



environmental research associates

FISH & WILDLIFE COMPENSATION PROGRAM COLUMBIA REGION STRATEGIC PROJECT REVIEW

EXECUTIVE SUMMARY

Prepared by LGL Limited environmental research associates

BACKGROUND

A desktop strategic project review was conducted of all Fish and Wildlife Compensation Program (FWCP) Columbia Region annual and ongoing and grant-based projects funded from fiscal year 2013-14 (FY14) to fiscal year 2016-17 (FY17) to assist in:

- 1) gauging FWCP Columbia's progress towards achieving Action Plan priorities;
- 2) identifying knowledge gaps within the review period that will inform updates to Action Plans; and
- 3) identifying priorities and recommendations for future investments.

Investments made prior to FY14 and subsequent to FY17 were not included in this review and therefore may help rectify several of the knowledge gaps and associated recommendations made herein. The strategic review also took a comprehensive and inclusive look into how Action Plan priorities were being addressed by breaking down larger funded programs into discrete tasks. An evaluation of individual project effectiveness or "biological auditing" of specific projects was not considered given the number of projects to review and the associated time and budget constraints. Finally, a three-year program summary for the FWCP Upper Kootenay Ecosystem Enhancement Program (UKEEP), which funded specific projects in the East Kootenay region from FY15 to FY17, was also included in the strategic review.

SUMMARY OF RESULTS

- A total of 469 FWCP projects were reviewed during the four-year period. A total of 445 FWCP Columbia annual and ongoing projects (n=336) and grant-based projects (n=109) were conducted during the four-year review period; 197 of which were fish-related and 248 wildlife-related.
- The FWCP Columbia Region invested \$22,704,307 during this period, \$10,681,466 of which targeted fish and \$12,022,841 targeted wildlife.
- All projects primarily aligned with one of the six FWCP Columbia Region Action Plans and most also aligned with at least one other plan.
- Ninety-seven of the 211 Actions, from the six Action Plans, were addressed at least once during the review period, including Priority 1, 2 and 3 rated Actions.
- An additional 24 UKEEP projects were reviewed from Fiscal Year 2014-15 (FY15) to 2016-17 (FY17), these were comprised of eight fish and 16 wildlife projects totalling \$1,058,626 over three years.

The FWCP's Columbia Region was successful in meeting its strategic objectives by funding projects to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams. Each of the six 2014

Action Plans was addressed during the review period, to varying degrees, which resulted in certain actions being met and others remaining unaddressed.

Overall, key knowledge gaps identified during the review period include:

- The lack of projects, especially multi-year projects, in the North Columbia Region, including the Wildlife Extension Area.
- Certain focal areas for each ecosystem Action Plan received less attention compared to other areas;
- Research and Information Acquisition type projects received less funding compared to projects that addressed Habitat-based or Monitoring and Evaluation actions;
- Projects that addressed actions in the Small Lakes and Streams Action Plans received considerably less funding than projects that addressed Actions under the Large Lakes, Riparian and Wetlands, Upland/Dryland and Species of Interest Action Plans.

Several recommendations are presented to address these key knowledge gaps and can assist the FWCP Columbia Board when updating Action Plans and identifying future project investment criteria.

SUMMARY OF RESULTS BY ACTION PLAN

LARGE LAKES ACTION PLAN

The Large Lakes Action Plan had a total of **188 annual and ongoing projects (n=150) and grant-based projects (n=38)** aligned with it: 178 projects pertained to fish, and 10 projects addressed wildlife.

Project funding: Of these 188 projects, 177 were primarily aligned with the Large Lakes Action Plan (40% of all FWCP projects), resulting in **\$9,596,070 of FWCP funds invested, 42% of the total FWCP funding** spent from FY14 to FY17. Primary aligned projects targeted Kootenay Lake (48%), Arrow Lakes Reservoir (45%) and other Large Lakes (8%).

Priority projects: Thirty-five of the 52 Large Lakes Actions were addressed (67%), including 84% of the Priority 1 Actions. The 17 Actions not addressed were of all Priority ratings (1, 2 and 3).

Project types: Twenty-three per cent of all Large Lakes projects aligned with the Research and Information Acquisition category, 52% with Habitat-based, 8% with Species-based, 2% with Land Securement and 68% aligned with Monitoring and Evaluation.

Key knowledge gaps: Three of five priority Large Lakes not addressed (i.e., Duncan, Kinbasket and Revelstoke Reservoir), plus the majority of projects were in the West Kootenay (97%). Several Actions of various Priority ratings were not addressed in the suite of projects reviewed, including all Actions for Status Indicator #6, Burbot.

SMALL LAKES ACTION PLAN

The Small Lakes Action Plan had a total of **23 annual and ongoing projects (n=12) and grant-based projects (n=11)** aligned with it; five projects/projects pertained to fish, and 18 projects addressed wildlife.

Project funding: Fourteen of these projects were primarily aligned with the Small Lakes Action Plan (3% of all FWCP projects), resulting in **\$427,543 of FWCP funds invested; 2% of the total FWCP funding** spent from FY14 to FY17.

Priority projects: Although minimally for some, primary aligned projects targeted all six prioritized small lakes: Summit Lake (27%), Staubert, Box, Rosebud and Elizabeth Lakes (12%), Bear Lake (8%) and other non-prioritized Small Lakes (19%). Six of the 16 Small Lakes Actions were addressed (33%), including 29% of the Priority 1 Actions; the ten Actions not addressed were of all Priority ratings (1, 2 and 3).

Project types: Fifty-seven per cent of all Small Lakes projects aligned with the Research and Information Acquisition category, 83% with Habitat-based, 9% with Species-based, 13% with Land Securement and 70% aligned with Monitoring and Evaluation.

Key knowledge gaps: Very few fish or fish habitat related Small Lakes projects (e.g., no projects targeting Rainbow Trout insectivorous-SL) occurred, the investment of FWCP funding and number of projects was low compared to other ecosystems, and several Actions of various Priority ratings were not addressed.

STREAMS ACTION PLAN

The Streams Action Plan had a total of **78 annual and ongoing projects (n=39) and grant-based projects (n=39)** aligned with it; 72 projects pertained to fish, and 6 projects addressed wildlife.

Project funding: Nineteen of these projects were primarily aligned with the Streams Action Plan (4% of all FWCP projects), resulting in **\$511,013 of FWCP funds invested or 2% of the total FWCP funding** spent from FY14 to FY17.

Priority projects: Primary aligned projects targeted Salmo River (58%), Columbia River downstream of Keenleyside Dam (21%), Slocan and Elk River (5% each), and other non-prioritized Streams (21%). Seven of the 12 Streams Actions were addressed (58%), including 50% of the Priority 1 Actions; the five Actions not addressed were of all Priority ratings (1, 2 and 3).

Project types: Twenty-eight per cent of all Streams projects aligned with the Research and Information Acquisition category, 48% with Habitat-based, 9% with Species-based, 3% with Land Securement and 56% aligned with Monitoring and Evaluation.

Key knowledge gaps: There was a lower number of projects addressing Priority Actions in the Streams Action Plan compared to other ecosystems; 11 of the 15 priority Streams were not addressed in the suite of projects reviewed and several Actions of various Priority ratings were not addressed.

RIPARIAN AND WETLANDS ACTION PLAN

The Riparian and Wetlands Action Plan had a total of **67 annual and ongoing projects (n=42) and grant-based projects (n=25)** aligned with it; 2 projects pertained to fish, and 65 projects addressed wildlife.

Project funding: Forty-four projects were primarily aligned with the Riparian and Wetland Action Plan (10% of all FWCP projects), resulting in **\$4,374,809 of FWCP funds invested; 19% of the total FWCP funding** spent from FY14 to FY17.

Priority projects: Primary aligned projects targeted Duncan/Lardeau and Revelstoke Valleys (38%), Creston Valley (24%), Upper Columbia Valley (9%), Slocan Valley (9%) Elk Valley (7%), multiple valleys (13%) and no focal area association (23%); Robson Valley was not addressed. Seventeen of the 45 Riparian and Wetland Actions were addressed (38%), including 42% of the Priority 1 Actions. The 28 Actions not addressed were of all Priority ratings (1, 2 and 3).

Project types: Seven per cent of all Riparian and Wetland projects aligned with the Research and Information Acquisition category, 68% with Habitat-based, 0% with Species-based, 18% with Land Securement and 7% aligned with Monitoring and Evaluation.

Key knowledge gaps: Very few fish or fish habitat related projects, one of six focal areas was not addressed, several Actions of various Priority ratings were not addressed and there was limited (to no) coverage of key species such as Western Screech-owl and Yellow-breasted Chat.

UPLAND AND DRYLAND ACTION PLAN

The Upland and Dryland Action Plan had a total of **152 annual and ongoing projects (n=137) and grant-based projects (n=15)** aligned with it; all projects pertained to wildlife.

Project funding: Of these 152 projects, 134 were primarily aligned with the Upland / Dryland Action Plan (30% of all FWCP projects), resulting in **\$4,899,970 of FWCP funds invested; 22% of the total FWCP funding** spent from FY14 to FY17.

Priority projects: Primary aligned projects targeted Fire-maintained Ecosystems (69%), Ungulate Winter Range (9%) and "All systems" (no priority ecosystem specified; 22%). Seventeen of the 23 Upland/Dryland Actions were addressed (74%), including 92% of the Priority 1 Actions; the six Actions not addressed were both Priority 1 and Priority 2.

Project types: Two per cent of all Upland & Dryland projects aligned with the Research and Information Acquisition category, 78% with Habitat-based, 3% with Species-based, 4% with Land Securement and 13% aligned with Monitoring and Evaluation.

Key knowledge gaps: Two of four priority ecosystems were not addressed (i.e., old growth and deciduous forest), several Actions (Priority ratings 1 and 2) were not addressed, and there was limited coverage of species such as American Badger, which is identified as a Recovery species.

SPECIES OF INTEREST ACTION PLAN

The Species of Interest Action Plan had a total of **224 annual and ongoing projects (n=148) and grant-based projects (n=76)** aligned with it; 113 projects pertained to fish, and 111 projects addressed wildlife.

Project funding: Fifty-seven projects were primarily aligned with the Species of Interest Action Plan (13% of all FWCP projects), resulting in **\$2,894,901 of FWCP funds invested; 13% of the total FWCP funding** spent from FY14 to FY17.

Priority projects: A total of **52 species were targeted:** six Recovery, 24 Focal, 13 Inventory, plus nine additional species not listed in the Species of Interest Action Plan. Fifteen of the 63 Species of Interest Actions were addressed (24%), including 41% of the Priority 1 Actions; the 48 Actions not addressed were of all Priority ratings (1 and 2).

Project types: Twenty-two per cent of all Species of Interest projects aligned with the Research and Information Acquisition category, 26% with Habitat-based, <10% with Species-based, 6% with Land Securement and 35% aligned with Monitoring and Evaluation.

Key knowledge gaps: Three quarters of the priority Actions were not addressed, no investments were made for the Recovery species Yellow-breasted Chat, plus few investments were made for Recovery species Western Screech-owl and American Badger.

UPPER KOOTENAY ECOSYSTEM ENHANCEMENT PROGRAM

The Upper Kootenay Ecosystem Enhancement Program (UKEEP) is a five-year program (FY15 to FY19) that will be comprehensively assessed in 2019 to review its own program goals and objectives and to help further inform FWCP Columbia Action Plan updates.

Project funding: Twenty-four UKEEP projects were reviewed, eight fish and 16 wildlife, totaling \$1,058,626 invested.

Priority projects: All projects primarily aligned with a UKEEP Action Plan: Lakes (n=2), Streams (n=6), Wetland and Riparian Areas (n=2), Upland and Dryland (n=8), and Species of Interest (n=6). Sixteen UKEEP Actions were addressed with most projects being wildlife-related and habitat based. Thirteen fish and wildlife species were studied as part of UKEEP projects, including key studies for Bull Trout, Long-billed Curlew, Mule Deer and amphibians.

Key metrics for this program from FY15 to FY17 included habitat mapping of Koocanusa Reservoir, eight additional stream projects in the East Kootenay, restoration of 37 hectares of wetland habitat and over 500 hectares of upland habitat, and one additional Species of Interest (Long-billed Curlew) studied for the Region.