FWCP
Fish & Wildlife
COMPENSATION PROGRAM

Annual Report

Peace Region
2022–2023

fwcp.ca

BC Hydro

British Columbia

Fisheries and Oceans Canada | Pêches et Océans Canada

The FWCP is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, First Nations, and public stakeholders to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams.

Message from our board co-chairs

The past year brought a welcome return to site visits and in-person meetings for our Peace Region board as we work to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams. Our Peace Region board approved funding for 25 projects—nine fish and 16 wildlife—for a total of approximately $1.43 million in 2022–2023 (F23).

Congratulations to all of the project proponents who are carrying out this vital work. If you'd like to know more about the projects we funded in our Peace Region, look over our F23 project list.

We are continuing to advance several of the recommendations from the 2019 independent evaluation and financial audit and we anticipate reporting out on the progress made on addressing the recommendations sometime in 2024. Of note is the significant progress we've made on updating the FWCP Governance Manual—recommendation #8—and engaging with our partners throughout the process. Updates to the manual will also address several other recommendations from the audit. See page 4 to learn more.

We are a small team and could not do our work effectively without the support of our First Nations Working Group and technical committees. They have been especially valuable in supporting the scoping of directed projects—these are ones that address high-priority actions that our Peace Region board has identified for implementation. One example of a directed, multi-year project is the improvement for fish passage for bull trout and other species led by the Society for Ecosystem Restoration in Northern B.C. In F23 this directed project replaced twin culverts on a tributary of the Missinka River with a clear-span bridge. Two more crossings are being prepared for replacement.

Welcome back to our Peace Region manager Chelsea Regina, who returned from maternity leave in October 2022. Thanks to Jen Walker-Larsen who took on Chelsea's role while she was on leave.

We would also like to thank Evan MacKinnon with the Tsay Keh Dene Nation for his time and commitment to the board, and welcome Deeanna Izony to carry on with the important role of representing the Nation. We look forward to working with all board members next year, who are contributing to our efforts to conserve and enhance fish and wildlife in our Peace Region.

If you have any questions about our projects, grants, or this annual report, please contact our region manager. We'd be pleased to answer your questions.

Stephanie Killam
FWCP Peace Region
Board Co-chair

Monique Stevenson
FWCP Peace Region
Board Co-chair

Front cover: The Wild Sheep Society used radio telemetry to locate collared Stone's sheep and lambs as part of health surveys and monitoring funded by FWCP. PEA-F23-W-3663. Photo: Wildlife Infometrics.

1. Organizational overview

INTRODUCTION

With annual funding from BC Hydro, the Fish & Wildlife Compensation Program (FWCP) conserves and enhances fish and wildlife in watersheds impacted by 31 BC Hydro dams. The FWCP directs those funds toward priority actions across its three regions—Coastal, Columbia, and Peace.

BC Hydro has water licence obligations in the Columbia and Peace regions and has made voluntary commitments to address the impacts of dams in the Coastal Region. BC Hydro fulfills the applicable obligations through the work of the FWCP.

The FWCP is governed through a framework that recognizes the regulatory accountabilities of agency partners (i.e., BC Hydro, the Province of B.C., and Department of Fisheries and Oceans Canada) and ensures active participation and input from First Nations and public stakeholders. Independent regional boards review, evaluate, and approve funding for all projects. Our boards include representatives from each of our FWCP partners: BC Hydro, the Province of B.C., First Nations, and public stakeholders. The Coastal Region board also has a representative from DFO[1]. When it comes to decision-making, input from each board member is given equal consideration through collaborative discussion. Learn more at fwcp.ca/our-story.

Combined, our three regional boards have the following representatives:

- BC Hydro: 5
- Federal government: 1
- First Nations: 21
- Provincial government: 5
- Public stakeholders: 9

Board representation by region is shown in Figure 1.1.

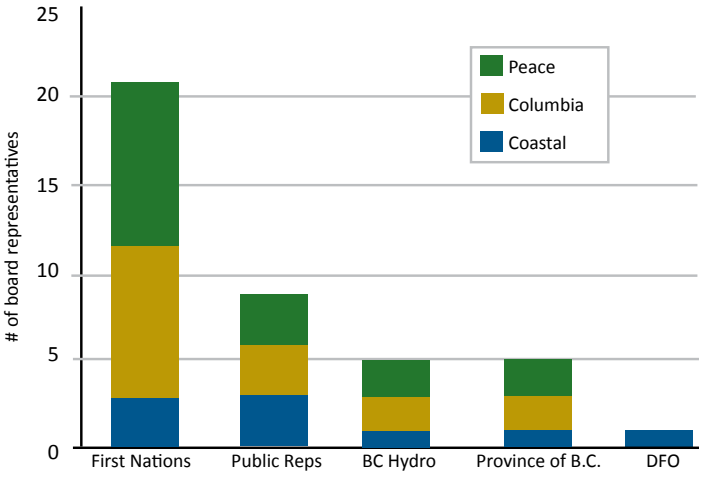


Figure 1.1: Board representation across all three FWCP regions

Since 1988, BC Hydro has provided more than $210 million to the FWCP to compensate for dam impacts, and the FWCP has funded more than 2,300 projects across our three regions.

Peace Region

The FWCP's Peace Region was established in 1988 to support the conservation and enhancement of fish, wildlife, and habitats in watersheds impacted by construction of the W.A.C. Bennett and Peace Canyon dams, and the creation of the Williston and Dinosaur reservoirs (Figure 1.2).

Our Peace Region has received nearly $42 million since it started, and typically funds between 20 and 30 projects each year.

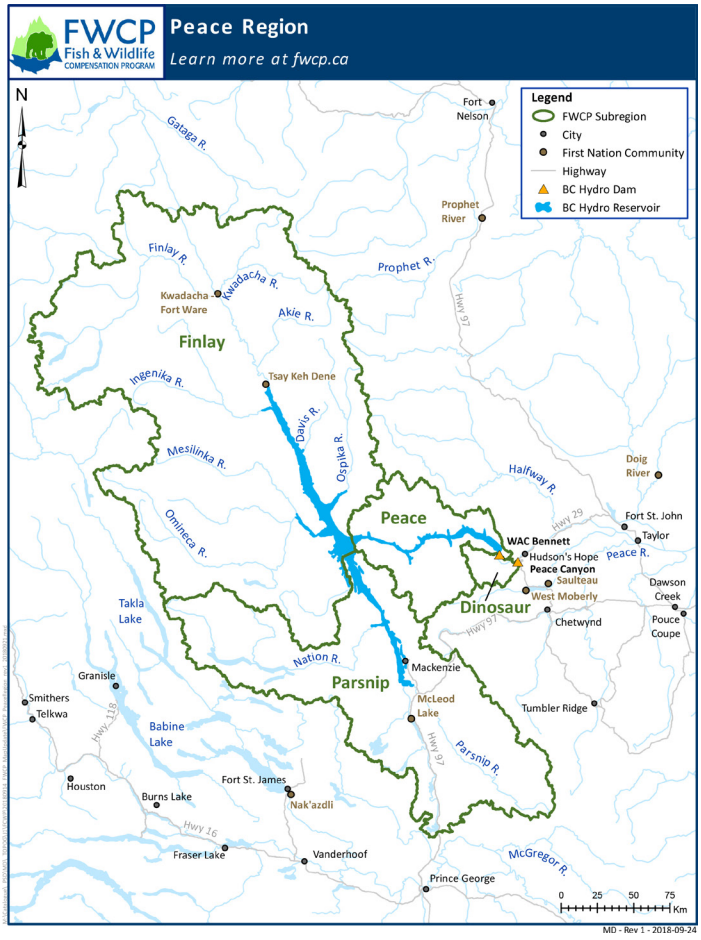


Figure 1.2: Map of the FWCP's Peace Region

1. The Department of Fisheries & Oceans Canada (DFO) has the opportunity to participate on both the Peace and Columbia Region boards but currently does not.

2. Our strategic approach

VISION AND MISSON

Our vision is for thriving fish and wildlife populations in watersheds that are functioning and sustainable, and our mission is to compensate for fish and wildlife in watersheds impacted by BC Hydro dams.

We take a forward-looking, ecosystem-based approach that defines the desired outcomes and takes actions to restore, enhance, and conserve priority species and their habitats. The FWCP's strategic objectives are:

Conservation

Maintain or improve the status of species or ecosystems of concern. Maintain or improve the integrity and productivity of ecosystems and habitats.

Sustainable use

Maintain or improve opportunities for sustainable use, including harvesting and other uses. Harvesting includes First Nations, recreational, sport, and commercial harvests. Other uses may include cultural, medicinal, or non-consumptive uses.

Community engagement

Build and maintain relationships with stakeholders and Indigenous communities. This objective stems from BC Hydro's social responsibility policy and the Province of B.C.'s shared stewardship objective.

More details on these three objectives can be found in the Governance Manual.

ACTION PLANS

Our action plans guide FWCP investments in fish and wildlife projects. They are referenced annually by our regional boards to track progress toward implementation, set priorities, and guide decision-making in setting out and approving the annual operating plan for each region. Actions in our action plans are eligible for FWCP funding and align with our vision, mission, and geographic scope.

Priority actions for fish and wildlife in our Peace Region are reflected in the four current action plans, updated in 2020:

- Cross-Ecosystem Action Plan
- Rivers, Lakes, & Reservoirs Action Plan
- Riparian & Wetlands Action Plan
- Uplands Action Plan

These updated action plans were developed with local input and provide guidance on grant applications and funding decisions.

All F23 projects approved for funding by our Peace Region board align with the priority actions identified in the Peace Region action plans.

UPDATE: EVALUATION AND FINANCIAL AUDIT

Responding to the nine recommendations from our 2019 independent evaluation and financial audit remains a priority. Steady progress is being made on all recommendations and in 2024 we intend to report on the progress made to address these recommendations.

Across all our regions, the evaluation and financial audit recommended exploring a potential increase in the use of directed projects—recommendation #9. Each region is now delivering between five to 20 directed projects, in addition to the grant-based projects. Engaging with our partners in the process, we also made significant progress on updating the FWCP Governance Manual—recommendation #8. We are aiming to finalize updates to the manual next fiscal. Proposed changes include updates to the sustainable use strategic objective—recommendation #1—in addition to refreshing FWCP's other strategic objectives. Other planned updates revolve around FWCP's obligations under UNDRIP—recommendation #9—which we will continue to advance throughout F24.

In our Columbia Region, there was significant progress this year on increasing the engagement of First Nations—recommendation #6—with the formation of the Columbia Region First Nations Working Group. In addition, the number of board members for our existing First Nations partners increased from one to three for each Nation, and dedicated funds to support First Nations leadership in directed projects continued. The Columbia Region initiated a review of one key annual and ongoing project—the Nutrient Restoration Program—advancing work on recommendation #2 to ensure long-term projects reflect the intent and priorities of the partnership, and that the intended outcomes are achieved.

The final technical review report on the Nutrient Restoration Program, including findings and recommendations, is available online.

In our Coastal Region, planning was initiated to update the Coastal Region watershed action plans. During the planning phase, the Coastal Region board identified that they intend to significantly reduce the number of priority actions in the updated plans—recommendation #4—to support the region in being more focused and strategic when establishing priorities.

Learn more about our evaluation and financial audit.

3. Board, committee members, and staff

FWCP PEACE REGION BOARD

The board guides our work and is responsible for approving our Peace Region projects and budget. In addition to funding projects through our annual grants, the board may choose to direct projects and approve funding to address regional priorities.

Peace Region board members during F23:

Brian Paterson	Public
Carolyn McCook	Kwadacha First Nation
Corey Erwin	Province of B.C.
Evan McKinnon/Deeanna Izony	Tsay Keh Dene First Nation
Gord Haines	Doig River First Nation
Heather Middleton	BC Hydro
Jayde Chingee	McLeod Lake Indian Band
Monique Stevenson, Co-chair	BC Hydro
Naomi Owens-Beek	Saulteau First Nations
Ray Pillipow	Province of B.C**.**
Stephanie Killam, Co-chair	Public
Tamara Dokkie	West Moberly First Nations
T. Rosemarie Sam	Nak'azdli Whut'en First Nation
Chris Addison	Public
Vacant	Treaty 8 Tribal Association
Vacant	Prophet River First Nation

FIRST NATIONS WORKING GROUP

The board is supported by a First Nations Working Group that provides an advisory role, including early engagement with proponents prior to submitting grant applications.

Charmayne Brinkworth	Doig River First Nation
Madeline Oker	Doig River First Nation
Daniel Sklar/Sean Rapai	Tsay Keh Dene First Nation
Fernie Garbitt, Co-Chair	Saulteau First Nations
George Desjarlais, Co-Chair	West Moberly First Nations
Walter Allison	West Moberly First Nations
Vacant	Prophet River First Nation
Patricia Livingston	Kwadacha First Nation
Margaret McDonald	McLeod Lake Indian Band
T. Rosemarie Sam	Nak'azdli Whut'en First Nation
Fred Sam	Nak'azdli Whut'en First Nation
Vacant	Treaty 8 Tribal Association

TECHNICAL COMMITTEES

The board is supported by fish and wildlife technical committees that act in an advisory role by providing technical review, evaluation, and ranking of fish and wildlife grant applications; supporting the development of strategic plans; assisting in the development and oversight of directed projects; and providing advice on the effective implementation of action plans.

Fish technical committee

Julian Napoleon	Saulteau First Nation
Erin Stoddard	BC Hydro
Kristen Peck, Co-chair	Province of B.C.
Randy Zemlak, Co-chair	BC Hydro
Mark Shrimpton	Public representative
Nikolaus Gantner	Province of B.C.

Wildlife technical committee

Brock Simons	BC Hydro
Carmen Richter	Saulteau First Nation
Inge-Jean Hansen	Province of B.C.
Kim Hawkins	BC Hydro
Stephanie Bellehumeur	BC Hydro
Michael Klaczek, Chair	Province of B.C.

POLICY COMMITTEE

The policy committee sets the FWCP's overall policy direction including the governance structure and strategic framework. It also oversees periodic evaluations, approves significant changes to the FWCP, and addresses dispute resolution, when necessary, among other responsibilities beyond the FWCP. For more details, refer to our governance manual.

Policy committee members:

Brad Fanos
Regional Director, Pacific Region, Fisheries and Oceans Canada

James Mack
Assistant Deputy Minister, Ministry of Environment & Climate Change Strategy

Karen Popoff
Director, Environment, BC Hydro

STAFF

In each region, program management and operations were implemented by a region manager and supported by Monique Stevenson, FWCP program manager, and Melissa Fiel de Sousa, environmental project coordinator. Chelsea Regina was our Peace Region manager during F23, with Jen Walker-Larsen as acting manager for part of the year.

4. Financial report

APPROVED BUDGET AND EXPENDITURES

Our Peace Region board allocates annual funding toward fish and wildlife projects, administration, and communications. These allocations form the annual operating plan. Any unallocated funds are carried forward as uncommitted available funds for future spending.

The annual funding provided from BC Hydro to the region for the year was $1,669,348. Our Peace Region board approved a budget of $1,909,396 for this year, utilizing previously uncommitted available funds.

Figure 4.1 shows a total budget of just under $4 million available to our Peace Region as of April 1, 2022. This comprises the approved budget of approximately $1.91 million, uncommitted available funds of approximately $944,000, and remaining prior-year funding commitments of approximately $727,000, $211,000, $36,000, $19,000, and $148,000 from F22 to F18 respectively.

Figure 4.2 illustrates the approved budget for F23 as of April 1, 2022. Funding for fish projects made up 39% of the budget, and wildlife projects made up 36%. Administrative costs made up approximately 22% of the budget and include region manager salary and expenses, fees associated with uploading reports to the provincial databases, maintenance and refinements to our grant management system, a portion of the environmental project coordinator's salary and expenses, and board, technical committee, and First Nations Working Group costs. The remaining allocation was for communications and was approximately 3% of the approved budget.

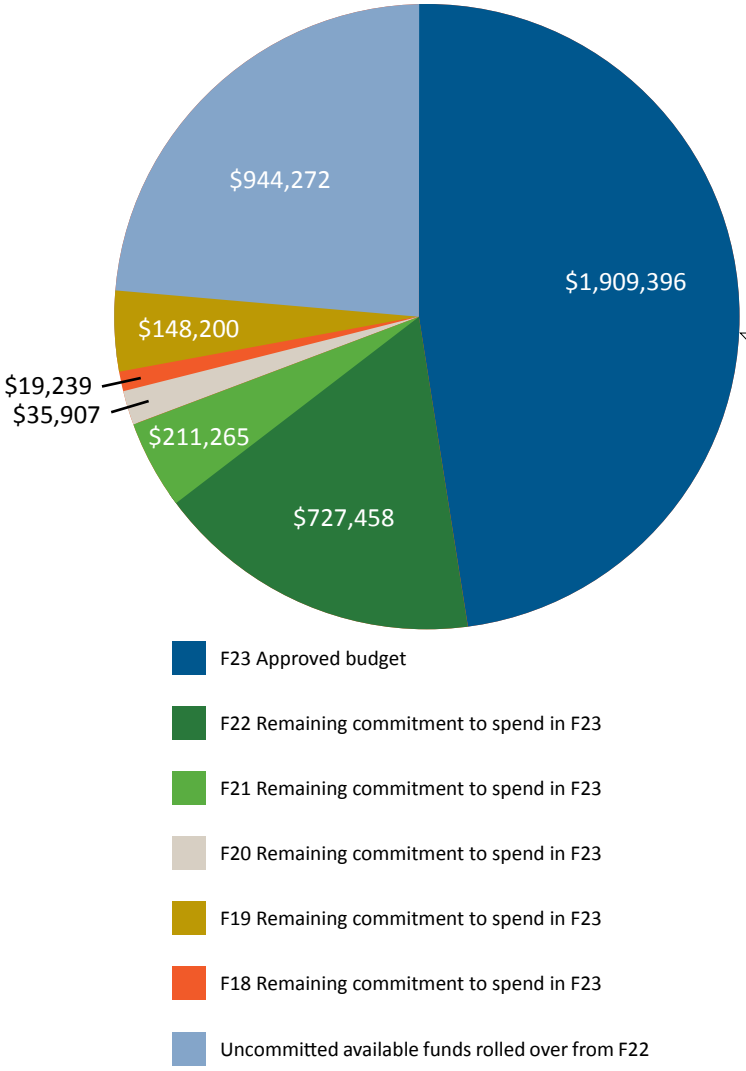


Figure 4.1: FWCP Peace Region financial summary on April 1, 2022

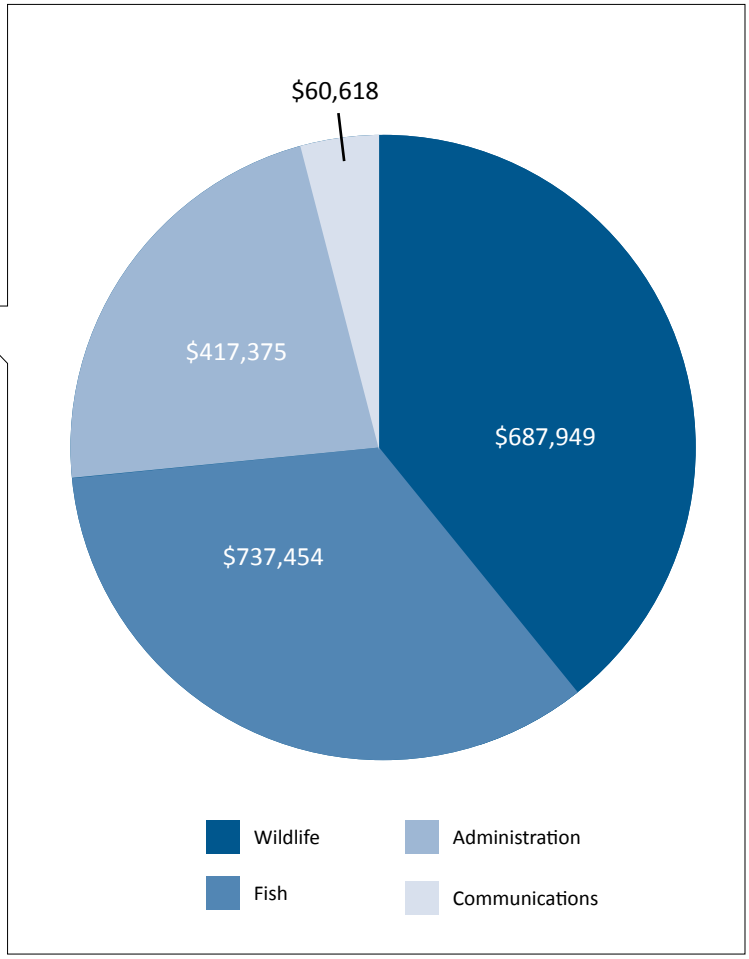


Figure 4.2: Allocation of the approved Peace Region budget of approximately $1.91 million as of April 1, 2022

Peace Region expenditures up to the end of fiscal, March 31, 2023, are shown in Table 4.1. This reflects a snapshot of actual and planned payments made related to this year's projects. Project funding each year may not be fully allocated by year-end and—as shown in Table 4.1—F23 allocated funds not yet expended by March 31, 2023, are labelled as planned payments.

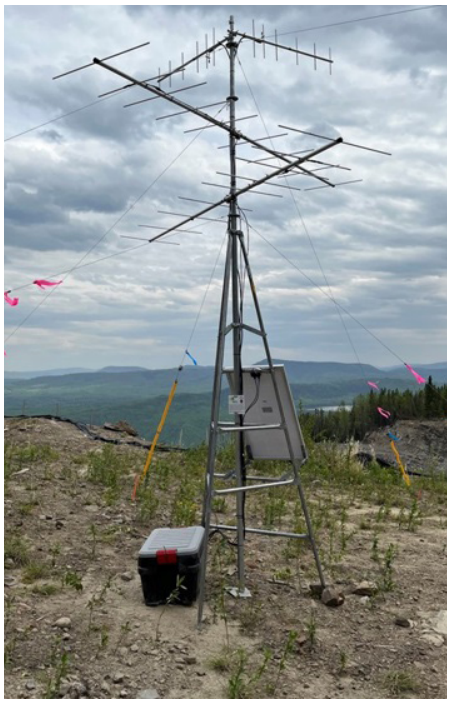
Occasionally, projects come in under budget (uncommitted available funds in Table 4.1). Funds not spent during the fiscal year will be carried forward as unspent surplus budget and made available for new spending in future fiscal years.

Table 4.1: F23 budget status as of March 31, 2023

Fund Category	F23 Approved budget	Paid up to March 31, 2023	Planned payments[1]	Uncommitted available funds[2]
Fish	$737,545	$ 441,279	$175,898	$120,277
Wildlife	$687,949	$346,557	$277,138	$64,254
Administration	$417,375	$230,534	$54,985	$131,856
Communications	$66,618	$49,2139	$17,379	$ -
TOTAL	$1,909,396	$1,067,609	$525,399	$316,387

Note 1: Planned payments represent expected invoices for approved, ongoing projects that have not yet submitted final reports by March 31, 2023.
Note 2: Uncommitted available funds are carried forward and available for the next fiscal year.

In addition to the planned payments of $525,399 from F23, the balance of prior-year funding commitments anticipated to be spent in F24 was approximately $101,000 from F22, $97,000 from F21, $19,000 from F20, $8,000 from F19, and $148,000 from F18, with nearly $617,000 available in uncommitted funds (Figure 4.3).



Seven new receiver stations will help researchers track migration, and habitat use for many bat and bird species, including the white-throated sparrow. The stations were installed across our Peace Region with funding from FWCP. PEA-F23-W-3646. Photo: Birds Canada

2. The end of F23 and the year-end deadline for project reporting are on the same day, therefore reports—and potentially statement of accounts—are not reviewed and accepted until after the March 31 deadline causing them to be associated with the next fiscal (F24). Many final payments for F23 projects are processed in the first few months of F24, and unused funds are allocated for future spending.

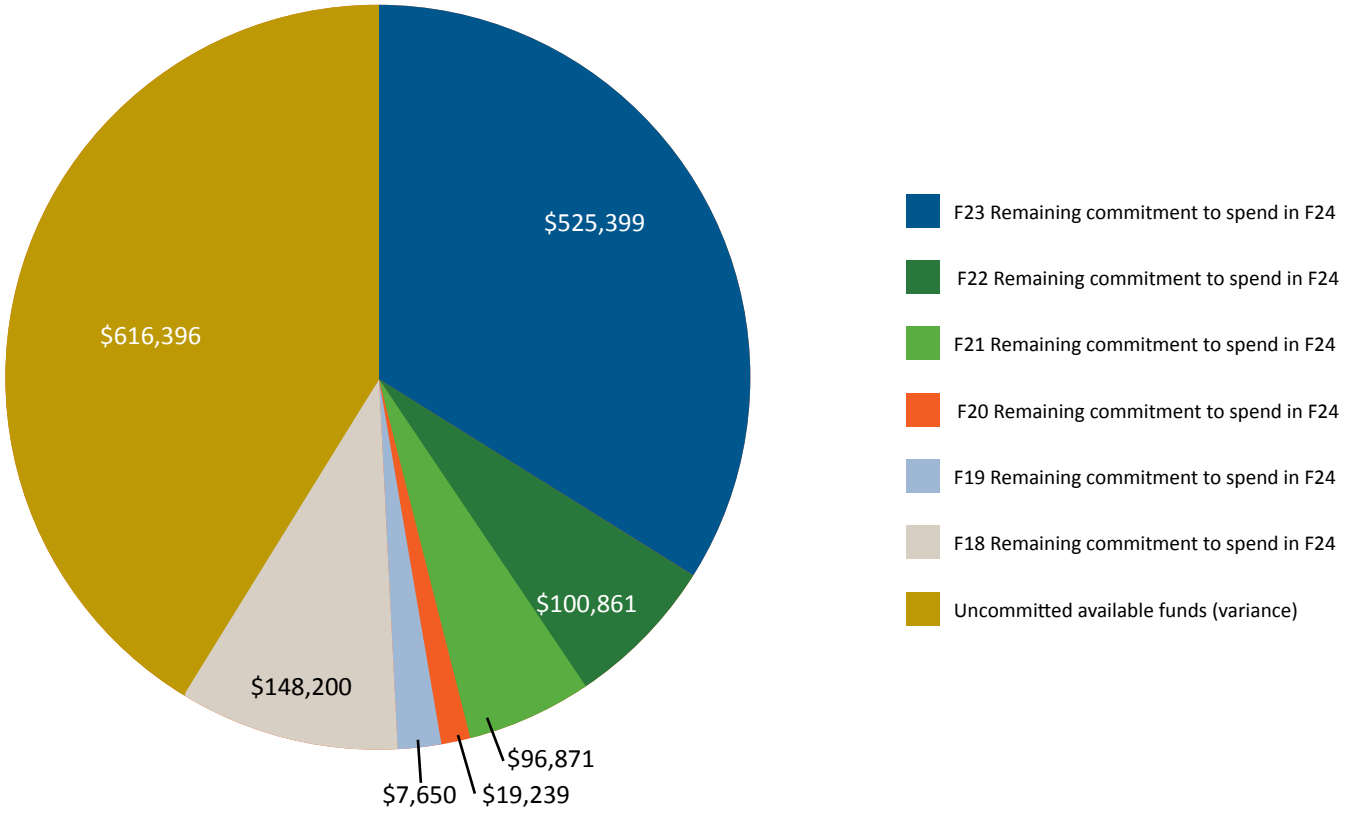


Figure 4.3: Financial summary of the FWCP's Peace Region, as of March 31, 2023 (end of fiscal year)

A maternity pen for Endangered caribou is enhancing the survival rate of cows and calves in the Klinse-Za herd in our Peace Region. We're a longtime funder of this important recovery effort. PEA-F23-W-3655. Photo: Wildlife Infometrics

5. Project funding and grants

PROVINCIAL PROJECT FUNDING

This year, the three regional boards approved 95 projects for a total FWCP contribution of approximately $9.81 million. The total value of these projects—including leveraged funding from other organizations and in-kind resources—was $22.36 million.

Final reports for all FWCP-funded projects are uploaded to Ecocat or SIWE provincial databases, and searchable spreadsheets of reports for each FWCP region are available at fwcp.ca/results.

PEACE REGION PROJECT FUNDNG

In our Peace Region, the FWCP supports the delivery of fish and wildlife projects in a variety of ways, including grant applications and directed projects. Twenty-five projects were approved for this year, for approximately $1.43 million in funding from our Peace Region board.

Grant-based projects

The FWCP's annual grant intake opens each August and closes in late October. All grant applications go through a three-stage review process. For more details, visit our FAQs at fwcp.ca/apply-for-funding/.

Grant applicants are required to develop a project idea that aligns with one or more priority action in any action plan and that will achieve the intended outcome. Each priority action in our action plans is identified as Open, Open/Directed, or Directed. The proposed project must be aligned to an Open or Open/Directed priority action to be eligible for a grant.

In our Peace Region, all grant applicants must submit a notice of intent (NOI) prior to submitting a full application. The NOI is an important part of our commitment to strengthen engagement with First Nations. It helps inform First Nations about proposed projects and is the basis for identifying opportunities for First Nations perspectives on, and engagement in, the projects. The NOI also helps our Peace Region manager provide additional guidance before grant applications are completed.

Directed projects

Our Peace Region board may also choose to direct funds to regional priorities with directed projects with a specific scope of work issued through procurement processes (e.g., direct award, request for proposal).

Nearly $390,000 was approved for five directed projects: three fish (approximately $349,000) and two wildlife (approximately $41,000). The directed projects were improving fish passage, UNBC Colloquium Presentation Series, Williston Watershed Kokanee Enumeration Surveys, Mugaha Marsh Banding Station, and Decommissioning Dinosaur Reservoir Fish Habitat Structures. For the full list of all the projects funded, see Table 6.1.

Approved projects by proponent type

The FWCP Peace Region board approved a total of 25 projects—20 grant application-based and five directed projects. The majority were led by non-government organizations—such as stewardship groups or non-profit environmental organizations—closely followed by First Nations. Figure 5.1 below illustrates the diversity of proponents that led Peace Region projects in F23.

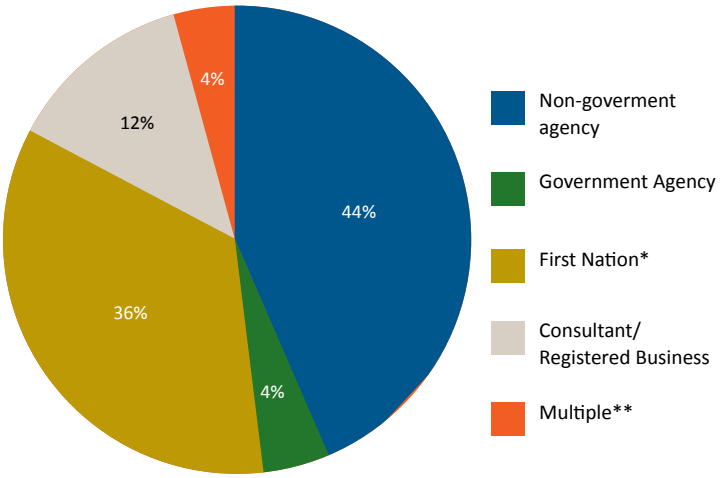


Figure 5.1: Peace F23 approved projects by lead proponent type
*Includes First Nations-owned businesses and Indigenous organizations
**Community Engagement Grant funding is considered as one project, but more than one proponent type can apply for the funding and deliver a project

Approved projects by action type

Priority actions in our Peace Region action plans are grouped into five broad action types:

1) research & information acquisition
2) habitat- based
3) species-based
4) monitoring and evaluation
5) land securement

This year, more than 75% of projects funded were for research and information acquisition, and a further 20% for habitat-based projects. There were no monitoring and evaluation, or land securement, projects during F23.

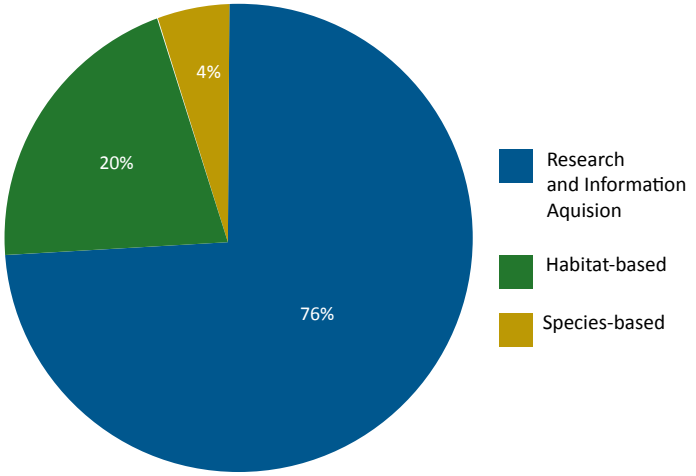


Figure 5.2 shows the approved projects by action type.

Approved projects by sub-region

Figure 5.3 shows the approved projects for this year by sub-region. More than half were delivered basin-wide (or multiple sub-regions), while approximately one quarter were located in the Parsnip sub-region.

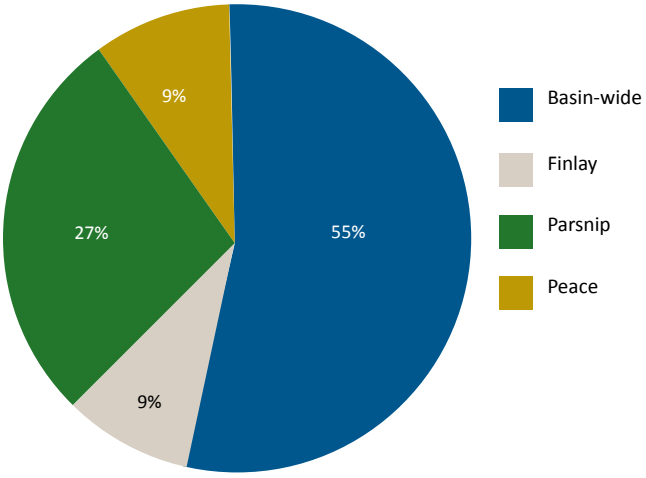


Figure 5.3 F23 Approved projects by sub-region

Community Engagement Grant

The goal of the Community Engagement Grant is to provide an opportunity for FWCP stakeholders and Indigenous Nations, bands, or groups to apply for a small grant to support conservation and enhancement work that aligns with our action plans. A total annual budget of $5,000 is available in our Peace Region.

Three Community Engagement Grant applications were received and two were approved: the North Peace Rod and Gun Club received $1,000 for the Peace River Youth Fish Education Program, and Chu Cho Environmental received $1,000 for the Tsay Keh Dene Science Week.

With FWCP funding, a new bridge has been installed over the Missinka River near McLeod Lake and it will improve fish passage in critical spawning and juvenile rearing habitat for bull trout. It's the first bridge in a multi-year project by the Society for Ecosystem Restoration in Northern B.C. PEA-F23-F-3761-DCA.
Photo: New Graph Environment Ltd.

6. Peace Region projects and results

Table 6.1 provides a listing of 2022–2023 Peace Region fish and wildlife projects approved for funding. The funding identified may vary from the approved budget as of April 1, 2022, due to project budget increases or decreases as they progressed throughout the fiscal year. Final reports for all projects are posted to the appropriate provincial databases once available. Visit fwcp.ca/results for an updated list of all available final reports.

Table 6.1: F23 Approved projects

Project ID Proponent FWCP $ amount Watershed	2022-2023 Grant-based fish projects	Project outcomes
PEA-F23-F-3631 John Hagen and Associates $92,132 Parsnip Sub-region	**Arctic grayling: filling important data gaps in our Peace Region** *Parsnip Arctic Grayling Abundance and Critical Habitat Year 5:* This multi-year project—delivered in partnership with the Province of B.C., McLeod Lake Indian Band, and the University of Northern British Columbia—will address important information gaps identified in the FWCP's Arctic Grayling Synthesis Report and Monitoring Framework. This final year of the five-year study of Arctic grayling abundance and critical habitat in the Parsnip River Watershed will include surveys in long-term index sections of the Table and Anzac rivers to estimate trends, a key indicator of population health. The project will also estimate critical habitats and abundance in the previously unsurveyed Missinka, Wichcika, Hominka, Reynolds, Colbourne, and Misinchinka watersheds.	**Arctic grayling population doubles in Parsnip core area over the past 25 years** Surveys of Arctic grayling in critical core habitat of the Table and Anzac rivers estimated more than 5,000 fish larger than 20 cm in length in 2022—the highest to-date. A five-year study concluded there's been an annual population growth rate of 4% in the long-term index sites for the Parsnip core area, which equates to an increase of approximately 100% over25 years. This has led to Arctic grayling status being upgraded from At Risk to Potential Risk in the core area. The study also mapped critical habitats for future enhancement work, particularly summer rearing habitats for adult fish. These conservation actions were given a priority order. Watch a video of the project and read the full report.
PEA-F23-F-3632 Chu Cho Environmental LLP $69,717 Basin-wide	**Supporting cold-water fish in the face of climate change** *Investigating Thermal Regimes of the Upper Peace River Basin:* This project will focus on the cumulative effects of land use, climate change, and water flow regulation on river water temperatures in the upper Peace River Basin. Using a three-scale temperature monitoring and modelling approach, the project's primary goal will be to quantify and predict the spatial distribution of thermal habitat for cold-water fish. A secondary objective is to construct a network of water temperature loggers in the Williston Watershed, from headwater streams down to the Peace River. The project outcomes will provide valuable information for the management of cold-water-adapted fish.	**Monitoring now underway in the upper Peace River basin** In the first year of this multi-year project, 69 water temperature loggers were installed in the Williston Watershed to track river water temperatures. Data is building insights into climate change impacts on priority species.
PEA-F23-F-3633 Chu Cho Environmental LLP $73,199 Basin-wide	**Examining bull trout spawner abundance and critical habitats** *Bull Trout Spawner Abundance and Critical Habitats:* This multi-year project will provide estimates of bull trout spawner abundance by performing aerial counts of bull trout spawning sites (e.g., redds) within index sites in four streams that have been monitored annually since 2001. This work will inform a framework to estimate bull trout spawner abundance and limiting factors at the scale of the Williston Watershed, which will be used to identify appropriate habitat conservation and enhancement actions.	**Bull trout abundance estimated in the Williston Watershed** During this eight-year study, assessments of bull trout abundance were expanded in Williston Reservoir watershed. Critical spawning habitats were identified throughout the watershed and habitat stewardship recommendations have been shared with collaborators and First Nations. Furthermore, the critical habitat spatial layers developed by the Province

Project ID Proponent FWCP $ amount Watershed	2022-2023 Grant-based fish projects	Project outcomes
PEA-F23-F-3636 University of Northern British Columbia $60,010 Basin-wide	**Improving understanding of critical fish habitat using eDNA** *Application of an Aquatic eDNA Degradation Rate Assay:* Following up on the results of an FWCP Seed Grant to establish an environmental DNA (eDNA) degradation rate assay, this project will pair eDNA fish surveys for Arctic grayling with field trials that investigate associated degradation rates. Understanding eDNA degradation rates is critical to the interpretation of eDNA projects and will ultimately provide more information about critical habitats that would benefit from conservation or enhancement.	**Report pending**
PEA-F23-F-3644 Chu Cho Environmental LLP $4,626 Basin-wide	**Improving understanding of lake trout abundance** *Assessing Techniques for Monitoring Lake Trout Abundance:* There is a lack of reliable data on lake trout abundance in the Williston Reservoir Watershed. As a result, analysis of limiting factors for this focal species is incomplete. This Seed Grant project will assess possible methods for and approaches to lake trout monitoring in the Williston Reservoir. This proposal builds directly off the work of past FWCP-funded projects. A literature review and round table will be conducted, and the results will be included with a feasibility assessment, cost estimate, and data analysis framework.	**Collaboration leads to clarity on lake trout conservation needs** By bringing together technical staff from multiple organizations, this project evaluated critical common objectives and laid out monitoring needs for lake trout in the Williston Watershed.
PEA-F23-F-3652 University of Northern British Columbia $89,277 Parsnip Sub-region	**Taking steps toward conserving critical habitats for Arctic grayling** *Critical Habitats of Arctic Grayling in Parsnip Tributaries:* For Northern B.C.'s river-dwelling Arctic grayling populations, the reservoir created by the W.A.C. Bennett Dam on the Peace River permanently reduced the availability of critical habitat by converting river habitat into lake habitat. This research will combine radio telemetry, snorkel surveys, and drone visual and thermal imaging to show how the fine-scale behaviour and distribution of Arctic grayling can be used to locate and inform conservation actions for critical habitats in the Anzac and Table rivers.	**Report pending**

Project ID Proponent FWCP $ amount Watershed	2022-2023 Grant-based wildlife projects	Project outcomes
PEA-F23-W-3616 University of Northern British Columbia $47,135 Dinosaur & Parsnip Sub-regions	**Moose: improving the science about limiting factors** *Identifying Moose Summer Diets and Associated Habitat Year 2:* There are reports of some moose dying of apparent starvation in some parts of north-central B.C. The FWCP is helping to fund a project led by the University of Northern British Columbia that puts moose droppings under the microscope to find out why. The project will analyze summer droppings using microhistology, which examines indigestible fragments, to find out the plants and habitats that moose rely on. This information is critical to future conservation actions.	**Report pending**
PEA-F23-W-3627 B.C. Wildlife Federation $63,600 Basin-wide	**Helping prioritize wetlands for conservation and enhancement** *Wetlands Function and Health Assessments:* This project will focus on field work to calibrate the Wetland Ecosystem Services Protocol model and assess wetlands impacted by resource roads and industrial development. This information will directly support the prioritization of wetlands for both conservation and enhancement actions.	**Report pending**
PEA-F23-W-3629 Nîkanêse Wah tzee Stewardship Society $94,282 Peace Sub-region	**Restoring caribou habitat for a Peace Region herd** *Restoring Caribou Habitat in the Klinse-Za Herd Year 4:* In the fourth year of this multi-year project, work will continue to implement and monitor the functional and ecological restoration of 12 linear corridors in the herd area. Outcomes expected in 2022–2023 include the site preparation of three road networks totalling ~35 kilometres, adding to the ~45 kilometres of linear corridors treated to date. Ultimately, this project will result in reduced human access, predator use, and predator movement rates, leading to accelerated forest regeneration.	**Restoration work underway on 13 kilometres of forestry road** Thirteen kilometres of a forestry road, covering 13 ha, has been deactivated and prepared for planting in 2023. The goal is to eliminate motorized access to habitat of the Klinse-Za caribou herd. At a second site, more than 7,500 seedlings were planted in 2022 to restore the habitat.
PEA-F23-W-3630 Wildlife Conservation Society Canada $63,029 Basin-wide	**Improving science and knowledge of bat populations** *North American Bat Monitoring Program:* Williston Expansion: The North American Bat Monitoring Program is a multi-national, multi-agency coordinated bat monitoring program. It uses standardized protocols to gather data to assess population status and trends, inform responses to stressors, and sustain viable populations. Data will be gathered from areas including the Williston Reservoir Watershed, specific locations to be determined—an area where information is lacking. The project also represents an opportunity for interested First Nations to learn bat monitoring skills, use specialized tools, and contribute to bat conservation on both a local and continental scale.	**Indigenous knowledge helps identify locations for bat monitoring** The project expanded the North American bat monitoring network with three new grid cells with the help of Tsay Keh Dene, Kwadacha, and Saulteau First Nations. Each 10 km x 10 km cell is in a previously unsampled area of the province. The Nations collaborated on the location of the cells, the temporary placement of four bat detectors within each cell, and conducted monitoring within each Nation's traditional territory. All the data collected will be shared with the Province of B.C. and the NABat program. The presence of at-risk northern myotis was confirmed in both the Tsay Keh Dene and Kwadacha First Nations' territories.
PEA-F23-W-3642 University of Northern British Columbia $52,580 Parsnip Sub-region	**Caribou: confirming the benefits of supplemental feeding** *Physiological Effects of Supplemental Feeding in Caribou:* This project will provide insights into how supplemental feeding influences caribou pregnancy rates and calf survival, and it may help evaluate whether feeding is most beneficial in spring or fall. This project will examine physiological bioindicators in hair and pellets collected from the Kennedy Siding herd to investigate whether supplemental feeding increases the proportion of females that breed in multiple years and whether feeding increases the viability of calves.	**Two years of data collected to understand effects of supplemental feeding** In year two, 286 fecal samples and 33 hair samples from 46 female caribou were collected. Images from seven remote cameras were used to identify individual caribou and record their weights and heights using a platform scale. A total of 114 individual caribou were identified at Kennedy Siding in 2022. The project is examining the mechanisms linking supplemental feeding with population growth in caribou from the Kennedy Siding herd.

Project ID Proponent FWCP $ amount Watershed	2022-2023 Grant-based wildlife projects	Project outcomes
PEA-F23-W-3646 Birds Canada $87,932 Basin-wide	**Expanding data collection for birds and bats** *Motus Wildlife Tracking System:* Peace Basin Expansion: This project, led by Birds Canada, will continue to expand the Motus Wildlife Tracking System to track birds and bats affixed with digitally encoded radio transmitters. Results from this array can track animals across a diversity of landscapes, covering thousands of kilometres, and will support projects on key species, such as little brown myotis bat and white-throated sparrow. This project will involve community groups installing stations at schools and other locations to incorporate the Motus Education Program, which builds knowledge about birds, bats, and conservation, for grades 7–12.	**Twice as many tracking stations for birds and bats** Motus wildlife tracking was expanded in 2022 from seven monitoring stations to 15 across the Peace Region. In one example, a new station was installed at Moberly Lake Elementary School. Fifty white-throated sparrows were tagged and their migration paths tracked to California and the U.S. Midwest. A small number of bats were tagged and the project is preparing to tag more bats in future years.
PEA-F23-W-3648 Chu Cho Environmental LLP $36,883 Finlay Sub-region	**Threatened olive-sided flycatchers: filling important data gaps** *Olive-sided Flycatcher Habitat across a Disturbance Gradient:* This project will evaluate olive-sided flycatcher occupancy, habitat characteristics, and prey abundance and diversity at various sites across a natural and anthropogenic disturbance gradient. Habitat loss or reduced habitat quality due to land conversion (i.e., human development) have been identified as threats to populations, but there is a little field-based understanding of limiting factors, predictors of habitat occupancy, and habitat quality related to disturbance. Results from this project will inform the development of habitat-based actions or land management strategies that could benefit this priority bird species. This project is a collaboration between the Tsay Keh Dene Nation, Chu Cho Environmental, Chu Cho Forestry, and Environment and Climate Change Canada.	**Habitat assessments carried out for olive-sided flycatcher** In 2022, the project surveyed 56 flycatcher habitats in the Mesilinka River Watershed and found three sites with flycatchers present. The quality of 10 habitats was evaluated to see how human disturbance has changed them. Research methods will be used in future years to assess other watersheds. Research will help understand how habitat quality and disturbance affects the flycatcher population.
PEA-F23-W-3649 Chu Cho Environmental LLP $5,000 Finlay Sub-region	**Conserving ecologically and culturally significant plants** *Creating an Herbarium for Plant Conservation:* This Seed Grant project will investigate the potential of establishing an herbarium of culturally important and native plant species for the Tsay Keh Dene Nation. This herbarium would be an education and stewardship resource comprising ecologically and culturally significant plants. It would be valuable to the Tsay Keh Dene Nation and conservation researchers.	**Study finds value in proposed Tsay Keh Dene herbarium** This Seed Grant project found that an herbarium in Tsay Keh Dene would be an important asset to help retain Indigenous knowledge about culturally important native plant species. The herbarium would also further develop land stewardship activities. The project team recommended a Large Grant application to create an herbarium.
PEA-F23-W-3655 Nîkanêse Wah tzee Stewardship Society $41,250 Basin-wide	**Caribou: improving calf survival and herd size through maternity penning** *Enhancing Caribou Survival in the Klinse-Za Herd Year 9:* This multi-year project aims to enhance the survival rate of caribou cows and calves in the Klinse-Za and Scott East herds. Maternity penning was used to successfully arrest population decline and avoid the extirpation of the Klinse-Za caribou herd. Having achieved that, the goal of this project is now population supplementation to offset low wild-calf recruitment and maintain a positive population trend. Pregnant cow caribou will be captured in early March and transported to a protective pen located in natural calving range. The cows will be fed and monitored through late July, until calves have grown to a point where they are less susceptible to predation by wolves and bears, and then released back to the wild.	**Twenty-nine caribou calves make it to winter** In the Klinse-Za and Scott East caribou herd, 29 calves born this year survived to 10 months old and are expected to make it to yearling stage. The herd now has about 132 individuals—but predators and avalanches led to mortality among the breeding population. Growth of the herd still depends on recovery efforts.

Project ID Proponent FWCP $ amount Watershed	2022-2023 Grant-based wildlife projects	Project outcomes
PEA-F23-W-3658 Nîkanêse Wah tzee Stewardship Society $18,566 Peace Sub-region	**Restoring the Rochfort caribou maternity pen** *Post-operation Restoration of the Rochfort Maternity Pen:* A maternity pen for caribou near Hudson's Hope has been used for four years, and vegetation at the ~15-hectare site has been degraded by operations and caribou foraging in the pen. The goal of this project is to plant native species within the pen and surrounding area to stimulate the restoration process and restore vegetation at this valuable calving range to pre-disturbance conditions.	**Seedlings and lichen transplanted into caribou maternity pen** In 2022, 3,760 scrub birch seedlings, 20 willow cuttings and eight kgs of lichen were established in the Rochfort caribou maternity pen. A trail leading to the alpine was stacked with dead trees in 11 piles to deter predators and motorized vehicles from using it, and to allow natural vegetation to regrow.
PEA-F23-W-3659 McLeod Lake Indian Band $61,254 Parsnip Sub-region	**Enhancing winter range for moose** *McLeod Lake Moose Habitat Enhancement Project:* Building on an FWCP Seed Grant, this project will assess and enhance priority areas of winter range for moose west of McLeod Lake. The project responds to declines in moose and concerns over sustenance harvest requirements for First Nations. The direct cause of moose population decline is unknown. Leading hypotheses include the loss of mature forest cover for warmth and security, increased roads that provide access for hunters and predators, and reduced forage quality.	**Project withdrawn**
PEA-F23-W-3661 Wildlife Infometrics Inc. $31,514 Basin-wide	**Building ecological awareness in our Peace Region** *Williston School Ecology Project:* This multi-year project will improve understanding of local ecology for Peace Region elementary and high-school students through outdoor-based, hands-on environmental education in rural schools. All modules tie in with provincial curricula and bring in local ecology and First Nations knowledge to illustrate concepts and ideas (e.g., timber cruising to apply statistics and spawning trout to illustrate life cycles).	**Almost 400 students receive hands-on ecology education** In its ninth year, this project reached 395 students in Mackenzie and nearby communities. The field trips introduced students to more than 50 local plants and animals and incorporated First Nations knowledge into ecology learning.
PEA-F23-W-3663 Wild Sheep Society of British Columbia $38,724 Peace Sub-region	**Stone's sheep: filling data gaps to inform conservation plans** *Health and Behaviour of B.C.'s Southernmost Stone's Sheep Year 4:* Recent research shows Stone's sheep are globally unique to B.C. This project to assess sheep health will focus on the two southernmost functionally viable herds of the species: the Dunlevy and Schooler herds. Due to their proximity to domestic farms and overlap with elk, these wild sheep are at high risk. The project will assess their health and examine population demographics, behaviour, distribution, and habitat use through the use of GPS collars. The results will support herd management and inform planning for habitat enhancement. In 2022–2023, the study team will conduct population surveys to assess population trends and range use and compare that information to data collected in the same area during 1999–2005.	**Study tracks Stone's sheep health and movements** At the end of the fourth year of this project, 17 Stone's sheep have been collared and health samples were taken from 24 sheep. The tracking data helped determine sheep movement patterns and analyze their survival or mortality. Investigation of three sheep mortalities found that two died from predation and one fell from a cliff.
Community Engagement Grant Basin-wide	**Supporting community-based projects** *F23 Community Engagement Grant:* Our Peace Region board approved funding for Community Engagement Grants. These grants of up to $1,000 support multiple projects led by stewardship groups, First Nations, and others to benefit fish and wildlife.	**Science Week and youth fishing education program delivered** Two projects were approved, each for $1,000: the North Peace Rod and Gun Club coordinated the Peace River Youth Fish Education Program, and Chu Cho Environmental received funding to host Tsay Keh Dene Science Week.

Project ID Proponent FWCP $ amount Watershed	2022 -2023 Directed fish and wildlife projects	Project outcomes
PEA-F23-F-3761-DCA Society for Ecosystem Restoration in Northern BC $150,000 Parsnip Sub-region	**Improving fish passage in our Peace Region** *F23 Fish Passage with Society for Ecosystem Restoration in Northern BC Year 2:* This multi-year project will start implementing fish passage restoration based on priority sites identified from previously funded projects (PEA-F20-F-2967 and PEA-F22-F-3577). The Society for Ecosystem Restoration in Northern BC is working with the FWCP, the McLeod Lake Indian Band, road/rail tenure holders, and other FWCP stakeholders and partners to prioritize, plan, and fund the restoration of fish passage at road crossing structure barriers throughout the Parsnip River Watershed. The project plans to restore one crossing with a bridge in 2022, and it will work with project partners to finalize plans for a second crossing to be restored in 2023.	**New clear-span bridge improves fish passage** This project enhanced habitat for bull trout and rainbow trout. A clear-span bridge was built on a tributary of the Missinka River to replace two culverts that were negatively impacting fish passage. Two crossings under the Chuchinka-Table Forest Service Road were prepared for replacement; engineering designs were commissioned and construction materials were purchased. Numerous project partners helped identify and conduct fish passage planning and restoration activities at high-priority sites.
PEA-F23-W-3773-DCA University of Northern British Columbia $17,911 Basin-wide	**Building knowledge and understanding with support from UNBC** *2022–2023 Colloquium Presentation Series:* This multi-year project provides education and outreach by building connections and developing relationships through a series of free presentations focused on research that is underway in, or could be applied to, our Peace Region.	**UNBC delivers three talks to nearly 200 people** Free presentations about research underway in our Peace Region were hosted by UNBC in 2022. In total, 180 people attended the sessions, some online and some in-person.
PEA-F23-F-3757-DCA DWB Consulting Services Ltd. $187,174 Basin-wide	**Filling data gaps about kokanee abundance and distribution** *Williston Watershed Kokanee Enumeration Surveys Year 5:* This multi-year project will provide a fifth year of kokanee spawning surveys for 29 streams to assess the abundance and distribution of kokanee within tributaries of the Williston Reservoir. This year, additional surveys of three index streams will be conducted before and after the main survey to assess spawning run timing. Also new this year, cameras will be installed at the three index streams from August to October to test the effectiveness of this technology for monitoring kokanee spawning.	**Remote wildlife cameras at tributaries document timing of kokanee spawning** From August to October 2022, six remote wildlife cameras were installed at three kokanee spawning tributaries connected to Williston Reservoir. The cameras documented the timing of spawning kokanee and, potentially, represent an excellent method for passively collecting fine-scale data on kokanee spawning activity over time, in Williston Reservoir Watershed or other similar systems.
PEA-F23-W-3753-DCA Mackenzie Nature Observatory $23,290 Parsnip Sub-region	**Gathering important breeding bird data at Mugaha Marsh Bird Banding Station** *Mugaha Marsh Banding Station 2022–2023:* This long-term, multi-year project will add to 20-plus years of bird monitoring data. The 2022 data will provide important information on breeding bird population trends, distribution, and health, which can guide species conservation and habitat enhancement initiatives in the region. Mackenzie Nature Observatory operates the Mugaha Marsh Sensitive Area Bird Banding Station on the Parsnip Reach of the Williston Reservoir.	**Data tracks bird population trends** Research of birds using Mugaha Marsh in the Williston Watershed showed varied trends for different species: some populations were larger in 2022, while others were smaller. More people visited the marsh than in previous years to take tours that enhance awareness of conservation initiatives.
TBD, BC Hydro Construction Services $11,318 Dinosaur Sub-region	**Dinosaur Reservoir fish habitat structure removal** *F23 Additional Funds for Dinosaur Fish Habitat Structure Decommissioning:* Large woody debris structures were added to embayments of the Dinosaur Reservoir in an attempt to enhance fish habitat in the early 2000s. These enhancement structures have deteriorated due to winter ice damage. The structures are no longer functioning as fish habitat and need to be removed.	**Project postponed**