citizen science classification surveys (e.g., through iNaturalist / WildCAM platform) to provide an independent (fall) recruitment data source for an Integrated Population Model (IPM) (2022/23). Elk collars were purchased and deployed and aerial Sightability surveys were completed to estimate elk abundance.
South Coast Grizzly Bear Data Verification and Database Compilation	South Coast	4. Data and information	\$ 4,761.90	The key objective of this project is to collate Grizzly Bear spatial data into a validated database to help populate the South Coast Grizzly bear Stewardship Baseline Objectives Tool (SBOT) in an appropriate manner. The SBOT provides valuable guidance for land-based decisions by spatializing baseline data and tracking current stewardship objectives. Compiling this spatial data will also help validate previously created habitat models for future management decisions and will help to identify important Grizzly bear movement corridors across the landscape. Completed project deliverables include: (1) A current, verified database of spatial data from collared Grizzly bears in four threatened Grizzly Bear Population Units (GBPUs) of the South Coast Region (2008-2019); and (2) A summary report of individual collared bears, home ranges and collar success rates. Data compiled supported prior commitments and report writing requirements of a previously approved (2010) Clean Energy Projects (CEPs) within the South Coast Region.
Provincial Grizzly Bear Management Plan and working group support	Victoria	8. Objective-setting	\$ 173,220.65	Consultation is ongoing with First Nations across the province, and the management plan under review by provincial staff and First Nations.
Quatse Estuary Restoration Project	Victoria	9. On-the-ground	\$ 50,000.00	In 2020/21 Nature Trust British Columbia (NCBC), West Coast Conservation Land Management Program (WCCLMP) and the Kwakiutl First Nation completed a 20m breach in Goodspeed Road to restore tidal circulation to 20,000m2 of estuarine tidal marsh habitat. A 120m distributary channel was constructed to improve access to restored area for fish and wildlife, and further enhanced by installing 500m2 of Large Wood Debris (LWD). The project created 1000m2 of intertidal marsh benches and restored 1000m2 of marine riparian vegetation.
Wetland Water Control Infrastructure Replacement (Serpentine Wildlife Management Areas)	Victoria	9. On-the-ground	\$ 42,000.00	Fence around water control structure had to be partially demolished in order to access the structure with heavy machinery. New fence was purchased and installed with gate to enable future heavy machinery and staff access to structure. Fence is necessary to keep people and dogs away from steep terrain hazard associated with structure. Vegetation maintenance on dikes and around water control structures was completed to enable ongoing water flow throughout actively managed wetlands and agricultural fields supporting waterfowl and other wildlife.
Understory Tree Thinning (Bummers Flats)	Victoria	9. On-the-ground	\$ 10,000.00	8.8 hectares within 8 treatment units were hand thinned, as per specifications recommended in the recently completed habitat enhancement prescription on the Bummers Flats Conservation Property Complex. A contract crew worked on the thinning project from February 26th until March 20th, 2021. Treated areas will now allow for increased sunlight and forage growth, as well as more favorable movement corridors for wildlife. These stands are also now at a reduced risk of experiencing a catastrophic, stand-replacing wildfire.
Sight Management Prescription development and understory thinning (Premier Ridge)	Victoria	9. On-the-ground	\$ 19,999.23	The project achieved the following: Site Management Prescription (SMP) developed and treatment units laid out on Pommier Conservation Complex including approximately 25 hectares laid out for light manual thinning treatments; Created reserves (Min. 40m) along roadways to prevent quad/truck access and to provide screening from road hunters (access mitigation). These reserves also act as filters for any roadside invasive plants; SMP designed to meet objectives (increase forage, sight lines and connectivity to preferred habitat); Drone imagery taken in the fall of 2020. Will be used as baseline imagery of before and after thinning treatments; Purchase of two wildlife cameras to monitor wildlife usage. Installed cameras and collected over 1200 photos; Created 12 Wildlife Trees and Section 52 request submitted for future thinning treatments.
Big Ranch Ecosystem Enhancement Project	Victoria	9. On-the-ground	\$ 10,000.00	Thinning prescription at Forsyth will assist with implementing a successful treatment to prepare the site for prescribed burning aimed at enhancing the habitat for bighorn sheep and other ungulate species.  Grassland enhancement at Big Ranch conservation property aims to reverse the impacts of land-use changes that have fragmented and eliminated critical habitat that supports wildlife populations in the Elk Valley. The Big Ranch Habitat Enhancement project aims to restore forest, grassland and wetland ecosystems and the many blue- and red-listed species that rely on them, including ungulates, bird and amphibian species.  Prescription will assist with planning the habitat enhancement project and is the first step towards enhancing habitat for moose in Cadorna. The contract included stakeholder engagement which assists FLNRO biologists in project planning. Prescription will enable application for Section 52 approval to remove crown timber. Prescription will be used by BC Wildfire Service to develop the burn plan and obtain approval from Fire Centre. These approvals will enable the prescribed burn in Cadorna.

Reporting Silviculture Updates and Land Status Tracking System (RESULTS) Habitat Investment Tracking	Victoria	10. Land designations	\$ 50,000.00	Project entered into the RESULTS database for FLNRORD invests tracking in performance measure 3.1 in the Service Plan, which included: 1) 36 Ecosystem Restoration projects entered into the RESULTS database for Cariboo, KB, and NE regions, Rocky Mountain District and Society for Ecosystem Restoration in Northern BC (SERNBC) projects (supports Actions 4, 9 and 10). 2) All HCTF investments on Conservations Lands entered into RESULTS database for 2019-2020 and 2020-21 fiscal years (supports Action 11). 3) Summary data on all FLNRORD investments in wildlife, habitat enhancement, restoration and conservation across all regions for 2019-2020 (220 projects) and 2020-21 (351 projects) fiscal years entered into RESULTS database (supports Actions 4, 9, 10 and 11). 4) Support in documenting the central reporting framework for performance measure 3.1 in the Service Plan to ensure consistent and repeatable annual reporting (supports Action 4).
Old Growth Management Area Assessment Project	Victoria	10. Land designations	\$ 45,000.00	Old Growth data attributes assessed and data sets collated, data analysis options documented and explored. Provincial Ecosystem Plots (PEP) Biogeoclimatic Ecosystem Classification (BEC) database updated. Old Growth Assessment guidance drafted.
Hiring Global Earth Observation (GEO) British Columbia GSI Expert	Victoria	10. Land designations	\$ 36,595.80	The staff hired entered data and finalized the Old Growth Management Project (Project ID 2021-T4W0116).
T4W Climate-informed conservation planning for British Columbia	Victoria	11. Conservation lands	\$ 14,950.00	In Year 1 of 2, the project achieved the following: conducted an initial project survey and workshop, presented to the First Nations – BC Wildlife and Habitat Conservation Forum; established core working group including Indigenous representatives interested in information to support stewardship in their territory; built foundation for spatial analysis and responded to the growing interest from multiple stakeholders in the potential application of spatial prioritization products, including modernized land use planning tables. Year 2 will result in data products including tailored results for specific areas and potential workshops with First Nations and provincial government staff about implementation and use of the data.
T4W Identify, Prioritize and Secure Conservation Lands (Review of existing and potential Land Act designations for conservation in the Skeena region)	Victoria	11. Conservation lands	\$ 25,000.00	21 draft ecological assessment reports completed on active and cancelled Land Act designations in the region. Work with the contractor still ongoing and reports to be delivered to the region later in June. Next steps to be determined with the regional planning.
Conservation Land Management Planning and Policy Development	Victoria	11. Conservation lands	\$ 133,413.99	Contractor completed the following draft policies: Compatible uses, Camping and Campfires, Dangerous Trees, Dogs and Cats, Fuel and Wildfire, Motorized Vehicles, Trespass, and Vegetation Management. Next step is to determine whether to move forward with refining and seeking approval and/or consider other mechanisms (e.g. regulation, management planning guidance).
Healthy forest strategy for Wildlife Management Areas	Victoria	11. Conservation lands	\$ 25,000.00	Assessment of forest type and recommendation for continued healthy forest management to address insect damage and other disturbance. This will also provide guidance to forest licensees operating in the Wildlife Management Areas.
T4W Contractor Support for First Nations Engagement for Wildlife Act amendments	Victoria	12. Wildlife Act	\$ 25,502.00	The proposed amendments do not represent a significant shift in policy or practice, but do make tangible progress toward the mandate priority of reconciliation with Indigenous Peoples in BC. The amendments lend greater strength to decision makers to consider Indigenous perspectives when making decisions, and recognize in the Act what is already common law.
Support for Minister's Wildlife Advisory Council - Co chairs	Victoria	1. Minister's Wildlife Advisory Council	\$ 17,253.37	This contract has provided funds for co-chairing the Minister's Wildlife Advisory Council (MWAC) including all the preparation for the council meeting, reviewing document, attending additional meetings with potential partners, striving for successful delivery of MWAC's workplan and maintaining a Functioning and effective council.
Support for Minister's Wildlife Advisory Council - Facilitation	Victoria	1. Minister's Wildlife Advisory Council	\$ 48,135.76	This contract has provided facilitation duties including drafting agendas and meeting notes, organize meetings via an online platform (zoom and MS Teams) and facilitating face to face meetings, , compiling comments and reviews on draft materials, including work plans, finalizing documents and providing filing on the online platform and project management in timely manner.
Contractor support to communicating T4W with all British Columbians	Victoria	3. Public Engagement	\$ 30,125.00	Contractor support for communications with all British Columbians. T4W Website support, infographics, reports, and performance measures framework.
T4W Wildlife & Habitat Branch University Commitment	Victoria	5. Research	\$ -	<i>Deferred to next fiscal</i>
T4W Reconciliation support and youth training, BC Trappers Association	Victoria	19. FN Communication	\$ 25,000.00	This Project is related to BC Trappers Association Education course upgrade for instructors. Instructors and mentors need to be updated on new government relations and trapping methods relating to trap types, safety and fur handling. These are the instructors that deliver the Trapper's Education Course required by regulation before a person may trap under a trapping license. Furthermore, the content of the course will be updated to be aligned with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and B.C. Declaration on the Rights of Indigenous Peoples Act (DRIPA).
Advisory committee website (First Nation Forum, Minister's Wildlife Advisory Council, Provincial Hunting and Trapping Advisory Team)	Victoria	19. FN Communication	\$ 37,950.00	3 websites were created, consultation was done to create to create website with input from the First Nations Forum, Minister's Wildlife Advisory Council, and Provincial Hunting and Trapping Advisory Team.
Reconciliation support and youth training (Wildlife Stewardship Council)	Victoria	22. FN Data Sharing	\$ 50,000.00	This project resulted in outreach activities and support for resolving issues and exploring opportunities associated with wildlife stewardship and provided support for mentorship and training opportunities for youth (e.g., excursions, meetings, formal training sessions, and other relationship-building initiatives).
Support for First Nation-BC Wildlife and Habitat Conservation Forum	Victoria	24. FN Forum	\$ 15,840.00	This contract has provided the facilitation of the Forum, conducting 12 meetings, monthly three working group meetings, meeting design in collaboration with the Form's co-chairs and the Province for web or teleconferences in support of the work of the First Nations – BC Wildlife and Habitat Conservation Forum.
Provincial Urban Deer	Victoria	9. On-the-ground	\$ 67,918.00	Cranbrook urban deer: contractor for urban deer trapping and euthanasia. Mayne Island deer: First Nation led deer population reduction. Oak bay immunocontraception deer project: Application of boosters; observation of population with remote cameras to assess if immunocontraception is a valuable tool to decrease population size.



Compulsory Inspection M ovi Surveillance	Victoria	9. On-the-ground	\$ 4,000.00	The technology to allow the use of nasal swabs to identify assist with Mycoplasma ovipneumoniae (M. ovi) surveillance is relatively new, but reliable, science. Provincially we have fine-tuned the procedure and have identified it as an opportunity for minimal investment to achieve significant results. To date we have used other funds to analyze 41 swabs in 2019 and 100 swabs in 2020. In 2020-21 the Together For Wildlife funded project component was linked to the Wildlife Health Branch delivery priorities and in addition to purchase of sample supplies, resulted in analysis of about 99 nasal swabs for Thinhorn sheep (all swabs confirmed negative for M. ovi). We have observed that where M. ovi related die-offs occur, that significant impacts to societal, commercial and cultural values associated with wild sheep and mountain goats can result; hunting season closures and impacts to cultural harvests also result. For the cost of approximately \$40/sample (swab is ~\$2.25 and PCR is ~\$35 = ~\$37.25 per animal), we are establishing both a health baseline (where M. ovi is and is not detected) and a system that offers early detection of the most destructive respiratory pathogen our wild sheep and mountain goat populations face.
Habitat Conservation Trust Foundation transfer - funding for Indigenous Nations, Non-Government Organizations, and other wildlife/habitat organizations to implement T4W	Victoria	9. On-the-ground	\$ 1,700,000.00	The funding is targeted for on-the-ground stewardship including habitat restoration and management, data and knowledge, research, Conservation Lands management, and habitat acquisition. Funding will be allocated by Habitat Conservation Trust Foundation in future fiscal years (2021/2022 and 2022/2023) to support partnerships with government, Indigenous groups, and stakeholders to carry out this work.
Wildsafe	Victoria	9. On-the-ground	\$ 150,000.00	Partnership with WildSafeBC (e.g. Tahltan wildlife conflict report, Bella Coola bear infrastructure and WildSafe BC coordinator support, development of training specifically for First Nations WildSafeBC coordinators).
Chronic wasting disease surveillance	Victoria	4. Data and information	\$ 128,201.68	Regional Chronic Wasting Disease (CWD) Coordinators hired (BC Conservation Foundation). Expanded outreach and surveillance activities. 2 virtual presentations delivered to local stakeholder groups. Streamlined sampling and testing process. 2020-21 Chronic Wasting Disease results = 1185 samples submitted, 0 positive cases. Results posted to CWD website within 6 weeks of submission. Improved confidence in BC CWD status. Updated information to inform risk assessment and management. CWD update presented to Advisory Committee and Working Groups in May 2021.
T4W BOVINE Tuberculosis (BTb) Sampling	Victoria	9. On-the-ground	\$ 5,422.91	Regional Bovine Tuberculosis (BTb) Coordinator hired (BC Conservation Foundation). Expanded outreach and surveillance activities. Several new contacts established, particularly with First Nations and livestock associations. 4 virtual presentations delivered to local First Nations partners and stakeholders. 2020-21 BTb samples submitted to Canadian Food Inspection Agency, results pending. Coordinator report with recommendations submitted to BC Wildlife Health.
T4W Wildlife Health Outreach	Victoria	9. On-the-ground	\$ 9,299.12	New wildlife health outreach materials, including rack cards, disease booklets, sandwich boards, decals and posters, were updated, produced and distributed contributing to increased awareness of priority wildlife health issues and risks.
Improve and modernize existing webpages and develop new webpages to enhance communication: contractor support	Victoria	3. Public engagement	\$ 17,640.00	Draft business case for a wildlife social media account to be run by the Wildlife & Habitat Branch with content provided by Branch, Regions and other related Branches; requires approval by Executive Director of Government Communications and Public Engagement. Hunting website review and updates, including hunting Frequently Asked Questions and new snowmobile closure page (in-progress).
WildCam: wildlife camera network project with BC Parks Foundation	Victoria	4. Data and Information	\$ 40,000.00	Employed a qualified expert in wildlife cameras. Assembled directory/database of wildlife camera researchers and practitioners in BC. Over 130 members are participating in an active community of practice that facilitates collaborative analyses of wildlife camera data. Created resources to increase the technical capacity of the wildlife camera community. Provided guidance on wildlife camera research and monitoring designs. In addition, a MITACs grant has been secured to focus on coordinated sampling designs. Continuously developing recommendations on the best interim and long-term means of data entry/processing, archiving, sharing, summary, and analysis, including addressing privacy, confidentiality, systems interoperability, and other issues for government and other partners. Partnerships, public engagement, and education underway about the use of wildlife cameras in wildlife management. Monthly newsletter, including blogs and photo highlights.
Fisher Landscape Planning Tool	Species at Risk Recovery Branch	9. On-the-ground	\$ 92,000.00	This provincial-level habitat modeling project is ongoing to develop "Tools" that predict how fisher populations (Columbian and Boreal) may respond to projected landscape change and other influencing factors. The team has drafted conceptual frameworks and a simplistic population (Individual Based Model) modelling framework to integrate/support analyses. The team has selected this approach to accommodate the uncertainty inherent in ecological systems as it has the flexibility to incorporate multiple types and sources of data, including simulating projected future scenarios. Public delivery of the final 'tool' will, in part, be by a web based 'shiny' application to allow for enhanced user interaction with modeling outputs. Contract for development of this shiny application is completed.
Fisher Management and Conservation + Furbearer Monitoring Program	Victoria	9. On-the-ground	\$ 40,000.00	The funds were transferred to the John Prince Research Forest to support developing the Furbearer Monitoring Program. This project is underway and includes the following deliverables, developing a process for the engagement of regional experts (e.g., regional bios and Indigenous reps) to assess species priorities and areas of interest for monitoring, performing a rapid inventory of current monitoring efforts and methodologies, determining appropriate methodologies (e.g., camera traps, DNA traps, etc.) to assess identified monitoring priorities and objectives, for a) An initial inventory to determine Mesocarnivore community structure and b) A robust, long-term monitoring program, providing a break-down and comparison of current field methodologies and statistical analysis techniques and providing guidance to the most appropriate for different monitoring/management objectives, and providing thoughtful (and meaningful) assessments of models to include Indigenous communities in future monitoring efforts.

Hunting, Sheltering and Relationship Building with Guardian Program Support	BC Parks and Conservation Officer Service	21. Guardian and compliance	\$ 75,000.00	Protocol Hunting: The Conservation Officers Service (COS), based on expertise and field experience was utilized to review and provide suggestions on the protocol hunting draft policy and procedures being developed by the Resource Stewardship Division. Relationship Building: Despite the numerous Covid-19 restrictions and challenges the COS was able to sign four enforcement Memorandum Of Understandings (MOUs) and actively work on two other MOU's that are now in the draft stages. The COS finalized enhanced enforcement agreements with 2 Nations and signed an letter of expectation to provide enforcement assistance as requested by a Nation on their treaty lands. Guardian Program Support Covid19 concerns again presented challenges for the guardian training program that is sponsored by the COS. Several planned training sessions were cancelled at the last minutes with outbreaks in the affected communities. Despite the challenges the COS was able to safely deliver 5 training session, involving aprox.12 different Nations. In total 57 guardians were trained in 2020.
Preventing and Responding to Human Wildlife Conflict: COS support	BC Parks and Conservation Officer Service	9. On-the-ground	\$ 75,000.00	Extensive in depth review of government service delivery managing human-wildlife conflict (HWC) throughout the Province has been nearly completed. Strategies and recommendations to refine and enhance a science-based approach to preventing, mitigating, and responding to HWC are now being developed.
T4W Bear Viewing Suitability Assessment Ksi X'anmaas Conservancy	BC Parks and Conservation Officer Service	9. On-the-ground	\$ 14,999.70	The outcome of the assessment was a final Bear Viewing Suitability Assessment Report that discussed: potential carrying capacity for bear viewing in the Conservancy; potential for land and water-based bear viewing locations; recommended spatial and temporal restrictions; highly sensitive areas and recommended refugia; and recommendations for further study. The Report will be used to help develop management objectives and strategies related to Grizzly Bears when a Conservancy Management Plan is developed in the future.
Provincial Wildlife Data Compilation, Loading and Access	Ecosystem Info Section, Knowledge Management Branch (KMB)	7. Data Accessibility	\$ 371,398.09	Supported the capture and loading of 143 wildlife projects, 620 wildlife surveys and 604,568 wildlife data points. Also completed the development of historic SPI wildlife study area boundaries project, including an ArcGIS (Geographic Information System) online dashboard to interact with the newly created boundary data. The development of masked layers for display of secure wildlife data was also completed (awaiting BC Geographic Warehouse publication).
Wildlife Information and Licensing Data system: trapping, Compulsory Reporting and Compulsory Inspection data	Ecosystem Info Section, Knowledge Management Branch (KMB)	7. Data Accessibility	\$ 153,732.50	Supported the completion of the user requirements phase of Biodiversity Hub BC as well as the initial prototype development of the project metadata functionality. Also completed the minimum viable products for both the BC telemetry data warehouse and Tenured Recreational Activity on Crown Land Knowledge System (TRACKS) (to be finalized in early 2021/22).
Bat Conservation / White-nose Syndrome response	Conservation Science	9. On-the-ground	\$ 126,000.00	This project is done in partnership with the North American Bat Monitoring Program (NABAT) and Probiotic research. White-Nose Syndrome (WNS) surveillance and roost monitoring is completed. No WNS or population declines detected 2020/21. Best Managements Practices (BMPs) developed, completed outreach products (Bat Ambassador training kit) and provided support for research into use of roost trees in winter and spring by silver-haired bats.
Fisher Inventory and Extension	Conservation Science	4. Data and information	\$ 90,000.00	Fishers are an elusive carnivore found in the low-elevation forests of central and northern British Columbia. Their reliance on habitats containing rare, large, old trees puts them in conflict with forest harvesting in many areas. The fisher habitat extension program helps forest licensees incorporate habitat needs of fishers into their forest management decisions, thereby helping to conserve key fisher habitat features within their operations. Specifically, our program helps forestry workers identify the habitats that support fishers for denning, resting, foraging, and movement - activities that fishers require for survival and reproduction. The extension program also provides specific targets for retaining these high-value habitats and features within harvested areas (i.e., cut blocks) and landscapes. In addition to providing these tools to forest licensees, government planners, and operational forest workers, information from this program is provided to First Nations and trappers so that they can work with forest licensees to help retain important habitats for fishers in their specific areas of interest.
Invasive Species Chilcotin Region	Ecosystems	9. On-the-ground	\$ 17,000.00	Winter snow tracking surveys completed; reduced outreach component due to COVID-19 related community closures and restrictions. This project will continue into 2021 and 2022 with other funding sources as part of a larger project investigating occurrence of feral pigs in BC and associated outreach & education campaigns in Tšilhqot'in communities.
Amphibian and Reptile Habitat Restoration	Ecosystems	9. On-the-ground	\$ 25,677.00	This project is resulted in construction of an information portal for herpetofauna conservation data, population of portal with data from 214 conservation projects in BC from 2010-2021, completion of a summary report highlighting key information from the 214 conservation projects and submission of summary report to Ecological Reports Catalogue (Ecocat).