

Bridge River Water Use Plan Monitoring Program and Physical Works

Annual Report: 2020

Implementation Period: February 2019 to January 2020

- **BRGMON-1 Lower Bridge River Aquatic Monitoring**
- **BRGMON-2 Carpenter Reservoir Riparian Vegetation Monitoring**
- **BRGMON-3 Lower Bridge River Adult Salmon and Steelhead Enumeration**
- **BRGMON-4 Carpenter Reservoir and Middle Bridge Fish Habitat and Population Monitoring**
- **BRGMON-5 Downton Reservoir Riparian Vegetation Monitoring**
- **BRGMON-6 Seton Lake Aquatic Productivity Monitoring**
- **BRGMON-7 Downton Reservoir Fish Habitat and Population Monitoring**
- **BRGMON-8 Seton Lake Resident Fish Habitat and Population Monitoring**
- **BRGMON-9 Seton River Habitat and Fish Monitoring**
- **BRGMON-10 Carpenter Reservoir Productivity Model Validation and Refinement**
- **BRGMON-11A Lower Bridge River Riparian Vegetation Monitoring**
- **BRGMON-11B Lower Bridge River Riverine Wildlife Monitoring**
- **BRGMON-12 Bridge-Seton Metals and Contaminant Monitoring Program**
- **BRGMON-13 Seton Sockeye Salmon Smolts Monitoring Program**
- **BRGMON-14 Effectiveness of Cayoosh Flow Dilution, Dam Operation, and Fishway Passage on Delay and Survival of Upstream Migration of Salmon in the Seton-Anderson Watershed**
- **BRGMON-15 Seton Lake Erosion Mitigation Program**
- **BRGMON-16 Lower Bridge River Spiritual and Cultural Value Monitoring**
- **BRGWORKS-1 Carpenter Revegetation**
- **BRGWORKS-2 Seton Lake Erosion**

For Water Licences FWL 126279, 126278, 126280, 126281, 126286, 126287, 126288, 126282, 126283, 12680, 126250 and 126259.

February 28, 2020

BC Hydro Bridge River Project Water Use Plan Monitoring Programs and Physical Works Annual Report: 2020

1 Introduction

This document represents a summary of the status and the results of the Bridge River Water Use Plan (WUP) monitoring programs and physical works to January 31, 2020, as per the Bridge River Order under the *Water Act*, dated March 30, 2011. There are 17 monitoring programs and two physical works.

2 Status

The following table outlines the dates that Terms of Reference (TOR) for the Bridge River WUP monitoring programs and physical works were submitted to and approved by the Comptroller of Water Rights (CWR).

Table: 2-1: Dates of Bridge River WUP TOR Submissions and Approvals by the CWR

Monitoring Program & Physical Works TOR	Order Clause	Original ToR Submission		Most Recent ToR Resubmission	
		Date Submitted	Date Approved	Date Submitted	Date Approved
BRGMON-1 Lower Bridge River Aquatic Monitoring	Schedule A.9	Jan 30, 2012	Apr 12, 2012	Nov 30, 2018	Feb 05, 2019
BRGMON-2 Carpenter Reservoir Riparian Vegetation Monitoring	Schedule A.6	Jan 30, 2012	Jun 26, 2012	Mar 06, 2017	Mar 21, 2017
BRGMON-3 Lower Bridge River Adult Salmon and Steelhead Enumeration	Schedule A.10	Jan 30, 2012	Feb 07, 2012	Nov 30, 2018	Jan 02, 2019
BRGMON-4 Carpenter Reservoir and Middle Bridge Fish Habitat and Population Monitoring	Schedule A.7	Jan 30, 2012	Jun 06, 2012	Mar 23, 2015	May 01, 2015
BRGMON-5 Downton Reservoir Riparian Vegetation Monitoring	Schedule A.2	Mar 30, 2012	Jul 11, 2012		
BRGMON-6 Seton Lake Aquatic Productivity Monitoring	Schedule A.14	Mar 14, 2014	Apr 23, 2014		
BRGMON-7 Downton Reservoir Fish Habitat and Population Monitoring	Schedule A.3	Jan 30, 2012	Jun 06, 2012	Mar 23, 2015	Jun 02, 2015
BRGMON-8 Seton Lake Resident Fish Habitat and Population Monitoring	Schedule A.15	Jan 30, 2012	Jun 07, 2012	Mar 23, 2015	May 01, 2015
BRGMON-9 Seton River Habitat and Fish Monitoring	Schedule A.16	Jan 30, 2012	Jun 07, 2012	Nov 30, 2018	Feb 07, 2019
BRGMON-10 Carpenter Reservoir Productivity Model Validation and Refinement	Schedule A.5	Mar 14, 2014	May 01, 2014	Oct 21, 2014	Nov 04, 2014
BRGMON-11 Lower Bridge River Riparian Vegetation Monitoring	Schedule A.8	Mar 30, 2012	Jun 27, 2012		
BRGMON-11 A Lower Bridge River Riparian Vegetation Monitoring	Schedule A.8	Nov 30, 2018	Jan 25, 2019		
BRGMON-11 B Lower Bridge River Riverine Wildlife Monitoring	Schedule A.8	Nov 30, 2018	Jan 25, 2019		
BRGMON-12 Bridge-Seton Metals and Contaminant Monitoring Program	Schedule A.1	Mar 30, 2012	Jul 24, 2012		
BRGMON-13 Seton Sockeye Salmon Smolts Monitoring Program	Schedule A.17	Jan 30, 2012	Apr 05, 2012	Feb 07, 2020	Feb 21, 2020
BRGMON-14 Effectiveness of Cayoosh Flow Dilution, Dam Operation, and Fishway Passage on Delay and Survival of Upstream Migration of Salmon in the Seton-Anderson Watershed	Schedule A.18	Jan 30, 2012	Jun 26, 2012	Nov 30, 2017	Dec 15, 2017
BRGMON-15 Seton Lake Erosion Mitigation Program	Schedule A.13	Mar 30, 2012	Jul 13, 2012	Apr 24, 2018	Jun 06, 2018
BRGMON-16 Lower Bridge River Spiritual and Cultural Value Monitoring	Schedule A.11	Mar 30, 2012	Jul 26, 2012	Mar 19, 2013	Apr 08, 2013
BRGWORKS-1 Carpenter Revegetation	Schedule A.4	Mar 14, 2014	May 02, 2014	Mar 06, 2017	Mar 21, 2017
BRGWORKS-2 Seton Lake Erosion	Schedule A.12	Nov 29, 2019	Dec 10, 2019		

3 Schedule

The following table outlines the current schedule for the monitoring programs and physical works being delivered for the Bridge River WUP.

Table 3-1: Monitoring and Physical Works Schedule as of January 31, 2020

Monitoring Programs	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	WLR YR1	WLR YR2	WLR YR3	WLR YR4	WLR YR5	WLR YR6	WLR YR7	WLR YR8	WLR YR9	WLR YR10	WLR YR11
BRGMON-1 Lower Bridge River Aquatic Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	■	■	
BRGMON-2 Carpenter Reservoir Riparian Vegetation Monitoring		✓	✓	✓	✓	✓	✓	✓	■	■	■
BRGMON-3 Lower Bridge River Adult Salmon and Steelhead Enumeration	✓	✓	✓	✓	✓	✓	✓	✓	■	■	
BRGMON-4 Carpenter Reservoir and Middle Bridge Fish Habitat and Population Monitoring		✓	✓	✓	✓	✓	✓	✓	■	■	■
BRGMON-5 Downton Reservoir Riparian Vegetation Monitoring		✓									■
BRGMON-6 Seton Lake Aquatic Productivity Monitoring			✓	✓	✓	✓F					
BRGMON-7 Downton Reservoir Fish Habitat and Population Monitoring		✓	✓	✓	✓	✓	✓	✓	■	■	■
BRGMON-8 Seton Lake Resident Fish Habitat and Population Monitoring		✓	✓	✓	✓	✓	✓	✓	■	■	■
BRGMON-9 Seton River Habitat and Fish Monitoring		✓	✓	✓	✓	✓	✓	✓	■	■	■
BRGMON-10 Carpenter Reservoir Productivity Model Validation and Refinement				✓	✓	✓F					
BRGMON-11A Lower Bridge River Riparian Vegetation Monitoring	✓				✓					■	
BRGMON-11B Lower Bridge River Riverine Wildlife Monitoring	✓	✓	✓		✓		✓		■		
BRGMON-12 Bridge-Seton Metals and Contaminant Monitoring Program		✓	✓	✓	✓F						
BRGMON-13 Seton Sockeye Salmon Smolts Monitoring Program	✓	✓	✓	✓	x	✓	✓	✓	■	■	
BRGMON-14 Effectiveness of Cayoosh Flow Dilution, Dam Operation, and Fishway Passage on Delay and Survival of Upstream Migration of Salmon in the Seton-Anderson Watershed	✓	✓	✓	✓	✓	✓	✓F				
BRGMON-15 Seton Lake Erosion Mitigation Program		✓				x	✓	✓	■	■	■
BRGMON-16 Lower Bridge River Spiritual and Cultural Value Monitoring			✓	✓	✓	✓	✓F				
Physical Works											
BRGWORKS-1 Carpenter Revegetation			✓	✓	✓	✓		✓	■		
BRGWORKS-2 Seton Erosion									■	■	■

Legend: ■ = Program to be undertaken/initiated in identified year
 ✓ = Program completed for the year
 x = Program delayed/postponed
 ✓F = All field work for this project is complete. No further field work is planned.

4 Monitoring Programs and Physical Works Terms of Reference

The monitoring programs and physical works being implemented under the Bridge River WUP are described in TOR. These TORs and the reports for work completed to date can be found here:

http://www.BCHydro.com/about/sustainability/conservation/water_use_planning/lower_mainland/bridge_river.html

5 Status of Monitoring Programs

5.1 BRGMON-1 Lower Bridge River Aquatic Monitoring

The objective of the BRGMON-1 monitoring is to quantify the response of key physical and biological indicators in the Lower Bridge River to different instream flow regimes to determine which variables explain any changes in aquatic productivity.

This program was initiated in August 2012 and will be carried out annually for ten years.

From 2016 to 2018, with CWR approval, BC Hydro implemented modified operations at Downton Reservoir which resulted in discharges down the Lower Bridge River during freshet that were higher than the targets under the WUP Ordered operations. During these modified operations, BC Hydro added additional modified operations monitoring that was complementary to BRGMON-1 WUP monitoring and the results of both programs are integrated into the same report.

Though there were no high flows in 2019, additional non-WUP monitoring continued in 2019 including extending the aquatic productivity measurements and standing stock surveys into Reach 1 of the Lower Bridge River, to better enable comparisons against possible future high flow years. Additionally, mitigation effectiveness monitoring was carried out at Applesprings and Bluenose to assess salmonid habitat use of these sites.

The monitoring report from 2018 (Year 7) dated July 25, 2019 is attached.

The 2019 (Year 8) report is in draft and under review, and will be included in the 2021 Annual Report.

5.2 BRGMON-2 Carpenter Reservoir Riparian Vegetation Monitoring

The objectives of the BRGMON-2 monitoring program are:

- To monitor the effects of Carpenter Reservoir operations on vegetation response (including substrates and natural revegetation) within the drawdown zone of Carpenter Reservoir, and
- To monitor the effectiveness of revegetation treatments in the Gun Creek Fan and adjacent area, completed under the physical works program BRGWORKS-1.

This program was initiated in April 2013 and will be carried out at intervals over ten years.

The monitoring reports are attached for the following years (there was no field work in 2014, Year 2):

- 2018 (Year 6) dated February 19, 2019 .

The 2019 report is in draft and under review, and will be submitted with the 2021 Annual Report.

5.3 BRGMON-3 Lower Bridge River Adult Salmon and Steelhead Enumeration

The main objective of the BRGMON-3 monitoring program is to provide rigorous estimates of the abundance and distribution of salmon and steelhead spawning in the Lower Bridge River. The BRGMON-3 program will also address data gaps associated spawning timing, spawning distribution, and spawning habitat quality and quantity.

This monitoring program was initiated in August 2012 and is being implemented annually for ten years.

From 2016 to 2018, with CWR approval, BC Hydro implemented modified operations at Downton Reservoir which has resulted in discharges down the Lower Bridge river during freshet that were higher than the targets under the WUP Ordered operations. During these modified operations, BC Hydro added additional modified operations monitoring that was complementary to BRGMON-3 WUP monitoring and the results of both programs are integrated into the same report.

Though there were no high flows in 2019, additional non-WUP monitoring continued in 2019 including an increased effort associated with stream walks and repeat habitat surveys.

The 2018 (Year 7) monitoring report dated July 10, 2019 is attached.

The 2019 (Year 8) report is in draft and under review and will be included in the 2021 Annual Report.

5.4 BRGMON-4 Carpenter Reservoir and Middle Bridge Fish Habitat and Population Monitoring

The objective of this monitoring program is to collect comprehensive information on the life history, biological characteristics, distribution, abundance and composition of the fish community in Carpenter Reservoir and Middle Bridge River to determine whether there is a relationship between operating parameters and productivity.

This monitoring program was initiated in October 2012 with fieldwork starting in 2013 and will be carried out annually over ten years.

The 2018 (Year 6) monitoring report dated August 16, 2019 is attached. The 2019 (Year 7) report is in draft and under review, and will be included in the 2021 Annual Report.

5.5 BRGMON-5 Downton Reservoir Riparian Vegetation Monitoring

The objective of this monitoring program is to document the response of the riparian community on the Upper Bridge River Fan and in the immediate adjacent drawdown zone of Downton Reservoir to determine if Downton operations have

had any negative impact on riparian vegetation and the overall quality of the habitat for wildlife in the area.

This monitoring program was implemented in 2013 and will be implemented again in 2022.

Since 2016, with CWR approval, BC Hydro has implemented modified operations at Downton Reservoir which has decreased Downton's maximum reservoir elevation by 16 vertical metres from 750 m to 734 m. In 2018, BC Hydro implemented vegetation monitoring in the zone between 734m and 750m. This additional year was not included in the WUP expenditures.

The 2018 non-WUP draft report is currently under review and will be included in the 2021 Annual Report.

5.6 BRGMON-6 Seton Lake Aquatic Productivity Monitoring

The objective of this monitoring program was to document the impacts of Carpenter Lake Diversion on the biological productivity of Seton Lake Reservoir. Sediment cores taken from the bottom of Seton Lake were analyzed for biological, physical, and chemical parameters to reconstruct past environmental conditions in the aquatic ecosystem, thereby informing whether future operational decisions might be made to potentially mitigate impacts of the diversion.

This monitoring program was initiated in 2014 and was carried out annually over three years. The final field season was completed in 2016.

The 2016 (Year 3) final monitoring report (which includes the comprehensive review of the program) dated February 7, 2019 is attached.

This project is complete.

5.7 BRGMON-7 Downton Reservoir Fish Habitat and Population Monitoring

The objective of this monitoring program is to collect comprehensive information on the life history, biological characteristics, distribution, abundance and composition of the fish community in Downton Reservoir. The information collected is required to link the effects of reservoir operation on fish populations and inform future operational decisions.

This monitoring program was initiated in October 2012 with fieldwork starting in 2013 and will be carried out annually over ten years.

The 2018 (Year 6) monitoring report dated December 20, 2019 is attached. The 2019 (Year 7) monitoring report is underway and will be submitted in the 2021 Annual Report.

5.8 BRGMON-8 Seton Lake Resident Fish Habitat and Population Monitoring

The objective of this monitoring program is to collect comprehensive information on the life history, biological characteristics, distribution, abundance and composition of the fish community in Seton Lake to establish whether there are links to reservoir operations on fish populations.

This monitoring program was initiated in October 2012 with fieldwork starting in 2013 and will be carried out annually over ten years.

The monitoring report for 2018 (Year 6) dated November 13, 2019 is attached. The 2019 (Year 7) monitoring report is still under review and will be included in the 2021 Annual Report.

5.9 BRGMON-9 Seton River Habitat and Fish Monitoring

The objective of this monitoring program is to monitor the response of fish habitat and fish populations to Seton Dam operations.

This monitoring program was initiated in November 2012 with fieldwork starting in 2013, and will be carried out annually over ten years.

In 2019, as part of Addendum 1, additional monitoring in the Lower Fraser was added to the project, and is reported in a separate report.

Although there were no high flows in 2019, minor additional non-WUP monitoring continued. This additional monitoring is complementary to BRGMON-9 WUP monitoring and the results of both programs are integrated into the same report.

The primary BRGMON-9 monitoring reports for 2017 (Year 5) dated August 16, 2019 and 2018 (Year 6) dated December 13, 2019 are attached. The 2019 (Year 7) report is currently under review and will be submitted with the 2021 Annual Report.

The 2019 (Year 1 of Addendum 1) report for the Lower Fraser River Stranding Assessment dated December 17, 2019 is also attached.

5.10 BRGMON-10 Carpenter Reservoir Productivity Model Validation and Refinement

The objective of this monitoring program is to collect the information required to validate and refine models of the effects of reservoir operation on the biological productivity of Carpenter Reservoir. Reservoir operations drive physical conditions such as light, temperature, nutrient concentrations, and turbidity, which translate to a biological response.

Using data collected under BRGMON-6, BRGMON-10 used two types of models to determine rates of biological production in Carpenter Reservoir. The first model was a habitat model and the second was a physical/chemical model. The models were linked together to predict the biological productivity response to reservoir operations.

This monitoring program was initiated in May 2015 and was implemented over 3 years to 2017.

This project is complete.

5.11 BRGMON-11A Lower Bridge River Riparian Vegetation Monitoring

The objective of the BRGMON-11A monitoring is to quantify the response of key physical and biological indicators in the Lower Bridge River to different instream flow regimes to determine which variables explain any changes in the riparian community. Note that the first year of BRGMON-11A project was reported in a combined report with BRGMON-11B under BRGMON-11.

This WUP monitoring program was initiated in 2012 and implemented again in 2016. The next implementation year is 2021.

5.12 BRGMON-11B Lower Bridge River Riverine Wildlife Monitoring

The objective of the BRGMON-11B monitoring program is to document how riverine and riparian wildlife in the Lower Bridge River respond to alternate flow regimes.

This monitoring program was initiated in November 2012 and will be carried out at intervals over ten years. Note that the first three years of BRGMON-11B project was reported in a combined report with BRGMON-11A under BRGMON-11.

The 2018 (Year 5) monitoring report dated February 24, 2019 is attached. This also includes non-WUP monitoring related to beaver activity and the American Winter Dipper. An additional 2018 non-WUP report on the protection of Cottonwoods from beaver herbivory along the Lower Bridge River, is attached. 2019 was a skip year for the WUP work.

Though there were no high flows in 2019, additional non-WUP monitoring included Western Screech Owl Surveys, Riparian Songbird Point Count Surveys and Cottonwood protection. These two 2019 non-WUP reports are in draft and will be submitted with next year's annual report.

5.13 BRGMON-12 Bridge-Seton Metals and Contaminant Monitoring Program

The objective of this monitoring program was to document water quality and potential heavy metal contamination in the Bridge River system. It was also intended to determine if reservoir operations resulted in a change to the concentration and/or distribution of metals and other contaminants. If redistribution occurred, the program was to assess if it resulted in an increased bioaccumulation of metals and contaminants in fish in the system.

This monitoring program was initiated in May 2013 and final reporting was completed in 2016.

This project is complete.

5.14 BRGMON-13 Seton Sockeye Salmon Smolts Monitoring Program

The objective of this monitoring program is to assess the effectiveness of Seton powerhouse shutdowns to reduce the total entrainment mortality of Sockeye Salmon smolts leaving Seton Lake. This study also includes abundance, timing and biological characteristics of Sockeye smolts leaving the lake, and the relationship between the dam water release and proportion of Sockeye smolts through the Seton Dam into Seton River.

This monitoring program was initiated in April 2012 and was carried out annually to 2015. In 2016 monitoring was suspended due to safety and equipment concerns from the Seton River peak flows. In 2016, trials were implemented to test the durability and suitability of alternate equipment configurations to ensure crews could operate the equipment safely and efficiently under the higher peak flows.

On February 21, 2020 the CWR approved TOR Addendum 1 for this study. The TOR Addendum extends the sampling window and adds radio telemetry tagging

to the field program. With these additions, two more years of field work are expected for 2020 and 2021.

The 2017 (Year 5) monitoring reported dated January 31, 2020 and the 2018 (Year 6) monitoring report dated December 18, 2019 are attached. The 2019 (Year 7) report is currently under review and will be submitted in the 2021 Annual Report.

5.15 BRGMON-14 Effectiveness of Cayoosh Flow Dilution, Dam Operation, and Fishway Passage on Delay and Survival of Upstream Migration of Salmon in the Seton-Anderson Watershed

The objective of this monitoring program is to determine the effectiveness of current dam operations to ensure successful migration of adult salmon via Seton Dam to spawning grounds. The program aims to evaluate

- The sensitivity of salmon populations to variations in the level of Cayoosh dilution in Seton River.
- Alternative operating strategies that will mitigate delays in upstream migration without conflicting with other water use goals for environmental protection, flood risk, and power production in the Bridge Seton generating system.

The original monitoring program was initiated in August 2012 and concluded in 2016.

On December 15, 2017, the CWR approved Addendum 1 for BRGMON-14 to test alternative siphon scenarios at Seton Dam by extending enumeration of the Gates Creek Sockeye for up to an additional four years (2017-2020) with a re-assessment after each field season. After the 2018 season, BC Hydro concluded that the accuracy of post-passage survival estimates were not sufficient to differentiate between routine and alternative Seton Dam Operations and therefore decided against continuing the study beyond 2018. The 2018 (Year 7) monitoring report dated March 1, 2019 is attached.

The synthesis report for the 2012 to 2016 program is still undergoing revisions and will be submitted in the 2021 Annual Report.

5.16 BRGMON-15 Seton Erosion Mitigation Project: Ranked Inventory of Erosion Sites

The objective of this monitoring program is to provide an inventory and assessment of erosion at identified sites around Seton Lake and the Seton River due to the operation of BC Hydro generating facilities and to develop conceptual designs for mitigation at priority sites.

Subsequent implementation of mitigation plans would be carried out under BRGWORKS-2 Seton Erosion Management Projects: Site Specific Mitigation Physical Works.

Following community meetings in 2018 and 2019, St'át'imc communities identified new sites and field visits were conducted in August 2019. Assessment and prioritization of these sites will be updated and incorporated into the 2018 (Year 2) report.

The 2014 (Year 1) report is being refined and will be submitted to the CWR when it is available.

We anticipate a TOR revision for BRGMON-15 to be prepared and submitted in 2020.

5.17 BRGMON-16 Lower Bridge River Spiritual and Cultural Value Monitoring

The objective of this monitoring program is to assess the response of St'at'imc spiritual and cultural values to the flow regime on the Lower Bridge River.

This monitoring program was initiated in spring of 2014 and was carried out over five years ending in 2018.

The reports for 2016 (Year 4) and 2017 (Year 5) are in draft and will be included in the 2021 Annual Report.

6 Status of Physical Works

6.1 BRGWORKS-1 Carpenter Re-vegetation

The objective of this physical work program is to vegetate an approximately 400 ha area of the Carpenter Reservoir drawdown zone between Tyaughton Lake Road Junction and the Gun Creek Fan. Monitoring the effectiveness of this physical works program is undertaken as part of the BRGMON-2: Carpenter Reservoir Riparian Vegetation Monitoring.

This program was initiated in 2014 and will be carried in intervals until 2020.

In 2019, the planting program continued which included seeding, live staking, and mounding.

The 2019 (Year 5) draft report is currently being reviewed and will be submitted in the 2021 Annual Report.

6.2 BRGWORKS-2 Seton Lake Erosion Management Projects – Site-specific Mitigation Physical Works

The objective of this project is to implement the mitigation plans for erosion protection of the priority sites as developed under the related (Phase 1) BRGMON-15 project.

Some early funding was approved by the CWR in December 2019 to initiate site-specific investigations. A TOR for this physical works will be submitted in 2020.

7 Monitoring Programs and Physical Works Costs

The following table summarizes the Bridge River WUP monitoring programs and physical works costs approved by the Comptroller and the Actual Costs to January 31, 2020.

Table 7-1: Bridge River WUP Monitoring Programs and Physical Works Costs

Monitoring Programs	Costs approved by CWR	Life to Date Actuals (LTD)	Estimated to Complete (Forecast)	Total Forecast (LTD and Forecast)	Variance Total to Approved	Explanation	Corrective Action
BRG Prepare Annual Report	\$25,112	\$12,382	\$8,261	\$20,643	\$4,469		
BRGM01A Low Bridge R Aquatic	\$3,427,450	\$2,315,208	\$1,080,546	\$3,395,754	\$31,696		
BRGM01A Low Bridge R Aquatic - OR DM	\$123,735	\$101,965	\$23,061	\$125,026	(\$1,291)		
BRGM01A Low Bridge R Aquatic - OR Imp	\$3,303,715	\$2,213,244	\$1,057,485	\$3,270,729	\$32,986		
BRGM02A Carpenter Rse Riparia	\$778,013	\$483,512	\$290,183	\$773,695	\$4,318		
BRGM02A Carpenter Rse Riparia - OR DM	\$81,253	\$65,176	\$42,234	\$107,410	(\$26,157)		
BRGM02A Carpenter Rse Riparia - OR Imp	\$696,760	\$418,336	\$247,949	\$666,285	\$30,475		
BRGM03A Low BR Salmon & Steel	\$3,537,716	\$2,374,290	\$1,076,268	\$3,450,558	\$87,158	Efficiencies are expected for the remaining years of the project	
BRGM03A Low BR Salmon & Steel - OR DM	\$87,650	\$69,879	\$21,428	\$91,307	(\$3,657)		
BRGM03A Low BR Salmon & Steel - OR Imp	\$3,450,066	\$2,304,411	\$1,054,840	\$3,359,251	\$90,815		
BRGM04A Carp Rse&Mid BR Fish	\$1,843,675	\$1,178,958	\$663,402	\$1,842,360	\$1,315		
BRGM04A Carp Rse&Mid BR Fish - OR DM	\$98,053	\$35,637	\$27,392	\$63,029	\$35,024		
BRGM04A Carp Rse&Mid BR Fish - OR Imp	\$1,745,622	\$1,143,321	\$636,011	\$1,779,332	(\$33,710)		
BRGM05A Downton Rse Riparian	\$355,756	\$180,192	\$154,435	\$334,627	\$21,129		
BRGM05A Downton Rse Riparian - OR DM	\$26,922	\$19,671	\$11,177	\$30,848	(\$3,926)		
BRGM05A Downton Rse Riparian - OR Imp	\$328,834	\$160,521	\$143,258	\$303,779	\$25,055		
BRGM06A Seton Lake Aquatic Pr	\$1,319,947	\$1,269,557	\$6,698	\$1,276,255	\$43,692	Project completed.	
BRGM06A Seton Lake Aquatic Pr - OR DM	\$32,524	\$24,224	\$6,698	\$30,922	\$1,602		
BRGM06A Seton Lake Aquatic Pr - OR Imp	\$1,287,423	\$1,245,333	\$0	\$1,245,333	\$42,090		
BRGM07A Downton Rse Fish Habi	\$1,063,401	\$687,843	\$353,709	\$1,041,552	\$21,849		
BRGM07A Downton Rse Fish Habi - OR DM	\$87,909	\$40,448	\$34,086	\$74,534	\$13,375		
BRGM07A Downton Rse Fish Habi - OR Imp	\$975,492	\$647,395	\$319,624	\$967,019	\$8,473		
BRGM08A Seton Fish Hab & Pop	\$947,702	\$577,663	\$311,797	\$889,460	\$58,242	Efficiencies are expected for the remaining years of the project	
BRGM08A Seton Fish Hab & Pop - OR DM	\$85,780	\$30,371	\$38,066	\$68,437	\$17,343		
BRGM08A Seton Fish Hab & Pop - OR Imp	\$861,922	\$547,292	\$273,731	\$821,023	\$40,899		
BRGM09A Seton R Habitat & Fis	\$1,444,712	\$1,019,752	\$424,946	\$1,444,698	\$14		
BRGM09A Seton R Habitat & Fis - OR DM	\$78,871	\$54,461	\$18,339	\$72,800	\$6,071		
BRGM09A Seton R Habitat & Fis - OR Imp	\$1,365,841	\$965,291	\$406,607	\$1,371,898	(\$6,057)		
BRGM10A Carp Rse Prod Model	\$995,981	\$995,904	\$0	\$995,904	\$77	Project completed.	
BRGM10A Carp Rse Prod Model - OR DM	\$23,991	\$26,470	\$0	\$26,470	(\$2,479)		
BRGM10A Carp Rse Prod Model - OR Imp	\$971,990	\$969,434	\$0	\$969,434	\$2,556		
BRGM11A Low BR Riparian Vege	\$694,899	\$357,025	\$337,851	\$694,876	\$23		
BRGM11A Low BR Riparian Vege - OR DM	\$55,213	\$60,511	\$21,851	\$82,362	(\$27,149)		
BRGM11A Low BR Riparian Vege - OR Imp	\$639,686	\$296,514	\$316,000	\$612,514	\$27,172		
BRGM11B Low BR Riverine Wild	\$237,723	\$109,721	\$90,618	\$200,339	\$37,384		
BRGM11B Low BR Riverine Wild - OR DM	\$20,837	\$2,476	\$19,618	\$22,094	(\$1,257)		
BRGM11B Low BR Riverine Wild - OR IMP	\$216,886	\$107,246	\$71,000	\$178,246	\$38,640		
BRGM12A Bridge-Seton Metals	\$481,257	\$117,247	\$0	\$117,247	\$364,010	Project completed.	
BRGM12A Bridge-Seton Metals - OR DM	\$65,889	\$12,809	\$0	\$12,809	\$53,080		
BRGM12A Bridge-Seton Metals - OR Imp	\$415,368	\$104,438	\$0	\$104,438	\$310,930		
BRGM13A Seton Powerhouse	\$2,241,459	\$1,351,934	\$889,525	\$2,241,459	\$0		
BRGM13A Seton Powerhouse - OR DM	\$113,881	\$73,536	\$40,345	\$113,881	\$0		
BRGM13A Seton Powerhouse - OR Imp	\$2,127,578	\$1,278,398	\$849,180	\$2,127,578	\$0		
BRGM14A Cayoosh Flow Dilutio	\$2,564,557	\$2,409,152	\$10,317	\$2,419,469	\$145,088	Budget provided option to extend to 2021 but ended in 2018. Project completed.	
BRGM14A Cayoosh Flow Dilutio - OR DM	\$66,600	\$54,302	\$7,408	\$61,710	\$4,890		
BRGM14A Cayoosh Flow Dilutio - OR Imp	\$2,497,957	\$2,354,850	\$2,909	\$2,357,759	\$140,198		
BRGM15A SON Erosion Mitigate	\$301,842	\$282,148	\$19,000	\$301,148	\$694	Forecast does not yet include Phase 3.	TOR to be submitted
BRGM15A SON Erosion Mitigate - OR DM	\$84,670	\$87,551	\$8,500	\$96,051	(\$11,381)		
BRGM15A SON Erosion Mitigate - OR Imp	\$217,172	\$194,597	\$10,500	\$205,097	\$12,075		
BRGM16A Spiritual & Cultural	\$495,211	\$466,267	\$10,802	\$477,069	\$18,142		
BRGM16A Spiritual & Cultural - OR DM	\$44,246	\$28,177	\$0	\$28,177	\$16,069		
BRGM16A Spiritual & Cultural - OR Imp	\$450,965	\$438,091	\$10,802	\$448,893	\$2,072		
BRGW01A Carp Re-Vegetation - OR	\$1,329,224	\$1,044,339	\$263,386	\$1,307,725	\$21,499		
BRGW01A Carp Re-Vegetation - OR DM	\$55,986	\$84,613	\$10,938	\$95,551	(\$39,565)		
BRGW01A Carp Re-Vegetation - OR Imp	\$1,273,238	\$959,725	\$252,448	\$1,212,173	\$61,065		
BRGW02A SON Erosion Control	\$115,853	\$13,776	\$1,102,611	\$1,116,387	(\$1,000,534)		TOR to be submitted
BRGW02A SON Erosion Control - OR DM	\$15,853	\$13,776	\$32,611	\$46,387	(\$30,534)		
BRGW02A SON Erosion Control - OR IMP	\$100,000	\$0	\$1,070,000	\$1,070,000	(\$970,000)		

OR - Ordered Remissible
ONR - Ordered Non-Remissible

* Red values in parentheses denote overage.