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FISH AND WILDLIFE
COMPENSATION PROGRAM

FALLS RIVER WATERSHED WATERSHED PLAN FINAL DRAFT

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Big Falls Creek¹ Watershed Plan

1 INTRODUCTION

This Big Falls Creek Watershed Plan sets forth the strategic direction for the Fish and Wildlife Compensation Program: Coastal Region.

It begins by briefly outlining the vision, principles, policy context and strategic objectives that form the foundation of the FWCP. A description of the Big Falls Creek setting includes an overview of the hydro-electric facilities and footprint impacts created by those facilities. The plan describes the development of strategic objectives for FCWP, the creation of priorities for the Big Falls Creek watershed and outlines priority actions and projects for the system.

1.1 FISH AND WILDLIFE COMPENSATION PROGRAM

The Fish and Wildlife Compensation Program (FWCP): Coastal Region evolved from its origin as the Bridge-Coastal Restoration Program (BCRP), a program initiated voluntarily by BC Hydro in 1999 to restore fish and wildlife resources that were adversely affected by the original footprint of the development of hydroelectric facilities in the Bridge-Coastal generation area. Footprint impacts include historical effects on fish and wildlife that have occurred as a result of reservoir creation, watercourse diversions and the construction of dam structures.

In 2009, the program developed a strategic framework that guides overall planning for compensation investments (MacDonald, 2009). The framework has guided the development of strategic plans for each watershed within the FWCP program area, which are in turn informing action plans and projects that focus on specific priorities within each watershed (Figure 1).

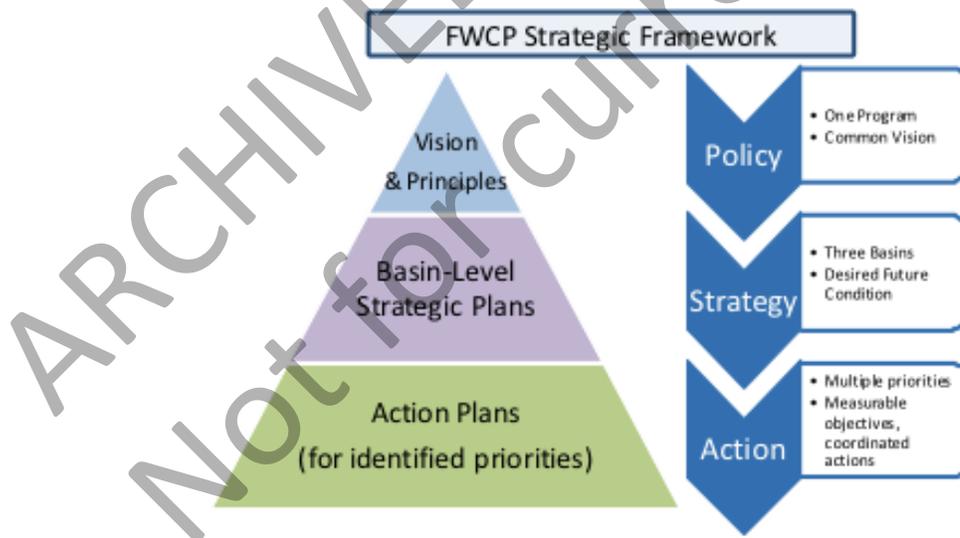


Figure 1: Relationship between the FWCP Strategic Framework, policy, strategy and action.

¹ Note that in the literature the river and watershed are referred to both as Big Falls Creek and Falls River. In general the former is used, while the hydro-facility has been referred to as the Falls River project in Falls River Water Use Plan.

Delivery of the program as a whole is guided by a vision, set of principles and policy priorities as developed by the program's partners.

VISION

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

An effective program will support the maintenance of healthy fish and wildlife populations in basins significantly altered by hydroelectric development. Actions taken should satisfy both the conservation and sustainable use objectives and, where possible, restore ecosystem function, making species more resistant to emerging pressures such as climate change.

PRINCIPLES

Approach - The program has a forward-looking, ecosystem-based approach that defines the desired outcomes and takes actions to restore, enhance and conserve priority species and their habitats.

Decision Making - The program efficiently uses its resources and works with its partners to make informed and consensus-built decisions that enable the delivery of effective, meaningful and measurable projects that are supported by the impacted communities.

Geographic Scope - Within the watersheds, basins and ranges of the populations of species affected by generation facilities owned and operated by BC Hydro.

Objectives - The program defines and delivers on compensation objectives that reflect the partnership's collective goals, and that align with local provincial and federal fish and wildlife conservation and management objectives in the areas where we work.

Delivery - The program strives to be a high performing organization with skilled and motivated staff and partners delivering efficient, effective and accountable projects.

PARTNERS

The program is a partnership between BC Hydro, the BC Ministry of Environment, Fisheries and Oceans Canada, First Nations and public stakeholders. Our goal is to have engagement and participation of all the partners in priority setting, approval, review and delivery of the program.

POLICY CONTEXT

The FWCP addresses the policy requirements and social commitments to compensate for impacts to fish and wildlife associated with the development of BCH's generating facilities. The core responsibilities of the agencies are:

Ministry of Environment

The Ministry of Environment manages and delivers a wide range of programs and services that support the Province's environmental and economic goals². The Ministry encourages environmental stewardship, develops innovative partnerships, engages First Nations, stakeholders and the public and actively promotes the sustainable use of British Columbia's environmental resources. Within this broader context, the Ministry has a number of responsibilities that are particularly relevant to the development and implementation of actions under the FWCP including:

- Management and conservation of the province's biodiversity;
- Protection of fish, wildlife, species-at-risk and their habitats;

² <http://www.bcbudget.gov.bc.ca/2010/sp/pdf/ministry/env.pdf> (MOE Service Plan)

- Protection and restoration of BC's watersheds; and,
- Provision and management of fish and wildlife-based recreation.

A number of policies and plans guide the Ministry in delivering on these goals and objectives. The **Conservation Framework**³ is British Columbia's approach for maintaining the rich biodiversity of the province, providing a set of science-based tools and prioritized actions for conserving species and ecosystems in B.C. **Program Plans for Freshwater Fisheries, Wildlife and Ecosystems**⁴ articulate a clear set of strategies supported by actions to achieve both conservation-based outcomes and the provision of recreational opportunity. **Recovery Strategies and Management Plans** have been developed to guide the maintenance, recovery and/or use of specific species and ecosystems. These plans may include specific performance measures and targets.

Fisheries and Oceans Canada

Under the **Fisheries Act**, DFO is the primary agency responsible for conserving and managing Canada's fisheries, including pacific salmon. It does so through management and monitoring of fisheries, protection of fish habitat, and pollution prevention. The **Policy for the Management of Fish Habitat** (1986) has an overall objective of 'net gain' of fish habitat and helps guide the implementation of fish habitat protection through collaboration with relevant provincial agencies. The **Species at Risk Act** mandates protection of geographically and genetically distinct populations. The principle goal of the **Wild Salmon Policy**⁵ and is "to restore and maintain healthy and diverse salmon populations and their habitats for the benefit and enjoyment of the people of Canada in perpetuity". This achieved through safeguarding genetic diversity, maintaining ecosystem integrity and managing for sustainable fisheries.

BC Hydro

As a Crown Corporation, BC Hydro is committed to producing, acquiring and delivering electricity in an environmentally, socially and financially responsible manner,⁶ through managing impacts from its operations, and weighing environmental values with social and economic interests. Where negative impacts cannot be avoided, it will work to mitigate or offset them, enhance affected habitat and sustain resources over the long term. As part of its water licenses to operate its facilities, BC Hydro is required to undertake compensation programs in different regions of the province. Through the compensation program, it is committed to developing positive projects, such as investments to improve fish stocks, and building relationships to encourage stakeholder and aboriginal community engagement, particularly where their input can contribute to better decisions.

PROGRAM DELIVERY

The overall vision and common principles drive the FWCP program and projects, and provide a foundation for determining strategic priorities at the watershed level (Watershed Plans) which, for the smaller basins, are developed into actions and projects. The bulk of projects undertaken in small basins by the FWCP will be delivered under Watershed Plans that lay out a suite of key actions to achieve specific goals associated with species and ecosystems. Actions could include research, implementation activities, monitoring and evaluation activities, and communication mechanisms. Applicants are encouraged to use the Watershed Plans to develop projects that meet the overall objectives of the FWCP program. Technical Committees, staff and the management board will reference the plans to ensure that the highest priority projects are invested in.

A portion of the FWCP program activities will include small-scale, short-duration strategic projects that target specific issues identified by program partners or others (e.g., community members). These could include projects not yet identified in any Watershed Plan, as well as lower priority

³ <http://www.env.gov.bc.ca/conservationframework/>

⁴ <http://www.env.gov.bc.ca/esd/>

⁵ Canada's Policy for Conservation of Wild Pacific Salmon, 2005.

⁶ BC Hydro Social Responsibility Policy.

items that require timely response in order to take advantage of an investment or partnership opportunity.

PROJECT INVESTMENT CRITERIA

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

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

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2 BIG FALLS CREEK WATERSHED⁷

The Falls River hydroelectric project is located approximately 50 kilometres southeast of Prince Rupert on Big Falls Creek above its confluence with the Ecstall River (Figure 2). The Ecstall River joins the Skeena at tidewater which flows to the Pacific Ocean. The Big Falls Creek watershed has an area of approximately 264 km² and is bounded by mountains as high as 2000m on the eastern side. Several small glaciers are present in the SE corner. The climate is principally influenced by the flow of warm and moist Pacific air masses and there are frequent periods of heavy rainfall over the winter months. Precipitation of 430-550 mm monthly is common between October and January. The reservoir freezes over some winter periods.

The Falls Reservoir was created in 1930 from the damming of the Big Falls Creek, where no lake had existed previously. The lake has large areas of shallow shoal, with an average depth of seven metres and supports several species of fish including Dolly Varden, Char and cutthroat. The main tributaries are Big Falls Creek, Hayward Creek and Carthew Creek. Hayward Creek flows from Hayward Lake. A short section of the Big Falls Creek is located below the spillway and flows into the Ecstall River, a tributary of the Skeena River. The Falls River project has a single reservoir. Water flows from intakes from the Falls Reservoir through two penstocks to the two generating turbines in the powerhouse (total of 7MW). Water from the turbines is discharged into the Big Falls Creek via a tailrace downstream of the facility.

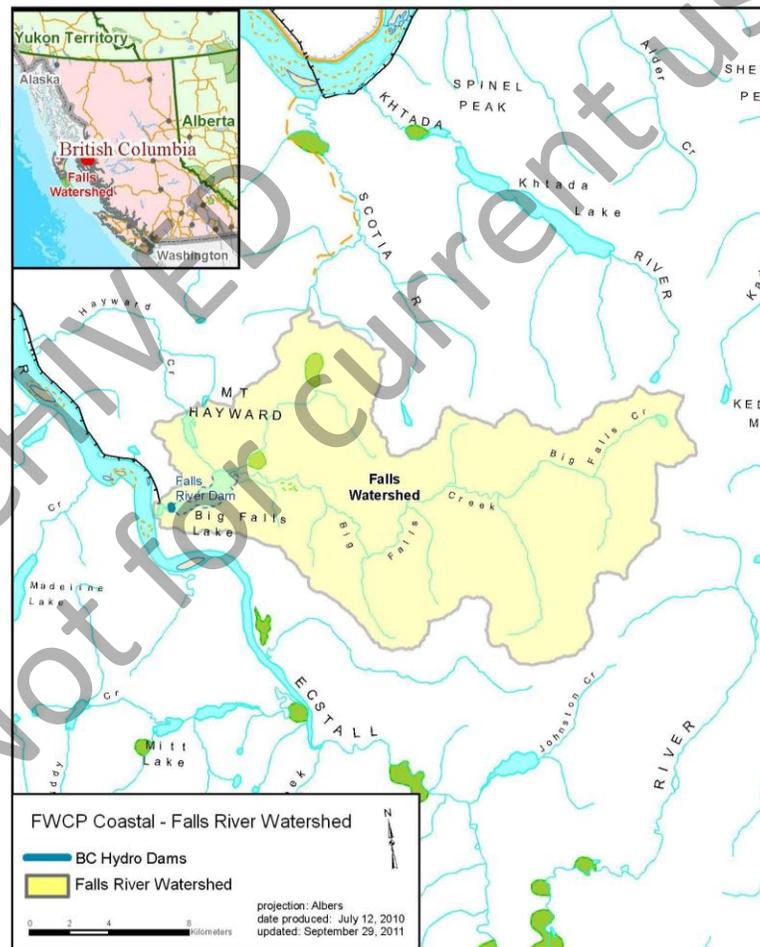


Figure 2: Falls Watershed

⁷ More details of the watershed can be found at: http://www.bchydro.com/bcrp/about/strategic_plan.html

The Falls River lies within the traditional territory of the Lax Kw'Alaams Indian Band.

2.1 FOOTPRINT ISSUES

Fish and wildlife habitat and species have been significantly altered due to the construction of the dams, the development of hydro-power, and alterations in the hydraulic regimes of the systems. The following summary of the primary footprint impacts is derived from:

- Bridge-Coastal Restoration Program: Strategic Plan, Volume 2: Watershed Plans, Chapter 15: Big Falls Creek (December 2000);
- Falls River Water Use Plan Consultative Committee Report (July 2003); and
- Findings in the Community Workshop (Prince Rupert 24 February 2011).

Inundation: The dam inundated 247ha of land.

Habitat loss: 38 ha of riparian habitat, and 6 km of riverine habitat were flooded. Loss of downstream sedge habitat due to lack of spring flooding. Drawdown may affect trout access to tributaries.

Migration barriers: The original falls of 20m completely blocked fish passage to the upper Falls River.

New Habitat: New lake habitat created.

Altered Flow Regime: Fluctuating flows or extended power plant shutdowns could have velocity or salinity effects on salmon egg development.

Entrainment: Magnitude of entrainment is unknown.

2.2 FWCP ACCOMPLISHMENTS TO DATE

Since 1999 the Bridge Coastal Restoration Program has invested approximately \$5,000 to conduct the Falls River Hydro dam Fisheries Restoration Feasibility Study to assess possible benefits to coho, pink and Chinook (Miller *et al.* 2002).

3 STRATEGIC OBJECTIVES FOR FWCP

Strategic objectives for the Fish and Wildlife Compensation Program reflect a synthesis of the core objectives and mandates of the partner agencies as they relate to mitigating impacts associated with hydro-power generation in British Columbia.

Conservation and sustainable use are core objectives for both the Ministry of Environment and Fisheries and Oceans. Conservation is addressed in terms of maintaining specific species or habitats both in terms of their importance for diversity (including genetic diversity), as well as their importance for ecosystem functions, integrity and productivity. For example, a species such as White Sturgeon may be important in terms of species diversity, while Pileated Woodpeckers may be important for maintaining ecosystem functioning and integrity by creating habitat for other species. Sustainable use incorporates the human interest in utilizing species for sustenance, commercial, recreational, or cultural purposes. Consequently, species such as coho, moose or bald eagles (wildlife viewing) could be considered important from a sustainable use perspective.

Community engagement is a core objective for BC Hydro under the compensation program and is driven by its social responsibility policy. It also reflects the 'shared stewardship' goal of the Ministry of Environment. It reflects the importance of incorporating local values and interests in determining and implementing projects.

The FWCP strategic objectives are therefore:

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. Priorities may be identified through the provincial Conservation Framework, or at the Conservation Unit level under the federal Wild Salmon Policy. 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 objective focuses on the program'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. 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 aboriginal communities.**
This objective stems from BC Hydro's social responsibility policy and MOE's shared stewardship objective. This recognizes the importance of engaging aboriginal communities, local stakeholders, and other interest groups to contribute toward making good decisions and delivering effective projects.

4 PRIORITIES

4.1 INTRODUCTION

Across the FWCP as a whole, the general process of identifying priority action plans and projects involves three steps:

Step 1 – Identification (Candidate Priority Species and Ecosystems)

The first step involves identifying and prioritizing the species and ecosystems against the core strategic objectives, and how they have been impacted by footprint issues associated with hydro-power generation.

Step 2 – Preliminary Planning

This step consists of reviewing the identified priorities with consideration to identifying candidate action plans and projects. It may involve grouping species or ecosystems together for coordinated action. Key considerations include: addressing limiting factors, exploring the opportunity for multiple benefits, addressing any specific local threats, the practicality of implementing actions, and the plan's consistency with existing agency programs.

Step 3 - Prioritization

This step consists of a final prioritization of candidate action plans and projects (and their priority areas) according to cost effectiveness and technical feasibility criteria:

- **Technical Feasibility.** – The program should generally seek out investments that are the most technically feasibility. Considerations generally include the use of proven methods and availability of technical resources. Innovative approaches should be considered but they must have a credible technical foundation and reasonable expectation of success. The potential interrelationship with system operations and programs being implemented by the Water License Requirements program must also be considered.
- **Cost Effectiveness.** – The program should generally seek out investments that are the most cost effective. This includes issues or actions which may benefit multiple species, areas where there is an opportunity to leverage additional funds for activities, issues where previous work has been conducted and incremental expenditure may have substantive benefits, actions that are closely related to on the ground actions with measurable impacts, amongst others.

4.2 PRIORITY SETTING IN THE COASTAL REGION

In the Coastal region of the FWCP, Step 1 involved a review of existing Watershed Restoration Plans, interviews with agency staff, a series of community workshops and a final evaluation.

In 2000, specific restoration objectives were originally articulated in the Watershed Restoration Plans.⁸ These plans contain details of the major footprint impacts, objectives and limiting factors for productivity and have guided the work of the FWCP Coastal for the past decade.

In the case of the Big Falls Creek Watershed, priorities for FWCP Coastal were further reviewed and updated in 2010 through consultation with BC Hydro, Fisheries and Oceans Canada (DFO), and Ministry of Environment (MOE). This resulted in a list of priority tables for fish and wildlife

⁸ Watershed Restoration Plans may be obtained at the FWCP website:
http://www.bchydro.com/bcrp/about/strategic_plan.html

species in the Big Falls Creek watershed (Appendix A). Draft project priorities were reviewed with local First Nations and community groups at a workshop in Prince Rupert (24 February, 2011).

4.3 PRIORITY TOPICS

The following topics have been identified as priority candidates for development into future FWCP Coastal project proposals. It is important to understand, however, that planning priorities may not translate immediately into funded projects. Limited program funding requires that priority-setting has to also be developed across the program as a whole. The process of selecting which projects will be implemented in any given year will occur during the annual implementation planning cycle.

1 – HABITAT ENHANCEMENT OF LOWER FALLS RIVER

Rationale

Chinook, coho, chum, pink salmon, cutthroat trout, rainbow trout, eulachon, and Dolly Varden are present in Big Falls Creek downstream of the dam. Spawning habitat has potentially been disturbed by high flushing flows, extremely low flows during shut down periods, grading and scarification of gravels, a lack of gravel recruitment and the placement of rock weirs in the tail pond. Studies have shown that population densities are relatively low for juveniles, consequently complexing and additions of large woody debris (potentially chained to the bottom) could be of benefit (Miller *et al.* 2002).

Focus

- Analysis of work to date, including Water License Requirements Program study FLSMON-1
- Address degraded or lack of spawning habitat through continued maintenance and additional gravel placement in the pool downstream of Big Falls Creek near the confluence with Ecstall River. Primarily for chum, but would also benefit to pink and chinook.
- Address habitat complexing for coho (would benefit other species during rearing). Potential to anchor large woody debris to the bedrock wall along the far left bank of the pool. Modelling may be needed to address high flow issues in the area before complexing structures are installed.
- Address habitat requirements for eulachon in the tailrace portion of the area.
- Assess potential flow issues caused by tidal influences, especially during high tides.
- Field assessment of opportunities for fish and wildlife restoration activities.
- Prioritization of activities

Expected outcome

- Improved understanding of the opportunities for habitat enhancement with an estimate of benefits associated with each area;

2 – HAYWARD WATERSHED ASSESSMENT

Rationale

It is thought that at high flows there is a second outlet at Hayward Lake directly into the Ecstall River. This system warrants some further attention as a potential site to conduct restoration activities to benefit the same species which appear in the Big Falls Creek system. This area has high First Nations values as it was a work site where traditional hunting and trapping occurred. Special attention should be paid to potential archaeological sites.

Focus

- Review field assessment completed by Triton in 1997 of the Hayward Lake area. The study was completed for Forest Renewal BC – Watershed Restoration Program.
- Field Assessment of opportunities to develop restoration project in the Hayward watershed. This system potentially shares water with the Big Fall system at high water and also has direct flow to the Ecstall River.
- Prioritization of activities.

Expected outcome

- Report on priority areas for FWCP investment in the Hayward – Ecstall system.

3 – ASSESSMENT OF LAKE AND TRIBUTARIES RESTORATION OPPORTUNITIES

Rationale

The Falls Reservoir was created in 1930 from the damming of the Big Falls Creek, where no lake had existed previously. The new lake habitat supports Dolly Varden, char and cutthroat; however, little is known about their spawning habitats in the tributaries. The lake has large areas of shallow shoal, with an average depth of seven metres. The main tributaries are Big Falls Creek, Hayward Creek and Carthew Creek.

Focus

- Analysis of work to date; may include work completed under Water License Requirements Program studies FLSMON-3, FLSMON-4, and FLSMON-5.
- Field assessment of opportunities for fish and restoration activities with a focus on tributary areas.
- Assessment of sedge grass area.
- Prioritization of activities.

Expected outcome

- Report on priority areas for FWCP investment in the area above the dam.

4 – RIPARIAN AND WETLANDS

4.1 – RIPARIAN AND WETLAND MAPPING AND RESTORATION

Rationale

Riparian and wetland areas have been heavily impacted by the creation of dams, and continue to be under threat in many remaining areas. These areas are the limiting factor for critical life stages of many species, both aquatic and terrestrial. Riparian and wetland areas are both diverse and biologically rich and thus considered as highly valuable from an overall ecological standpoint.

To date, FWCP has not significantly funded restoration of riparian areas or wetlands in the Falls River system. At this point it is a priority to assess opportunities and implement restoration actions in areas with high restoration potential.

Through the FWCP priority-setting process, several general species groups (amphibians, water birds, and bats) were considered first-priority representatives of the wetland and riparian community in terms of where to focus investment. Because there is little up-to-date information for these particular species in the watershed, the most immediate focus is to complete mapping and/or inventory that informs next steps (restoration, management, etc). Habitat mapping would help screen for habitats that might support species at risk, including owls, water shrew, amphibians and certain birds. Follow-up inventories of specific species would be better directed with a habitat mapping base as a foundation.

Focus

- Conduct habitat mapping of potential areas for restoration. Determine possible habitats for amphibians, include mapping of old large riparian trees and old growth that could be used by cavity nesters (birds and bats).

Expected outcome

- Prioritized areas to conduct field work for species identification and for conservation and restoration.
- Restoration opportunities identified and assessed.

4.2 – INVENTORY OF AMPHIBIANS

Rationale

In general, amphibians have been heavily impacted by the construction and operation of hydro power facilities. Big Falls Creek is at the northern range of some important amphibians, such as the Pacific Tailed Frog (COSEWIC – Special Concern, CF – 4,1,2) and Northern Red Legged Frogs (COSEWIC-Special Concern, CF-3,1,2), and inventory of their habitat and presence would be important to define their range.

Focus

- Conduct field inventory for red-legged frog and the Pacific- tailed frog. The latter of which inhabit fast cascading streams and would require a different inventory.

Expected outcome

- Areas to conduct field inventory.
- Identified presence of certain species.

- Action recommendations for restoration.

4.3 – INVENTORY OF RIPARIAN AND WATER BIRDS

Rationale

In general, water fowl, heron and other riparian birds have been heavily impacted by the construction and operation of hydro power facilities. Several heron nests have been detected in the area. These were singular nests as opposed to roosts or rookeries as they are found further south. An inventory would help develop an understanding around heron breeding, population and distribution. Other birds could be surveyed as appropriate to gain more baseline data.

Focus

- Conduct field inventory for water fowl and heron, and develop recommended actions for restoration

Expected outcome

- Identified presence of certain species.
- Action recommendations for restoration.

4.4 – INVENTORY OF BATS

Rationale

Some bat species have been affected by the loss of habitat due to the loss of large riparian trees for roosts. They are an important species from both a conservation and ecosystem functioning perspective. There is very little information regarding bats in the area.

Focus

- Conduct field inventory for bats (in particular Keen's Myotis), and develop recommended actions for restoration

Expected outcome

- Identified presence of certain species.
- Action recommendations for restoration.

5 REFERENCES

- BC Hydro. 2004. Consultative Committee Report and draft Water Use Plan submitted to the Comptroller of Water Rights in July 2003. Executive Summary available at:
http://www.bchydro.com/etc/medialib/internet/documents/environment/pdf/wup_falls_river_executive_summary_pdf.Par.0001.File.wup_falls_river_executive_summary.pdf
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APPENDIX A – PRIORITY TABLES

The following are the priority tables developed through consultation with the Ministry of Environment and the Department of Fisheries and Oceans in the summer and autumn of 2010. The tables represent the agencies' priorities for different species and what activities should be undertaken for them, and were reviewed and updated at a community workshop in Prince Rupert (24 February 2011).

1- FISH

Species	Priority	Comments
Big Falls Reservoir and Tributaries		
Cutthroat Trout and Char	medium	No targets provided
	medium	Assessment of habitat quality and quantity in Big Falls Creek, Carthew Creek and Hayward Creek. Information would be used to determine if restoration projects are needed to support trout and char.
Lower Falls River		
Chum	Very High	No targets provided
Chinook	High	Continue maintenance and additional gravel placement in pool d/s of Big Falls near confluence with Ecstall River. Also benefit to pink and chum
Eulachon	High	Assessment of spawning locations of eulachon
Coho. Pink	Medium	No targets provided
	Medium	Habitat complexing. Potential to anchor large woody debris to the bedrock wall along the far left bank of the pool.
All species	Medium	Assessment of opportunities to develop restoration project in the Hayward watershed. This system potentially shares water with the Big Fall system at high water and also has direct flow to the Ecstall River. It supports all the same fish species.
All species	Medium	Projects identified by DFO will also benefit provincially managed species

2- WILDLIFE

MAMMALS

Species	FWCP Priority	CF Rank	Comments
Bats	High	1	Inventories are needed for all bat species. Funding is very limited for bat studies. Keen's Myotis is red listed in BC (CF=1, 6, 1).

Fisher	Low	4,6,2	No priority projects.
Grizzly Bear	Medium	3,2,3	The North Coast GBPU is a viable population. Inventory (hair snagging for DNA) would help management, but not a high priority. Incidental sightings need to be tracked.
Mountain Goats	Low	4,1,3	Healthy populations, no priority projects.
Ungulates	Low	6,6,6	Healthy populations; may need to identify Ungulate Winter Ranges (UWRs). No enhancement needed.
Wolverine	Low	3,2,3	They have been seen there. No priority projects though.

BIRDS

BCR=Bird Conservation Region (CWS)

PCJV=Pacific Coast Joint Venture (CWS)

NAWMP=North American Waterfowl Management Plan (CWS)

PIF=Partners in Flight (CWS)

Species	FWCP Priority	CF Rank	Comments
Bald Eagle	Low	6,6,6	A priority landbird species in BCR 5 for CWS. There is a need for continental/regional stewardship. Important for First Nations.
Great Blue Heron (fannini ssp.)	High	3,6,1	Species impacted by loss of nesting and foraging habitats due to hydroelectric development. Loss of habitat and predation by Bald Eagles are high magnitude threats. Need nest inventory in Falls River. Only know of 2 nests, may nest singly on coast, not in big rookeries. There is a need to identify foraging habitats as well. A priority species in BCR 5.
Gyrfalcon (non-breeding)	Low	6,6,4	PIF rank them as a low vulnerability, they are a low priority species for restoration. A priority species in BCR 5.
Harlequin Duck	Low	4,1,3	There is insufficient information from NAWMP to determine a trend. A priority species for PCJV and BCR 5 (CWS). A species that is definitely impacted by hydroelectric development.
Marbled Murrelet	Medium	1,1,2	Low priority in this watershed because there are few opportunities for restoration. A priority species in BCR 5.
Northern Goshawk (laingi ssp.)	Medium	1,6,1	On identified Wildlife list for concern. Need to look for their habitat (pockets of big trees part way up slopes), survey for species if habitat is there. A priority landbird species in BCR 5 for CWS.
Peregrine Falcon (probably pealei ssp.)	Low	2,1,2	Low priority for MOE. A priority landbird species in BCR 5 for CWS. MOE is interested in any breeding records (there is a possible one from a bit to the north of the facility). Also, obtaining DNA samples from peregrines in this area would be important.

Species	FWCP Priority	CF Rank	Comments
Sandhill Crane	Medium	6,6,5	Need to look for habitat (marshy ponds, swampy areas). If habitat there, need to do inventory of species. There are breeding records relatively close by. An Identified Wildlife species.
Trumpeter Swan	Medium	5,6,5	Believe they may be breeding in that area, need to do surveys. Regionally significant species (Identified Wildlife) for them. Population believed to be increasing (NAWMP). A priority species for PCJV in BCR 5. Medium to high priority.

AMPHIBIANS, REPTILES AND TURTLES

Species	FWCP Priority	CF Rank	Comments
Pacific Tailed frog	High	4,1,2	The area is the edge of the species range; surveys would assist to refine the range. Identified Wildlife species.
Red-legged frog	Medium	3,1,2	Need to look for habitat (ponds). If habitat there, need to do inventory of species. Northern extent of their range so would be good to inventory.
Garter snakes (all species)	Medium	3	They were common, but are declining elsewhere in BC. There is little to no information to establish a baseline.

HABITATS-PLANTS

Species	FWCP Priority	CF Rank	Comments
Rare Plants	High		Need inventory, especially of alpine plants.