FWCP
Fish & Wildlife
COMPENSATION PROGRAM
fwcp.ca

PEACE REGION
OVERVIEW & ACTION PLANS

August 11, 2020

The Fish & Wildlife Compensation Program is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, Indigenous Nations, and public stakeholders to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams.

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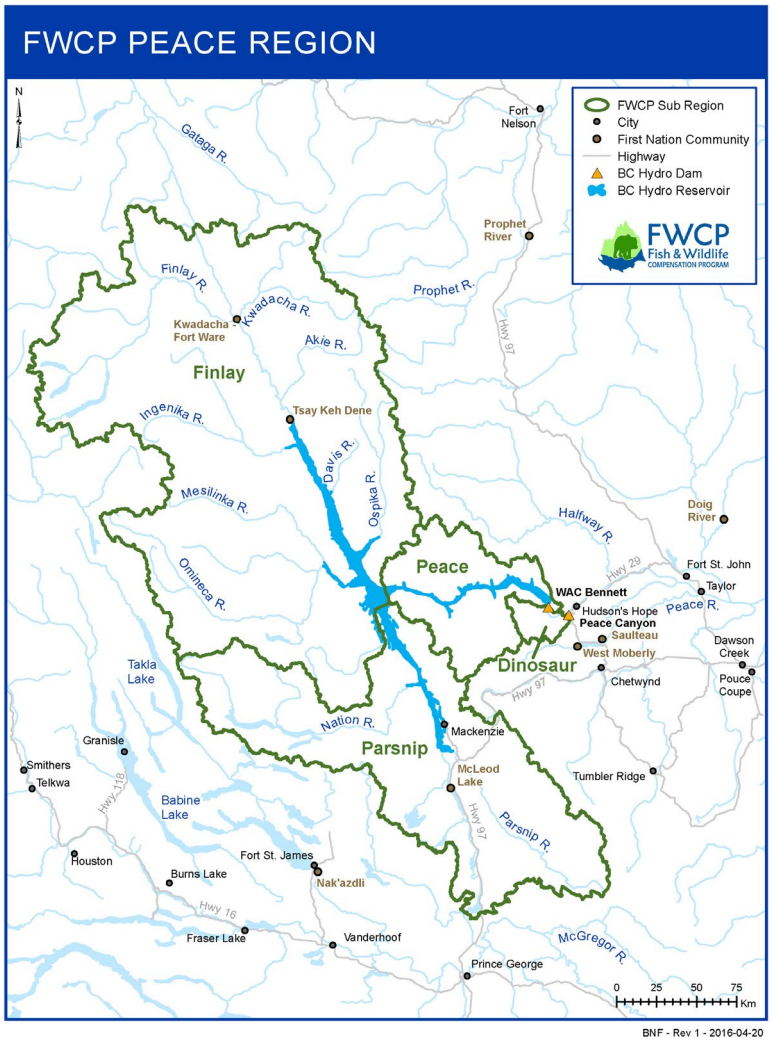

Figure 1. The Fish & Wildlife Compensation Program Peace Region boundary includes the Upper Peace River Basin, which consists of the Finlay, Parsnip, Peace, and Dinosaur sub-regions.

Cover photos clockwise from top left: fisher, iStock; heron, iStock P. Gauthier; waterfall barrier, Fall River, Omineca watershed, J. Hagen; Arctic grayling, iStock mlharing; caribou, Steve Rooke; Goshawk, iStock.

The Fish & Wildlife Compensation Program (FWCP) is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, Indigenous Nations, and public stakeholders to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams. Learn more about the FWCP, projects underway, and how you can apply for a grant at fwcp.ca. Subscribe to our free email updates and annual newsletter at fwcp.ca/subscribe. Contact us anytime at fwcp@bchydro.com. Connect with us on LinkedIn and follow us on Instagram.

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Introduction to this action plan overview

The Peace Region Overview & Action Plans document provides a high-level introduction to the FWCP and sets forth the strategic direction for our Peace Region. This document outlines the vision, mission, and strategic objectives as per the FWCP Governance Manual, and provides a short description of the landscape and historical context of the FWCP's Peace Region. This document also provides grant applicants and others with important information about how our action plans are structured, including our action tables. It outlines the board-approved engagement process to update the FWCP's Peace Region action plans.

The action tables in each action plan (one cross-ecosystem action plan and three ecosystem-based action plans) outline the FWCP's priority actions for each ecosystem in our Peace Region. These actions support our mission to compensate for impacts to fish and wildlife in watersheds impacted by the W.A.C. Bennett and Peace Canyon dams in our Peace Region. We fund projects that align with our priority actions in each action table in the action plans.

Contact us if you have questions about this overview plan, our action plans, the priority actions in each action plan, or your grant application.

INTRODUCTION TO THE FWCP

The Fish & Wildlife Compensation Program (FWCP) is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, Indigenous Nations, and public stakeholders who are actively working to conserve and enhance fish and wildlife in watersheds impacted by the construction of BC Hydro dams. The FWCP operates in the Coastal, Columbia, and Peace regions.

How we operate

The FWCP is funded annually by BC Hydro and directs those funds toward projects that address priority actions across its three regions. BC Hydro has water-licence obligations in its Columbia Region and Peace Region and has made voluntary commitments to address the impacts of dams in its Coastal Region. BC Hydro fulfills the applicable obligations through the work of the FWCP. In each region, a local board comprised of agencies, Indigenous Nations, and public stakeholders guides our work and is responsible for approving all FWCP projects and budgets. FWCP projects are funded and delivered through our annual grants, long-term agreements, and partnerships that reflect the FWCP's vision, mission, and strategic objectives (Figure 2). Our boards may also choose to direct projects and approve funding to address regional priorities.

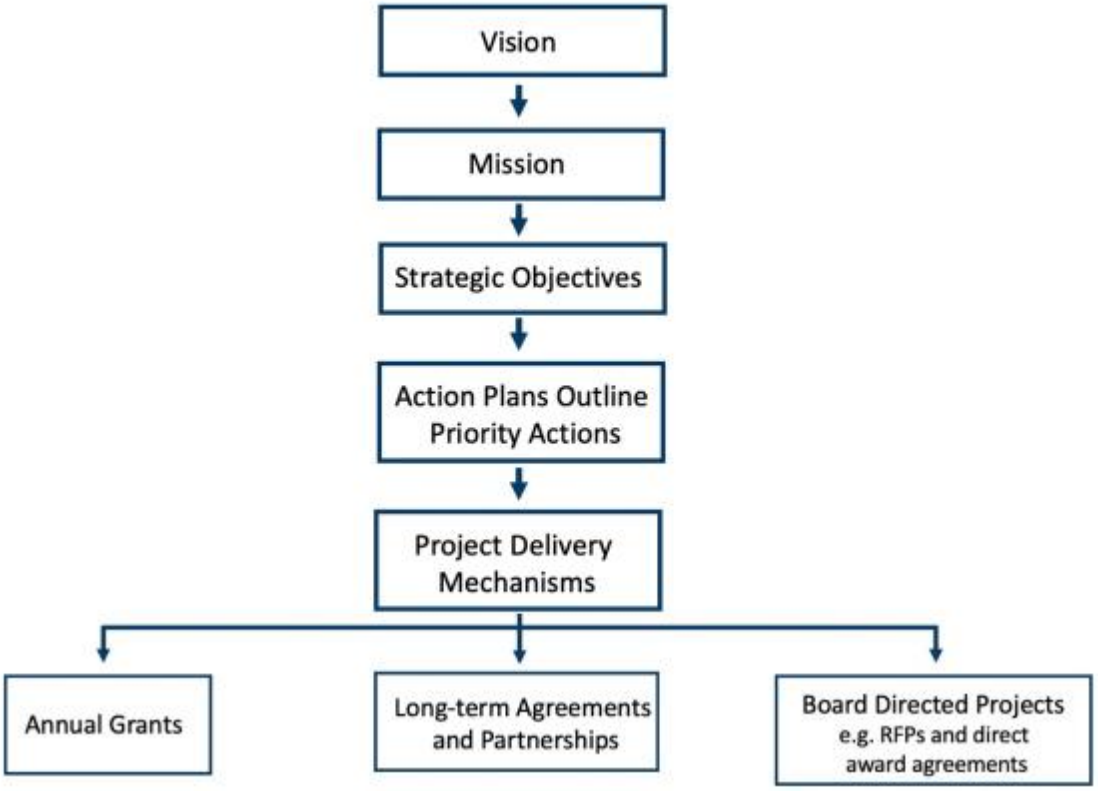

Figure 2. Flowchart of the operational structure of the FWCP.

The FWCP blends its obligation to address dam impacts with a forward-looking approach that recognizes continual adaptation will be required in a dynamic natural environment in order to achieve the FWCP's vision of thriving fish and wildlife populations in watersheds that are functioning and sustainable. The FWCP also considers the objectives and priorities of its program partners. The projected local impacts of climate change, cumulative effects on the landscape, emerging ecological issues, and other factors will require the FWCP to respond in ways that will protect past conservation efforts and contribute to the resilience of our watersheds and ecosystems in the future, while remaining focused on its overall mission to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams.

How we are governed

Our Governance Manual defines a harmonized governance and delivery framework that is forward-looking and ecosystem-based, recognizing the unique attributes of each of the regions in which the FWCP operates: Coastal, Columbia, and Peace. The Governance Manual provides a structure for the delivery of the program and is used in combination with the FWCP's action plans to guide program implementation. Figure 3 outlines how the FWCP is structured across its three regions.

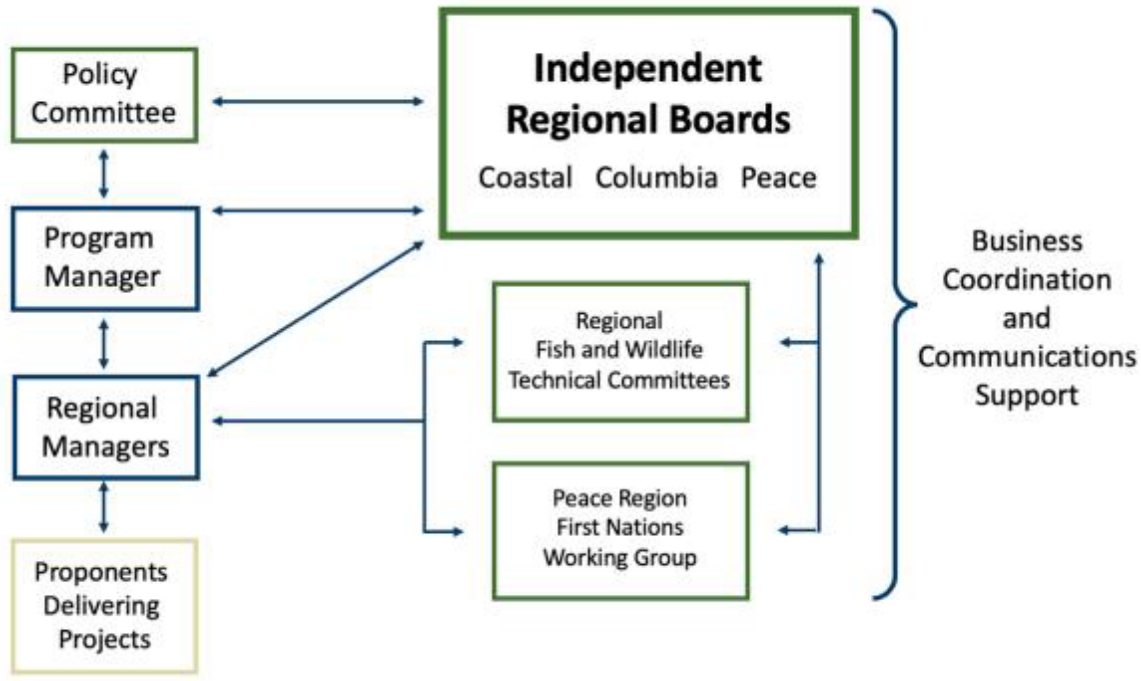

Figure 3. Flowchart of the governance structure of the FWCP.

Independent regional boards provide oversight to the planning and implementation of the FWCP and are responsible for approving all FWCP projects and budgets. The policy committee sets the policy direction for the FWCP, including its governance and strategic framework. The FWCP's Peace Region First Nations Working Group provides advice and ensures Indigenous Nations' considerations and input are included in strategic planning, annual operating plans, and projects. Fish and wildlife technical committees provide technical advice to the regional boards and regional managers related to strategic planning and project selection. Regional managers report to their boards and are responsible for overall program implementation, including board and committee coordination, budget and contract development and management, proponent liaison, and strategic planning. The program manager supports operational and strategic planning and activities for each region and is responsible for communicating FWCP information to the policy committee and between regional boards.

Our strategic approach

The FWCP follows a strategic framework that guides overall planning for compensation investments (MacDonald 2009).

As outlined in our Governance Manual, our vision, mission, and strategic objectives provide the framework and foundation for determining the sub-objectives and priority actions in each action plan (Figure 4).

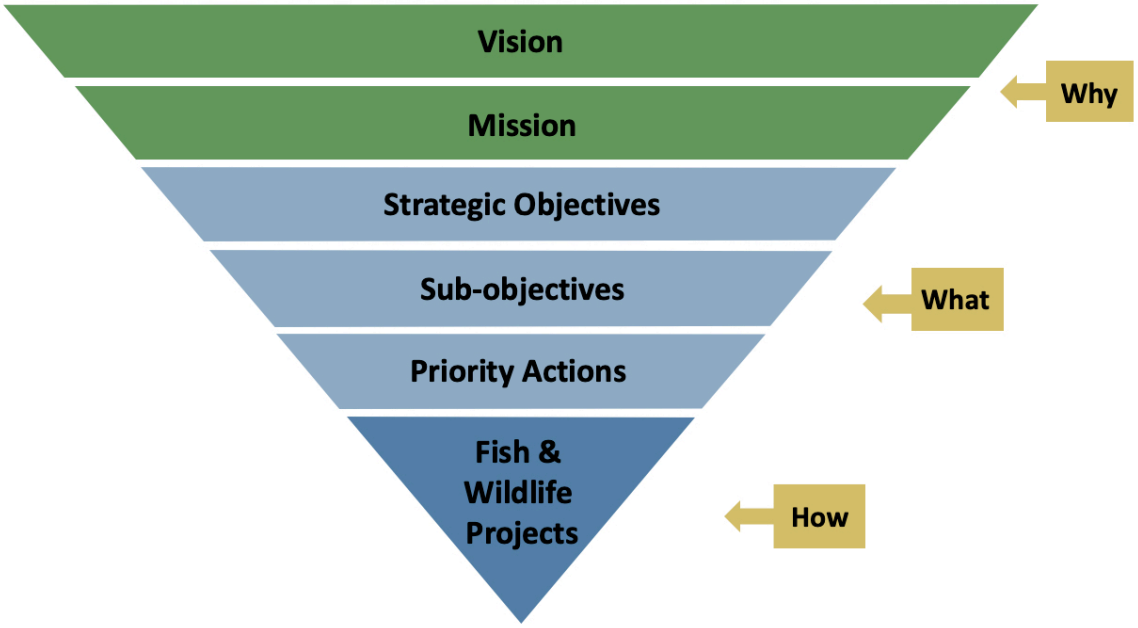

Figure 4. The FWCP's strategic framework is the foundation for the action plans, which define priorities for conserving and enhancing fish and wildlife impacted by BC Hydro dams.

FWCP vision

Thriving fish and wildlife populations in watersheds that are functioning and sustainable.

FWCP mission

The FWCP compensates for fish and wildlife in watersheds impacted by BC Hydro dams.

FWCP strategic objectives

The FWCP's strategic objectives, as set out below, support meeting both BC Hydro's water-licence conditions in its Peace and Columbia regions, and its voluntary commitment to compensate for impacts in the Coastal Region.

Conservation

- **Maintain or improve the status of species or ecosystems of concern.** This focuses on the conservation goals for ecosystems, habitats, or ecological communities and specific species. Conservation priorities may also be identified at the watershed level, based on local conditions.
- **Maintain or improve the integrity and productivity of ecosystems and habitats.** This addresses the concept of ecosystem integrity, resiliency, and the functional elements of ecosystems, including efforts to optimize productive capacity.

Sustainable use

- **Maintain or improve opportunities for sustainable use, including harvesting and other uses.** This focuses on the FWCP's role in restoring or enhancing the abundance of priority species and in providing information to resource-management decision-makers related to providing opportunities for harvesting and other uses.

Harvesters[1] include Indigenous Nations and recreational, sport, and commercial users. Other uses may include cultural, medicinal, or non-consumptive uses, such as wildlife viewing.

Community engagement

- **Build and maintain relationships with stakeholders and Indigenous communities.** This objective comes from BC Hydro's social responsibility policy, the Province of B.C.'s shared stewardship goal, and the approach of Fisheries and Oceans Canada's Stewardship and Community Involvement Program. This recognizes the importance of engaging Indigenous communities, local stakeholders, and other interest groups to contribute to making good decisions and delivering effective projects.

Project eligibility criteria

At the level of individual project funding and implementation decisions, the FWCP applies the following criteria to further define its role and actions within defined program areas (Figure 5):

FWCP does:	FWCP does not:
Fund actions to create, restore, or otherwise improve the function of ecosystems that have been impacted by BC Hydro activities;	Fund core activities of government or non-government agencies or programs;
Fund actions to create, restore, or otherwise improve the function of alternate ecosystems that provide a better opportunity for investment;	Lead the development of species recovery goals;
Participate as a team member in species of interest planning;	Fund, co-ordinate, or lead national recovery teams for species at risk;
Fund specific management actions for species of interest as identified by recovery teams and action/implementation groups;	Develop policy related to land or wildlife management;
Fund baseline inventory that contributes to the development of habitat- or species-based actions within action plans;	Administer government regulations;
Fund monitoring programs designed to measure the effectiveness of FWCP-funded habitat- and species-based actions; and	Engage in enforcement and compliance activities, except in relation to co-operatively managed conservation lands; and
Contribute to all aspects of managing co-operatively managed conservation lands.	Fund programs designed exclusively to address government objectives.

Figure 5. FWCP's project eligibility criteria.

[1]The FWCP's Peace Region acknowledges that harvesters include licensed hunters and anglers; however, at the time of writing this action plan, the FWCP Governance Manual does not identify these individuals in the sustainable use definition. Updates to the Governance Manual are planned for 2020–2021.

Current FWCP-funded projects are updated annually on the FWCP website at fwcp.ca/region/peace-region. Previously funded Fish & Wildlife Compensation Program projects can be viewed at fwcp.ca/results. The details and reports of these projects are available to grant applicants to assist in determining the scope of new projects. References to previous FWCP projects are also noted in each of the ecosystem-based action plans, including the Cross-Ecosystem Action Plan, however, grant applicants should reference the most up to date reports at fwcp.ca/results.

INTRODUCTION TO THE FWCP'S PEACE REGION

The headwaters of the Peace River, a tributary of the Mackenzie River, are located in northeastern British Columbia (Figure 6). The Peace River is formed by the confluence of the Finlay and Parsnip rivers flowing in opposing directions in the Rocky Mountain Trench. At the confluence, the Peace River flows east and is the only river in Canada to cut through the Rocky Mountains. Once out of the canyon, the river maintains an easterly direction, crossing the B.C./Alberta border. The Peace River enters the Slave River downstream of Lake Athabasca and flows north into Great Slave Lake, which drains into the Mackenzie River en route to the Arctic Ocean.

The FWCP's Peace Region includes the Upper Peace River Basin, defined as the portion of the Peace River Watershed upstream of the Peace Canyon Dam. The Upper Peace River Basin is approximately 70,000 km^2 and includes the Finlay, Parsnip, Peace, and Dinosaur sub-basins. The Finlay River drains the northern portion of the trench with an original length of around 295 km. The Parsnip River drains the southern portion of the trench with an original length of about 210 km. The two rivers converged at Finlay Forks to form the Peace River, which flows east through the Rocky Mountains and Peace Canyon.

The construction of the W.A.C. Bennett Dam in 1968 flooded the entire mainstem portion of the Peace River above the dam, as well as a substantial portion of the Finlay and Parsnip rivers, forming the Peace, Finlay, and Parsnip reaches of the reservoir. The lower portions of tributaries draining into these three reaches were also flooded. The Peace Canyon Dam was constructed in 1980 and flooded the Peace River mainstem between the Peace Canyon and W.A.C. Bennett dams.

Site C will be a third dam and generating station on the Peace River in northeast B.C. The project will provide 1,100 megawatts of capacity and about 5,100 gigawatt hours of energy each year to the province's integrated electricity system. Site C is expected to be in service by 2025, with reservoir filling planned to occur in the fall of 2023. Site C and FWCP have an interest in sharing information regarding active programs in order to identify overlaps or synergies. Current federal and provincial authorizations and conditional water licence obligations require BC Hydro to establish environmental monitoring, mitigation, and compensation programs to address pre- and post-construction impacts specified within the water licence project conditions. Under the water licence, after five years of dam operation (~2030), BC Hydro is to provide the Water Comptroller with an assessment of the adequacy of the mitigation and monitoring programs for those conditions within the water licence and submit a report. The Water Comptroller will review the submission and may direct additional programs if mitigation and monitoring is determined to be inadequate to satisfy the intent of the condition. Learn more about Site C's environmental programs at http://sitecproject.com/.

The region's topography varies from low-elevation forests around the Williston Reservoir (670 m) and along the major rivers, to rugged mountainous terrain (Mt. Ulysses 3,024 m). There are south- and west-facing side hills that lose their snow and green up first in the spring, and north-facing side slopes that hold snow until later in the spring and provide moister, cooler summer habitats. Vegetation varies from mature forests of spruce and pine, to shrubby areas, grassland, and deciduous forests of aspen, cottonwood, and paper birch. Marshes, small and large streams, acidic bogs, lakes, and the reservoir foreshore all provide wetland habitats that are used by wildlife.

The region's climate is characterized by cold, snowy winters with deep snow, and mild, rainy summers with a short growing season. The mean annual temperature is 0.5°C, while the means for January and July are -18°C and 13°C, respectively. Temperatures extremes of -47°C and 32°C are common in the winter and summer, respectively. Snow accumulations range from approximately 1 m in the valleys to more than 4 m in the mountains. The corresponding precipitation water equivalent ranges from approximately 250 mm to 1,300 mm. Average annual precipitation is approximately 800 mm, which is fairly evenly distributed between snow and rain.

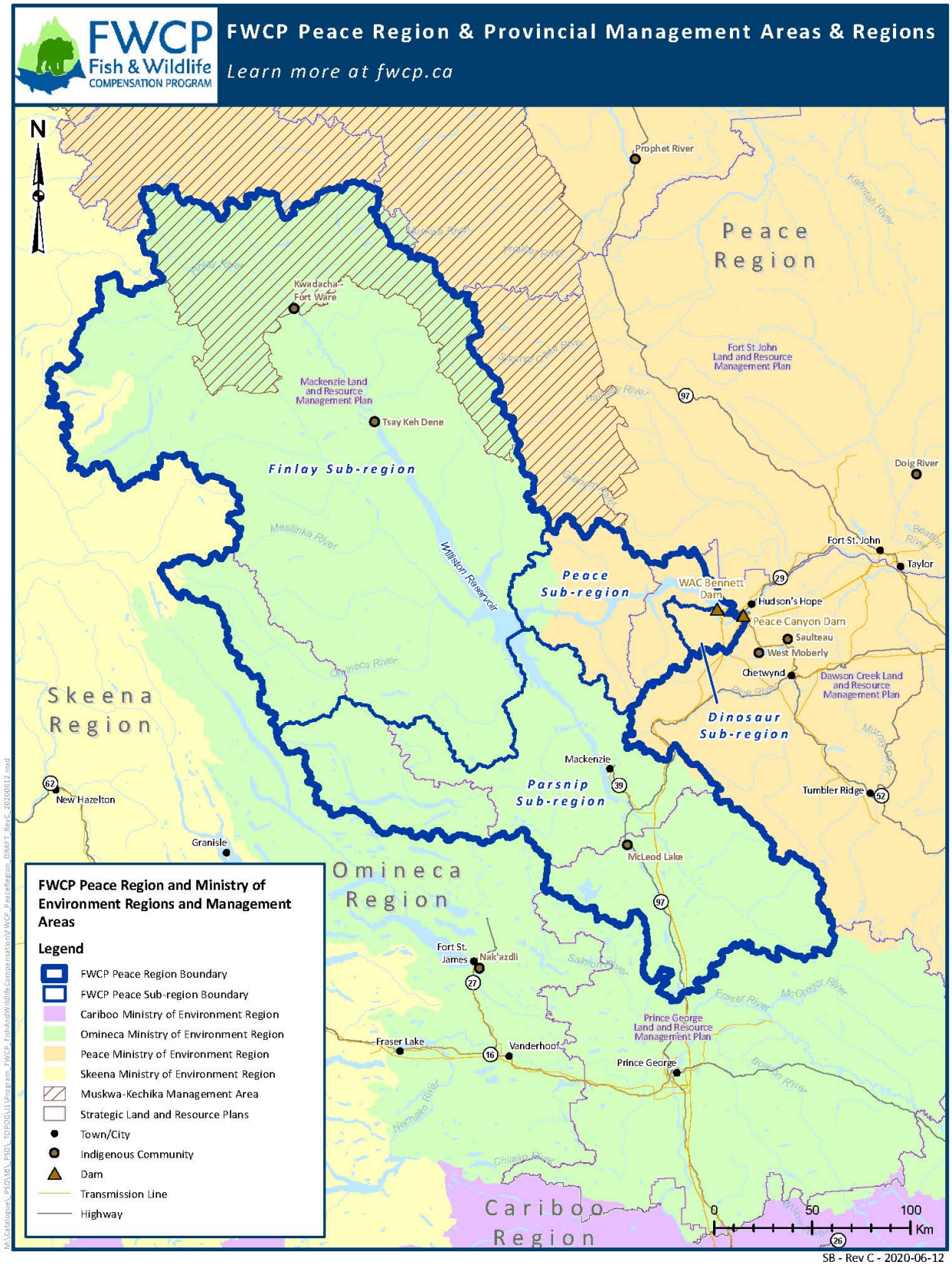

Figure 6. Map of the FWCP's Peace Region.

Major centres

The largest settlements in the region, Fort St. John, Dawson Creek, and Hudson's Hope, are outside the boundary of the FWCP's Peace Region, which has been historically focused above the Peace Canyon Dam (Figure 6). Smaller communities in or near the boundary of the region include McLeod Lake, Bear Lake, Kwadacha (Fort Ware), Mackenzie, Manson Creek, Germansen Landing, and Tsay Keh Dene.

Indigenous Nations, Bands, and groups

The FWCP values Indigenous involvement in its governance structures, decision-making, and projects. In the FWCP's Peace Region there are twelve Indigenous Nations with traditional territories that include portions of the Upper Peace River Basin including: Blueberry River First Nations, Doig River First Nation, Fort Nelson First Nation, Halfway River First Nation, Kwadacha Nation, McLeod Lake Indian Band, Nak'azdli Whut'en, Prophet River First Nation, Saulteau First Nations, Takla Nation, Tsay Keh Dene Nation, and West Moberly First Nations.

In 2012 several of these Nations signed a Memoranda of Understanding (MOU) with the Province of B.C. and BC Hydro that defines a partnership approach with respect to program implementation in the FWCP's Peace Region (Governance Manual).

A First Nations Working Group, comprised of signatories of the MOU, supports our work in this region and helps ensure early engagement with project proponents (i.e. grant applicants) to support Indigenous involvement in FWCP projects. A Notice of Intent provides the opportunity for participating Indigenous Nations to define their interests in potential projects before projects are reviewed or approved. Involvement is defined as:

1) support in principle – A First Nation provides a letter of support for the project but is not directly involved in the project.
2) financial or in-kind support – A First Nation contributes funds or in-kind services that increase the total value of the project.
3) working relationship – Budgeted involvement in the project (e.g. First Nations' technicians employed through the project).
4) project development support - A First Nation contributes to project development (e.g. First Nations knowledge and values incorporated into scope) and implementation (e.g. First Nations have budgeted involvement in the project).

In addition to the First Nations Working Group, Indigenous Nations are represented on our Peace Region board, which is responsible for approving all funding decisions, projects, and annual operating plans.

The FWCP recognizes the value and importance of Indigenous knowledge and values and encourages project proponents (i.e., grant applicants) to consider Indigenous knowledge and history in project design and implementation where appropriate.

Our history

The FWCP's Peace Region was originally created in 1988 (formerly known as the Peace-Williston Fish & Wildlife Compensation Program) when a fund was established to offset the footprint impacts of BC Hydro dams and reservoirs on fish and wildlife species in the basin (MacDonald 2009). In 1990, the initial monies were leveraged to create a notional fund to generate an annual budget in perpetuity indexed to inflation, after which, an administration agreement was developed between the Province of B.C. and BC Hydro to implement the program.

In 2009, the FWCP partners (i.e., BC Hydro, B.C. Ministry of Environment, Department of Fisheries and Oceans) developed a strategic framework that guides overall planning for compensation funding (MacDonald 2009). The framework has guided the development of strategic plans, which are in turn informing action plans that focus on specific priorities.

Impacts summary

This section presents an overview of the hydro-related impacts and non-hydro cumulative effects and emerging issues relevant to fish and wildlife in the FWCP's Peace Region. Understanding the region's threats and limiting factors helps to identify the opportunities and potential priorities for actions to conserve and enhance fish and wildlife.

Habitat loss

Williston and Dinosaur reservoirs inundated large areas of woodlands, wetlands, floodplain, riverine, and lake habitat. These habitats were replaced with simpler, less diverse reservoir habitat.

Creation of the 1,773 km^2 Williston Reservoir resulted in the inundation of large areas of riverine and natural lake habitats within the reservoir footprint, which affected many fish species. For example, the destruction of large river habitat was likely a major factor that led to the decline and eventual extirpation of a reported 24 populations of Arctic grayling from the drainage (Stamford and Taylor 2005).

Terrestrial habitats were reduced by approximately 1,500 km^2, which affected important winter range and wildlife corridors for caribou, Stone's sheep, and grizzly bear; while more generally, the inundation of lowland habitat is considered a major limiting factor for many wildlife species because they were dependent on riparian ecosystems and, in some cases, because they must now forage in deeper snow conditions at higher elevations.

Reservoirs with large fluctuations in water levels result in seasonal impacts to stream and littoral habitat productivity. The Peace Water Use Plan of 2007 was developed to improve reservoir-level and downstream flow conditions through incremental changes in dam operations.

New habitat created

As noted above, large amounts of riverine habitat were converted to reservoir habitat, which has relatively lower productivity. In some cases, such as in Williston Reservoir, this is due to large annual reservoir drawdowns that prevent the establishment of a stable littoral (near-shore) community. In run-of-the-river situations, such as in Dinosaur Reservoir, the problem is not drawdown but rather the through-flow. In this case, the water in the reservoir is exchanged so quickly that a normal aquatic community cannot develop.

Converting rivers to reservoirs impacts stream-dependent species such as mountain whitefish and Arctic grayling. Lake-dependent species that were not common in the river, such as lake trout and lake whitefish, can take advantage of the new habitat, whereas habitat generalists, such as bull trout, can adapt from a river to reservoir existence as long as other needs are met, such as optimal temperatures and access to stream habitat for spawning and early rearing.

Migration barriers

Hydroelectric development in the Upper Peace River Basin has impacted fish and wildlife migration and movements for reproduction, foraging, and other purposes. The dams and reservoirs serve as barriers to migration and contribute to the fragmentation of previously connected habitats. For example, impaired access to traditional spawning and rearing areas has affected the genetic diversity of some fish populations. The Scott caribou herd was bisected by the creation of the Williston Reservoir, preventing seasonal movements.

Productivity and nutrient loss

Basin-wide losses in primary productivity (i.e., the conversion of solar energy into organic carbon) are related to the loss of ecosystems in the area inundated by Williston and Dinosaur reservoirs. A complex system of terrestrial and aquatic primary productivity has either been lost or modified to ecosystems that are generally less productive. This has included large areas of river, lake, and tributary stream habitats, which have been replaced by reservoir aquatic habitats that are generally less productive.

Water quality and turbidity

Dams often affect water quality both within and downstream of reservoirs. Large reservoirs tend to keep water temperatures warmer in the winter and cooler in the summer than natural lake environments (BC Hydro 2012). In most situations, reservoirs also block sediment transfer and reduce turbidity, which can benefit some species but not others (Ministry of Environment 2008). Drawdowns can expose large mud flats, which can also contribute to poor water quality.

Entrainment

Fish entrainment is the volitional or involuntary movement of fish into and through water intakes of generating stations and spillways during the operation of water storage and diversion structures. The major impacts of entrainment on fish populations are injury, mortality, and displacement. Fish entrainment can be considered both a footprint and an operational issue as both the existence and design of the water-control infrastructure and how it is operated over time influence the level of impact. The Peace Water Use Plan for the Upper Peace River Basin considered entrainment a footprint impact, although entrainment is being addressed at BC Hydro facilities through a separate fish entrainment strategy.

Greenhouse gases

The carbon cycle in forests typically results in a net-zero greenhouse gas budget, because forests and wetlands act as natural balances between CO_2 and CH_4 (Rosenberg et al. 1997). The flooding of boreal forests and wetlands upsets these natural balances and results in a net release of greenhouse gases that may persist for up to 100 years. Factors that contribute to the volume of gas releases include: the amount of flooding involved, the age of the reservoir, the amount of biomass flooded, and the geographic location of the reservoir. Reservoir surfaces are also considered an additional potential source of GHG emissions (St. Louis et al. 2000).

Cumulative effects

Compounding the impacts to fish and wildlife and their habitats, the FWCP's Peace Region continues to experience growth in many natural resource sectors, including increased development for forestry, mining, agriculture, and oil and gas exploration and extraction. The transportation of timber by boom or barge has enabled forestry companies to harvest distant drainages more easily, affecting habitat for caribou and fish. These developments contribute to the cumulative impacts on species, habitats, and migration corridors. For example, these activities have resulted in aquatic habitat loss and degradation, such as through siltation of streambeds, which reduces egg survival, food production, and habitat suitability for fish. Drainage structures (e.g., culverts) that are poorly engineered or have exceeded their life expectancy can inhibit or completely block fish passage. In addition, linear development disturbances such as roads, bridges, and oil and gas pipelines have impacted wildlife by altering the connectivity of habitats, including the movements of predators and prey and the ability of humans to access habitats. Forest harvesting has also changed the age distribution and species composition of forests and associated forage understory, resulting in shifts in ungulate populations and their predators.

Climate change is also a key and emerging issue for the FWCP's Peace Region. Climate model projections predict that the region can be expected to experience overall increased precipitation, with warmer summers and winters, more extreme storm events, increased risk of forest fires, changes in snowpack, and decreased summer stream flow in all basins (Fraser Basin Council 2019). These effects are likely to cause range shifts in many plants and animals, among other impacts.

INTRODUCTION TO THE FWCP'S ACTION PLANS

Action plans recommend specific fish and wildlife priorities for each of the FWCP's three regions and guide regional board funding decisions and eligibility. These plans are forward-looking and holistic (i.e., ecosystem-based) in their approach; reflect the FWCP vision, mission, and strategic objectives; define "footprint" impacts of BC Hydro dams; and recommend priority actions to address regional impacts and priorities.

Peace Region action plans

There are four updated 2020 action plans for the FWCP's Peace Region representing the ecosystems in the Peace Region:

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

The new Cross-Ecosystem Action Plan includes 13 actions that apply across rivers, lakes, and reservoirs; riparian and wetland; and uplands ecosystem types (i.e., cross-ecosystem actions). These actions were not suited to any single ecosystem-based action plan and have been grouped into the Cross-Ecosystem Action Plan to allow for project work to occur that aligns with priority actions that apply across ecosystem types.

Action plan content

The action plans describe the strategies and priority actions needed to accomplish FWCP objectives at the basin- or watershed-level. The action plans guide FWCP funding decisions (see FWCP Eligibility Criteria) and are referenced annually by the regional boards to track progress toward implementation, set annual priorities, and guide decision-making in setting out and approving the Annual Operating Plan for each region. Our action plans:

- define "footprint" impacts of BC Hydro dams;
- identify fish and wildlife priorities (i.e., priority actions); and
- identify projects eligible for funding.

Each action plan includes action tables that outline the priority actions for ecosystems and priority species. The priority actions were developed with input from FWCP partners, including Indigenous Nations, Bands, and groups; agencies, public representatives, and other stakeholders; subject matter experts; and the broader public. Each action has been assigned a priority from level 1 to 3 (see the definition of FWCP priority levels below).

Priority species categories and list

Inhabiting the streams, reservoirs, wetlands, and uplands of the FWCP's Peace Region are 24 species of fish and 295 terrestrial vertebrates (PWFWCP 2000). Of the 24 fish species, two (spoonhead sculpin and mottled sculpin) are known only from the Dinosaur Reservoir, while 22 occur in both the Williston and Dinosaur watersheds. Of the 295 wildlife species, five amphibian, 2 reptile, 55 mammal, and 233 bird species occur in the region.

A list of priority species was developed as an outcome of the action plan engagement process, which focuses the action plans toward species of conservation concern and those most likely affected by the creation of the reservoirs. Impacts to priority species are addressed through general actions in the action plans that are applicable to all priority species, as well as more focused actions to address issues specific to one or more priority species or species group. The approach to identifying priority species includes all vertebrate species at risk that breed in the FWCP's Peace Region, as well as additional sustenance species, species of conservation concern that are not federally or provincially listed as a species at risk due to observed declines, or current/imminent threats (e.g., bats due to white-nose syndrome). An open category of culturally important species is also included in the list of priority species to provide flexibility for Indigenous Nations, Bands, and groups to develop a project on a culturally important species that does not already appear as a priority

species on the list. As conservation status may change during the period that this action plan is in place, action #5 in the Cross-Ecosystem Action Plan has been developed to allow for emerging species of conservation concern to be considered if necessary.

The FWCP uses three general categories of priority species: recovery, focal, and inventory. Recovery, focal, and inventory categories are an indication of the state of knowledge for each species and not an indication of the priority level for each species (Table 1). The list of priority species across all four action plans is shown in Table 2. Note that many terrestrial species utilize both upland and riparian and wetland ecosystem types; therefore, a primary and secondary ecosystem-based action plan has been assigned for each of these species.

Table 1. Category definitions for the FWCP's Peace Region priority species.

Category	Priority Species Category Definitions
Recovery	Recovery species are a high priority and conservation concern and have likely been adversely impacted by dam construction. These species have formally been classified as either Threatened or Endangered by Canada or B.C., and recovery and/or management plans are in place by federal or provincial management agencies. Actions for recovery species align with recovery strategies and plans.
Focal	Focal species have a strong linkage to dam footprint impacts and are of high priority. At least some information related to population status, critical habitats, and key limiting factors have been defined for focal species based on previous FWCP projects (e.g., through the development of a monitoring framework), and therefore specific follow-up actions have already been developed. Actions for focal species should build upon previous FWCP projects with an aim to conserve, restore, and/or enhance suitable habitats in the relevant ecosystems.
Inventory	Inventory species have also been affected by dams and are a high priority, but detailed inventory and/or trend monitoring is required to better understand population status, critical habitats, and key limiting factors. Actions for inventory species should aim to provide the basis for future compensation actions, if required.

Table 2. Priority species in the FWCP's Peace Region.

The FWCP's Peace Region priority species							
Species Group	**Species (or add Other)**	**Provincial Listing**	**Federal Designation**	**Species Category**	**Applicable Ecosystem-based Action Plan**		
					Rivers, Lakes & Reservoirs	**Riparian & Wetlands**[1]	**Uplands**[2]
Fish	Bull trout	Blue	-	Focal	√		
	Arctic grayling	-	-	Focal	√		
	Kokanee (native)	-	-	Focal	√		
	Kokanee (introduced)	-	-	Focal	√		
	Lake trout	-	-	Focal	√		
	Rainbow trout	-	-	Inventory	√		
	Burbot	-	-	Inventory	√		
	Dolly Varden	-	-	Inventory	√		
	Lake whitefish	-	-	Inventory	√		
	Mountain whitefish	-	-	Inventory	√		
	Pygmy whitefish	-	-	Inventory	√		
	Brassy minnow	-	-	Inventory	√		
	Northern pikeminnow	-	-	Inventory	√		
	Minnow spp.	-	-	Inventory	√		
	Sculpin spp.	-	-	Inventory	√		
	Sucker spp.	-	-	Inventory	√		
Aquatic Invertebrates	Freshwater mussels	-	-	Inventory	√		
	Freshwater clams	-	-	Inventory	√		
	Freshwater insects	-	-	Inventory	√		
	Apatania comosa: Trichoptera	-	-	Inventory	√		
	Zooplankton	-	-	Inventory	√		
Carnivores	Grizzly bear	Blue	Special Concern	Inventory		Secondary	Primary
	Fisher	Blue	-	Focal		Secondary	Primary
	Wolverine	No Status	Special Concern	Inventory		Secondary	Primary
Ungulates	Caribou (central mountain population)	Red	Threatened	Recovery			√
	Caribou (northern mountain population)	Blue	Special Concern	Recovery			√
	Moose	-	-	Focal		Primary	Secondary
	Mountain goat	Blue	-	Inventory			√
	Stone's sheep	Blue	-	Inventory			√
Small Mammals	American water shrew	Blue	Special Concern	Inventory		√	

[2] Recognizing that many terrestrial and semi-aquatic species and species groups make use of riparian and wetland habitats, as well as upland habitats, actions for these species have been assigned to a **primary** ecosystem-based action plan; however, general habitat-based actions from the **secondary** ecosystem-based action plan may also be applied to these priority species.

The FWCP's Peace Region priority species							
Species Group	**Species**	**Provincial Listing**	**Federal Designation**	**Species Category**	**Applicable Ecosystem-based Action Plan**		
					Reservoirs, Lakes, & Rivers	**Riparian & Wetlands[1]**	**Uplands[1]**
Bats	Little brown myotis	Yellow	Endangered	Recovery		Secondary	Primary
	Northern myotis	Blue	Endangered	Recovery		Secondary	Primary
	Additional bat spp. (big brown bat, long-eared myotis, long-legged myotis, hoary bat, silver-haired bat, eastern red bat)	-	-	Inventory		Secondary	Primary
Amphibians	Western toad	Yellow	Special Concern	Inventory		Secondary	Primary
	Long-toed salamander	-	-	Inventory		Secondary	Primary
Breeding Birds	American bittern	Blue	-	Inventory		Primary	Secondary
	Baltimore oriole	Blue	-	Inventory		Primary	Secondary
	Bank swallow	Yellow	Threatened	Inventory		Primary	Secondary
	Barn swallow	Blue	Threatened	Inventory		Primary	Secondary
	Bay-breasted warbler	Red	-	Recovery		Secondary	Primary
	Black swift	Blue	Endangered	Inventory		Primary	Secondary
	Black-throated green warbler	Blue	-	Inventory		Secondary	Primary
	Broad-winged hawk	Blue	-	Inventory		Primary	Secondary
	Canada warbler	Blue	Threatened	Recovery		Primary	Secondary
	Cape May warbler	Blue	-	Inventory		Primary	Secondary
	Common nighthawk	Yellow	Threatened	Recovery		Primary	Secondary
	Connecticut warbler	Blue	-	Inventory		Primary	Secondary
	Eared grebe	Blue	-	Inventory		Primary	Secondary
	Evening grosbeak	Yellow	Special Concern	Inventory		Primary	Secondary
	Great blue heron, herodias subspecies	Blue	-	Inventory		Primary	Secondary
	Horned grebe	Yellow	Special Concern	Inventory		Primary	Secondary
	Northern goshawk, atricapillus subspecies	Blue	-	Inventory		secondary	Primary
	Olive-sided flycatcher	Blue	Threatened	Recovery		Primary	Secondary
	Rusty blackbird	Blue	Special Concern	Recovery		Primary	Secondary
	Short-eared owl	Blue	Special Concern	Recovery		Secondary	Primary
	Swainson's hawk	Red	-	Inventory		Primary	Secondary
	Upland sandpiper	Red	-	Inventory		Secondary	Primary
	Winter wren	Blue	-	Inventory		Secondary	Primary
	Yellow rail	Red	Special Concern	Recovery		Secondary	Primary
Invertebrates	Pollinator species at risk	Red, Blue	Special Concern, Threatened	Inventory		Secondary	Primary
Ecological Communities at Risk		Red, Blue	-	Inventory		Primary	Secondary
Culturally Important Species		-	-	Inventory, Recovery, or Focal	√	√	√

Action table content

Priority actions (e.g., Figure 7) are organized by ecosystem (or cross-ecosystem actions), sub-objective, action type (research and information acquisition, monitoring and evaluation, land securement, habitat-based actions, and species-based actions), species, or species group, and are assigned a priority ranking from 1 (highest priority) to 3 (lowest priority) (Table 3). The priority ranking does not account for potential project sequencing.

Action #	Action Type	Priority Action Short Description	Priority	Priority Species or Species Group	Priority Action	Intended Outcome	Delivery Approach
Conservation sub-objective 2: restore the natural hydrology of wetlands							
3	Habitat-based action	**PEA.RWE.SO2.HB.03 Restore the natural hydrology of wetlands-P1**	1	Riparian and wetland species and ecological communities	Implement opportunities to restore wetland hydrology, based on findings of the FWCP Riparian and Wetland Mapping Project (Filatow et al. 2020 and the Williston Wetland Explorer Tool), previous FWCP amphibian wetland connectivity studies (most recently DWB 2019), and previous work identifying opportunities for wetland restoration (Chu Cho 2020), where appropriate. Information acquired through BC Hydro water use planning projects should also be considered. Habitat-based actions may include the installation of culverts or other wetland water-management structures.	Implementation of habitat-based actions to restore natural wetland hydrology.	Open

Figure 7. Each action table has the same format, but the priority actions reflect the needs and opportunities in each action plan.

Sub-objectives – priority actions are organized by applicable sub-objectives in each action table.

Action # – A reference number for referring to the action table. These numbers may help the reader cross-reference actions within the table. This action # is not required when completing an online grant application.

Action type – Priority actions are grouped into five broad action types. When completing an online grant application, proponents will be asked to select the action type from a drop-down menu.

- *Research and information acquisition* – These actions will collect information necessary to evaluate, review, and implement subsequent conservation, restoration, and enhancement actions. Examples include gathering Indigenous knowledge and values, a limiting factor assessment, and other activities to address data gaps and information needs to complete other actions.
- *Monitoring and evaluation* – These actions will monitor and evaluate projects supported by the FWCP to understand the effectiveness of habitat- or species-based actions.
- *Habitat-based* – These actions will conserve, restore, and enhance habitats. Examples include habitat creation, restoration, and enhancement; enhancing habitat connectivity; and invasive species prevention.
- *Species-based* – These actions will alleviate limiting factors for a species. Examples include inventory, restoration planning, captive breeding/rearing, and reintroductions.
- *Land securement* – These actions will contribute to the establishment of easements, covenants, or provincial legal conservation designations (e.g., wildlife habitat areas or ungulate winter range), or the purchase of private land for conservation purposes.

Priority action short description – This is a concise description of the action and the FWCP-assigned alpha-numeric ID tag. When completing an online grant application, you will be asked to select the action description and the ID tag from a drop-down menu. This ID tag enables the FWCP to track the projects and outcomes associated with an action.

Priority – The action plans identify the importance and urgency of each priority action (i.e., priority 1, 2, or 3). When grant applications are evaluated, a priority 1 action will score higher than a priority 2 or 3 action. See Table 3 below for additional information on priority setting.

Table 3. Priority ranking definitions for the FWCP's Peace Region actions.

Priority	Definition of FWCP Priorities
1	Required urgently due to current/imminent threats, highest priority for FWCP partners and stakeholders, and/or provide a significant benefit relative to cost.
2	Required due to current/imminent threats, high priority for FWCP partners and stakeholders, and/or provide good benefit relative to cost.
3	Identified due to possible threats, high priority for some FWCP partners and stakeholders, and/or benefit relative to cost may not be known.

Priority species – This identifies the primary priority species intended to benefit from the priority action, or simply whether the action is focused on fish or wildlife, or both. Priority species are categorized by FWCP as recovery, focal, or inventory (Table 1).

Priority action – Priority actions build on our strategic framework (i.e., vision, mission, and strategic objectives) and reflect Indigenous Nation, technical, and public input. Anyone interested in applying for an FWCP grant should develop a grant application that aligns with one or more "open" or "directed/open" priority action(s).

Intended outcome – This reflects the intention behind the action and how the priority action will help realize FWCP objectives and desired future conditions. Defining the outcome helps us monitor progress toward our objectives and vision.

Delivery approach – We deliver funding and projects through our annual grants, long-term agreements, and partnerships. Our board may also choose to direct projects and approve funding to address regional priorities. Priority actions identified as "open" and "directed/open" are eligible for a grant and these are the priority actions you should review if you want to apply for an FWCP grant. Actions identified as "directed" are not eligible for a grant. These are projects that our regional boards will direct through the appropriate procurement process (e.g., a request for proposal). Please do not submit a grant application for a "directed" project. Contact us if you are unsure.

UPDATING OUR PEACE REGION ACTION PLANS

In 2019, the FWCP's Peace Region initiated a process to update its ecosystem-based action plans. Ecofish Research Ltd. (Ecofish) was contracted in 2019 to complete a desktop strategic project review of all FWCP-funded projects, regardless of delivery methods, from April 1, 2014, to May 31, 2019 (FY15 to FY19), and lead all technical aspects of the action plan update process (Regehr et al. 2019). A detailed literature review and the strategic project review were critical first steps toward updating the region's action plans as they assisted in gauging progress toward achieving action plan priorities, identifying knowledge gaps within the review period, and identifying priorities and recommendations for consideration in action plan updates.

The FWCP's communications coordinator, Lynne Betts, and the FWCP Peace Region manager, Chelsea Coady, supported Ecofish with action plan update engagement activities. The FWCP's Peace Region board was responsible for endorsement of the draft and final updated action plans.

The following six guiding principles for engagement were considered at all stages of the FWCP's Peace Region action plan update process:

1. **Start early** – early involvement in process design and delivery.
2. **Be clear** – define the scope and purpose of the engagement and how input will be used.
3. **Be inclusive** – engage with groups and individuals from diverse perspectives.
4. **Be flexible** – adjust engagement tactics based on feedback.
5. **Be accessible** – ensure people know how and when to engage and provide multiple engagement opportunities.
6. **Be transparent and accountable** – explain how decisions will be made, who will make them and when, and how input will be used.

Broad public and stakeholder engagement

A multi-step process was followed to update the action plans based on a board-approved engagement strategy (Figure 8). Early engagement through the fall 2019 and winter of 2020 included workshops with the First Nations Working Group, fish and wildlife technical committees, and the FWCP's Peace Region board. In addition, forty interviews were conducted by the consulting team with FWCP partners, agencies, regional/provincial stakeholders, and subject matter experts with a broad range of backgrounds, interests, and expertise. Surveys seeking early input were also sent to others who were not interviewed.

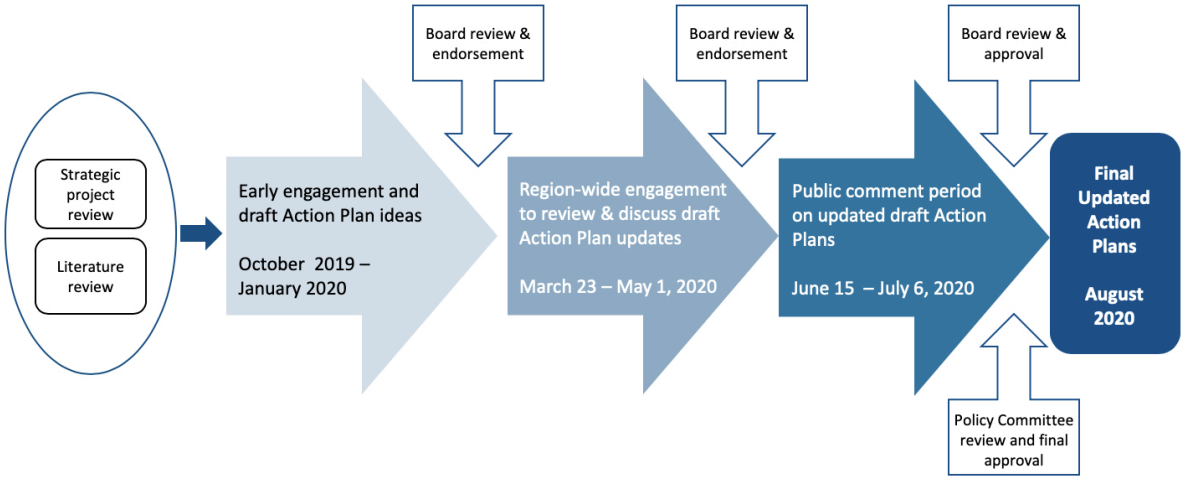

Figure 8. A multi-step process to update action plans for the FWCP's Peace Region started in fall 2019 and focused on early engagement with Indigenous Nations, agencies, and stakeholders before a broader engagement in spring 2020.

Results from the above reviews, along with early engagement discussions, provided important insights about ecological priorities and emerging issues and helped form initial action plan ideas and draft action tables, which were reviewed and endorsed by the board.

This early input also resulted in important structural changes approved by the board: 1) to merge the Species of Interest Action Plan into the ecosystem-based plans (i.e., no stand-alone species of interest plan); 2) to merge multiple aquatic action plans into a single Rivers, Lakes, & Reservoirs Action Plan; and to develop a new Cross-Ecosystem Action Plan for the numerous priority actions that apply to multiple ecosystems.

Draft action tables were available at fwcp.ca for public review and comment from March 23 – May 1, 2020. Region-wide in-person engagement sessions were planned for April 2020 (e.g., afternoon workshop and evening open houses) in Mackenzie, Hudson's Hope, and Prince George, plus two online discussions, and an online feedback form. In mid-March 2020 a global pandemic was declared, and in-person gatherings were discouraged to minimize spread of the coronavirus. In alignment with public health guidance to maintain physical distancing, in-person engagement sessions were replaced by online afternoon workshops. (Table 4).

Table 4. The FWCP's Peace Region action plan update community engagement locations and dates conducted in April 2020.

Date	Session
Wednesday April 8, 2020 10:00–11:30 am	Online Information Session: FWCP and Action Plan 101
Tuesday April 14, 2020 1:30–3:30 pm	Online Technical Session: Draft Actions – Rivers, Lakes, & Reservoirs
Wednesday April 15, 2020 1:30–3:30 pm	Online Technical Session: Draft Actions – Uplands; Riparian & Wetlands
Thursday April 16, 2020 1:30–3:30 pm	Online Technical Session: Draft Actions – Rivers, Lakes, & Reservoirs; Uplands; Riparian & Wetlands
Wednesday April 22, 2020 6:30–8:00 pm	Online Information Session: FWCP and Action Plan 101
Wednesday April 29, 2020 12:00–1:30 pm	Online Information Session: FWCP and Action Plan 101

Online engagement sessions included an overview of the FWCP's vision, mission, and geographic scope, along with a review of emerging issues and ecological priorities. Discussion included an introduction to the proposed updates to each ecosystem-based action plan and the Cross-Ecosystem Action Plan (e.g., draft changes or amendments proposed). Participants received a copy of the 46-page draft action table document for review and received guidance on how and when to provide feedback on the proposed draft actions.

The engagement sessions were widely advertised in the region through community-level paid ads in local print media, news releases, radio, and geo-targeted Google ads. The FWCP also promoted the engagement on LinkedIn via FWCP-generated and sponsored posts and in two editions of WildBytes, the FWCP's e-letter. Posters were provided to members of the First Nations Working Group and board. Forty-four people participated in the engagement by attending an information session or submitting an online feedback form.

All input received during broad engagement was reviewed and considered, as appropriate, in final draft updated action plans, which were available for public review and comment from June 15 to July 6, 2020.

Indigenous engagement

In addition to the broad public and stakeholder engagement processes, the FWCP implemented a targeted Indigenous Nations engagement strategy aimed at all Nations within the FWCP's Peace Region (i.e. signatories to the 2012 MOU plus Nations that were not signatories) based on the preferences and guidance of participating Indigenous Nations. Each Nation was invited to define their engagement preferences and tactics, and the FWCP team worked with each participating Nation to deliver an acceptable engagement approach. As a result of the global pandemic declared in March 2020, plans for in-person engagements in Indigenous Nation communities were cancelled and other options were explored. For example, some Nations decided to circulate a list of questions to their citizens focused on determining priorities for fish and wildlife, emerging issues and priorities, and suggestions for possible actions. These surveys were posted through the Nations' Facebook groups or other means.

Engagement with Indigenous Nations was extended to June 1, 2020, to allow for additional engagement and input.

Finalizing updated Peace Region action plans

Following board review and approval, final updated 2020 FWCP Peace Region action plans will be finalized and posted on fwcp.ca by August 10, 2020.

Our updated 2020 FWCP Peace Region action plans:

- are based on the best available science and information;
- reflect the objectives, priorities, and values of our program partners;
- considered input received during all phases of the engagement strategy;
- include actions to address emerging issues and ecological priorities; and
- support and reflect the FWCP's mission and its forward-looking approach to fulfilling its mission and working toward its vision.

The updated 2020 FWCP Peace Region action plans will provide guidance for approximately five years. The next action plan update is tentatively scheduled for 2026, subject to the FWCP Peace Region board's discretion.

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Previous Peace Region Action Plans

Fish & Wildlife Compensation Program. 2014. Lakes Action Plan.

Fish & Wildlife Compensation Program. 2014. Reservoirs Action Plan.

Fish & Wildlife Compensation Program. 2014. Riparian and Wetlands Action Plan.

Fish & Wildlife Compensation Program. 2014. Species of Interest Action Plan.

Fish & Wildlife Compensation Program. 2014. Streams Action Plan.

Fish & Wildlife Compensation Program. 2014. Uplands Action Plan.

GLOSSARY

Action plan: The Fish & Wildlife Compensation Program has identified conservation priorities for fish and wildlife in each of its three regions and these are reflected in a series of action plans. The priorities and plans vary by region.

Blue-listed species: Includes any native species or subspecies considered to be of Special Concern (formerly Vulnerable) in British Columbia. Taxa of Special Concern have characteristics that make them particularly sensitive or vulnerable to human activities or natural events. Blue-listed taxa are at risk, but they are not Extirpated, Endangered, or Threatened.

Community engagement: Community engagement refers to range of actions intended to inform and/or involve communities of interest, including but not limited to geographic communities, in a priority action and/or proposed project. The appropriate level of engagement and the engagement actions selected will vary depending on the desired outcomes (i.e., informing vs involving).

Cross-ecosystem action: An action that is relevant to two or more ecosystem-based action plans and may require the consideration of multiple ecosystems.

Delivery approach: Priority actions identified as "open" are eligible for a grant. Actions identified as "directed" are not eligible for a grant. These are projects that our regional boards will direct through the appropriate procurement process (e.g., a request for proposal).

Endangered species: A fish or wildlife species that is facing imminent extirpation or extinction.

Entrainment: Fish entrainment can be defined as fish being transported along with the flow of water and out of their normal river, lake, or reservoir habitat into unnatural or potentially harmful environments.

Fish & Wildlife Compensation Program (FWCP): The FWCP is a partnership between BC Hydro, Fisheries and Oceans Canada, the Province of B.C., Indigenous Nations, and public stakeholders to conserve and enhance fish and wildlife impacted by the construction of BC Hydro dams.

Floodplain: An area of low-lying ground adjacent to a river, formed mainly of river sediments and subject to flooding.

Focal species: Defined by the FWCP's Peace Region as having a strong linkage to dam footprint impacts and are of high priority. At least some information related to population status, critical habitats, and key limiting factors have been defined for focal species based on previous FWCP projects (e.g., through the development of a monitoring framework), and therefore specific follow-up actions have already been developed. Actions for focal species should build upon previous FWCP projects with an aim to restore and/or enhance suitable habitats in the relevant ecosystems.

Footprint impacts: The permanent loss of habitat associated with a dam and related infrastructure, including the permanently flooded habitat (below the drawdown zone) resulting from reservoir creation.

Habitat protection: Land securement or land conservation through legal mechanisms (e.g., wildlife habitat area designation) that conserve important habits by preventing further degradation.

Habitat restoration: Manipulation of abiotic or biotic site factors through habitat or species-based actions that drive the return of natural ecological functions to an area where these functions have been lost or degraded.

Indigenous Guardians: Indigenous Guardians are involved in local Indigenous Guardian programs that "manage protected areas, restore animals and plants, test water quality, and monitor development projects." Land Guardians also "welcome visitors to traditional territories and maintain cultural sites."[3]

Indigenous knowledge: The United Nations Educational, Scientific and Cultural Organization (UNESCO) refers to Indigenous knowledge as the "understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings."

[3] https://landneedsguardians.ca/what-guardians-do

Invasive species: An organism (plant, animal, fungus, or bacterium) that is not native and has negative effects on our economy, our environment, or our health. Invasive species can spread rapidly to new areas and will often out-compete native species as there are no predators or diseases to keep them under control.

Inventory species: Defined by the FWCP's Peace Region as species that have been affected by dams, but detailed inventory and/or trend monitoring is required to better understand population status, critical habitats, and key limiting factors. Actions for inventory species should aim to provide the basis for future compensation actions, if required.

Sustenance resources: Natural resources harvested directly by Indigenous Peoples or licensed hunters and anglers for personal food or medicinal use.

Upper Peace River Basin: The geographic area (i.e., watersheds) that drains into the Peace River, upstream of the Peace Canyon Dam. The geographic boundary of this area is the same as the administrative boundary for the FWCP's Peace Region.

APPENDICES

Appendix 1: Alignment with other provincial and regional processes.

The FWCP's Peace Region does not act in isolation. Priority- setting takes other projects and initiatives that are occurring in the region into consideration and aligns with them as much as possible. Some examples of these are below.

BC Hydro's water use plans

- Water use plans (WUP) were developed for most of BC Hydro's hydroelectric facilities through a consultative planning process involving participants, such as government agencies, Indigenous Nations, local citizens, and other interest groups. Several WUP fish and wildlife projects have been completed or are ongoing throughout the FWCP's Peace Region. bchydro.com/about/sustainability/conservation/water_use_planning.html.

BC Hydro Fish Passage Decision Framework

- Proponents applying for an FWCP grant to evaluate opportunities to restore fish production above BC Hydro facilities that previously blocked fish passage, are required to work through the Fish Passage Decision Framework, approved by the Fish, Wildlife & Hydro Policy Committee in 2008 and revised in 2017. The framework establishes a process that will determine how BC Hydro will address fish passage issues at BC Hydro facilities and clarifies the role of the FWCP in supporting the development of fish passage proposals for BC Hydro consideration.

Cumulative effects framework

- Cumulative effects are changes to environmental, social, and economic values caused by the combined effect of past, present, and potential future human activities and natural processes. British Columbia's answer to this potential problem is the cumulative effects framework. The cumulative effects framework is a set of policies, procedures, and decision-support tools that helps identify and manage cumulative effects consistently and transparently across British Columbia's natural resource sector. www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework.

Federal and provincial species recovery planning

- Federal and provincial governments collaborate on recovery planning through a bilateral agreement to establish a framework within which Canada and B.C. can exercise their respective powers and duties to ensure a co-ordinated and focused approach to the delivery of species-at-risk legislation, policies, and operational procedures. The recovery planning process creates a plan of action for species and ecosystems at risk that will help stop/reverse decline and remove any threats to long-term survival. www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk/recovery-planning.

Invasive species

- The Inter-Ministry Invasive Species Working Group (IMISWG) provides policy direction, coordination, and the collaborative delivery of provincial invasive species programs for the Province of B.C. The IMISWG brings together provincial ministries and agencies with invasive species management responsibilities to manage invasive species together through a cross-government approach. www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/ invasive-species/imiswg.
- The Invasive Species Council of British Columbia (ISCBC) is a collaborative-based organization committed to reducing the spread and impacts of non-native species within B.C. bcinvasives.ca.

Natural resources and climate change

- British Columbia's forest and range resources are being impacted by a changing climate. They also offer opportunities to mitigate the impacts through management. The Province of B.C. is helping natural resource

professionals manage for a changing climate by gathering and analyzing climate data, developing decision-support tools, and researching best management practices. Information is available related to the Province's work on climate change adaptation, mitigation, applied science, and modelling and analysis. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resources-climate-change.

Provincial caribou recovery and engagement

- Caribou are a nationally iconic species. British Columbia is home to 54 herds of woodland caribou, although caribou have declined from 40,000 in B.C. in the 1900s to approximately 15,500 caribou today. British Columbia is committed to caribou recovery; for further information related to caribou recovery and engagement see: https://engage.gov.bc.ca/caribou/.