

Columbia River Project Water Use Plan Heritage Management Plan

Monitoring Programs Annual Report: 2013

Implementation Period: February 2012 to March 2013

- **CLBMON-50 Arrow Lakes Reservoir Heritage Monitoring Wind and Wave Erosion**
- **CLBMON-51 Kinbasket and Revelstoke Archaeological Overview Assessment**
- **CLBMON-52 Arrow Archaeological Site Overview Assessment**

Conditional Water Licences for Kinbasket storage (27068 and 39432), Mica diversion (39431), Revelstoke diversion and storage (47215), and Arrow storage (27066)

April 30, 2013

BC Hydro Columbia River Project Water Use Plan Heritage Management Plan Monitoring Programs Annual Report: 2013

1 Introduction

This document represents a summary of the status and the results of the Columbia River Heritage Management Plan Water Use Plan (WUP) monitoring programs and physical works to March 31, 2013, as per the Columbia River Order under the *Water Act*, dated January 26, 2007, and the letter from the Comptroller of Water Rights dated December 12, 2012. There are three monitoring programs.

2 Status

The following table outlines the dates that TOR for the Heritage Management Plan WUP monitoring programs were submitted to and approved by the CWR.

Table 2-1: Dates of Heritage Management Plan WUP TOR Submissions and Approvals by the Comptroller of Water Rights

Monitoring Program & Physical Works TOR	Order Clause	Original ToR Submission		Most Recent ToR Resubmission	
		Date Submitted	Date Approved	Date Submitted	Date Approved
CLBMON-50 Arrow Lakes Reservoir Heritage Monitoring Wind and Wave Erosion	Section 3.b	Oct 26, 2007	Dec 03, 2007		
CLBMON-51 Kinbasket and Revelstoke Archaeological Overview Assessment	Section 3.a	Apr 04, 2007	Apr 19, 2007		
CLBMON-52 Arrow Archaeological Site Overview Assessment	Section 3.a	Apr 04, 2007	Apr 19, 2007		

3 Schedule

The following table (Table 3-1) outlines the current schedule for the monitoring programs being delivered under the Heritage Management Plan WUP.

Table 3-1: Table of WUP Schedule

Monitoring Programs	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	WLR YR1	WLR YR2	WLR YR3	WLR YR4	WLR YR5	WLR YR6	WLR YR7 Interim Review	WLR YR8	WLR YR9	WLR YR10	WLR YR11	WLR YR12	WLR YR13 Final Review
CLBMON -50 Arrow Lakes Reservoir Heritage Monitoring Wind and Wave Erosion			✓	x	✓	✓	■	■					
CLBMON-51 Kinbasket and Revelstoke Archaeological Overview Assessment	✓												
CLBMON-52 Arrow Archaeological Site Overview Assessment	✓	✓											

Legend: ■ = Program to be undertaken/initiated in identified year
u/w = Project is under way
✓ = Program completed for the year
x = Program started, but encountered operational or hydrological delays

4 Monitoring Program Terms of Reference

The monitoring programs being implemented under the Heritage 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.bchydro.com/about/sustainability/conservation/water_use_planning/southern_interior/columbia_river/heritage-plan.html

5 Summary of Monitoring Programs

5.1 CLBMON-50 Arrow Lakes Reservoir Heritage Monitoring Wind and Wave Erosion

5.1.1 Status

This monitoring program was initiated in 2009, and was originally planned for five consecutive years; however, the consultants did not complete any field work in 2010 due to high water levels. The monitoring program's duration will be extended one year to compensate for the missed year in 2010. Attached is the report for Year 2 (2011 Data) of implementation dated March 21, 2012. The Year 3 (2012 Data) draft report is in preparation and will be submitted in the 2014 Heritage Annual Report.

5.2 CLBMON-51 Kinbasket and Revelstoke Archaeological Overview Assessment

5.2.1 Status

This monitoring program was initiated and completed in 2007. The final program report was received by BC Hydro and submitted to the CWR in January 2008.

5.3 CLBMON-52 Arrow Archaeological Site Overview Assessment

5.3.1 Status

This monitoring program was initiated in spring of 2007 and was completed in 2008.

6 Monitoring Programs Costs

The following table summarizes the Heritage Management Plan WUP monitoring programs costs approved by the Comptroller and the Actual Costs to March 31, 2013.

Table 6-1: Heritage Management Plan WUP Monitoring Program Costs

Monitoring Programs	Activity	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
Heritage Management Plan Annual Report	OR	\$821	\$523	\$298	\$821	\$0		
CLBMON#50 ARROW HERITAGE MONITORING WIND & WAVE EROSION	OR	\$415,617	\$259,084	\$156,533	\$415,617	\$0		
CLBMON#50 Direct Management 001	OR	\$59,068	\$35,145	\$23,923	\$59,068	\$0		
CLBMON#50 Implementation 002	OR	\$356,549	\$223,940	\$132,609	\$356,549	\$0		
CLBMON#51 KINBASKET & REVELSTOKE ARCH SITE OVERVIEW ASSESSMENT	OR	\$59,446	\$56,688		\$56,688	\$2,758	Project completed.	No corrective action.
CLBMON#51 Direct Management 001	OR	\$10,100	\$6,570		\$6,570	\$3,530		
CLBMON#51 Implementation 002	OR	\$49,346	\$50,119		\$50,119	(\$773)		
CLBMON#52 ARROW ARCH SITE OVERVIEW ASSESSMENT	OR	\$112,494	\$104,702		\$104,702	\$7,792	Project completed.	No corrective action.
CLBMON#52 Direct Management 001	OR	\$15,936	\$15,837		\$15,837	\$99		
CLBMON#52 Implementation 002	OR	\$96,558	\$88,865		\$88,865	\$7,693		
OR - Ordered Remissible								
ONR - Ordered Non-Remissible								

* Red values in parentheses denote overage.