

Whatshan Project Water Use Plan

Monitoring Program and Physical Works

Annual Report: 2015

Implementation Period: July 2014 – June 2015

- **WGSMON-1 Lower Whatshan River Fish Habitat Enhancement Physical and Biological Effectiveness Monitoring**
- **WGSMON-2 Reservoir Vegetation Monitoring**
- **WGSMON-3 Reservoir Wildlife Monitoring**
- **WGSMON-4 First Nations Heritage and Archaeology Monitoring**
- **WGSWORKS-1 Habitat Complexing Assessment and Enhancement Structures**
- **WGSWORKS-2 Inonoaklin Recreation Site Boat Launch Extension**

For Water Licences 120711 and 120712

July 31, 2015

BC Hydro Whatshan Project Water Use Plan Monitoring Programs and Physical Works Annual Report: 2015

1 Introduction

This document represents a summary of the status and the results of the Whatshan Project Water Use Plan (WUP) monitoring programs and physical works to June 30, 2015, as per the Whatshan Order under the *Water Act*, dated July 14, 2005. There are four monitoring programs and two physical works.

2 Status

The following table outlines the dates that Terms of Reference (TOR) for the Whatshan Project WUP monitoring programs and physical works were submitted to and approved by the CWR.

Table: 2-1: Dates of Whatshan Project 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
WGSMON-1 Lower Whatshan River Fish Habitat Enhancement Physical and Biological Effectiveness Monitoring	Clause 3	Nov 14, 2005	Feb 15, 2006	May 09, 2010	Jun 30, 2010
WGSMON-2 Reservoir Vegetation Monitoring	Clause 4(a)	Nov 14, 2005	Feb 15, 2006		
WGSMON-3 Wildlife Monitoring	Clause 4 (a)	Nov 14, 2005	Feb 15, 2006	Jul 29, 2009	Oct 13, 2009
WGSMON-4 First Nations Heritage and Archaeology Monitoring	Clause 4 (b)	Mar 17, 2011	May 17, 2011		
WGSWORKS-1 Habitat Complexing Assessment and Enhancement Structures - Feasibility	Clause 3	Nov 14, 2005	Feb 15, 2006		
WGSWORKS-1 Construction Implementation	Clause 3	May 04, 2009	Jun 06, 2009	Jul 29, 2009	Oct 13, 2009
WGSWORKS-2 Inonoaklin Recreation Site Boat Launch Extension	Clause 2	Nov 14, 2005	Feb 15, 2006	Jun 12, 2006	Aug 02, 2006

3 Schedule

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

Table 3-1: Table of WUP Schedule

Monitoring Programs	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	WLR YR1	WLR YR2	WLR YR3	WLR YR4	WLR YR5	WLR YR6	WLR YR7	WLR YR8	WLR YR9	WLR YR10
WGSMON-1 Lower Whatshan River Fish Habitat Effectiveness Monitoring	✓	✓	✓		✓		✓			u/w
WGSMON-2 Reservoir Vegetation Monitoring	✓					✓				u/w
WGSMON-3 Reservoir Wildlife Monitoring	✓		✓	✓	✓					
WGSMON-4 Whatshan Lake Reservoir Archaeological Study							✓			
Physical Works										
WGSWORKS-1 Habitat Complexing Assessment and Enhancement Structures	✓	✓	x	✓						
WGSWORKS-2 Inonoalkin Recreation Site Boat Launch Extension	✓									

Legend: ■ = Program to be undertaken/initiated in identified year
u/w = Project is underway
✓ = Program completed for the year
x = Project encountered delays due to hydrological or operational events

4 Monitoring Programs and Physical Works Terms of Reference

The monitoring programs and physical works being implemented under the Whatshan Project 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/whatshan.html

5 Status of Monitoring Programs

5.1 WGSMON-1 Lower Whatshan River Fish Habitat Enhancement Physical and Biological Effectiveness Monitoring

This monitoring program was initiated in 2006 and scheduled for Years 1-3, 5, 7 and 10. Year 10 work is underway in 2015.

5.2 WGSMON-2 Reservoir Vegetation Monitoring

This monitoring program was initiated in 2006 and scheduled for Years 1, 6 and 10. Year 10 work is underway in 2015.

5.3 WGSMON-3 Reservoir Wildlife Monitoring

This project is complete.

5.4 WGS MON-4 First Nations Heritage and Archaeology Monitoring

This project is complete.

6 Status of Physical Works

6.1 WGS WORKS-1 Habitat Complexing Assessment and Enhancement Structures

This project is complete.

6.2 WGS WORKS-2 Inonoaklin Recreation Site Boat Launch Extension

This project is complete.

7 Monitoring Programs and Physical Works Costs

The following table summarizes the Whatshan Project WUP monitoring programs and physical works costs approved by the Comptroller and the Actual Costs to June 30, 2015.

Table 7-1: Whatshan Project 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
Whatshan WUP Annual Report	\$5,642	\$4,924	\$718	\$5,642	(\$0)		
WGSM01A Lower Whatshan	\$248,493	\$175,635	\$52,907	\$228,543	\$19,950	Efficiencies found during implementation	
WGSM01A Lower Whatshan - OR DM	\$42,791	\$25,005	\$3,857	\$28,862	\$13,929		
WGSM01A Lower Whatshan - OR Imp	\$205,702	\$150,631	\$49,050	\$199,681	\$6,021		
WGSM02A Reservoir Vegetation	\$162,160	\$107,530	\$44,612	\$152,142	\$10,018	Efficiencies found during implementation	
WGSM02A Reservoir Vegetation - OR DM	\$27,760	\$19,955	\$6,327	\$26,282	\$1,478		
WGSM02A Reservoir Vegetation - OR Imp	\$134,400	\$87,576	\$38,285	\$125,860	\$8,540		
WGSM03A Wildlife Monitoring	\$75,279	\$62,539	\$0	\$62,539	\$12,740	Project Complete	
WGSM03A Wildlife Monitoring - OR DM	\$27,218	\$14,380	\$0	\$14,380	\$12,838		
WGSM03A Wildlife Monitoring - OR Imp	\$48,061	\$48,159	\$0	\$48,159	(\$98)		
WGSM04A Archaeology Inventory	\$86,283	\$77,181	\$0	\$77,181	\$9,102	Project Complete	
WGSM04A Archaeology Inventory - OR DM	\$25,334	\$13,808	\$0	\$13,808	\$11,526		
WGSM04A Archaeology Inventory - OR Imp	\$60,949	\$63,373	\$0	\$63,373	(\$2,424)		
WGSW01A Habitat Enhancement	\$280,590	\$254,018	\$0	\$254,018	\$26,572	Project Complete	
WGSW01A Habitat Enhancement - OR DM	\$14,373	\$13,752	\$0	\$13,752	\$621		
WGSW01A Habitat Enhancement - OR Imp	\$266,217	\$240,267	\$0	\$240,267	\$25,950		
WGSW02A Inonoaklin Rec Site	\$69,504	\$36,352	\$0	\$36,352	\$33,152	Project Complete	
WGSW02A Inonoaklin Rec Site - OR DM	\$18,104	\$33,492	\$0	\$33,492	(\$15,388)		
WGSW02A Inonoaklin Rec Site - OR Imp	\$51,400	\$2,860	\$0	\$2,860	\$48,540		

OR - Ordered Remissible
ONR - Ordered Non-Remissible

* Red values in parentheses denote overage.