

## **Columbia River Project Water Use Plan**

### **Kinbasket Fish and Wildlife Information Plan**

#### **Monitoring Programs Annual Report: 2020**

**Implementation Period: January 2019 to December 2019**

- **CLBMON-1 – Mica Dam Total Gas Pressure Monitoring and Abatement Program**
- **CLBMON-2 – Kinbasket and Revelstoke Reservoirs Kokanee Population Monitoring**
- **CLBMON-3 – Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring Program**
- **CLBMON-4 – Kinbasket Reservoir Fish Stranding Assessment**
- **CLBMON-5 – Kinbasket Reservoir Burbot Life History and Habitat Use Assessment**
- **CLBMON-6 – Kinbasket Reservoir Bull Trout Life History and Habitat Use Assessment**
- **CLBMON-7 – Kinbasket Reservoir Rainbow Trout Life History and Habitat Use Assessment**
- **CLBMON-8 – Kinbasket Reservoir Monitoring of the Valemount Peatland**
- **CLBMON-55 – Revelstoke Reservoir Macrophyte Overview**
- **CLBMON 56 – Ecological Productivity**
- **CLBMON 59 – Nagle Creek**
- **CLBMON 60 – Fish Indexing**
- **CLBMON 61 – Wetland Vegetation**
- **CLBMON 62 – TGP Monitoring**

**Conditional Water Licences for Kinbasket storage (27068 and 39432), Mica diversion (39431), and Revelstoke diversion and storage (47215)**

**January 31, 2020**

## **BC Hydro Columbia River Project Water Use Plan Kinbasket Reservoir Fish and Wildlife Information Plan Monitoring Programs Annual Report: 2020**

### **1 Introduction**

This document represents a summary of the status and the results of the Kinbasket Reservoir Fish and Wildlife Information Plan Water Use Plan (WUP) monitoring programs to December 2019, as per the Columbia River WUP Order under the *Water Act*, dated January 26, 2007 and the Amended Order dated August 23, 2007. There are fourteen monitoring programs.

### **2 Status**

The following table outlines the dates that Terms of Reference (TOR) for the Kinbasket Reservoir Fish and Wildlife Information Plan WUP monitoring programs were submitted to and approved by the CWR.

**Table 2-1: Dates of Kinbasket Reservoir Fish and Wildlife Information Plan WUP TOR Submissions and Approvals by the Comptroller of Water Rights**

Monitoring Program	Order Clause	Original ToR Submission		Most Recent ToR Resubmission	
		Date Submitted	Date Approved	Date Submitted	Date Approved
CLBMON-1 Mica Dam Total Gas Pressure Monitoring and Abatement Program	Schedule A 5(a)	Oct 24, 2007	Dec 03, 2007	Jun 27, 2014	Sep 23, 2014
CLBMON-2 Kinbasket and Revelstoke Reservoirs Kokanee Population Monitoring	Schedule A 5(b) & Schedule B 1(a)	Oct 24, 2007	Dec 03, 2007	Jun 27, 2012	Jul 11, 2012
CLBMON-3 Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring Program	Schedule A 5(c) & Schedule B 1(b)	Oct 24, 2007	Dec 03, 2007		
CLBMON-4 Kinbasket Reservoir Fish Stranding Assessment	Schedule A 5(d)	Oct 24, 2007	Dec 03, 2007	Dec 14, 2018	Feb 07, 2019
		Oct 22, 2008	Dec 10, 2008		
CLBMON-5 Kinbasket Reservoir Burbot Life History and Habitat Use Assessment	Schedule A 5(e)	Oct 24, 2007	Dec 03, 2007	Oct 22, 2008	Dec 10, 2008
CLBMON-6 Kinbasket Reservoir Bull Trout Life History and Habitat Use Assessment	Schedule A 5(f)	Oct 24, 2007	Dec 03, 2007		
CLBMON-7 Kinbasket Reservoir Rainbow Trout Life History and Habitat Use Assessment	Schedule A 5(g)	Oct 24, 2007	Dec 03, 2007	Feb 02, 2009	Mar 26, 2009
CLBMON-8 Kinbasket Reservoir Monitoring of the Valemout Peatland	Schedule A 5(h)	Oct 24, 2007	Dec 03, 2007	Jan 31, 2019	Feb 27, 2019
CLBMON-55 Revelstoke Reservoir Macrophyte Overview	Clause 2(f) Amended Order	Jan 07, 2009	Mar 19, 2009		
CLBMON-56 Ecological Productivity	Clause 2(c) Amended Order	Aug 12, 2011	Nov 07, 2011		
CLBMON-59 Nagle Creek	Clause 1(d) Amended Order	Dec 15, 2011	Jan 20, 2012	Oct 01, 2012	Oct 16, 2012
CLBMON-60 Fish Indexing	Clause 1(b) Amended Order	Aug 12, 2011	Nov 07, 2011		
CLBMON-61 Wetland Vegetation	Clause 1(a) Amended Order	Jan 16, 2012	Apr 19, 2012	Jun 02, 2014	Aug 08, 2014
CLBMON-62 TGP Monitoring	Clause 1.c Mica 5/6 Addendum	Jun 27, 2014	Sep 23, 2014		

### 3 Schedule

The following table outlines the current schedule for the monitoring programs and physical works being delivered for the Kinbasket Reservoir Fish and Wildlife Information Plan WUP.

**Table 3-1: Monitoring Programs Schedule as of December 31, 2019**

Monitoring Programs	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	WLR YR1	WLR YR2	WLR YR3	WLR YR4	WLR YR5	WLR YR6	WLR YR7	WLR YR8	WLR YR9	WLR YR10	WLR YR11	WLR YR12	WLR YR13	WLR YR14	WLR YR15	WLR YR16	WLR YR17
CLBMON-1 Mica Dam Total Gas Pressure Monitoring and Abatement Program			✓	×	×	×	×	✓	✓F								
CLBMON-2 Kinbasket and Revelstoke Reservoirs Koknaee Population Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓F	■				
CLBMON-3 Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓F	■				
CLBMON-4 Kinbasket Reservoir Fish Stranding Assessment			✓								✓	✓F					
CLBMON-5 Kinbasket Reservoir Burbot Life History and Habitat Use Assessment							✓	✓	✓	✓F							
CLBMON-6 Kinbasket Reservoir Bull Trout Life History and Habitat Use Assessment								✓	✓	✓	✓F						
CLBMON-7 Kinbasket Reservoir Rainbow Trout Life History and Habitat Use Assessment							✓	✓	✓	✓F							
CLBMON-8 Kinbasket Reservoir Monitoring of the Valemout Peatland	✓	✓										✓					■
CLBMON-55 Revelstoke Reservoir Macrophyte Overview		✓	✓					✓F									
CLBMON-56 Addendum to CLBMON-3 Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring					✓	✓	✓	✓	✓	✓	✓	✓F	■				
CLBMON-59 Monitoring of Impacts on Nagle Creek Wetland from Mica Units 5 and 6					✓F												
CLBMON-60 Mica Tailrace Fish Indexing Study					×	✓	✓			✓	✓	✓	■				
CLBMON-61 Wetland Vegetation					✓	✓	✓	✓	✓	✓F							
CLBMON-62 TGP Monitoring										✓	×	×	■	■			

Legend: ■ = Program to be undertaken/initiated in identified year  
 ✓ = Program completed for the year  
 × = Program started, but encountered operational or hydrological delays  
 ✓F = All field work for this project is complete. No further field work is planned.

### 4 Monitoring Programs Terms of Reference

The monitoring programs and Physical Works being implemented under the Kinbasket Reservoir Fish and Wildlife Information Plan WUP are described in Terms of Reference. These Terms of Reference and the reports for work completed to date can be found here:

[http://www.BC Hydro.com/about/sustainability/conservation/water\\_use\\_plan ning/southern\\_interior/columbia\\_river/kinbasket-fish-wildlife.html](http://www.BC Hydro.com/about/sustainability/conservation/water_use_plan ning/southern_interior/columbia_river/kinbasket-fish-wildlife.html)

## **5 Status of Monitoring Programs**

### **5.1 CLBMON-1 Mica Dam Total Gas Pressure Monitoring and Abatement Program**

The objective of the CLBMON-1 monitoring program is to determine the relationship between total dissolved gas supersaturation and synchronous condense operation of Mica Units 1-4. CLBMON-1 was implemented from December 2010 to May 2011 under the original Terms of Reference (TOR) dated October 2007, however, insufficient data was obtained during this period to characterize both synchronous condense operations and their physical effects on downstream Total Dissolved Gas (TDG).

CLBMON-1 was revised under TOR Addendum 2 dated June 2014 for study combined with CLBMON-62. CLBMON-1/62 takes into account commitment 10 of the Mica Unit 5 and 6 Environmental Assessment Certificates to assess the impacts of synchronous condense operations from all units. Addendum 2 is a five-year program with CLBMON-1 focusing on two years pre-Mica Unit 5 and 6 and CLBMON-62 focusing on three years post-Mica Unit 5 and 6.

The revised study was implemented in 2015 and 2016 under CLBMON-1. The remaining three years of the study commenced in 2017 and are implemented under CLBMON-62.

### **5.2 CLBMON-2 Kinbasket and Revelstoke Reservoirs Kokanee Population Monitoring**

The objectives of this monitoring program are to monitor trends in the biological characteristics, distribution, and abundance of kokanee populations in Kinbasket and Revelstoke Reservoirs and to provide information required to link the effects of reservoir operation to population levels.

Addendum 1 to the Terms of Reference (dated June 26, 2012) added escapement counts and collection of biological data from spawners from selected tributaries to better inform management questions, particularly with respect to identifying key habitat factors that contribute to changes in productivity of kokanee populations.

This monitoring program was initiated in 2008 and is continuing over 12 years in conjunction with CLBMON-3 and CLBMON-56. Progress reports are scheduled annually for interim years with synthesis reports planned following Year 4 (completed), Year 9 (completed) and Year 12 (2019) in conjunction with CLBMON-3 and CLBMON-56.

Attached is the CLBMON-2 Year 10 Progress Report (2017), dated December 2019. The Years 11/12 Progress Report (2018-2019) and the final Synthesis Report (Years 1-12) for CLBMON-2, 3 and 56 are being drafted and will be submitted when they are complete.

### **5.3 CLBMON-3 Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring Program**

The objective of this monitoring program is to define the trophic web mechanisms and dynamics of Kinbasket and Revelstoke reservoirs, and to determine if changes in pelagic productivity are associated with reservoir operations. The

program focuses on reservoir trophic web mechanisms and dynamics; obtaining measurements of aquatic productivity that can be used as parameters for system modeling; and determining key indicators of change in pelagic production that would ultimately affect food availability and, thus, growth of kokanee.

This monitoring program was initiated in 2008 and is continuing over 12 years. Progress reports are scheduled annually for interim years with synthesis reports planned following Year 4 (completed), Year 9 (completed) and Year 12 (2019) in conjunction with CLBMON-2 and CLBMON-56.

Attached is the CLBMON-3 and CLBMON-56 Year 10 Progress Report (2017), dated August 2019. The Years 11/12 Progress Report (2018-2019) and the final Synthesis Report (Years 1-12) for CLBMON-2, 3 and 56 are being drafted and will be submitted when they are complete.

#### **5.4 CLBMON-4 Kinbasket Reservoir Fish Stranding Assessment**

The objective of the CLBMON-4 study is to qualitatively evaluate the extent of fish stranding caused by the annual drawdown of Kinbasket Reservoir. This monitoring program was initiated in 2010. Implementation is opportunistic and requires low reservoir elevations (less than 725 m) in Kinbasket through the winter and spring.

This program was not implemented in 2015 or 2016 as the required low reservoir elevation (725 m) was not obtained to proceed with the study. The project team concluded that it would be feasible to conduct the study utilizing an average reservoir level of 725–730 m. The reservoir was within this elevation range in spring 2019, allowing the project's final year to implement.

The Year 3 (2019) final report will be submitted in the 2021 Annual Report.

#### **5.5 CLBMON-5 Kinbasket Reservoir Burbot Life History and Habitat Use Assessment**

The objectives of this monitoring program are to measure some basic biological characteristics of Burbot populations in Kinbasket Reservoir (e.g., distribution, abundance, etc.), and to determine if winter drawdowns affect Burbot spawning success.

This study captures and tags Burbot with radio transmitters in select areas of Kinbasket reservoir and then monitors their movement year-round with fixed acoustic receivers. Aerial radio tracking was attempted but discontinued due to poor detection rates. For that reason, this monitoring study has been extended from three years to four years to allow for the fixed receivers to collect more data to answer the management questions. The final year of field work was 2017.

A comprehensive data analysis report, including the Year 4 (2017) data, will be submitted in the next Annual Report.

#### **5.6 CLBMON-6 Kinbasket Reservoir Bull Trout Life History and Habitat Use Assessment**

The objective of CLBMON-6 is to obtain basic life history and habitat use characteristics of juvenile Bull Trout in Kinbasket Reservoir as well as identify the effects of reservoir operations on this population. This monitoring program was initiated in 2015 and completed in 2018. Bull Trout were captured at 35 different

sites along the shoreline of Kinbasket reservoir to measure and assess basic biological conditions and substrate preferences. Bull Trout were tagged with radio transmitters and their movement patterns recorded with a fixed antenna.

Challenges were encountered accessing Carrol Creek as the Columbia West Forest Service Road was not maintained during the winter of 2016/2017 resulting in a shorter data collection period (May-November). The plan was to install another antenna and PIT tag juvenile Bull Trout in Carrol Creek. However, due to access constraints and the lack of suitable habitat in other Kinbasket tributaries, the antenna was not installed. Instead, an additional year of field work was added. The final year of this study was 2018.

The Year 4 (2018) final report will be submitted in the next Annual Report.

#### **5.7 CLBMON-7 Kinbasket Reservoir Rainbow Trout Life History and Habitat Use Assessment**

The objective of the CLBMON-7 study was to obtain baseline data on the biological characteristics of Rainbow Trout in the Kinbasket Reservoir and to provide the information required to evaluate the impacts of reservoir water levels on the productivity of Rainbow Trout populations. Primary issues of concern identified by the WUP CC related to: the potential effects of low reservoir elevations on the ability of Rainbow Trout to access spawning tributaries; the potential effects of reservoir inundation of stream spawning habitats; and subsequent effects on egg and fry survival within the drawdown zone.

Challenges were encountered in finding and tagging fish and as a result the study team removed mobile tracking from the program. The study team agreed to extend the project by a year utilizing the existing funds to increase the monitoring effort on Succour Creek, as well as refine the thermal suitability analysis to compare theoretical spawning and emergence timing to reservoir operations.

This monitoring program was initiated in 2014 and completed in 2017.

Attached is the Year 4 (2018) final report dated November 29, 2019. The project is complete.

#### **5.8 CLBMON-8 Kinbasket Reservoir Monitoring of the Valemount Peatland**

The objective of CLBMON-8 is to measure the type and rate of erosion that is occurring at the Valemount Peatland located at the northern extent of Kinbasket Reservoir and to examine how vegetation and wildlife species have responded to this erosion.

Years 1 and 2 for this project were completed in 2008 and 2009. The project implemented in 2019 under a TOR addendum (approved February 2019) to use remote sensing technology and field measurements to detect fine-scale erosion. The TOR addendum added 2019 and 2024 to fly aerial photography and complete terrain mapping.

The Year 3 (2019) final report will be submitted in the 2021 Annual Report.

### **5.9 CLBMON-55 Revelstoke Reservoir Macrophyte Overview**

The objective of this program was to assess aquatic macrophyte biodiversity and map the distribution of the main species in Revelstoke Reservoir pertaining to the operation of a fifth generating unit at Revelstoke Dam.

Phase 1 of this project was completed over two years starting in 2009. Phase 2 of the project (one year) was completed in 2014.

This project is complete.

### **5.10 CLBMON-56 Kinbasket and Revelstoke Reservoirs Ecological Productivity Monitoring – Addendum 1**

This program is a commitment under the Mica 5/6 Environmental Assessment Certificate and was included as Addendum 1 to CLBMON-3 Terms of Reference, dated August 10, 2011. The objective of this component is to improve our understanding of the ecological productivity of Kinbasket and Revelstoke reservoirs and determine if the addition of Units 5 and 6 at Mica Dam affects reservoir productivity. Dam operations may have an influence on how water layers are mixed (circulation of nutrients to the photic zone) or withdrawn (entrainment of nutrients) and could play a role in nutrient transport and circulation. Availability of nutrients to the photic zone of the reservoir is key to productivity.

This monitoring program was initiated in 2012 and is continuing for eight years. Progress reports are scheduled annually for interim years with synthesis reports planned following Year 4 (completed) and Year 8 (2019) in conjunction with CLBMON-2 and CLBMON-3.

Attached is the CLBMON-3 and CLBMON-56 (Year 10) Progress Report (2017), dated August 2019. The Years 7/8 Progress Report (2018-2019) and the final Synthesis Report (Years 1-12) for CLBMON-2, 3 and 56 are being drafted and will be submitted when they are complete.

### **5.11 CLBMON-59 Monitoring of Impacts on Nagle Creek Wetland from Mica Units 5 and 6**

The key objectives of this monitoring program were to delineate the Nagle Creek wetland habitat boundaries and describe any changes for periods of potential flow change related to Mica 5/6 operations.

This one-year monitoring program was initiated in 2012 and completed in 2013. This project is complete.

### **5.12 CLBMON-60 Mica Tailrace Fish Indexing Study**

The objective of the project is to determine whether the operation of the additional two units (Mica 5 and Mica 6) generates changes in the aquatic thermal regime and ichthyofauna in the Mica Dam tailrace.

This monitoring program was initiated in the fall of 2012 and includes two years of pre-Mica 5/6 monitoring and two years of post-Mica 5/6 monitoring. The 2013/2014 pre-Mica 5/6 monitoring is complete. The post field monitoring scheduled in 2017 was rescheduled until fall 2018 to ensure contractor safety requirements were met. The electrofishing commenced in October 2018, and

continued in October 2019. To meet the requirements for three consecutive years of post-construction monitoring (as per the Mica 5/6 Project Environmental Assessment Office commitment) the project implementation schedule needs to be extended by one year through 2020. A TOR Addendum for this work will be submitted by June 30, 2020.

Attached is the Year 4 (2018) Annual Report, dated September 20, 2019. The Year 5 (2019) report will be submitted in the 2021 Annual Report.

#### **5.13 CLBMON-61 Wetland Vegetation**

The objective of the monitoring program was to assess potential changes in wetland composition and productivity in Kinbasket Reservoir over a six year timeframe, and to determine if these changes, if any, can be associated with reservoir operations. The first two years of baseline collection occurred under conditions of surcharge on Kinbasket Reservoir; therefore, the sample size collected in the two years was too small to adequately characterize pre-Mica 5 conditions. A Terms of Reference Addendum was approved on August 8, 2014, to add another year of pre-Mica 5 data collection.

This six-year monitoring program was initiated in 2012 and completed in 2017.

Attached is the final Year 6 (2017) Annual Report, dated February 14, 2019. This project is complete.

#### **5.14 CLBMON-62 TGP Monitoring**

The revised scope of the CLBMON-62 monitoring program focuses on assessing the impacts of synchronous condense operations from all units, both prior to and for three years following the in-service dates of Mica Units 5 and 6 Project. This project is being implemented concurrently with CLBMON-1. Please see CLBMON-1 for further information.

Mica Units 5 & 6 were not operating under the conditions required for the study; therefore, the study was not implemented in 2019. CLBMON-62 implemented in 2017 and will be carried out in 2020 and 2021 if conditions allow. This is a one-year extension to the project schedule.

### **6 Monitoring Programs Costs**

The following table summarizes the Kinbasket Reservoir Fish and Wildlife Information Plan WUP monitoring programs costs approved by the Comptroller and the Actual Costs to December 31, 2019.



Table 6-1: Kinbasket Reservoir Fish and Wildlife Information Plan WUP Monitoring Programs 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
CLB MP1 Kin Fish & WL Annual Report	\$19,286	\$12,940	\$1,067	\$14,007	\$5,279		
C01M01A MCA DAM TGP MON	\$164,616	\$142,709	\$2,106	\$144,816	\$19,800	CLBMON-1 is being implemented under CLBMON-62 (2017-2021).	
C01M01A MCA DAM TGP MON - OR DM	\$53,517	\$94,142	\$2,106	\$96,248	\$17,268		
C01M01A MCA DAM TGP MON - OR Imp	\$111,099	\$108,567	\$0	\$108,567	\$2,532		
C01M02A KIN & REV Kokanee Pop	\$1,362,811	\$1,293,282	\$63,240	\$1,356,522	\$6,289		
C01M02A KIN & REV Kokanee Pop - OR DM	\$28,502	\$20,631	\$3,240	\$23,771	\$4,731		
C01M02A KIN & REV Kokanee Pop - OR Imp	\$1,334,309	\$1,272,750	\$60,000	\$1,332,750	\$1,559		
C01M03A KIN & REV Ecological	\$4,313,829	\$3,823,668	\$371,000	\$4,194,668	\$119,171	Efficiencies found during implementation	
C01M03A KIN & REV Ecological - OR DM	\$157,106	\$155,831	\$6,000	\$161,831	(\$4,725)		
C01M03A KIN & REV Ecological - OR Imp	\$4,156,723	\$3,667,828	\$365,000	\$4,032,828	\$123,895		
C01M04A KIN: Stranding	\$266,061	\$246,851	\$16,208	\$263,059	\$3,002		
C01M04A KIN: Stranding - OR DM	\$65,144	\$48,664	\$4,068	\$52,732	\$2,412		
C01M04A KIN: Stranding - OR Imp	\$210,917	\$198,188	\$12,140	\$210,327	\$590		
C01M05A KIN: Burbot Life	\$573,070	\$569,812	\$1,836	\$571,648	\$1,422		
C01M05A KIN: Burbot Life - OR DM	\$42,658	\$39,400	\$1,836	\$41,236	\$1,422		
C01M05A KIN: Burbot Life - OR Imp	\$530,412	\$530,412	\$0	\$530,412	\$0		
C01M06A KIN: Bull Trout	\$512,596	\$401,909	\$21,695	\$423,605	\$88,991	Efficiencies found during implementation	
C01M06A KIN: Bull Trout - OR DM	\$38,207	\$29,315	\$2,166	\$31,482	\$6,725		
C01M06A KIN: Bull Trout - OR Imp	\$474,389	\$372,594	\$19,529	\$392,123	\$82,266		
C01M07A KIN: Rainbow	\$519,961	\$495,523	\$3,758	\$499,280	\$20,681	Project completed.	
C01M07A KIN: Rainbow - OR DM	\$39,617	\$39,039	\$269	\$39,328	\$269		
C01M07A KIN: Rainbow - OR Imp	\$480,344	\$456,484	\$3,489	\$459,953	\$20,391		
C01M08A KIN:Valemont Peatland	\$652,794	\$329,373	\$316,972	\$646,345	\$6,449		
C01M08A KIN:Valemont Peatland - OR DM	\$97,693	\$84,534	\$60,905	\$145,440	(\$47,747)		
C01M08A KIN:Valemont Peatland - OR Imp	\$555,101	\$244,838	\$256,067	\$500,905	\$54,196		
C01M55A REV Res Macrophyte	\$147,184	\$139,421	\$1,854	\$141,275	\$5,909	Project completed.	
C01M55A REV Res Macrophyte - ONR DM	\$28,017	\$35,569	\$1,854	\$37,422	(\$9,405)		
C01M55A REV Res Macrophyte - ONR Imp	\$119,167	\$103,852	\$0	\$103,852	\$15,315		
C01M56A KIN & REV Eco Pro	\$816,901	\$759,951	\$62,041	\$821,993	\$908		
C01M56A KIN & REV Eco Pro - ONR DM	\$31,371	\$31,684	\$2,595	\$34,479	(\$3,108)		
C01M56A KIN & REV Eco Pro - ONR Imp	\$785,530	\$728,268	\$59,446	\$787,714	\$4,016		
C01M59A Nagle Creek	\$69,185	\$65,029	\$1,194	\$66,223	\$2,962	Project completed.	
C01M59A Nagle Creek - ONR DM	\$17,426	\$15,897	\$1,194	\$17,090	\$336		
C01M59A Nagle Creek - ONR Imp	\$51,759	\$49,133	\$0	\$49,133	\$2,626		
C01M60A Fish Indexing	\$553,666	\$502,706	\$54,202	\$556,907	(\$3,241)	TOR addendum will be submitted by June 30, 2020 for additional year (2020).	
C01M60A Fish Indexing - ONR DM	\$39,620	\$37,941	\$8,598	\$46,539	(\$28,916)		
C01M60A Fish Indexing - ONR Imp	\$514,046	\$444,764	\$45,604	\$490,368	\$23,678		
C01M61A Wetland Veg	\$934,862	\$828,806	\$1,743	\$830,549	\$104,313	Project completed.	
C01M61A Wetland Veg - ONR DM	\$72,200	\$43,224	\$1,743	\$44,966	\$27,234		
C01M61A Wetland Veg - ONR Imp	\$862,662	\$785,582	\$0	\$785,582	\$77,080		
C01M62A TGP Monitoring	\$222,556	\$66,008	\$91,816	\$157,824	\$64,732	No implementation in 2019. Planned for 2020 and require additional year in 2021.	
C01M62A TGP Monitoring - ONR DM	\$48,306	\$13,026	\$5,331	\$18,357	\$29,949		
C01M62A TGP Monitoring - ONR Imp	\$174,250	\$52,983	\$86,485	\$139,468	\$34,762		

OR - Ordered Remissible  
ONR - Ordered Non-Remissible

\* Red values in parentheses denote overage.

