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Fish and Wildlife Projects Receive More than $860,000

COLUMBIA BASIN – Thirty-four fish and wildlife projects in the Columbia River Basin watershed are being given more than $860,000 in grants through the Fish and Wildlife Compensation Program (FWCP). First Nations, conservation and stewardship groups, biologists and agencies will use the money to undertake their projects that will support conservation and enhancement aimed at fish and wildlife in the Columbia River Basin.

Fish projects funded this year focus on kokanee, bull trout, rainbow trout as well as the large Gerrard Rainbow trout and include work to maintain and restore fish habitat. Studies to improve knowledge about fish and abundance are also being funded. Projects funded this year will also focus on managing invasive species including zebra and quagga mussels, and providing more information about the historical range of sockeye salmon.

Wildlife projects funded in 2014 are aimed at conserving caribou, moose, lynx, wolverine, grizzly bears, mountain goats, bighorn sheep, deer, snakes, bats, Western-Screech owls and other birds. The projects include hands-on wetland, riparian and grassland habitat restoration, invasive weed management, and studies to improve the science and understanding, in order to inform future wildlife enhancement projects.

The wildlife projects funded by FWCP in the Columbia Basin this year are diverse and include projects aimed at assessing the risk of white-nose syndrome to local bats, improving survival rates for captive-reared caribou, and reducing grizzly bear and human encounters as a tool to support grizzly movements through populated areas.

The funding of $860,000 announced today is in addition to the Columbia Region's ongoing projects, for example, the nutrient restoration projects in the Arrow Lakes Reservoir and Kootenay Lake and operations of Meadow and Hill Creek spawning channels. In 2014, in total, FWCP-Columbia will invest nearly $5 million in local fish and wildlife projects. Learn more about the Fish and Wildlife Compensation Program at www.fwcp.ca.

QUOTES:
Bill Bennett, Minister of Energy and Mines
"In BC, we are blessed to have hydroelectric facilities that generate clean power. This electricity is the backbone of our economy. It is our responsibility to ensure our resources are cared for and preserved. This year alone, more than $7 million will go towards protecting fish and wildlife in areas with hydroelectric operations, through more than 80 individual projects. The projects are carefully selected by local boards in each region, which have representation from the public, First Nations, DFO, the Province and BC Hydro."

Dave White, Public Representative, FWCP – Columbia Board
"The Fish and Wildlife Compensation Program provides the funds and relies on local groups and individuals to develop and deliver conservation projects that will meet our conservation objectives."

Trevor Oussoren, Program Manager, Fish and Wildlife Compensation Program–Columbia
"We are pleased with the strong interest in the FWCP from so many organizations, and the quality of project proposals that support the FWCP vision of thriving populations of fish and wildlife in watersheds that are functioning and sustainable."

A few facts about the Fish and Wildlife Compensation Program

- The Columbia Region includes the East and West Kootenay, the upper Columbia, and Valemount.
- The Fish and Wildlife Compensation Program funds conservation and enhancement projects in the Coastal, Columbia River and Peace River regions.
- In 2014, the FWCP will provide more than $7 million towards more than 80 fish and wildlife projects province-wide in its Coastal, Columbia and Peace regions.
- FWCP funds are provided by BC Hydro and managed in a partnership with the Province of British Columbia, Fisheries and Oceans Canada, First Nations and the public to conserve and enhance fish and wildlife impacted by the creation of BC Hydro dams.
- Funding applications are received each fall and reviewed annually in the Columbia Region by technical committees Projects are chosen based on technical merit, linkages to watershed-specific priorities, cost-effectiveness, level of partnership, and overall benefit to the FWCP's mandate and vision.
- For a full list and descriptions of all 2014 projects funded by the FWCP across the province, and information on how you can apply for funding next year, visit **fwcp.ca.**

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FWCP-Columbia 2014-2015 Project Summaries

FWCP-Columbia Fisheries Project Summaries[1]

Closed Loop Stream Enhancement (Seed Funding)
Poisson Consulting Ltd.
Closed Loop Stream Enhancement
$4,998
An innovative technology developed at UBC and commercially in use in several locations including Saskatoon and Rock Creek, Oregon can covert human wastewater into a pellet fertilizer (struvite) that has been used successfully as a slow release fertilizer to augment aquatic productivity as well as in commercial agricultural applications. This project will investigate the possibility of implementing this technology to reduce any negative impacts of community wastewater on aquatic systems, and provide a fertilizer source for use in augmenting aquatic productivity in target streams.

Kootenay Lake Exploitation Study
Poisson Consulting Ltd.
$8,442
This project will assess the natural and fishing mortality (angler exploitation) of large piscivorous rainbow trout and bull trout in Kootenay Lake, estimate the optimal angler exploitation rates for optimizing total catches and catches of trophy fish, and provide recommendations for similar projects on other large lakes. This will lead to increased understanding of the life history

[1] Some projects still have conditions attached, and these must be met before full FWCP funding can be awarded.

and status of the rainbow trout and bull trout populations on Kootenay Lake, as well as the relationship between current and optimal exploitation levels, and the relevance of the approach for other systems.

Upper Whatshan River Kokanee Assessment
Redfish Consulting Ltd.
$11,127
The goal of this project is to determine the abundance of kokanee spawners that inhabit the Whatshan Reservoir and spawn in the upper Whatshan River. The data will not only include an estimated number of kokanee spawners in the River, but also the length frequency distribution of spawners and their mean size.

Slocan Lake Bull Trout Redd Counts
Mountain Water Research
$25,360
Following a bull trout spawner abundance monitoring pilot study conducted in the fall of 2013 in selected tributaries to Slocan Lake, it was determined that the adult population could be indexed and monitored by counting their redds in the tributaries. This project plans to conduct a complete redd count survey of all the Slocan Lake tributaries, with the primary goal of estimating spawner distribution and abundance within Slocan Lake over a three year period. The work will also help evaluate the sustainability of current harvest levels, as well as the state of current ecological conditions in Slocan Lake.

Determination of Gerrard Rainbow Trout Parr Productivity and Capacity Required for Defining Management Reference Points: Specifically the Stocks' Compensatory Capacity
Redfish Consulting Ltd.
$10,340
The goal of this project is to provide informative, quantitative data on stock dynamics to assist with managing the "trophy" Gerrard rainbow trout fishery on Kootenay Lake. Defining the reproductive performance and capacity of this stock will assist in better understanding the rearing environment and the impact of the recreational fishery on this unique ecotype.

Feasibility of Improvement to Fish Access on Woodbury Creek
Redfish Consulting Ltd.
$17,417
The project will assess the feasibility of improving fish passage on Woodbury Creek for adfluvial bull trout from Kootenay Lake. Prior to the construction of an IPP on lower Woodbury Creek, adfluvial bull trout utilized this system for spawning and rearing without complication but recent observations and assessments indicate that adfluvial bull trout have difficulty ascending a partial obstruction 600 meters upstream of Kootenay Lake. Allowing fish passage would allow adfluvial bull trout the ability to utilize approximately an additional 10 km of habitat for spawning and rearing.

Bull Trout Spawner Escapement in the Salmo River Watershed 2014
Salmo Watershed Streamkeepers Society
$12,838
The monitoring of bull trout escapement in the Salmo River Watershed using a redd count survey mechanism has been used since 1998, and this method is a cost effective and efficient way to monitor bull trout populations. In 2010, 2011, and 2012, bull trout red counts indicated a population of 82, 80, and 46 spawning adults respectively.

The objectives of this project include ongoing bull trout escapement monitoring, and repeating annual bull trout redd counts in mid to late October (post spawning) in known spawning areas of in the Salmo River Watershed.

Salmo Watershed Fish Sustainability Plan - Update
Salmo Watershed Streamkeepers Society
$14,331
The SWSS intends to review with the Watershed Fish Sustainability Plan (WFSP) to assess the success achieved to-date in meeting its goals and objectives, and determine if existing ones need to be reinforced or new ones established. The work, that will provide a 'road map' to increased aquatic ecosystem health in this watershed, intends to protect Salmo River bull trout from further decline and to enhance the number to ensure a naturally self- sustaining population.

Gerrard Rainbow Trout Growth Rates with Kokanee Prey at Low Densities
Redfish Consulting Ltd.
$22,305
The goal of this project is to provide a summary of biological data on Gerrard rainbow trout so that fisheries managers can ensure sustainability of this trout population and the recreational fishery. This project will obtain basic biological data from a large sample of sport-caught Gerrard rainbow trout; determine Gerrard rainbow trout fecundity; and compare rainbow trout growth during periods of low and high prey density. The work will provide information that can be used to produce the optimal mix of predators and prey.

Sheep Creek Fertilization: The Food for Fish Enhancement Project
Salmo Watershed Streamkeepers Society
$28,395
This project adds nutrients to Sheep Creek, at a single release site, during the summer and early fall. These additions can increase benthic invertebrate numbers, which then increases the available food supply for juvenile bull trout in the Salmo River Watershed. Stream fertilization has shown positive results in several studies across B.C. where fish production is limited by 'bottom-up' processes.

Lower West Arm Rainbow Trout Redd Surveys
Masse Environmental Consultants Ltd.
$5,784
The project will identify current rainbow trout spawning areas in the lower West Arm of Kootenay Lake and initiate an index of spawner abundance. This work will help identify key spawning habitat areas in the West Arm and develop an index of abundance to support management decisions, particularly with respect to the fishery.

Protecting Our Waters from Aquatic Invasive Species
Central Kootenay Invasive Plant Committee
$41,190
The goals of this project are to protect the habitat quality, biodiversity and overall ecological integrity of priority water bodies in the west-central Kootenay, protect the viability of Basin fisheries from the impacts of highly invasive aquatic invasive species (e.g. zebra and quagga mussels, Eurasian water milfoil, and flowering rush), and support cross-border and provincial initiatives.

It will provide information on the current status of aquatic invasive species in priority water bodies, which will assist land managers in collaboratively developing aquatic invasive species management plans.

Trout Lake Bull Trout Redd Surveys
Masse Environmental Consultants Ltd.
$26,142
This is year one of a proposed three-year project (future FWCP funding to be confirmed) to assess the feasibility of using index streams to track population abundance of adfluvial bull trout utilizing Trout Lake. It will also identify restoration and conservation opportunities encountered incidentally such as areas of isolated habitat (e.g. culverts and debris jams), areas of bank erosion, de-vegetated riparian areas, road deactivation/stabilization opportunities and areas potentially appropriate for the installation of large woody debris and other habitat enhancement structures to address a lack of rearing habitat.

Exploring the History of Fish-derived Nutrient Supplies in Arrow Lakes Reservoir
Okanagan Nation Alliance
$12,160
The goal of this project is to research the historical range of sockeye salmon in the Arrow Lakes Reservoir prior to dam construction, the ecological consequences of sockeye salmon extirpation, and the cultural understanding of the resource to First Nations peoples in the region.

Deer Creek Drawdown Zone Fish Habitat Enhancement, A pilot Study for Lower Arrow Lake Tributary Access Improvements
Okanagan Nation Alliance
$112,805
Deer Creek, within the drawdown zone of Arrow Lakes Reservoir, has been identified as having limited availability of deep pools and spawning habitat. The goals of this project are to enhance and improve fish habitat in Deer Creek, especially in the drawdown zone affected by water management on the Arrow Lakes Reservoir.

Pass (Norns) Creek Fish Habitat Enhancement Structure Maintenance 2014-2015
Okanagan Nation Alliance
$29,981
Project objectives are to maintain select fish habitat structures (outcomes of a 2013-2014 monitoring study), and eroding rip-rap bank adjacent to the fairgrounds. Maintaining stability and function are required to ensure success of long-term fish habitat enhancement projects, especially for structures in Pass Creek which are closely linked to the Columbia River fisheries.

Lizard Creek Riparian Restoration Pilot Project
Elk River Watershed Alliance
$14,566
The project aims to reduce future erosion and decrease sedimentation by exploring the use of innovative riparian restoration techniques (such as wattle fencing, live bank protection, riparian planting of seedlings and cutting, live palisades, modified brush layers and natural erosion cloth) at two restoration sites in Lizard Creek adjacent to the adjacent Mount Fernie Provincial Park Campground. The work will provide more stable banks and in-stream shade for fish habitat, as well as increased learning opportunities for visitors to the Park.

FWCP-Columbia Wildlife Project Summaries[2]

Revelstoke Greenbelt Riparian Restoration Program
Kingbird Biological Consultants Ltd.
$9,238
This project aims to restore native vegetation to a patch of old-field riparian habitat, presently maturing as a Cottonwood stand with reed canary grass understory, on a relatively high-elevation strip of land adjacent to the Downie Marsh, near the Columbia River. It is a small-scale, community-supported (i.e. with a dedicated volunteer base) habitat restoration project on an approved target area within BC Hydro-owned land in the drawdown zone. The work involves planting native shrubs and controlling reed canary grass at a site that was agricultural land prior to inundation.

Reptile-at-Risk Conservation Project
Jakob Dulisse and Marlene Machmer
$15,000
The North American Racer and the northern Rubber have experienced significant increases in levels of local road mortality associated with elevated traffic levels on primary and secondary roads in the Waneta Expansion Project area, south of Trail. The goals of this work include determining if hibernacula sites are limiting for reptile populations, protect or restore important local hibernacula, determine summer movement patterns, and promote greater awareness and stewardship of reptile species-at-risk.

Kootenay Lynx Research – Scientific Publication, Extension and Dissemination
Aspen Wildlife Research Inc.
$1,500
This project will generate four scientific publication submissions following an extensive study of lynx ecology, habitat, distribution and connectivity, previously funded by FWCP. It will help ensure that the research and the results are extended to a wider audience, and that they are applied to science-based conservation planning – locally, provincially, and elsewhere.

[2] Some projects still have conditions attached, and these must be met before full FWCP funding can be awarded

North Waldo Grassland Ecosystem Restoration Post-Treatment Monitoring and Evaluation
Rocky Mountain Trench Natural Resources Society
$8,920
The purpose of this project is to monitor ecosystem restoration treatments completed in the North Waldo Range Unit from 2007 to 2012 that were initiated to restore grassland and open forest ecosystems. Collection of these data will verify whether objectives in enhancing ungulate forage values are being met, and help improve adaptive management practices.

Rabbit Mountain Bighorn Sheep Ecosystem Restoration
Rocky Mountain Trench Natural Resources Society
$58,725
Thinning and broadcast burning is required to establish open range and open forest on the project site, which is adjacent to Highway 3/95, south of the village of Elko. The thinning and burning operations will help maintain or increase the species richness and population density, of endemic plant and wildlife species of the site, which has been rated as class 5 winter-range for moose, Mountain Goat and Bighorn Sheep, class 1-2 for elk, and class 1-3 for Whitetail and Mule Deer.

Marsh Bird Productivity and Conservation in Revelstoke Reach
Cooper Beauchesne and Associates Ltd.
$33,322
The goals of this research project are to better understand the nesting habitats and populations of Pied-billed Grebes, Virginia Rails, and American Bitterns, as well as describe the patterns of the relative abundance of Soras, among the Revelstoke Reach wetlands. This work will provide valuable information that can be used to develop future habitat-based actions for these species.

Predicting Grizzly Bear Food – Huckleberries and Trend-Monitoring
Birchdale Ecological
$22,319
Huckleberries are the major food resource for Grizzly Bears in the region, driving population productivity, yet there are currently no estimates of their abundance, distribution, or trend-through-fire regimes or timber harvest cycles. This project aims to better understand this dominant food resource because Grizzly Bear conservation status and management is ultimately influenced by both bottom-up (food resources) and top-down (human-caused mortality) forces. The work will result in improved habitat quality management and help inform recovery management.

Revelstoke Caribou Maternity Pen Project
Revelstoke Caribou Rearing in the Wild
$80,000
This is year one of a proposed five-year project (future FWCP funding to be confirmed) to determine if maternity penning of Mountain Caribou can improve the survival of captive-reared calves in the Columbia Mountains Ecosystem. It also aims to, ultimately, reduce the rate of decline and increase the size of the Columbia North caribou subpopulation by increasing calf survival.

Abundance and Connectivity of Wolverine (Gulo Gulo) in the Kootenay Region
Seepanee Ecological Consulting/Grylloblatta Ecological Consulting
$40,405
This is the fourth year of an ongoing sampling for wolverine in the Valhalla Mountains in the West Kootenay region using non-invasive genetic techniques. The goals of the project are to assess the abundance, connectivity and broad-scale habitat use of the blue-listed wolverine within the mountain ranges, with the results being extended to managers on an ongoing basis to guide sustainable harvest management and forest management practices.

Identifying and Securing Hibernation Habitat in the Southern Columbia Basin for Bats, in Response to the Risk of White Nose Syndrome
WCS Wildlife Conservation Society Canada
$30,300
This is year three of a proposed four-year project (future FWCP funding to be confirmed) to identify and secure hibernation habitat for bats, while assessing species-specific risk of White Nose Syndrome die-back based on ecological and behavioural characteristics of overwintering bats. Risk assessment allows for appropriate management decisions and allocation of limited

resources. As hibernacula are discovered, they can inform further efforts to locate winter habitats, and significant hibernacula can be protected through measures such as gating.

Identifying Wolverine Populations and Fracture Zones in the Columbia Region
Province of British Columbia, Ministry of Environment
$7,300
The southern Columbia Mountain population of wolverines is of international significance because there is a likely linkage, and thus an important genetic connection, to the recovering threatened population of wolverines in Idaho and Montana. Being restricted to the mountains, this population occupies a relatively narrow peninsular extension of the much broader northern wolverine population.

This is year one of a proposed four-year project (future FWCP funding to be confirmed) that, ultimately, aims to identify functional populations of wolverines in the Columbia Region and the fracture zones that reduce gene flow among them. This information will allow for better identification of potential conservation efforts to ensure population sustainability in this region.

Meadow Creek Bear Education and Management Project
BC Conservation Foundation
$46,179
This is year four of a proposed five-year project (future FWCP funding to be confirmed) to create a model of human/Grizzly Bear coexistence in the Duncan and Lardeau valleys. The goal is to reduce Grizzly Bear conflicts with people (especially in and around Meadow Creek and the Meadow Creek Kokanee Spawning Channel – MCSC) and promote Grizzly Bear survival, while increasing community tolerance of bears. This will allow Grizzly Bears access to Kokanee at the MCSC, movement in riparian and low-elevation habitats in the project area, and travel between the Selkirk and Purcell Mountains.

Friends of Kootenay Lake Harrop Wetlands Restoration Project
West Kootenay Community EcoSociety
$8,172
This project will restore and enhance two degraded ephemeral wetland pools, in the Harrop portion of Sunshine Bay Regional Park, that will in turn, provide habitat for a variety of species, including the Western Painted Turtle, Western Toad, and Great Blue Heron. Activities include planting native plants to replace those that have been removed by both disturbance and illegal manual clearing of vegetation on the foreshore area. It will also provide opportunities for community members to take action, and create long-lasting environmental protection and enhancement of a critical wetland area.

Advancing Wetland Stewardship in the West Kootenay
British Columbia Wildlife Federation (BCWF)
$20,000
This is year three of a proposed five-year project (future FWCP funding to be confirmed) delivering programming in the West Kootenay area to increase capacity of conservation stewards to restore and protect wetlands. In 2014, the BCWF will host two targeted workshops (Duncan-Lardeau and Lower Arrow), undertake site visits to potential sites for wetland restoration, provide recommendations with support of resource specialists, and provide support to a watershed-mapping initiative in the Slocan Valley.

Ecology of a Focal wetland Species: the Western Painted Turtle in the Creston Valley
VAST Resource Solutions Inc.
$56,000
This is year two of a proposed three-year project (future FWCP funding to be confirmed) to better understand the status of turtle populations in the Creston Valley that will inform local and regional land management activities to conserve this species of conservation concern. Specific objectives for this year include detailing movement patterns, refining the assessment of the populations, identifying key road-crossing sites, identify important nesting habitats, and augment or create basking habitats.

Management and Restoration of Invasive Plants in Protected Areas
East Kootenay Invasive Plant Council
$25,000
The objective of the Management and Restoration of Invasive Plants in Protected Areas (MRIPPA) Program is to mitigate the negative impacts of invasive plants on riparian/wetland, and upland/dryland Crown lands adjacent to FWCP, Conservation, and

private lands. This work will help reduce pressure from neighbouring invasive species populations, increase wildlife habitat conservation, and reduce long-term costs from potential future invasive species management actions.

Movement, Habitat Use and Demographics of Western Screech Owls in the West Kootenay: Publication of Results
Seepanee Ecological Consulting and Artemis Wildlife Consultants
$3,300
This is the final year of a five-year project. The goal of this year is to publish data gathered during radio-telemetry of adult and juvenile Western Screech Owls in the West Kootenay region (2009-2012) in combination with similar data from the Shuswap (2005-2008). The data will augment existing species knowledge and guide regional land management for species conservation in riparian zones.

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