FWCP
Fish & Wildlife
COMPENSATION PROGRAM

Annual Report

Coastal Region
2020–2021

fwcp.ca

BC Hydro

British Columbia

Fisheries and Oceans Canada | Pêches et Océans Canada

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

Message from our board chair

Welcome to our annual report covering key highlights, decisions, and expenditures in our Coastal Region for the 2021 fiscal year (F21), from April 1, 2020, to March 31, 2021.

This year was defined in large part by the global COVID-19 pandemic, which impacted almost every aspect of life. In these challenging circumstances, our project proponents, including First Nations, stewardship organizations, and government agencies, worked extremely hard to deliver the FWCP-funded projects. Some project activities were postponed or modified to align with provincial health restrictions. We certainly appreciate the contribution that our project proponents made to fish and wildlife during this difficult year.

In 2019, we received the final report from our independent third-party audit, as required by our governance manual. The key findings and conclusions are available at fwcp.ca/evaluation-audit-2018-2019, and the FWCP's policy committee developed nine priority actions to address the auditor's recommendations. A snapshot of our progress on some of these recommendations is as follows:

- We are close to finalizing work to clarify the scope and intended outcomes of our strategic objective related to improving opportunities for sustainable use.
- We continue to reduce the total number of actions and action plans as we revise the plans.
- We are increasing the number of directed projects.
- We are reviewing our governance manual to ensure it is up to date and reflects current practices and priorities.
- We continue to build understanding about our work related to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

This year, we completed an important land conservation goal: with funding from our Coastal Region, 111 hectares (274 acres) of vital grizzly bear habitat near near D'Arcy, north of Pemberton, has been secured for conservation. The Gates Creek Conservation Property in our Bridge-Seton River Watershed is the result of many years of working alongside committed partners, including the Nature Conservancy of Canada and BC Hydro, and it will support 14 listed at-risk species, including olive-sided flycatcher, western toad, wolverine, and two populations of grizzly bears. Gates Creek is located in the territory of the St'at'imc people, adjacent to the N'Quatqua First Nation reserve lands. We are grateful for the opportunity to work with the N'Quatqua, who have a longstanding relationship with this land.

Finally, we would like to thank Trevor Oussoren, who served as our program manager for six years, and we welcome Monique Stevenson to the team, who was formerly the senior strategic business advisor to BC Hydro's senior vice-president of capital infrastructure project delivery.

Thank you to our board, fish and wildlife technical committees, and staff for your contributions to the FWCP's Coastal Region during this challenging year.

Todd Manning
FWCP Coastal Region Chair

Front cover: Three generations—in their family bubble—planting native trees on Baikie Island in the Campbell River Estuary to help restore ecological function and help species like the Red-listed Henderson's checkermallow, and tufted hairgrass. Longtime volunteer and Greenways Land Trust director, Bruce Izard (with shovel) together with his son and grandson. (COA-F21-W-3281). Photo: Greenways Land Trust

Annual reports are also available for our Columbia and Peace regions at fwcp.ca.

1. Organizational overview

1.1 INTRODUCTION

With annual funding from BC Hydro, the Fish & Wildlife Compensation Program (FWCP) conserves and enhances fish and wildlife in 31 watersheds impacted by existing BC Hydro dams. The FWCP directs those funds toward priority actions across its three regions—Coastal, Columbia, and Peace—to fulfill its mission and work toward its vision of thriving fish and wildlife populations in watersheds that are functioning and sustainable.

BC Hydro has water licence obligations in the Columbia and Peace regions, and has made voluntary commitments to address the impacts of dams in the Coastal Region. BC Hydro fulfills the applicable obligations through the work of the FWCP. BC Hydro works in partnership with the Province of B.C., Fisheries and Oceans Canada (DFO), First Nations, and public stakeholders.

The FWCP is governed through a framework that recognizes the regulatory accountabilities of agency partners (BC Hydro, the Province of B.C., and DFO) and supports engagement and input from First Nations and public stakeholders. Board members in each region review, evaluate, and approve funding for all projects. Boards include representatives from each of our FWCP partners: BC Hydro, the Province of B.C., First Nations, and public stakeholders. The Coastal Region board also has a representative from DFO. When it comes to decision-making, input from each board member is given equal consideration through collaborative discussion.

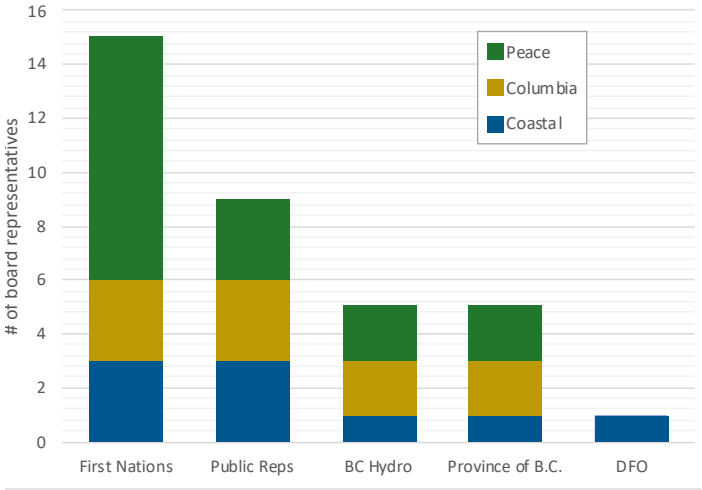
Learn more at fwcp.ca/our-story**.**

Combined, our three regional boards have the following number of representatives:

- First Nations: 15
- Public stakeholders: 9
- BC Hydro: 5
- Provincial government: 5
- Federal government: 1

Board representation by region is shown in Figure 1.1. In F21, the boards approved approximately $8.7 million for 100 fish and wildlife projects.

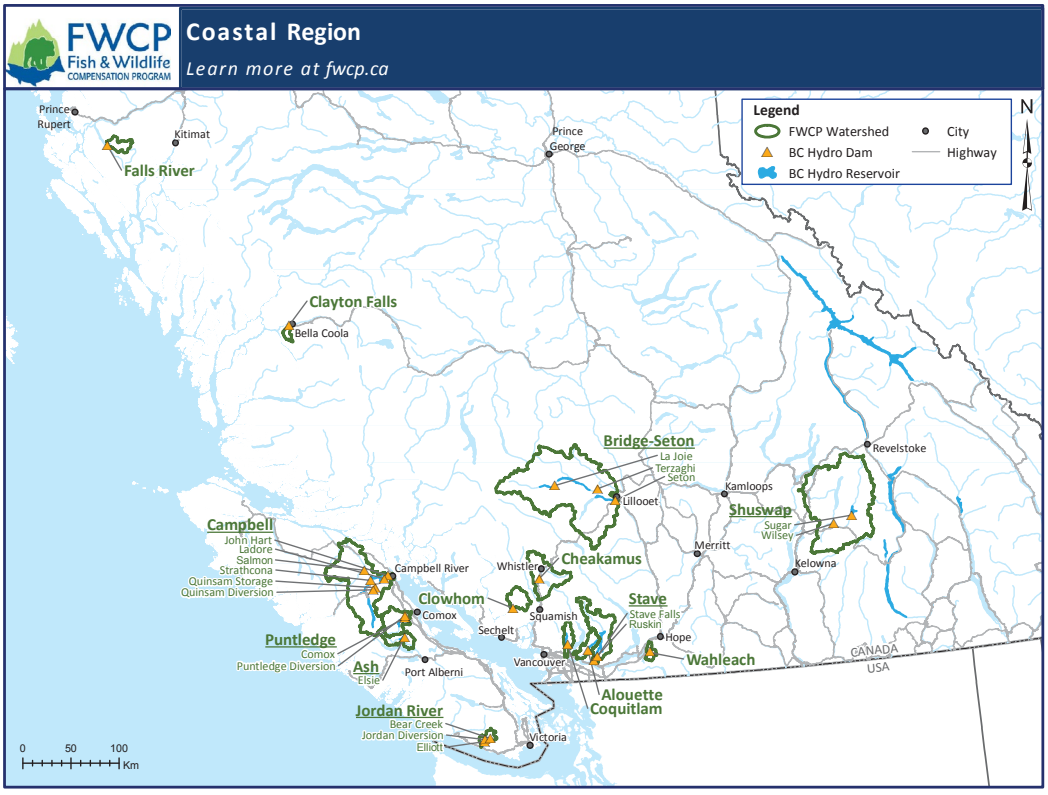
Figure 1.1: Board representation across all three FWCP regions



Since 1988, BC Hydro has provided approximately $191.5 million to the FWCP to compensate for dam impacts and the FWCP has funded more than 2,100 projects across its three regions to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dam construction.

The FWCP's Coastal Region was established in 1999 as a voluntary initiative by BC Hydro in response to First Nations and stakeholder interests in addressing the impacts of BC Hydro dams. It includes 14 watersheds on Vancouver Island, in the Lower Mainland, the Central and Sunshine Coasts, and watersheds in the Southern Interior (e.g., Bridge-Seton and Shuswap River watersheds) where BC Hydro dams are located.

Figure 1.2: Map of the FWCP Coastal Region



2. Our strategic approach

2.1 VISION AND MISSON

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

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

Conservation

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

Sustainable use

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

Community engagement

Build and maintain relationships with stakeholders and Indigenous communities. More details on these three objectives can be found at governance manual.

2.2 ACTION PLANS

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

In our Coastal Region, we have 14 watershed-based action plans that were updated in 2017.

All F21 projects approved for funding by our Coastal Region board align with the priority actions identified in the Coastal Region action plans. Action plans are posted at: fwcp.ca/region/coastal-region/.

The donation of Gates Creek lands—one hundred-and-eleven hectares (274 acres) of important grizzly habitat near D'Arcy, north of Pemberton—to the Nature Conservancy of Canada was completed in F21. Our Coastal Region funded the purchase of the land for long-term conservation. Thanks BC Hydro for making the land transfer possible! COA-F21-W-3368-DCA. Photo: F. Lessa

3.0 Board and committee members

FWCP Coastal Region board 2020–2021

Brian Assu	We Wai Kai Nation
Mark Peters	Peters First Nation
Laurel Stevens	BC Hydro
Adam Silverstein	Fisheries and Oceans Canada
Scott Barrett	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Laurie Kremsater	Public
Larry Casper	Tsal'alh
Todd Manning, Chair	Public
Jack Minard	Public

The board guides our work and is responsible for approving our Coastal Region projects and budget.

Policy committee

Cheryl Webb / **Brad Fanos,**
Regional Director Pacific Region, Fisheries and Oceans Canada
Jennifer McGuire / **James Mack,** Assistant Deputy Minister, Ministry of Environment & Climate Change Strategy
Karen Popoff, Director, Environment, BC Hydro

The policy committee sets the overall policy direction for the FWCP including the governance structure, establishes the strategic framework, oversees periodic evaluations, approves significant changes to the FWCP, and addresses dispute resolution when necessary. For more details, refer to our governance manual.

Lower Mainland and Coast fish technical committee

Cam Hiebert	BC Hydro
Murray Manson, Chair	Fisheries and Oceans Canada
Mike Willcox	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Vacant	First Nation
Veronica Woodruff	Public

Southern Interior fish technical committee

Vacant	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Arne Langston	BC Hydro
Dr. Brian Heise	Public
Elinor McGrath	Okanagan Nation Alliance
Collin McGregor, Chair	Fisheries and Oceans Canada

Vancouver Island fish technical committee

Eva Wichmann, Chair	BC Hydro
Jim Lane	Nuu-chah-nulth Tribal Council
Mike McCulloch	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Shannon Anderson	Fisheries and Oceans Canada
Sean Mitchell	Public

Wildlife technical committee

Chris Apps	Kitselas First Nation
Fraser Corbould, Chair	BC Hydro
Catherine Denny	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Paul Chytyk	Public

The four technical committees support the development of strategic plans; provide advice on the effective implementation of action plans; and provide fair and objective technical review, evaluation, and ranking of fish and wildlife project proposals

Management and support

In each region, program management and operations are implemented by a full-time region manager. Julie Fournier is responsible for all aspects of program delivery in our Coastal Region. All three regions are supported by Monique Stevenson, FWCP program manager, and Lorraine Ens, business coordinator.

4.0 Project funding and grants

4.1 PROVINCIAL PROJECT FUNDING

In F21, FWCP boards approved 100 projects for a total FWCP contribution of approximately $8.7 million. The total value of these projects—including leveraged funding from other organizations and in-kind resources—was $18.4 million.

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

4.2 COASTAL REGION PROJECT FUNDNG

In our Coastal Region, the FWCP supports the delivery of fish and wildlife projects in a variety of ways, including grant applications and directed projects. Twenty-nine projects were approved for F21, for approximately $1.7 million in funding from our Coastal Region board.

Grant applications

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

Our Coastal Region board received 33 grant applications for fish (17) and wildlife (16) for projects in F21, a request of approximately $1.7 million in funding. Ten applications came from the Lower Mainland and Coast, 10 from Vancouver Island, and 11 from the Southern Interior. Two applications were for multiple watersheds.

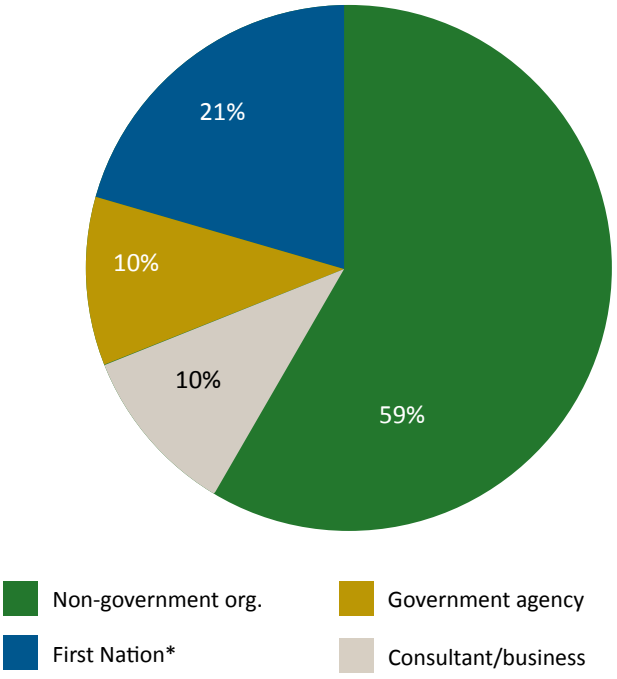
Our Coastal Region board approved just over $1.276 million in funding for 23 projects through our annual intake of grant applications: 12 fish (approximately $866,000) and 11 wildlife (approximately $410,000).

Directed projects

Our board may direct funding towards those projects identified as "directed" or high priority in our Coastal Region action plans. Just over $480,000 was approved for six directed projects: four fish ($101,000) and two wildlife ($379,000).

Approved projects by proponent type

The FWCP Coastal Region board approved a total 29 projects—23 grant application-based and six directed projects. The majority were led by non-government organizations such as stewardship groups or non-profit environmental organizations. Figure 4.1 below shows the split of approved projects by lead proponent type.



*Includes Indigenous-owned businesses and Indigenous organizations

Figure 4.1: Coastal F21 approved projects by lead proponent type

Alouette River Management Society (ARMS) received a Community Engagement Grant to support river clean-up efforts as part of Ridge Meadows River's Day in the Alouette River Watershed. Photo: ARMS

Approved projects by action type

Priority actions in our Coastal Region action plans are grouped into five broad action types: 1) research & information acquisition; 2) habitat-based; 3) species-based; 4) monitoring and evaluation; and 5) land securement.

In F21, more than 81% of projects funded were either habitat- or species-based. There were no monitoring and evaluation projects approved. Figure 4.2 shows the split of approved projects by action type.

The FWCP has been funding the Northern Spotted Owl Breeding Program for many years. This year the program boasted a record number of five breeding pairs of Canada's most endangered owl. Photo: NSO Breeding Program

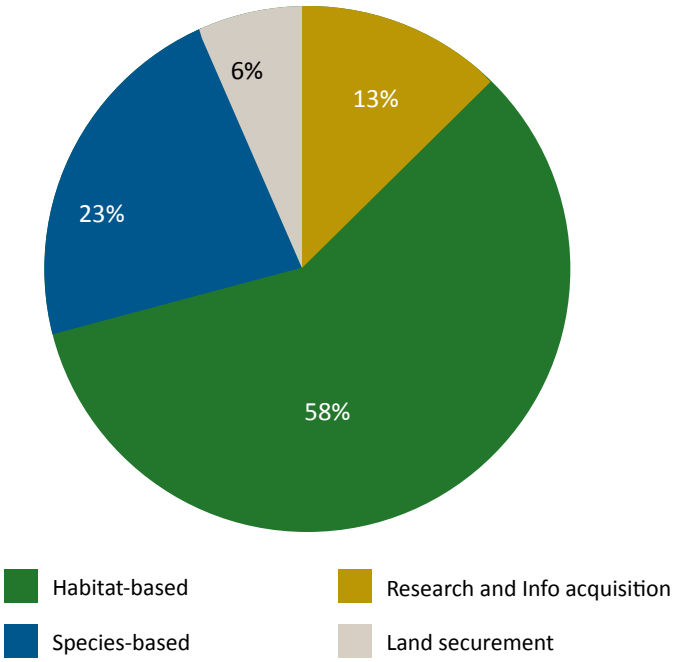


Figure 4.2: Breakdown of the approved F21 Coastal Region budget by action type

Community Engagement Grant

The goal of the Community Engagement Grant is to provide an opportunity for FWCP stakeholders and Indigenous Nations, bands, or groups to apply for a small grant to support conservation and enhancement work that aligns with our action plans.

Seven were approved, for a total of $6,400 out of the $7,500 available. The full list of approved Community Engagement Grants is shown in Table 4.1.

Table 4.1: F21 Coastal Community Engagement Grants approved

Applicant	Project title	FWCP funding ($)
Adams River Salmon Society	Trail map and print materials for salmon education	$1,000
Northern Spotted Owl Breeding Program	Webinar series	$1,000
Alouette River Management Society	Ridge Meadows Rivers Day: river clean-up event	$1,000
Stoney Creek Environmental Committee	Road salt and salmon program	$1,000
Squamish River Watershed Society	Pocket guide: the spectacular spawning salmon of Squamish	$1,000
Webb's Wild Wise Society	Wild wise workshops	$400
Kwantlen Lands, Resources and Stewardship	Bat chat and build! Workshop	$1,000
		TOTAL $6,400

5.0 Financial report

5.1 APPROVED BUDGET AND EXPENDITURES

Our Coastal Region board allocates annual funding toward fish and wildlife projects, administration, and communications. These allocations form the annual operating plan. Any unallocated funds are carried forward as unspent surplus dollars[2] and are available for future spending.

Our Coastal Region board approved an F21 budget of $2,068,382. The annual voluntary funding provided from BC Hydro to the region for the year was $2,211,900.

Figure 5.1 shows a total of nearly $3.8 million available to our Coastal Region as of April 1, 2020. This comprises the approved budget of approximately $2 million, an unspent surplus of over $475,000, and remaining prior-year funding commitments of nearly $1.14 million for F20 and over $107,000 for F19.

Figure 5.2 illustrates the approved F21 budget as of April 1, 2020. Funding for fish projects made up 45% of the budget, wildlife projects made up 22%, and land-securement projects made up 16%. Administrative costs made up approximately 13% of the total budget, including regional manager salary and expenses; office-related expenditures; support staff, board, and technical committee costs. The remaining allocation was for communications, for approximately 3% of the annual budget.

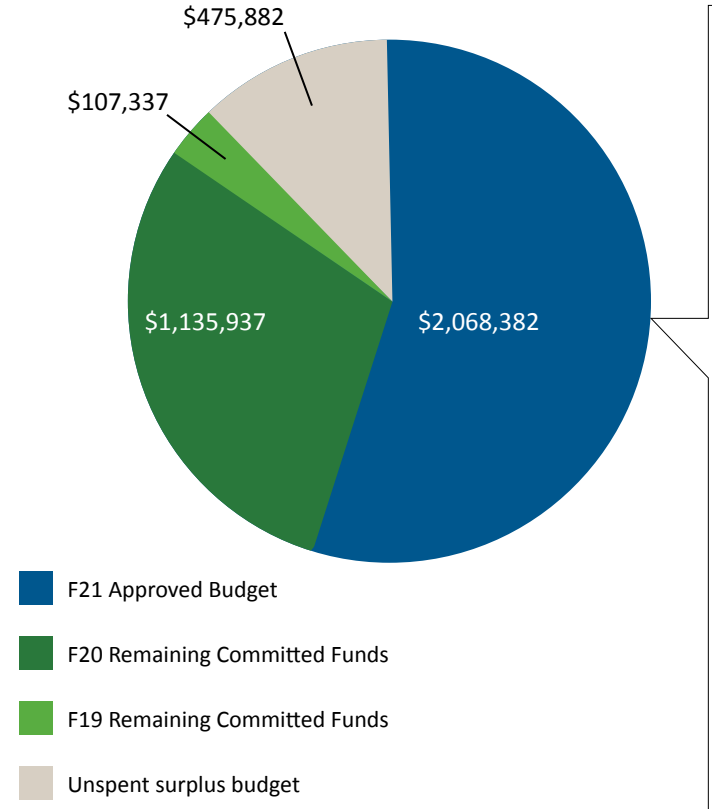


Figure 5.1: FWCP Coastal Region financial summary on April 1, 2020

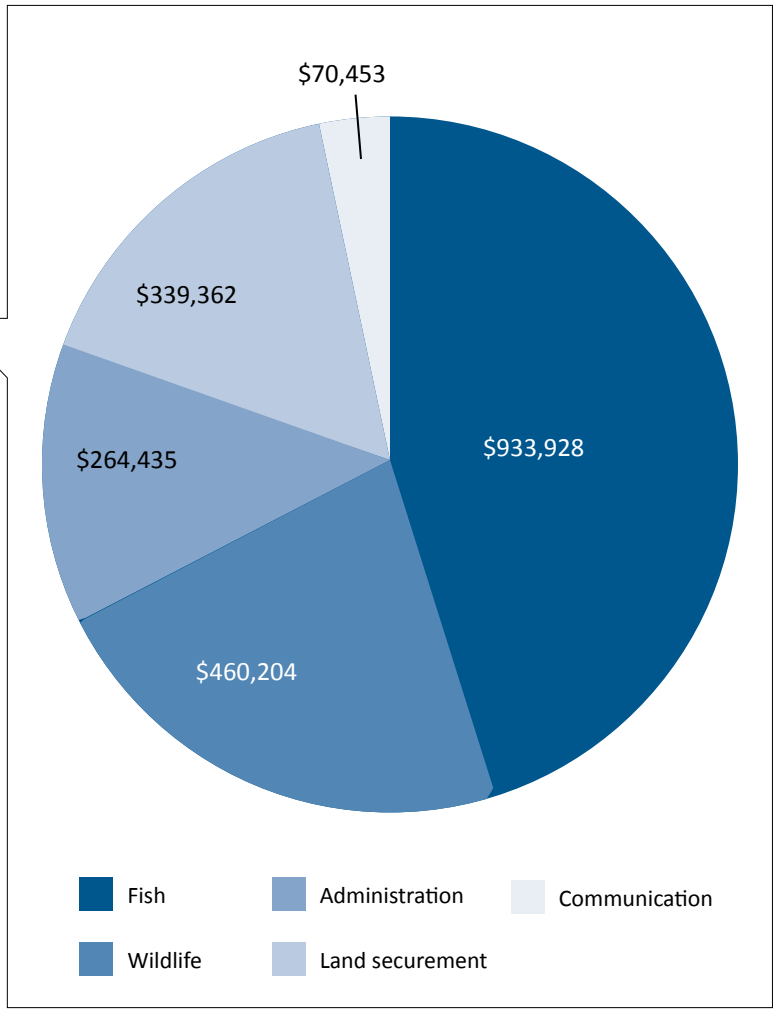


Figure 5.2: Breakdown of the approved Coastal Region budget of $2.068 million as of April 1, 2020

[2] Unspent surplus is any unallocated funds available for future years spending.

Coastal Region program expenditures up to March 31, 2021, are shown in Table 5.1. This reflects a snapshot of actual and planned payments made related to F21 projects. Project funding each year may not be fully allocated by year-end and—as shown in Table 5.1—F21 allocated funds not yet expended by March 31, 2021, are labelled "planned payments."

Occasionally, projects come in under budget ("unspent funds" in Table 5.1). Funds not spent during the fiscal year will be carried forward as unspent surplus budget and made available for new project spending in future fiscal years.

Table 5.1: F21 budget status as of March 31, 2021

Fund category	F21 approved budget	Paid up to March 31, 2021	Planned payments[1]	Unspent funds[2]
Fish	$933,928	$649,444	$266,404	$18,080
Wildlife	$460,204	$315,480	$144,592	$132
Administration	$264,435	$200,367	$10,753	$53,315
Land Securement	$339,362	$36,002	$304,065	-$705
Communications	$70,453	$57,613	$12,840	$0
TOTAL	$2,068,382	$1,258,906	$738,654	$70,822

Note 1: Planned payments represent expected invoices for approved, ongoing projects that have not yet submitted final reports by March 31, 2021
Note 2: Unspent funds are carried forward and available for the next fiscal year

At the end of F21 (Table 5.1), approximately $1.26 million of the F21 budget had been spent, and nearly $740,000 remained as an F21 commitment to spend in F22. The balance of prior-year funding commitments anticipated to be spent in F22 was approximately $136,000 from F20 and $10,000 from F19, resulting in an unspent surplus of approximately $586,000 (Figure 5.4).

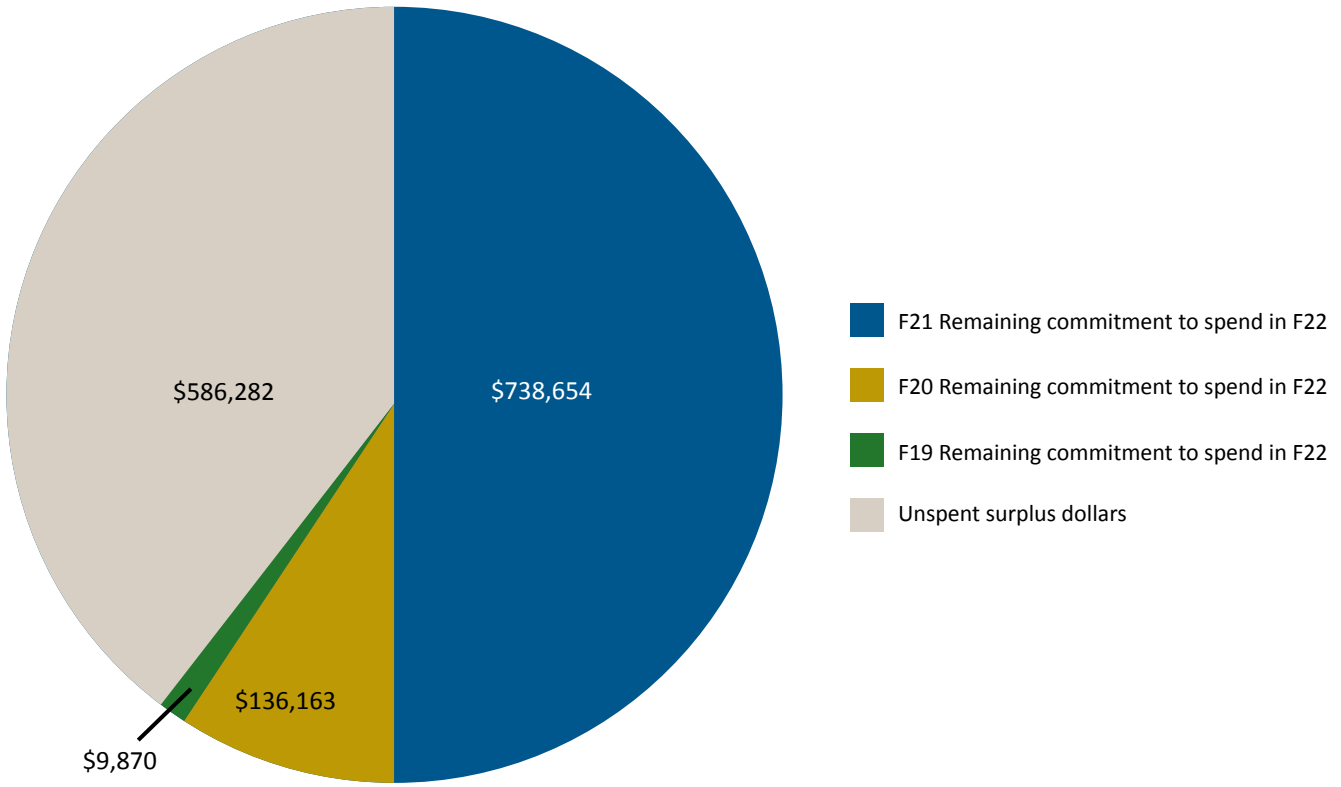


Figure 5.4: Financial summary of the FWCP's Coastal Region, as of March 31, 2021 (end of fiscal year)

5.2 COASTAL REGION APPROVED BUDGET ALLOCATION BY WATERSHED

The approved F21 budget for our Coastal Region included approximately $900,000 on fish projects and $800,000 on wildlife projects, for a total of $1,687,109 on project funding—approximately 82% of the total budget. These projects were distributed across the watersheds in which we operate, as shown in Figure 5.5. During 2020–2021, the FWCP supported projects in 10 of the 14 Coastal Region watersheds—not including projects covering multiple watersheds.

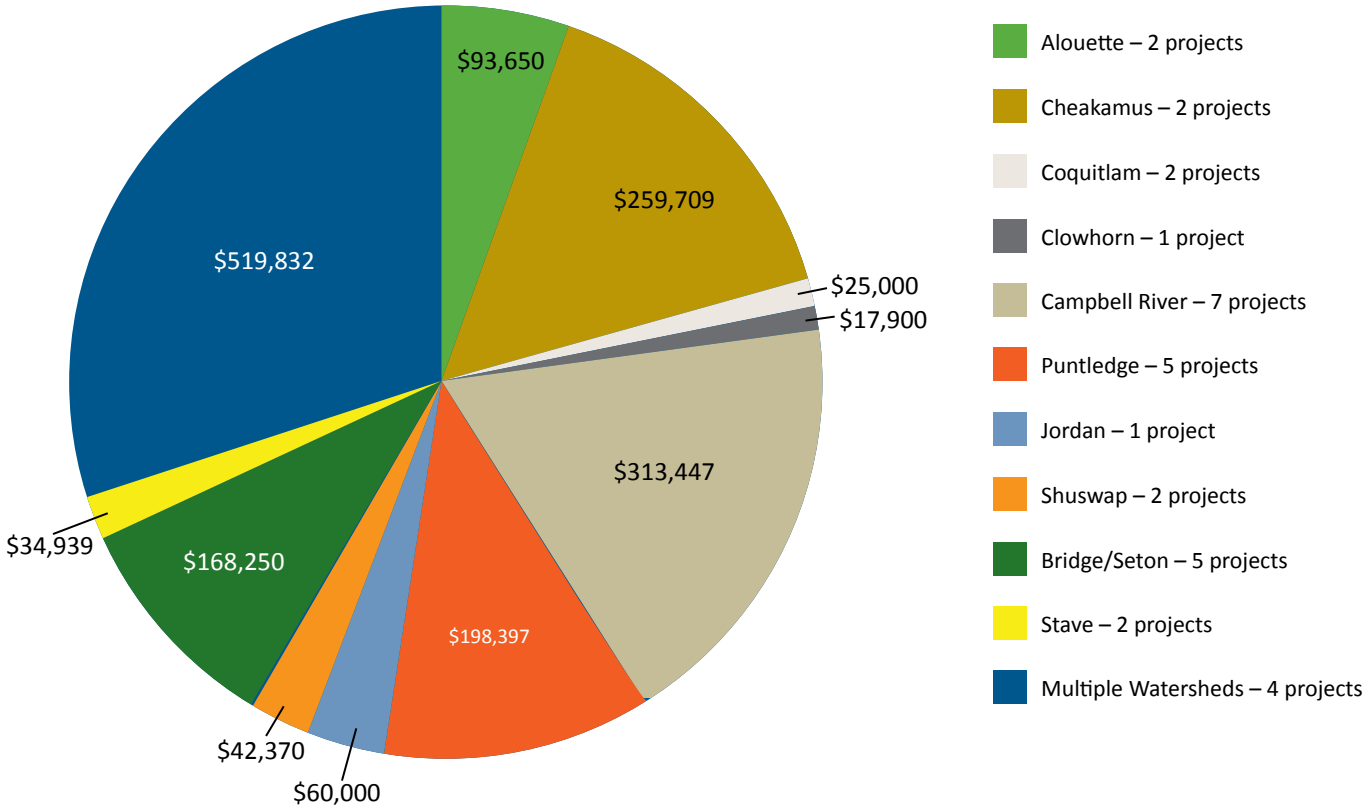


Figure 5.5: Approved F21 budget allocation by watershed as of April 1, 2020

The FWCP encourages grant applicants to seek additional funding sources (e.g., other funding agencies and in-kind contributions) to leverage FWCP funding contributions. We recognize the value of partnerships to help plan, deliver and fund projects and we encourage grant applicants to build funding and project partnerships into their projects. In F21, the FWCP funding allocation for grant-based projects was approximately $1.276 million in funding for 23 projects. As a result of financial partnerships and in-kind contributions, the total value of the projects was just over $3 million. In other words, for every dollar invested by the FWCP, others contributed more $2.35, greatly increasing the value of the FWCP's investment overall.

6.0 Coastal Region projects and results

Table 6.1 provides a listing of 2020–2021 Coastal Region fish and wildlife projects approved for funding. The funding identified may vary from the approved budget as of April 1, 2020, due to project budget increases or decreases as they progressed throughout the fiscal year. Final reports for all projects are posted to the appropriate provincial databases once available. Visit fwcp.ca/results for an updated list of all available final reports.

Table 6.1: F21 Approved projects and results

Project ID, proponent, FWCP $ amount, and watershed	Grant-based fish projects: title and description	Project outcomes
COA-F21-F-3254, Courtenay and District Fish & Game Protective Association, $2,000, Puntledge	***Upper Puntledge River Watershed Chum Carcass Distribution*** Salmon carcasses play a key role in maintaining the productivity of salmonid systems, and benefiting the aquatic and terrestrial ecosystem as a whole. Chum salmon carcasses from the Puntledge River Hatchery will be distributed across the Upper Puntledge River Watershed. Their slow decomposition will contribute essential marine-derived nutrients and energy to benefit the entire food web, and will sustain the production of fish and other salmon-dependent species within the watershed.	***Chum carcasses add nutrients to over 21 km of Upper Puntledge River*** Chum carcasses have been distributed at eight sites in the Upper Puntledge River Watershed, adding essential nutrients to 14 km of the Cruickshank River and 7.5 km of the Upper Puntledge River, including Willemar Lake. Their slow decomposition will contribute marine-derived nutrients to the river, benefitting the entire food web and sustaining the production of fish and other salmon-dependent species within the watershed.
COA-F21-F-3256, Kingfisher Interpretive Centre Society, $5,976, Shuswap	***Conservation of Shuswap River Chinook through Education*** This project builds awareness about Shuswap River salmon, and the habitats and ecosystems they require. This project uses hands-on training to build understanding among school children, teachers, parents, and community members in order to foster support for future restoration actions geared at promoting the long-term survival of all salmon and the preservation of the Shuswap River Watershed.	***2,000 students learn about Shuswap River salmon*** Salmon awareness programs, led by the Kingfisher Interpretive Centre, reached approximately 2,300 students, teachers, and adults. The programs aims to foster support for the long-term survival of all salmon and the preservation of the Shuswap River Watershed.
COA-F21-F-3266, British Columbia Conservation Foundation, $58,027, Campbell	***Elk Falls Canyon Spawning Gravel Bulk Delivery: Year 5*** This project provides the fifth year of gravel additions to the Upper Canyon Reach of the Campbell River using the 2017 bulk gravel-delivery system constructed in Elk Falls Provincial Park. Approximately 150–250 m^3 of gravel will be added to the first pool tail-out. This gravel will provide valuable spawning habitat for all species of salmon and trout. As more gravel is added to the canyon over time, the habitat will become more gravel-rich and further increase spawning capacity.	Project report not yet submitted
COA-F21-F-3270, Comox Valley Project Watershed Society, $120,407, Puntledge	***Kus-kus-sum Restoration Phase I: Unpaving Paradise*** The Comox Valley Project Watershed Society is restoring the Kus-kus-sum conservation lands located along the salmonid migration corridor that connects the K'ómoks Estuary to upper watershed spawning habitats in the Puntledge and Tsolum watersheds. The former sawmill site will be restored and will eventually provide suitable habitat for fish and wildlife. This project will define the restoration plan and work toward the removal of paved surfaces, derelict buildings, and concrete currently covering 8.3 acres of the site.	***Restoration of Kus-kus-sum conservation lands begins with building and concrete removal*** A building covering 233 m^2 in the Kus-kus-sum conservation lands was demolished and 117 m^2 of concrete was removed from the site. An updated restoration design was completed for the former sawmill site, alongside a planting prescription, sub-surface scanning, and soil testing.
COA-F21-F-3297, Fisheries and Oceans Canada, $21,539, Bridge-Seton	***Portage Creek Chinook Conservation Enhancement*** Fisheries and Oceans Canada will lead this strategic enhancement project to support rebuilding the vulnerable Portage Creek Chinook population for a minimum of one generation (five years) and preserving its genetics. This project will support the enhancement and coded-wire tagging of up to 50,000 yearling smolts. Enhancement will provide the population with a greater smolt survival rate, while the tags will provide much-needed assessment and stock distribution information. Further work will investigate the limiting factors contributing to the population's decline.	***Over 27,000 Chinook eggs collected in Portage Creek, 47,000 smolts ready for release*** In 2020, six females from the declining Portage Creek Chinook population and 11 males were spawned, resulting in an egg take of 27,020, and about 4,000 offspring were safely released as healthy fry. The release was coordinated with, and attended by, St'át'imc Eco-Resources Ltd. The remaining 47,066 Portage Creek Chinook at the hatchery were successfully marked, tagged, and released as yearling smolts in May 2021.

Project ID, proponent, FWCP $ amount, and watershed	Grant-based fish projects: title and description	Project outcomes
COA-F21-F-3299, Campbell River Salmon Foundation, $194,976, Campbell	***Campbell River Spawning Gravel Site 9-II*** The purpose of the project is to increase the available spawning habitat for Chinook salmon and other riverine species by constructing a 1,700 m^2 spawning gravel pad. The strategic placement of spawning gravel for Chinook salmon in historically important areas of the main stem of the Campbell River is a priority for our Campbell River Watershed Action Plan.	***Spawning habitat increased in Campbell River Watershed*** A new 2,100 m^2 spawning platform and 3,300 metric tonnes of washed and screened spawning gravel will increase spawning habitat for about 210 pairs of Chinook in the Campbell River and benefit chum and pink salmon. Large boulders on top of the gravel pad surface add hydraulic complexity and provide a refuge for fish. Spawning Chinook were recorded using the site in the fall of 2020 during snorkel swims by Fisheries and Oceans Canada.
COA-F21-F-3302, Splitrock Environmental Sekw'el'was LP, $19,911, Bridge-Seton	***Seton Spawning Channel Riparian Habitat Enhancement (2020)*** The goal of this project is to restore and maintain key salmonid spawning and rearing habitat in the upper and lower spawning channel portions of the Seton River Watershed. This riparian habitat enhancement work will ensure the future sustainability and functionality of the Seton River spawning channels, and the further development of a management plan for the spawning channels and the species that use them.	***Habitat enhanced in Seton River Watershed*** The functionality of spawning channels in the Seton River Watershed is being supported with 408 new plants and 0.4047 ha of riparian and upland habitat enhancement. Additionally, 540 m^2 were converted into microsites favourable for native plant growth, two truckloads of weeds were removed from the upper spawning channel, and 22 trees were caged to prevent beaver damage.
COA-F21-F-3308, Squamish River Watershed Society, $259,709, Cheakamus	***Squamish Central Estuary Restoration Project: Year 3*** The focus of this project is to improve fish passage across a berm at key locations and realign a portion of the berm to create a sediment deflection buffer. This would provide fish access to more than 77 hectares of tidally influenced habitat for out-migrating juvenile salmon. This project includes restoring tidal flows and connections across a rail line to rewater and improve overall habitat along the Bridge Pond and Cattermole Slough.	***New box culvert installed in Squamish Central Estuary*** Fish passage in the Squamish Central Estuary will benefit from a new three-by-three-metre box culvert and 1,800 new riparian plants. A modelling report, a construction engineering report, and two monitoring reports will help support future fish passage.
COA-F21-F-3316, Okanagan Nation Alliance, $36,393, Shuswap	***Bessette Creek Streamflow Monitoring***	Project cancelled.
COA-F21-F-3322, Coldstream Ecology, Ltd., $5,000, Bridge-Seton	***Limiting Factor Analysis Development for Yalakom/Lower Bridge River Salmon*** Coldstream Ecology Ltd., in collaboration with Xwisten (Bridge River Indian Band), will undertake a literature review and engage with key agencies and the community, to better understand the factors affecting the survival and productivity of salmonids in the Yalakom and Lower Bridge rivers. It is expected that the results of this Seed Grant project will lead to a future grant application for a larger limiting factors analysis project.	Project report not yet submitted.
COA-F21-F-3330, Pacheedaht First Nation, $60,000, Jordan	***Lower Jordan River Side Channel Development*** The goal of this multi-year project is to create a tributary- and groundwater-fed side channel on the Jordan River that will provide rearing and spawning habitat for Coho salmon and sea-run cutthroat trout. The project proposes three phases: Year 1 will include a detailed feasibility assessment to confirm the viability of the project; Year 2 will, if viable, develop side channel design, construction, and monitoring plans; and Year 3 will see the side channel constructed and monitoring initiated.	Project report not yet submitted.
COA-F21-F-3333, Guardians of Mid-Island Estuaries Society, $48,990, Puntledge	***Eco-cultural Restoration of the K'omoks Estuary*** This project will use alder poles and willow to construct natural habitat structures resembling traditional Indigenous fish weirs to restore and protect productive estuary sedge marsh habitats in the Puntledge River Watershed. These low-maintenance wooden exclosures can withstand strong wave action and are intended to protect channel-edge habitat. This proposal focuses on further protecting and restoring this important keystone salmon habitat.	Project report not yet submitted.

Project ID, proponent, FWCP $ amount, and watershed	Grant-based wildlife projects: title and description	Project outcomes
COA-F21-W-3171, British Columbia Conservation Foundation, $98,800, Bridge-Seton	***Northern Spotted Owl Captive Breeding Program*** The program's goal is to produce captive-born northern spotted owls for release into suitable habitat within the Bridge-Seton Watershed to recover the local population to a minimum of 20 individuals. This owl is one of Canada's most endangered bird species, and its entire Canadian range occurs in southwestern B.C. Fewer than 30 individuals remain in Canada, with more than half residing in captivity at the breeding facility in B.C.	***Northern spotted owl program yields five breeding pairs, three eggs*** The owl population at the Northern Spotted Owl Breeding Program grew by four this year: there are now 29 resident northern spotted owls, including five breeding pairs. Three chicks were born in 2020, one of which died on the nest after being hand-raised. A wild juvenile and an adult from California were introduced to the facility this year.
COA-F21-W-3257, Marmot Recovery Foundation, $11,000, multiple watersheds	***Translocating Vancouver Island Marmots to Strathcona Park 2020*** This project will support the Marmot Recovery Foundation to translocate between five and 10 endangered Vancouver Island marmots to colonies in Strathcona Provincial Park. These marmots will support previously re-established colonies while future recovery efforts are prepared. The marmot is an endemic Endangered species that was extirpated from Strathcona Provincial Park in the 1990s. Reintroduction efforts have successfully established a number of colonies and a small population of marmots in the park.	***Three marmots implanted with transmitters and released*** Three Vancouver Island marmots were trapped, implanted with transmitters, and then re-released. In addition, three marmots were released into two colonies in Strathcona Provincial Park, the Greig Ridge and Tibetan colonies, and monitored to support the recovery efforts of this Endangered species.
COA-F21-W-3271, Moody Tree, $23,000, Bridge-Seton	***Whitebark Pine Recovery in the Bridge River Drainage*** Whitebark Pine seedlings will be planted across a 10-hectare site to support the recovery of this endangered keystone species in high-elevation ecosystems. Rust infection and recent wildfires have killed many of these at-risk trees, and changes to the fire regime and climate change are contributing to dramatically declining numbers. To combat this decline, seeds collected from the healthiest trees will be used for the seedlings.	***More than 3,000 whitebark pine seedlings planted*** A total of 3,175 whitebark pine seedlings were planted over 5.53 ha in the Bridge River drainage and competition was removed from 0.46 ha to support the recovery of this keystone species. The surviving density of 2020 plantings was 147 stems/ha. Eight survey plots were established to monitor 2018 planting.
COA-F21-W-3273, Sunshine Coast Wildlife Project, $17,900, Clowhom	***Conserving Bats and Their Habitat in Clowhom Watershed: Year 2*** This project will help conserve bats and their habitat in the Clowhom River Watershed by protecting and monitoring two known and important bat maternity roosts and identifying and protecting other roosts. This project includes white-nose syndrome (WNS) surveillance and increasing stewardship actions to build healthy resilient bat populations prior to the expected arrival of WNS in B.C.	Project report not yet submitted.
COA-F21-W-3275, Wildlife Conservation Society Canada, $29,989, Stave	***Developing and Evaluating Bat Mitigation Strategies*** This project will evaluate mitigation tools to reduce further impacts on bats, which face unprecedented threats, including white-nose syndrome (WNS), in the Stave Lake area. This project will use knowledge about roost conditions, overall health and reproduction, and roost-switching behaviour to test and evaluate a pilot effort to reduce the mortality rate of WNS. The WNS management strategy developed through this project could be applied widely across watersheds in B.C.	***Nearly 300 bats captured, 63 tagged*** Bats were monitored at three sites in the Stave Lake area to evaluate mitigation tools being used to support bats and efforts to reduce future mortality rates for when white-nose syndrome arrives in the province. Roosts were inoculated with probiotic-laden clay powder two of the sites. A total of 299 bats were captured and sampled for probiotic bacteria and analyses are pending. Due to COVID-19 restrictions, only 63 bats were PIT-tagged at Stave Lake. Low bat activity in the winter of 2019 suggests bats do not hibernate at the Stave Lake study site.
COA-F21-W-3281, Discovery Coast Greenways Land Trust, $14,894, Campbell	***Restoring Ecological Function in the Campbell River Estuary*** This project aims to restore ecological functioning in the Campbell River Estuary by managing invasive species, including Yellow Flag Iris, Purple Loosestrife, and Japanese Knotweed. The proposed project will provide additional capacity for invasive species management that will improve the ecosystem functioning of the estuary, including protecting the provincially Red-listed Henderson's Checker-mallow's Tufted Hairgrass ecological community, and habitat for the Vancouver Island Beggarticks, a species of Special Concern under the Species at Risk Act.	***Over 3,000 kg of invasive plants removed, 633 trees and shrubs planted*** Invasive plants have been removed from the Campbell River Estuary, including 1,130 kg of yellow flag iris from 0.25 ha of marsh habitat and 1,960 kg of Himalayan blackberry from 0.5 ha of riparian and upland habitat. Additionally, 40.75 m^2 of benthic barrier was installed to cover and eradicate dense yellow flag iris infestations. Treated upland and riparian areas were revegetated with 633 trees and shrubs. Volunteers spent over 90 hours removing invasive species and planting native trees and shrubs in the estuary.

Project ID, proponent, FWCP $ amount, and watershed	Grant-based wildlife projects: title and description	Project outcomes
COA-F21-W-3283, The Nature Trust of BC, $11,550, Campbell	***Conserving Wildlife Habitat in the Salmon River Estuary Conservation Area*** This project will continue the restoration of degraded riparian forest and wetland habitat in the Salmon River Estuary Conservation Area, which was previously logged. This project will protect and improve habitat for birds, amphibians, large mammals, and salmon. This conservation property was purchased in 2015, with funding from FWCP and others.	***Over 8,700 seedlings planted, sensitive habitat maintained*** Degraded riparian forest and wetland habitat in the Salmon River Estuary Conservation Area has been restored, including three ha prepped for forest restoration, 8,712 seedlings planted over 7.3 ha, four ha of forest thinned through alder girdling and cutting, and 6.89 ha of old field habitat maintained from encroaching broom. Elk exclosures and four western screech-owl nest boxes were maintained, and vegetation, wildlife, and amphibian surveys were conducted.
COA-F21-W-3295, British Columbia Conservation Foundation, $119,470, multiple watersheds	***Western Painted Turtle Recovery in Lower Mainland Watersheds*** This project will support the Pacific Coast population of western painted turtle, which is federally Endangered and provincially Red-listed. The goal of this project is to recover B.C.'s only remaining freshwater turtle by increasing recruitment. Actions include releasing "head-started" turtles, monitoring the populations' recovery, and providing and monitoring effectiveness of essential habitat, such as basking features and nesting habitat.	***Nearly 130 turtles released*** The Pacific Coast population of western painted turtles, which is federally Endangered and provincially Red-listed, has been supported by this work which includes 15 basking surveys at six sites. Twenty trap days were completed at two of the sites, with 27 turtles captured. Sixty-three nests were identified through nest monitoring at the head-start source population site—17 were brought into captivity and the others were left on site with protective cages. Additionally, 128 head-started turtles were released at four sites, four nesting beaches were maintained, and nine basking logs were installed or reset.
COA-F21-W-3305, Katzie First Nation, $68,650, Alouette	***Restoring Species of Conservation Concern and Cultural Value*** This project intends to create and enhance wetland, riparian, and off-channel pond habitats within the lower Alouette River Watershed to support healthy populations of salmonids and species of cultural value and conservation concern. The implementation of an eco-cultural restoration plan will continue. It will integrate the principles of restoration ecology and adaptive management with traditional knowledge and priorities for conservation, including wapato, tule, coho salmon, barn owls, bats, and co-occurring native species.	***3,700 m2 of aquatic and riparian habitat restored*** Salmonids and other species of conservation concern are being supported by work in the Alouette River Watershed. Thirty-three large pieces of newly installed wood will increase habitat complexity in two off-channel ponds on the south side of the north Alouette River. Vertical snags were used to install bat, owl, and duck boxes. Two 1,200 m^2 aquatic areas have been planted with wapato, tule, slough sedge, and sweet flag seedlings. A 2,500 m^2 riparian area was planted with cottonwood, red osier, and Pacific willow whips, to provide long-term nesting resources and habitat, and additional riparian planting was conducted throughout the watershed.
COA-F21-W-3332, Comox Valley Land Trust, $10,000, Puntledge	***Puntledge Watershed Bat Project*** This project will record ultrasonic acoustic data of bats in the Puntledge River Watershed, to determine which bat species are present, gather basic information about their life history, and identify maternal colonies and hibernacula. This project will inform strategies to protect high-quality bat habitat areas within the watershed.	***17,000 ultrasonic bat recordings identify new species*** Nearly 17,000 ultrasonic acoustic recordings of bats in the Puntledge River Watershed were made between March 15, 2020, and March 15, 2021. These recordings build on data collected in 2019 to establish a baseline of the relative abundance, habitat preferences, and seasonality of bats in the watershed before the (imminent) arrival of white-nose syndrome. This data supports the occurrence of the Mexican free-tailed bat, which was reported on Vancouver Island for the first time in 2019. Additional maternal colonies were located, and species were identified and counted when possible. Confirmation of species though genetic analysis from guano is taking place.
COA-F21-W-3351, Kwantlen Lands, Resources and Stewardship Ltd., $4,950, Stave	***Kwantlen Fish, Wildlife, and Plant Cultural Inventory*** This project will create an inventory of fish, wildlife, and plants that have historically been used—and are still being used—by Kwantlen community members. This project will identify which species of flora and fauna have been valued by members and where they are located. The goal is to develop a plan to benefit and protect species critical to the Kwantlen's cultural identity.	Project report not yet submitted.

Project ID, proponent, FWCP $ amount, and watershed	2020-2021 Directed projects: title and description	Project outcomes
F21-PUN-DFO-01, Fisheries and Oceans Canada, $17,000, Puntledge	***F21 Puntledge Hatchery Annual Contribution*** FWCP annual funding to the Puntledge River Hatchery to support summer Chinook production.	***Over 250,000 Chinook smolts released into the Puntledge River*** A total of 264,239 summer Chinook smolts were released from the Lower Puntledge River Hatchery facility in the spring of 2020. Due to COVID-19 restrictions and mitigation, these were not marked. In the fall of 2020, more broodstock was collected to produce future smolts for release
COA-F21-F-3367-DCA, A-Tlegay Fisheries Society, $19,940, Campbell	***Campbell River Gravel Strategy (Site 5 Feasibility)*** The purpose of the study is to determine if there is any negative effect on the operation of the John Hart Generating Station, determine the environmental benefit, and determine any potential social impacts of creating an area of Chinook spawning habitat.	***Study confirms feasibility of Chinook spawning gravel pad*** A Chinook spawning gravel pad could be installed in the Campbell River with negligible effects to operations at the John Hart Generating Station. A conceptual design for a 35-m-long gravel pad with an area of 1,400 m^2 was developed for Site 5. If constructed, this project would supply spawning habitat for up to 139 pairs of Chinook and also likely benefit chum and pink salmon
COA-F21-F-3365-DCA, Alouette River Management Society, $25,000, Alouette	***Alouette Watershed Sockeye-Fish Passage Feasibility-Year 4*** This is Year 4 of a multi-year plan to address remaining uncertainties in establishing biological feasibility for Alouette sockeye restoration under the Fish Passage Decision Framework, specifically Step 3. This proposal will initiate Phase 2 of the long-term plan, which focuses on monitoring smolt outmigration, monitoring adult returns, and experimental hatchery supplementation. Monitoring outmigrating kokanee smolts and returning sockeye adults will continue. The smolt enumeration component uses mark-recapture methods and a rotary screw trap installed below the Alouette Dam to capture outmigrating smolts during the spring surface flow release.	***85 adult alouette sockeye return*** A total of 85 adult sockeye returned to the fish fence and trap location on Alouette River between July 11 and September 3, 2020, and 83 were successfully transported to Alouette Reservoir (two died in the trap). Fork length measurements indicate an average of 53.75 cm. Genetic sampling identified that all adults are returning spawners that originated from Alouette sockeye stock. Since 2007, 446 adult sockeye have returned to the fish fence, 381 of which have been successfully released into the reservoir. An estimated 1,473 *O. nerka* smolts (95% CI: 876–2,070) migrated from the Alouette Reservoir between April 14 and May 29, in 2020.
COA-F21-F-3364-DCA, Watershed Watch Salmon Society, $25,000, Campbell	***The Kwikwetlem Sockeye Restoration Program Year 1, Hatchery Augmentation Studies*** The following tasks, based on the Fish Passage Decision Framework, are planned for F21: (a) assessment of smolt outmigration efficiency under "optimized operations" to re-assess efficiency with Coquitlam operations constrained to minimize Buntzen tunnel operation and maximize Coquitlam Dam releases during spring smolt outmigration; (b) monitor adult sockeye returns to assess ocean survival; and (c) hatchery plan development to support the construction of a new experimental hatchery facility at the Coquitlam Dam.	Project report not yet submitted.
COA-F21-W-3440-DCA, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, $50,000, multiple watersheds	***FWCP Watershed Assessment Tool Development*** The Resource Management Team of FLNR South Coast Region have been developing an interactive, online, publicly available geospatial tool designed to communicate the following three aspects relevant for priority ecological values: 1. Objectives for species populations and their habitats. 2. Assessments of how well the objectives are being met, including trends over time. 3. Management recommendations, in order to inform users how they can contribute to achieving the objectives.	Project report not yet submitted.
COA-F21-W-3366-DCA, The Nature Trust of British Columbia, $285,000, Campbell	***Salmon River Estuary Tidal Slough Land Acquisition*** The Salmon River Estuary – Tidal Slough consists of one land title immediately adjacent to the existing 525 ha Salmon River Estuary Conservation Area. The securement of this property contributes to biodiversity conservation in both wetland and riparian Areas, and upland and dryland habitats, by protecting 14 ha of private land with mature and old-growth riparian forest along the western bank of the lower Salmon River and Hammond Creek near the estuary. The property contains habitat for at least five federally listed and four provincially listed species at risk, and provides productive and diverse riparian habitat along the Salmon River supporting several species of salmonids.	***Nearly 14 ha of land secured in the Salmon River Estuary*** The Nature Trust of British Columbia successfully acquired a 13.9 ha land parcel in the Salmon River Estuary. This purchase will protect nine ha of mature and old-growth temperate rainforest, which is part of the riparian corridor along the Salmon River leading to the estuary, along with a five ha area that is undergoing restoration, including the creation of wetland habitat.