DOMINION DIAMOND

APPENDIX 8D

REGIONAL WATER BALANCE MODEL

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Abbreviations

Abbreviation	Definition
BSA	baseline study area
DAR	Developer's Assessment Report
e.g.,	for example
ESA	effects study area
et al.	and more than one additional author
GIS	Geographic Information System
HEC-RAS	Hydrologic Engineering Centers River Analysis System
i.e.,	that is
KPSF	King Pond Settling Facility
LiDAR	light detection and ranging
Model	regional water balance model
Narrows	channel between Lac de Gras and Lac du Sauvage
Project	Jay Project
Q	discharge
RFD	Reasonably Foreseeable Development
WRSA	waste rock storage area

Units of Measure

Unit	Definition
%	percent
km^2	square kilometre
m^3/s	cubic metres per second
m^3/d	cubic metres per day
ha	hectares
m	metre

8D1 INTRODUCTION

A regional water balance model (Model) was developed to assess the effects of the Jay Project (Project) on lake water levels and lake outlet discharges in the surface hydrology effects study area (ESA). This appendix describes the Model including the Model structure, input data, method and results for the Base Case and Application Case assessments.

A baseline model for the Lac de Gras watershed was developed using GoldSim software and used input derived meteorological and hydrological data from 1959 to 2013. The baseline model was calibrated using runoff coefficients for land surfaces, lake outlet stage-discharge rating curves, and degree-day models for snowmelt and formation of ice in outlet channels. Lake outlet stage-discharge rating curves and degree-day models were calibrated to site-specific data in the Lac du Sauvage and Lac de Gras basins. A complete description of the baseline model calibration is available in Appendix F of the Hydrology Baseline Report (Annex X).

The Model was developed from the calibrated baseline model. Project infrastructure and water management flow rates were incorporated in the Model to assess changes to lake water levels and lake outlet discharges. The Model was run for the Project phases: construction (including the dewatering period), operations, and closure. Post-closure was also assessed to predict long-term effects. The Model was extended to include the Desteffany Lake watershed, which includes the Lac de Gras and Lac du Sauvage watersheds.

The baseline model was used for the Base Case and represents the surface hydrology of the ESA prior to the Project. The Model was used for the Application Case and represents the effects of the Project on the surface hydrology of the ESA relative to the Base Case. The Reasonably Foreseeable Development (RFD) case was not modelled, as none of the reasonably foreseeable developments identified in Section 6.5.2.4 of the Developer's Assessment Report (DAR) are located within the surface hydrology ESA. A complete description of the Assessment Case approach is provided in Section 6.5.2 of the DAR.

8D2 OBJECTIVES AND LIMITATIONS

The Model allowed baseline conditions and changes due to the Project to be estimated on broader and finer spatial and temporal scales than represented by historical or site-specific data. This allowed changes to be evaluated for waterbodies with limited or no gauging data, with consideration of long-term natural variability.

The Model considers physical characteristics of the watersheds and derived long-term meteorology for the Desteffany Lake watershed. The meteorology is intended to represent the long-term mean and variability at the Project, but is not intended to represent conditions at specific locations on specific dates. For example, a rainstorm that may have occurred in the Lac du Sauvage watershed in the summer of a specific year may not be present in the baseline meteorology series. Similarly, differences in site-specific snowpack and temperature are expected to be present for any given year. However, over the long term, mean and extreme rainfall characteristics at that location should be represented.

For this reason, measured and modelled hydrographs at specific locations are not expected to match precisely for a given point in time. However, the hydrological statistics at specific locations (e.g., the Lac de Gras outlet) are expected to be adequately represented by the Model. It is recognized that future monitoring efforts should focus on further validation and, if necessary, re-calibration of the Model.

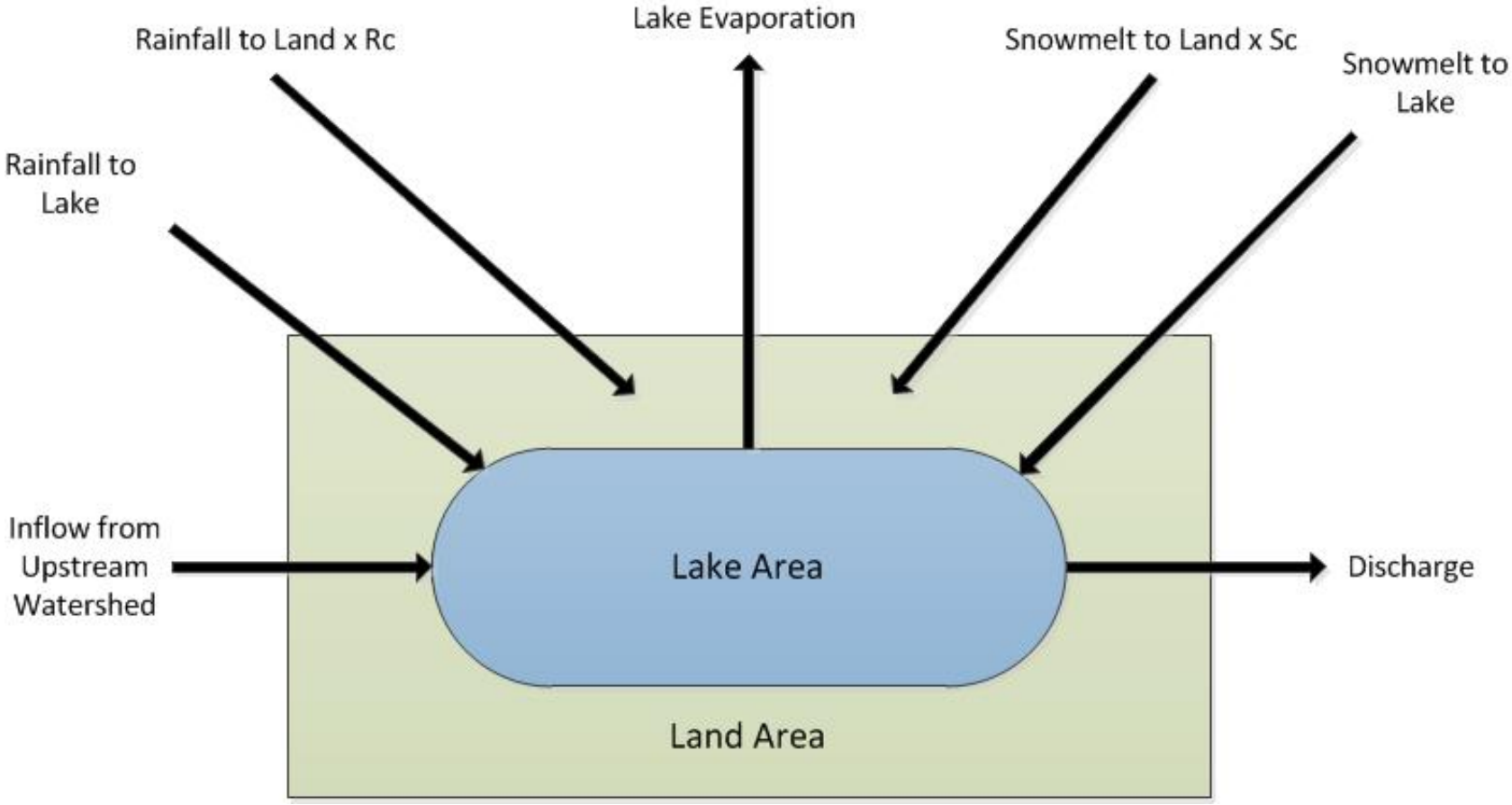
8D3 MODEL STRUCTURE

Lakes in the Lac du Sauvage watershed with a surface area greater than 4 hectares (ha) and sub-basins of Lac de Gras and Desteffany Lake were modelled as a reservoir described in Figure 8D3-1.

Inflows to the reservoir consisted of inflows from upstream basins and local basin rainfall and snowmelt, including a runoff coefficient to account for infiltration and evapotranspiration losses. Snow water equivalents were calculated using a sublimation coefficient to account for snowpack losses, and snowmelt rates were calculated using a degree-day model. Outflows consisted of lake outlet discharges and evaporative losses. Differences between inputs and outputs were used to calculate changes in lake storage volumes.

A key assumption of the Model is that losses to deep groundwater and changes to shallow groundwater storage are small relative to lake discharges, due to the local permafrost regime and the associated low connectivity of shallow and deep groundwater systems. The exception to this is groundwater losses from Lake C1 as described in Section 8D5.1.5.

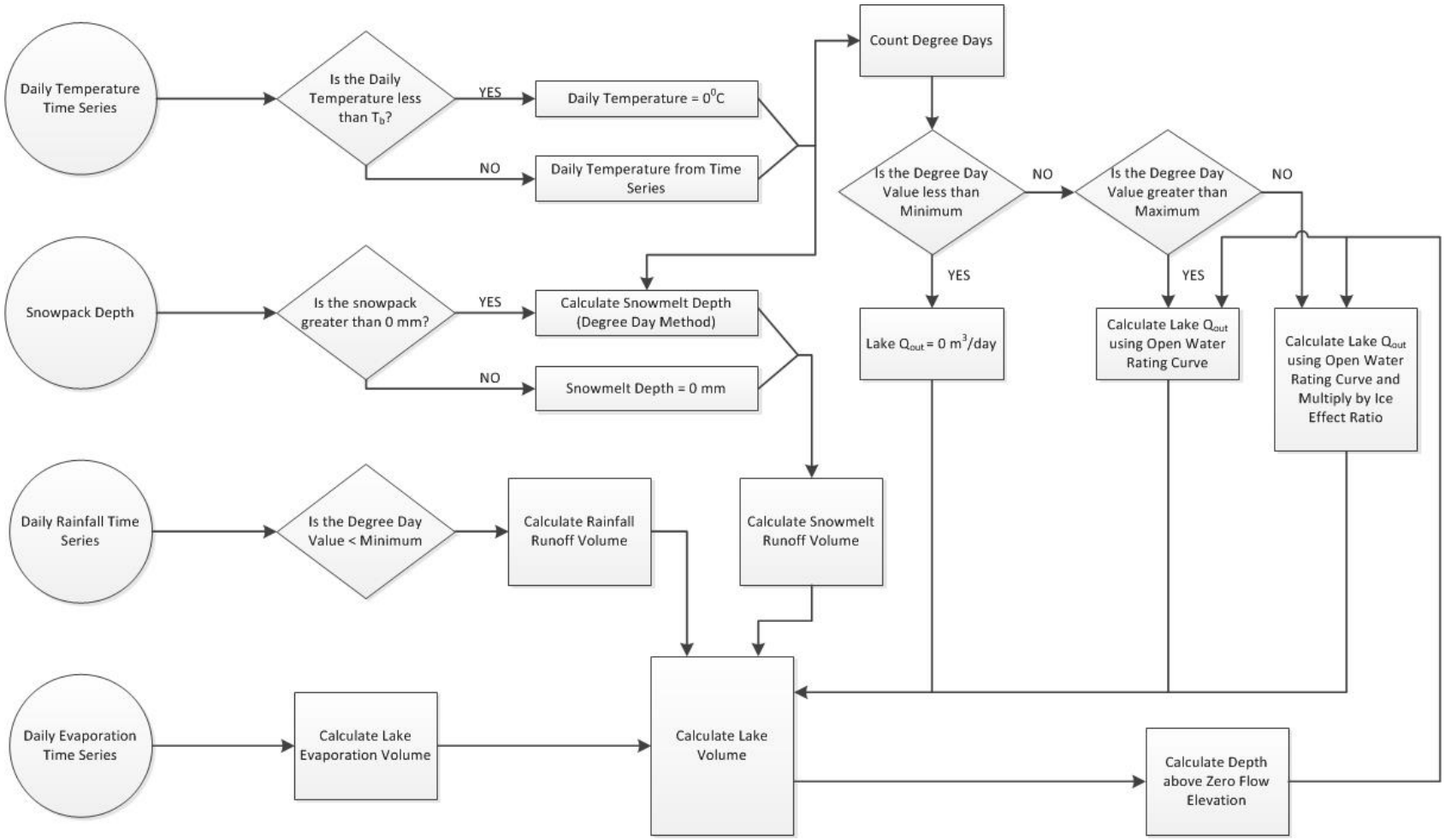
Figure 8D3-1 Schematic of Typical Reservoir Model



RC = rainfall runoff coefficient; SC = snowmelt runoff coefficient

The lake inflows and outflows were calculated according to the flowchart shown in Figure 8D3-2.

Figure 8D3-2 Model Flowchart



8D3.1.1 Meteorological Data

The Model used a derived daily climate set for the period of 1959 to 2013, which incorporated some site-specific data. The derived climate dataset consisted of daily rainfall, snowfall, lake evaporation, and temperature data. A description of data sources and the derivation of the climate dataset are provided in Appendix B of Annex X.

8D3.1.2 Basin Characteristics and Geographic Information System Analysis

The Desteffany Lake basin is approximately 6,116 square kilometres (km^2) and contains thousands of connected lakes, with Desteffany Lake as the terminal lake. The entire Desteffany Lake basin was modelled to provide data regarding potential flow regime, lake outlet discharge, and lake stage changes. The Desteffany Lake basin contains the Lac de Gras and Lac du Sauvage basins. Due to the Project location and description, the Lac du Sauvage basin was modelled to a higher level of detail, including modelling of individual lakes within the basins.

Basin delineation and analysis was conducted on the light detection and ranging (LiDAR) dataset by Aurora Geosciences Ltd. (2013). General stream locations were based on CanVec 1:50,000 features with alignments modified using a flow accumulation surface derived from LiDAR data. A flow direction raster was created and used to calculate all areas upstream that contributed to the catchment of each lake and stream. The lake polygons and 10 metre (m) buffers of the streams were used as "pour points" for this analysis. The lake polygons were overlaid with the resulting basin polygons to determine the ratio of water and land in each basin. The Geographic Information System (GIS) analysis was performed using ArcGIS 10.1.

A complete breakdown of land and lake areas for the Lac de Gras and Lac du Sauvage basin is listed in Appendix D of Annex X.

8D3.1.3 Baseline Water Balance Model Structure

The Model contains structural elements of the baseline water balance model including site specific and regional rating curves, the degree day method, snowmelt modelling and ice effects on lake outlets. A complete description of the baseline model structure, input data and model calibration is provided in Appendix F of Annex X.

8D3.1.4 Lac du Sauvage Narrows

The hydraulic channel parameters for the Lac du Sauvage - Lac de Gras Narrows (Narrows; the channel between Lac du Sauvage and Lac de Gras) was included in the Model to quantify the effects to navigability and fish passage with the Narrows.

To determine the effects to channel hydraulics, the outlet was modeled using a 1-dimensional hydraulic model (HEC-RAS) using the transects surveyed during the 2013 hydrology program by Golder Associates Ltd. Based on the transects and modeling results, a critical transect was selected for analysis. This transect, for any given flow, had a mean and maximum depth that was less than other transects. The critical transect for fish passage and navigation was determined to be the centre cross-section. Details for this cross-section, including location and survey data, are provided in Appendix E of Annex X.

Using the HEC-RAS model for the Narrows, a family of rating curves considering Lac du Sauvage (upstream) and Lac de Gras (downstream) water levels was developed for channel maximum depth, mean depth, and top width at the critical centre cross section. This was required due to the backwater effects of Lac de Gras on Lac du Sauvage discharges. These rating curves were then used in the Model to derive daily time series of channel flow properties.

8D3.1.5 Desteffany Lake

The Desteffany Lake watershed was included in the Model to quantify the effects of the Project downstream of the Lac de Gras outlet.

8D3.1.5.1 Hydrometric Data

Desteffany Lake outlet (Station 10PA001) hydrometric data for a period of record starting in 1994 are available from the Water Survey of Canada (Environment Canada 2014). The discharge historical data coverage is shown in Table 8D3-1 and the stage historical data record is shown in Table 8D3-2. Hydrometric data have been collected in open water and ice covered conditions.

Table 8D3-1 Desteffany Lake Discharge Data Availability

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1994	-	-	-	-	-	-	P	C	C	C	C	C
1995	C	C	P	-	-	P	C	C	C	C	C	C
1996	C	C	C	C	P	C	C	C	C	C	-	P
1997	-	-	-	-	-	P	C	C	C	C	C	C
1998	C	C	C	C	C	C	C	C	C	C	C	C
1999	C	C	C	C	P	P	C	C	C	C	C	C
2000	C	C	C	C	C	C	C	C	C	C	C	C
2001	C	C	C	C	C	C	C	C	C	C	C	C
2002	C	C	C	C	C	C	C	C	C	C	C	C
2003	C	C	C	C	C	C	C	C	C	C	C	C
2004	C	C	C	C	C	C	C	C	C	C	C	C
2005	C	C	C	C	C	C	C	C	C	C	C	C
2006	C	C	C	C	C	C	C	C	C	C	C	C
2007	C	C	C	C	C	C	C	C	C	P	C	C
2008	C	C	C	C	C	C	C	C	C	C	C	C
2009	C	C	C	C	C	C	C	C	C	C	C	C
2010	C	C	C	C	C	C	C	C	C	C	C	C
2011	C	C	C	C	C	C	C	C	C	P	-	-
2012	-	-	-	P	P	P	C	C	C	C	C	C
2013	-	-	-	-	P	P	P	C	C	C	-	-

C = Complete dataset; P = Partial dataset; - = No data available.

Table 8D3-2 Desteffany Lake Stage Data Availability

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2002	C	C	C	C	C	C	C	C	C	C	C	C
2003	C	C	C	C	C	C	C	C	C	C	C	C
2004	C	C	C	C	C	C	C	C	C	C	C	C
2005	C	C	C	C	C	C	C	C	C	C	C	C
2006	C	C	C	C	C	C	C	C	C	C	C	C
2007	C	C	C	C	C	C	C	C	C	C	C	C
2008	C	C	C	C	C	C	C	C	C	C	C	C
2009	C	C	C	C	C	C	C	C	C	C	C	C
2010	C	C	C	C	C	C	C	C	C	C	C	C
2011	C	C	C	C	C	P	C	C	C	P	-	-
2012	-	-	-	P	P	P	P	C	C	C	C	C
2013	C	C	C	C	C	P	P	C	C	C	C	C

C = Complete dataset; P = Partial dataset; - = No data available.

8D3.1.5.2 Spatial Data

The watershed upstream of the Desteffany Lake outlet (drainage area 6,116 km^2) includes the Lac de Gras watershed (drainage area 4,130 km^2) and a downstream watershed (drainage area 1,986 km^2) as shown in Map 8D3.1-1.

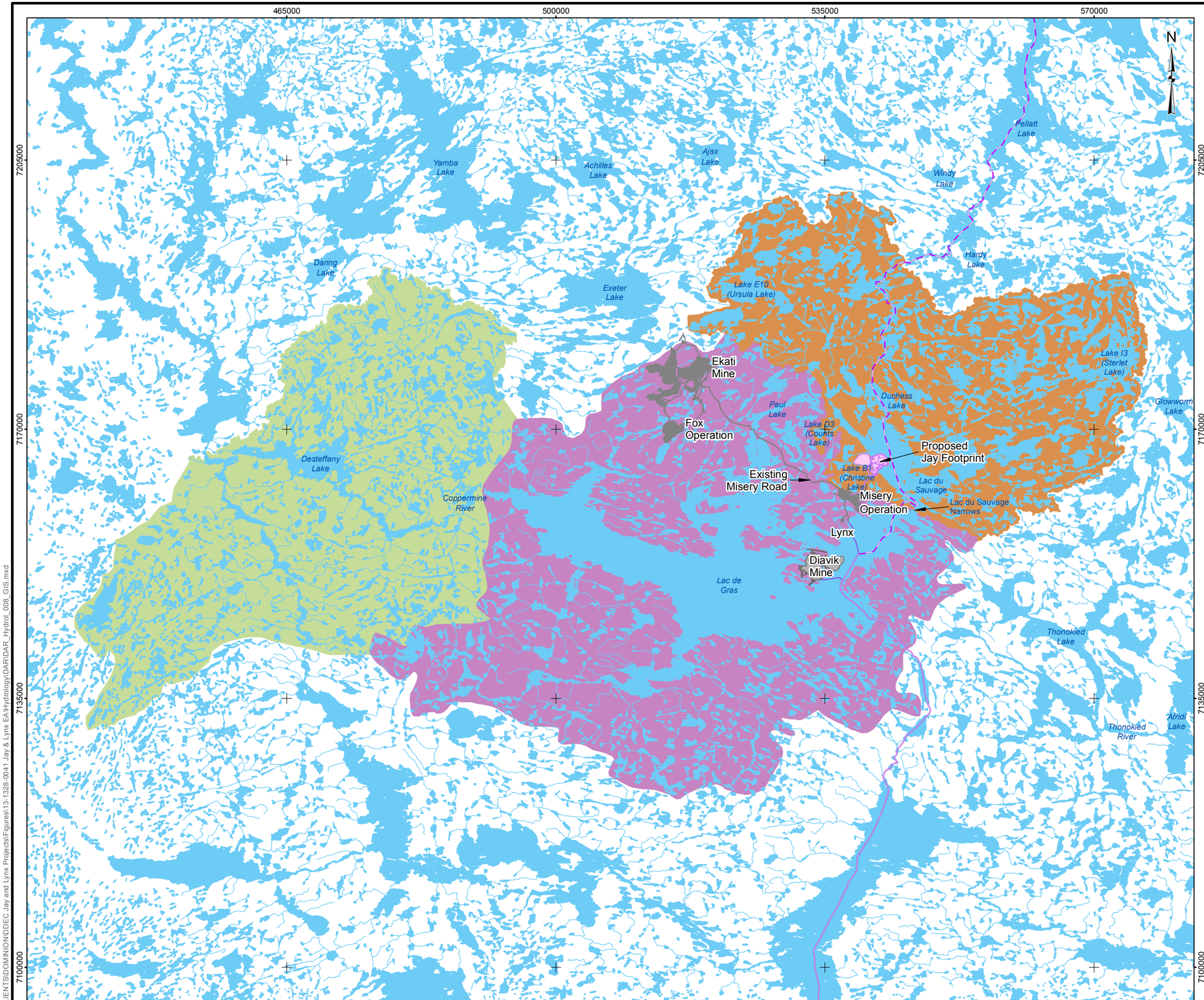
The land and lake areas of the Desteffany downstream watershed were determined from CanVec data. The total downstream basin area was calculated as with 79.5 percent (%) land area and 21.5% lake area.

The downstream watershed is modelled as a single reservoir as shown in Figure 8D3.1-1. The rating curve for the downstream watershed reservoir was calculated using the regional rating curve assessment. This is distinct from the Desteffany Lake outlet rating curve, described in Section 8D3.1.5.3. A calibration factor of was applied the water level in the rating curve formula to model faster, more efficient drainage, as reflected in the monitoring record.

8D3.1.5.3 Rating Curve

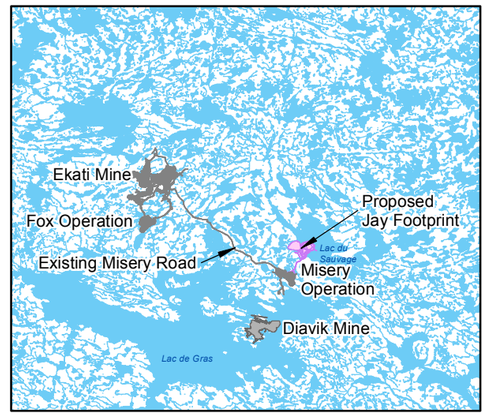
The Desteffany Lake outlet was modelled based on stage-discharge data from 2002 to 2013. Stage-discharge data were collected over open water and ice covered seasons. Two rating curves were developed to model the Desteffany Lake outlet as shown in Figure 8D3.1-1 and Figure 8D3.1-2.

The rating curves are controlled in the model using the degree day method. The ice covered rating curve (Figure 8D3.1-1) is used until the outlet is modelled to be completely free of ice.



LEGEND

- PROPOSED JAY FOOTPRINT
- EKATI MINE FOOTPRINT
- DIAVIK MINE FOOTPRINT
- WINTER ROAD
- TIBBITT TO CONTWOYTO WINTER ROAD
- NORTHERN PORTION OF TIBBITT TO CONTWOYTO WINTER ROAD
- DESTEFFANY WATERSHED
- LAC DE GRAS WATERSHED
- LAC DU SAUVAGE WATERSHED



REFERENCE

CANVEC © NATURAL RESOURCES CANADA, 2012
NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012
DATUM: NAD83 PROJECTION: UTM ZONE 12N

DOCUMENT

DEVELOPER'S ASSESSMENT REPORT

10 0 10
SCALE 1:500,000 KILOMETRES

PROJECT
DOMINION DIAMOND
JAY PROJECT
NORTHWEST TERRITORIES, CANADA

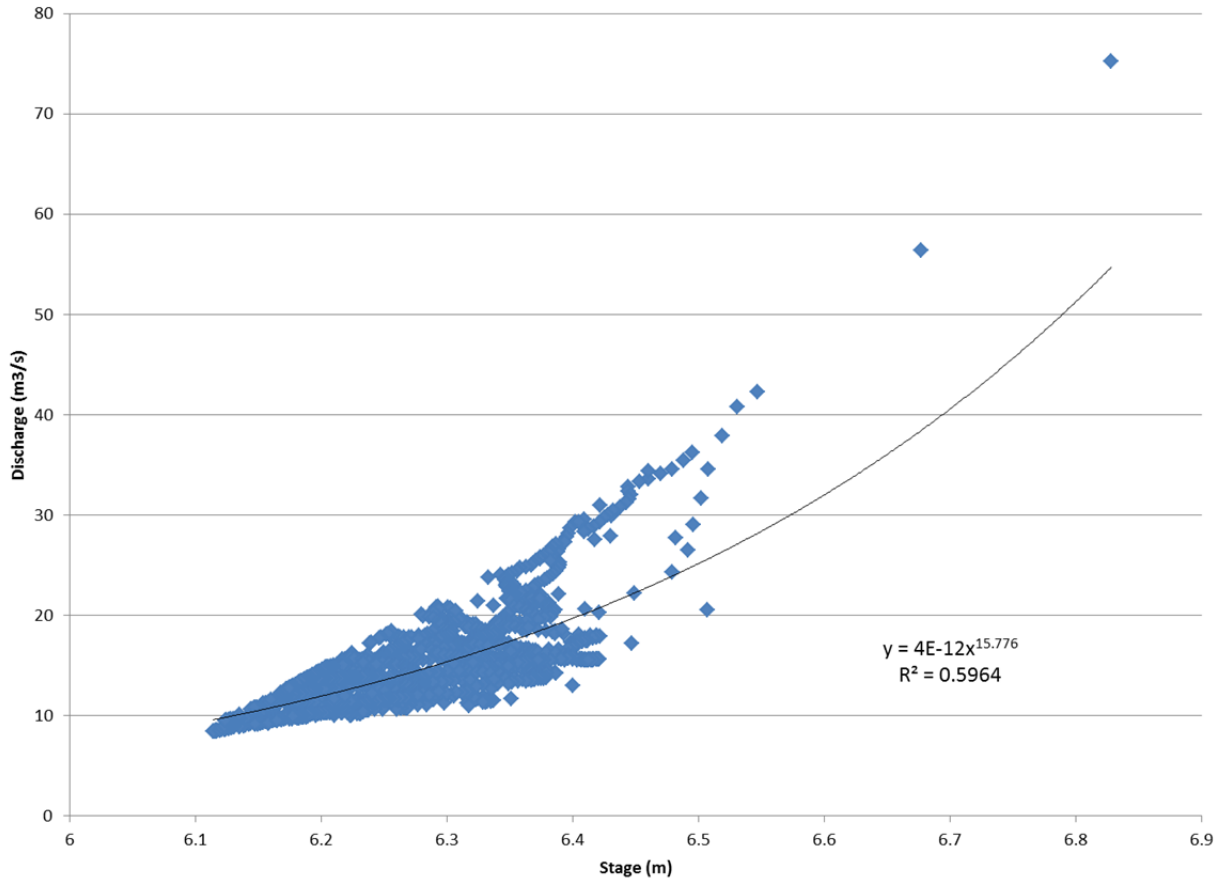
TITLE
DESTEFFANY LAKE, LAC DE GRAS AND LAC DU SAUVAGE WATERSHEDS

Golder Associates

PROJECT		13-1328-0041	FILE No. DAR_Hydrol_008_GIS	
DESIGN	RB	20/09/14	SCALE AS SHOWN	REV 0
GIS	JE/LR	20/10/14	MAP 8D3.1-1	
CHECK	CV	20/10/14		
REVIEW	NS	20/10/14		

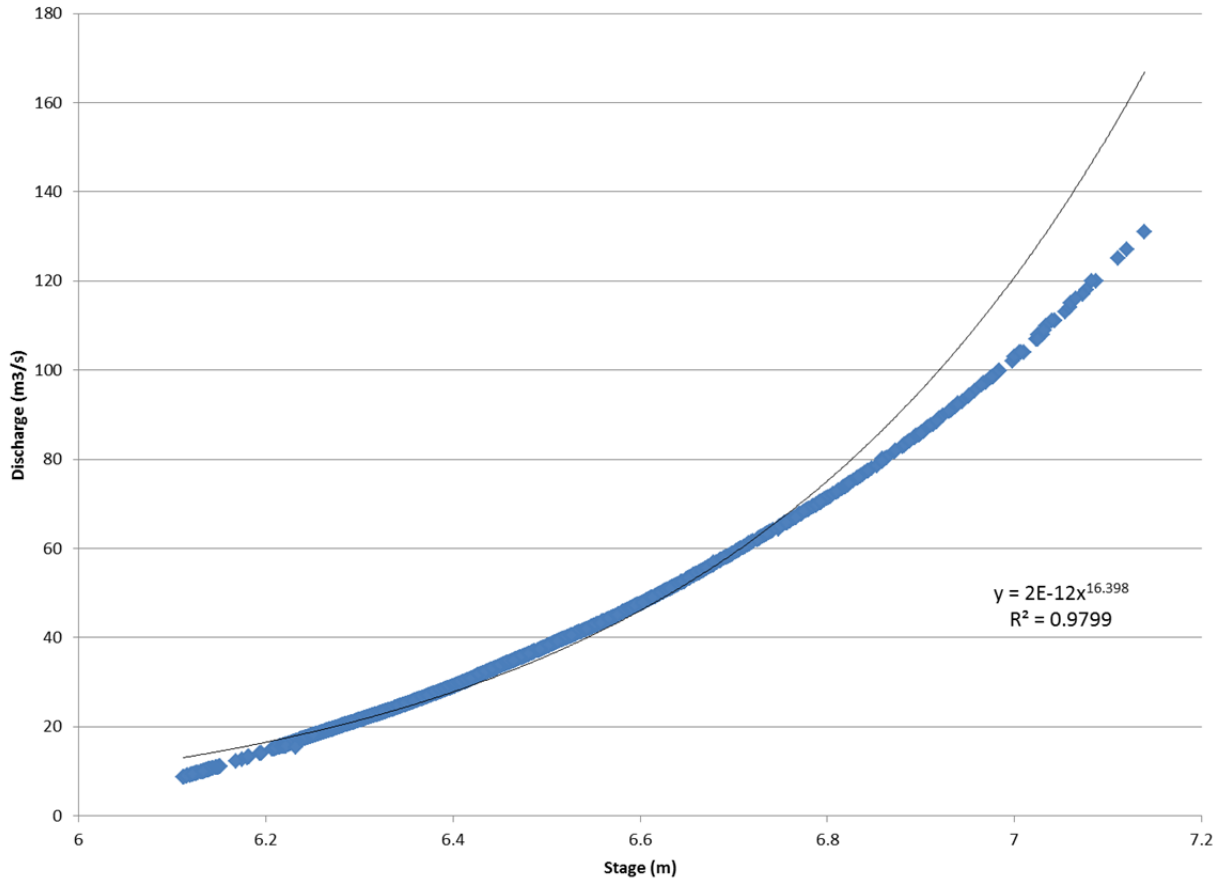
G:\CLIENTS\DOMINION\DD\EC Jay and Lynx Projects\Figures\13-1328-0041 Jay & Lynx EA\Hydrology\DAR\DAR_Hydrol_008_GIS.mxd

Figure 8D3.1-1 Desteffany Lake Outlet Ice Covered Rating Curve



m^3/s = cubic metres per second; m = metre.

Figure 8D3.1-2 Desteffany Lake Outlet Open Water Rating Curve

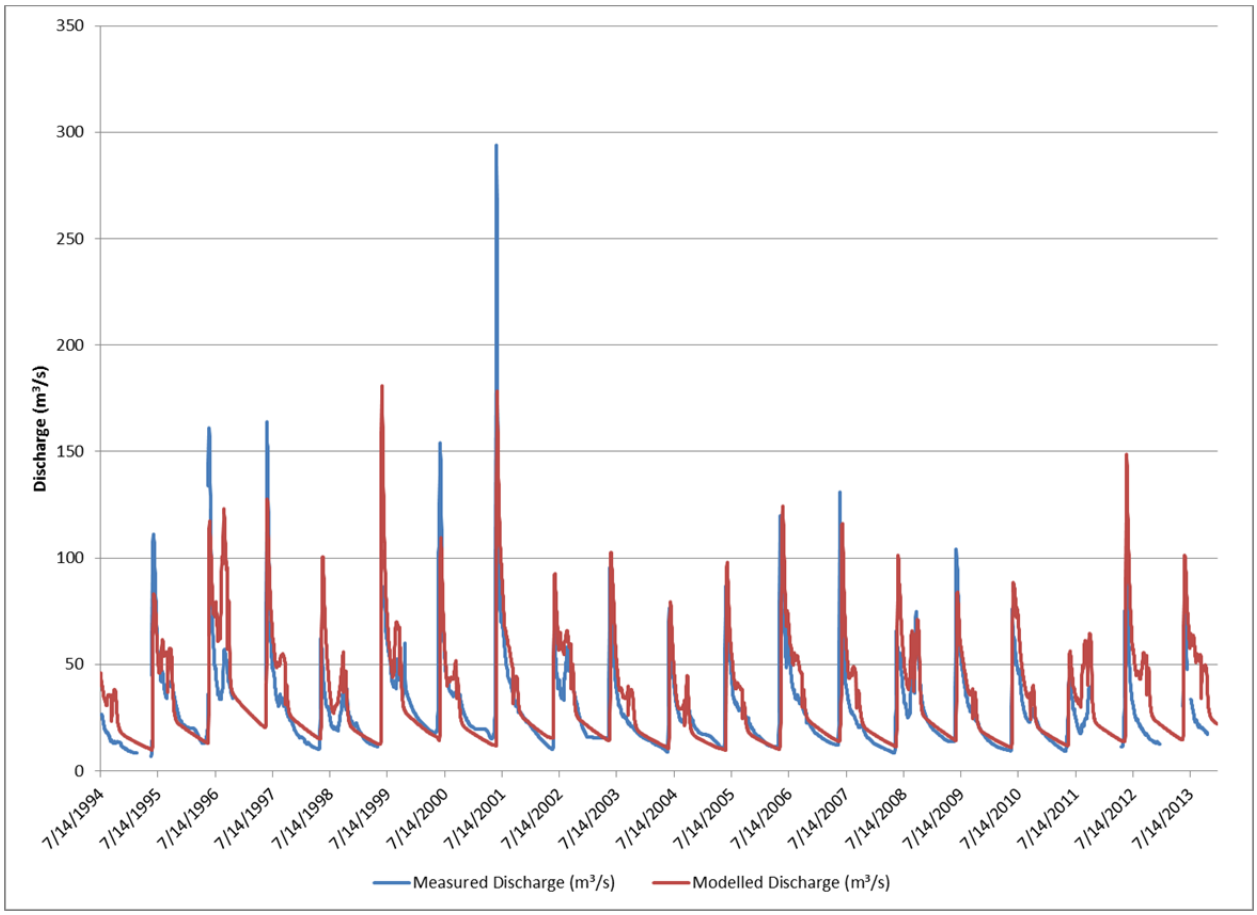


m^3/s = cubic metres per second; m = metre.

8D3.1.5.4 Results

The magnitude and timing of the modelled discharge data are generally consistent with measured data as shown in Figure 8D3.1-3.

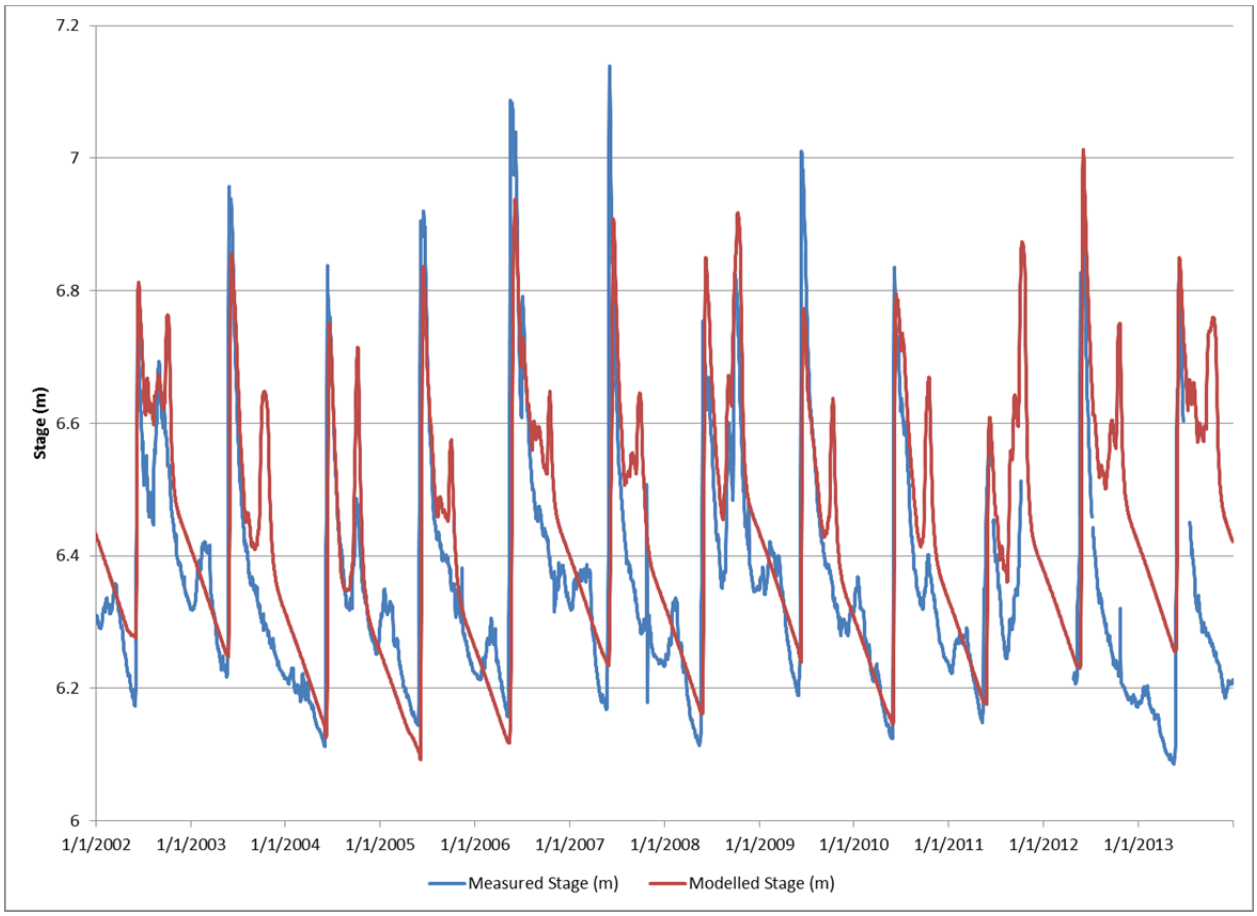
Figure 8D3.1-3 Desteffany Lake Outlet Modelled and Measured Discharges



m^3/s = cubic metres per second.

The magnitude and timing of modelled and measured Desteffany Lake stage results are consistent as shown in Figure 8D3.1-4. The modelled stage data contains a secondary peak in the late summer that is larger in magnitude than the measured data.

Figure 8D3.1-4 Desteffany Lake Modelled and Measured Stages



m = metre.

8D4 BASE CASE ASSESSMENT

The baseline water balance model was developed for the Base Case using derived meteorological data and physical characteristics of the hydrology baseline study area (BSA). It was calibrated using measured hydrological data in the Desteffany Lake watershed. The baseline water balance was used to generate daily time series datasets of lake stages and lake outlet discharges for years 1964 to 2013, after a five-year lake elevation equilibration period. Frequency analyses performed for key sites provide a historical baseline of lake stage and lake outlet discharge regimes.

Frequency analyses were performed on the annual peak discharges, channel widths, and water levels, as well as the maximum annual 7-day average and 14-day average of the discharges and water levels for all the lake outlets. The annual 7-day, 14-day, 30-day, 60-day, and 90-day average low flow discharges, channel widths and water levels were assessed for the large lake outlets (Lac du Sauvage, the Narrows, Lac de Gras, and Desteffany Lake). The 30-day, 60-day, and 90-day average low flow discharges, channel widths, and water levels were assessed for the smaller lakes (B0, Ac35, C1, and C17); however, only the open water (May to October) conditions were analyzed as the small lake outlets are expected to have frozen outlets with zero flow during the winter months.

The 100-year, 50-year, 20-year, 10-year, 5-year, and 2-year (median) return periods were assessed for each lake outlet under both the wet condition, as well as the dry condition.

8D4.1 Base Case Data

The baseline water balance model used a derived daily climate dataset for the period from 1959 to 2013. Derived monthly and annual values for mean air temperature, total rainfall, total snowfall, total precipitation, and total lake evaporation are available in Appendix B of Annex X.

The output time period was selected to correspond with the climate data derived for the site and with long-term hydrological monitoring data from the Point Lake (Station 10PB001) and Desteffany Lake (Station 10PA001) stations on the Coppermine River (Environment Canada 2014).

8D4.2 Base Case Method

The baseline water balance model output results were obtained for years 1964 to 2013, after a five-year spin up period in which lake elevations were allowed to equilibrate. The basic water balance elements for each modelled lake reservoir considered rainfall and snowmelt runoff, lake evaporation, changes in lake storage, and outflow to downstream watersheds. The baseline water balance model did not include the effects of the Project. As the model calibration included recent climate and hydrometric data up to 2013, the effects on surface hydrology from the existing Diavik and Ekati mines are incorporated into the Base Case.

A complete description of the baseline water balance modelling methods is available in Appendix F of Annex X.

8D4.3 Base Case Results

The Base Case results include streams and lakes for which a measureable effect from the Project is expected, including Lake Ac35, Lake B0, Lake C1, Lake C17, Lac du Sauvage, Lac de Gras, and Desteffany Lake. The frequency analysis results include return periods and seasonal data for discharges and stages of lake outlets.

8D4.3.1 Lake B0 Outlet

Table 8D4-1 Derived Summer Monthly Mean Discharges at Lake B0 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	19,175	57,778	40,044	29,947	30,410	18,583
	50	16,350	53,156	37,551	27,516	26,701	15,985
	20	12,507	46,821	33,990	24,279	22,308	12,731
	10	9,493	41,794	31,028	21,783	19,302	10,374
	5	6,349	36,360	27,666	19,184	16,489	8,054
Median	2	1,866	27,683	21,869	15,269	12,785	4,796
Dry	5	-	20,854	16,814	12,365	10,405	2,554
	10	-	17,885	14,435	11,132	9,479	1,644
	20	-	15,700	12,596	10,227	8,828	992
	50	-	13,490	10,646	9,309	8,194	344
	100	-	12,162	9,425	8,749	7,819	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-2 Derived Representative Discharges at Lake B0 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.96	72,382	66,638	10,206	19,041	21,295
	50	0.91	67,786	62,501	8,684	17,291	19,682
	20	0.83	61,263	56,623	6,621	14,970	17,440
	10	0.76	55,877	51,764	5,010	13,190	15,635
	5	0.67	49,808	46,281	3,340	11,346	13,693
Median	2	0.53	39,467	36,919	981	8,581	10,764
Dry	5	0.40	30,592	28,861	-	6,544	8,884
	10	0.34	26,466	25,106	-	5,682	8,288
	20	0.30	23,300	22,222	-	5,050	7,962
	50	0.25	19,969	19,183	-	4,411	7,735
	100	0.22	17,895	17,289	-	4,021	7,645

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-3 Derived Summer Monthly Mean Stages at Lake B0 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	1.70	2.05	1.51	1.24	1.23	1.21
	50	1.63	1.97	1.46	1.20	1.17	1.13
	20	1.52	1.85	1.38	1.13	1.08	1.03
	10	1.42	1.76	1.31	1.07	1.01	0.95
	5	1.29	1.64	1.23	1.01	0.93	0.86
Median	2	1.05	1.42	1.08	0.89	0.81	0.73
Dry	5	0.81	1.21	0.93	0.79	0.71	0.63
	10	0.70	1.11	0.86	0.74	0.67	0.59
	20	0.61	1.03	0.80	0.70	0.65	0.56
	50	0.52	0.93	0.73	0.66	0.62	0.53
	100	0.47	0.87	0.68	0.63	0.61	0.51

m = metre.

Table 8D4-4 Derived Representative Stages at Lake B0 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	3.10	2.65	2.45	1.04	1.14	1.15
	50	3.01	2.56	2.35	0.99	1.08	1.10
	20	2.87	2.42	2.21	0.91	1.00	1.03
	10	2.74	2.31	2.08	0.85	0.94	0.98
	5	2.58	2.17	1.95	0.79	0.87	0.91
Median	2	2.27	1.92	1.71	0.69	0.76	0.81
Dry	5	1.95	1.69	1.51	0.61	0.67	0.72
	10	1.79	1.57	1.42	0.58	0.63	0.69
	20	1.66	1.48	1.35	0.55	0.60	0.66
	50	1.54	1.37	1.27	0.53	0.57	0.63
	100	1.46	1.31	1.22	0.51	0.55	0.62

m = metre.

8D4.3.2 Lake Ac35 Outlet

Table 8D4-5 Derived Summer Monthly Mean Discharges at Lake Ac35 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,337	10,483	6,591	5,025	5,286	3,271
	50	2,809	9,627	6,170	4,568	4,644	2,790
	20	2,103	8,454	5,563	3,962	3,859	2,195
	10	1,560	7,526	5,055	3,498	3,304	1,770
	5	1,006	6,524	4,474	3,017	2,771	1,357
Median	2	251	4,928	3,459	2,297	2,043	786
Dry	5	-	3,678	2,559	1,767	1,557	399
	10	-	3,135	2,130	1,543	1,363	243
	20	-	2,737	1,795	1,379	1,225	133
	50	-	2,335	1,438	1,213	1,090	23
	100	-	2,094	1,213	1,112	1,009	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-6 Derived Representative Discharges at Lake Ac35 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.18	14,514	13,001	1,500	3,309	3,683
	50	0.17	13,489	12,135	1,266	2,984	3,343
	20	0.15	12,060	10,919	951	2,552	2,898
	10	0.14	10,904	9,926	709	2,223	2,561
	5	0.12	9,631	8,821	461	1,881	2,216
Median	2	0.09	7,533	6,974	120	1,367	1,707
Dry	5	0.07	5,814	5,428	-	995	1,338
	10	0.06	5,042	4,723	-	844	1,183
	20	0.05	4,463	4,189	-	736	1,070
	50	0.05	3,866	3,633	-	632	956
	100	0.04	3,501	3,291	-	571	887

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-7 Derived Summer Monthly Mean Stages at Lake Ac35 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.54	0.81	0.60	0.49	0.51	0.47
	50	0.51	0.78	0.58	0.46	0.47	0.44
	20	0.47	0.73	0.54	0.43	0.42	0.39
	10	0.44	0.69	0.51	0.40	0.38	0.35
	5	0.39	0.63	0.47	0.36	0.34	0.31
Median	2	0.32	0.54	0.39	0.30	0.28	0.25
Dry	5	0.24	0.45	0.32	0.25	0.23	0.21
	10	0.21	0.41	0.28	0.23	0.21	0.19
	20	0.19	0.38	0.25	0.21	0.20	0.17
	50	0.16	0.36	0.22	0.19	0.18	0.16
	100	0.15	0.34	0.20	0.18	0.18	0.15

m = metre.

Table 8D4-8 Derived Representative Stages at Lake Ac35 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	1.09	1.03	0.95	0.36	0.44	0.45
	50	1.04	0.98	0.91	0.34	0.41	0.42
	20	0.96	0.91	0.85	0.31	0.37	0.39
	10	0.90	0.85	0.80	0.29	0.34	0.36
	5	0.83	0.78	0.74	0.26	0.31	0.33
Median	2	0.70	0.67	0.64	0.22	0.26	0.28
Dry	5	0.59	0.57	0.54	0.19	0.21	0.23
	10	0.54	0.52	0.50	0.18	0.20	0.22
	20	0.50	0.48	0.46	0.17	0.18	0.20
	50	0.45	0.44	0.42	0.16	0.17	0.19
	100	0.42	0.42	0.40	0.15	0.16	0.18

m = metre.

8D4.3.3 Lake C1 Outlet

Table 8D4-9 Derived Summer Monthly Mean Discharges at Lake C1 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	10,645	33,984	21,865	16,946	17,923	11,118
	50	8,960	31,120	20,416	15,336	15,721	9,482
	20	6,705	27,217	18,336	13,193	13,006	7,458
	10	4,973	24,138	16,594	11,543	11,070	6,009
	5	3,208	20,831	14,605	9,826	9,190	4,598
Median	2	797	15,602	11,138	7,243	6,598	2,644
Dry	5	-	11,541	8,074	5,329	4,848	1,318
	10	-	9,794	6,617	4,517	4,146	786
	20	-	8,516	5,484	3,921	3,645	405
	50	-	7,231	4,274	3,317	3,151	29
	100	-	6,463	3,513	2,948	2,855	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-10 Derived Representative Discharges at Lake C1 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.57	45,394	41,139	4,800	11,062	11,953
	50	0.53	42,106	38,294	4,045	9,962	10,949
	20	0.48	37,551	34,331	3,034	8,497	9,587
	10	0.43	33,892	31,127	2,255	7,373	8,509
	5	0.37	29,887	27,596	1,462	6,198	7,352
Median	2	0.29	23,364	21,783	377	4,419	5,535
Dry	5	0.22	18,094	17,019	-	3,116	4,158
	10	0.19	15,755	14,882	-	2,580	3,598
	20	0.17	14,011	13,278	-	2,199	3,219
	50	0.14	12,227	11,626	-	1,826	2,882
	100	0.13	11,143	10,616	-	1,609	2,710

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-11 Derived Summer Monthly Mean Stages at Lake C1 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.37	0.54	0.41	0.33	0.35	0.32
	50	0.35	0.52	0.39	0.31	0.33	0.30
	20	0.32	0.48	0.36	0.29	0.29	0.27
	10	0.30	0.45	0.34	0.27	0.26	0.24
	5	0.27	0.42	0.31	0.24	0.23	0.22
Median	2	0.21	0.35	0.26	0.20	0.18	0.17
Dry	5	0.16	0.29	0.21	0.16	0.15	0.14
	10	0.14	0.27	0.18	0.14	0.13	0.12
	20	0.12	0.25	0.16	0.13	0.12	0.11
	50	0.11	0.24	0.14	0.11	0.11	0.10
	100	0.10	0.23	0.12	0.10	0.11	0.09

m = metre.

Table 8D4-12 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	0.33	0.33	0.33	0.33	0.32	0.32
	50	0.30	0.30	0.30	0.30	0.30	0.30
	20	0.27	0.27	0.27	0.27	0.27	0.27
	10	0.24	0.24	0.24	0.24	0.24	0.24
	5	0.21	0.21	0.21	0.21	0.21	0.21
Median	2	0.17	0.17	0.17	0.17	0.17	0.17
Dry	5	0.14	0.14	0.14	0.14	0.14	0.14
	10	0.12	0.12	0.12	0.12	0.12	0.12
	20	0.11	0.11	0.11	0.11	0.11	0.11
	50	0.10	0.10	0.10	0.10	0.10	0.10
	100	0.09	0.09	0.09	0.09	0.10	0.10

m = metre.

Table 8D4-13 Derived Representative Stages at Lake C1 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	0.71	0.67	0.63	0.22	0.22	0.25	0.30	0.31
	50	0.67	0.64	0.60	0.21	0.21	0.23	0.28	0.29
	20	0.62	0.59	0.56	0.20	0.20	0.21	0.25	0.26
	10	0.58	0.55	0.52	0.18	0.18	0.20	0.23	0.24
	5	0.53	0.51	0.48	0.17	0.17	0.18	0.21	0.22
Median	2	0.45	0.43	0.41	0.14	0.14	0.15	0.17	0.18
Dry	5	0.38	0.37	0.35	0.11	0.11	0.12	0.14	0.15
	10	0.35	0.34	0.32	0.10	0.10	0.11	0.13	0.14
	20	0.32	0.31	0.30	0.09	0.09	0.10	0.11	0.13
	50	0.30	0.29	0.28	0.08	0.09	0.09	0.10	0.12
	100	0.28	0.27	0.26	0.07	0.08	0.09	0.10	0.11

m = metre.

8D4.3.4 Lake C17 Outlet

Table 8D4-14 Derived Summer Monthly Mean Discharges at Lake C17 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,486	2,171	648	823	757	465
	50	1,287	2,058	585	720	688	392
	20	1,010	1,882	494	588	586	294
	10	786	1,718	417	491	499	219
	5	546	1,511	328	393	400	145
Median	2	181	1,085	178	252	240	56
Dry	5	-	628	61	152	128	17
	10	-	383	15	111	90	9
	20	-	185	-	81	67	5
	50	-	-	-	52	49	3
	100	-	-	-	34	41	2

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-15 Derived Representative Discharges at Lake C17 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.151	7,103	4,361	157	325	516
	50	0.138	6,585	4,098	134	289	448
	20	0.120	5,862	3,720	103	240	364
	10	0.105	5,274	3,403	78	203	303
	5	0.089	4,624	3,040	52	163	245
Median	2	0.064	3,546	2,406	15	103	167
Dry	5	0.045	2,654	1,843	-	58	119
	10	0.037	2,250	1,574	-	38	101
	20	0.031	1,947	1,365	-	24	90
	50	0.025	1,632	1,141	-	10	79
	100	0.021	1,439	999	-	1	74

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D4-16 Derived Summer Monthly Mean Stages at Lake C17 Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.40	0.43	0.15	0.16	0.16	0.16
	50	0.38	0.41	0.14	0.15	0.15	0.14
	20	0.34	0.39	0.12	0.13	0.14	0.11
	10	0.30	0.36	0.11	0.12	0.12	0.09
	5	0.25	0.32	0.09	0.10	0.11	0.07
Median	2	0.17	0.24	0.06	0.08	0.08	0.05
Dry	5	0.09	0.14	0.03	0.05	0.05	0.03
	10	0.05	0.09	0.01	0.04	0.04	0.02
	20	0.02	0.05	-	0.03	0.03	0.02
	50	-	-	-	0.02	0.02	0.01
	100	-	-	-	0.02	0.01	0.01

m = metre; - = zero stage due to ice conditions.

Table 8D4-17 Derived Representative Stages at Lake C17 Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	1.11	0.86	0.70	0.07	0.09	0.11
	50	1.06	0.82	0.67	0.06	0.09	0.11
	20	0.99	0.78	0.63	0.06	0.08	0.10
	10	0.93	0.73	0.59	0.05	0.07	0.09
	5	0.86	0.69	0.55	0.04	0.06	0.08
Median	2	0.74	0.60	0.48	0.03	0.05	0.06
Dry	5	0.62	0.51	0.42	0.01	0.03	0.04
	10	0.56	0.47	0.39	0.01	0.02	0.04
	20	0.52	0.44	0.37	0.00	0.01	0.03
	50	0.47	0.40	0.35	-	0.01	0.02
	100	0.43	0.38	0.33	-	0.00	0.02

m = metre.

8D4.3.5 Lac du Sauvage Outlet

Table 8D4-18 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
	50	380,082	2,084,577	2,633,695	2,338,302	2,406,816	1,623,279
	20	287,242	1,684,705	2,269,224	2,062,547	2,049,922	1,473,342
	10	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
	5	191,408	1,111,596	1,694,245	1,608,574	1,543,612	1,210,453
Median	2	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
Dry	5	121,397	469,945	916,142	960,242	959,564	770,820
	10	113,218	376,696	779,576	837,812	864,255	676,683
	20	107,845	314,402	682,140	746,864	796,136	604,543
	50	102,890	256,958	586,472	653,768	728,665	528,698
	100	100,087	225,170	530,478	596,430	688,205	481,524

m^3/d = cubic metres per day.

Table 8D4-19 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	374,032	292,517	240,114	212,393	877,199	525,856
	50	359,561	281,452	230,933	200,804	834,716	506,590
	20	338,843	265,699	217,872	185,387	773,517	478,179
	10	321,568	252,505	206,941	173,567	722,121	453,676
	5	301,906	237,475	194,500	161,232	663,193	424,795
Median	2	267,860	211,399	172,945	142,599	559,958	371,934
Dry	5	238,011	238,624	188,754	128,989	468,040	322,061
	10	223,903	225,701	178,491	123,405	424,076	297,124
	20	212,970	216,418	171,065	119,439	389,752	277,108
	50	201,350	207,759	164,097	115,563	353,015	255,109
	100	194,054	203,146	160,369	113,303	329,801	240,876

m^3/d = cubic metres per day.

Table 8D4-20 Derived Representative Discharges at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
	50	35.74	3,066,469	3,021,067	173,778	176,685	175,399	196,434	205,287
	20	30.72	2,633,426	2,596,595	160,495	163,159	165,324	180,802	191,185
	10	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
	5	23.09	1,976,873	1,951,956	139,468	141,725	147,326	156,340	168,026
Median	2	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
Dry	5	13.53	1,155,683	1,142,990	110,821	112,460	116,438	123,766	134,070
	10	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
	20	10.89	929,615	919,447	102,141	103,571	105,286	114,145	122,917
	50	9.85	840,975	831,643	98,579	99,920	100,903	110,244	118,161
	100	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D4-21 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.74	425.54	416.41	416.35	425.62	416.28
	50	415.71	424.71	416.38	416.32	424.80	416.26
	20	415.66	423.27	416.32	416.28	423.38	416.21
	10	415.63	421.82	416.27	416.24	421.95	416.18
	5	415.60	419.91	416.21	416.19	420.06	416.13
Median	2	415.55	415.98	416.09	416.09	416.17	416.05
Dry	5	415.52	411.98	415.98	416.00	412.22	415.96
	10	415.50	409.92	415.92	415.95	410.19	415.91
	20	415.49	408.25	415.88	415.91	408.53	415.88
	50	415.49	406.40	415.85	415.87	406.71	415.84
	100	415.48	405.20	415.82	415.84	405.52	415.81

m = metre.

Table 8D4-22 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.91	415.76	415.76	415.64	416.14	415.94
	50	415.87	415.74	415.72	415.63	416.10	415.92
	20	415.81	415.72	415.68	415.62	416.05	415.89
	10	415.77	415.71	415.65	415.60	416.01	415.87
	5	415.73	415.68	415.62	415.59	415.96	415.84
Median	2	415.68	415.64	415.58	415.56	415.88	415.78
Dry	5	415.66	415.60	415.56	415.52	415.82	415.72
	10	415.65	415.58	415.56	415.51	415.80	415.70
	20	415.64	415.56	415.55	415.49	415.78	415.67
	50	415.63	415.54	415.55	415.48	415.76	415.65
	100	415.63	415.52	415.55	415.47	415.75	415.64

m = metre.

Table 8D4-23 Derived Representative Stages at Lac du Sauvage Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
	50	416.46	416.41	416.41	415.62	415.62	415.61	415.62	415.63
	20	416.39	416.37	416.36	415.59	415.59	415.59	415.60	415.62
	10	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
	5	416.27	416.27	416.27	415.54	415.55	415.56	415.58	415.59
Median	2	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
Dry	5	416.07	416.07	416.07	415.50	415.50	415.51	415.52	415.53
	10	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
	20	416.00	415.97	415.97	415.49	415.49	415.48	415.49	415.51
	50	415.97	415.92	415.92	415.49	415.49	415.46	415.48	415.49
	100	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48

m = metre.

8D4.3.6 Lac du Sauvage Narrows

Table 8D4-24 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	23.80	54.49	55.69	54.67	56.74	52.24
	50	17.97	50.63	54.26	53.21	54.37	49.86
	20	13.10	45.05	51.75	50.72	50.82	46.35
	10	10.78	40.39	49.21	48.27	47.73	43.30
	5	9.20	35.18	45.83	45.09	44.16	39.72
Median	2	7.81	26.57	38.82	38.74	38.01	33.39
Dry	혓	7.23	19.53	31.62	32.42	32.75	28.06
	10	7.06	16.36	27.90	29.22	30.31	25.84
	20	6.96	13.96	24.86	26.64	28.45	24.35
	50	6.87	11.47	21.50	23.82	26.48	23.04
	100	6.82	9.91	19.30	21.98	25.24	22.38

m = metre.

Table 8D4-25 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	34.95	36.81	22.56	15.82	47.02	36.29
	50	31.81	27.57	16.51	12.26	42.28	34.28
	20	27.39	19.29	11.94	9.67	36.75	31.28
	10	23.78	15.06	9.98	8.60	33.01	28.69
	5	19.82	12.00	8.77	7.95	29.56	25.70
Median	2	13.63	9.07	7.81	7.47	25.09	20.57
Dry	5	9.42	7.75	7.46	7.30	22.26	16.21
	10	8.01	7.33	7.37	7.25	21.18	14.20
	20	7.20	7.07	7.31	7.22	20.42	12.66
	50	6.61	6.84	7.26	7.20	19.68	11.04
	100	6.36	6.71	7.24	7.19	19.25	10.02

m = metre.

Table 8D4-26 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
	50	52.64	52.73	52.87	10.79	10.97	11.29	11.45	12.09
	20	51.80	51.84	51.88	8.97	9.05	9.19	9.33	9.76
	10	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
	5	48.99	48.91	48.75	7.69	7.71	7.77	7.86	8.08
Median	2	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
Dry	5	37.84	37.60	37.27	7.15	7.16	7.20	7.26	7.33
	10	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
	20	30.47	30.27	30.07	7.09	7.10	7.13	7.19	7.24
	50	26.34	26.19	26.11	7.07	7.08	7.11	7.17	7.21
	100	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19

m = metre.

Table 8D4-27 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.68	1.23	1.29	1.26	1.34	1.26
	50	0.64	1.18	1.26	1.23	1.29	1.21
	20	0.59	1.10	1.20	1.18	1.21	1.15
	10	0.55	1.03	1.16	1.14	1.15	1.09
	5	0.51	0.95	1.10	1.09	1.09	1.03
Median	2	0.46	0.80	1.00	1.00	0.99	0.92
Dry	5	0.43	0.67	0.90	0.92	0.91	0.84
	10	0.43	0.61	0.85	0.88	0.88	0.80
	20	0.42	0.56	0.81	0.85	0.85	0.77
	50	0.42	0.51	0.77	0.81	0.83	0.74
	100	0.42	0.48	0.74	0.79	0.81	0.72

m = metre.

Table 8D4-28 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	0.93	0.88	0.77	0.67	1.15	1.02
	50	0.86	0.79	0.69	0.61	1.09	0.96
	20	0.77	0.69	0.61	0.55	1.01	0.88
	10	0.71	0.63	0.56	0.52	0.94	0.82
	5	0.65	0.58	0.53	0.49	0.87	0.75
Median	2	0.58	0.52	0.48	0.46	0.77	0.66
Dry	5	0.53	0.49	0.46	0.44	0.70	0.60
	10	0.52	0.48	0.45	0.43	0.67	0.58
	20	0.51	0.47	0.45	0.43	0.64	0.56
	50	0.50	0.47	0.44	0.43	0.62	0.55
	100	0.50	0.46	0.44	0.42	0.61	0.54

m = metre.

Table 8D4-29 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Peak Daily Max Depth (m)	7-Day Mean Peak Max Depth (m)	14-Day Mean Peak Max Depth (m)	7-Day Low Flow Max Depth (m)	14-Day Low Flow Max Depth (m)	30-Day Low Flow Max Depth (m)	60-Day Low Flow Max Depth (m)	90-Day Low Flow Max Depth (m)
Wet	100	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
	50	1.31	1.31	1.31	0.55	0.55	0.57	0.58	0.57
	20	1.27	1.26	1.26	0.51	0.51	0.52	0.53	0.54
	10	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
	5	1.17	1.17	1.16	0.46	0.47	0.47	0.48	0.49
Median	2	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
Dry	5	0.95	0.95	0.95	0.42	0.42	0.43	0.43	0.45
	10	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
	20	0.83	0.83	0.83	0.41	0.41	0.42	0.42	0.44
	50	0.77	0.76	0.77	0.41	0.41	0.41	0.42	0.43
	100	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43

m = metre.

Table 8D4-30 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.43	0.51	0.49	0.57	0.50
	50	0.33	0.42	0.49	0.47	0.52	0.48
	20	0.32	0.40	0.46	0.45	0.47	0.45
	10	0.32	0.39	0.44	0.43	0.44	0.42
	5	0.31	0.37	0.42	0.41	0.41	0.40
Median	2	0.30	0.33	0.38	0.38	0.37	0.36
Dry	5	0.29	0.30	0.35	0.35	0.35	0.33
	10	0.28	0.28	0.34	0.35	0.35	0.31
	20	0.27	0.27	0.33	0.34	0.34	0.30
	50	0.26	0.26	0.32	0.33	0.34	0.29
	100	0.26	0.25	0.31	0.33	0.33	0.29

m = metre.

Table 8D4-31 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.41	0.35	0.35	0.34	0.45	0.45
	50	0.39	0.35	0.35	0.34	0.43	0.40
	20	0.36	0.35	0.34	0.33	0.40	0.34
	10	0.34	0.35	0.34	0.33	0.37	0.31
	5	0.32	0.34	0.34	0.32	0.35	0.28
Median	2	0.28	0.32	0.32	0.31	0.30	0.25
Dry	5	0.24	0.29	0.30	0.29	0.26	0.23
	10	0.23	0.26	0.29	0.28	0.24	0.23
	20	0.21	0.23	0.28	0.28	0.23	0.22
	50	0.20	0.19	0.26	0.26	0.21	0.22
	100	0.19	0.16	0.25	0.26	0.21	0.21

m = metre.

Table 8D4-32 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Base Case

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
	50	0.55	0.54	0.54	0.25	0.26	0.25	0.25	0.28
	20	0.50	0.50	0.49	0.24	0.25	0.24	0.25	0.27
	10	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
	5	0.44	0.44	0.43	0.23	0.23	0.23	0.25	0.27
Median	2	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
Dry	5	0.37	0.37	0.37	0.22	0.22	0.23	0.24	0.26
	10	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
	20	0.36	0.36	0.36	0.22	0.22	0.22	0.23	0.25
	50	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D4.3.7 Lac de Gras Outlet

Table 8D4-33 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
	50	1,798,156	2,737,826	3,228,410	3,499,986	3,787,932	3,127,130
	20	1,625,680	2,536,276	2,979,411	3,196,891	3,420,994	2,910,636
	10	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
	5	1,333,119	2,163,907	2,541,928	2,681,599	2,822,008	2,486,872
Median	2	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
Dry	5	897,008	1,471,519	1,807,252	1,871,756	1,954,289	1,661,642
	10	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
	20	748,834	1,179,041	1,528,154	1,585,032	1,672,999	1,354,318
	50	683,473	1,038,327	1,400,577	1,458,325	1,553,820	1,234,168
	100	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086

m^3/d = cubic metres per day.

Table 8D4-34 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
	50	2,268,262	2,082,216	1,907,876	1,740,426	2,688,706	2,476,387
	20	2,068,135	1,897,090	1,736,281	1,582,264	2,453,752	2,265,330
	10	1,907,015	1,748,300	1,598,709	1,455,733	2,263,893	2,093,662
	5	1,730,181	1,585,285	1,448,369	1,317,766	2,054,720	1,903,245
Median	2	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
Dry	5	1,206,184	1,104,359	1,007,689	915,598	1,428,895	1,323,713
	10	1,101,532	1,008,777	920,730	836,729	1,302,568	1,204,510
	20	1,023,337	937,486	856,038	778,187	1,207,815	1,114,490
	50	943,095	864,451	789,927	718,489	1,110,222	1,021,166
	100	894,248	820,057	749,831	682,350	1,050,618	963,837

m^3/d = cubic metres per day.

Table 8D4-33 Derived Representative Discharges at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
	50	45.34	3,877,922	3,853,988	1,566,886	1,594,029	1,616,781	1,644,474	1,647,913
	20	40.86	3,503,742	3,485,519	1,427,532	1,444,476	1,466,672	1,503,142	1,515,504
	10	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
	5	33.73	2,902,731	2,891,156	1,191,535	1,197,234	1,217,419	1,261,494	1,285,830
Median	2	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
Dry	5	23.94	2,059,734	2,050,372	823,521	829,870	843,799	877,348	909,988
	10	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
	20	20.95	1,795,968	1,784,827	694,313	707,446	718,098	739,668	771,063
	50	19.72	1,686,082	1,673,706	637,443	654,888	663,887	678,468	708,390
	100	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D4-34 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.53	415.72	415.93	416.05	416.04	416.07
	50	415.48	415.67	415.86	415.97	415.98	416.01
	20	415.41	415.60	415.77	415.85	415.90	415.93
	10	415.35	415.54	415.69	415.76	415.82	415.85
	5	415.29	415.46	415.60	415.65	415.73	415.76
Median	2	415.19	415.34	415.45	415.49	415.56	415.58
Dry	5	415.11	415.23	415.33	415.35	415.39	415.41
	10	415.07	415.17	415.27	415.30	415.30	415.32
	20	415.05	415.13	415.23	415.25	415.22	415.24
	50	415.02	415.09	415.19	415.21	415.14	415.16
	100	415.01	415.06	415.16	415.18	415.08	415.10

m = metre.

Table 8D4-35 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.77	415.68	415.59	415.59	415.99	415.99
	50	415.73	415.64	415.56	415.53	415.94	415.91
	20	415.67	415.58	415.50	415.45	415.86	415.80
	10	415.61	415.53	415.45	415.39	415.79	415.71
	5	415.54	415.46	415.40	415.32	415.70	415.61
Median	2	415.40	415.34	415.28	415.21	415.54	415.45
Dry	5	415.27	415.22	415.17	415.13	415.38	415.32
	10	415.20	415.15	415.11	415.09	415.29	415.27
	20	415.14	415.10	415.07	415.07	415.22	415.22
	50	415.07	415.04	415.01	415.04	415.14	415.18
	100	415.03	415.00	414.98	415.02	415.09	415.15

m = metre.

Table 8D4-36 Derived Representative Stages at Lac de Gras Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
	50	416.15	416.15	416.14	415.40	415.40	415.42	415.47	415.44
	20	416.00	416.00	416.00	415.35	415.36	415.37	415.41	415.39
	10	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
	5	415.77	415.77	415.77	415.27	415.27	415.28	415.29	415.31
Median	2	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
Dry	5	415.45	415.45	415.45	415.09	415.09	415.10	415.11	415.12
	10	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
	20	415.35	415.35	415.35	415.00	415.00	415.01	415.05	415.04
	50	415.31	415.31	415.31	414.96	414.96	414.96	415.02	414.99
	100	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96

m = metre.

8D4.3.8 Desteffany Lake Outlet

Table 8D4-37 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
	50	3,213,568	10,117,770	7,742,949	6,490,620	7,008,782	4,848,979
	20	2,432,838	9,104,927	7,121,488	5,858,177	6,057,090	4,474,710
	10	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
	5	1,587,549	7,296,009	5,990,338	4,800,402	4,668,462	3,743,290
Median	2	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
Dry	5	926,181	4,155,943	3,949,912	3,191,690	3,000,661	2,325,152
	10	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
	20	790,619	2,920,829	3,114,583	2,641,896	2,519,212	1,800,485
	50	740,131	2,346,720	2,718,738	2,403,009	2,318,347	1,596,303
	100	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042

m^3/d = cubic metres per day.

Table 8D4-38 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
	50	2,321,418	2,136,548	1,963,078	1,796,248	2,802,325	2,528,028
	20	2,121,341	1,951,987	1,792,307	1,638,817	2,587,182	2,316,354
	10	1,960,247	1,803,520	1,655,222	1,512,696	2,408,620	2,144,528
	5	1,783,424	1,640,711	1,505,222	1,374,980	2,206,376	1,954,329
Median	2	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
Dry	5	1,259,332	1,159,296	1,064,099	972,107	1,557,244	1,378,480
	10	1,154,633	1,063,375	976,737	892,785	1,415,807	1,260,712
	20	1,076,396	991,765	911,660	833,821	1,306,731	1,171,960
	50	996,102	918,340	845,073	773,610	1,191,350	1,080,133
	100	947,220	873,675	804,642	737,117	1,119,196	1,023,825

m^3/d = cubic metres per day.

Table 8D4-39 Derived Representative Discharges at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
	50	172.95	14,128,075	12,909,775	1,615,764	1,628,772	1,663,015	1,691,733	1,701,582
	20	154.79	12,720,395	11,727,396	1,468,375	1,480,383	1,511,194	1,550,350	1,567,329
	10	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
	5	123.92	10,298,148	9,652,701	1,223,887	1,234,312	1,259,689	1,308,255	1,334,802
Median	2	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
Dry	5	75.41	6,397,767	6,177,735	858,146	866,436	884,459	922,251	955,428
	10	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
	20	58.24	4,980,564	4,861,266	735,363	743,021	758,856	783,463	815,643
	50	50.65	4,346,459	4,260,302	682,467	689,870	704,820	721,676	752,678
	100	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D4-40 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.49	6.92	6.82	6.76	6.85	6.82
	50	6.45	6.89	6.80	6.73	6.81	6.80
	20	6.40	6.85	6.76	6.68	6.75	6.76
	10	6.35	6.81	6.73	6.65	6.69	6.72
	5	6.30	6.76	6.69	6.60	6.64	6.68
Median	2	6.21	6.65	6.61	6.52	6.54	6.59
Dry	5	6.14	6.51	6.52	6.44	6.46	6.50
	10	6.10	6.43	6.47	6.40	6.43	6.45
	20	6.07	6.36	6.43	6.37	6.40	6.40
	50	6.04	6.28	6.38	6.33	6.37	6.35
	100	6.02	6.22	6.35	6.31	6.36	6.32

m = metre.

Table 8D4-41 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.53	6.49	6.46	6.42	6.59	6.56
	50	6.50	6.47	6.43	6.40	6.58	6.54
	20	6.47	6.43	6.40	6.36	6.55	6.50
	10	6.43	6.40	6.36	6.33	6.52	6.47
	5	6.39	6.36	6.33	6.29	6.48	6.43
Median	2	6.32	6.29	6.26	6.22	6.41	6.36
Dry	5	6.26	6.22	6.19	6.15	6.34	6.29
	10	6.22	6.19	6.15	6.12	6.30	6.26
	20	6.19	6.16	6.13	6.09	6.27	6.23
	50	6.16	6.13	6.10	6.06	6.24	6.19
	100	6.14	6.11	6.08	6.04	6.22	6.17

m = metre.

Table 8D4-42 Derived Representative Stages at Desteffany Lake Outlet – Base Case

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	50	7.08	7.05	7.01	6.35	6.36	6.36	6.37	6.37
	20	7.04	7.01	6.97	6.32	6.32	6.33	6.34	6.34
	10	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
	5	6.95	6.93	6.90	6.24	6.25	6.26	6.27	6.28
Median	2	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
Dry	5	6.75	6.74	6.73	6.11	6.11	6.12	6.13	6.15
	10	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
	20	6.65	6.65	6.63	6.04	6.05	6.06	6.07	6.08
	50	6.60	6.59	6.58	6.01	6.02	6.02	6.04	6.05
	100	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03

m = metre.

8D4.3.9 Derived Annual Water Yields

Table 8D4-43 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras, and Desteffany Lake Outlets – Base Case

Condition	Return Period (years)	Annual Water Yield (mm)		
		Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246
	50	253	221	233
	20	229	203	214
	10	210	188	200
	5	189	173	183
Median	2	155	148	156
Dry	5	128	128	135
	10	116	119	125
	20	108	113	117
	50	99	106	110
	100	93	102	105

mm = millimetre.

8D5 APPLICATION CASE

The Model was developed to run the Application Case and predict the Project effects on discharge, channel widths, and water levels at lake outlets. The Application Case assessments were determined based on the Project schedule. There are three phases for the Project:

- construction;
- operations; and,
- closure.

To further understand the effects to surface hydrology, the construction and operations phases were further divided. The construction phase was divided to assess the construction phase and construction phase dewatering. The operations phase was divided to assess early operations and late operations. A post-closure assessment was performed to estimate long-term effects. Application Case input data were selected for periods where Project effects are expected to be the greatest (i.e., highest annual Project inflows to, or outflows from, Lac du Sauvage during operations).

Application Case results were generated through flood frequency analysis to determine the Project effect on return period values for discharges, channel widths, and water levels at lake outlets. The same frequency distributions used to evaluate the Base Case values were used for the Application Case.

8D5.1 Application Case Input Data

Input data for the Application Case includes rates of water and material movement, Project infrastructure, and increased groundwater losses based on conservative assumptions of the enhanced permeability zone in sub-basin C. Input data are specific to each assessment and are linked to the Project schedule. Project schedule elements relevant to the Application Case are listed in Table 8D5-1. The magnitude and timing of flow rates are presented in Figure 8D5.1-1.

Table 8D5-1 Project Schedule for the Application Case

Project Phase	Schedule
Construction (including dewatering)	2016 to 2019
Operations	2019 to 2029
Closure	2030 to 2033

The post-closure period begins in 2034, but for modelling purposes is considered to be further in the future. This is to allow for the waste rock storage area (WRSA) and decommissioned roads and infrastructure adequate time to revert to pre-disturbance runoff coefficients.

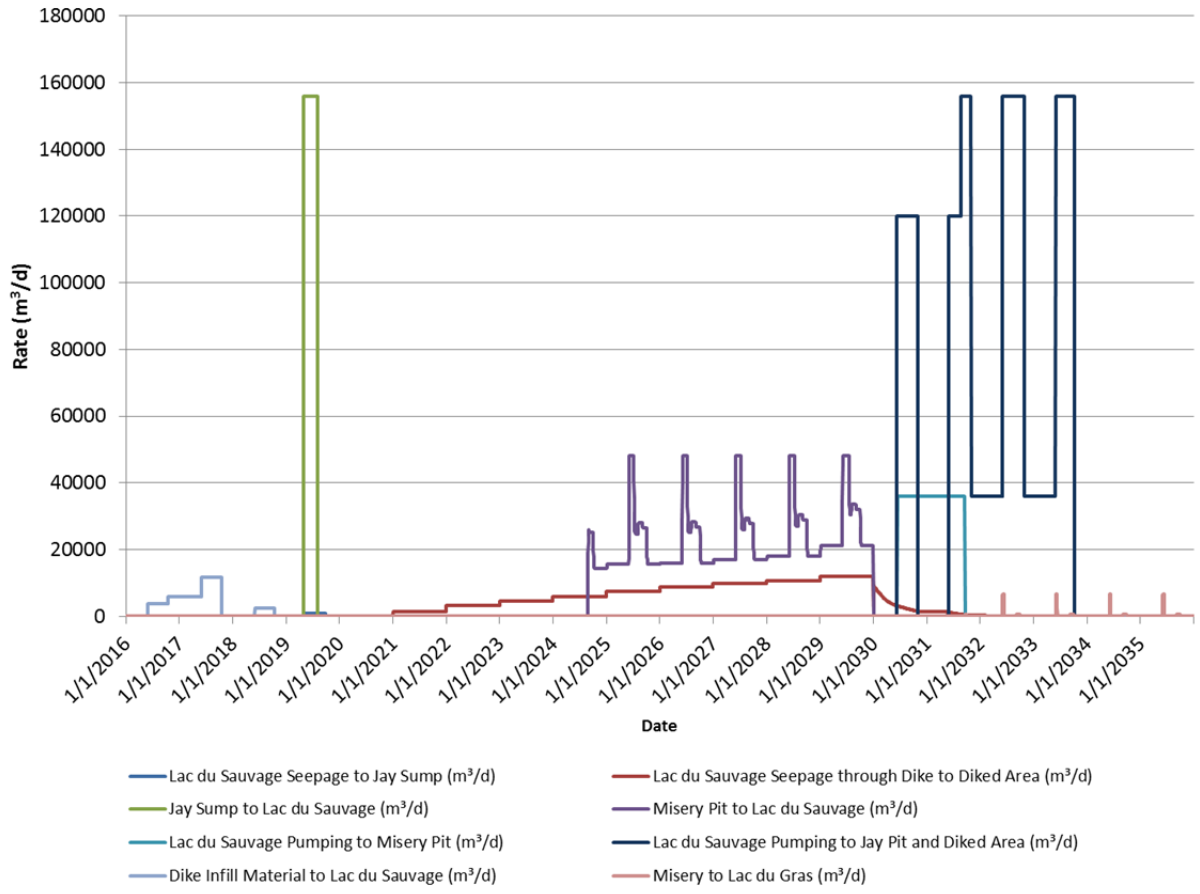
The site water balance model provided rates of water and material movement over the duration of the Project. Project infrastructure is depicted in Section 8.5.3.1.1. The dike infill material, Project infrastructure, WRSA, and additional flows are included for each Application Case assessment accordingly.

The hydrologic year is used in place of the calendar year for each assessment. The hydrologic year is defined as the start of October to the end of September the following year, and is defined to start roughly at the start of annual snowpack development.

8D5.1.1 Jay Project Site Water Balance Model Data

The site water balance model is a key input to the Application Case. The model outputs include Project flow rates that add or remove water from Lac du Sauvage and Lac de Gras. The magnitude and timing of the site water balance data are presented in Figure 8D5.1-1.

Figure 8D5.1-1 Site Water Balance Data



m^3/d = cubic metres per day.

8D5.1.2 Dike Infill Material

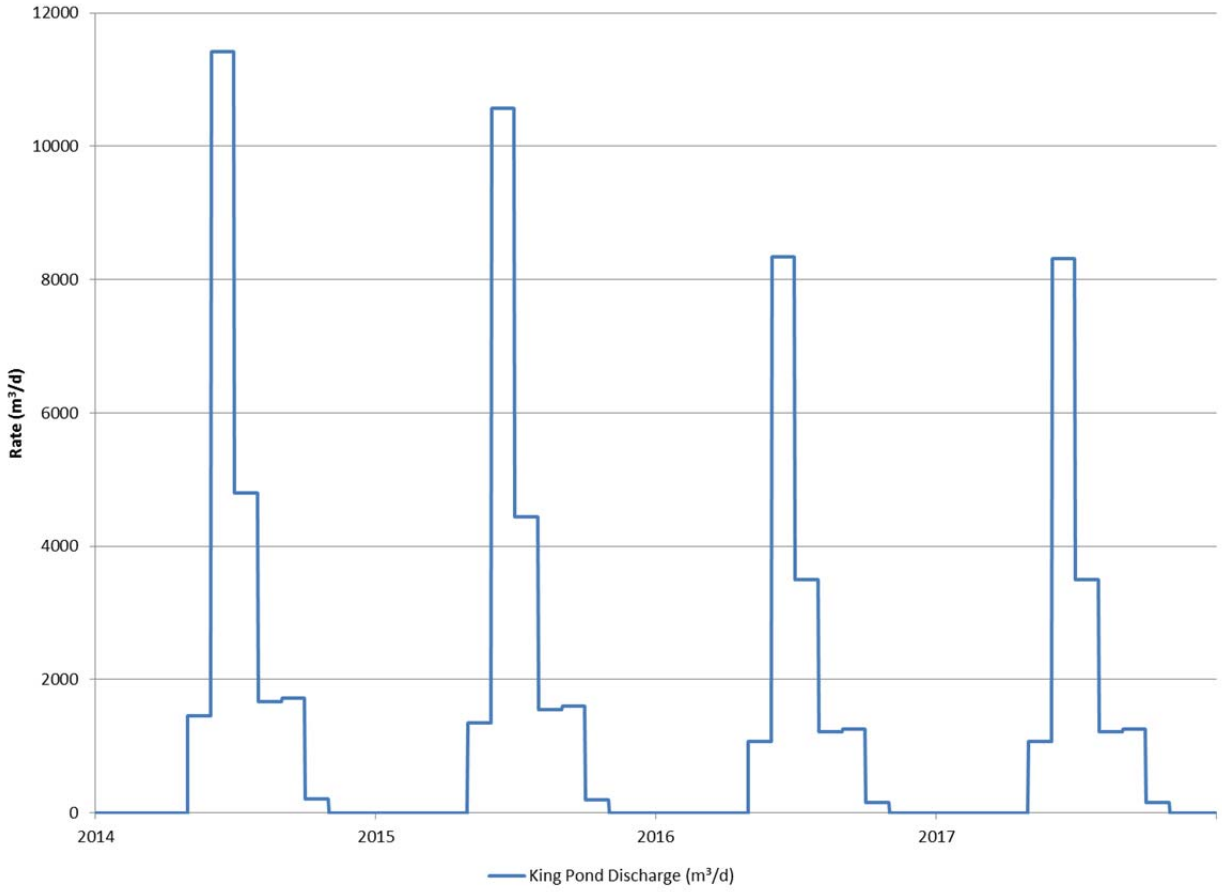
The dike infill material will be added to Lac du Sauvage during the construction phase. The magnitude and timing of dike infill material is presented in Figure 8D5.1-1. Schedule and volume of the dike infill material is based on dike preliminary design presented in the Project Description (Section 3).

8D5.1.3 King Pond Settling Facility Data

The Ekati King Pond Settling Facility (KPSF) will receive pumped inflows from Ekati Mine operations, including seepage from the Misery WRSA, Misery Pit inflows, and natural runoff. Water from the KPSF will then be pumped, once it meets discharge criteria specified in Water Licence MV2003L2-0013, into Cujo Lake (Lake B4), which ultimately discharges through Christine Lake (Lake B1) and Lake B0 to Lac du Sauvage (BHP Billiton 2009). Managed flows within the KPSF are expected to continue until 2017, after which natural back-flooding and overflow rates will be returned to the KPSF watershed. The KPSF discharge data for the years 2014 to 2017, as provided by Rescan (ERM Rescan 2014a), are shown in Figure 8D5.1-2.

Overlap with the Project is expected during the construction phase, until the KPSF is returned to natural back-flooding and overflow conditions. This period occurs in 2016 to 2017. For the effects of project infrastructure and dike construction to flows, water levels, and channel/bank stability in downstream waterbodies, the KPSF discharges into Cujo Lake (B4) from October 2016 to September 2017 were applied to the period of record. For all other Application Case assessments, the outflows from the KPSF (Lake B5) were not considered to be managed, but rather returned to baseline conditions.

Figure 8D5.1-2 King Pond Settling Facility Discharge



m^3/d = cubic metres per day.

8D5.1.4 Project Infrastructure and Waste Rock Storage

The addition of Project infrastructure and the Jay WRSA will change catchment runoff and flow pathways. Infrastructure such as roads will increase the runoff in catchment areas due to reduced infiltration of water. The construction of the WRSA will modify catchment areas and runoff due to modified flow pathways, changes to evapotranspiration, and infiltration rates.

The rainfall runoff coefficient for infrastructure was set at 0.80 following a literature review and was found to be consistent with values for gravel pavement and light industrial areas (Chow et al. 1988; AEP 1999; ODOT 2005).

The WRSA runoff coefficient was chosen based current hydrology modelling at the Ekati Mine (ERM Rescan 2014b). The waste rock runoff coefficient value of 0.20 represents increased water infiltration and interstitial storage (in ice) that can occur in waste rock piles.

The runoff coefficients used in the Model are presented in Table 8D5-2.

Table 8D5-2 Runoff Coefficients

Component	Snowmelt Runoff Coefficient	Rainfall Runoff Coefficient
Land	1.00	0.57
Lake	1.00	1.00
Infrastructure	1.00	0.80
Waste Rock	0.20	0.20

A summary of Project infrastructure and WRSA effects on watershed areas is presented in Table 8D5-3, Table 8D5-4 and Table 8D5-5.

Table 8D5-3 Project Infrastructure and Waste Rock Areas in Sub-Basin Ac

Localized Sub-Catchment	Localized Sub-Catchment Area (ha)	Lake Area (ha)	Area of Waste Rock Storage or Ore Stockpile (ha)	Area of Infrastructure Change (ha)
Ac1 Lake	5,089	3,285	93	227.7
Ac10 Stream	11	-	1	-
Ac13 Lake	26	0	-	0.1
Ac13 Stream	22	-	-	0.6
Ac4/Ac13 Stream	24	-	1	2.9
Ac5 Lake	1	0	0	-
Ac6 Stream	57	-	45	0.2
Ac7 Lake	19	1	8	-
Ac7 Stream	10	-	8	-
Ac7/Ac12 Stream	13	-	5	-
Ac8 Lake	10	0	5	-
Ac8 Stream	4	-	2	-
Ac35 Stream	91	-	-	5.8
Sub Basin Ac Total	**6,508**	**3,481**	**167**	**237.3**

ha = hectare.

Table 8D5-4 Project Infrastructure and Waste Rock in Sub-Basin B

Localized Sub-Catchment	Localized Sub-Catchment Area (ha)	Lake Area (ha)	Area of Waste Rock Storage or Ore Stockpile (ha)	Area of Infrastructure Change (ha)
B0 Lake	53	3	-	1.9
B0 Stream	64	-	-	5.6
B1 Lake	169	49	-	2.0
B1 Stream	29	-	-	0.8
B10 Lake	10	1	-	1.1
B12 Lake	4	0	-	0.8
B16 Lake	200	22	17	-
B25 Lake	5	1	-	0.5
B25 Stream	47	-	-	1.9
B26 Stream	21	-	-	0.0
B4 Lake	182	46	23	2.4
B5 Lake	100	29	-	0.0
B5 Stream	22	-	-	2.4
B6 Lake	2	1	-	0.0
B7 Stream	3	-	-	0.3
B8 Stream	9	-	-	0.2
B9 Lake	3	0	-	0.0
Sub Basin B Total	**1,459**	**244**	**40**	**19.9**

ha = hectare.

Table 8D5-5 Project Infrastructure and Waste Rock in Sub-Basin C

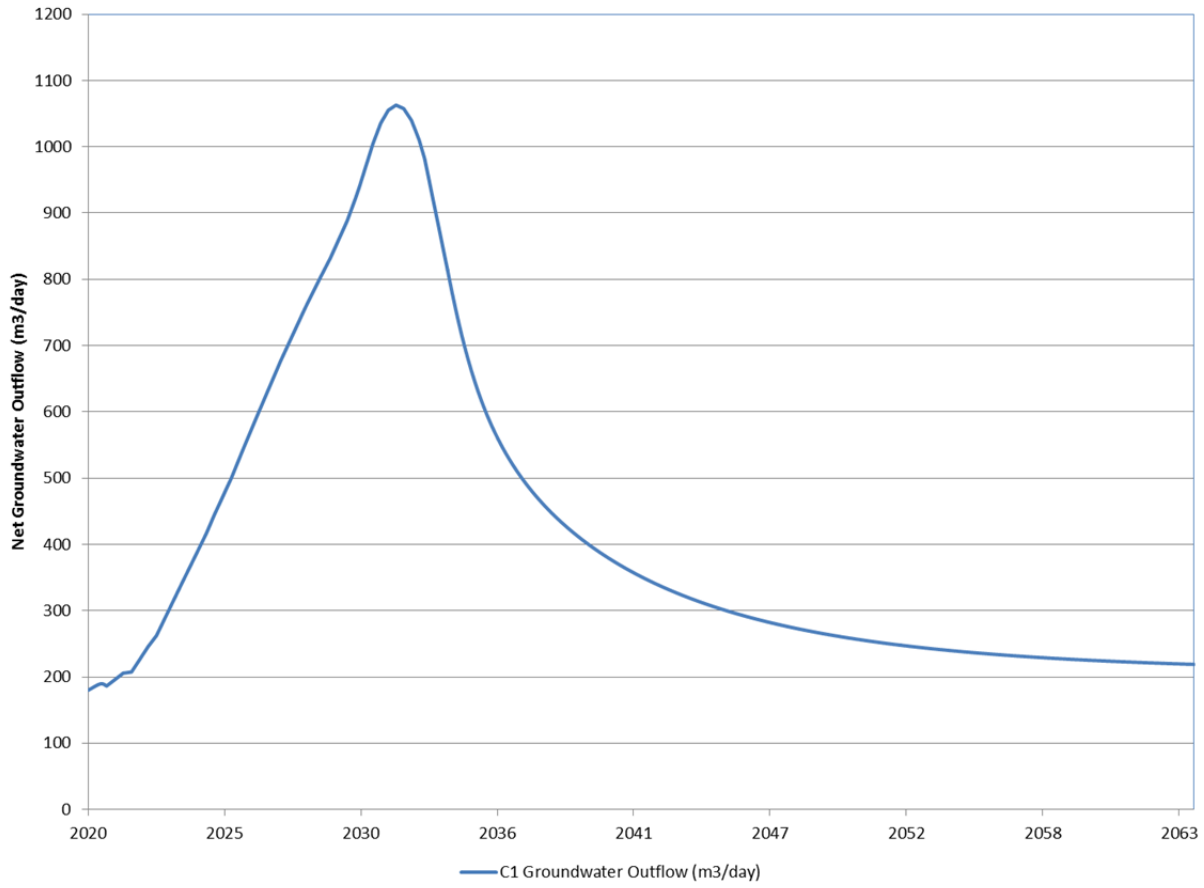
Localized Sub-Catchment	Localized Sub-Catchment Area (ha)	Lake Area (ha)	Area of Waste Rock Storage or Ore Stockpile (ha)	Area of Infrastructure Change (ha)
C1/C12/C13/C17 Stream	141	-	59	-
C17 Lake	32	3	16	-
C17 Stream	18	-	8	-
Sub Basin C Total	**1,178**	**287**	**83**	**-**

ha = hectare.

8D5.1.5 Groundwater Losses at Lake C1

There is an inferred enhanced groundwater permeability zone in sub-basin C that is assumed to conservatively extend over the entire hydrogeology effects study area (Section 8.4.2.4.2). Dewatering of the diked area and Jay Pit will increase the hydraulic gradient to groundwater in sub-basin C, increasing groundwater losses from Lake C1, and reducing the surface water discharge from Lake C1. The groundwater flows have been included in assessments for operations and closure. Lake C1 groundwater flow rates are presented in Figure 8D5.1-3. Further information related to the groundwater is provided in Section 8.2.1.

Figure 8D5.1-3 Lake C1 Groundwater Discharges



m^3/d = cubic metres per day.

8D5.2 Construction Phase Assessment

The construction phase of the Project will involve the deposition of dike infill material to Lac du Sauvage. The dike infill material will displace water in Lac du Sauvage and increase the water level and discharge. The addition of the Lynx operations ore stockpile and transfer pile area in sub-basin B will reduce the flow rate and water level of Lake B0.

8D5.2.1 Construction Phase Data

The hydrologic year with the greatest volume of dike infill material is from October to September 2017. A description of this data source was provided in Section 8D5.1.2.

8D5.2.2 Construction Phase Method

To model the effects of the construction phase, the following changes were made:

- the dike infill material infill volume from October 2016 to September 2017 was added each year over the duration of the water balance time series (1964 to 2013); and,
- the Lynx operations ore stockpile and transfer pile area was included in sub-basin B.

8D5.2.3 Construction Phase Results

8D5.2.3.1 Lake B0 Outlet

Table 8D5-6 Derived Summer Monthly Mean Discharges at Lake B0 Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	20,555	58,748	41,205	28,963	29,288	20,650
	50	17,501	54,724	38,770	26,600	25,872	17,837
	20	13,353	49,077	35,284	23,479	21,780	14,280
	10	10,109	44,476	32,378	21,094	18,949	11,679
	5	6,736	39,362	29,071	18,631	16,273	9,096
Median	2	1,954	30,832	23,346	14,956	12,705	5,430
Dry	5	-	23,719	18,328	12,259	10,381	2,877
	10	-	20,483	15,957	11,122	9,469	1,835
	20	-	18,035	14,120	10,289	8,827	1,084
	50	-	15,492	12,167	9,448	8,197	336
	100	-	13,928	10,941	8,935	7,824	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-7 Derived Representative Discharges at Lake B0 Outlet – Construction

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.97	73,111	68,073	10,757	19,407	20,596
	50	0.92	68,912	64,305	9,195	17,659	19,195
	20	0.84	62,903	58,902	7,063	15,332	17,215
	10	0.78	57,893	54,386	5,384	13,539	15,590
	5	0.70	52,191	49,236	3,623	11,674	13,802
Median	2	0.56	42,320	40,287	1,089	8,866	10,990
Dry	5	0.43	33,668	32,406	-	6,786	9,054
	10	0.37	29,579	28,667	-	5,903	8,393
	20	0.33	26,411	25,764	-	5,255	8,012
	50	0.28	23,045	22,672	-	4,598	7,731
	100	0.25	20,931	20,727	-	4,197	7,612

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-8 Derived Summer Monthly Mean Stages at Lake B0 Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	1.74	2.10	1.55	1.22	1.22	1.24
	50	1.67	2.02	1.49	1.17	1.16	1.17
	20	1.57	1.92	1.41	1.11	1.07	1.08
	10	1.47	1.82	1.34	1.05	1.00	1.00
	5	1.35	1.71	1.26	0.99	0.92	0.92
Median	2	1.12	1.51	1.12	0.88	0.81	0.80
Dry	5	0.90	1.31	0.97	0.79	0.72	0.70
	10	0.79	1.21	0.90	0.74	0.68	0.66
	20	0.71	1.13	0.85	0.70	0.65	0.63
	50	0.62	1.04	0.78	0.66	0.63	0.60
	100	0.58	0.98	0.74	0.64	0.62	0.59

m = metre.

Table 8D5-9 Derived Representative Stages at Lake B0 Outlet – Construction

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	3.16	2.68	2.48	1.02	1.14	1.15
	50	3.07	2.60	2.39	0.98	1.09	1.11
	20	2.93	2.47	2.25	0.92	1.01	1.04
	10	2.80	2.36	2.14	0.88	0.95	0.98
	5	2.65	2.23	2.01	0.83	0.89	0.92
Median	2	2.33	1.99	1.78	0.74	0.78	0.83
Dry	5	2.02	1.76	1.59	0.67	0.70	0.75
	10	1.86	1.64	1.49	0.64	0.66	0.71
	20	1.74	1.55	1.42	0.62	0.64	0.69
	50	1.61	1.44	1.35	0.59	0.61	0.66
	100	1.54	1.37	1.30	0.58	0.59	0.65

m = metre.

8D5.2.3.2 Lake Ac35

Table 8D5-10 Derived Summer Monthly Mean Discharges at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,347	10,521	6,617	5,061	5,331	3,293
	50	2,818	9,659	6,194	4,600	4,682	2,809
	20	2,109	8,481	5,586	3,989	3,890	2,210
	10	1,564	7,548	5,076	3,521	3,331	1,783
	5	1,010	6,542	4,493	3,037	2,793	1,367
Median	2	252	4,942	3,474	2,313	2,059	791
Dry	5	-	3,688	2,570	1,780	1,569	402
	10	-	3,146	2,139	1,555	1,374	245
	20	-	2,747	1,803	1,390	1,236	134
	50	-	2,345	1,444	1,223	1,099	23
	100	-	2,104	1,218	1,121	1,018	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-11 Derived Representative Discharges at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.19	14,556	13,039	1,508	3,330	3,710
	50	0.17	13,527	12,170	1,273	3,003	3,367
	20	0.15	12,094	10,950	957	2,569	2,918
	10	0.14	10,935	9,954	713	2,238	2,579
	5	0.12	9,657	8,845	464	1,894	2,231
Median	2	0.09	7,554	6,993	121	1,377	1,719
Dry	5	0.07	5,830	5,443	-	1,003	1,348
	10	0.06	5,057	4,737	-	850	1,192
	20	0.05	4,477	4,202	-	742	1,079
	50	0.05	3,879	3,645	-	637	964
	100	0.04	3,513	3,302	-	576	895

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-12 Derived Summer Monthly Mean Stages at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.54	0.82	0.60	0.49	0.52	0.47
	50	0.51	0.78	0.58	0.46	0.48	0.44
	20	0.47	0.73	0.54	0.43	0.42	0.39
	10	0.44	0.69	0.51	0.40	0.38	0.35
	5	0.40	0.64	0.47	0.36	0.34	0.31
Median	2	0.32	0.54	0.39	0.30	0.28	0.25
Dry	5	0.24	0.45	0.32	0.25	0.23	0.21
	10	0.21	0.41	0.28	0.23	0.21	0.19
	20	0.19	0.38	0.25	0.21	0.20	0.17
	50	0.16	0.36	0.22	0.19	0.19	0.16
	100	0.15	0.35	0.20	0.18	0.18	0.15

m = metre.

Table 8D5-13 Derived Representative Stages at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	1.10	1.03	0.96	0.36	0.44	0.45
	50	1.04	0.98	0.91	0.34	0.41	0.43
	20	0.97	0.91	0.85	0.31	0.37	0.39
	10	0.90	0.85	0.80	0.29	0.34	0.36
	5	0.83	0.78	0.74	0.27	0.31	0.33
Median	2	0.70	0.67	0.64	0.23	0.26	0.28
Dry	5	0.59	0.57	0.54	0.19	0.22	0.24
	10	0.54	0.52	0.50	0.18	0.20	0.22
	20	0.50	0.48	0.46	0.17	0.19	0.21
	50	0.45	0.44	0.42	0.16	0.17	0.19
	100	0.43	0.42	0.40	0.15	0.17	0.18

m = metre.

8D5.2.3.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet are the same as the baseline conditions as reported in Section 8D4.3.3. The C1 watershed is not affected by the infrastructure changes that occur during the construction phase.

8D5.2.3.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as the baseline conditions as reported in Section 8D4.3.4. The Lake C17 watershed is not affected by the infrastructure changes that occur during the construction phase.

8D5.2.3.5 Lac du Sauvage Outlet

Table 8D5-14 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	478,471	2,414,856	2,923,562	2,544,907	2,680,175	1,731,895
	50	384,817	2,098,190	2,651,052	2,345,644	2,399,071	1,626,271
	20	291,424	1,697,614	2,286,808	2,071,540	2,048,625	1,476,500
	10	237,928	1,407,763	2,006,008	1,853,175	1,795,979	1,352,966
	5	195,114	1,122,786	1,711,320	1,619,214	1,548,297	1,213,947
Median	2	148,866	730,422	1,262,186	1,253,224	1,202,473	977,479
Dry	5	124,854	477,648	930,186	971,033	965,870	775,025
	10	116,655	383,659	792,689	848,353	870,219	681,068
	20	111,270	320,817	694,489	757,164	801,742	609,075
	50	106,306	262,821	597,974	663,772	733,822	533,393
	100	103,498	230,704	541,435	606,227	693,045	486,325

m^3/d = cubic metres per day.

Table 8D5-15 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	378,168	295,967	243,699	215,945	881,432	530,027
	50	363,539	284,921	234,517	204,291	838,792	510,668
	20	342,625	269,185	221,443	188,805	777,409	482,133
	10	325,211	255,994	210,493	176,945	725,899	457,534
	5	305,423	240,956	198,019	164,584	666,886	428,556
Median	2	271,239	214,833	176,376	145,945	563,629	375,559
Dry	5	241,367	192,110	157,577	132,365	471,845	325,611
	10	227,284	181,799	149,056	126,804	428,000	300,656
	20	216,386	174,334	142,890	122,860	393,797	280,637
	50	204,822	167,324	137,104	119,009	357,217	258,645
	100	197,569	163,572	134,008	116,766	334,117	244,423

m^3/d = cubic metres per day.

Table 8D5-16 Derived Representative Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.77	3,403,477	3,345,321	187,444	190,494	185,849	211,647	219,148
	50	35.92	3,075,082	3,025,398	177,398	180,282	178,798	199,848	208,779
	20	30.90	2,645,430	2,606,123	163,988	166,639	168,765	184,178	194,624
	10	27.12	2,322,240	2,290,128	153,665	156,126	160,365	172,187	183,445
	5	23.26	1,991,543	1,966,146	142,847	145,101	150,802	159,699	171,417
Median	2	17.61	1,507,067	1,490,029	126,400	128,311	134,223	140,891	152,356
Dry	5	13.66	1,167,536	1,154,950	114,281	115,915	119,838	127,209	137,506
	10	12.10	1,032,659	1,021,402	109,275	110,786	113,323	121,613	131,100
	20	11.01	938,760	928,241	105,705	107,125	108,611	117,648	126,409
	50	9.96	848,698	838,715	102,201	103,529	104,191	113,778	121,686
	100	9.37	797,076	787,311	100,151	101,423	101,826	111,527	118,859

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-17 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.75	425.54	416.41	416.35	425.62	416.32
	50	415.71	424.71	416.38	416.32	424.80	416.28
	20	415.67	423.27	416.32	416.28	423.38	416.23
	10	415.64	421.83	416.27	416.24	421.95	416.18
	5	415.60	419.91	416.21	416.19	420.06	416.13
Median	2	415.55	415.99	416.09	416.10	416.18	416.04
Dry	5	415.52	411.98	415.98	416.00	412.22	415.96
	10	415.51	409.93	415.93	415.96	410.19	415.92
	20	415.50	408.26	415.89	415.92	408.54	415.90
	50	415.49	406.41	415.85	415.87	406.71	415.87
	100	415.49	405.20	415.83	415.84	405.52	415.85

m = metre.

Table 8D5-18 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.84	415.76	415.76	415.65	416.14	415.94
	50	415.82	415.75	415.72	415.64	416.10	415.92
	20	415.80	415.73	415.68	415.62	416.05	415.90
	10	415.78	415.71	415.65	415.61	416.01	415.87
	5	415.75	415.69	415.62	415.59	415.96	415.84
Median	2	415.70	415.64	415.59	415.56	415.89	415.78
Dry	5	415.65	415.60	415.57	415.53	415.83	415.73
	10	415.63	415.58	415.56	415.51	415.80	415.70
	20	415.61	415.56	415.56	415.50	415.78	415.68
	50	415.58	415.54	415.55	415.48	415.76	415.66
	100	415.57	415.53	415.55	415.47	415.75	415.64

m = metre.

Table 8D5-19 Derived Representative Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.51	416.50	416.50	415.60	415.61	415.62	415.63	415.64
	50	416.46	416.46	416.45	415.60	415.60	415.61	415.62	415.63
	20	416.39	416.39	416.38	415.58	415.59	415.60	415.61	415.62
	10	416.33	416.33	416.32	415.57	415.57	415.58	415.60	415.61
	5	416.27	416.27	416.26	415.56	415.56	415.57	415.58	415.59
Median	2	416.16	416.16	416.16	415.53	415.53	415.54	415.55	415.57
Dry	5	416.07	416.07	416.07	415.50	415.51	415.51	415.52	415.54
	10	416.03	416.03	416.03	415.49	415.49	415.50	415.51	415.52
	20	416.00	416.00	416.00	415.48	415.48	415.48	415.50	415.51
	50	415.97	415.97	415.97	415.47	415.47	415.47	415.48	415.50
	100	415.95	415.95	415.95	415.47	415.47	415.46	415.47	415.49

m = metre.

8D5.2.3.6 Lac du Sauvage Narrows

Table 8D5-20 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	24.06	54.55	55.48	54.59	56.72	52.28
	50	18.15	50.74	54.15	53.19	54.37	49.91
	20	13.21	45.22	51.78	50.79	50.85	46.40
	10	10.86	40.59	49.35	48.40	47.79	43.36
	5	9.26	35.40	46.06	45.28	44.25	39.79
Median	2	7.85	26.78	39.16	38.97	38.12	33.47
Dry	5	7.26	19.72	31.94	32.64	32.87	28.15
	10	7.09	16.53	28.16	29.42	30.44	25.93
	20	6.98	14.12	25.07	26.81	28.58	24.43
	50	6.89	11.60	21.64	23.94	26.61	23.12
	100	6.84	10.03	19.38	22.07	25.37	22.46

m = metre.

Table 8D5-21 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	34.98	37.01	22.90	15.89	47.24	36.30
	50	31.88	27.88	16.73	12.31	42.39	34.29
	20	27.51	19.62	12.07	9.70	36.77	31.30
	10	23.93	15.34	10.07	8.62	33.01	28.73
	5	20.00	12.21	8.83	7.98	29.57	25.78
Median	2	13.85	9.18	7.85	7.49	25.15	20.74
Dry	5	9.65	7.79	7.49	7.32	22.38	16.47
	10	8.23	7.35	7.39	7.28	21.32	14.50
	20	7.41	7.07	7.33	7.25	20.58	13.00
	50	6.81	6.82	7.28	7.23	19.87	11.42
	100	6.56	6.69	7.26	7.22	19.45	10.43

m = metre.

Table 8D5-22 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	52.90	53.03	53.19	13.36	13.65	14.21	14.35	15.20
	50	52.55	52.65	52.76	10.89	11.05	11.35	11.50	12.18
	20	51.77	51.81	51.84	9.02	9.09	9.23	9.36	9.82
	10	50.75	50.74	50.69	8.22	8.26	8.34	8.45	8.78
	5	49.08	48.99	48.85	7.72	7.74	7.79	7.89	8.11
Median	2	44.44	44.24	43.96	7.32	7.34	7.37	7.45	7.57
Dry	5	38.08	37.84	37.53	7.18	7.19	7.22	7.29	7.36
	10	34.17	33.94	33.67	7.14	7.15	7.18	7.24	7.30
	20	30.69	30.48	30.27	7.12	7.13	7.16	7.22	7.26
	50	26.52	26.35	26.25	7.10	7.11	7.14	7.19	7.23
	100	23.60	23.48	23.46	7.09	7.10	7.13	7.18	7.22

m = metre.

Table 8D5-23 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.68	1.23	1.29	1.27	1.34	1.26
	50	0.64	1.18	1.26	1.23	1.29	1.22
	20	0.59	1.10	1.20	1.18	1.21	1.15
	10	0.55	1.04	1.16	1.14	1.15	1.09
	5	0.51	0.95	1.10	1.09	1.09	1.03
Median	2	0.46	0.81	1.00	1.00	0.99	0.93
Dry	5	0.44	0.68	0.91	0.92	0.91	0.84
	10	0.43	0.62	0.86	0.88	0.88	0.80
	20	0.43	0.57	0.82	0.85	0.86	0.77
	50	0.42	0.52	0.78	0.82	0.83	0.74
	100	0.42	0.48	0.75	0.79	0.82	0.72

m = metre.

Table 8D5-24 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	0.93	0.88	0.77	0.67	1.16	1.02
	50	0.86	0.79	0.69	0.61	1.09	0.96
	20	0.77	0.69	0.61	0.55	1.01	0.88
	10	0.71	0.63	0.57	0.52	0.94	0.82
	5	0.65	0.58	0.53	0.49	0.87	0.76
Median	2	0.58	0.52	0.49	0.46	0.77	0.67
Dry	5	0.54	0.49	0.46	0.44	0.70	0.61
	10	0.52	0.48	0.46	0.44	0.67	0.58
	20	0.51	0.48	0.45	0.43	0.65	0.57
	50	0.50	0.47	0.45	0.43	0.62	0.55
	100	0.50	0.46	0.44	0.43	0.61	0.54

m = metre.

Table 8D5-25 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Peak Daily Max Depth (m)	7-Day Mean Peak Max Depth (m)	14-Day Mean Peak Max Depth (m)	7-Day Low Flow Max Depth (m)	14-Day Low Flow Max Depth (m)	30-Day Low Flow Max Depth (m)	60-Day Low Flow Max Depth (m)	90-Day Low Flow Max Depth (m)
Wet	100	1.37	1.37	1.36	0.59	0.59	0.61	0.62	0.59
	50	1.33	1.32	1.32	0.55	0.56	0.57	0.58	0.57
	20	1.26	1.26	1.26	0.51	0.52	0.52	0.54	0.54
	10	1.21	1.21	1.21	0.49	0.49	0.50	0.51	0.52
	5	1.16	1.16	1.15	0.47	0.47	0.47	0.48	0.50
Median	2	1.06	1.06	1.06	0.44	0.44	0.45	0.45	0.47
Dry	5	0.98	0.98	0.98	0.43	0.43	0.43	0.44	0.45
	10	0.95	0.94	0.94	0.42	0.42	0.42	0.43	0.44
	20	0.92	0.92	0.91	0.42	0.42	0.42	0.43	0.44
	50	0.89	0.89	0.88	0.41	0.41	0.42	0.42	0.44
	100	0.87	0.87	0.87	0.41	0.41	0.42	0.42	0.43

m = metre.

Table 8D5-26 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.43	0.51	0.49	0.57	0.50
	50	0.33	0.42	0.49	0.47	0.52	0.48
	20	0.33	0.40	0.46	0.45	0.47	0.45
	10	0.32	0.39	0.44	0.43	0.44	0.42
	5	0.32	0.37	0.42	0.41	0.41	0.40
Median	2	0.30	0.33	0.38	0.38	0.37	0.36
Dry	5	0.29	0.30	0.35	0.36	0.35	0.33
	10	0.28	0.28	0.34	0.35	0.35	0.31
	20	0.27	0.27	0.33	0.34	0.34	0.30
	50	0.27	0.26	0.32	0.33	0.34	0.29
	100	0.26	0.25	0.32	0.33	0.33	0.29

m = metre.

Table 8D5-27 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.41	0.35	0.35	0.34	0.45	0.45
	50	0.39	0.35	0.35	0.34	0.43	0.40
	20	0.36	0.35	0.34	0.34	0.40	0.35
	10	0.34	0.35	0.34	0.33	0.37	0.31
	5	0.31	0.34	0.34	0.33	0.35	0.28
Median	2	0.27	0.32	0.32	0.31	0.30	0.25
Dry	5	0.24	0.28	0.30	0.30	0.26	0.23
	10	0.22	0.25	0.29	0.29	0.24	0.23
	20	0.21	0.22	0.28	0.28	0.23	0.22
	50	0.20	0.19	0.26	0.27	0.22	0.22
	100	0.20	0.16	0.25	0.26	0.21	0.21

m = metre.

Table 8D5-28 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
	50	0.55	0.54	0.54	0.25	0.26	0.25	0.25	0.28
	20	0.50	0.50	0.50	0.24	0.25	0.24	0.25	0.27
	10	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
	5	0.44	0.44	0.43	0.23	0.23	0.23	0.25	0.27
Median	2	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
Dry	5	0.37	0.37	0.37	0.22	0.22	0.23	0.24	0.25
	10	0.36	0.36	0.36	0.22	0.22	0.22	0.24	0.25
	20	0.36	0.36	0.36	0.22	0.22	0.22	0.23	0.25
	50	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.2.3.7 Lac de Gras Outlet

Table 8D5-29 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,921,732	2,870,053	3,408,070	3,722,986	4,059,436	3,270,309
	50	1,799,549	2,734,345	3,232,769	3,505,062	3,790,028	3,126,587
	20	1,628,143	2,535,760	2,984,019	3,201,624	3,423,301	2,910,584
	10	1,488,860	2,365,980	2,778,680	2,956,492	3,134,615	2,718,798
	5	1,336,968	2,167,682	2,547,405	2,686,498	2,825,045	2,487,898
Median	2	1,093,903	1,809,927	2,153,490	2,242,561	2,337,007	2,058,037
Dry	5	901,998	1,478,767	1,815,639	1,879,272	1,959,488	1,665,400
	10	817,362	1,315,579	1,658,632	1,716,455	1,797,517	1,487,190
	20	753,980	1,185,787	1,538,226	1,594,366	1,679,291	1,359,445
	50	688,653	1,044,371	1,411,546	1,468,652	1,560,655	1,239,927
	100	648,191	953,588	1,332,705	1,391,892	1,489,857	1,175,222

m^3/d = cubic metres per day.

Table 8D5-30 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,413,442	2,216,960	2,033,310	1,856,599	2,857,678	2,627,031
	50	2,269,763	2,083,893	1,909,727	1,742,467	2,689,208	2,476,975
	20	2,070,288	1,899,414	1,738,762	1,584,876	2,454,655	2,266,751
	10	1,909,677	1,751,122	1,601,669	1,458,779	2,265,194	2,095,723
	5	1,733,384	1,588,628	1,451,824	1,321,261	2,056,544	1,905,977
Median	2	1,445,083	1,323,601	1,208,398	1,098,642	1,713,541	1,590,397
Dry	5	1,210,858	1,109,052	1,012,380	920,217	1,432,925	1,328,174
	10	1,106,470	1,013,697	925,618	841,529	1,307,185	1,209,257
	20	1,028,466	942,564	861,060	783,110	1,212,911	1,119,434
	50	948,411	869,680	795,074	723,527	1,115,849	1,026,293
	100	899,674	825,374	755,046	687,452	1,056,590	969,068

m^3/d = cubic metres per day.

Table 8D5-31 Derived Representative Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.68	4,155,935	4,127,542	1,670,256	1,705,498	1,728,739	1,747,703	1,745,742
	50	45.34	3,878,641	3,855,105	1,570,435	1,596,965	1,619,873	1,647,083	1,651,932
	20	40.87	3,504,686	3,486,800	1,431,565	1,448,028	1,470,161	1,506,350	1,519,693
	10	37.40	3,213,439	3,199,147	1,319,492	1,329,695	1,350,924	1,392,073	1,411,350
	5	33.75	2,904,550	2,893,184	1,196,180	1,201,584	1,221,509	1,265,536	1,290,270
Median	2	28.16	2,425,939	2,416,950	993,754	996,563	1,013,585	1,055,730	1,086,566
Dry	5	23.99	2,064,211	2,054,817	828,464	834,749	848,613	882,112	914,693
	10	22.26	1,911,792	1,901,501	754,509	764,232	776,426	803,626	835,822
	20	21.01	1,801,769	1,790,508	699,112	712,263	723,091	744,458	775,809
	50	19.79	1,692,532	1,679,998	642,127	659,630	668,944	683,221	713,141
	100	19.06	1,627,958	1,614,509	607,363	627,963	636,296	645,660	674,398

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-32 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.46	415.72	415.93	416.06	416.04	416.07
	50	415.43	415.67	415.86	415.97	415.98	416.01
	20	415.39	415.60	415.77	415.85	415.90	415.93
	10	415.35	415.54	415.69	415.76	415.83	415.85
	5	415.30	415.47	415.60	415.66	415.74	415.76
Median	2	415.20	415.34	415.46	415.49	415.56	415.59
Dry	5	415.11	415.23	415.33	415.36	415.39	415.41
	10	415.06	415.18	415.28	415.30	415.30	415.32
	20	415.02	415.14	415.24	415.26	415.22	415.24
	50	414.98	415.09	415.19	415.21	415.14	415.16
	100	414.95	415.06	415.16	415.18	415.08	415.10

m = metre.

Table 8D5-33 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.78	415.68	415.68	415.51	415.99	415.89
	50	415.73	415.64	415.61	415.48	415.94	415.84
	20	415.67	415.58	415.53	415.43	415.86	415.77
	10	415.61	415.53	415.46	415.39	415.79	415.70
	5	415.54	415.47	415.39	415.33	415.70	415.62
Median	2	415.40	415.34	415.27	415.23	415.54	415.48
Dry	5	415.27	415.22	415.17	415.13	415.38	415.33
	10	415.20	415.16	415.13	415.08	415.29	415.25
	20	415.14	415.10	415.10	415.04	415.22	415.18
	50	415.08	415.04	415.07	414.99	415.14	415.11
	100	415.03	415.00	415.06	414.95	415.09	415.06

m = metre.

Table 8D5-34 Derived Representative Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.26	416.25	416.25	415.50	415.44	415.45	415.46	415.47
	50	416.15	416.15	416.14	415.45	415.41	415.42	415.43	415.44
	20	416.00	416.00	416.00	415.38	415.36	415.37	415.39	415.40
	10	415.89	415.89	415.88	415.32	415.32	415.33	415.35	415.36
	5	415.77	415.77	415.77	415.26	415.27	415.28	415.30	415.31
Median	2	415.59	415.59	415.59	415.16	415.18	415.19	415.21	415.22
Dry	5	415.46	415.45	415.45	415.09	415.09	415.10	415.11	415.13
	10	415.40	415.40	415.39	415.06	415.04	415.05	415.06	415.08
	20	415.36	415.36	415.35	415.03	415.00	415.01	415.02	415.04
	50	415.32	415.32	415.31	415.01	414.96	414.96	414.98	414.99
	100	415.30	415.29	415.29	415.00	414.93	414.93	414.95	414.96

m = metre.

8D5.2.3.8 Desteffany Lake Outlet

Table 8D5-35 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,979,862	10,832,115	8,178,052	6,955,394	7,767,037	5,103,663
	50	3,221,174	10,125,185	7,748,982	6,497,345	7,015,212	4,854,493
	20	2,438,947	9,112,199	7,127,507	5,864,927	6,063,803	4,480,242
	10	1,975,084	8,266,607	6,602,338	5,358,940	5,367,373	4,148,209
	5	1,592,383	7,303,145	5,996,324	4,807,175	4,675,327	3,748,816
Median	2	1,162,878	5,631,879	4,923,766	3,914,093	3,692,245	3,006,535
Dry	5	930,403	4,163,258	3,955,811	3,198,448	3,007,260	2,330,446
	10	848,967	3,467,881	3,488,016	2,882,886	2,727,249	2,024,447
	20	794,781	2,928,385	3,120,435	2,648,629	2,525,635	1,805,571
	50	744,279	2,354,427	2,724,566	2,409,727	2,324,682	1,601,276
	100	715,457	1,993,674	2,473,042	2,265,096	2,203,559	1,490,941

m^3/d = cubic metres per day.

Table 8D5-36 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,469,634	2,273,779	2,090,661	1,914,446	2,957,178	2,683,429
	50	2,325,565	2,140,745	1,967,311	1,800,504	2,806,337	2,532,119
	20	2,125,552	1,956,204	1,796,523	1,643,025	2,591,278	2,320,544
	10	1,964,513	1,807,763	1,659,437	1,516,881	2,412,785	2,148,797
	5	1,787,756	1,644,992	1,509,450	1,379,157	2,210,618	1,958,686
Median	2	1,498,710	1,379,224	1,265,404	1,155,812	1,863,212	1,643,630
Dry	5	1,263,896	1,163,762	1,068,468	976,383	1,561,719	1,383,093
	10	1,159,250	1,067,893	981,157	897,108	1,420,332	1,265,376
	20	1,081,055	996,327	916,124	838,186	1,311,291	1,176,662
	50	1,000,808	922,951	849,588	778,026	1,195,948	1,084,874
	100	951,954	878,318	809,192	741,567	1,123,818	1,028,589

m^3/d = cubic metres per day.

Table 8D5-37 Derived Representative Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	186.08	15,139,904	13,750,827	1,727,354	1,741,107	1,777,936	1,797,096	1,801,168
	50	173.05	14,136,506	12,917,385	1,620,043	1,633,049	1,667,308	1,696,029	1,705,836
	20	154.89	12,728,651	11,734,972	1,472,589	1,484,595	1,515,416	1,554,621	1,571,583
	10	140.21	11,581,332	10,759,118	1,355,258	1,366,494	1,394,662	1,439,751	1,461,714
	5	124.02	10,306,181	9,660,260	1,228,035	1,238,463	1,263,847	1,312,504	1,339,071
Median	2	97.37	8,179,443	7,789,316	1,023,937	1,033,140	1,054,292	1,101,386	1,133,113
Dry	5	75.51	6,405,692	6,185,421	862,325	870,633	888,681	926,531	959,761
	10	65.70	5,598,980	5,440,327	791,717	799,660	816,435	847,433	880,360
	20	58.34	4,988,546	4,869,059	739,600	747,284	763,158	787,779	820,015
	50	50.75	4,354,488	4,268,159	686,738	694,171	709,167	726,015	757,071
	100	46.12	3,964,331	3,894,250	654,890	662,178	676,666	688,116	718,195

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-38 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.49	6.92	6.82	6.76	6.86	6.82
	50	6.45	6.89	6.80	6.73	6.81	6.80
	20	6.40	6.85	6.76	6.69	6.75	6.76
	10	6.36	6.81	6.73	6.65	6.70	6.72
	5	6.30	6.76	6.69	6.60	6.64	6.68
Median	2	6.22	6.65	6.61	6.52	6.54	6.59
Dry	5	6.14	6.51	6.52	6.44	6.47	6.50
	10	6.10	6.43	6.47	6.40	6.43	6.45
	20	6.07	6.36	6.43	6.37	6.40	6.40
	50	6.04	6.28	6.38	6.33	6.38	6.35
	100	6.03	6.22	6.35	6.31	6.36	6.32

m = metre.

Table 8D5-39 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.53	6.49	6.46	6.42	6.60	6.56
	50	6.50	6.47	6.43	6.40	6.58	6.54
	20	6.47	6.43	6.40	6.36	6.55	6.50
	10	6.43	6.40	6.37	6.33	6.52	6.47
	5	6.40	6.36	6.33	6.29	6.48	6.43
Median	2	6.33	6.29	6.26	6.22	6.41	6.36
Dry	5	6.26	6.22	6.19	6.16	6.34	6.29
	10	6.22	6.19	6.16	6.12	6.30	6.26
	20	6.19	6.16	6.13	6.09	6.27	6.23
	50	6.16	6.13	6.10	6.06	6.24	6.20
	100	6.14	6.11	6.08	6.04	6.22	6.17

m = metre.

Table 8D5-40 Derived Representative Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	50	7.08	7.05	7.01	6.35	6.36	6.37	6.37	6.38
	20	7.04	7.01	6.97	6.32	6.32	6.33	6.34	6.34
	10	7.00	6.98	6.94	6.28	6.29	6.30	6.31	6.31
	5	6.95	6.93	6.90	6.25	6.25	6.26	6.27	6.28
Median	2	6.85	6.84	6.82	6.18	6.18	6.19	6.20	6.21
Dry	5	6.75	6.74	6.73	6.11	6.11	6.12	6.13	6.15
	10	6.70	6.69	6.68	6.07	6.08	6.08	6.10	6.11
	20	6.65	6.65	6.63	6.04	6.05	6.06	6.07	6.09
	50	6.60	6.60	6.58	6.01	6.02	6.03	6.04	6.06
	100	6.57	6.56	6.55	5.99	6.00	6.01	6.02	6.04

m = metre.

8D5.2.3.9 Derived Annual Water Yields

Table 8D5-41 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras, and Desteffany Lake Outlets – Construction

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Construction		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	271	234	246
	50	253	221	233	254	221	233
	20	229	203	214	230	203	215
	10	210	188	200	211	189	200
	5	189	173	183	190	173	184
Median	2	155	148	156	157	148	157
Dry	5	128	128	135	130	128	135
	10	116	119	125	118	119	125
	20	108	113	117	109	113	118
	50	99	106	110	100	107	110
	100	93	102	105	95	103	106

mm = millimetre.

8D5.2.4 Construction Phase Effects Analysis Results

8D5.2.4.1 Lake B0 Outlet

Table 8D5-42 Summer Monthly Mean Discharges at Lake B0 Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	19,175	57,778	40,044	29,947	30,410	18,583
		Construction	20,555	58,748	41,205	28,963	29,288	20,650
	10	Baseline	9,493	41,794	31,028	21,783	19,302	10,374
		Construction	10,109	44,476	32,378	21,094	18,949	11,679
Median	2	Baseline	1,866	27,683	21,869	15,269	12,785	4,796
		Construction	1,954	30,832	23,346	14,956	12,705	5,430
Dry	10	Baseline	-	17,885	14,435	11,132	9,479	1,644
		Construction	-	20,483	15,957	11,122	9,469	1,835
	100	Baseline	-	12,162	9,425	8,749	7,819	-
		Construction	-	13,928	10,941	8,935	7,824	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-43 Derived Representative Discharges at Lake B0 Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.96	72,382	66,638	10,206	19,041	21,295
		Construction	0.97	73,111	68,073	10,757	19,407	20,596
	10	Baseline	0.76	55,877	51,764	5,010	13,190	15,635
		Construction	0.78	57,893	54,386	5,384	13,539	15,590
Median	2	Baseline	0.53	39,467	36,919	981	8,581	10,764
		Construction	0.56	42,320	40,287	1,089	8,866	10,990
Dry	10	Baseline	0.34	26,466	25,106	-	5,682	8,288
		Construction	0.37	29,579	28,667	-	5,903	8,393
	100	Baseline	0.22	17,895	17,289	-	4,021	7,645
		Construction	0.25	20,931	20,727	-	4,197	7,612

Q= discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-44 Summer Monthly Mean Stages at Lake B0 Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			May	June	July	August	September	October
Wet	100	Baseline	1.70	2.05	1.51	1.24	1.23	1.21
		Construction	1.74	2.10	1.55	1.22	1.22	1.24
	10	Baseline	1.42	1.76	1.31	1.07	1.01	0.95
		Construction	1.47	1.82	1.34	1.05	1.00	1.00
Median	2	Baseline	1.05	1.42	1.08	0.89	0.81	0.73
		Construction	1.12	1.51	1.12	0.88	0.81	0.80
Dry	10	Baseline	0.70	1.11	0.86	0.74	0.67	0.59
		Construction	0.79	1.21	0.90	0.74	0.68	0.66
	100	Baseline	0.47	0.87	0.68	0.63	0.61	0.51
		Construction	0.58	0.98	0.74	0.64	0.62	0.59

m = metre.

Table 8D5-45 Derived Representative Mean Stages at Lake B0 Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	3.10	2.65	2.45	1.04	1.14	1.15
		Construction	3.16	2.68	2.48	1.02	1.14	1.15
	10	Baseline	2.74	2.31	2.08	0.85	0.94	0.98
		Construction	2.80	2.36	2.14	0.88	0.95	0.98
Median	2	Baseline	2.27	1.92	1.71	0.69	0.76	0.81
		Construction	2.33	1.99	1.78	0.74	0.78	0.83
Dry	10	Baseline	1.79	1.57	1.42	0.58	0.63	0.69
		Construction	1.86	1.64	1.49	0.64	0.66	0.71
	100	Baseline	1.46	1.31	1.22	0.51	0.55	0.62
		Construction	1.54	1.37	1.30	0.58	0.59	0.65

m = metre.

8D5.2.4.2 Lake Ac35 Outlet

Table 8D5-46 Summer Monthly Mean Discharges at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,337	10,483	6,591	5,025	5,286	3,271
		Construction	3,347	10,521	6,617	5,061	5,331	3,293
	10	Baseline	1,560	7,526	5,055	3,498	3,304	1,770
		Construction	1,564	7,548	5,076	3,521	3,331	1,783
Median	2	Baseline	251	4,928	3,459	2,297	2,043	786
		Construction	252	4,942	3,474	2,313	2,059	791
Dry	10	Baseline	-	3,135	2,130	1,543	1,363	243
		Construction	-	3,146	2,139	1,555	1,374	245
	100	Baseline	-	2,094	1,213	1,112	1,009	-
		Construction	-	2,104	1,218	1,121	1,018	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-47 Derived Representative Discharges at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.18	14,514	13,001	1,500	3,309	3,683
		Construction	0.19	14,556	13,039	1,508	3,330	3,710
	10	Baseline	0.14	10,904	9,926	709	2,223	2,561
		Construction	0.14	10,935	9,954	713	2,238	2,579
Median	2	Baseline	0.09	7,533	6,974	120	1,367	1,707
		Construction	0.09	7,554	6,993	121	1,377	1,719
Dry	10	Baseline	0.06	5,042	4,723	-	844	1,183
		Construction	0.06	5,057	4,737	-	850	1,192
	100	Baseline	0.04	3,501	3,291	-	571	887
		Construction	0.04	3,513	3,302	-	576	895

Q= discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-48 Summer Monthly Mean Stages at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.54	0.81	0.60	0.49	0.51	0.47
		Construction	0.54	0.82	0.60	0.49	0.52	0.47
	10	Baseline	0.44	0.69	0.51	0.40	0.38	0.35
		Construction	0.44	0.69	0.51	0.40	0.38	0.35
Median	2	Baseline	0.32	0.54	0.39	0.30	0.28	0.25
		Construction	0.32	0.54	0.39	0.30	0.28	0.25
Dry	10	Baseline	0.21	0.41	0.28	0.23	0.21	0.19
		Construction	0.21	0.41	0.28	0.23	0.21	0.19
	100	Baseline	0.15	0.34	0.20	0.18	0.18	0.15
		Construction	0.15	0.35	0.20	0.18	0.18	0.15

m = metre.

Table 8D5-49 Derived Representative Mean Stages at Lake Ac35 Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	1.09	1.03	0.95	0.36	0.44	0.45
		Construction	1.10	1.03	0.96	0.36	0.44	0.45
	10	Baseline	0.90	0.85	0.80	0.29	0.34	0.36
		Construction	0.90	0.85	0.80	0.29	0.34	0.36
Median	2	Baseline	0.70	0.67	0.64	0.22	0.26	0.28
		Construction	0.70	0.67	0.64	0.23	0.26	0.28
Dry	10	Baseline	0.54	0.52	0.50	0.18	0.20	0.22
		Construction	0.54	0.52	0.50	0.18	0.20	0.22
	100	Baseline	0.42	0.42	0.40	0.15	0.16	0.18
		Construction	0.43	0.42	0.40	0.15	0.17	0.18

m = metre.

8D5.2.4.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet are the same as the baseline conditions as reported in Section 8D4.3.3.

8D5.2.4.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as the baseline conditions as reported in Section 8D4.3.4.

8D5.2.4.5 Lac du Sauvage Outlet

Table 8D5-50 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Construction	478,471	2,414,856	2,923,562	2,544,907	2,680,175	1,731,895
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Construction	237,928	1,407,763	2,006,008	1,853,175	1,795,979	1,352,966
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Construction	148,866	730,422	1,262,186	1,253,224	1,202,473	977,479
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Construction	116,655	383,659	792,689	848,353	870,219	681,068
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Construction	103,498	230,704	541,435	606,227	693,045	486,325

m^3/d = cubic metres per day.

Table 8D5-51 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Construction	378,168	295,967	243,699	215,945	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Construction	325,211	255,994	210,493	176,945	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Construction	271,239	214,833	176,376	145,945	563,629	375,559
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Construction	227,284	181,799	149,056	126,804	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Construction	197,569	163,572	134,008	116,766	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-52 Derived Representative Discharges at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Construction	39.77	3,403,477	3,345,321	187,444	190,494	185,849	211,647	219,148
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Construction	27.12	2,322,240	2,290,128	153,665	156,126	160,365	172,187	183,445
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Construction	17.61	1,507,067	1,490,029	126,400	128,311	134,223	140,891	152,356
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Construction	12.10	1,032,659	1,021,402	109,275	110,786	113,323	121,613	131,100
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Construction	9.37	797,076	787,311	100,151	101,423	101,826	111,527	118,859

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-53 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Construction	415.75	425.54	416.41	416.35	425.62	416.32
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Construction	415.64	421.83	416.27	416.24	421.95	416.18
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Construction	415.55	415.99	416.09	416.10	416.18	416.04
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Construction	415.51	409.93	415.93	415.96	410.19	415.92
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Construction	415.49	405.20	415.83	415.84	405.52	415.85

m = metre.

Table 8D5-54 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Construction	415.84	415.76	415.76	415.65	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Construction	415.78	415.71	415.65	415.61	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Construction	415.70	415.64	415.59	415.56	415.89	415.78
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Construction	415.63	415.58	415.56	415.51	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Construction	415.57	415.53	415.55	415.47	415.76	415.65

m = metre.

Table 8D5-55 Derived Representative Mean Stages at Lac du Sauvage Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Construction	416.51	416.50	416.50	415.60	415.61	415.62	415.63	415.64
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Construction	416.33	416.33	416.32	415.57	415.57	415.58	415.60	415.61
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Construction	416.16	416.16	416.16	415.53	415.53	415.54	415.55	415.57
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Construction	416.03	416.03	416.03	415.49	415.49	415.50	415.51	415.52
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Construction	415.95	415.95	415.95	415.47	415.47	415.46	415.47	415.49

m = metre.

8D5.2.4.6 Lac du Sauvage Narrows

Table 8D5-56 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Construction	24.06	54.55	55.48	54.59	56.72	52.28
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Construction	10.86	40.59	49.35	48.40	47.79	43.36
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Construction	7.85	26.78	39.16	38.97	38.12	33.47
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Construction	7.09	16.53	28.16	29.42	30.44	25.93
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Construction	6.84	10.03	19.38	22.07	25.37	22.46

m = metre.

Table 8D5-57 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Construction	34.98	37.01	22.90	15.89	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Construction	23.93	15.34	10.07	8.62	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Construction	13.85	9.18	7.85	7.49	25.15	20.74
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Construction	8.23	7.35	7.39	7.28	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Construction	6.56	6.69	7.26	7.22	19.68	11.04

m = metre.

Table 8D5-58 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Construction	52.90	53.03	53.19	13.36	13.65	14.21	14.35	15.20
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Construction	50.75	50.74	50.69	8.22	8.26	8.34	8.45	8.78
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Construction	44.44	44.24	43.96	7.32	7.34	7.37	7.45	7.57
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Construction	34.17	33.94	33.67	7.14	7.15	7.18	7.24	7.30
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Construction	23.60	23.48	23.46	7.09	7.10	7.13	7.18	7.22

m = metre.

Table 8D5-59 Summer Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Summer Monthly Maximum Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Construction	0.68	1.23	1.29	1.27	1.34	1.26
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Construction	0.55	1.04	1.16	1.14	1.15	1.09
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Construction	0.46	0.81	1.00	1.00	0.99	0.93
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Construction	0.43	0.62	0.86	0.88	0.88	0.80
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Construction	0.42	0.48	0.75	0.79	0.82	0.72

m = metre.

Table 8D5-60 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Winter Monthly Maximum Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Construction	0.93	0.88	0.77	0.67	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Construction	0.71	0.63	0.57	0.52	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Construction	0.58	0.52	0.49	0.46	0.77	0.67
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Construction	0.52	0.48	0.46	0.44	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Construction	0.50	0.46	0.44	0.43	0.62	0.55

m = metre.

Table 8D5-61 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Construction	1.37	1.37	1.36	0.59	0.59	0.61	0.62	0.59
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Construction	1.21	1.21	1.21	0.49	0.49	0.50	0.51	0.52
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Construction	1.06	1.06	1.06	0.44	0.44	0.45	0.45	0.47
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Construction	0.95	0.94	0.94	0.42	0.42	0.42	0.43	0.44
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Construction	0.87	0.87	0.87	0.41	0.41	0.42	0.42	0.43

m = metre; Max. = maximum.

Table 8D5-62 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Construction	0.33	0.43	0.51	0.49	0.57	0.50
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Construction	0.32	0.39	0.44	0.43	0.44	0.42
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Construction	0.30	0.33	0.38	0.38	0.37	0.36
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Construction	0.28	0.28	0.34	0.35	0.35	0.31
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Construction	0.26	0.25	0.32	0.33	0.33	0.29

m = metre.

Table 8D5-63 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Construction	0.41	0.35	0.35	0.34	0.45	0.45
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Construction	0.34	0.35	0.34	0.33	0.37	0.31
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Construction	0.27	0.32	0.32	0.31	0.30	0.25
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Construction	0.22	0.25	0.29	0.29	0.24	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Construction	0.20	0.16	0.25	0.26	0.21	0.21

m = metre.

Table 8D5-64 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Construction

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Construction	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Construction	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Construction	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Construction	0.36	0.36	0.36	0.22	0.22	0.22	0.24	0.25
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Construction	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.2.4.7 Lac de Gras Outlet

Table 8D5-65 Summer Monthly Mean Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Construction	1,921,732	2,870,053	3,408,070	3,722,986	4,059,436	3,270,309
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Construction	1,488,860	2,365,980	2,778,680	2,956,492	3,134,615	2,718,798
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Construction	1,093,903	1,809,927	2,153,490	2,242,561	2,337,007	2,058,037
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Construction	817,362	1,315,579	1,658,632	1,716,455	1,797,517	1,487,190
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Construction	648,191	953,588	1,332,705	1,391,892	1,489,857	1,175,222

m^3/d = cubic metres per day.

Table 8D5-66 Winter Monthly Mean Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Construction	2,413,442	2,216,960	2,033,310	1,856,599	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Construction	1,909,677	1,751,122	1,601,669	1,458,779	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Construction	1,445,083	1,323,601	1,208,398	1,098,642	1,713,541	1,590,397
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Construction	1,106,470	1,013,697	925,618	841,529	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Construction	899,674	825,374	755,046	687,452	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-67 Derived Representative Discharges at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Construction	48.68	4,155,935	4,127,542	1,670,256	1,705,498	1,728,739	1,747,703	1,745,742
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Construction	37.40	3,213,439	3,199,147	1,319,492	1,329,695	1,350,924	1,392,073	1,411,350
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Construction	28.16	2,425,939	2,416,950	993,754	996,563	1,013,585	1,055,730	1,086,566
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Construction	22.26	1,911,792	1,901,501	754,509	764,232	776,426	803,626	835,822
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Construction	19.06	1,627,958	1,614,509	607,363	627,963	636,296	645,660	674,398

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-68 Summer Monthly Mean Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Construction	415.46	415.72	415.93	416.06	416.04	416.07
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Construction	415.35	415.54	415.69	415.76	415.83	415.85
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Construction	415.20	415.34	415.46	415.49	415.56	415.59
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Construction	415.06	415.18	415.28	415.30	415.30	415.32
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Construction	414.95	415.06	415.16	415.18	415.08	415.10

m = metre.

Table 8D5-69 Winter Monthly Mean Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Construction	415.78	415.68	415.68	415.51	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Construction	415.61	415.53	415.46	415.39	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Construction	415.40	415.34	415.27	415.23	415.54	415.48
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Construction	415.20	415.16	415.13	415.08	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Construction	415.03	415.00	415.06	414.95	415.14	415.18

m = metre.

Table 8D5-70 Derived Representative Mean Stages at Lac de Gras Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Construction	416.26	416.25	416.25	415.50	415.44	415.45	415.46	415.47
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Construction	415.89	415.89	415.88	415.32	415.32	415.33	415.35	415.36
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Construction	415.59	415.59	415.59	415.16	415.18	415.19	415.21	415.22
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Construction	415.40	415.40	415.39	415.06	415.04	415.05	415.06	415.08
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Construction	415.30	415.29	415.29	415.00	414.93	414.93	414.95	414.96

m = metre.

8D5.2.4.8 Desteffany Lake Outlet

Table 8D5-71 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Construction	3,979,862	10,832,115	8,178,052	6,955,394	7,767,037	5,103,663
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Construction	1,975,084	8,266,607	6,602,338	5,358,940	5,367,373	4,148,209
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Construction	1,162,878	5,631,879	4,923,766	3,914,093	3,692,245	3,006,535
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Construction	848,967	3,467,881	3,488,016	2,882,886	2,727,249	2,024,447
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Construction	715,457	1,993,674	2,473,042	2,265,096	2,203,559	1,490,941

m^3/d = cubic metres per day.

Table 8D5-72 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Construction	2,469,634	2,273,779	2,090,661	1,914,446	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Construction	1,964,513	1,807,763	1,659,437	1,516,881	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Construction	1,498,710	1,379,224	1,265,404	1,155,812	1,863,212	1,643,630
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Construction	1,159,250	1,067,893	981,157	897,108	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Construction	951,954	878,318	809,192	741,567	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-73 Derived Representative Discharges at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Construction	186.08	15,139,904	13,750,827	1,727,354	1,741,107	1,777,936	1,797,096	1,801,168
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Construction	140.21	11,581,332	10,759,118	1,355,258	1,366,494	1,394,662	1,439,751	1,461,714
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Construction	97.37	8,179,443	7,789,316	1,023,937	1,033,140	1,054,292	1,101,386	1,133,113
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Construction	65.70	5,598,980	5,440,327	791,717	799,660	816,435	847,433	880,360
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Construction	46.12	3,964,331	3,894,250	654,890	662,178	676,666	688,116	718,195

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-74 Summer Monthly Mean Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Construction	6.49	6.92	6.82	6.76	6.86	6.82
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Construction	6.36	6.81	6.73	6.65	6.70	6.72
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Construction	6.22	6.65	6.61	6.52	6.54	6.59
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Construction	6.10	6.43	6.47	6.40	6.43	6.45
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Construction	6.03	6.22	6.35	6.31	6.36	6.32

m = metre.

Table 8D5-75 Winter Monthly Mean Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Construction	6.53	6.49	6.46	6.42	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Construction	6.43	6.40	6.37	6.33	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Construction	6.33	6.29	6.26	6.22	6.41	6.36
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Construction	6.22	6.19	6.16	6.12	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Construction	6.14	6.11	6.08	6.04	6.24	6.19

m = metre.

Table 8D5-76 Derived Representative Mean Stages at Desteffany Lake Outlet – Construction

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Construction	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Construction	7.00	6.98	6.94	6.28	6.29	6.30	6.31	6.31
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Construction	6.85	6.84	6.82	6.18	6.18	6.19	6.20	6.21
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Construction	6.70	6.69	6.68	6.07	6.08	6.08	6.10	6.11
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Construction	6.57	6.56	6.55	5.99	6.00	6.01	6.02	6.04

m = metre.

8D5.3 Construction Phase Dewatering Assessment

The construction phase dewatering will involve pumping water from the Jay sump to Lac du Sauvage during the calendar year of 2019.The construction of Project infrastructure, including dikes in Lac du Sauvage, will be complete before the dewatering begins. The Project infrastructure will not change through the operations and closure phase assessments.

8D5.3.1 Construction Phase Dewatering Data

The Jay sump to Lac du Sauvage pumping flows in 2019 are from the site water balance model and are presented in Figure 8D5.1-2.

8D5.3.2 Construction Phase Dewatering Method

To model the effects of the construction phase dewatering period, the following model modifications were made:

- The dewatering volume for the calendar year of 2019 was added to Lac du Sauvage each year over the historical record (1964 to 2013);
- All project infrastructure was included in sub-basin B and sub-basin C; and,
- Runoff from Lake B0 and Lake Ac35 was diverted by the Sub-Basin B Diversion Channel to Lac du Sauvage.

8D5.3.3 Construction Phase Dewatering Results

8D5.3.3.1 Lake B0 Outlet

Table 8D5-77 Derived Summer Monthly Mean Discharges at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	18,509	57,037	39,411	30,167	30,355	18,186
	50	15,794	52,320	36,969	27,754	26,928	15,704
	20	12,096	45,904	33,478	24,517	22,754	12,568
	10	9,192	40,859	30,573	22,003	19,816	10,276
	5	6,160	35,453	27,273	19,369	16,997	8,002
Median	2	1,824	26,943	21,578	15,366	13,165	4,777
Dry	5	-	20,373	16,606	12,372	10,617	2,535
	10	-	17,559	14,264	11,094	9,605	1,619
	20	-	15,506	12,453	10,153	8,886	961
	50	-	13,449	10,532	9,197	8,180	304
	100	-	12,222	9,327	8,611	7,758	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-78 Derived Representative Discharges at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	1.05	72,007	65,290	10,047	18,800	21,412
	50	0.98	67,097	61,065	8,549	17,151	19,814
	20	0.87	60,246	55,124	6,517	14,940	17,586
	10	0.78	54,698	50,269	4,931	13,223	15,785
	5	0.68	48,572	44,860	3,287	11,425	13,840
Median	2	0.53	38,459	35,800	964	8,695	10,884
Dry	5	0.41	30,140	28,201	-	6,654	8,961
	10	0.35	26,396	24,730	-	5,784	8,343
	20	0.31	23,582	22,096	-	5,143	8,002
	50	0.27	20,677	19,354	-	4,492	7,762
	100	0.25	18,900	17,663	-	4,093	7,665

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-79 Derived Summer Monthly Mean Stages at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	1.69	2.03	1.50	1.25	1.24	1.20
	50	1.62	1.95	1.45	1.20	1.18	1.12
	20	1.50	1.83	1.37	1.14	1.09	1.02
	10	1.40	1.73	1.30	1.08	1.02	0.94
	5	1.28	1.61	1.22	1.01	0.95	0.86
Median	2	1.04	1.40	1.07	0.90	0.82	0.73
Dry	5	0.81	1.20	0.92	0.79	0.72	0.63
	10	0.69	1.10	0.85	0.74	0.68	0.59
	20	0.61	1.02	0.79	0.70	0.65	0.56
	50	0.52	0.93	0.72	0.65	0.62	0.52
	100	0.47	0.87	0.68	0.62	0.61	0.51

m = metre.

Table 8D5-80 Derived Representative Stages at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	3.07	2.64	2.44	1.04	1.14	1.16
	50	2.98	2.55	2.33	0.98	1.08	1.11
	20	2.84	2.41	2.18	0.91	1.01	1.04
	10	2.71	2.29	2.06	0.85	0.95	0.98
	5	2.56	2.15	1.92	0.79	0.88	0.92
Median	2	2.25	1.90	1.69	0.69	0.76	0.81
Dry	5	1.93	1.67	1.49	0.61	0.67	0.72
	10	1.77	1.55	1.40	0.57	0.63	0.69
	20	1.65	1.46	1.33	0.55	0.60	0.66
	50	1.52	1.36	1.26	0.52	0.57	0.63
	100	1.45	1.29	1.22	0.51	0.55	0.62

m = metre.

8D5.3.3.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet for dewatering are the same as for the construction phase as reported in Section 8D5.2.3.2.

8D5.3.3.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet for dewatering are the same as the baseline conditions as reported in Section 8D4.3.3.

8D5.3.3.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet for dewatering are the same as the baseline conditions as reported in Section 8D4.3.4.

8D5.3.3.5 Lac du Sauvage Outlet

Table 8D5-81 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	529,180	2,618,115	3,086,607	2,617,615	2,657,715	1,722,272
	50	425,499	2,286,919	2,821,196	2,428,673	2,391,808	1,618,547
	20	321,780	1,865,781	2,462,624	2,165,821	2,058,484	1,471,770
	10	262,173	1,559,221	2,182,785	1,954,023	1,816,835	1,350,989
	5	214,332	1,255,952	1,885,365	1,724,782	1,578,757	1,215,396
Median	2	162,467	834,394	1,422,993	1,361,470	1,244,233	985,637
Dry	5	135,432	559,260	1,071,977	1,077,506	1,013,824	789,926
	10	126,179	455,904	923,557	953,032	920,297	699,454
	20	120,093	386,367	816,192	860,111	853,199	630,300
	50	114,478	321,809	709,376	764,598	786,528	557,772
	100	111,299	285,867	646,118	705,571	746,444	512,758

m^3/d = cubic metres per day.

Table 8D5-82 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	383,626	298,819	248,291	245,682	879,306	526,339
	50	367,133	287,193	238,307	224,068	835,025	506,534
	20	343,996	270,668	224,127	197,948	772,044	477,629
	10	325,143	256,853	212,282	180,020	719,917	452,992
	5	304,193	241,143	198,827	163,323	661,046	424,308
Median	2	269,262	213,967	175,592	142,181	560,340	372,817

Table 8D5-82 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Dry	5	240,138	190,454	155,537	130,033	473,470	325,468
	10	226,896	179,827	146,490	125,908	432,920	302,254
	20	216,877	172,149	139,962	123,297	401,738	283,849
	50	206,473	164,955	133,851	121,010	368,845	263,856
	100	200,071	161,109	130,587	119,802	348,325	251,056

m^3/d = cubic metres per day.

Table 8D5-83 Derived Representative Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	41.16	3,499,130	3,442,580	208,527	209,575	198,227	220,856	227,123
	50	37.46	3,190,674	3,141,037	195,441	196,573	190,272	207,965	215,584
	20	32.58	2,780,619	2,739,715	178,408	179,609	178,973	190,952	200,033
	10	28.85	2,466,466	2,431,853	165,672	166,889	169,534	178,027	187,930
	5	24.99	2,138,889	2,110,403	152,719	153,916	158,812	164,667	175,105
Median	2	19.20	1,644,627	1,624,364	133,923	135,009	140,295	144,780	155,259
Dry	5	15.03	1,284,181	1,268,911	120,919	121,851	124,311	130,539	140,285
	10	13.33	1,136,472	1,122,926	115,805	116,652	117,100	124,787	133,984
	20	12.14	1,031,660	1,019,196	112,266	113,045	111,896	120,740	129,439
	50	10.97	929,285	917,747	108,893	109,596	107,025	116,821	124,930
	100	10.30	869,643	858,576	106,969	107,625	104,423	114,554	122,267

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-84 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.78	425.58	416.44	416.37	425.64	416.35
	50	415.74	424.75	416.41	416.34	424.82	416.31
	20	415.69	423.31	416.35	416.30	423.39	416.24
	10	415.66	421.86	416.31	416.26	421.96	416.19
	5	415.62	419.95	416.25	416.21	420.07	416.14

Table 8D5-84 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Median	2	415.57	416.03	416.14	416.13	416.19	416.04
Dry	5	415.62	419.95	416.25	416.21	420.07	416.14
	10	415.66	421.86	416.31	416.26	421.96	416.19
	20	415.69	423.31	416.35	416.30	423.39	416.24
	50	415.74	424.75	416.41	416.34	424.82	416.31
	100	415.78	425.58	416.44	416.37	425.64	416.35

m = metre.

Table 8D5-85 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.86	415.86	415.78	415.72	416.18	415.96
	50	415.84	415.81	415.74	415.68	416.13	415.94
	20	415.81	415.75	415.69	415.64	416.07	415.91
	10	415.79	415.71	415.66	415.61	416.02	415.88
	5	415.76	415.68	415.63	415.58	415.97	415.85
Median	2	415.71	415.63	415.59	415.55	415.89	415.79
Dry	5	415.76	415.68	415.63	415.58	415.97	415.85
	10	415.79	415.71	415.66	415.61	416.02	415.88
	20	415.81	415.75	415.69	415.64	416.07	415.91
	50	415.84	415.81	415.74	415.68	416.13	415.94
	100	415.86	415.86	415.78	415.72	416.18	415.96

m = metre.

Table 8D5-86 Derived Representative Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.48	416.52	416.47	415.63	415.63	415.64	415.64	415.65
	50	416.44	416.48	416.43	415.62	415.62	415.63	415.63	415.64
	20	416.40	416.41	416.39	415.60	415.61	415.61	415.62	415.63
	10	416.35	416.36	416.35	415.59	415.59	415.60	415.61	415.62
	5	416.30	416.29	416.30	415.57	415.58	415.58	415.59	415.60
Median	2	416.21	416.19	416.20	415.54	415.55	415.55	415.56	415.57
Dry	5	416.30	416.29	416.30	415.57	415.58	415.58	415.59	415.60
	10	416.35	416.36	416.35	415.59	415.59	415.60	415.61	415.62
	20	416.40	416.41	416.39	415.60	415.61	415.61	415.62	415.63
	50	416.44	416.48	416.43	415.62	415.62	415.63	415.63	415.64
	100	416.48	416.52	416.47	415.63	415.63	415.64	415.64	415.65

m = metre.

8D5.3.3.6 Lac du Sauvage Narrows

Table 8D5-87 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	26.44	55.25	53.56	53.80	56.93	53.16
	50	19.94	51.97	52.96	52.89	54.71	50.78
	20	14.38	47.05	51.73	51.22	51.35	47.26
	10	11.68	42.76	50.26	49.43	48.41	44.19
	5	9.80	37.78	48.01	46.92	44.97	40.58
Median	2	8.10	29.15	42.38	41.41	38.97	34.12
Dry	5	7.37	21.75	35.39	35.38	33.79	28.61
	10	7.15	18.32	31.34	32.14	31.37	26.28
	20	7.02	15.68	27.84	29.44	29.51	24.69
	50	6.90	12.90	23.75	26.41	27.54	23.28
	100	6.83	11.14	20.96	24.39	26.30	22.57

m = metre.

Table 8D5-88 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	37.64	40.52	27.16	17.55	49.92	39.18
	50	34.25	31.19	19.53	13.28	44.45	36.61
	20	29.47	22.29	13.60	10.16	38.19	32.96
	10	25.56	17.40	10.99	8.87	34.07	29.95
	5	21.27	13.65	9.33	8.10	30.33	26.63
Median	2	14.59	9.78	7.98	7.51	25.61	21.23
Dry	5	10.05	7.88	7.47	7.30	22.71	16.89
	10	8.53	7.25	7.33	7.25	21.61	14.96
	20	7.65	6.84	7.25	7.22	20.85	13.51
	50	7.02	6.47	7.17	7.19	20.12	12.00
	100	6.75	6.27	7.13	7.18	19.69	11.06

m = metre.

Table 8D5-89 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	52.09	52.18	52.29	14.79	14.95	15.40	15.93	17.95
	50	51.92	52.00	52.08	11.68	11.77	12.02	12.39	13.87
	20	51.50	51.54	51.57	9.38	9.42	9.54	9.77	10.68
	10	50.90	50.89	50.86	8.42	8.45	8.51	8.68	9.28
	5	49.78	49.70	49.60	7.84	7.86	7.90	8.01	8.38
Median	2	46.22	46.01	45.78	7.39	7.40	7.43	7.49	7.65
Dry	5	40.61	40.33	40.04	7.24	7.24	7.26	7.31	7.38
	10	36.87	36.59	36.32	7.19	7.20	7.22	7.26	7.30
	20	33.38	33.13	32.90	7.17	7.17	7.19	7.23	7.25
	50	29.03	28.84	28.70	7.15	7.15	7.17	7.21	7.21
	100	25.89	25.77	25.70	-.14	7.14	7.16	7.19	7.19

m = metre.

Table 8D5-90 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.72	1.25	1.32	1.29	1.39	1.30
	50	0.67	1.21	1.28	1.26	1.32	1.25
	20	0.62	1.14	1.23	1.20	1.23	1.17
	10	0.57	1.07	1.19	1.16	1.17	1.11
	5	0.53	0.99	1.14	1.11	1.10	1.04
Median	2	0.47	0.85	1.04	1.03	1.00	0.93
Dry	5	0.45	0.72	0.95	0.95	0.93	0.85
	10	0.44	0.66	0.91	0.92	0.90	0.81
	20	0.44	0.61	0.87	0.89	0.88	0.78
	50	0.43	0.56	0.83	0.86	0.86	0.75
	100	0.43	0.52	0.81	0.85	0.84	0.74

m = metre.

Table 8D5-91 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	1.00	0.94	0.82	0.71	1.21	1.08
	50	0.92	0.83	0.73	0.64	1.13	1.01
	20	0.81	0.72	0.64	0.57	1.04	0.91
	10	0.74	0.65	0.58	0.53	0.97	0.84
	5	0.67	0.60	0.54	0.50	0.89	0.78
Median	2	0.59	0.53	0.49	0.46	0.78	0.68
Dry	5	0.54	0.49	0.46	0.44	0.71	0.61
	10	0.52	0.48	0.46	0.43	0.68	0.59
	20	0.51	0.47	0.45	0.43	0.65	0.57
	50	0.51	0.46	0.44	0.43	0.63	0.55
	100	0.50	0.46	0.44	0.42	0.62	0.55

m = metre.

Table 8D5-92 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	1.40	1.40	1.40	0.63	0.64	0.65	0.66	0.65
	50	1.36	1.35	1.35	0.58	0.59	0.60	0.61	0.61
	20	1.29	1.29	1.29	0.53	0.54	0.54	0.55	0.57
	10	1.24	1.24	1.23	0.50	0.51	0.51	0.52	0.54
	5	1.18	1.18	1.18	0.48	0.48	0.48	0.49	0.51
Median	2	1.09	1.09	1.08	0.45	0.45	0.45	0.46	0.47
Dry	5	1.01	1.01	1.01	0.43	0.43	0.44	0.44	0.45
	10	0.98	0.97	0.97	0.43	0.43	0.43	0.43	0.44
	20	0.95	0.95	0.94	0.42	0.42	0.43	0.43	0.44
	50	0.92	0.92	0.92	0.42	0.42	0.42	0.43	0.44
	100	0.91	0.90	0.90	0.42	0.42	0.42	0.42	0.44

m = metre; Max. = maximum.

Table 8D5-93 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.34	0.46	0.51	0.51	0.61	0.54
	50	0.34	0.45	0.50	0.49	0.55	0.51
	20	0.33	0.42	0.48	0.46	0.48	0.46
	10	0.33	0.40	0.46	0.44	0.44	0.43
	5	0.32	0.38	0.43	0.41	0.41	0.40
Median	2	0.31	0.34	0.39	0.38	0.38	0.36
Dry	5	0.29	0.31	0.36	0.36	0.36	0.33
	10	0.29	0.30	0.34	0.35	0.35	0.32
	20	0.28	0.29	0.33	0.35	0.35	0.31
	50	0.27	0.28	0.32	0.34	0.35	0.30
	100	0.27	0.27	0.32	0.34	0.34	0.30

m = metre.

Table 8D5-94 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.42	0.36	0.35	0.34	0.47	0.46
	50	0.39	0.36	0.35	0.34	0.45	0.41
	20	0.36	0.36	0.34	0.33	0.41	0.36
	10	0.34	0.35	0.34	0.33	0.39	0.32
	5	0.31	0.34	0.34	0.32	0.36	0.29
Median	2	0.27	0.32	0.32	0.31	0.30	0.26
Dry	5	0.24	0.27	0.30	0.30	0.26	0.23
	10	0.22	0.24	0.28	0.29	0.25	0.23
	20	0.21	0.22	0.26	0.28	0.23	0.22
	50	0.20	0.18	0.24	0.27	0.22	0.21
	100	0.20	0.16	0.22	0.26	0.21	0.21

m = metre.

Table 8D5-95 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.63	0.63	0.62	0.26	0.27	0.28	0.25	0.28
	50	0.59	0.58	0.58	0.25	0.26	0.26	0.25	0.27
	20	0.53	0.53	0.52	0.24	0.25	0.25	0.25	0.27
	10	0.49	0.49	0.48	0.24	0.24	0.24	0.25	0.27
	5	0.45	0.45	0.45	0.23	0.23	0.24	0.25	0.27
Median	2	0.41	0.41	0.40	0.23	0.23	0.23	0.24	0.26
Dry	5	0.38	0.38	0.38	0.22	0.22	0.22	0.24	0.25
	10	0.37	0.37	0.37	0.22	0.22	0.22	0.24	0.25
	20	0.36	0.36	0.36	0.22	0.22	0.22	0.23	0.25
	50	0.36	0.36	0.36	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.3.3.7 Lac de Gras Outlet

Table 8D5-96 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,998,040	2,975,634	3,539,950	3,871,883	4,210,739	3,370,411
	50	1,868,327	2,834,281	3,361,801	3,650,740	3,934,706	3,227,288
	20	1,688,921	2,628,858	3,109,798	3,343,669	3,560,982	3,012,340
	10	1,545,208	2,454,608	2,902,511	3,096,383	3,268,599	2,821,660
	5	1,390,473	2,252,743	2,669,900	2,824,902	2,957,057	2,592,326
Median	2	1,146,890	1,893,235	2,276,006	2,380,806	2,470,799	2,166,210
Dry	5	957,838	1,566,101	1,940,775	2,019,871	2,099,670	1,778,250
	10	875,321	1,406,998	1,785,912	1,858,963	1,942,092	1,602,731
	20	813,858	1,281,486	1,667,588	1,738,702	1,827,811	1,477,223
	50	750,800	1,145,802	1,543,540	1,615,258	1,713,834	1,360,117
	100	711,889	1,059,303	1,466,579	1,540,093	1,646,188	1,296,893

m^3/d = cubic metres per day.

Table 8D5-97 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,492,985	2,291,373	2,103,019	1,921,723	2,950,009	2,714,024
	50	2,345,531	2,154,344	1,975,332	1,803,341	2,777,401	2,558,754
	20	2,142,309	1,965,840	1,800,119	1,641,275	2,538,807	2,343,239
	10	1,980,049	1,815,649	1,660,916	1,512,862	2,347,656	2,169,763
	5	1,803,482	1,652,576	1,510,217	1,374,230	2,138,921	1,979,405
Median	2	1,518,644	1,390,410	1,269,067	1,153,352	1,800,326	1,668,244
Dry	5	1,291,413	1,182,230	1,078,758	980,056	1,528,211	1,415,604
	10	1,191,561	1,091,076	995,830	904,882	1,407,952	1,303,062
	20	1,117,594	1,023,702	934,717	849,638	1,318,552	1,218,989
	50	1,042,315	955,276	872,826	793,841	1,227,258	1,132,730
	100	996,823	914,005	835,590	760,351	1,171,924	1,080,229

m^3/d = cubic metres per day.

Table 8D5-98 Derived Representative Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	50.47	4,305,739	4,277,807	1,751,555	1,766,073	1,796,808	1,815,393	1,822,393
	50	47.03	4,021,209	3,998,333	1,640,562	1,653,447	1,681,797	1,710,345	1,722,197
	20	42.44	3,639,542	3,622,462	1,489,434	1,500,322	1,525,514	1,564,739	1,582,806
	10	38.92	3,344,105	3,330,634	1,370,431	1,379,947	1,402,735	1,447,719	1,470,310
	5	35.23	3,032,745	3,022,122	1,242,779	1,251,047	1,271,345	1,319,521	1,346,531
Median	2	29.65	2,555,062	2,546,498	1,041,438	1,048,286	1,064,881	1,110,502	1,143,336
Dry	5	25.55	2,198,807	2,189,453	885,589	891,909	905,866	941,372	977,413
	10	23.87	2,050,242	2,039,797	818,689	824,971	837,872	866,231	903,174
	20	22.67	1,943,683	1,932,120	769,843	776,182	788,345	810,189	847,564
	50	21.49	1,838,528	1,825,541	720,812	727,290	738,746	752,781	790,358
	100	20.81	1,776,703	1,762,713	691,544	698,149	709,199	717,888	755,459

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-99 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.49	415.71	415.90	416.11	416.09	416.12
	50	415.46	415.67	415.86	416.03	416.04	416.06
	20	415.41	415.62	415.79	415.91	415.95	415.98
	10	415.37	415.56	415.73	415.81	415.88	415.90
	5	415.32	415.50	415.66	415.71	415.79	415.81
Median	2	415.23	415.38	415.52	415.54	415.61	415.63
Dry	5	415.13	415.26	415.38	415.41	415.44	415.46
	10	415.09	415.20	415.31	415.35	415.35	415.37
	20	415.05	415.15	415.25	415.31	415.28	415.29
	50	415.00	415.09	415.18	415.26	415.19	415.21
	100	414.97	415.05	415.14	415.24	415.13	415.15

m = metre.

Table 8D5-100 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.81	415.71	415.71	415.54	416.03	416.03
	50	415.77	415.67	415.65	415.50	415.98	415.95
	20	415.70	415.61	415.56	415.46	415.90	415.84
	10	415.64	415.56	415.49	415.41	415.83	415.75
	5	415.57	415.50	415.41	415.36	415.75	415.65
Median	2	415.44	415.38	415.30	415.26	415.59	415.49
Dry	5	415.31	415.26	415.21	415.16	415.42	415.37
	10	415.24	415.19	415.17	415.11	415.34	415.31
	20	415.18	415.14	415.14	415.06	415.27	415.27
	50	415.12	415.08	415.11	415.01	415.19	415.23
	100	415.07	415.04	415.09	414.98	415.14	415.21

m = metre.

Table 8D5-101 Derived Representative Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.31	416.14	416.14	415.53	415.46	415.47	415.56	415.50
	50	416.20	416.09	416.08	415.48	415.43	415.44	415.51	415.47
	20	416.05	416.00	416.00	415.40	415.39	415.40	415.44	415.43
	10	415.94	415.93	415.93	415.35	415.35	415.36	415.38	415.39
	5	415.82	415.84	415.84	415.28	415.30	415.31	415.32	415.34
Median	2	415.64	415.67	415.67	415.19	415.21	415.22	415.22	415.25
Dry	5	415.50	415.50	415.49	415.12	415.12	415.12	415.14	415.15
	10	415.45	415.41	415.40	415.09	415.07	415.08	415.10	415.11
	20	415.41	415.33	415.33	415.06	415.03	415.04	415.08	415.07
	50	415.37	415.25	415.25	415.04	414.99	414.99	415.05	415.02
	100	415.35	415.20	415.19	415.03	414.96	414.96	415.04	414.99

m = metre.

8D5.3.3.8 Desteffany Lake Outlet

Table 8D5-102 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	4,117,395	10,935,022	8,318,095	7,123,155	7,911,307	5,187,550
	50	3,323,251	10,225,245	7,882,826	6,656,146	7,156,515	4,943,004
	20	2,512,644	9,209,455	7,253,629	6,013,306	6,202,024	4,575,096
	10	2,036,933	8,362,736	6,723,140	5,500,757	5,503,839	4,248,025
	5	1,648,033	7,399,418	6,112,429	4,943,829	4,810,491	3,853,668
Median	2	1,216,565	5,732,321	5,035,583	4,047,443	3,826,359	3,117,469
Dry	5	985,931	4,271,917	4,068,552	3,334,530	3,141,230	2,441,913
	10	905,758	3,582,086	3,602,973	3,021,999	2,861,307	2,133,879
	20	852,620	3,047,688	3,237,998	2,790,825	2,659,810	1,912,299
	50	803,258	2,479,966	2,845,825	2,555,877	2,459,021	1,704,183
	100	775,164	2,123,583	2,597,149	2,414,076	2,338,020	1,591,068

m^3/d = cubic metres per day.

Table 8D5-103 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,549,009	2,347,874	2,160,055	1,979,227	3,045,031	2,768,614
	50	2,401,331	2,211,036	2,032,734	1,861,205	2,890,824	2,613,260
	20	2,197,769	2,022,669	1,857,869	1,699,462	2,672,268	2,397,653
	10	2,035,209	1,872,473	1,718,804	1,571,153	2,492,096	2,224,126
	5	1,858,285	1,709,264	1,568,098	1,432,460	2,289,452	2,033,738
Median	2	1,572,791	1,446,557	1,326,545	1,211,058	1,945,064	1,722,595
Dry	5	1,344,950	1,237,598	1,135,503	1,036,898	1,650,559	1,470,040
	10	1,244,802	1,145,986	1,052,115	961,197	1,514,006	1,357,561
	20	1,170,602	1,078,219	990,599	905,496	1,409,434	1,273,547
	50	1,095,072	1,009,342	928,238	849,170	1,299,561	1,187,360
	100	1,049,423	967,770	890,687	815,327	1,231,262	1,134,908

m^3/d = cubic metres per day.

Table 8D5-104 Derived Representative Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	187.46	15,260,206	13,869,265	1,787,153	1,801,233	1,840,085	1,866,046	1,876,999
	50	174.42	14,253,368	13,032,069	1,675,819	1,689,076	1,724,896	1,759,903	1,775,391
	20	156.25	12,841,834	11,845,603	1,524,190	1,536,372	1,568,247	1,612,876	1,634,128
	10	141.56	11,692,584	10,867,599	1,404,758	1,416,134	1,445,068	1,494,802	1,520,209
	5	125.38	10,416,513	9,767,710	1,276,607	1,287,163	1,313,126	1,365,548	1,394,962
Median	2	98.76	8,291,462	7,898,750	1,074,385	1,083,758	1,105,487	1,155,064	1,189,614
Dry	5	76.97	6,522,690	6,300,805	917,756	926,330	945,249	985,026	1,022,209
	10	67.19	5,719,497	5,559,995	850,488	858,757	876,627	909,575	947,403
	20	59.86	5,112,311	4,992,731	801,359	809,422	826,595	853,346	891,412
	50	52.31	4,482,210	4,396,769	752,029	759,903	776,444	795,789	833,858
	100	47.69	4,094,807	4,026,334	722,576	730,345	746,545	760,829	798,771

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-105 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.51	6.92	6.83	6.77	6.87	6.83
	50	6.47	6.90	6.81	6.74	6.82	6.80
	20	6.41	6.86	6.77	6.70	6.76	6.77
	10	6.37	6.82	6.74	6.66	6.71	6.73
	5	6.32	6.77	6.70	6.61	6.65	6.69
Median	2	6.23	6.66	6.62	6.53	6.56	6.61
Dry	5	6.16	6.53	6.53	6.46	6.48	6.52
	10	6.13	6.45	6.49	6.42	6.45	6.47
	20	6.10	6.38	6.45	6.39	6.42	6.43
	50	6.08	6.30	6.40	6.36	6.40	6.38
	100	6.06	6.25	6.36	6.34	6.38	6.35

m = metre.

Table 8D5-106 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.54	6.51	6.47	6.44	6.61	6.58
	50	6.52	6.48	6.45	6.41	6.59	6.55
	20	6.48	6.45	6.41	6.37	6.56	6.52
	10	6.45	6.41	6.38	6.34	6.53	6.48
	5	6.41	6.38	6.34	6.31	6.50	6.45
Median	2	6.34	6.31	6.28	6.24	6.43	6.38
Dry	5	6.28	6.25	6.21	6.18	6.36	6.32
	10	6.25	6.22	6.18	6.15	6.33	6.28
	20	6.23	6.19	6.16	6.12	6.30	6.26
	50	6.20	6.17	6.13	6.10	6.27	6.23
	100	6.18	6.15	6.11	6.08	6.25	6.21

m = metre.

Table 8D5-107 Derived Representative Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.12	7.09	7.04	6.39	6.39	6.40	6.41	6.41
	50	7.09	7.06	7.01	6.37	6.37	6.38	6.39	6.39
	20	7.04	7.02	6.98	6.33	6.33	6.34	6.35	6.36
	10	7.00	6.98	6.95	6.30	6.30	6.31	6.32	6.33
	5	6.95	6.93	6.91	6.26	6.26	6.27	6.29	6.30
Median	2	6.86	6.84	6.82	6.19	6.20	6.21	6.22	6.23
Dry	5	6.76	6.75	6.74	6.13	6.14	6.14	6.16	6.17
	10	6.71	6.70	6.69	6.10	6.10	6.11	6.13	6.14
	20	6.67	6.66	6.65	6.08	6.08	6.09	6.10	6.12
	50	6.62	6.61	6.60	6.05	6.05	6.06	6.07	6.09
	100	6.59	6.58	6.57	6.03	6.03	6.04	6.06	6.07

m = metre.

8D5.3.3.9 Derived Annual Water Yields

Table 8D5-108 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras and Desteffany Lake Outlets – Dewatering

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Dewatering		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	278	243	252
	50	253	221	233	262	229	239
	20	229	203	214	238	211	220
	10	210	188	200	220	196	205
	5	189	173	183	199	181	189
Median	2	155	148	156	166	156	162
Dry	5	128	128	135	139	136	141
	10	116	119	125	127	128	131
	20	108	113	117	118	122	124
	50	99	106	110	109	116	117
	100	93	102	105	103	112	112

mm = millimetre.

8D5.3.4 Construction Phase Dewatering Effects Analysis Results

8D5.3.4.1 Lake B0 Outlet

Table 8D5-109 Summer Monthly Mean Discharges at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	19,175	57,778	40,044	29,947	30,410	18,583
		Dewatering	18,509	57,037	39,411	30,167	30,355	18,186
	10	Baseline	9,493	41,794	31,028	21,783	19,302	10,374
		Dewatering	9,192	40,859	30,573	22,003	19,816	10,276
Median	2	Baseline	1,866	27,683	21,869	15,269	12,785	4,796
		Dewatering	1,824	26,943	21,578	15,366	13,165	4,777
Dry	10	Baseline	-	17,885	14,435	11,132	9,479	1,644
		Dewatering	-	17,559	14,264	11,094	9,605	1,619
	100	Baseline	-	12,162	9,425	8,749	7,819	-
		Dewatering	-	12,222	9,327	8,611	7,758	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-110 Derived Representative Discharges at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.96	72,382	66,638	10,206	19,041	21,295
		Dewatering	1.05	72,007	65,290	10,047	18,800	21,412
	10	Baseline	0.76	55,877	51,764	5,010	13,190	15,635
		Dewatering	0.78	54,698	50,269	4,931	13,223	15,785
Median	2	Baseline	0.53	39,467	36,919	981	8,581	10,764
		Dewatering	0.53	38,459	35,800	964	8,695	10,884
Dry	10	Baseline	0.34	26,466	25,106	-	5,682	8,288
		Dewatering	0.35	26,396	24,730	-	5,784	8,343
	100	Baseline	0.22	17,895	17,289	-	4,021	7,645
		Dewatering	0.25	18,900	17,663	-	4,093	7,665

Q= discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-111 Summer Monthly Mean Stages at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			May	June	July	August	September	October
Wet	100	Baseline	1.70	2.05	1.51	1.24	1.23	1.21
		Dewatering	1.69	2.03	1.50	1.25	1.24	1.20
	10	Baseline	1.42	1.76	1.31	1.07	1.01	0.95
		Dewatering	1.40	1.73	1.30	1.08	1.02	0.94
Median	2	Baseline	1.05	1.42	1.08	0.89	0.81	0.73
		Dewatering	1.04	1.40	1.07	0.90	0.82	0.73
Dry	10	Baseline	0.70	1.11	0.86	0.74	0.67	0.59
		Dewatering	0.69	1.10	0.85	0.74	0.68	0.59
	100	Baseline	0.47	0.87	0.68	0.63	0.61	0.51
		Dewatering	0.47	0.87	0.68	0.62	0.61	0.51

m = metre.

Table 8D5-112 Derived Representative Mean Stages at Lake B0 Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	3.10	2.65	2.45	1.04	1.14	1.15
		Dewatering	3.07	2.64	2.44	1.04	1.14	1.16
	10	Baseline	2.74	2.31	2.08	0.85	0.94	0.98
		Dewatering	2.71	2.29	2.06	0.85	0.95	0.98
Median	2	Baseline	2.27	1.92	1.71	0.69	0.76	0.81
		Dewatering	2.25	1.90	1.69	0.69	0.76	0.81
Dry	10	Baseline	1.79	1.57	1.42	0.58	0.63	0.69
		Dewatering	1.77	1.55	1.40	0.57	0.63	0.69
	100	Baseline	1.46	1.31	1.22	0.51	0.55	0.62
		Dewatering	1.45	1.29	1.22	0.51	0.55	0.62

m = metre.

8D5.3.4.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet during dewatering are the same as for the construction phase as reported in Section 8D5.2.4.2.

8D5.3.4.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet during dewatering are the same as the baseline conditions as reported in Section 8D4.3.3.

8D5.3.4.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet during dewatering are the same as the baseline conditions as reported in Section 8D4.3.4.

8D5.3.4.5 Lac du Sauvage Outlet

Table 8D5-113 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Dewatering	529,180	2,618,115	3,086,607	2,617,615	2,657,715	1,722,272
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Dewatering	262,173	1,559,221	2,182,785	1,954,023	1,816,835	1,350,989
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Dewatering	162,467	834,394	1,422,993	1,361,470	1,244,233	985,637
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Dewatering	126,179	455,904	923,557	953,032	920,297	699,454
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Dewatering	111,299	285,867	646,118	705,571	746,444	512,758

m^3/d = cubic metres per day.

Table 8D5-114 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Dewatering	383,626	298,819	248,291	245,682	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Dewatering	325,143	256,853	212,282	180,020	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Dewatering	269,262	213,967	175,592	142,181	560,340	372,817
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Dewatering	226,896	179,827	146,490	125,908	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Dewatering	200,071	161,109	130,587	119,802	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-115 Derived Representative Discharges at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Dewatering	41.16	3,499,130	3,442,580	208,527	209,575	198,227	220,856	227,123
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Dewatering	28.85	2,466,466	2,431,853	165,672	166,889	169,534	178,027	187,930
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Dewatering	19.20	1,644,627	1,624,364	133,923	135,009	140,295	144,780	155,259
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Dewatering	13.33	1,136,472	1,122,926	115,805	116,652	117,100	124,787	133,984
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Dewatering	10.30	869,643	858,576	106,969	107,625	104,423	114,554	122,267

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-116 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Dewatering	415.78	425.58	416.44	416.37	425.64	416.35
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Dewatering	415.66	421.86	416.31	416.26	421.96	416.19
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Dewatering	415.57	416.03	416.14	416.13	416.19	416.04
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Dewatering	415.66	421.86	416.31	416.26	421.96	416.19
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Dewatering	415.78	425.58	416.44	416.37	425.64	416.35

m = metre.

Table 8D5-117 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Dewatering	415.86	415.86	415.78	415.72	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Dewatering	415.79	415.71	415.66	415.61	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Dewatering	415.71	415.63	415.59	415.55	415.89	415.79
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Dewatering	415.79	415.71	415.66	415.61	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Dewatering	415.86	415.86	415.78	415.72	415.76	415.65

m = metre.

Table 8D5-118 Derived Representative Mean Stages at Lac du Sauvage Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Dewatering	416.48	416.52	416.47	415.63	415.63	415.64	415.64	415.65
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Dewatering	416.35	416.36	416.35	415.59	415.59	415.60	415.61	415.62
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Dewatering	416.21	416.19	416.20	415.54	415.55	415.55	415.56	415.57
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Dewatering	416.35	416.36	416.35	415.59	415.59	415.60	415.61	415.62
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Dewatering	416.48	416.52	416.47	415.63	415.63	415.64	415.64	415.65

m = metre.

8D5.3.4.6 Lac du Sauvage Narrows

Table 8D5-119 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Dewatering	26.44	55.25	53.56	53.80	56.93	53.16
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Dewatering	11.68	42.76	50.26	49.43	48.41	44.19
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Dewatering	8.10	29.15	42.38	41.41	38.97	34.12
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Dewatering	7.15	18.32	31.34	32.14	31.37	26.28
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Dewatering	6.83	11.14	20.96	24.39	26.30	22.57

m = metre.

Table 8D5-120 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Dewatering	37.64	40.52	27.16	17.55	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Dewatering	25.56	17.40	10.99	8.87	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Dewatering	14.59	9.78	7.98	7.51	25.61	21.23
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Dewatering	8.53	7.25	7.33	7.25	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Dewatering	6.75	6.27	7.13	7.18	19.68	11.04

m = metre.

Table 8D5-121 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Dewatering	52.09	52.18	52.29	14.79	14.95	15.40	15.93	17.95
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Dewatering	50.90	50.89	50.86	8.42	8.45	8.51	8.68	9.28
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Dewatering	46.22	46.01	45.78	7.39	7.40	7.43	7.49	7.65
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Dewatering	36.87	36.59	36.32	7.19	7.20	7.22	7.26	7.30
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Dewatering	25.89	25.77	25.70	7.14	7.14	7.16	7.19	7.19

m = metre.

Table 8D5-122 Summer Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Max Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Dewatering	0.72	1.25	1.32	1.29	1.39	1.30
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Dewatering	0.57	1.07	1.19	1.16	1.17	1.11
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Dewatering	0.47	0.85	1.04	1.03	1.00	0.93
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Dewatering	0.44	0.66	0.91	0.92	0.90	0.81
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Dewatering	0.43	0.52	0.81	0.85	0.84	0.74

m = metre.

Table 8D5-123 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Max Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Dewatering	1.00	0.94	0.82	0.71	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Dewatering	0.74	0.65	0.58	0.53	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Dewatering	0.59	0.53	0.49	0.46	0.78	0.68
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Dewatering	0.52	0.48	0.46	0.43	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Dewatering	0.50	0.46	0.44	0.42	0.62	0.55

m = metre.

Table 8D5-124 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Dewatering	1.40	1.40	1.40	0.63	0.64	0.65	0.66	0.65
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Dewatering	1.24	1.24	1.23	0.50	0.51	0.51	0.52	0.54
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Dewatering	1.09	1.09	1.08	0.45	0.45	0.45	0.46	0.47
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Dewatering	0.98	0.97	0.97	0.43	0.43	0.43	0.43	0.44
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Dewatering	0.91	0.90	0.90	0.42	0.42	0.42	0.42	0.44

m = metre; Max. = maximum.

Table 8D5-125 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Dewatering	0.34	0.46	0.51	0.51	0.61	0.54
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Dewatering	0.33	0.40	0.46	0.44	0.44	0.43
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Dewatering	0.31	0.34	0.39	0.38	0.38	0.36
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Dewatering	0.29	0.30	0.34	0.35	0.35	0.32
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Dewatering	0.27	0.27	0.32	0.34	0.34	0.30

m = metre.

Table 8D5-126 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Dewatering	0.42	0.36	0.35	0.34	0.47	0.46
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Dewatering	0.34	0.35	0.34	0.33	0.39	0.32
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Dewatering	0.27	0.32	0.32	0.31	0.30	0.26
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Dewatering	0.22	0.24	0.28	0.29	0.25	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Dewatering	0.20	0.16	0.22	0.26	0.21	0.21

m = metre.

Table 8D5-127 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Dewatering	0.63	0.63	0.62	0.26	0.27	0.28	0.25	0.28
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Dewatering	0.49	0.49	0.48	0.24	0.24	0.24	0.25	0.27
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Dewatering	0.41	0.41	0.40	0.23	0.23	0.23	0.24	0.26
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Dewatering	0.37	0.37	0.37	0.22	0.22	0.22	0.24	0.25
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Dewatering	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.3.4.7 Lac de Gras Outlet

Table 8D5-128 Summer Monthly Mean Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Dewatering	1,998,040	2,975,634	3,539,950	3,871,883	4,210,739	3,370,411
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Dewatering	1,545,208	2,454,608	2,902,511	3,096,383	3,268,599	2,821,660
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Dewatering	1,146,890	1,893,235	2,276,006	2,380,806	2,470,799	2,166,210
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Dewatering	875,321	1,406,998	1,785,912	1,858,963	1,942,092	1,602,731
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Dewatering	711,889	1,059,303	1,466,579	1,540,093	1,646,188	1,296,893

m^3/d = cubic metres per day.

Table 8D5-129 Winter Monthly Mean Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Dewatering	2,492,985	2,291,373	2,103,019	1,921,723	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Dewatering	1,980,049	1,815,649	1,660,916	1,512,862	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Dewatering	1,518,644	1,390,410	1,269,067	1,153,352	1,800,326	1,668,244
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Dewatering	1,191,561	1,091,076	995,830	904,882	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Dewatering	996,823	914,005	835,590	760,351	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-130 Derived Representative Discharges at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Dewatering	50.47	4,305,739	4,277,807	1,751,555	1,766,073	1,796,808	1,815,393	1,822,393
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Dewatering	38.92	3,344,105	3,330,634	1,370,431	1,379,947	1,402,735	1,447,719	1,470,310
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Dewatering	29.65	2,555,062	2,546,498	1,041,438	1,048,286	1,064,881	1,110,502	1,143,336
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Dewatering	23.87	2,050,242	2,039,797	818,689	824,971	837,872	866,231	903,174
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Dewatering	20.81	1,776,703	1,762,713	691,544	698,149	709,199	717,888	755,459

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-131 Summer Monthly Mean Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Dewatering	415.49	415.71	415.90	416.11	416.09	416.12
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Dewatering	415.37	415.56	415.73	415.81	415.88	415.90
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Dewatering	415.23	415.38	415.52	415.54	415.61	415.63
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Dewatering	415.09	415.20	415.31	415.35	415.35	415.37
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Dewatering	414.97	415.05	415.14	415.24	415.13	415.15

m = metre.

Table 8D5-132 Winter Monthly Mean Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Dewatering	415.81	415.71	415.71	415.54	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Dewatering	415.64	415.56	415.49	415.41	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Dewatering	415.44	415.38	415.30	415.26	415.59	415.49
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Dewatering	415.24	415.19	415.17	415.11	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Dewatering	415.07	415.04	415.09	414.98	415.14	415.18

m = metre.

Table 8D5-133 Derived Representative Mean Stages at Lac de Gras Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Dewatering	416.31	416.14	416.14	415.53	415.46	415.47	415.56	415.50
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Dewatering	415.94	415.93	415.93	415.35	415.35	415.36	415.38	415.39
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Dewatering	415.64	415.67	415.67	415.19	415.21	415.22	415.22	415.25
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Dewatering	415.45	415.41	415.40	415.09	415.07	415.08	415.10	415.11
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Dewatering	415.35	415.20	415.19	415.03	414.96	414.96	415.04	414.99

m = metre.

8D5.3.4.8 Desteffany Lake

Table 8D5-134 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Dewatering	4,117,395	10,935,022	8,318,095	7,123,155	7,911,307	5,187,550
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Dewatering	2,036,933	8,362,736	6,723,140	5,500,757	5,503,839	4,248,025
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Dewatering	1,216,565	5,732,321	5,035,583	4,047,443	3,826,359	3,117,469
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Dewatering	905,758	3,582,086	3,602,973	3,021,999	2,861,307	2,133,879
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Dewatering	775,164	2,123,583	2,597,149	2,414,076	2,338,020	1,591,068

m^3/d = cubic metres per day.

Table 8D5-135 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Dewatering	2,549,009	2,347,874	2,160,055	1,979,227	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Dewatering	2,035,209	1,872,473	1,718,804	1,571,153	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Dewatering	1,572,791	1,446,557	1,326,545	1,211,058	1,945,064	1,722,595
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Dewatering	1,244,802	1,145,986	1,052,115	961,197	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Dewatering	1,049,423	967,770	890,687	815,327	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-136 Derived Representative Discharges at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Dewatering	187.46	15,260,206	13,869,265	1,787,153	1,801,233	1,840,085	1,866,046	1,876,999
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Dewatering	141.56	11,692,584	10,867,599	1,404,758	1,416,134	1,445,068	1,494,802	1,520,209
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Dewatering	98.76	8,291,462	7,898,750	1,074,385	1,083,758	1,105,487	1,155,064	1,189,614
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Dewatering	67.19	5,719,497	5,559,995	850,488	858,757	876,627	909,575	947,403
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Dewatering	47.69	4,094,807	4,026,334	722,576	730,345	746,545	760,829	798,771

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-137 Summer Monthly Mean Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Dewatering	6.51	6.92	6.83	6.77	6.87	6.83
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Dewatering	6.37	6.82	6.74	6.66	6.71	6.73
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Dewatering	6.23	6.66	6.62	6.53	6.56	6.61
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Dewatering	6.13	6.45	6.49	6.42	6.45	6.47
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Dewatering	6.06	6.25	6.36	6.34	6.38	6.35

m = metre.

Table 8D5-138 Winter Monthly Mean Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Dewatering	6.54	6.51	6.47	6.44	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Dewatering	6.45	6.41	6.38	6.34	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Dewatering	6.34	6.31	6.28	6.24	6.43	6.38
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Dewatering	6.25	6.22	6.18	6.15	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Dewatering	6.18	6.15	6.11	6.08	6.24	6.19

m = metre.

Table 8D5-139 Derived Representative Mean Stages at Desteffany Lake Outlet – Dewatering

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Dewatering	7.12	7.09	7.04	6.39	6.39	6.40	6.41	6.41
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Dewatering	7.00	6.98	6.95	6.30	6.30	6.31	6.32	6.33
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Dewatering	6.86	6.84	6.82	6.19	6.20	6.21	6.22	6.23
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Dewatering	6.71	6.70	6.69	6.10	6.10	6.11	6.13	6.14
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Dewatering	6.59	6.58	6.57	6.03	6.03	6.04	6.06	6.07

m = metre.

8D5.4 Operations Phase Assessment

The operations phase will occur from late 2019 to 2029. In the early operations phase from late 2019 to 2024, there will be outflow from Lac du Sauvage to the Jay sump through dike seepage. In the late operations phase from 2024 to 2029, water will be transferred to Lac du Sauvage from the Misery Pit. The early operations phase and late operations phase were run as separate scenarios for the operations phase assessment.

8D5.4.1 Early Operations Phase Data

The highest operational outflows from Lac du Sauvage will occur as seepage to the Jay Pit during the hydrologic year from October 2023 to September 2024, as shown in Figure 8D5.1-1. Lake C1 will have increased groundwater outflow over October 2023 to September 2024 compared to baseline.

8D5.4.2 Early Operations Phase Method

To model early operations, the following model modifications were made:

- High operational outflows from Lac du Sauvage from October 2023 to September 2024 were repeated each year over the historical record (1964 to 2013);
- Project infrastructure was included for this assessment;
- Lake C1 groundwater losses were included for the period of October 2023 to September 2024;
- Runoff from Lake B0 and Lake Ac35 was diverted by the Sub-Basin B Diversion Channel to Lac du Sauvage; and,
- The WRSA in sub-basin C diverted runoff and precipitation to the diked area.

8D5.4.3 Early Operations Phase Results

8D5.4.3.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as the dewatering period as reported in Section 8D5.3.3.1.

8D5.4.3.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as the construction conditions as reported in Section 8D5.2.3.2.

8D5.4.3.3 Lake C1 Outlet

Table 8D5-140 Derived Summer Monthly Mean Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	8,878	29,875	19,848	15,454	16,391	10,113
	50	7,463	27,271	18,505	13,984	14,357	8,623
	20	5,572	23,729	16,580	12,014	11,843	6,779
	10	4,123	20,945	14,972	10,487	10,048	5,458
	5	2,650	17,963	13,137	8,890	8,301	4,172
Median	2	647	13,272	9,952	6,467	5,888	2,391
Dry	5	-	9,653	7,148	4,658	4,254	1,183
	10	-	8,103	5,819	3,887	3,598	697
	20	-	6,974	4,787	3,319	3,130	350
	50	-	5,842	3,688	2,743	2,667	7
	100	-	5,167	2,997	2,391	2,390	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-141 Derived Representative Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.49	38,671	35,397	4,139	9,823	10,656
	50	0.45	35,748	32,844	3,485	8,857	9,798
	20	0.40	31,721	29,307	2,610	7,565	8,613
	10	0.35	28,509	26,466	1,938	6,567	7,657
	5	0.31	25,016	23,354	1,253	5,518	6,614
Median	2	0.24	19,388	18,283	316	3,916	4,939

Table 8D5-141 Derived Representative Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Dry	5	0.18	14,905	14,183	-	2,727	3,645
	10	0.16	12,937	12,363	-	2,234	3,115
	20	0.14	11,481	11,006	-	1,881	2,756
	50	0.12	10,000	9,616	-	1,533	2,437
	100	0.11	9,106	8,772	-	1,329	2,274

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-142 Derived Summer Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.50	0.38	0.31	0.33	0.30
	50	0.31	0.47	0.37	0.30	0.31	0.28
	20	0.29	0.44	0.34	0.27	0.27	0.25
	10	0.26	0.41	0.32	0.25	0.24	0.23
	5	0.24	0.38	0.29	0.23	0.22	0.21
Median	2	0.19	0.31	0.24	0.18	0.17	0.16
Dry	5	0.14	0.26	0.19	0.15	0.14	0.13
	10	0.12	0.24	0.17	0.13	0.12	0.11
	20	0.10	0.22	0.15	0.11	0.11	0.10
	50	0.08	0.21	0.12	0.10	0.10	0.09
	100	0.08	0.20	0.11	0.09	0.10	0.08

m = metre.

Table 8D5-143 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		Jan	Feb	Mar	Apr	Nov	Dec
Wet	100	0.30	0.30	0.30	0.30	0.30	0.30
	50	0.28	0.28	0.27	0.27	0.28	0.28
	20	0.25	0.24	0.24	0.24	0.25	0.25
	10	0.22	0.22	0.22	0.22	0.23	0.22
	5	0.20	0.19	0.19	0.19	0.20	0.20
Median	2	0.15	0.15	0.15	0.15	0.16	0.16

Table 8D5-143 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		Jan	Feb	Mar	Apr	Nov	Dec
Dry	5	0.12	0.12	0.12	0.11	0.13	0.12
	10	0.11	0.10	0.10	0.10	0.11	0.11
	20	0.10	0.09	0.09	0.09	0.10	0.10
	50	0.09	0.08	0.08	0.08	0.09	0.09
	100	0.08	0.08	0.07	0.07	0.08	0.08

m = metre.

Table 8D5-144 Derived Representative Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	0.63	0.60	0.57	0.21	0.20	0.23	0.27	0.29
	50	0.60	0.57	0.54	0.20	0.19	0.22	0.26	0.27
	20	0.55	0.53	0.50	0.18	0.18	0.20	0.23	0.25
	10	0.51	0.49	0.47	0.17	0.17	0.18	0.21	0.23
	5	0.47	0.45	0.43	0.15	0.15	0.17	0.19	0.21
Median	2	0.39	0.38	0.37	0.12	0.13	0.14	0.16	0.17
Dry	5	0.33	0.32	0.31	0.10	0.10	0.11	0.13	0.14
	10	0.30	0.29	0.28	0.08	0.09	0.10	0.11	0.13
	20	0.28	0.27	0.26	0.07	0.08	0.09	0.10	0.12
	50	0.25	0.25	0.24	0.06	0.07	0.08	0.09	0.10
	100	0.24	0.24	0.23	0.06	0.06	0.07	0.09	0.10

m = metre.

8D5.4.3.4 Lake C17 Outlet

Table 8D5-145 Derived Summer Monthly Mean Discharges at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	357	556	157	217	288	378
	50	305	525	137	166	277	369
	20	234	477	108	113	275	319
	10	179	433	85	80	260	234
	5	120	379	61	53	196	115
Median	2	36	271	24	21	31	7
Dry	5	-	163	-	4	-	-
	10	-	109	-	-	-	-
	20	-	67	-	-	-	-
	50	-	25	-	-	-	-
	100	-	-	-	-	-	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-146 Derived Representative Discharges at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.03	1,699	1,106	20	102	124
	50	0.03	1,560	1,029	16	74	103
	20	0.02	1,368	921	11	47	78
	10	0.02	1,217	832	7	32	60
	5	0.02	1,054	734	4	20	43
Median	2	0.01	793	570	-	8	20
Dry	5	0.01	589	433	-	1	7
	10	0.01	501	370	-	-	2
	20	0.01	435	323	-	-	-
	50	0.01	370	274	-	-	-
	100	0.00	330	243	-	-	-

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-147 Derived Summer Monthly Mean Stages at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.14	0.14	0.06	0.06	0.08	0.06
	50	0.13	0.14	0.05	0.06	0.07	0.06
	20	0.12	0.14	0.04	0.04	0.05	0.05
	10	0.10	0.13	0.04	0.03	0.04	0.04
	5	0.09	0.12	0.03	0.02	0.03	0.03
Median	2	0.06	0.09	0.01	0.01	0.02	0.02
Dry	5	0.03	0.06	-	-	0.01	0.01
	10	0.01	0.04	-	-	-	0.00
	20	-	0.02	-	-	-	-
	50	-	0.01	-	-	-	-
	100	-	-	-	-	-	-

m = metre; - = stage below the lake outlet during zero discharge.

Table 8D5-148 Derived Representative Stages at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	0.39	0.30	0.24	0.03	0.04	0.06
	50	0.36	0.29	0.23	0.02	0.03	0.05
	20	0.33	0.27	0.22	0.02	0.03	0.04
	10	0.31	0.25	0.20	0.01	0.02	0.03
	5	0.28	0.23	0.19	0.01	0.01	0.02
Median	2	0.24	0.20	0.16	-	0.01	0.01
Dry	5	0.20	0.17	0.14	-	-	-
	10	0.18	0.15	0.13	-	-	-
	20	0.17	0.14	0.12	-	-	-
	50	0.15	0.13	0.11	-	-	-
	100	0.14	0.12	0.11	-	-	-

m = metre; - = stage below the lake outlet during zero discharge.

8D5.4.3.5 Lac du Sauvage Outlet

Table 8D5-149 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	465,644	2,385,914	2,900,646	2,530,371	2,672,091	1,723,537
	50	373,785	2,070,415	2,627,269	2,330,428	2,389,951	1,618,194
	20	282,154	1,671,782	2,262,279	2,055,587	2,038,410	1,468,740
	10	229,650	1,383,726	1,981,268	1,836,794	1,785,120	1,345,391
	5	187,620	1,100,907	1,686,754	1,602,527	1,536,931	1,206,491
Median	2	142,201	712,349	1,238,825	1,236,364	1,190,625	969,986
Dry	5	118,611	462,761	908,647	954,285	953,853	767,226
	10	110,554	370,170	772,206	831,719	858,175	673,030
	20	105,261	308,350	674,890	740,639	789,692	600,806
	50	100,382	251,373	579,368	647,382	721,779	524,835
	100	97,622	219,858	523,476	589,931	681,012	477,561

m^3/d = cubic metres per day.

Table 8D5-150 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	371,067	289,489	236,888	208,880	876,711	524,013
	50	356,706	278,470	227,773	197,475	833,931	504,615
	20	336,131	262,787	214,810	182,283	772,325	476,036
	10	318,958	249,657	203,966	170,616	720,609	451,411
	5	299,395	234,704	191,629	158,419	661,337	422,418
Median	2	265,467	208,779	170,266	139,946	557,565	369,437
Dry	5	235,662	186,281	151,759	126,404	465,248	319,558
	10	221,553	176,091	143,386	120,832	421,122	294,659
	20	210,609	168,720	137,334	116,868	386,686	274,695
	50	198,967	161,806	131,661	112,987	349,843	252,773
	100	191,651	158,107	128,627	110,721	326,570	238,604

m^3/d = cubic metres per day.

Table 8D5-151 Derived Representative Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.52	3,385,511	3,327,508	180,133	183,161	179,243	204,549	212,200
	50	35.66	3,055,156	3,005,764	170,396	173,252	172,228	192,988	202,014
	20	30.63	2,623,627	2,584,741	157,340	159,959	162,251	177,594	188,081
	10	26.85	2,299,621	2,267,980	147,236	149,667	153,904	165,779	177,051
	5	23.00	1,968,713	1,943,796	136,591	138,818	144,406	153,436	165,154
Median	2	17.36	1,485,353	1,468,711	120,268	122,168	127,961	134,758	146,226
Dry	5	13.44	1,147,950	1,135,620	108,102	109,745	113,718	121,083	131,404
	10	11.88	1,014,334	1,003,256	103,031	104,562	107,277	115,462	124,984
	20	10.80	921,491	911,089	99,395	100,844	102,622	111,466	120,270
	50	9.77	832,605	822,671	95,808	97,175	98,259	107,556	115,514
	100	9.18	781,739	771,982	93,700	95,017	95,927	105,274	112,661

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-152 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.74	425.54	416.41	416.37	425.62	416.28
	50	415.71	424.71	416.37	416.33	424.80	416.25
	20	415.66	423.27	416.32	416.28	423.38	416.21
	10	415.63	421.82	416.27	416.24	421.94	416.18
	5	415.59	419.90	416.21	416.18	420.05	416.13
Median	2	415.55	415.98	416.09	416.09	416.17	416.04
Dry	5	415.51	411.98	415.97	416.00	412.22	415.96
	10	415.50	409.92	415.92	415.95	410.18	415.91
	20	415.49	408.25	415.88	415.92	408.53	415.88
	50	415.48	406.40	415.84	415.88	406.71	415.83
	100	415.48	405.19	415.82	415.85	405.51	415.81

m = metre.

Table 8D5-153 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.83	415.82	415.75	415.64	416.09	415.94
	50	415.82	415.78	415.72	415.63	416.07	415.92
	20	415.79	415.73	415.67	415.61	416.03	415.89
	10	415.77	415.70	415.64	415.60	416.00	415.87
	5	415.75	415.67	415.61	415.58	415.96	415.84
Median	2	415.70	415.62	415.58	415.55	415.89	415.78
Dry	5	415.65	415.60	415.56	415.52	415.82	415.72
	10	415.62	415.59	415.55	415.50	415.79	415.69
	20	415.60	415.59	415.55	415.49	415.76	415.67
	50	415.58	415.58	415.54	415.48	415.72	415.65
	100	415.56	415.58	415.54	415.47	415.70	415.64

m = metre.

Table 8D5-154 Derived Representative Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.51	416.45	416.44	415.60	415.60	415.66	415.62	415.67
	50	416.46	416.41	416.41	415.59	415.59	415.63	415.61	415.65
	20	416.39	416.36	416.36	415.57	415.58	415.60	415.60	415.62
	10	416.33	416.32	416.32	415.56	415.57	415.57	415.59	415.60
	5	416.26	416.27	416.26	415.55	415.55	415.55	415.57	415.58
Median	2	416.16	416.17	416.16	415.52	415.52	415.52	415.54	415.55
Dry	5	416.07	416.07	416.06	415.49	415.50	415.50	415.51	415.53
	10	416.03	416.01	416.01	415.48	415.48	415.50	415.50	415.52
	20	416.00	415.97	415.97	415.47	415.47	415.50	415.49	415.52
	50	415.96	415.92	415.92	415.46	415.46	415.49	415.47	415.52
	100	415.94	415.89	415.89	415.46	415.46	415.49	415.46	415.51

m = metre.

8D5.4.3.6 Lac du Sauvage Narrows

Table 8D5-155 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	23.47	54.40	55.82	54.68	56.67	52.19
	50	17.72	50.49	54.33	53.19	54.29	49.79
	20	12.94	44.87	51.75	50.67	50.72	46.25
	10	10.67	40.18	49.15	48.19	47.63	43.19
	5	9.13	34.96	45.71	44.99	44.05	39.60
Median	2	7.77	26.35	38.65	38.61	37.88	33.27
Dry	5	7.21	19.34	31.46	32.30	32.62	27.97
	10	7.04	16.19	27.75	29.11	30.19	25.77
	20	6.94	13.81	24.74	26.54	28.32	24.30
	50	6.85	11.34	21.42	23.73	26.35	23.02
	100	6.81	9.80	19.24	21.90	25.11	22.37

m = metre.

Table 8D5-156 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	34.79	36.26	21.96	15.70	46.65	36.14
	50	31.63	27.00	16.11	12.19	42.02	34.16
	20	27.19	18.83	11.71	9.63	36.58	31.19
	10	23.56	14.70	9.84	8.57	32.90	28.60
	5	19.60	11.74	8.68	7.93	29.48	25.61
Median	2	13.44	8.96	7.78	7.44	25.01	20.45
Dry	5	9.28	7.72	7.45	7.28	22.18	16.04
	10	7.89	7.34	7.36	7.23	21.08	13.99
	20	7.10	7.09	7.31	7.20	20.31	12.42
	50	6.53	6.88	7.26	7.18	19.57	10.77
	100	6.29	6.76	7.24	7.17	19.13	9.73

m = metre.

Table 8D5-157 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	53.09	53.23	53.42	13.03	13.37	13.99	14.10	14.73
	50	52.69	52.80	52.93	10.70	10.89	11.22	11.36	11.88
	20	51.83	51.87	51.91	8.92	9.01	9.15	9.28	9.65
	10	50.73	50.71	50.65	8.15	8.20	8.28	8.39	8.66
	5	48.94	48.85	48.69	7.66	7.69	7.74	7.84	8.03
Median	2	44.13	43.92	43.61	7.27	7.29	7.32	7.40	7.51
Dry	5	37.68	37.43	37.11	7.13	7.14	7.17	7.24	7.31
	10	33.77	33.54	33.28	7.09	7.10	7.13	7.19	7.26
	20	30.31	30.11	29.93	7.07	7.08	7.11	7.17	7.22
	50	26.20	26.05	26.00	7.05	7.06	7.09	7.14	7.19
	100	23.33	23.24	23.28	7.03	7.05	7.08	7.13	7.18

m = metre.

Table 8D5-158 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.68	1.22	1.29	1.26	1.34	1.26
	50	0.64	1.17	1.25	1.23	1.29	1.21
	20	0.59	1.10	1.20	1.18	1.21	1.14
	10	0.55	1.03	1.15	1.14	1.15	1.09
	5	0.51	0.95	1.10	1.09	1.09	1.03
Median	2	0.46	0.80	1.00	1.00	0.99	0.92
Dry	5	0.43	0.67	0.90	0.92	0.91	0.84
	10	0.42	0.61	0.85	0.88	0.88	0.80
	20	0.42	0.56	0.81	0.84	0.85	0.77
	50	0.42	0.51	0.77	0.81	0.83	0.74
	100	0.42	0.47	0.74	0.79	0.81	0.72

m = metre.

Table 8D5-159 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	0.92	0.88	0.77	0.67	1.15	1.02
	50	0.85	0.78	0.69	0.61	1.09	0.96
	20	0.77	0.68	0.61	0.55	1.00	0.87
	10	0.71	0.62	0.56	0.51	0.94	0.81
	5	0.65	0.58	0.52	0.49	0.87	0.75
Median	2	0.58	0.52	0.48	0.45	0.77	0.66
Dry	5	0.53	0.49	0.46	0.44	0.70	0.60
	10	0.52	0.48	0.45	0.43	0.66	0.58
	20	0.51	0.47	0.45	0.43	0.64	0.56
	50	0.50	0.46	0.44	0.42	0.62	0.55
	100	0.50	0.46	0.44	0.42	0.60	0.54

m = metre.

Table 8D5-160 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	1.36	1.36	1.36	0.58	0.59	0.61	0.61	0.59
	50	1.32	1.32	1.32	0.55	0.55	0.56	0.57	0.56
	20	1.26	1.26	1.25	0.51	0.51	0.52	0.53	0.53
	10	1.21	1.21	1.20	0.48	0.49	0.49	0.50	0.51
	5	1.16	1.15	1.15	0.46	0.46	0.47	0.48	0.49
Median	2	1.06	1.06	1.05	0.43	0.44	0.44	0.45	0.46
Dry	5	0.98	0.98	0.97	0.42	0.42	0.42	0.43	0.44
	10	0.94	0.94	0.94	0.41	0.41	0.42	0.43	0.44
	20	0.91	0.91	0.91	0.41	0.41	0.41	0.42	0.43
	50	0.88	0.88	0.88	0.41	0.41	0.41	0.42	0.43
	100	0.86	0.86	0.86	0.40	0.40	0.41	0.42	0.43

m = metre; Max.= maximum.

Table 8D5-161 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.43	0.51	0.49	0.56	0.50
	50	0.33	0.42	0.49	0.47	0.52	0.48
	20	0.32	0.40	0.46	0.45	0.47	0.45
	10	0.32	0.38	0.44	0.43	0.43	0.42
	5	0.31	0.37	0.42	0.41	0.41	0.40
Median	2	0.30	0.33	0.38	0.38	0.37	0.36
Dry	5	0.29	0.30	0.35	0.35	0.35	0.32
	10	0.28	0.28	0.33	0.34	0.34	0.31
	20	0.27	0.27	0.33	0.34	0.34	0.30
	50	0.26	0.25	0.32	0.33	0.33	0.29
	100	0.26	0.25	0.31	0.33	0.33	0.28

m = metre.

Table 8D5-162 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.41	0.35	0.35	0.34	0.45	0.44
	50	0.39	0.35	0.35	0.34	0.43	0.40
	20	0.37	0.35	0.34	0.33	0.40	0.34
	10	0.34	0.35	0.34	0.33	0.37	0.31
	5	0.32	0.34	0.34	0.32	0.34	0.28
Median	2	0.28	0.32	0.32	0.31	0.30	0.25
Dry	5	0.24	0.29	0.30	0.29	0.26	0.23
	10	0.23	0.26	0.29	0.28	0.24	0.23
	20	0.21	0.23	0.28	0.27	0.23	0.22
	50	0.20	0.19	0.27	0.26	0.21	0.22
	100	0.19	0.16	0.26	0.26	0.21	0.22

m = metre.

Table 8D5-163 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.58	0.58	0.57	0.26	0.27	0.26	0.26	0.28
	50	0.54	0.54	0.54	0.25	0.26	0.25	0.25	0.28
	20	0.50	0.50	0.49	0.24	0.25	0.24	0.25	0.28
	10	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
	5	0.44	0.43	0.43	0.23	0.23	0.23	0.25	0.27
Median	2	0.40	0.39	0.39	0.23	0.23	0.23	0.24	0.26
Dry	5	0.37	0.37	0.37	0.22	0.22	0.23	0.24	0.26
	10	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
	20	0.36	0.36	0.35	0.22	0.22	0.22	0.23	0.25
	50	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.4.3.7 Lac de Gras Outlet

Table 8D5-164 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,912,143	2,858,298	3,394,469	3,709,596	4,046,795	3,260,566
	50	1,790,165	2,722,718	3,219,416	3,491,605	3,777,190	3,116,553
	20	1,619,027	2,524,326	2,970,996	3,188,117	3,410,248	2,900,168
	10	1,479,943	2,354,716	2,765,906	2,942,980	3,121,438	2,708,109
	5	1,328,250	2,156,624	2,534,886	2,673,024	2,811,788	2,476,968
Median	2	1,085,468	1,799,259	2,141,334	2,229,259	2,323,751	2,046,971
Dry	5	893,758	1,468,484	1,803,714	1,866,232	1,946,365	1,654,686
	10	809,200	1,305,494	1,646,786	1,703,573	1,784,495	1,476,852
	20	745,873	1,175,864	1,526,427	1,581,622	1,666,363	1,349,494
	50	680,599	1,034,629	1,399,783	1,456,070	1,547,840	1,230,460
	100	640,170	943,966	1,320,956	1,379,418	1,477,120	1,166,083

m^3/d = cubic metres per day.

Table 8D5-165 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,405,128	2,208,559	2,024,837	1,848,079	2,849,346	2,618,809
	50	2,261,381	2,075,491	1,901,309	1,734,051	2,680,682	2,468,610
	20	2,061,810	1,890,999	1,730,401	1,576,574	2,445,884	2,258,197
	10	1,901,121	1,742,686	1,593,334	1,450,543	2,256,249	2,087,027
	5	1,724,741	1,580,155	1,443,496	1,313,067	2,047,433	1,897,136
Median	2	1,436,294	1,315,037	1,200,025	1,090,444	1,704,224	1,581,349
Dry	5	1,201,946	1,100,380	1,003,912	911,938	1,423,514	1,318,993
	10	1,097,502	1,004,965	917,088	833,188	1,297,758	1,200,028
	20	1,019,455	933,782	852,474	774,709	1,203,484	1,110,175
	50	939,355	860,841	786,422	715,054	1,106,433	1,017,009
	100	890,590	816,497	746,349	678,929	1,047,187	959,772

m^3/d = cubic metres per day.

Table 8D5-166 Derived Representative Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.54	4,143,483	4,115,014	1,661,951	1,696,988	1,720,239	1,739,303	1,737,340
	50	45.19	3,865,968	3,842,367	1,562,194	1,588,589	1,611,500	1,638,725	1,643,544
	20	40.71	3,491,779	3,473,842	1,423,399	1,439,802	1,461,932	1,498,042	1,511,322
	10	37.25	3,200,408	3,186,076	1,311,370	1,321,559	1,342,780	1,383,796	1,402,990
	5	33.60	2,891,449	2,880,056	1,188,091	1,193,513	1,213,426	1,257,283	1,281,917
Median	2	28.01	2,412,884	2,403,890	985,678	988,513	1,005,518	1,047,492	1,078,214
Dry	5	23.84	2,051,345	2,041,966	820,351	826,628	840,471	873,856	906,328
	10	22.11	1,899,056	1,888,792	746,364	756,051	768,220	795,352	827,447
	20	20.87	1,789,150	1,777,924	690,935	704,024	714,826	736,166	767,424
	50	19.64	1,680,050	1,667,561	633,910	651,319	660,606	674,905	704,744
	100	18.92	1,615,569	1,602,172	599,117	619,602	627,906	637,326	665,992

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-167 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.53	415.68	415.93	415.94	416.03	416.21
	50	415.48	415.64	415.86	415.89	415.98	416.11
	20	415.40	415.58	415.76	415.81	415.89	415.97
	10	415.35	415.53	415.69	415.75	415.82	415.85
	5	415.28	415.47	415.60	415.66	415.73	415.74
Median	2	415.18	415.35	415.45	415.51	415.56	415.55
Dry	5	415.11	415.23	415.33	415.35	415.38	415.41
	10	415.07	415.17	415.27	415.27	415.29	415.35
	20	415.05	415.12	415.23	415.20	415.22	415.30
	50	415.02	415.06	415.19	415.13	415.14	415.26
	100	415.01	415.02	415.16	415.08	415.08	415.23

m = metre.

Table 8D5-168 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.77	415.68	415.67	415.51	415.99	415.98
	50	415.73	415.64	415.61	415.47	415.93	415.90
	20	415.66	415.58	415.52	415.42	415.86	415.79
	10	415.60	415.53	415.46	415.38	415.78	415.70
	5	415.53	415.46	415.38	415.33	415.70	415.61
Median	2	415.40	415.34	415.26	415.23	415.54	415.45
Dry	5	415.27	415.22	415.17	415.13	415.37	415.32
	10	415.19	415.15	415.13	415.08	415.29	415.26
	20	415.14	415.10	415.10	415.03	415.22	415.22
	50	415.07	415.04	415.07	414.98	415.14	415.18
	100	415.03	415.00	415.05	414.95	415.08	415.15

m = metre.

Table 8D5-169 Derived Representative Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.25	416.25	416.25	415.43	415.51	415.52	415.52	415.47
	50	416.14	416.14	416.14	415.40	415.45	415.46	415.47	415.44
	20	416.00	416.00	415.99	415.35	415.38	415.39	415.40	415.39
	10	415.89	415.88	415.88	415.31	415.32	415.33	415.35	415.35
	5	415.77	415.76	415.76	415.27	415.26	415.27	415.29	415.31
Median	2	415.59	415.58	415.58	415.18	415.16	415.17	415.19	415.21
Dry	5	415.45	415.45	415.45	415.09	415.09	415.09	415.11	415.12
	10	415.40	415.39	415.39	415.04	415.06	415.06	415.07	415.07
	20	415.35	415.35	415.35	415.00	415.03	415.04	415.05	415.03
	50	415.32	415.31	415.31	414.95	415.01	415.01	415.02	414.99
	100	415.29	415.29	415.29	414.92	415.00	415.00	415.00	414.96

m = metre.

8D5.4.3.8 Desteffany Lake Outlet

Table 8D5-170 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,962,648	10,817,451	8,165,806	6,941,901	7,754,493	5,092,573
	50	3,206,936	10,110,810	7,736,828	6,483,900	7,002,197	4,843,406
	20	2,427,429	9,098,169	7,115,489	5,851,561	6,050,427	4,469,182
	10	1,964,965	8,252,802	6,590,437	5,345,649	5,353,909	4,137,196
	5	1,583,262	7,289,521	5,984,562	4,793,979	4,661,931	3,737,895
Median	2	1,154,659	5,618,362	4,912,257	3,901,081	3,679,227	2,995,902
Dry	5	922,543	4,149,594	3,944,539	3,185,619	2,994,713	2,320,256
	10	841,205	3,454,060	3,476,863	2,870,149	2,714,946	2,014,538
	20	787,075	2,914,399	3,109,377	2,635,966	2,513,526	1,795,908
	50	736,617	2,340,223	2,713,612	2,397,145	2,312,784	1,591,888
	100	707,817	1,979,308	2,462,154	2,252,566	2,191,796	1,481,726

m^3/d = cubic metres per day.

Table 8D5-171 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,461,511	2,265,598	2,082,420	1,906,171	2,949,002	2,673,138
	50	2,317,360	2,132,549	1,959,116	1,792,324	2,798,087	2,522,892
	20	2,117,239	1,947,981	1,788,377	1,634,954	2,582,932	2,312,486
	10	1,956,118	1,799,513	1,651,315	1,508,877	2,404,368	2,141,391
	5	1,779,277	1,636,707	1,501,339	1,371,204	2,202,130	1,951,664
Median	2	1,490,106	1,370,865	1,257,270	1,147,882	1,854,633	1,636,356
Dry	5	1,255,206	1,155,327	1,060,272	968,410	1,553,094	1,374,628
	10	1,150,528	1,059,418	972,918	889,093	1,411,696	1,256,029
	20	1,072,312	987,820	907,846	830,131	1,302,654	1,166,490
	50	992,044	914,407	841,263	769,920	1,187,314	1,073,687
	100	943,180	869,751	800,835	733,425	1,115,190	1,016,693

m^3/d = cubic metres per day.

Table 8D5-172 Derived Representative Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	185.89	15,123,664	13,736,184	1,719,072	1,732,822	1,769,641	1,788,891	1,793,061
	50	172.86	14,120,523	12,902,827	1,611,886	1,624,889	1,659,139	1,687,865	1,697,727
	20	154.70	12,712,994	11,720,514	1,464,583	1,476,586	1,507,394	1,546,508	1,563,473
	10	140.02	11,565,908	10,744,723	1,347,352	1,358,582	1,386,733	1,431,676	1,453,606
	5	123.83	10,290,978	9,645,913	1,220,214	1,230,632	1,255,993	1,304,468	1,330,966
Median	2	97.18	8,164,507	7,774,989	1,016,197	1,025,379	1,046,492	1,093,401	1,125,022
Dry	5	75.33	6,390,867	6,171,040	854,589	862,862	880,853	918,576	951,688
	10	65.52	5,584,167	5,425,897	783,963	791,862	808,571	839,488	872,298
	20	58.15	4,973,723	4,854,579	731,823	739,456	755,257	779,839	811,962
	50	50.57	4,339,636	4,253,614	678,929	686,304	701,219	718,077	749,029
	100	45.93	3,949,452	3,879,658	647,057	654,282	668,683	680,180	710,161

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-173 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.49	6.92	6.82	6.76	6.85	6.82
	50	6.45	6.89	6.80	6.73	6.81	6.80
	20	6.40	6.85	6.76	6.68	6.75	6.76
	10	6.35	6.81	6.73	6.65	6.69	6.72
	5	6.30	6.76	6.69	6.60	6.64	6.68
Median	2	6.21	6.65	6.61	6.52	6.54	6.59
Dry	5	6.14	6.51	6.52	6.44	6.46	6.50
	10	6.10	6.43	6.47	6.40	6.43	6.45
	20	6.07	6.36	6.43	6.37	6.40	6.40
	50	6.04	6.27	6.38	6.33	6.37	6.35
	100	6.02	6.22	6.34	6.31	6.36	6.31

m = metre.

Table 8D5-174 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.53	6.49	6.46	6.42	6.59	6.56
	50	6.50	6.47	6.43	6.40	6.57	6.54
	20	6.46	6.43	6.40	6.36	6.54	6.50
	10	6.43	6.40	6.36	6.33	6.52	6.47
	5	6.39	6.36	6.33	6.29	6.48	6.43
Median	2	6.32	6.29	6.26	6.22	6.41	6.36
Dry	5	6.25	6.22	6.19	6.15	6.34	6.29
	10	6.22	6.19	6.15	6.12	6.30	6.25
	20	6.19	6.16	6.13	6.09	6.27	6.22
	50	6.16	6.13	6.09	6.06	6.23	6.19
	100	6.14	6.11	6.07	6.04	6.21	6.17

m = metre.

Table 8D5-175 Derived Representative Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	50	7.08	7.05	7.01	6.35	6.35	6.36	6.37	6.37
	20	7.04	7.01	6.97	6.31	6.32	6.33	6.34	6.34
	10	6.99	6.98	6.94	6.28	6.29	6.29	6.31	6.31
	5	6.95	6.93	6.90	6.24	6.25	6.25	6.27	6.28
Median	2	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
Dry	5	6.75	6.74	6.73	6.10	6.11	6.12	6.13	6.14
	10	6.70	6.69	6.67	6.07	6.07	6.08	6.10	6.11
	20	6.65	6.65	6.63	6.04	6.05	6.05	6.07	6.08
	50	6.60	6.59	6.58	6.01	6.01	6.02	6.04	6.05
	100	6.57	6.56	6.55	5.99	5.99	6.00	6.01	6.03

m = metre.

8D5.4.3.9 Derived Annual Water Yields

Table 8D5-176 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras and Desteffany Lake Outlets – Early Operations

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Early Operations		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	269	234	246
	50	253	221	233	252	220	233
	20	229	203	214	228	202	214
	10	210	188	200	209	188	199
	5	189	173	183	188	172	183
Median	2	155	148	156	154	147	156
Dry	5	128	128	135	127	127	134
	10	116	119	125	115	119	125
	20	108	113	117	107	112	117
	50	99	106	110	98	106	110
	100	93	102	105	92	102	105

mm = millimetre.

8D5.4.4 Early Operations Phase Effects Analysis Results

8D5.4.4.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as the dewatering period as reported in Section 8D5.3.4.1.

8D5.4.4.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as the dewatering period as reported in Section 8D5.2.4.2.

8D5.4.4.3 Lake C1 Outlet

Table 8D5-177 Summer Monthly Mean Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	10,645	33,984	21,865	16,946	17,923	11,118
		Early Operations	8,878	29,875	19,848	15,454	16,391	10,113
	10	Baseline	4,973	24,138	16,594	11,543	11,070	6,009
		Early Operations	4,123	20,945	14,972	10,487	10,048	5,458
Median	2	Baseline	797	15,602	11,138	7,243	6,598	2,644
		Early Operations	647	13,272	9,952	6,467	5,888	2,391
Dry	10	Baseline	-	9,794	6,617	4,517	4,146	786
		Early Operations	-	8,103	5,819	3,887	3,598	697
	100	Baseline	-	6,463	3,513	2,948	2,855	-
		Early Operations	-	5,167	2,997	2,391	2,390	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-178 Derived Representative Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.57	45,394	41,139	4,800	11,062	11,953
		Early Operations	0.49	38,671	35,397	4,139	9,823	10,656
	10	Baseline	0.43	33,892	31,127	2,255	7,373	8,509
		Early Operations	0.35	28,509	26,466	1,938	6,567	7,657
Median	2	Baseline	0.29	23,364	21,783	377	4,419	5,535
		Early Operations	0.24	19,388	18,283	316	3,916	4,939

Table 8D5-178 Derived Representative Discharges at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Dry	10	Baseline	0.19	15,755	14,882	-	2,580	3,598
		Early Operations	0.16	12,937	12,363	-	2,234	3,115
	100	Baseline	0.13	11,143	10,616	-	1,609	2,710
		Early Operations	0.11	9,106	8,772	-	1,329	2,274

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-179 Summer Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.37	0.54	0.41	0.33	0.35	0.32
		Early Operations	0.33	0.50	0.38	0.31	0.33	0.30
	10	Baseline	0.30	0.45	0.34	0.27	0.26	0.24
		Early Operations	0.26	0.41	0.32	0.25	0.24	0.23
Median	2	Baseline	0.21	0.35	0.26	0.20	0.18	0.17
		Early Operations	0.19	0.31	0.24	0.18	0.17	0.16
Dry	10	Baseline	0.14	0.27	0.18	0.14	0.13	0.12
		Early Operations	0.12	0.24	0.17	0.13	0.12	0.11
	100	Baseline	0.10	0.23	0.12	0.10	0.11	0.09
		Early Operations	0.08	0.20	0.11	0.09	0.10	0.08

m = metre.

Table 8D5-180 Summer Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.33	0.33	0.33	0.33	0.32	0.32
		Early Operations	0.30	0.30	0.30	0.30	0.30	0.30
	10	Baseline	0.24	0.24	0.24	0.24	0.27	0.27
		Early Operations	0.22	0.22	0.22	0.22	0.24	0.24
Median	2	Baseline	0.17	0.17	0.17	0.17	0.17	0.17
		Early Operations	0.15	0.15	0.15	0.15	0.16	0.16

Table 8D5-180 Summer Monthly Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			January	February	March	April	November	December
Dry	10	Baseline	0.12	0.12	0.12	0.12	0.14	0.14
		Early Operations	0.11	0.10	0.10	0.10	0.12	0.12
	100	Baseline	0.09	0.09	0.09	0.09	0.11	0.11
		Early Operations	0.08	0.08	0.07	0.07	0.10	0.10

m = metre.

Table 8D5-181 Derived Representative Mean Stages at Lake C1 Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	0.71	0.67	0.63	0.22	0.22	0.25	0.30	0.31
		Early Operations	0.63	0.60	0.57	0.21	0.20	0.23	0.27	0.29
	10	Baseline	0.58	0.55	0.52	0.18	0.18	0.20	0.23	0.24
		Early Operations	0.51	0.49	0.47	0.17	0.17	0.18	0.21	0.23
Median	2	Baseline	0.45	0.43	0.41	0.14	0.14	0.15	0.17	0.18
		Early Operations	0.39	0.38	0.37	0.12	0.13	0.14	0.16	0.17
Dry	10	Baseline	0.35	0.34	0.32	0.10	0.10	0.11	0.13	0.14
		Early Operations	0.30	0.29	0.28	0.08	0.09	0.10	0.11	0.13
	100	Baseline	0.28	0.27	0.26	0.07	0.08	0.09	0.10	0.11
		Early Operations	0.24	0.24	0.23	0.06	0.06	0.07	0.09	0.10

m = metre.

8D5.4.4.4 Lake C17 Outlet

Table 8D5-182 Summer Monthly Mean Discharges at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,486	2,171	648	823	757	465
		Early Operations	357	556	157	217	288	378
	10	Baseline	786	1,718	417	491	499	219
		Early Operations	179	433	85	80	260	234
Median	2	Baseline	181	1,085	178	252	240	56
		Early Operations	36	271	24	21	31	7
Dry	10	Baseline	-	383	15	111	90	9
		Early Operations	-	109	-	-	-	-
	100	Baseline	-	-	-	34	41	2
		Early Operations	-	-	-	-	-	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-183 Derived Representative Discharges at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.15	7,103	4,361	157	325	516
		Early Operations	0.03	1,699	1,106	20	102	124
	10	Baseline	0.10	5,274	3,403	78	203	303
		Early Operations	0.02	1,217	832	7	32	60
Median	2	Baseline	0.06	3,546	2,406	15	103	167
		Early Operations	0.01	793	570	-	8	20
Dry	10	Baseline	0.04	2,250	1,574	-	38	101
		Early Operations	0.01	501	370	-	-	2
	100	Baseline	0.02	1,439	999	-	1	74
		Early Operations	0.00	330	243	-	-	-

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-184 Summer Monthly Mean Stages at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stage (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.40	0.43	0.15	0.16	0.16	0.16
		Early Operations	0.14	0.14	0.06	0.06	0.08	0.06
	10	Baseline	0.30	0.36	0.11	0.12	0.12	0.09
		Early Operations	0.10	0.13	0.04	0.03	0.04	0.04
Median	2	Baseline	0.17	0.24	0.06	0.08	0.08	0.05
		Early Operations	0.06	0.09	0.01	0.01	0.02	0.02
Dry	10	Baseline	0.05	0.09	0.01	0.04	0.04	0.02
		Early Operations	0.01	0.04	-	-	-	0.00
	100	Baseline	-	-	-	0.02	0.01	0.01
		Early Operations	-	-	-	-	-	-

m = metre; - = stage below the lake outlet during zero discharge; - = zero discharge due to ice conditions.

Table 8D5-185 Derived Representative Mean Stages at Lake C17 Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	1.11	0.86	0.70	0.07	0.09	0.11
		Early Operations	0.39	0.30	0.24	0.03	0.04	0.06
	10	Baseline	0.93	0.73	0.59	0.05	0.07	0.09
		Early Operations	0.31	0.25	0.20	0.01	0.02	0.03
Median	2	Baseline	0.74	0.60	0.48	0.03	0.05	0.06
		Early Operations	0.24	0.20	0.16	0.00	0.01	0.01
Dry	10	Baseline	0.56	0.47	0.39	0.01	0.02	0.04
		Early Operations	0.18	0.15	0.13	-	-	-
	100	Baseline	0.43	0.38	0.33	-	0.00	0.02
		Early Operations	0.14	0.12	0.11	-	-	-

m = metre; - = stage below the lake outlet during zero discharge.

8D5.4.4.5 Lac du Sauvage Outlet

Table 8D5-186 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Early Operations	465,644	2,385,914	2,900,646	2,530,371	2,672,091	1,723,537
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Early Operations	229,650	1,383,726	1,981,268	1,836,794	1,785,120	1,345,391
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Early Operations	142,201	712,349	1,238,825	1,236,364	1,190,625	969,986
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Early Operations	110,554	370,170	772,206	831,719	858,175	673,030
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Early Operations	97,622	219,858	523,476	589,931	681,012	477,561

m^3/d = cubic metres per day.

Table 8D5-187 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Early Operations	371,067	289,489	236,888	208,880	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Early Operations	318,958	249,657	203,966	170,616	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Early Operations	265,467	208,779	170,266	139,946	557,565	369,437
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Early Operations	221,553	176,091	143,386	120,832	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Early Operations	191,651	158,107	128,627	110,721	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-188 Derived Representative Discharges at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Early Operations	39.52	3,385,511	3,327,508	180,133	183,161	179,243	204,549	212,200
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Early Operations	26.85	2,299,621	2,267,980	147,236	149,667	153,904	165,779	177,051
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Early Operations	17.36	1,485,353	1,468,711	120,268	122,168	127,961	134,758	146,226
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Early Operations	11.88	1,014,334	1,003,256	103,031	104,562	107,277	115,462	124,984
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Early Operations	9.18	781,739	771,982	93,700	95,017	95,927	105,274	112,661

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-189 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Early Operations	415.74	425.54	416.41	416.37	425.62	416.28
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Early Operations	415.63	421.82	416.27	416.24	421.94	416.18
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Early Operations	415.55	415.98	416.09	416.09	416.17	416.04
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Early Operations	415.50	409.92	415.92	415.95	410.18	415.91
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Early Operations	415.48	405.19	415.82	415.85	405.51	415.81

m = metre.

Table 8D5-190 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Early Operations	415.83	415.82	415.75	415.64	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Early Operations	415.77	415.70	415.64	415.60	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Early Operations	415.70	415.62	415.58	415.55	415.89	415.78
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Early Operations	415.62	415.59	415.55	415.50	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Early Operations	415.56	415.58	415.54	415.47	415.76	415.65

m = metre.

Table 8D5-191 Derived Representative Mean Stages at Lac du Sauvage Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Early Operations	416.51	416.45	416.44	415.60	415.60	415.66	415.62	415.67
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Early Operations	416.33	416.32	416.32	415.56	415.57	415.57	415.59	415.60
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Early Operations	416.16	416.17	416.16	415.52	415.52	415.52	415.54	415.55
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Early Operations	416.03	416.01	416.01	415.48	415.48	415.50	415.50	415.52
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Early Operations	415.94	415.89	415.89	415.46	415.46	415.49	415.46	415.51

m = metre.

8D5.4.4.6 Lac du Sauvage Narrows

Table 8D5-192 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Early Operations	23.47	54.40	55.82	54.68	56.67	52.19
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Early Operations	10.67	40.18	49.15	48.19	47.63	43.19
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Early Operations	7.77	26.35	38.65	38.61	37.88	33.27
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Early Operations	7.04	16.19	27.75	29.11	30.19	25.77
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Early Operations	6.81	9.80	19.24	21.90	25.11	22.37

m = metre.

Table 8D5-193 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Early Operations	34.79	36.26	21.96	15.70	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Early Operations	23.56	14.70	9.84	8.57	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Early Operations	13.44	8.96	7.78	7.44	25.01	20.45
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Early Operations	7.89	7.34	7.36	7.23	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Early Operations	6.29	6.76	7.24	7.17	19.68	11.04

m = metre.

Table 8D5-194 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Early Operations	53.09	53.23	53.42	13.03	13.37	13.99	14.10	14.73
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Early Operations	50.73	50.71	50.65	8.15	8.20	8.28	8.39	8.66
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Early Operations	44.13	43.92	43.61	7.27	7.29	7.32	7.40	7.51
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Early Operations	33.77	33.54	33.28	7.09	7.10	7.13	7.19	7.26
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Early Operations	23.33	23.24	23.28	7.03	7.05	7.08	7.13	7.18

m = metre.

Table 8D5-195 Summer Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Maximum Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Early Operations	0.68	1.22	1.29	1.26	1.34	1.26
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Early Operations	0.55	1.03	1.15	1.14	1.15	1.09
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Early Operations	0.46	0.80	1.00	1.00	0.99	0.92
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Early Operations	0.42	0.61	0.85	0.88	0.88	0.80
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Early Operations	0.42	0.47	0.74	0.79	0.81	0.72

m = metre.

Table 8D5-196 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Maximum Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Early Operations	0.92	0.88	0.77	0.67	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Early Operations	0.71	0.62	0.56	0.51	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Early Operations	0.58	0.52	0.48	0.45	0.77	0.66
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Early Operations	0.52	0.48	0.45	0.43	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Early Operations	0.50	0.46	0.44	0.42	0.62	0.55

m = metre.

Table 8D5-197 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Early Operations	1.36	1.36	1.36	0.58	0.59	0.61	0.61	0.59
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Early Operations	1.21	1.21	1.20	0.48	0.49	0.49	0.50	0.51
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Early Operations	1.06	1.06	1.05	0.43	0.44	0.44	0.45	0.46
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Early Operations	0.94	0.94	0.94	0.41	0.41	0.42	0.43	0.44
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Early Operations	0.86	0.86	0.86	0.40	0.40	0.41	0.42	0.43

m = metre; Max. = maximum.

Table 8D5-198 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Early Operations	0.33	0.43	0.51	0.49	0.56	0.50
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Early Operations	0.32	0.38	0.44	0.43	0.43	0.42
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Early Operations	0.30	0.33	0.38	0.38	0.37	0.36
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Early Operations	0.28	0.28	0.33	0.34	0.34	0.31
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Early Operations	0.26	0.25	0.31	0.33	0.33	0.28

m = metre.

Table 8D5-199 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Early Operations	0.41	0.35	0.35	0.34	0.45	0.44
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Early Operations	0.34	0.35	0.34	0.33	0.37	0.31
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Early Operations	0.28	0.32	0.32	0.31	0.30	0.25
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Early Operations	0.23	0.26	0.29	0.28	0.24	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Early Operations	0.19	0.16	0.26	0.26	0.21	0.22

m = metre.

Table 8D5-200 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Early Operations	0.58	0.58	0.57	0.26	0.27	0.26	0.26	0.28
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Early Operations	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Early Operations	0.40	0.39	0.39	0.23	0.23	0.23	0.24	0.26
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Early Operations	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Early Operations	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.4.4.7 Lac de Gras Outlet

Table 8D5-201 Summer Monthly Mean Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Early Operations	1,912,143	2,858,298	3,394,469	3,709,596	4,046,795	3,260,566
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Early Operations	1,479,943	2,354,716	2,765,906	2,942,980	3,121,438	2,708,109
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Early Operations	1,085,468	1,799,259	2,141,334	2,229,259	2,323,751	2,046,971
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Early Operations	809,200	1,305,494	1,646,786	1,703,573	1,784,495	1,476,852
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Early Operations	640,170	943,966	1,320,956	1,379,418	1,477,120	1,166,083

m^3/d = cubic metres per day.

Table 8D5-202 Winter Monthly Mean Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Early Operations	2,405,128	2,208,559	2,024,837	1,848,079	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Early Operations	1,901,121	1,742,686	1,593,334	1,450,543	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Early Operations	1,436,294	1,315,037	1,200,025	1,090,444	1,704,224	1,581,349
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Early Operations	1,097,502	1,004,965	917,088	833,188	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Early Operations	890,590	816,497	746,349	678,929	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-203 Derived Representative Discharges at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Early Operations	48.54	4,143,483	4,115,014	1,661,951	1,696,988	1,720,239	1,739,303	1,737,340
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Early Operations	37.25	3,200,408	3,186,076	1,311,370	1,321,559	1,342,780	1,383,796	1,402,990
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Early Operations	28.01	2,412,884	2,403,890	985,678	988,513	1,005,518	1,047,492	1,078,214
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Early Operations	22.11	1,899,056	1,888,792	746,364	756,051	768,220	795,352	827,447
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Early Operations	18.92	1,615,569	1,602,172	599,117	619,602	627,906	637,326	665,992

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-204 Summer Monthly Mean Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Early Operations	415.53	415.68	415.93	415.94	416.03	416.21
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Early Operations	415.35	415.53	415.69	415.75	415.82	415.85
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Early Operations	415.18	415.35	415.45	415.51	415.56	415.55
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Early Operations	415.07	415.17	415.27	415.27	415.29	415.35
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Early Operations	415.01	415.02	415.16	415.08	415.08	415.23

m = metre.

Table 8D5-205 Winter Monthly Mean Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Early Operations	415.77	415.68	415.67	415.51	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Early Operations	415.60	415.53	415.46	415.38	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Early Operations	415.40	415.34	415.26	415.23	415.54	415.45
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Early Operations	415.19	415.15	415.13	415.08	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Early Operations	415.03	415.00	415.05	414.95	415.14	415.18

m = metre.

Table 8D5-206 Derived Representative Mean Stages at Lac de Gras Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Early Operations	416.25	416.25	416.25	415.43	415.51	415.52	415.52	415.47
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Early Operations	415.89	415.88	415.88	415.31	415.32	415.33	415.35	415.35
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Early Operations	415.59	415.58	415.58	415.18	415.16	415.17	415.19	415.21
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Early Operations	415.40	415.39	415.39	415.04	415.06	415.06	415.07	415.07
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Early Operations	415.29	415.29	415.29	414.92	415.00	415.00	415.00	414.96

m = metre.

8D5.4.4.8 Desteffany Lake Outlet

Table 8D5-207 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Early Operations	3,962,648	10,817,451	8,165,806	6,941,901	7,754,493	5,092,573
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Early Operations	1,964,965	8,252,802	6,590,437	5,345,649	5,353,909	4,137,196
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Early Operations	1,154,659	5,618,362	4,912,257	3,901,081	3,679,227	2,995,902
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Early Operations	841,205	3,454,060	3,476,863	2,870,149	2,714,946	2,014,538
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Early Operations	707,817	1,979,308	2,462,154	2,252,566	2,191,796	1,481,726

m^3/d = cubic metres per day.

Table 8D5-208 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Early Operations	2,461,511	2,265,598	2,082,420	1,906,171	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Early Operations	1,956,118	1,799,513	1,651,315	1,508,877	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Early Operations	1,490,106	1,370,865	1,257,270	1,147,882	1,854,633	1,636,356
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Early Operations	1,150,528	1,059,418	972,918	889,093	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Early Operations	943,180	869,751	800,835	733,425	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-209 Derived Representative Discharges at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Early Operations	185.89	15,123,664	13,736,184	1,719,072	1,732,822	1,769,641	1,788,891	1,793,061
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Early Operations	140.02	11,565,908	10,744,723	1,347,352	1,358,582	1,386,733	1,431,676	1,453,606
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Early Operations	97.18	8,164,507	7,774,989	1,016,197	1,025,379	1,046,492	1,093,401	1,125,022
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Early Operations	65.52	5,584,167	5,425,897	783,963	791,862	808,571	839,488	872,298
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Early Operations	45.93	3,949,452	3,879,658	647,057	654,282	668,683	680,180	710,161

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-210 Summer Monthly Mean Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Early Operations	6.49	6.92	6.82	6.76	6.85	6.82
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Early Operations	6.35	6.81	6.73	6.65	6.69	6.72
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Early Operations	6.21	6.65	6.61	6.52	6.54	6.59
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Early Operations	6.10	6.43	6.47	6.40	6.43	6.45
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Early Operations	6.02	6.22	6.34	6.31	6.36	6.31

m = metre.

Table 8D5-211 Winter Monthly Mean Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Early Operations	6.53	6.49	6.46	6.42	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Early Operations	6.43	6.40	6.36	6.33	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Early Operations	6.32	6.29	6.26	6.22	6.41	6.36
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Early Operations	6.22	6.19	6.15	6.12	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Early Operations	6.14	6.11	6.07	6.04	6.24	6.19

m = metre.

Table 8D5-212 Derived Representative Mean Stages at Desteffany Lake Outlet – Early Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Early Operations	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Early Operations	6.99	6.98	6.94	6.28	6.29	6.29	6.31	6.31
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Early Operations	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Early Operations	6.70	6.69	6.67	6.07	6.07	6.08	6.10	6.11
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Early Operations	6.57	6.56	6.55	5.99	5.99	6.00	6.01	6.03

m = metre.

8D5.4.5 Late Operations Phase Data

The late operations phase highest inflows to Lac du Sauvage will occur during the hydrologic year October 2028 to September 2029. Lac du Sauvage will gain inflow from the Misery Pit and lose outflow from seepage to the Jay Pit. The data are presented in Figure 8D5.1-2. Lake C1 will have increased groundwater outflow over October 2028 to September 2029 compared to baseline.

8D5.4.6 Late Operations Phase Method

To model the late operations phase, the following model modifications were made:

- Misery Pit pumping rates to Lac du Sauvage from October 2028 to September 2029 were repeated each year of the historical record (1964 to 2013);
- All project infrastructure was included;
- Lake C1 groundwater losses are included for the period of October 2028 to 2029;
- Runoff from Lake B0 and Lake Ac35 was diverted by the Sub-Basin B Diversion Channel to Lac du Sauvage; and,
- The WRSA in sub-basin C diverted runoff and precipitation to the diked area.

8D5.4.7 Late Operations Phase Results

8D5.4.7.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as for the dewatering period as reported in Section 8D5.3.3.1.

8D5.4.7.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as for the construction conditions as reported in Section 8D5.2.3.2.

8D5.4.7.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet are the same as for the early operations conditions as reported in Section 8D5.4.3.3.

8D5.4.7.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations conditions as reported in Section 8D5.4.3.4.

8D5.4.7.5 Lac du Sauvage Outlet

Table 8D5-213 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	484,171	2,431,980	2,945,049	2,559,604	2,693,711	1,742,139
	50	389,577	2,114,571	2,673,025	2,360,911	2,413,361	1,636,292
	20	295,283	1,712,795	2,309,045	2,087,351	2,063,556	1,486,255
	10	241,292	1,421,858	2,028,107	1,869,225	1,811,152	1,362,553
	5	198,098	1,135,591	1,732,904	1,635,335	1,563,517	1,223,401
Median	2	151,460	740,980	1,282,101	1,269,085	1,217,418	986,864
Dry	5	127,258	486,345	947,985	986,394	980,380	784,526
	10	118,996	391,542	809,327	863,417	884,493	690,687
	20	113,570	328,107	710,171	771,976	815,823	618,814
	50	108,569	269,519	612,600	678,301	747,694	543,288
	100	105,741	237,053	555,380	620,567	706,782	496,334

m^3/d = cubic metres per day.

Table 8D5-214 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	380,281	298,095	246,215	238,012	884,246	531,816
	50	365,583	287,092	237,023	219,124	841,618	512,536
	20	344,604	271,408	223,931	196,121	780,321	484,133
	10	327,170	258,253	212,958	180,191	728,948	459,664
	5	307,396	243,245	200,451	165,218	670,172	430,857
Median	2	273,347	217,149	178,733	145,988	567,546	378,228
Dry	5	243,715	194,420	159,848	134,723	476,576	328,696
	10	229,789	184,096	151,280	130,838	433,214	303,975
	20	219,034	176,617	145,078	128,357	399,433	284,156
	50	207,644	169,592	139,255	126,164	363,350	262,397
	100	200,513	165,830	136,139	124,996	340,591	248,335

m^3/d = cubic metres per day.

Table 8D5-215 Derived Representative Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.98	3,423,137	3,364,726	190,608	193,620	188,483	214,424	221,939
	50	36.15	3,095,468	3,045,442	180,333	183,192	181,416	202,493	211,444
	20	31.14	2,666,398	2,626,673	166,664	169,304	171,352	186,679	197,145
	10	27.37	2,343,329	2,310,773	156,183	158,641	162,921	174,603	185,879
	5	23.51	2,012,419	1,986,585	145,245	147,500	153,315	162,055	173,785
Median	2	17.85	1,526,864	1,509,470	128,718	130,632	136,645	143,224	154,689
Dry	5	13.88	1,185,848	1,173,026	116,644	118,275	122,160	129,590	139,887
	10	12.30	1,050,154	1,038,727	111,688	113,193	115,593	124,035	133,525
	20	11.20	955,589	944,953	108,169	109,580	110,839	120,106	128,877
	50	10.15	864,801	854,757	104,729	106,043	106,378	116,282	124,209
	100	9.54	812,717	802,928	102,723	103,978	103,991	114,061	121,420

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-216 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.70	425.55	416.42	416.37	425.62	416.33
	50	415.68	424.72	416.38	416.34	424.81	416.29
	20	415.66	423.28	416.33	416.29	423.38	416.23
	10	415.64	421.83	416.28	416.24	421.95	416.18
	5	415.62	419.92	416.22	416.19	420.06	416.13
Median	2	415.57	415.99	416.10	416.10	416.18	416.04
Dry	5	415.52	411.99	415.99	416.01	412.23	415.96
	10	415.50	409.93	415.94	415.97	410.19	415.93
	20	415.48	408.26	415.90	415.93	408.54	415.90
	50	415.46	406.41	415.86	415.89	406.72	415.87
	100	415.44	405.21	415.84	415.87	405.53	415.85

m = metre.

Table 8D5-217 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.84	415.76	415.70	415.70	416.15	415.94
	50	415.82	415.75	415.69	415.67	416.11	415.92
	20	415.80	415.73	415.67	415.63	416.05	415.90
	10	415.78	415.71	415.66	415.61	416.01	415.87
	5	415.75	415.69	415.64	415.58	415.96	415.84
Median	2	415.70	415.65	415.60	415.55	415.89	415.79
Dry	5	415.66	415.60	415.56	415.54	415.83	415.73
	10	415.63	415.58	415.55	415.53	415.80	415.70
	20	415.61	415.56	415.53	415.53	415.79	415.68
	50	415.58	415.54	415.51	415.52	415.77	415.66
	100	415.57	415.53	415.50	415.52	415.75	415.65

m = metre.

Table 8D5-218 Derived Representative Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.46	416.51	416.45	415.61	415.61	415.67	415.68	415.64
	50	416.42	416.46	416.41	415.60	415.60	415.64	415.65	415.64
	20	416.37	416.39	416.37	415.59	415.59	415.61	415.62	415.62
	10	416.33	416.33	416.32	415.57	415.58	415.58	415.60	415.61
	5	416.28	416.27	416.27	415.56	415.56	415.56	415.57	415.60
Median	2	416.18	416.16	416.17	415.53	415.54	415.53	415.55	415.57
Dry	5	416.08	416.08	416.07	415.51	415.51	415.52	415.53	415.54
	10	416.03	416.04	416.02	415.49	415.50	415.51	415.52	415.53
	20	415.98	416.01	415.98	415.48	415.49	415.51	415.52	415.52
	50	415.94	415.97	415.93	415.47	415.48	415.51	415.52	415.50
	100	415.90	415.95	415.90	415.47	415.47	415.50	415.51	415.49

m = metre.

8D5.4.7.6 Lac du Sauvage Narrows

Table 8D5-219 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	24.33	54.61	55.21	54.49	56.71	52.36
	50	18.35	50.85	54.00	53.18	54.43	50.02
	20	13.34	45.40	51.81	50.89	50.99	46.56
	10	10.95	40.80	49.51	48.59	47.99	43.54
	5	9.32	35.63	46.36	45.55	44.49	40.00
Median	2	7.88	27.02	39.59	39.32	38.40	33.70
Dry	5	7.29	19.93	32.35	32.98	33.16	28.37
	10	7.11	16.73	28.51	29.72	30.72	26.12
	20	7.00	14.29	25.35	27.08	28.84	24.60
	50	6.90	11.76	21.82	24.16	26.86	23.26
	100	6.85	10.17	19.48	22.25	25.61	22.59

m = metre.

Table 8D5-220 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	35.14	37.42	23.45	16.01	47.69	36.49
	50	32.06	28.34	17.11	12.38	42.67	34.44
	20	27.70	20.03	12.28	9.74	36.91	31.41
	10	24.13	15.68	10.20	8.65	33.10	28.82
	5	20.21	12.45	8.91	8.00	29.64	25.88
Median	2	14.05	9.30	7.88	7.51	25.24	20.88
Dry	5	9.82	7.82	7.50	7.34	22.53	16.70
	10	8.39	7.35	7.40	7.29	21.50	14.79
	20	7.56	7.06	7.34	7.27	20.78	13.33
	50	6.95	6.79	7.28	7.25	20.09	11.80
	100	6.70	6.64	7.26	7.23	19.69	10.84

m = metre.

Table 8D5-221 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	52.73	52.85	53.00	13.53	13.79	14.33	14.49	15.49
	50	52.42	52.51	52.63	10.99	11.13	11.42	11.58	12.36
	20	51.71	51.75	51.79	9.07	9.13	9.27	9.40	9.92
	10	50.78	50.77	50.72	8.25	8.29	8.36	8.48	8.84
	5	49.21	49.12	48.99	7.74	7.77	7.82	7.91	8.15
Median	2	44.75	44.54	44.26	7.34	7.36	7.39	7.46	7.59
Dry	5	38.47	38.21	37.90	7.20	7.21	7.24	7.30	7.38
	10	34.56	34.31	34.03	7.16	7.17	7.20	7.26	7.32
	20	31.03	30.81	30.60	7.14	7.15	7.18	7.23	7.28
	50	26.78	26.61	26.50	7.12	7.13	7.16	7.21	7.25
	100	23.79	23.67	23.65	7.11	7.12	7.15	7.20	7.23

m = metre.

Table 8D5-222 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.69	1.23	1.30	1.27	1.35	1.27
	50	0.65	1.18	1.26	1.23	1.29	1.22
	20	0.59	1.11	1.21	1.18	1.22	1.15
	10	0.56	1.04	1.16	1.14	1.16	1.09
	5	0.52	0.96	1.11	1.09	1.09	1.03
Median	2	0.47	0.81	1.01	1.01	0.99	0.93
Dry	5	0.44	0.68	0.91	0.93	0.92	0.84
	10	0.43	0.62	0.87	0.89	0.89	0.81
	20	0.43	0.57	0.83	0.86	0.86	0.78
	50	0.43	0.52	0.78	0.82	0.84	0.75
	100	0.43	0.49	0.76	0.80	0.82	0.73

m = metre.

Table 8D5-223 Derived Winter Monthly Mean Max Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	0.94	0.89	0.78	0.68	1.16	1.03
	50	0.86	0.79	0.70	0.62	1.09	0.96
	20	0.78	0.69	0.62	0.56	1.01	0.88
	10	0.71	0.63	0.57	0.52	0.94	0.82
	5	0.66	0.58	0.53	0.49	0.88	0.76
Median	2	0.58	0.53	0.49	0.46	0.78	0.67
Dry	5	0.54	0.50	0.47	0.44	0.70	0.61
	10	0.52	0.48	0.46	0.44	0.67	0.59
	20	0.51	0.48	0.45	0.43	0.65	0.57
	50	0.51	0.47	0.45	0.43	0.63	0.55
	100	0.50	0.47	0.45	0.43	0.61	0.54

m = metre.

Table 8D5-224 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	1.37	1.37	1.36	0.59	0.60	0.62	0.62	0.60
	50	1.33	1.33	1.32	0.55	0.56	0.57	0.58	0.57
	20	1.27	1.26	1.26	0.51	0.52	0.53	0.54	0.54
	10	1.22	1.22	1.21	0.49	0.49	0.50	0.51	0.52
	5	1.16	1.16	1.16	0.47	0.47	0.48	0.49	0.50
Median	2	1.07	1.07	1.06	0.44	0.44	0.45	0.46	0.47
Dry	5	0.99	0.99	0.98	0.43	0.43	0.43	0.44	0.45
	10	0.95	0.95	0.95	0.42	0.42	0.43	0.43	0.45
	20	0.92	0.92	0.92	0.42	0.42	0.42	0.43	0.44
	50	0.89	0.89	0.89	0.41	0.42	0.42	0.43	0.44
	100	0.88	0.87	0.87	0.41	0.41	0.42	0.42	0.44

m = metre; Max. = maximum.

Table 8D5-225 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.44	0.50	0.50	0.57	0.51
	50	0.33	0.42	0.48	0.48	0.52	0.48
	20	0.33	0.40	0.46	0.45	0.47	0.45
	10	0.32	0.39	0.44	0.43	0.44	0.42
	5	0.32	0.37	0.42	0.41	0.41	0.40
Median	2	0.30	0.33	0.38	0.38	0.37	0.36
Dry	5	0.29	0.30	0.35	0.36	0.36	0.33
	10	0.28	0.29	0.34	0.35	0.35	0.32
	20	0.28	0.27	0.33	0.34	0.34	0.31
	50	0.27	0.26	0.31	0.34	0.34	0.30
	100	0.26	0.25	0.31	0.33	0.34	0.29

m = metre.

Table 8D5-226 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.41	0.35	0.35	0.34	0.45	0.45
	50	0.39	0.35	0.35	0.34	0.43	0.40
	20	0.36	0.35	0.35	0.34	0.40	0.35
	10	0.34	0.35	0.34	0.33	0.38	0.31
	5	0.31	0.34	0.34	0.33	0.35	0.28
Median	2	0.27	0.32	0.33	0.31	0.30	0.25
Dry	5	0.24	0.28	0.30	0.30	0.26	0.23
	10	0.22	0.25	0.29	0.29	0.24	0.23
	20	0.21	0.22	0.27	0.28	0.23	0.22
	50	0.20	0.18	0.26	0.27	0.22	0.22
	100	0.20	0.16	0.24	0.26	0.21	0.21

m = metre.

Table 8D5-227 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.59	0.58	0.58	0.26	0.26	0.26	0.25	0.28
	50	0.55	0.55	0.54	0.25	0.26	0.25	0.25	0.28
	20	0.50	0.50	0.50	0.24	0.25	0.24	0.25	0.27
	10	0.47	0.47	0.47	0.24	0.24	0.24	0.25	0.27
	5	0.44	0.44	0.44	0.23	0.23	0.23	0.25	0.27
Median	2	0.40	0.40	0.40	0.23	0.23	0.23	0.24	0.26
Dry	5	0.37	0.37	0.37	0.22	0.22	0.23	0.24	0.25
	10	0.37	0.36	0.36	0.22	0.22	0.22	0.24	0.25
	20	0.36	0.36	0.36	0.22	0.22	0.22	0.23	0.25
	50	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.4.7.7 Lac de Gras Outlet

Table 8D5-228 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,927,875	2,877,352	3,417,251	3,732,691	4,069,458	3,278,578
	50	1,805,615	2,741,606	3,241,781	3,514,812	3,800,170	3,135,071
	20	1,634,110	2,542,956	2,992,806	3,211,399	3,433,558	2,919,342
	10	1,494,751	2,373,115	2,787,291	2,966,250	3,144,916	2,727,745
	5	1,342,782	2,174,739	2,555,832	2,696,196	2,835,344	2,496,996
Median	2	1,099,604	1,816,820	2,161,639	2,252,052	2,347,181	2,067,148
Dry	5	907,621	1,485,483	1,823,591	1,888,478	1,969,438	1,674,115
	10	822,952	1,322,198	1,666,506	1,725,492	1,807,327	1,495,542
	20	759,546	1,192,324	1,546,048	1,603,258	1,688,982	1,367,435
	50	694,196	1,050,812	1,419,321	1,477,376	1,570,205	1,247,474
	100	653,721	959,967	1,340,454	1,400,502	1,499,315	1,182,472

m^3/d = cubic metres per day.

Table 8D5-229 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,419,544	2,222,851	2,039,036	1,862,166	2,864,565	2,633,481
	50	2,276,013	2,089,880	1,915,501	1,748,043	2,696,295	2,483,602
	20	2,076,728	1,905,532	1,744,609	1,590,474	2,461,986	2,273,602
	10	1,916,259	1,757,342	1,607,579	1,464,406	2,272,689	2,102,739
	5	1,740,108	1,594,956	1,457,809	1,326,930	2,064,184	1,913,151
Median	2	1,452,003	1,330,097	1,214,518	1,104,410	1,721,322	1,597,773
Dry	5	1,217,900	1,115,676	1,018,623	926,097	1,440,718	1,335,653
	10	1,113,553	1,020,374	931,921	847,470	1,314,947	1,216,758
	20	1,035,572	949,280	867,410	789,101	1,220,633	1,126,941
	50	955,536	876,435	801,474	729,573	1,123,514	1,033,796
	100	906,807	832,150	761,478	693,535	1,064,211	976,562

m^3/d = cubic metres per day.

Table 8D5-230 Derived Representative Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.81	4,166,118	4,137,701	1,695,905	1,710,872	1,734,782	1,753,522	1,751,938
	50	45.47	3,888,924	3,865,363	1,589,205	1,602,323	1,625,727	1,652,895	1,658,097
	20	40.99	3,515,038	3,497,126	1,442,480	1,453,378	1,475,805	1,512,154	1,525,818
	10	37.52	3,223,786	3,209,468	1,325,629	1,335,052	1,356,447	1,397,874	1,417,446
	5	33.87	2,914,827	2,903,435	1,198,813	1,206,964	1,226,952	1,271,335	1,296,337
Median	2	28.27	2,435,952	2,426,934	995,084	1,002,016	1,019,028	1,061,532	1,092,596
Dry	5	24.10	2,073,866	2,064,436	833,463	840,300	854,193	887,924	920,703
	10	22.37	1,921,243	1,910,912	762,749	769,839	782,112	809,445	841,828
	20	21.12	1,811,051	1,799,745	710,506	717,917	728,876	750,283	781,813
	50	19.89	1,701,623	1,689,040	657,471	665,338	674,852	689,054	719,147
	100	19.17	1,636,925	1,623,423	625,495	633,707	642,288	651,498	680,405

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-231 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.54	415.72	415.94	415.95	416.04	416.22
	50	415.48	415.67	415.87	415.90	415.99	416.12
	20	415.41	415.60	415.77	415.82	415.90	415.97
	10	415.35	415.54	415.69	415.76	415.83	415.86
	5	415.29	415.47	415.61	415.67	415.74	415.74
Median	2	415.19	415.34	415.46	415.52	415.57	415.56
Dry	5	415.11	415.23	415.34	415.36	415.39	415.42
	10	415.08	415.18	415.28	415.28	415.30	415.35
	20	415.05	415.14	415.24	415.21	415.23	415.31
	50	415.03	415.09	415.19	415.14	415.14	415.27
	100	415.02	415.06	415.17	415.09	415.09	415.24

m = metre.

Table 8D5-232 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.88	415.77	415.60	415.51	416.00	415.99
	50	415.80	415.71	415.56	415.48	415.94	415.91
	20	415.70	415.61	415.51	415.43	415.86	415.80
	10	415.62	415.54	415.46	415.39	415.79	415.71
	5	415.53	415.46	415.40	415.34	415.71	415.62
Median	2	415.39	415.33	415.29	415.23	415.54	415.46
Dry	5	415.27	415.22	415.18	415.13	415.38	415.33
	10	415.22	415.18	415.12	415.08	415.30	415.27
	20	415.19	415.15	415.07	415.04	415.23	415.23
	50	415.15	415.11	415.02	414.99	415.15	415.19
	100	415.13	415.09	414.98	414.96	415.09	415.16

m = metre.

Table 8D5-233 Derived Representative Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.26	416.10	416.25	415.43	415.51	415.45	415.47	415.53
	50	416.15	416.04	416.15	415.40	415.46	415.42	415.44	415.48
	20	416.01	415.96	416.00	415.36	415.39	415.37	415.39	415.42
	10	415.89	415.89	415.89	415.32	415.33	415.33	415.35	415.36
	5	415.78	415.80	415.77	415.27	415.27	415.29	415.30	415.30
Median	2	415.59	415.63	415.59	415.18	415.17	415.19	415.21	415.21
Dry	5	415.46	415.45	415.45	415.09	415.09	415.10	415.12	415.13
	10	415.40	415.36	415.40	415.04	415.06	415.05	415.07	415.09
	20	415.36	415.29	415.36	415.00	415.04	415.01	415.03	415.07
	50	415.32	415.21	415.32	414.96	415.02	414.97	414.98	415.04
	100	415.30	415.15	415.29	414.93	415.00	414.94	414.95	415.02

m = metre.

8D5.4.7.8 Desteffany Lake Outlet

Table 8D5-234 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,991,537	10,841,597	8,186,384	6,965,090	7,776,886	5,112,852
	50	3,230,744	10,134,478	7,757,230	6,507,007	7,025,378	4,863,672
	20	2,446,651	9,121,273	7,135,630	5,874,522	6,074,175	4,489,383
	10	1,981,868	8,275,546	6,610,352	5,368,463	5,377,749	4,157,291
	5	1,598,544	7,311,987	6,004,208	4,816,598	4,685,579	3,757,794
Median	2	1,168,532	5,640,712	4,931,409	3,923,300	3,702,087	3,015,196
Dry	5	935,894	4,172,265	3,963,224	3,207,424	3,016,645	2,338,636
	10	854,425	3,477,037	3,495,312	2,891,741	2,736,404	2,032,340
	20	800,225	2,937,689	3,127,638	2,657,385	2,534,608	1,813,206
	50	749,717	2,363,921	2,731,665	2,418,373	2,333,462	1,608,624
	100	720,895	2,003,305	2,480,074	2,273,671	2,212,215	1,498,108

m^3/d = cubic metres per day.

Table 8D5-235 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,475,686	2,279,587	2,096,291	1,919,912	2,964,024	2,689,856
	50	2,331,776	2,146,663	1,973,001	1,805,987	2,813,264	2,538,723
	20	2,131,965	1,962,268	1,802,299	1,648,541	2,598,301	2,327,366
	10	1,971,071	1,813,936	1,665,283	1,522,431	2,419,871	2,155,768
	5	1,794,455	1,651,277	1,515,373	1,384,752	2,217,754	1,965,791
Median	2	1,505,586	1,385,673	1,271,459	1,161,504	1,870,381	1,650,875
Dry	5	1,270,861	1,170,321	1,074,635	982,177	1,568,854	1,390,364
	10	1,166,236	1,074,494	987,375	902,955	1,427,428	1,272,627
	20	1,088,048	1,002,956	922,381	844,076	1,318,347	1,183,883
	50	1,007,798	929,604	855,885	783,964	1,202,950	1,092,050
	100	958,939	884,985	815,514	747,536	1,130,780	1,035,729

m^3/d = cubic metres per day.

Table 8D5-236 Derived Representative Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	186.20	15,150,569	13,760,454	1,732,600	1,746,371	1,783,910	1,802,858	1,807,132
	50	173.17	14,146,979	12,926,937	1,625,286	1,638,307	1,673,096	1,701,785	1,711,793
	20	155.01	12,738,889	11,744,440	1,477,834	1,489,855	1,520,995	1,560,369	1,577,530
	10	140.33	11,591,412	10,768,540	1,360,512	1,371,764	1,400,119	1,445,491	1,467,652
	5	124.14	10,316,122	9,669,654	1,233,305	1,243,753	1,269,219	1,318,237	1,345,000
Median	2	97.49	8,189,252	7,798,731	1,029,252	1,038,486	1,059,652	1,107,105	1,139,026
Dry	5	75.64	6,415,499	6,194,931	867,696	876,049	894,160	932,238	965,659
	10	65.83	5,608,826	5,449,910	797,120	805,115	822,010	853,135	886,252
	20	58.47	4,998,438	4,878,710	745,028	752,772	768,823	793,478	825,901
	50	50.88	4,364,447	4,277,895	692,196	699,696	714,943	731,709	762,952
	100	46.24	3,974,341	3,904,047	660,368	667,728	682,519	693,808	724,072

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-237 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.49	6.92	6.82	6.76	6.86	6.82
	50	6.46	6.89	6.80	6.73	6.81	6.80
	20	6.40	6.85	6.76	6.69	6.75	6.76
	10	6.36	6.81	6.73	6.65	6.70	6.72
	5	6.31	6.76	6.69	6.60	6.64	6.68
Median	2	6.22	6.65	6.61	6.52	6.54	6.59
Dry	5	6.14	6.51	6.52	6.44	6.47	6.50
	10	6.10	6.43	6.47	6.40	6.43	6.45
	20	6.08	6.36	6.43	6.37	6.40	6.40
	50	6.05	6.28	6.38	6.34	6.38	6.35
	100	6.03	6.22	6.35	6.31	6.36	6.32

m = metre.

Table 8D5-238 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.53	6.49	6.46	6.42	6.60	6.56
	50	6.50	6.47	6.43	6.40	6.58	6.54
	20	6.47	6.43	6.40	6.36	6.55	6.50
	10	6.44	6.40	6.37	6.33	6.52	6.47
	5	6.40	6.36	6.33	6.29	6.48	6.43
Median	2	6.33	6.29	6.26	6.22	6.41	6.36
Dry	5	6.26	6.23	6.19	6.16	6.34	6.29
	10	6.22	6.19	6.16	6.12	6.30	6.26
	20	6.20	6.16	6.13	6.10	6.27	6.23
	50	6.17	6.13	6.10	6.07	6.24	6.20
	100	6.15	6.11	6.08	6.05	6.22	6.18

m = metre.

Table 8D5-239 Derived Representative Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	50	7.08	7.05	7.01	6.35	6.36	6.37	6.38	6.38
	20	7.04	7.01	6.97	6.32	6.32	6.33	6.34	6.34
	10	7.00	6.98	6.94	6.29	6.29	6.30	6.31	6.32
	5	6.95	6.93	6.90	6.25	6.25	6.26	6.27	6.28
Median	2	6.85	6.84	6.82	6.18	6.18	6.19	6.20	6.21
Dry	5	6.75	6.74	6.73	6.11	6.11	6.12	6.14	6.15
	10	6.70	6.69	6.68	6.08	6.08	6.09	6.10	6.12
	20	6.65	6.65	6.63	6.05	6.05	6.06	6.07	6.09
	50	6.60	6.60	6.58	6.02	6.02	6.03	6.04	6.06
	100	6.57	6.56	6.55	6.00	6.00	6.01	6.02	6.04

m = metre.

8D5.4.7.9 Derived Annual Water Yields

Table 8D5-240 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras and Desteffany Lake Outlets – Late Operations

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Late Operations		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	273	235	247
	50	253	221	233	256	222	234
	20	229	203	214	232	204	215
	10	210	188	200	213	189	200
	5	189	173	183	192	174	184
Median	2	155	148	156	158	149	157
Dry	5	128	128	135	132	129	135
	10	116	119	125	120	120	126
	20	108	113	117	111	114	118
	50	99	106	110	102	107	111
	100	93	102	105	97	103	106

mm = millimetre.

8D5.4.8 Late Operations Phase Effects Analysis Results

8D5.4.8.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as for the dewatering period as reported in Section 8D5.3.4.1.

8D5.4.8.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as for the construction phase as reported in Section 8D5.2.4.2.

8D5.4.8.3 Lake C1 Outlet

The effects analysis results for the Lake C1 outlet are the same as for the early operations phase as reported in Section 8D5.4.4.3.

8D5.4.8.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations phase as reported in Section 8D5.4.4.4.

8D5.4.8.5 Lac du Sauvage Outlet

Table 8D5-241 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Late Operations	484,171	2,431,980	2,945,049	2,559,604	2,693,711	1,742,139
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Late Operations	241,292	1,421,858	2,028,107	1,869,225	1,811,152	1,362,553
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Late Operations	151,460	740,980	1,282,101	1,269,085	1,217,418	986,864
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Late Operations	118,996	391,542	809,327	863,417	884,493	690,687
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Late Operations	105,741	237,053	555,380	620,567	706,782	496,334

m^3/d = cubic metres per day.

Table 8D5-242 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Late Operations	380,281	298,095	246,215	238,012	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Late Operations	327,170	258,253	212,958	180,191	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Late Operations	273,347	217,149	178,733	145,988	567,546	378,228
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Late Operations	229,789	184,096	151,280	130,838	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Late Operations	200,513	165,830	136,139	124,996	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-243 Derived Representative Discharges at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Late Operations	39.98	3,423,137	3,364,726	190,608	193,620	188,483	214,424	221,939
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Late Operations	27.37	2,343,329	2,310,773	156,183	158,641	162,921	174,603	185,879
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Late Operations	17.85	1,526,864	1,509,470	128,718	130,632	136,645	143,224	154,689
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Late Operations	12.30	1,050,154	1,038,727	111,688	113,193	115,593	124,035	133,525
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Late Operations	9.54	812,717	802,928	102,723	103,978	103,991	114,061	121,420

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-244 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Late Operations	415.70	425.55	416.42	416.37	425.62	416.33
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Late Operations	415.64	421.83	416.28	416.24	421.95	416.18
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Late Operations	415.57	415.99	416.10	416.10	416.18	416.04
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Late Operations	415.50	409.93	415.94	415.97	410.19	415.93
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Late Operations	415.44	405.21	415.84	415.87	405.53	415.85

m = metre.

Table 8D5-245 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Late Operations	415.84	415.76	415.70	415.70	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Late Operations	415.78	415.71	415.66	415.61	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Late Operations	415.70	415.65	415.60	415.55	415.89	415.79
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Late Operations	415.63	415.58	415.55	415.53	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Late Operations	415.57	415.53	415.50	415.52	415.76	415.65

m = metre.

Table 8D5-246 Derived Representative Mean Stages at Lac du Sauvage Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Late Operations	416.46	416.51	416.45	415.61	415.61	415.67	415.68	415.64
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Late Operations	416.33	416.33	416.32	415.57	415.58	415.58	415.60	415.61
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Late Operations	416.18	416.16	416.17	415.53	415.54	415.53	415.55	415.57
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Late Operations	416.03	416.04	416.02	415.49	415.50	415.51	415.52	415.53
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Late Operations	415.90	415.95	415.90	415.47	415.47	415.50	415.51	415.49

m = metre.

8D5.4.8.6 Lac du Sauvage Narrows

Table 8D5-247 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Late Operations	24.33	54.61	55.21	54.49	56.71	52.36
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Late Operations	10.95	40.80	49.51	48.59	47.99	43.54
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Late Operations	7.88	27.02	39.59	39.32	38.40	33.70
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Late Operations	7.11	16.73	28.51	29.72	30.72	26.12
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Late Operations	6.85	10.17	19.48	22.25	25.61	22.59

m = metre.

Table 8D5-248 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Late Operations	35.14	37.42	23.45	16.01	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Late Operations	24.13	15.68	10.20	8.65	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Late Operations	14.05	9.30	7.88	7.51	25.24	20.88
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Late Operations	8.39	7.35	7.40	7.29	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Late Operations	6.70	6.64	7.26	7.23	19.68	11.04

m = metre.

Table 8D5-249 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Late Operations	52.73	52.85	53.00	13.53	13.79	14.33	14.49	15.49
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Late Operations	50.78	50.77	50.72	8.25	8.29	8.36	8.48	8.84
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Late Operations	44.75	44.54	44.26	7.34	7.36	7.39	7.46	7.59
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Late Operations	34.56	34.31	34.03	7.16	7.17	7.20	7.26	7.32
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Late Operations	23.79	23.67	23.65	7.11	7.12	7.15	7.20	7.23

m = metre.

Table 8D5-250 Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Maximum Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Late Operations	0.69	1.23	1.30	1.27	1.35	1.27
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Late Operations	0.56	1.04	1.16	1.14	1.16	1.09
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Late Operations	0.47	0.81	1.01	1.01	0.99	0.93
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Late Operations	0.43	0.62	0.87	0.89	0.89	0.81
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Late Operations	0.43	0.49	0.76	0.80	0.82	0.73

m = metre.

Table 8D5-251 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Maximum Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Late Operations	0.94	0.89	0.78	0.68	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Late Operations	0.71	0.63	0.57	0.52	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Late Operations	0.58	0.53	0.49	0.46	0.78	0.67
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Late Operations	0.52	0.48	0.46	0.44	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Late Operations	0.50	0.47	0.45	0.43	0.62	0.55

m = metre.

Table 8D5-252 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Late Operations	1.37	1.37	1.36	0.59	0.60	0.62	0.62	0.60
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Late Operations	1.22	1.22	1.21	0.49	0.49	0.50	0.51	0.52
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Late Operations	1.07	1.07	1.06	0.44	0.44	0.45	0.46	0.47
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Late Operations	0.95	0.95	0.95	0.42	0.42	0.43	0.43	0.45
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Late Operations	0.88	0.87	0.87	0.41	0.41	0.42	0.42	0.44

m = metre; Max. = maximum.

Table 8D5-253 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Late Operations	0.33	0.44	0.50	0.50	0.57	0.51
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Late Operations	0.32	0.39	0.44	0.43	0.44	0.42
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Late Operations	0.30	0.33	0.38	0.38	0.37	0.36
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Late Operations	0.28	0.29	0.34	0.35	0.35	0.32
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Late Operations	0.26	0.25	0.31	0.33	0.34	0.29

m = metre.

Table 8D5-254 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Late Operations	0.41	0.35	0.35	0.34	0.45	0.45
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Late Operations	0.34	0.35	0.34	0.33	0.38	0.31
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Late Operations	0.27	0.32	0.33	0.31	0.30	0.25
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Late Operations	0.22	0.25	0.29	0.29	0.24	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Late Operations	0.20	0.16	0.24	0.26	0.21	0.21

m = metre.

Table 8D5-255 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Late Operations	0.59	0.58	0.58	0.26	0.26	0.26	0.25	0.28
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Late Operations	0.47	0.47	0.47	0.24	0.24	0.24	0.25	0.27
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Late Operations	0.40	0.40	0.40	0.23	0.23	0.23	0.24	0.26
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Late Operations	0.37	0.36	0.36	0.22	0.22	0.22	0.24	0.25
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Late Operations	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.4.8.7 Lac de Gras Outlet

Table 8D5-256 Summer Monthly Mean Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Late Operations	1,927,875	2,877,352	3,417,251	3,732,691	4,069,458	3,278,578
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Late Operations	1,494,751	2,373,115	2,787,291	2,966,250	3,144,916	2,727,745
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Late Operations	1,099,604	1,816,820	2,161,639	2,252,052	2,347,181	2,067,148
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Late Operations	822,952	1,322,198	1,666,506	1,725,492	1,807,327	1,495,542
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Late Operations	653,721	959,967	1,340,454	1,400,502	1,499,315	1,182,472

m^3/d = cubic metres per day.

Table 8D5-257 Winter Monthly Mean Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Late Operations	2,419,544	2,222,851	2,039,036	1,862,166	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Late Operations	1,916,259	1,757,342	1,607,579	1,464,406	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Late Operations	1,452,003	1,330,097	1,214,518	1,104,410	1,721,322	1,597,773
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Late Operations	1,113,553	1,020,374	931,921	847,470	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Late Operations	906,807	832,150	761,478	693,535	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-258 Derived Representative Discharges at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Late Operations	48.81	4,166,118	4,137,701	1,695,905	1,710,872	1,734,782	1,753,522	1,751,938
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Late Operations	37.52	3,223,786	3,209,468	1,325,629	1,335,052	1,356,447	1,397,874	1,417,446
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Late Operations	28.27	2,435,952	2,426,934	995,084	1,002,016	1,019,028	1,061,532	1,092,596
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Late Operations	22.37	1,921,243	1,910,912	762,749	769,839	782,112	809,445	841,828
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Late Operations	19.17	1,636,925	1,623,423	625,495	633,707	642,288	651,498	680,405

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-259 Summer Monthly Mean Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Late Operations	415.54	415.72	415.94	415.95	416.04	416.22
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Late Operations	415.35	415.54	415.69	415.76	415.83	415.86
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Late Operations	415.19	415.34	415.46	415.52	415.57	415.56
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Late Operations	415.08	415.18	415.28	415.28	415.30	415.35
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Late Operations	415.02	415.06	415.17	415.09	415.09	415.24

m = metre.

Table 8D5-260 Winter Monthly Mean Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Late Operations	415.88	415.77	415.60	415.51	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Late Operations	415.62	415.54	415.46	415.39	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Late Operations	415.39	415.33	415.29	415.23	415.54	415.46
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Late Operations	415.22	415.18	415.12	415.08	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Late Operations	415.13	415.09	414.98	414.96	415.14	415.18

m = metre.

Table 8D5-261 Derived Representative Mean Stages at Lac de Gras Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Late Operations	416.26	416.10	416.25	415.43	415.51	415.45	415.47	415.53
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Late Operations	415.89	415.89	415.89	415.32	415.33	415.33	415.35	415.36
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Late Operations	415.59	415.63	415.59	415.18	415.17	415.19	415.21	415.21
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Late Operations	415.40	415.36	415.40	415.04	415.06	415.05	415.07	415.09
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Late Operations	415.30	415.15	415.29	414.93	415.00	414.94	414.95	415.02

m = metre.

8D5.4.8.8 Desteffany Lake Outlet

Table 8D5-262 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Late Operations	3,991,537	10,841,597	8,186,384	6,965,090	7,776,886	5,112,852
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Late Operations	1,981,868	8,275,546	6,610,352	5,368,463	5,377,749	4,157,291
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Late Operations	1,168,532	5,640,712	4,931,409	3,923,300	3,702,087	3,015,196
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Late Operations	854,425	3,477,037	3,495,312	2,891,741	2,736,404	2,032,340
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Late Operations	720,895	2,003,305	2,480,074	2,273,671	2,212,215	1,498,108

m^3/d = cubic metres per day.

Table 8D5-263 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Late Operations	2,475,686	2,279,587	2,096,291	1,919,912	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Late Operations	1,971,071	1,813,936	1,665,283	1,522,431	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Late Operations	1,505,586	1,385,673	1,271,459	1,161,504	1,870,381	1,650,875
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Late Operations	1,166,236	1,074,494	987,375	902,955	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Late Operations	958,939	884,985	815,514	747,536	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-264 Derived Representative Discharges at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Late Operations	186.20	15,150,569	13,760,454	1,732,600	1,746,371	1,783,910	1,802,858	1,807,132
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Late Operations	140.33	11,591,412	10,768,540	1,360,512	1,371,764	1,400,119	1,445,491	1,467,652
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Late Operations	97.49	8,189,252	7,798,731	1,029,252	1,038,486	1,059,652	1,107,105	1,139,026
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Late Operations	65.83	5,608,826	5,449,910	797,120	805,115	822,010	853,135	886,252
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Late Operations	46.24	3,974,341	3,904,047	660,368	667,728	682,519	693,808	724,072

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-265 Summer Monthly Mean Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Late Operations	6.49	6.92	6.82	6.76	6.86	6.82
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Late Operations	6.36	6.81	6.73	6.65	6.70	6.72
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Late Operations	6.22	6.65	6.61	6.52	6.54	6.59
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Late Operations	6.10	6.43	6.47	6.40	6.43	6.45
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Late Operations	6.03	6.22	6.35	6.31	6.36	6.32

m = metre.

Table 8D5-266 Winter Monthly Mean Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Late Operations	6.53	6.49	6.46	6.42	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Late Operations	6.44	6.40	6.37	6.33	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Late Operations	6.33	6.29	6.26	6.22	6.41	6.36
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Late Operations	6.22	6.19	6.16	6.12	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Late Operations	6.15	6.11	6.08	6.05	6.24	6.19

m = metre.

Table 8D5-267 Derived Representative Mean Stages at Desteffany Lake Outlet – Late Operations

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Late Operations	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Late Operations	7.00	6.98	6.94	6.29	6.29	6.30	6.31	6.32
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Late Operations	6.85	6.84	6.82	6.18	6.18	6.19	6.20	6.21
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Late Operations	6.70	6.69	6.68	6.08	6.08	6.09	6.10	6.12
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Late Operations	6.57	6.56	6.55	6.00	6.00	6.01	6.02	6.04

m = metre.

8D5.5 Closure Phase Assessment

In the closure phase, the Jay Pipe, the Misery Pit, the Jay Pit, and the diked area will be back-flooded with freshwater to create a freshwater cap on the pits, to re-establish natural water levels within the diked area, and to allow the Misery Pit to discharge to Lac de Gras. Water for back-flooding will come from a combination of local runoff, direct precipitation and pumping from Lac du Sauvage. The closure phase will require approximately three years and nine months (2030 to 2033) of pumping from Lac du Sauvage.

8D5.5.1 Closure Phase Data

Closure withdrawals from Lac du Sauvage will include pumping to the Misery Pit, pumping to the Jay Pit and diked area, and seepage through the dike to the diked area. Misery Pit water will discharge to Lac de Gras.

All project infrastructure is included in the closure assessment. Lake C1 groundwater losses are included for the calendar years of 2030 to 2033.

8D5.5.2 Closure Phase Method

To model the closure phase, the following changes were made to the model:

- Five years of closure were run the over the historical record (1964 to 2013). The first year of closure was modelled to start with each year of the historical record;

- Lac du Sauvage pumping to the Misery Pit, pumping to the Jay Pit and dikes area, and seepage to the Jay Pit from 2030 to 2034 were included;
- Misery Pit discharge to Lac de Gras from 2030 to 2033 was included;
- Project infrastructure was included;
- Lake C1 groundwater losses were included for the period of 2030 to 2033;
- Runoff from Lake B0 and Lake Ac35 was diverted by the Sub-Basin B Diversion Channel to Lac du Sauvage; and,
- The WRSA in sub-basin C diverted runoff and precipitation to the diked area.

8D5.5.3 Closure Phase Year 3 Results

8D5.5.3.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as for the dewatering period as reported in Section 8D5.3.3.1.

8D5.5.3.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as for the construction phase as reported in Section 8D5.2.3.2.

8D5.5.3.3 Lake C1 Outlet

Table 8D5-268 Derived Summer Monthly Mean Discharges at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	5,655	25,261	17,704	14,240	15,569	9,329
	50	4,709	22,556	16,313	12,781	13,496	7,871
	20	3,460	18,965	14,349	10,832	10,954	6,100
	10	2,516	16,217	12,734	9,326	9,152	4,855
	5	1,573	13,357	10,925	7,756	7,411	3,664
Median	2	329	9,050	7,868	5,384	5,027	2,048
Dry	5	-	5,918	5,273	3,620	3,428	977
	10	-	4,638	4,077	2,870	2,790	552
	20	-	3,730	3,164	2,319	2,336	251
	50	-	2,846	2,208	1,760	1,887	-
	100	-	2,331	1,616	1,419	1,620	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-269 Derived Representative Discharges at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.40	31,522	29,369	2,994	8,315	8,753
	50	0.36	28,550	26,711	2,480	7,432	8,119
	20	0.30	24,564	23,119	1,805	6,258	7,196
	10	0.26	21,478	20,316	1,301	5,360	6,412
	5	0.22	18,227	17,336	803	4,424	5,517
Median	2	0.16	13,239	12,702	159	3,013	4,002
Dry	5	0.11	9,520	9,183	-	1,985	2,786
	10	0.10	7,970	7,695	-	1,564	2,285
	20	0.08	6,858	6,618	-	1,265	1,948
	50	0.07	5,760	5,547	-	974	1,653
	100	0.06	5,115	4,912	-	804	1,504

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-270 Derived Summer Monthly Mean Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.23	0.43	0.35	0.30	0.32	0.29
	50	0.21	0.41	0.34	0.28	0.29	0.27
	20	0.18	0.37	0.31	0.25	0.26	0.24
	10	0.15	0.34	0.29	0.23	0.23	0.21
	5	0.13	0.30	0.26	0.21	0.20	0.19
Median	2	0.07	0.24	0.21	0.16	0.15	0.15
Dry	5	0.03	0.17	0.16	0.12	0.12	0.11
	10	0.01	0.14	0.13	0.10	0.10	0.09
	20	0.00	0.12	0.11	0.09	0.09	0.08
	50	0.00	0.11	0.09	0.07	0.08	0.06
	100	0.00	0.10	0.07	0.06	0.07	0.06

m = metre.

Table 8D5-271 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	0.24	0.23	0.22	0.20	0.27	0.25
	50	0.22	0.21	0.20	0.17	0.25	0.23
	20	0.19	0.17	0.16	0.14	0.22	0.21
	10	0.17	0.15	0.14	0.12	0.20	0.18
	5	0.14	0.12	0.11	0.09	0.17	0.16
Median	2	0.10	0.08	0.06	0.05	0.13	0.11
Dry	5	0.06	0.04	0.03	0.02	0.09	0.08
	10	0.04	0.03	0.02	-	0.08	0.06
	20	0.03	0.02	0.01	-	0.06	0.05
	50	0.02	-	-	-	0.05	0.03
	100	0.01	-	-	-	0.04	0.03

m = metre; - = stage below the lake outlet during zero discharge.

Table 8D5-272 Derived Representative Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	0.54	0.52	0.50	0.17	0.14	0.15	0.14	0.14
	50	0.51	0.49	0.47	0.15	0.13	0.13	0.13	0.12
	20	0.46	0.44	0.43	0.12	0.11	0.11	0.11	0.11
	10	0.42	0.41	0.39	0.09	0.09	0.09	0.09	0.09
	5	0.37	0.36	0.35	0.07	0.07	0.07	0.08	0.08
Median	2	0.30	0.29	0.29	0.04	0.04	0.04	0.04	0.05
Dry	5	0.24	0.24	0.23	0.01	0.01	0.01	0.02	0.02
	10	0.21	0.21	0.20	-	-	-	-	0.01
	20	0.19	0.19	0.19	-	-	-	-	-
	50	0.17	0.17	0.16	-	-	-	-	-
	100	0.16	0.16	0.15	-	-	-	-	-

m = metre; - = stage below the lake outlet during zero discharge.

8D5.5.3.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations phase as reported in Section 8D5.4.3.4.

8D5.5.3.5 Lac du Sauvage Outlet

Table 8D5-273 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	396,834	2,195,750	2,787,629	2,365,816	2,518,761	1,564,889
	50	320,534	1,889,144	2,487,916	2,162,498	2,231,902	1,465,496
	20	242,167	1,505,172	2,096,349	1,885,723	1,877,699	1,323,781
	10	195,879	1,230,537	1,802,292	1,667,545	1,624,834	1,206,156
	5	157,823	963,716	1,501,912	1,435,975	1,379,081	1,072,922
Median	2	115,300	603,065	1,063,010	1,078,076	1,039,728	843,954
Dry	5	92,393	376,489	756,514	805,586	810,261	645,225
	10	84,392	293,895	635,099	688,029	718,156	552,020
	20	79,076	239,335	550,716	600,993	652,459	480,136
	50	74,128	189,557	469,914	512,158	587,500	404,093
	100	71,307	162,273	423,667	457,571	548,601	356,538

m^3/d = cubic metres per day.

Table 8D5-274 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	337,753	278,733	214,206	182,028	812,732	479,575
	50	323,152	262,207	203,888	171,668	766,985	459,339
	20	302,016	239,990	189,405	157,466	701,327	429,467
	10	284,169	222,525	177,468	146,196	646,421	403,672
	5	263,589	203,850	164,092	134,008	583,745	373,233
Median	2	227,207	174,386	141,477	114,541	474,702	317,408
Dry	5	194,425	151,655	122,485	99,216	378,506	264,602
	10	178,600	142,184	114,088	92,550	332,820	238,145
	20	166,175	135,645	108,098	87,643	297,310	216,884
	50	152,803	129,744	102,545	82,680	259,463	193,488
	100	144,312	126,679	99,601	79,697	235,637	178,336

m^3/d = cubic metres per day.

Table 8D5-275 Derived Representative Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	37.77	3,205,318	3,149,642	154,180	156,566	158,132	176,724	184,031
	50	33.68	2,865,801	2,819,433	145,359	147,688	150,072	166,381	174,730
	20	28.42	2,426,547	2,391,266	133,184	135,418	138,800	152,199	161,693
	10	24.54	2,100,367	2,072,500	123,445	125,590	129,546	140,942	151,081
	5	20.65	1,771,008	1,749,776	112,828	114,860	119,221	128,766	139,300
Median	2	15.14	1,298,366	1,284,743	95,650	97,460	101,877	109,310	119,687
Dry	5	11.44	976,267	966,056	81,893	83,483	87,436	93,986	103,368
	10	10.02	851,088	841,660	75,829	77,309	81,092	87,318	95,961
	20	9.05	765,103	755,984	71,329	72,719	76,583	82,409	90,362
	50	8.14	683,681	674,647	66,741	68,034	72,417	77,442	84,553
	100	7.63	637,542	628,450	63,964	65,194	70,213	74,456	80,982

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-276 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.70	425.50	416.38	416.32	425.59	416.28
	50	415.67	424.67	416.34	416.29	424.77	416.24
	20	415.62	423.23	416.28	416.24	423.34	416.19
	10	415.59	421.78	416.23	416.20	421.91	416.14
	5	415.56	419.86	416.16	416.14	420.01	416.08
Median	2	415.51	415.93	416.04	416.04	416.12	415.99
Dry	5	415.47	411.92	415.91	415.94	412.16	415.90
	10	415.46	409.86	415.86	415.89	410.12	415.85
	20	415.45	408.19	415.82	415.84	408.47	415.82
	50	415.44	406.34	415.77	415.79	406.64	415.79
	100	415.43	405.13	415.75	415.76	405.44	415.76

m = metre.

Table 8D5-277 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.81	415.79	415.66	415.66	416.10	415.91
	50	415.79	415.75	415.65	415.63	416.06	415.89
	20	415.76	415.70	415.63	415.59	416.01	415.86
	10	415.74	415.67	415.61	415.56	415.97	415.83
	5	415.71	415.63	415.59	415.54	415.92	415.80
Median	2	415.66	415.59	415.55	415.50	415.84	415.74
Dry	5	415.61	415.56	415.51	415.48	415.77	415.68
	10	415.58	415.55	415.49	415.47	415.74	415.65
	20	415.56	415.54	415.48	415.47	415.71	415.62
	50	415.53	415.53	415.46	415.46	415.69	415.60
	100	415.51	415.53	415.44	415.46	415.67	415.59

m = metre.

Table 8D5-278 Derived Representative Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.48	416.42	416.47	415.56	415.57	415.62	415.59	415.64
	50	416.43	416.38	416.42	415.55	415.56	415.60	415.58	415.62
	20	416.35	416.33	416.34	415.54	415.54	415.56	415.57	415.59
	10	416.29	416.28	416.28	415.53	415.53	415.54	415.55	415.57
	5	416.22	416.23	416.22	415.51	415.51	415.51	415.54	415.54
Median	2	416.11	416.12	416.10	415.48	415.48	415.48	415.50	415.51
Dry	5	416.01	416.01	416.01	415.45	415.45	415.46	415.47	415.49
	10	415.97	415.95	415.96	415.44	415.44	415.45	415.45	415.48
	20	415.93	415.91	415.93	415.42	415.43	415.45	415.44	415.47
	50	415.90	415.85	415.89	415.41	415.42	415.44	415.42	415.46
	100	415.87	415.82	415.87	415.41	415.41	415.44	415.41	415.46

m = metre.

8D5.5.3.6 Lac du Sauvage Narrows

Table 8D5-279 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	20.25	52.49	57.00	54.57	55.81	50.69
	50	15.60	48.30	54.48	52.37	52.90	47.95
	20	11.70	42.39	50.55	48.93	48.68	43.99
	10	9.84	37.56	47.03	45.82	45.15	40.62
	5	8.57	32.25	42.81	42.11	41.19	36.77
Median	2	7.44	23.71	35.24	35.39	34.62	30.26
Dry	5	6.97	16.92	28.49	29.38	29.23	25.21
	10	6.83	13.91	25.29	26.51	26.80	23.26
	20	6.75	11.65	22.80	24.28	24.96	22.02
	50	6.67	9.32	20.14	21.91	23.04	21.02
	100	6.63	7.87	18.46	20.39	21.85	20.54

m = metre.

Table 8D5-280 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	32.93	29.00	18.20	14.72	40.11	36.93
	50	29.31	20.93	13.73	11.64	37.86	34.33
	20	24.38	14.48	10.40	9.32	34.57	30.50
	10	20.52	11.56	9.00	8.32	31.77	27.22
	5	16.51	9.65	8.14	7.71	28.60	23.50
Median	2	10.79	8.05	7.47	7.22	23.27	17.18
Dry	5	7.48	7.42	7.23	7.05	18.83	11.90
	10	6.53	7.24	7.16	7.00	16.81	9.48
	20	6.05	7.14	7.12	6.97	15.27	7.64
	50	5.74	7.04	7.09	6.94	13.66	5.71
	100	5.63	6.99	7.08	6.93	12.65	4.50

m = metre.

Table 8D5-281 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	55.02	55.14	55.31	11.13	11.58	12.47	12.46	12.59
	50	53.94	54.00	54.08	9.69	9.94	10.42	10.48	10.63
	20	51.96	51.93	51.88	8.46	8.57	8.77	8.86	9.00
	10	49.85	49.75	49.61	7.86	7.91	8.01	8.11	8.24
	5	46.93	46.76	46.53	7.44	7.46	7.52	7.61	7.72
Median	2	40.54	40.31	39.99	7.06	7.07	7.10	7.18	7.27
Dry	5	33.61	33.39	33.11	6.89	6.90	6.94	7.00	7.08
	10	29.90	29.72	29.50	6.84	6.86	6.89	6.95	7.02
	20	26.83	26.69	26.54	6.81	6.83	6.86	6.92	6.99
	50	23.38	23.29	23.24	6.78	6.80	6.84	6.89	6.96
	100	21.09	21.04	21.07	6.77	6.79	6.82	6.88	6.95

m = metre.

Table 8D5-282 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.64	1.20	1.27	1.24	1.30	1.22
	50	0.60	1.15	1.23	1.20	1.25	1.18
	20	0.55	1.06	1.17	1.15	1.18	1.11
	10	0.52	0.99	1.12	1.10	1.12	1.05
	5	0.48	0.90	1.06	1.05	1.05	0.99
Median	2	0.43	0.75	0.95	0.95	0.94	0.88
Dry	5	0.40	0.62	0.84	0.86	0.86	0.78
	10	0.40	0.56	0.79	0.82	0.82	0.74
	20	0.39	0.51	0.75	0.78	0.79	0.71
	50	0.39	0.46	0.70	0.74	0.76	0.67
	100	0.39	0.42	0.66	0.71	0.74	0.65

m = metre.

Table 8D5-283 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Max Depth (m)					
		January	February	March	April	November	December
Wet	100	0.87	0.82	0.72	0.62	1.10	1.00
	50	0.80	0.74	0.65	0.58	1.04	0.93
	20	0.72	0.65	0.58	0.52	0.97	0.84
	10	0.67	0.59	0.54	0.49	0.90	0.78
	5	0.61	0.55	0.50	0.46	0.83	0.71
Median	2	0.54	0.49	0.46	0.43	0.72	0.62
Dry	5	0.50	0.46	0.43	0.41	0.64	0.56
	10	0.48	0.45	0.42	0.40	0.60	0.53
	20	0.47	0.44	0.42	0.40	0.57	0.51
	50	0.46	0.43	0.41	0.39	0.55	0.50
	100	0.46	0.43	0.41	0.39	0.53	0.49

m = metre.

Table 8D5-284 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	1.34	1.34	1.33	0.54	0.54	0.56	0.57	0.55
	50	1.30	1.29	1.29	0.51	0.52	0.53	0.54	0.53
	20	1.23	1.23	1.23	0.48	0.48	0.49	0.50	0.51
	10	1.18	1.18	1.17	0.46	0.46	0.47	0.48	0.49
	5	1.12	1.12	1.11	0.44	0.44	0.44	0.45	0.47
Median	2	1.02	1.01	1.01	0.41	0.41	0.41	0.42	0.44
Dry	5	0.93	0.93	0.92	0.39	0.39	0.40	0.40	0.42
	10	0.89	0.88	0.88	0.38	0.38	0.39	0.40	0.41
	20	0.85	0.85	0.85	0.38	0.38	0.38	0.39	0.40
	50	0.82	0.82	0.82	0.37	0.37	0.38	0.39	0.40
	100	0.80	0.80	0.79	0.37	0.37	0.38	0.38	0.39

m = metre; Max. = maximum.

Table 8D5-285 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.31	0.42	0.50	0.48	0.52	0.47
	50	0.31	0.41	0.48	0.46	0.49	0.46
	20	0.31	0.39	0.45	0.44	0.46	0.43
	10	0.30	0.37	0.43	0.42	0.43	0.41
	5	0.30	0.35	0.41	0.40	0.40	0.39
Median	2	0.29	0.32	0.36	0.36	0.36	0.34
Dry	5	0.27	0.29	0.32	0.33	0.34	0.30
	10	0.26	0.27	0.30	0.32	0.33	0.28
	20	0.26	0.26	0.29	0.30	0.32	0.27
	50	0.25	0.25	0.28	0.29	0.31	0.25
	100	0.24	0.24	0.27	0.29	0.31	0.24

m = metre.

Table 8D5-286 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.37	0.35	0.35	0.33	0.45	0.43
	50	0.37	0.35	0.35	0.32	0.42	0.39
	20	0.36	0.35	0.34	0.32	0.38	0.36
	10	0.35	0.34	0.33	0.31	0.35	0.33
	5	0.34	0.34	0.33	0.31	0.32	0.30
Median	2	0.31	0.32	0.31	0.29	0.28	0.26
Dry	5	0.26	0.29	0.29	0.28	0.24	0.24
	10	0.24	0.27	0.28	0.27	0.23	0.23
	20	0.21	0.25	0.27	0.26	0.22	0.22
	50	0.19	0.23	0.26	0.25	0.21	0.21
	100	0.17	0.21	0.26	0.24	0.20	0.21

m = metre.

Table 8D5-287 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.57	0.57	0.57	0.25	0.25	0.25	0.27	0.29
	50	0.53	0.53	0.53	0.25	0.24	0.25	0.26	0.29
	20	0.48	0.48	0.48	0.24	0.24	0.24	0.26	0.28
	10	0.45	0.45	0.45	0.23	0.23	0.24	0.26	0.28
	5	0.42	0.42	0.42	0.23	0.23	0.23	0.25	0.28
Median	2	0.38	0.38	0.38	0.23	0.23	0.23	0.25	0.27
Dry	5	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.26
	10	0.35	0.35	0.35	0.22	0.22	0.23	0.24	0.26
	20	0.35	0.35	0.35	0.22	0.22	0.23	0.23	0.25
	50	0.35	0.34	0.34	0.22	0.22	0.23	0.23	0.25
	100	0.34	0.34	0.34	0.22	0.22	0.23	0.23	0.25

m = metre.

8D5.5.3.7 Lac de Gras Outlet

Table 8D5-288 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,845,973	2,778,194	3,298,666	3,608,830	3,942,157	3,172,099
	50	1,724,094	2,642,869	3,125,280	3,390,857	3,671,863	3,026,363
	20	1,553,290	2,444,980	2,879,114	3,087,720	3,304,470	2,807,877
	10	1,414,638	2,275,926	2,675,781	2,843,168	3,015,745	2,614,486
	5	1,263,573	2,078,637	2,446,619	2,574,199	2,706,669	2,382,487
Median	2	1,022,115	1,723,158	2,055,906	2,132,942	2,220,735	1,953,490
Dry	5	831,714	1,394,664	1,720,349	1,772,932	1,846,213	1,566,038
	10	747,804	1,233,000	1,564,246	1,611,959	1,685,981	1,392,148
	20	684,989	1,104,524	1,444,456	1,491,427	1,569,231	1,268,564
	50	620,268	964,651	1,318,347	1,367,486	1,452,269	1,154,030
	100	580,194	874,921	1,239,818	1,291,902	1,382,575	1,092,618

m^3/d = cubic metres per day.

Table 8D5-289 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,327,856	2,132,511	1,950,078	1,774,380	2,763,728	2,541,926
	50	2,185,810	2,001,840	1,829,636	1,664,194	2,596,193	2,390,282
	20	1,988,091	1,819,986	1,662,155	1,511,018	2,362,672	2,178,130
	10	1,828,423	1,673,161	1,527,057	1,387,502	2,173,793	2,005,813
	5	1,652,629	1,511,542	1,378,490	1,251,719	1,965,499	1,814,953
Median	2	1,363,757	1,246,054	1,134,805	1,029,126	1,622,338	1,498,350
Dry	5	1,127,557	1,029,073	936,040	847,700	1,340,781	1,236,196
	10	1,021,764	931,923	847,184	766,641	1,214,337	1,117,631
	20	942,466	859,119	780,659	705,976	1,119,405	1,028,223
	50	860,844	784,196	712,261	643,623	1,021,535	935,661
	100	811,022	738,473	670,553	605,613	961,713	878,872

m^3/d = cubic metres per day.

Table 8D5-290 Derived Representative Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	47.22	4,037,302	4,009,020	1,604,991	1,620,935	1,645,248	1,676,503	1,670,965
	50	43.90	3,759,198	3,735,813	1,504,557	1,518,290	1,541,431	1,575,592	1,576,971
	20	39.45	3,384,857	3,367,175	1,364,905	1,375,980	1,397,447	1,434,529	1,444,561
	10	36.01	3,093,940	3,079,896	1,252,265	1,261,577	1,281,654	1,320,056	1,336,162
	5	32.38	2,786,088	2,775,024	1,128,402	1,136,209	1,154,714	1,193,384	1,215,116
Median	2	26.84	2,310,750	2,302,175	925,263	931,711	947,525	983,571	1,011,723
Dry	5	22.71	1,953,179	1,944,331	759,595	766,139	779,636	810,186	840,397
	10	20.99	1,803,061	1,793,394	685,542	692,544	704,962	731,888	761,879
	20	19.76	1,694,944	1,684,373	630,105	637,639	649,232	672,900	702,182
	50	18.54	1,587,828	1,576,064	573,111	581,379	592,105	611,888	639,892
	100	17.83	1,524,630	1,512,005	538,359	547,176	557,362	574,485	601,408

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-291 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.43	415.69	415.89	415.90	415.99	416.17
	50	415.40	415.64	415.82	415.85	415.94	416.06
	20	415.35	415.56	415.73	415.77	415.85	415.92
	10	415.31	415.50	415.65	415.71	415.78	415.81
	5	415.26	415.43	415.57	415.63	415.69	415.69
Median	2	415.17	415.31	415.42	415.47	415.52	415.51
Dry	5	415.08	415.20	415.30	415.32	415.35	415.37
	10	415.03	415.15	415.24	415.24	415.26	415.31
	20	414.99	415.11	415.20	415.17	415.18	415.26
	50	414.94	415.06	415.16	415.10	415.10	415.22
	100	414.91	415.03	415.13	415.05	415.05	415.20

m = metre.

Table 8D5-292 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.73	415.64	415.64	415.55	416.06	415.94
	50	415.69	415.60	415.58	415.50	415.97	415.86
	20	415.63	415.54	415.49	415.42	415.85	415.75
	10	415.57	415.49	415.42	415.35	415.75	415.66
	5	415.50	415.43	415.35	415.29	415.64	415.57
Median	2	415.36	415.30	415.23	415.18	415.47	415.41
Dry	5	415.23	415.18	415.14	415.10	415.33	415.28
	10	415.16	415.12	415.10	415.06	415.27	415.22
	20	415.10	415.07	415.07	415.04	415.23	415.18
	50	415.04	415.01	415.04	415.01	415.18	415.14
	100	414.99	414.97	415.02	414.99	415.15	415.11

m = metre.

Table 8D5-293 Derived Representative Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.21	416.21	416.20	415.40	415.48	415.41	415.43	415.49
	50	416.10	416.10	416.10	415.37	415.42	415.38	415.40	415.44
	20	415.96	415.95	415.95	415.32	415.35	415.34	415.35	415.38
	10	415.84	415.84	415.84	415.29	415.29	415.30	415.31	415.33
	5	415.73	415.72	415.72	415.24	415.23	415.25	415.26	415.27
Median	2	415.55	415.54	415.54	415.15	415.14	415.16	415.17	415.17
Dry	5	415.41	415.41	415.41	415.06	415.06	415.07	415.08	415.09
	10	415.36	415.35	415.35	415.01	415.03	415.02	415.03	415.06
	20	415.32	415.32	415.31	414.97	415.01	414.98	414.99	415.03
	50	415.28	415.28	415.27	414.93	414.98	414.93	414.95	415.00
	100	415.26	415.25	415.25	414.90	414.97	414.90	414.92	414.99

m = metre.

8D5.5.3.8 Desteffany Lake Outlet

Table 8D5-294 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,834,476	10,711,676	8,077,532	6,841,039	7,652,656	4,997,112
	50	3,100,661	10,007,108	7,649,600	6,384,035	6,897,413	4,748,221
	20	2,341,054	8,996,881	7,029,764	5,753,143	5,943,975	4,374,649
	10	1,888,736	8,152,998	6,505,969	5,248,452	5,247,767	4,043,504
	5	1,514,200	7,190,781	5,901,529	4,698,182	4,557,445	3,645,582
Median	2	1,091,932	5,519,748	4,831,723	3,807,731	3,579,529	2,907,433
Dry	5	862,235	4,049,080	3,866,211	3,094,422	2,900,139	2,237,230
	10	781,526	3,351,913	3,399,581	2,779,968	2,622,911	1,934,849
	20	727,741	2,810,631	3,032,908	2,546,569	2,423,484	1,719,080
	50	677,546	2,234,369	2,638,010	2,308,575	2,224,868	1,518,220
	100	648,869	1,871,941	2,387,098	2,164,514	2,105,229	1,410,032

m^3/d = cubic metres per day.

Table 8D5-295 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,392,899	2,199,616	2,018,956	1,845,233	2,870,540	2,596,449
	50	2,247,441	2,065,517	1,894,931	1,730,993	2,719,755	2,445,071
	20	2,045,807	1,879,697	1,723,305	1,573,115	2,504,894	2,233,405
	10	1,883,744	1,730,407	1,585,635	1,446,663	2,326,677	2,061,585
	5	1,706,182	1,566,908	1,435,108	1,308,616	2,124,953	1,871,396
Median	2	1,416,639	1,300,477	1,190,440	1,084,781	1,778,668	1,556,217
Dry	5	1,182,306	1,085,042	993,278	904,994	1,478,560	1,295,586
	10	1,078,179	989,380	905,961	825,572	1,337,969	1,177,829
	20	1,000,513	918,058	840,967	766,547	1,229,615	1,089,086
	50	920,945	845,020	774,513	706,287	1,115,069	997,269
	100	872,580	800,640	734,190	669,771	1,043,478	940,967

m^3/d = cubic metres per day.

Table 8D5-296 Derived Representative Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	184.62	15,004,979	13,629,308	1,641,387	1,656,738	1,705,563	1,726,848	1,727,830
	50	171.56	14,004,073	12,797,013	1,540,833	1,554,836	1,596,372	1,625,484	1,632,349
	20	153.36	12,599,280	11,615,871	1,401,071	1,413,370	1,446,123	1,483,775	1,497,997
	10	138.66	11,454,049	10,640,732	1,288,394	1,299,477	1,326,373	1,368,768	1,388,149
	5	122.46	10,180,753	9,542,286	1,164,550	1,174,475	1,196,307	1,241,494	1,265,649
Median	2	95.81	8,055,878	7,670,993	961,594	970,082	987,097	1,030,649	1,060,246
Dry	5	73.98	6,282,312	6,065,598	796,242	804,058	820,849	856,376	887,713
	10	64.19	5,475,205	5,319,378	722,389	730,076	748,017	777,665	808,813
	20	56.85	4,864,246	4,747,041	667,127	674,798	694,166	718,360	748,906
	50	49.28	4,229,417	4,144,810	610,340	618,072	639,457	657,015	686,477
	100	44.67	3,838,665	3,769,959	575,728	583,540	606,450	619,404	647,952

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-297 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.48	6.91	6.81	6.75	6.85	6.81
	50	6.44	6.89	6.79	6.72	6.80	6.79
	20	6.38	6.85	6.76	6.68	6.74	6.75
	10	6.34	6.81	6.73	6.64	6.69	6.71
	5	6.28	6.75	6.69	6.59	6.63	6.67
Median	2	6.19	6.64	6.60	6.51	6.53	6.58
Dry	5	6.11	6.50	6.51	6.43	6.45	6.48
	10	6.07	6.41	6.46	6.39	6.41	6.43
	20	6.04	6.34	6.42	6.35	6.39	6.38
	50	6.01	6.25	6.37	6.32	6.36	6.33
	100	5.99	6.19	6.33	6.29	6.34	6.29

m = metre.

Table 8D5-298 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.51	6.48	6.44	6.41	6.58	6.55
	50	6.49	6.45	6.42	6.38	6.56	6.52
	20	6.45	6.42	6.38	6.34	6.53	6.49
	10	6.42	6.38	6.35	6.31	6.50	6.45
	5	6.38	6.34	6.31	6.27	6.47	6.41
Median	2	6.30	6.27	6.23	6.20	6.39	6.34
Dry	5	6.23	6.20	6.16	6.13	6.32	6.27
	10	6.19	6.16	6.13	6.09	6.28	6.23
	20	6.16	6.13	6.10	6.06	6.24	6.20
	50	6.13	6.10	6.06	6.03	6.21	6.16
	100	6.11	6.08	6.04	6.01	6.19	6.14

m = metre.

Table 8D5-299 Derived Representative Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.36	6.37	6.37	6.38	6.38
	50	7.08	7.05	7.01	6.34	6.34	6.35	6.36	6.36
	20	7.03	7.01	6.97	6.30	6.30	6.31	6.32	6.32
	10	6.99	6.97	6.94	6.26	6.27	6.28	6.29	6.29
	5	6.94	6.92	6.90	6.22	6.23	6.24	6.25	6.26
Median	2	6.84	6.83	6.81	6.15	6.15	6.16	6.18	6.19
Dry	5	6.74	6.73	6.72	6.08	6.08	6.09	6.10	6.12
	10	6.69	6.68	6.67	6.04	6.04	6.05	6.07	6.08
	20	6.64	6.63	6.62	6.01	6.01	6.02	6.04	6.05
	50	6.59	6.58	6.57	5.97	5.98	5.99	6.00	6.02
	100	6.56	6.55	6.53	5.95	5.96	5.97	5.98	6.00

m = metre.

8D5.5.3.9 Derived Annual Water Yields

Table 8D5-300 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras, and Desteffany Lake Outlets – Closure Year 3

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Closure Year 3		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	248	226	241
	50	253	221	233	231	213	228
	20	229	203	214	206	195	209
	10	210	188	200	187	181	194
	5	189	173	183	166	165	178
Median	2	155	148	156	133	140	151
Dry	5	128	128	135	106	120	130
	10	116	119	125	95	112	120
	20	108	113	117	86	105	113
	50	99	106	110	78	99	105
	100	93	102	105	73	95	101

mm = millimetre.

8D5.5.4 Closure Phase Year 3 Effects Analysis Results

8D5.5.4.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as for the dewatering period as reported in Section 8D5.3.4.1.

8D5.5.4.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as for the construction phase as reported in Section 8D5.2.4.2.

8D5.5.4.3 Lake C1 Outlet

Table 8D5-301 Summer Monthly Mean Discharges at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	10,645	33,984	21,865	16,946	17,923	11,118
		Closure	5,655	25,261	17,704	14,240	15,569	9,329
	10	Baseline	4,973	24,138	16,594	11,543	11,070	6,009
		Closure	2,516	16,217	12,734	9,326	9,152	4,855
Median	2	Baseline	797	15,602	11,138	7,243	6,598	2,644
		Closure	329	9,050	7,868	5,384	5,027	2,048
Dry	10	Baseline	-	9,794	6,617	4,517	4,146	786
		Closure	-	4,638	4,077	2,870	2,790	552
	100	Baseline	-	6,463	3,513	2,948	2,855	-
		Closure	-	2,331	1,616	1,419	1,620	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-302 Derived Representative Discharges at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.57	45,394	41,139	4,800	11,062	11,953
		Closure	0.40	31,522	29,369	2,994	8,315	8,753
	10	Baseline	0.43	33,892	31,127	2,255	7,373	8,509
		Closure	0.26	21,478	20,316	1,301	5,360	6,412
Median	2	Baseline	0.29	23,364	21,783	377	4,419	5,535
		Closure	0.16	13,239	12,702	159	3,013	4,002
Dry	10	Baseline	0.19	15,755	14,882	-	2,580	3,598
		Closure	0.10	7,970	7,695	-	1,564	2,285
	100	Baseline	0.13	11,143	10,616	-	1,609	2,710
		Closure	0.06	5,115	4,912	-	804	1,504

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-303 Summer Monthly Mean Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.37	0.54	0.41	0.33	0.35	0.32
		Closure	0.23	0.43	0.35	0.30	0.32	0.29
	10	Baseline	0.30	0.45	0.34	0.27	0.26	0.24
		Closure	0.15	0.34	0.29	0.23	0.23	0.21
Median	2	Baseline	0.21	0.35	0.26	0.20	0.18	0.17
		Closure	0.07	0.24	0.21	0.16	0.15	0.15
Dry	10	Baseline	0.14	0.27	0.18	0.14	0.13	0.12
		Closure	0.01	0.14	0.13	0.10	0.10	0.09
	100	Baseline	0.10	0.23	0.12	0.10	0.11	0.09
		Closure	-	0.10	0.07	0.06	0.07	0.06

m = metre; - = stage below the lake outlet during zero discharge.

Table 8D5-304 Winter Monthly Mean Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.33	0.33	0.33	0.33	0.32	0.32
		Closure	0.24	0.23	0.22	0.20	0.30	0.30
	10	Baseline	0.24	0.24	0.24	0.24	0.27	0.27
		Closure	0.17	0.15	0.14	0.12	0.24	0.24
Median	2	Baseline	0.17	0.17	0.17	0.17	0.17	0.17
		Closure	0.10	0.08	0.06	0.05	0.13	0.11
Dry	10	Baseline	0.12	0.12	0.12	0.12	0.14	0.14
		Closure	0.04	0.03	0.02	0.00	0.12	0.12
	100	Baseline	0.09	0.09	0.09	0.09	0.11	0.11
		Closure	0.01	-	-	-	0.10	0.10

m = metre; - = stage below the lake outlet during zero discharge.

Table 8D5-305 Derived Representative Mean Stages at Lake C1 Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	0.71	0.67	0.63	0.22	0.22	0.25	0.30	0.31
		Closure	0.54	0.52	0.50	0.17	0.14	0.15	0.14	0.14
	10	Baseline	0.58	0.55	0.52	0.18	0.18	0.20	0.23	0.24
		Closure	0.42	0.41	0.39	0.09	0.09	0.09	0.09	0.09
Median	2	Baseline	0.45	0.43	0.41	0.14	0.14	0.15	0.17	0.18
		Closure	0.30	0.29	0.29	0.04	0.04	0.04	0.04	0.05
Dry	10	Baseline	0.35	0.34	0.32	0.10	0.10	0.11	0.13	0.14
		Closure	0.21	0.21	0.20	0.00	-	0.00	0.00	0.01
	100	Baseline	0.28	0.27	0.26	0.07	0.08	0.09	0.10	0.11
		Closure	0.16	0.16	0.15	-	-	-	-	-

m = metre; - = stage below the lake outlet during zero discharge.

8D5.5.4.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations phase as reported in Section 8D5.4.4.4.

8D5.5.4.5 Lac du Sauvage Outlet

Table 8D5-306 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Closure	396,834	2,195,750	2,787,629	2,365,816	2,518,761	1,564,889
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Closure	195,879	1,230,537	1,802,292	1,667,545	1,624,834	1,206,156
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Closure	115,300	603,065	1,063,010	1,078,076	1,039,728	843,954
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Closure	84,392	293,895	635,099	688,029	718,156	552,020
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Closure	71,307	162,273	423,667	457,571	548,601	356,538

m^3/d = cubic metres per day.

Table 8D5-307 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Closure	337,753	278,733	214,206	182,028	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Closure	284,169	222,525	177,468	146,196	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Closure	227,207	174,386	141,477	114,541	474,702	317,408
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Closure	178,600	142,184	114,088	92,550	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Closure	144,312	126,679	99,601	79,697	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-308 Derived Representative Discharges at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Closure	37.77	3,205,318	3,149,642	154,180	156,566	158,132	176,724	184,031
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Closure	24.54	2,100,367	2,072,500	123,445	125,590	129,546	140,942	151,081
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Closure	15.14	1,298,366	1,284,743	95,650	97,460	101,877	109,310	119,687
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Closure	10.02	851,088	841,660	75,829	77,309	81,092	87,318	95,961
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Closure	7.63	637,542	628,450	63,964	65,194	70,213	74,456	80,982

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-309 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Closure	415.70	425.50	416.38	416.32	425.59	416.28
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Closure	415.59	421.78	416.23	416.20	421.91	416.14
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Closure	415.51	415.93	416.04	416.04	416.12	415.99
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Closure	415.46	409.86	415.86	415.89	410.12	415.85
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Closure	415.43	405.13	415.75	415.76	405.44	415.76

m = metre.

Table 8D5-310 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Closure	415.81	415.79	415.66	415.66	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Closure	415.74	415.67	415.61	415.56	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Closure	415.66	415.59	415.55	415.50	415.84	415.74
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Closure	415.58	415.55	415.49	415.47	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Closure	415.51	415.53	415.44	415.46	415.76	415.65

m = metre.

Table 8D5-311 Derived Representative Mean Stages at Lac du Sauvage Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Closure	416.48	416.42	416.47	415.56	415.57	415.62	415.59	415.64
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Closure	416.29	416.28	416.28	415.53	415.53	415.54	415.55	415.57
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Closure	416.11	416.12	416.10	415.48	415.48	415.48	415.50	415.51
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Closure	415.97	415.95	415.96	415.44	415.44	415.45	415.45	415.48
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Closure	415.87	415.82	415.87	415.41	415.41	415.44	415.41	415.46

m = metre.

8D5.5.4.6 Lac du Sauvage Narrows

Table 8D5-312 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Closure	20.25	52.49	57.00	54.57	55.81	50.69
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Closure	9.84	37.56	47.03	45.82	45.15	40.62
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Closure	7.44	23.71	35.24	35.39	34.62	30.26
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Closure	6.83	13.91	25.29	26.51	26.80	23.26
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Closure	6.63	7.87	18.46	20.39	21.85	20.54

m = metre.

Table 8D5-313 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Closure	32.93	29.00	18.20	14.72	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Closure	20.52	11.56	9.00	8.32	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Closure	10.79	8.05	7.47	7.22	23.27	17.18
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Closure	6.53	7.24	7.16	7.00	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Closure	5.63	6.99	7.08	6.93	19.68	11.04

m = metre.

Table 8D5-314 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Closure	55.02	55.14	55.31	11.13	11.58	12.47	12.46	12.59
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Closure	49.85	49.75	49.61	7.86	7.91	8.01	8.11	8.24
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Closure	40.54	40.31	39.99	7.06	7.07	7.10	7.18	7.27
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Closure	29.90	29.72	29.50	6.84	6.86	6.89	6.95	7.02
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Closure	21.09	21.04	21.07	6.77	6.79	6.82	6.88	6.95

m = metre.

Table 8D5-315 Summer Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Maximum Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Closure	0.64	1.20	1.27	1.24	1.30	1.22
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Closure	0.52	0.99	1.12	1.10	1.12	1.05
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Closure	0.43	0.75	0.95	0.95	0.94	0.88
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Closure	0.40	0.56	0.79	0.82	0.82	0.74
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Closure	0.39	0.42	0.66	0.71	0.74	0.65

m = metre.

Table 8D5-316 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Maximum Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Closure	0.87	0.82	0.72	0.62	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Closure	0.67	0.59	0.54	0.49	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Closure	0.54	0.49	0.46	0.43	0.72	0.62
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Closure	0.48	0.45	0.42	0.40	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Closure	0.46	0.43	0.41	0.39	0.62	0.55

m = metre.

Table 8D5-317 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Closure	1.34	1.34	1.33	0.54	0.54	0.56	0.57	0.55
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Closure	1.18	1.18	1.17	0.46	0.46	0.47	0.48	0.49
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Closure	1.02	1.01	1.01	0.41	0.41	0.41	0.42	0.44
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Closure	0.89	0.88	0.88	0.38	0.38	0.39	0.40	0.41
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Closure	0.80	0.80	0.79	0.37	0.37	0.38	0.38	0.39

m = metre; Max. = maximum.

Table 8D5-318 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Closure	0.31	0.42	0.50	0.48	0.52	0.47
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Closure	0.30	0.37	0.43	0.42	0.43	0.41
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Closure	0.29	0.32	0.36	0.36	0.36	0.34
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Closure	0.26	0.27	0.30	0.32	0.33	0.28
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Closure	0.24	0.24	0.27	0.29	0.31	0.24

m = metre.

Table 8D5-319 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Closure	0.37	0.35	0.35	0.33	0.45	0.43
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Closure	0.35	0.34	0.33	0.31	0.35	0.33
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Closure	0.31	0.32	0.31	0.29	0.28	0.26
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Closure	0.24	0.27	0.28	0.27	0.23	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Closure	0.17	0.21	0.26	0.24	0.20	0.21

m = metre.

Table 8D5-320 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Closure	0.57	0.57	0.57	0.25	0.25	0.25	0.27	0.29
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Closure	0.45	0.45	0.45	0.23	0.23	0.24	0.26	0.28
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Closure	0.38	0.38	0.38	0.23	0.23	0.23	0.25	0.27
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Closure	0.35	0.35	0.35	0.22	0.22	0.23	0.24	0.26
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Closure	0.34	0.34	0.34	0.22	0.22	0.23	0.23	0.25

m = metre.

8D5.5.4.7 Lac de Gras Outlet

Table 8D5-321 Summer Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Closure	1,845,973	2,778,194	3,298,666	3,608,830	3,942,157	3,172,099
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Closure	1,414,638	2,275,926	2,675,781	2,843,168	3,015,745	2,614,486
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Closure	1,022,115	1,723,158	2,055,906	2,132,942	2,220,735	1,953,490
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Closure	747,804	1,233,000	1,564,246	1,611,959	1,685,981	1,392,148
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Closure	580,194	874,921	1,239,818	1,291,902	1,382,575	1,092,618

m^3/d = cubic metres per day.

Table 8D5-322 Winter Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Closure	2,327,856	2,132,511	1,950,078	1,774,380	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Closure	1,828,423	1,673,161	1,527,057	1,387,502	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Closure	1,363,757	1,246,054	1,134,805	1,029,126	1,622,338	1,498,350
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Closure	1,021,764	931,923	847,184	766,641	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Closure	811,022	738,473	670,553	605,613	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-323 Derived Representative Discharges at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Closure	47.22	4,037,302	4,009,020	1,604,991	1,620,935	1,645,248	1,676,503	1,670,965
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Closure	36.01	3,093,940	3,079,896	1,252,265	1,261,577	1,281,654	1,320,056	1,336,162
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Closure	26.84	2,310,750	2,302,175	925,263	931,711	947,525	983,571	1,011,723
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Closure	20.99	1,803,061	1,793,394	685,542	692,544	704,962	731,888	761,879
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Closure	17.83	1,524,630	1,512,005	538,359	547,176	557,362	574,485	601,408

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-324 Summer Monthly Mean Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Closure	415.43	415.69	415.89	415.90	415.99	416.17
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Closure	415.31	415.50	415.65	415.71	415.78	415.81
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Closure	415.17	415.31	415.42	415.47	415.52	415.51
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Closure	415.03	415.15	415.24	415.24	415.26	415.31
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Closure	414.91	415.03	415.13	415.05	415.05	415.20

m = metre.

Table 8D5-325 Winter Monthly Mean Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Closure	415.73	415.64	415.64	415.55	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Closure	415.57	415.49	415.42	415.35	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Closure	415.36	415.30	415.23	415.18	415.47	415.41
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Closure	415.16	415.12	415.10	415.06	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Closure	414.99	414.97	415.02	414.99	415.14	415.18

m = metre.

Table 8D5-326 Derived Representative Mean Stages at Lac de Gras Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Closure	416.21	416.21	416.20	415.40	415.48	415.41	415.43	415.49
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Closure	415.84	415.84	415.84	415.29	415.29	415.30	415.31	415.33
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Closure	415.55	415.54	415.54	415.15	415.14	415.16	415.17	415.17
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Closure	415.36	415.35	415.35	415.01	415.03	415.02	415.03	415.06
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Closure	415.26	415.25	415.25	414.90	414.97	414.90	414.92	414.99

m = metre.

8D5.5.4.8 Desteffany Lake Outlet

Table 8D5-327 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Closure	3,834,476	10,711,676	8,077,532	6,841,039	7,652,656	4,997,112
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Closure	1,888,736	8,152,998	6,505,969	5,248,452	5,247,767	4,043,504
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Closure	1,091,932	5,519,748	4,831,723	3,807,731	3,579,529	2,907,433
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Closure	781,526	3,351,913	3,399,581	2,779,968	2,622,911	1,934,849
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Closure	648,869	1,871,941	2,387,098	2,164,514	2,105,229	1,410,032

m^3/d = cubic metres per day.

Table 8D5-328 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Closure	2,392,899	2,199,616	2,018,956	1,845,233	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Closure	1,883,744	1,730,407	1,585,635	1,446,663	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Closure	1,416,639	1,300,477	1,190,440	1,084,781	1,778,668	1,556,217
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Closure	1,078,179	989,380	905,961	825,572	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Closure	872,580	800,640	734,190	669,771	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-329 Derived Representative Discharges at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Closure	184.62	15,004,979	13,629,308	1,641,387	1,656,738	1,705,563	1,726,848	1,727,830
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Closure	138.66	11,454,049	10,640,732	1,288,394	1,299,477	1,326,373	1,368,768	1,388,149
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Closure	95.81	8,055,878	7,670,993	961,594	970,082	987,097	1,030,649	1,060,246
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Closure	64.19	5,475,205	5,319,378	722,389	730,076	748,017	777,665	808,813
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Closure	44.67	3,838,665	3,769,959	575,728	583,540	606,450	619,404	647,952

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-330 Summer Monthly Mean Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Closure	6.48	6.91	6.81	6.75	6.85	6.81
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Closure	6.34	6.81	6.73	6.64	6.69	6.71
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Closure	6.19	6.64	6.60	6.51	6.53	6.58
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Closure	6.07	6.41	6.46	6.39	6.41	6.43
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Closure	5.99	6.19	6.33	6.29	6.34	6.29

m = metre.

Table 8D5-331 Winter Monthly Mean Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Closure	6.51	6.48	6.44	6.41	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Closure	6.42	6.38	6.35	6.31	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Closure	6.30	6.27	6.23	6.20	6.39	6.34
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Closure	6.19	6.16	6.13	6.09	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Closure	6.11	6.08	6.04	6.01	6.24	6.19

m = metre.

Table 8D5-332 Derived Representative Mean Stages at Desteffany Lake Outlet – Closure Year 3

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Closure	7.11	7.08	7.03	6.36	6.37	6.37	6.38	6.38
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Closure	6.99	6.97	6.94	6.26	6.27	6.28	6.29	6.29
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Closure	6.84	6.83	6.81	6.15	6.15	6.16	6.18	6.19
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Closure	6.69	6.68	6.67	6.04	6.04	6.05	6.07	6.08
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Closure	6.56	6.55	6.53	5.95	5.96	5.97	5.98	6.00

m = metre.

8D5.5.5 Closure Phase Year 6 Assessment Results

8D5.5.5.1 Lac du Sauvage Outlet

Table 8D5-333 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	466,851	2,385,720	2,904,315	2,536,245	2,677,695	1,728,030
	50	375,199	2,071,029	2,630,965	2,335,838	2,395,226	1,622,400
	20	283,838	1,673,332	2,266,056	2,060,507	2,043,326	1,472,588
	10	231,527	1,385,882	1,985,148	1,841,442	1,789,813	1,348,990
	5	189,676	1,103,585	1,690,785	1,606,997	1,541,439	1,209,862
Median	2	144,488	715,591	1,243,188	1,240,783	1,194,930	973,113
Dry	5	121,038	466,230	913,358	958,848	958,061	770,309
	10	113,033	373,685	777,093	836,392	862,354	676,151
	20	107,777	311,879	679,917	745,413	793,854	603,985
	50	102,931	254,902	584,547	652,275	725,927	528,102
	100	100,191	223,379	528,750	594,905	685,153	480,898

m^3/d = cubic metres per day.

Table 8D5-334 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	372,708	290,808	237,869	209,291	878,803	526,372
	50	358,462	279,862	228,941	198,256	836,116	506,975
	20	338,025	264,297	216,227	183,517	774,630	478,393
	10	320,944	251,277	205,576	172,165	723,003	453,763
	5	301,457	236,462	193,438	160,264	663,820	424,758
Median	2	267,584	210,806	172,371	142,151	560,164	371,743
Dry	5	237,737	188,570	154,064	128,789	467,904	321,817
	10	223,575	178,505	145,763	123,264	423,789	296,888
	20	212,573	171,228	139,755	119,322	389,353	276,897
	50	200,854	164,402	134,116	115,451	352,502	254,943
	100	193,480	160,752	131,098	113,185	329,219	240,751

m^3/d = cubic metres per day.

Table 8D5-335 Derived Representative Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.56	3,390,449	3,332,234	180,870	183,826	180,260	204,974	212,991
	50	35.71	3,059,824	3,010,277	171,433	174,237	173,421	193,788	203,088
	20	30.68	2,628,039	2,589,061	158,755	161,344	163,687	178,858	189,512
	10	26.90	2,303,924	2,272,229	148,924	151,339	155,539	167,366	178,738
	5	23.05	1,972,994	1,948,050	138,544	140,765	146,262	155,326	167,086
Median	2	17.42	1,489,804	1,473,152	122,574	124,474	130,179	137,024	148,474
Dry	5	13.49	1,152,709	1,140,361	110,618	112,255	116,225	123,542	133,821
	10	11.94	1,019,274	1,008,169	105,617	107,137	109,905	117,974	127,447
	20	10.86	926,581	916,143	102,024	103,456	105,333	114,003	122,755
	50	9.82	837,862	827,882	98,471	99,814	101,045	110,108	118,009
	100	9.23	787,103	777,293	96,379	97,668	98,751	107,829	115,156

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-336 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.69	425.45	416.41	416.37	425.62	416.32
	50	415.67	424.65	416.37	416.33	424.80	416.28
	20	415.65	423.24	416.32	416.28	423.38	416.23
	10	415.63	421.81	416.27	416.24	421.95	416.18
	5	415.61	419.91	416.21	416.19	420.05	416.13
Median	2	415.56	416.00	416.09	416.09	416.17	416.04
Dry	5	415.51	411.98	415.98	416.00	412.22	415.96
	10	415.49	409.91	415.92	415.95	410.18	415.92
	20	415.47	408.22	415.88	415.92	408.53	415.89
	50	415.45	406.35	415.85	415.88	406.71	415.86
	100	415.43	405.12	415.82	415.85	405.51	415.84

m = metre.

Table 8D5-337 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.83	415.75	415.75	415.64	416.14	415.94
	50	415.81	415.74	415.71	415.63	416.10	415.92
	20	415.79	415.72	415.67	415.61	416.05	415.89
	10	415.77	415.70	415.64	415.60	416.01	415.87
	5	415.75	415.68	415.62	415.58	415.96	415.84
Median	2	415.70	415.64	415.58	415.55	415.88	415.78
Dry	5	415.65	415.60	415.56	415.52	415.82	415.72
	10	415.62	415.58	415.56	415.51	415.80	415.70
	20	415.60	415.56	415.55	415.50	415.78	415.68
	50	415.58	415.54	415.55	415.48	415.76	415.65
	100	415.57	415.53	415.55	415.47	415.75	415.64

m = metre.

Table 8D5-338 Derived Representative Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.45	416.50	416.44	415.60	415.60	415.61	415.62	415.63
	50	416.42	416.45	416.41	415.59	415.59	415.60	415.61	415.63
	20	416.37	416.38	416.36	415.58	415.58	415.59	415.60	415.61
	10	416.32	416.33	416.32	415.56	415.57	415.58	415.59	415.60
	5	416.27	416.26	416.26	415.55	415.55	415.56	415.57	415.59
Median	2	416.17	416.16	416.16	415.52	415.53	415.53	415.55	415.56
Dry	5	416.07	416.07	416.06	415.50	415.50	415.51	415.52	415.53
	10	416.02	416.03	416.01	415.49	415.49	415.49	415.50	415.52
	20	415.97	415.99	415.97	415.48	415.48	415.48	415.49	415.51
	50	415.92	415.96	415.92	415.47	415.47	415.47	415.48	415.49
	100	415.89	415.94	415.89	415.46	415.46	415.46	415.47	415.49

m = metre.

8D5.5.5.2 Lac de Gras Outlet

Table 8D5-339 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,900,205	2,846,727	3,384,947	3,701,935	4,041,073	3,257,157
	50	1,778,410	2,711,207	3,209,988	3,484,044	3,771,471	3,113,067
	20	1,607,533	2,512,913	2,961,700	3,180,695	3,404,557	2,896,592
	10	1,468,666	2,343,400	2,756,718	2,935,670	3,115,793	2,704,475
	5	1,317,214	2,145,435	2,525,819	2,665,837	2,806,215	2,473,300
Median	2	1,074,825	1,788,343	2,132,472	2,222,274	2,318,355	2,043,360
Dry	5	883,433	1,457,871	1,795,025	1,859,411	1,941,170	1,651,310
	10	799,016	1,295,050	1,638,177	1,696,826	1,779,407	1,473,665
	20	735,796	1,165,565	1,517,878	1,574,931	1,661,363	1,346,487
	50	670,634	1,024,496	1,391,298	1,449,435	1,542,936	1,227,668
	100	630,274	933,946	1,312,510	1,372,818	1,472,279	1,163,433

m^3/d = cubic metres per day.

Table 8D5-340 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,390,361	2,195,026	2,012,433	1,836,760	2,846,876	2,616,534
	50	2,246,264	2,061,711	1,888,748	1,722,651	2,678,153	2,466,368
	20	2,046,256	1,876,912	1,717,646	1,565,078	2,443,299	2,256,003
	10	1,885,261	1,728,383	1,580,445	1,438,985	2,253,640	2,084,875
	5	1,708,597	1,565,653	1,430,486	1,301,459	2,044,825	1,895,034
Median	2	1,419,819	1,300,303	1,186,881	1,078,796	1,701,684	1,579,338
Dry	5	1,185,347	1,085,559	990,728	900,302	1,421,102	1,317,066
	10	1,080,898	990,140	903,909	821,573	1,295,429	1,198,142
	20	1,002,870	918,970	839,309	763,117	1,201,228	1,108,322
	50	922,812	846,058	773,282	703,492	1,104,266	1,015,192
	100	874,086	801,740	733,230	667,390	1,045,080	957,977

m^3/d = cubic metres per day.

Table 8D5-341 Derived Representative Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.49	4,138,506	4,109,906	1,652,009	1,686,736	1,706,433	1,726,267	1,722,747
	50	45.14	3,860,845	3,837,123	1,552,167	1,578,329	1,598,604	1,625,933	1,629,320
	20	40.66	3,486,476	3,468,430	1,413,283	1,429,541	1,450,109	1,485,578	1,497,584
	10	37.19	3,194,977	3,180,547	1,301,210	1,311,304	1,331,649	1,371,587	1,389,619
	5	33.54	2,885,899	2,874,420	1,177,913	1,183,271	1,202,860	1,245,345	1,268,922
Median	2	27.94	2,407,184	2,398,128	975,551	978,311	995,394	1,035,966	1,065,758
Dry	5	23.78	2,045,569	2,036,149	810,353	816,479	830,202	862,635	894,222
	10	22.04	1,893,259	1,882,965	736,453	745,931	757,719	784,255	815,464
	20	20.80	1,783,344	1,772,096	681,104	693,929	704,075	725,156	755,517
	50	19.58	1,674,240	1,661,738	624,175	641,253	649,527	663,980	692,899
	100	18.86	1,609,759	1,596,354	589,449	609,554	616,589	626,450	654,176

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-342 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.45	415.71	415.85	415.94	416.03	416.06
	50	415.42	415.66	415.80	415.89	415.98	416.01
	20	415.38	415.59	415.74	415.81	415.89	415.92
	10	415.34	415.53	415.68	415.74	415.82	415.85
	5	415.29	415.46	415.60	415.66	415.73	415.75
Median	2	415.19	415.33	415.47	415.51	415.56	415.58
Dry	5	415.10	415.22	415.33	415.35	415.38	415.40
	10	415.05	415.17	415.26	415.27	415.29	415.31
	20	415.01	415.13	415.20	415.20	415.22	415.24
	50	414.97	415.08	415.13	415.13	415.13	415.15
	100	414.94	415.05	415.08	415.08	415.08	415.10

m = metre.

Table 8D5-343 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.86	415.67	415.58	415.58	416.10	415.88
	50	415.79	415.63	415.55	415.52	416.01	415.83
	20	415.68	415.57	415.49	415.44	415.89	415.76
	10	415.60	415.52	415.44	415.38	415.79	415.70
	5	415.51	415.45	415.39	415.31	415.68	415.62
Median	2	415.37	415.33	415.28	415.21	415.51	415.47
Dry	5	415.26	415.21	415.16	415.12	415.37	415.32
	10	415.21	415.15	415.11	415.09	415.31	415.24
	20	415.17	415.09	415.06	415.06	415.26	415.18
	50	415.13	415.03	415.00	415.03	415.22	415.11
	100	415.11	414.99	414.97	415.02	415.19	415.06

m = metre.

Table 8D5-344 Derived Representative Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.25	416.25	416.24	415.49	415.43	415.44	415.45	415.46
	50	416.14	416.14	416.14	415.44	415.40	415.41	415.42	415.43
	20	416.00	415.99	415.99	415.37	415.35	415.36	415.38	415.39
	10	415.88	415.88	415.88	415.31	415.31	415.32	415.34	415.35
	5	415.76	415.76	415.76	415.25	415.27	415.27	415.29	415.30
Median	2	415.58	415.58	415.58	415.16	415.17	415.18	415.20	415.21
Dry	5	415.45	415.44	415.44	415.08	415.08	415.09	415.10	415.12
	10	415.39	415.39	415.38	415.05	415.04	415.04	415.06	415.07
	20	415.35	415.35	415.34	415.03	415.00	415.00	415.02	415.03
	50	415.31	415.31	415.30	415.00	414.95	414.96	414.97	414.98
	100	415.29	415.28	415.28	414.99	414.92	414.93	414.94	414.96

m = metre.

8D5.5.5.3 Derived Annual Water Yields

Table 8D5-345 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras, and Desteffany Lake Outlets – Closure Year 6

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Closure Year 6		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	270	233	245
	50	253	221	233	252	220	232
	20	229	203	214	228	201	214
	10	210	188	200	209	187	199
	5	189	173	183	188	171	182
Median	2	155	148	156	155	146	156
Dry	5	128	128	135	128	126	134
	10	116	119	125	116	118	124
	20	108	113	117	107	111	117
	50	99	106	110	99	105	109
	100	93	102	105	93	101	105

mm = millimetre.

8D5.5.6 Closure Year 6 Effects Analysis Results

8D5.5.6.1 Lac du Sauvage Outlet

Table 8D5-346 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Closure	466,851	2,385,720	2,904,315	2,536,245	2,677,695	1,728,030
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Closure	231,527	1,385,882	1,985,148	1,841,442	1,789,813	1,348,990
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Closure	144,488	715,591	1,243,188	1,240,783	1,194,930	973,113
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Closure	113,033	373,685	777,093	836,392	862,354	676,151
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Closure	100,191	223,379	528,750	594,905	685,153	480,898

m^3/d = cubic metres per day.

Table 8D5-347 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Closure	372,708	290,808	237,869	209,291	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Closure	320,944	251,277	205,576	172,165	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Closure	267,584	210,806	172,371	142,151	560,164	371,743
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Closure	223,575	178,505	145,763	123,264	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Closure	193,480	160,752	131,098	113,185	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-348 Derived Representative Discharges at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Closure	39.56	3,390,449	3,332,234	180,870	183,826	180,260	204,974	212,991
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Closure	26.90	2,303,924	2,272,229	148,924	151,339	155,539	167,366	178,738
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Closure	17.42	1,489,804	1,473,152	122,574	124,474	130,179	137,024	148,474
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Closure	11.94	1,019,274	1,008,169	105,617	107,137	109,905	117,974	127,447
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Closure	9.23	787,103	777,293	96,379	97,668	98,751	107,829	115,156

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-349 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Closure	415.69	425.45	416.41	416.37	425.62	416.32
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Closure	415.63	421.81	416.27	416.24	421.95	416.18
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Closure	415.56	416.00	416.09	416.09	416.17	416.04
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Closure	415.49	409.91	415.92	415.95	410.18	415.92
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Closure	415.43	405.12	415.82	415.85	405.51	415.84

m = metre.

Table 8D5-350 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Closure	415.83	415.75	415.75	415.64	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Closure	415.77	415.70	415.64	415.60	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Closure	415.70	415.64	415.58	415.55	415.88	415.78
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Closure	415.62	415.58	415.56	415.51	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Closure	415.57	415.53	415.55	415.47	415.76	415.65

m = metre.

Table 8D5-351 Derived Representative Mean Stages at Lac du Sauvage Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Closure	416.45	416.50	416.44	415.60	415.60	415.61	415.62	415.63
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Closure	416.32	416.33	416.32	415.56	415.57	415.58	415.59	415.60
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Closure	416.17	416.16	416.16	415.52	415.53	415.53	415.55	415.56
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Closure	416.02	416.03	416.01	415.49	415.49	415.49	415.50	415.52
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Closure	415.89	415.94	415.89	415.46	415.46	415.46	415.47	415.49

m = metre.

8D5.5.6.2 Lac de Gras Outlet

Table 8D5-352 Summer Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Closure	1,900,205	2,846,727	3,384,947	3,701,935	4,041,073	3,257,157
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Closure	1,468,666	2,343,400	2,756,718	2,935,670	3,115,793	2,704,475
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Closure	1,074,825	1,788,343	2,132,472	2,222,274	2,318,355	2,043,360
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Closure	799,016	1,295,050	1,638,177	1,696,826	1,779,407	1,473,665
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Closure	630,274	933,946	1,312,510	1,372,818	1,472,279	1,163,433

m^3/d = cubic metres per day.

Table 8D5-353 Winter Monthly Mean Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Closure	2,390,361	2,195,026	2,012,433	1,836,760	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Closure	1,885,261	1,728,383	1,580,445	1,438,985	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Closure	1,419,819	1,300,303	1,186,881	1,078,796	1,701,684	1,579,338
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Closure	1,080,898	990,140	903,909	821,573	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Closure	874,086	801,740	733,230	667,390	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-354 Derived Representative Discharges at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Closure	48.49	4,138,506	4,109,906	1,652,009	1,686,736	1,706,433	1,726,267	1,722,747
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Closure	37.19	3,194,977	3,180,547	1,301,210	1,311,304	1,331,649	1,371,587	1,389,619
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Closure	27.94	2,407,184	2,398,128	975,551	978,311	995,394	1,035,966	1,065,758
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Closure	22.04	1,893,259	1,882,965	736,453	745,931	757,719	784,255	815,464
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Closure	18.86	1,609,759	1,596,354	589,449	609,554	616,589	626,450	654,176

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-355 Summer Monthly Mean Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Closure	415.45	415.71	415.85	415.94	416.03	416.06
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Closure	415.34	415.53	415.68	415.74	415.82	415.85
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Closure	415.19	415.33	415.47	415.51	415.56	415.58
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Closure	415.05	415.17	415.26	415.27	415.29	415.31
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Closure	414.94	415.05	415.08	415.08	415.08	415.10

m = metre.

Table 8D5-356 Winter Monthly Mean Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Closure	415.86	415.67	415.58	415.58	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Closure	415.60	415.52	415.44	415.38	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Closure	415.37	415.33	415.28	415.21	415.51	415.47
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Closure	415.21	415.15	415.11	415.09	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Closure	415.11	414.99	414.97	415.02	415.14	415.18

m = metre.

Table 8D5-357 Derived Representative Mean Stages at Lac de Gras Outlet – Closure Year 6

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Closure	416.25	416.25	416.24	415.49	415.43	415.44	415.45	415.46
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Closure	415.88	415.88	415.88	415.31	415.31	415.32	415.34	415.35
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Closure	415.58	415.58	415.58	415.16	415.17	415.18	415.20	415.21
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Closure	415.39	415.39	415.38	415.05	415.04	415.04	415.06	415.07
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Closure	415.29	415.28	415.28	414.99	414.92	414.93	414.94	414.96

m = metre.

8D5.6 Post-Closure Assessment

Post-closure was included in the Application Case to determine the long-term effects of decommissioned Project infrastructure on surface hydrology. In post-closure, roads and buildings will have been decommissioned and areas returned to as close to their natural state as practical. The Sub-Basin B Diversion Channel will have been decommissioned and natural streams B0 and Ac35 will have been restored.

8D5.6.1 Post-Closure Data

The WRSA of sub-basin C will drain to directly to Lac du Sauvage and have pre-disturbance runoff coefficients. Decommissioned roads and buildings are modelled to have pre-disturbance runoff coefficients.

8D5.6.2 Post-Closure Method

To model post-closure, the following changes were made:

- All Project roads and buildings were decommissioned and areas returned to natural state;
- The Sub-Basin B Diversion Channel was decommissioned and natural streams B0 and Ac35 were restored.
- Waste rock piles in sub-basin B and sub-basin C were returned to pre-development snowmelt and runoff coefficients; and,
- The WRSA in sub-basin C was modelled to drain directly to Lac du Sauvage.

8D5.6.3 Post-Closure Results

8D5.6.3.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as the baseline conditions as reported in Section 8D4.3.1.

8D5.6.3.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as the baseline conditions as reported in Section 8D4.3.2.

8D5.6.3.3 Lake C1 Outlet

Table 8D5-358 Derived Summer Monthly Mean Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	9,386	30,606	20,208	15,664	16,557	10,245
	50	7,899	28,009	18,867	14,191	14,528	8,752
	20	5,910	24,468	16,940	12,219	12,018	6,897
	10	4,382	21,675	15,327	10,688	10,222	5,565
	5	2,825	18,673	13,484	9,085	8,473	4,264
Median	2	700	13,927	10,273	6,653	6,053	2,454
Dry	5	-	10,239	7,434	4,836	4,412	1,222
	10	-	8,652	6,084	4,061	3,753	725
	20	-	7,491	5,034	3,490	3,282	369
	50	-	6,324	3,913	2,911	2,816	18
	100	-	5,626	3,207	2,556	2,537	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-359 Derived Representative Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	0.50	39,872	36,478	4,313	10,096	10,927
	50	0.46	36,940	33,910	3,637	9,102	10,040
	20	0.41	32,894	30,346	2,730	7,775	8,820
	10	0.37	29,658	27,480	2,031	6,752	7,842
	5	0.32	26,130	24,335	1,318	5,678	6,781
Median	2	0.25	20,422	19,200	339	4,044	5,085

Table 8D5-359 Derived Representative Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Dry	5	0.19	15,852	15,034	-	2,836	3,783
	10	0.17	13,837	13,180	-	2,337	3,249
	20	0.15	12,342	11,796	-	1,980	2,887
	50	0.13	10,818	10,376	-	1,630	2,565
	100	0.11	9,895	9,512	-	1,424	2,401

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-360 Derived Summer Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	0.34	0.51	0.39	0.32	0.33	0.31
	50	0.33	0.48	0.37	0.30	0.31	0.29
	20	0.30	0.45	0.34	0.27	0.27	0.26
	10	0.28	0.42	0.32	0.25	0.25	0.23
	5	0.25	0.39	0.30	0.23	0.22	0.21
Median	2	0.20	0.33	0.25	0.19	0.17	0.17
Dry	5	0.15	0.27	0.20	0.15	0.14	0.13
	10	0.13	0.25	0.17	0.13	0.13	0.12
	20	0.12	0.23	0.15	0.12	0.12	0.11
	50	0.10	0.22	0.13	0.10	0.11	0.09
	100	0.09	0.21	0.11	0.09	0.10	0.09

m = metre.

Table 8D5-361 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	0.31	0.31	0.31	0.31	0.30	0.30
	50	0.29	0.29	0.29	0.29	0.28	0.28
	20	0.25	0.25	0.25	0.26	0.25	0.25
	10	0.23	0.23	0.23	0.23	0.23	0.23
	5	0.20	0.20	0.20	0.21	0.20	0.20
Median	2	0.16	0.16	0.16	0.16	0.16	0.16

Table 8D5-361 Derived Winter Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Dry	5	0.13	0.13	0.13	0.13	0.13	0.13
	10	0.12	0.12	0.12	0.12	0.12	0.12
	20	0.10	0.10	0.10	0.10	0.11	0.11
	50	0.09	0.09	0.09	0.09	0.09	0.09
	100	0.09	0.09	0.09	0.09	0.09	0.09

m = metre.

Table 8D5-362 Derived Representative Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	0.65	0.61	0.58	0.21	0.21	0.24	0.28	0.29
	50	0.61	0.58	0.55	0.20	0.20	0.22	0.26	0.28
	20	0.57	0.54	0.51	0.19	0.19	0.20	0.24	0.25
	10	0.53	0.50	0.48	0.18	0.18	0.19	0.22	0.23
	5	0.48	0.46	0.44	0.16	0.16	0.17	0.20	0.21
Median	2	0.41	0.39	0.38	0.13	0.13	0.14	0.16	0.17
Dry	5	0.35	0.34	0.32	0.11	0.11	0.12	0.13	0.14
	10	0.32	0.31	0.30	0.09	0.10	0.10	0.12	0.13
	20	0.29	0.29	0.28	0.08	0.09	0.10	0.11	0.12
	50	0.27	0.26	0.25	0.07	0.08	0.09	0.10	0.11
	100	0.26	0.25	0.24	0.07	0.08	0.08	0.09	0.10

m = metre.

8D5.6.3.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations phase as reported in Section 8D5.4.3.4.

8D5.6.3.5 Lac du Sauvage Outlet

Table 8D5-363 Derived Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	469,551	2,392,066	2,906,279	2,535,158	2,675,159	1,727,042
	50	377,368	2,076,546	2,633,171	2,335,387	2,393,499	1,621,529
	20	285,403	1,677,780	2,268,473	2,060,740	2,042,440	1,471,879
	10	232,701	1,389,539	1,987,626	1,842,068	1,789,409	1,348,415
	5	190,507	1,106,446	1,693,218	1,607,900	1,541,400	1,209,437
Median	2	144,906	717,320	1,245,296	1,241,828	1,195,210	972,940
Dry	5	121,217	467,196	914,967	959,769	958,421	770,350
	10	113,126	374,358	778,414	837,198	862,712	676,289
	20	107,811	312,352	680,997	746,110	794,198	604,198
	50	102,910	255,186	585,355	652,839	726,247	528,393
	100	100,138	223,558	529,382	595,377	685,454	481,238

m^3/d = cubic metres per day.

Table 8D5-364 Derived Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	373,783	292,101	239,696	211,834	878,435	526,149
	50	359,312	281,069	230,552	200,322	835,714	506,769
	20	338,598	265,362	217,542	185,004	774,203	478,212
	10	321,328	252,204	206,653	173,254	722,574	453,604
	5	301,675	237,214	194,257	160,988	663,415	424,628
Median	2	267,652	211,205	172,775	142,446	559,867	371,668
Dry	5	237,833	188,614	154,146	128,891	467,785	321,798
	10	223,743	178,373	145,711	123,325	423,784	296,899
	20	212,825	170,963	139,611	119,371	389,452	276,932
	50	201,223	164,010	133,891	115,504	352,727	255,006
	100	193,939	160,289	130,831	113,249	329,531	240,832

m^3/d = cubic metres per day.

Table 8D5-365 Derived Representative Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	39.57	3,389,982	3,332,000	183,149	186,192	181,978	207,550	215,041
	50	35.73	3,060,232	3,010,821	173,291	176,164	174,935	195,876	204,784
	20	30.70	2,629,349	2,590,405	160,097	162,735	164,924	180,353	190,765
	10	26.92	2,305,702	2,273,986	149,911	152,359	156,554	168,456	179,678
	5	23.07	1,975,030	1,950,030	139,204	141,444	147,035	156,046	167,732
Median	2	17.44	1,491,714	1,475,004	122,845	124,749	130,565	137,311	148,758
Dry	5	13.51	1,154,058	1,141,692	110,712	112,348	116,311	123,638	133,932
	10	11.95	1,020,254	1,009,159	105,674	107,192	109,867	118,031	127,521
	20	10.87	927,243	916,838	102,071	103,501	105,211	114,052	122,819
	50	9.83	838,161	828,242	98,523	99,866	100,847	110,163	118,079
	100	9.24	787,166	777,434	96,443	97,732	98,514	107,897	115,239

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-366 Derived Summer Monthly Mean Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.69	425.54	416.41	416.35	425.62	416.28
	50	415.67	424.71	416.38	416.32	424.80	416.26
	20	415.65	423.27	416.32	416.28	423.38	416.21
	10	415.63	421.82	416.27	416.24	421.95	416.18
	5	415.61	419.91	416.21	416.19	420.05	416.13
Median	2	415.56	415.98	416.09	416.09	416.17	416.05
Dry	5	415.51	411.98	415.98	416.00	412.22	415.96
	10	415.49	409.92	415.92	415.95	410.19	415.91
	20	415.47	408.25	415.88	415.91	408.53	415.88
	50	415.45	406.40	415.85	415.87	406.71	415.84
	100	415.43	405.19	415.82	415.84	405.51	415.81

m = metre.

Table 8D5-367 Derived Winter Monthly Mean Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	415.83	415.76	415.69	415.69	416.09	415.94
	50	415.82	415.74	415.68	415.66	416.07	415.92
	20	415.79	415.72	415.66	415.62	416.03	415.89
	10	415.77	415.71	415.65	415.60	416.00	415.87
	5	415.75	415.68	415.63	415.57	415.97	415.84
Median	2	415.70	415.64	415.59	415.55	415.90	415.78
Dry	5	415.65	415.60	415.56	415.53	415.82	415.72
	10	415.62	415.58	415.54	415.52	415.79	415.70
	20	415.60	415.56	415.52	415.52	415.76	415.67
	50	415.58	415.54	415.51	415.52	415.72	415.65
	100	415.56	415.52	415.49	415.51	415.70	415.64

m = metre.

Table 8D5-368 Derived Representative Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.51	416.50	416.44	415.60	415.60	415.61	415.67	415.67
	50	416.46	416.45	416.41	415.59	415.59	415.60	415.64	415.65
	20	416.39	416.38	416.36	415.58	415.58	415.59	415.61	415.62
	10	416.33	416.33	416.32	415.57	415.57	415.58	415.59	415.60
	5	416.27	416.26	416.26	415.55	415.56	415.56	415.57	415.58
Median	2	416.16	416.16	416.16	415.52	415.53	415.53	415.54	415.55
Dry	5	416.07	416.07	416.06	415.50	415.50	415.51	415.52	415.54
	10	416.03	416.03	416.01	415.49	415.49	415.49	415.51	415.53
	20	416.00	416.00	415.97	415.47	415.48	415.48	415.51	415.52
	50	415.97	415.96	415.92	415.47	415.47	415.46	415.51	415.52
	100	415.95	415.94	415.89	415.46	415.46	415.45	415.50	415.52

m = metre.

8D5.6.3.6 Lac du Sauvage Narrows

Table 8D5-369 Derived Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		May	June	July	August	September	October
Wet	100	23.67	54.41	55.73	54.66	56.69	52.22
	50	17.87	50.54	54.28	53.20	54.32	49.83
	20	13.03	44.95	51.76	50.71	50.77	46.31
	10	10.73	40.29	49.20	48.26	47.69	43.25
	5	9.17	35.08	45.81	45.09	44.13	39.67
Median	2	7.80	26.47	38.79	38.73	37.97	33.35
Dry	5	7.23	19.45	31.59	32.41	32.72	28.05
	10	7.06	16.29	27.87	29.21	30.28	25.84
	20	6.96	13.91	24.85	26.63	28.42	24.36
	50	6.87	11.42	21.50	23.80	26.45	23.07
	100	6.82	9.87	19.30	21.95	25.21	22.42

m = metre.

Table 8D5-370 Derived Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Surface Water Top Width (m)					
		January	February	March	April	November	December
Wet	100	34.85	36.55	22.30	15.76	46.86	36.19
	50	31.72	27.33	16.33	12.23	42.15	34.20
	20	27.31	19.12	11.84	9.65	36.65	31.22
	10	23.70	14.94	9.92	8.59	32.93	28.65
	5	19.75	11.92	8.73	7.95	29.50	25.67
Median	2	13.59	9.04	7.80	7.46	25.06	20.55
Dry	5	9.41	7.75	7.46	7.29	22.26	16.20
	10	8.01	7.34	7.37	7.25	21.18	14.18
	20	7.21	7.09	7.32	7.22	20.42	12.64
	50	6.63	6.86	7.27	7.20	19.69	11.01
	100	6.38	6.74	7.25	7.19	19.26	9.99

m = metre.

Table 8D5-371 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	53.03	53.16	53.35	13.16	13.48	14.07	14.19	14.90
	50	52.65	52.75	52.88	10.78	10.95	11.27	11.41	11.99
	20	51.81	51.85	51.89	8.96	9.04	9.18	9.31	9.71
	10	50.73	50.72	50.67	8.18	8.22	8.30	8.41	8.70
	5	48.98	48.89	48.74	7.69	7.71	7.76	7.86	8.06
Median	2	44.22	44.02	43.72	7.30	7.31	7.34	7.42	7.53
Dry	5	37.80	37.56	37.24	7.15	7.16	7.19	7.26	7.33
	10	33.90	33.67	33.40	7.11	7.12	7.15	7.21	7.27
	20	30.43	30.24	30.04	7.09	7.10	7.13	7.19	7.24
	50	26.30	26.16	26.08	7.07	7.08	7.11	7.17	7.21
	100	23.43	23.33	23.35	7.06	7.07	7.10	7.15	7.20

m = metre.

Table 8D5-372 Derived Summer Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		May	June	July	August	September	October
Wet	100	0.68	1.23	1.29	1.26	1.34	1.26
	50	0.64	1.18	1.26	1.23	1.29	1.21
	20	0.59	1.10	1.20	1.18	1.21	1.14
	10	0.55	1.03	1.16	1.14	1.15	1.09
	5	0.51	0.95	1.10	1.09	1.09	1.03
Median	2	0.46	0.80	1.00	1.00	0.99	0.92
Dry	5	0.43	0.67	0.90	0.92	0.91	0.84
	10	0.43	0.61	0.85	0.88	0.88	0.80
	20	0.42	0.56	0.81	0.85	0.85	0.77
	50	0.42	0.51	0.77	0.81	0.83	0.74
	100	0.42	0.48	0.74	0.79	0.81	0.72

m = metre.

Table 8D5-373 Derived Winter Monthly Mean Maximum Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Maximum Depth (m)					
		January	February	March	April	November	December
Wet	100	0.93	0.88	0.77	0.67	1.15	1.02
	50	0.86	0.79	0.69	0.61	1.09	0.96
	20	0.77	0.69	0.61	0.55	1.00	0.88
	10	0.71	0.63	0.56	0.52	0.94	0.81
	5	0.65	0.58	0.53	0.49	0.87	0.75
Median	2	0.58	0.52	0.48	0.46	0.77	0.66
Dry	5	0.53	0.49	0.46	0.44	0.70	0.60
	10	0.52	0.48	0.45	0.43	0.67	0.58
	20	0.51	0.47	0.45	0.43	0.64	0.56
	50	0.50	0.47	0.44	0.43	0.62	0.55
	100	0.50	0.46	0.44	0.42	0.61	0.54

m = metre.

Table 8D5-374 Derived Representative Maximum Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	1.37	1.36	1.36	0.58	0.59	0.61	0.62	0.59
	50	1.32	1.32	1.32	0.55	0.55	0.57	0.58	0.57
	20	1.26	1.26	1.26	0.51	0.51	0.52	0.53	0.54
	10	1.21	1.21	1.21	0.48	0.49	0.49	0.50	0.51
	5	1.16	1.15	1.15	0.46	0.47	0.47	0.48	0.49
Median	2	1.06	1.06	1.05	0.44	0.44	0.44	0.45	0.46
Dry	5	0.98	0.98	0.97	0.42	0.42	0.43	0.43	0.45
	10	0.94	0.94	0.94	0.42	0.42	0.42	0.43	0.44
	20	0.91	0.91	0.91	0.41	0.41	0.42	0.42	0.44
	50	0.88	0.88	0.88	0.41	0.41	0.41	0.42	0.43
	100	0.87	0.86	0.86	0.41	0.41	0.41	0.42	0.43

m = metre; Max. = maximum.

Table 8D5-375 Derived Summer Monthly Mean Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Depth (m)					
		May	June	July	August	September	October
Wet	100	0.33	0.43	0.51	0.49	0.56	0.50
	50	0.33	0.42	0.49	0.47	0.52	0.48
	20	0.32	0.40	0.46	0.45	0.47	0.45
	10	0.32	0.39	0.44	0.43	0.43	0.42
	5	0.31	0.37	0.42	0.41	0.41	0.40
Median	2	0.30	0.33	0.38	0.38	0.37	0.36
Dry	5	0.29	0.30	0.35	0.35	0.35	0.33
	10	0.28	0.28	0.34	0.35	0.35	0.31
	20	0.27	0.27	0.33	0.34	0.34	0.30
	50	0.26	0.26	0.32	0.33	0.34	0.29
	100	0.26	0.25	0.31	0.33	0.33	0.29

m = metre.

Table 8D5-376 Derived Winter Monthly Mean Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Monthly Mean Depth (m)					
		January	February	March	April	November	December
Wet	100	0.41	0.35	0.35	0.34	0.45	0.44
	50	0.39	0.35	0.35	0.34	0.43	0.40
	20	0.37	0.35	0.34	0.33	0.40	0.34
	10	0.34	0.35	0.34	0.33	0.37	0.31
	5	0.32	0.34	0.34	0.32	0.35	0.28
Median	2	0.28	0.32	0.32	0.31	0.30	0.25
Dry	5	0.24	0.29	0.30	0.29	0.26	0.23
	10	0.23	0.26	0.29	0.28	0.24	0.23
	20	0.21	0.23	0.28	0.28	0.23	0.22
	50	0.20	0.19	0.26	0.26	0.21	0.22
	100	0.19	0.16	0.25	0.26	0.21	0.21

m = metre.

Table 8D5-377 Derived Representative Mean Channel Depth at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
	50	0.55	0.54	0.54	0.25	0.26	0.25	0.25	0.28
	20	0.50	0.50	0.49	0.24	0.25	0.24	0.25	0.27
	10	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
	5	0.44	0.44	0.43	0.23	0.23	0.23	0.25	0.27
Median	2	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
Dry	5	0.37	0.37	0.37	0.22	0.22	0.23	0.24	0.26
	10	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
	20	0.36	0.36	0.35	0.22	0.22	0.22	0.23	0.25
	50	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
	100	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.6.3.7 Lac de Gras Outlet

Table 8D5-378 Derived Summer Monthly Mean Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	1,915,613	2,862,311	3,398,708	3,713,677	4,050,694	3,263,713
	50	1,793,541	2,726,694	3,223,594	3,495,723	3,781,180	3,119,812
	20	1,622,289	2,528,250	2,975,104	3,192,283	3,414,353	2,903,578
	10	1,483,128	2,358,598	2,769,972	2,947,186	3,125,626	2,711,631
	5	1,331,368	2,160,460	2,538,924	2,677,272	2,816,055	2,480,596
Median	2	1,088,508	1,803,021	2,145,375	2,233,576	2,328,124	2,050,695
Dry	5	896,762	1,472,188	1,807,816	1,870,604	1,950,799	1,658,343
	10	812,194	1,309,174	1,650,937	1,707,969	1,788,947	1,480,408
	20	748,863	1,179,526	1,530,625	1,586,037	1,670,825	1,352,940
	50	683,588	1,038,274	1,404,041	1,460,502	1,552,309	1,233,762
	100	643,159	947,601	1,325,257	1,383,862	1,481,591	1,169,287

m^3/d = cubic metres per day.

Table 8D5-379 Derived Winter Monthly Mean Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,407,868	2,211,384	2,027,745	1,851,057	2,852,045	2,621,544
	50	2,264,155	2,078,321	1,904,199	1,736,992	2,683,461	2,471,393
	20	2,064,635	1,893,845	1,733,277	1,579,478	2,448,769	2,261,048
	10	1,903,990	1,745,552	1,596,210	1,453,431	2,259,215	2,089,936
	5	1,727,664	1,583,053	1,446,384	1,315,952	2,050,482	1,900,111
Median	2	1,439,316	1,318,008	1,202,966	1,093,363	1,707,395	1,584,440
Dry	5	1,205,061	1,103,435	1,006,928	914,924	1,426,769	1,322,186
	10	1,100,663	1,008,066	920,148	836,216	1,301,045	1,203,270
	20	1,022,652	936,921	855,573	777,777	1,206,792	1,113,454
	50	942,591	864,024	789,565	718,167	1,109,762	1,020,330
	100	893,852	819,707	749,523	682,073	1,050,526	963,117

m^3/d = cubic metres per day.

Table 8D5-380 Derived Representative Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	48.58	4,147,330	4,118,877	1,664,941	1,700,016	1,723,217	1,742,287	1,740,197
	50	45.24	3,869,919	3,846,332	1,565,151	1,591,568	1,614,442	1,641,683	1,646,406
	20	40.76	3,495,857	3,477,930	1,426,321	1,442,731	1,464,839	1,500,973	1,514,196
	10	37.30	3,204,572	3,190,248	1,314,275	1,324,463	1,345,671	1,386,716	1,405,878
	5	33.65	2,895,691	2,884,304	1,190,990	1,196,405	1,216,313	1,260,201	1,284,827
Median	2	28.06	2,417,215	2,408,221	988,598	991,426	1,008,433	1,050,434	1,081,174
Dry	5	23.89	2,055,711	2,046,327	823,323	829,601	843,446	876,850	909,347
	10	22.16	1,903,426	1,893,153	749,371	759,064	771,234	798,380	830,498
	20	20.92	1,793,518	1,782,281	693,975	707,073	717,874	739,224	770,502
	50	19.69	1,684,412	1,671,909	636,988	654,412	663,694	678,000	707,854
	100	18.97	1,619,924	1,606,511	602,222	622,724	631,022	640,447	669,122

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-381 Derived Summer Monthly Mean Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.53	415.68	415.85	415.94	416.19	416.21
	50	415.48	415.64	415.81	415.89	416.08	416.11
	20	415.40	415.58	415.74	415.82	415.94	415.97
	10	415.35	415.53	415.68	415.75	415.83	415.86
	5	415.28	415.47	415.61	415.67	415.71	415.74
Median	2	415.19	415.35	415.47	415.51	415.53	415.55
Dry	5	415.11	415.23	415.33	415.35	415.39	415.41
	10	415.07	415.17	415.26	415.27	415.33	415.35
	20	415.05	415.12	415.20	415.21	415.29	415.30
	50	415.03	415.06	415.13	415.13	415.24	415.26
	100	415.01	415.02	415.09	415.08	415.22	415.23

m = metre.

Table 8D5-382 Derived Winter Monthly Mean Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	415.87	415.68	415.67	415.51	415.99	415.88
	50	415.80	415.64	415.61	415.47	415.94	415.84
	20	415.69	415.58	415.53	415.43	415.86	415.76
	10	415.61	415.53	415.46	415.38	415.79	415.70
	5	415.52	415.46	415.38	415.33	415.70	415.62
Median	2	415.38	415.34	415.27	415.23	415.54	415.47
Dry	5	415.27	415.22	415.17	415.13	415.37	415.32
	10	415.22	415.15	415.13	415.08	415.29	415.25
	20	415.18	415.10	415.10	415.03	415.22	415.18
	50	415.14	415.04	415.07	414.98	415.14	415.11
	100	415.12	415.00	415.05	414.95	415.09	415.06

m = metre.

Table 8D5-383 Derived Representative Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	416.25	416.25	416.25	415.43	415.51	415.52	415.52	415.53
	50	416.14	416.14	416.14	415.40	415.45	415.47	415.47	415.48
	20	416.00	416.00	415.99	415.35	415.38	415.39	415.40	415.41
	10	415.89	415.88	415.88	415.32	415.32	415.33	415.35	415.36
	5	415.77	415.77	415.76	415.27	415.26	415.27	415.29	415.30
Median	2	415.59	415.58	415.58	415.18	415.16	415.17	415.19	415.20
Dry	5	415.45	415.45	415.45	415.09	415.09	415.10	415.11	415.12
	10	415.40	415.39	415.39	415.04	415.06	415.06	415.07	415.09
	20	415.36	415.35	415.35	415.00	415.03	415.04	415.05	415.06
	50	415.32	415.31	415.31	414.96	415.01	415.02	415.02	415.03
	100	415.29	415.29	415.29	414.93	415.00	415.00	415.00	415.02

m = metre.

8D5.6.3.8 Desteffany Lake Outlet

Table 8D5-384 Derived Summer Monthly Mean Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		May	June	July	August	September	October
Wet	100	3,968,969	10,822,588	8,169,593	6,945,983	7,758,417	5,096,390
	50	3,212,078	10,115,837	7,740,631	6,488,009	7,006,295	4,847,193
	20	2,431,524	9,103,073	7,119,311	5,855,706	6,054,680	4,472,922
	10	1,968,543	8,257,634	6,594,274	5,349,822	5,358,226	4,140,894
	5	1,586,489	7,294,307	5,988,412	4,798,181	4,666,269	3,741,538
Median	2	1,157,598	5,623,170	4,916,124	3,905,329	3,683,514	2,999,436
Dry	5	925,389	4,154,539	3,948,415	3,189,900	2,998,907	2,323,677
	10	844,032	3,459,112	3,480,739	2,874,445	2,719,087	2,017,902
	20	789,894	2,919,555	3,113,251	2,640,272	2,517,624	1,799,227
	50	739,432	2,345,510	2,717,484	2,401,460	2,316,835	1,595,163
	100	710,632	1,984,690	2,466,024	2,256,887	2,195,816	1,484,975

m^3/d = cubic metres per day.

Table 8D5-385 Derived Winter Monthly Mean Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Discharge (m^3/d)					
		January	February	March	April	November	December
Wet	100	2,464,179	2,268,332	2,085,230	1,909,046	2,951,716	2,677,948
	50	2,320,066	2,135,294	1,961,912	1,795,165	2,800,823	2,526,568
	20	2,120,001	1,950,748	1,791,162	1,637,760	2,585,701	2,314,908
	10	1,958,926	1,802,303	1,654,102	1,511,666	2,407,166	2,143,104
	5	1,782,137	1,639,527	1,504,136	1,373,986	2,204,964	1,952,944
Median	2	1,493,057	1,373,753	1,260,109	1,150,685	1,857,532	1,637,844
Dry	5	1,258,236	1,158,285	1,063,173	971,263	1,556,057	1,377,311
	10	1,153,594	1,062,414	975,856	891,981	1,414,692	1,259,610
	20	1,075,406	990,847	910,815	833,050	1,305,676	1,170,915
	50	995,168	917,469	844,269	772,875	1,190,365	1,079,152
	100	946,322	872,835	803,865	736,405	1,118,259	1,022,887

m^3/d = cubic metres per day.

Table 8D5-386 Derived Representative Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	185.96	15,129,450	13,741,313	1,722,016	1,735,762	1,772,538	1,791,796	1,795,827
	50	172.93	14,126,202	12,907,923	1,614,784	1,627,783	1,662,000	1,690,743	1,700,501
	20	154.77	12,718,545	11,725,577	1,467,428	1,479,427	1,510,215	1,549,359	1,566,261
	10	140.09	11,571,375	10,749,774	1,350,166	1,361,393	1,389,533	1,434,512	1,456,407
	5	123.90	10,296,375	9,650,965	1,223,006	1,233,424	1,258,782	1,307,295	1,333,785
Median	2	97.25	8,169,850	7,780,089	1,018,984	1,028,170	1,049,291	1,096,236	1,127,879
Dry	5	75.39	6,396,233	6,176,230	857,404	865,686	883,692	921,442	954,586
	10	65.59	5,589,567	5,431,148	786,801	794,713	811,438	842,376	875,218
	20	58.22	4,979,161	4,859,884	734,682	742,332	758,149	782,748	814,900
	50	50.64	4,345,125	4,258,985	681,815	689,209	704,141	721,012	751,987
	100	46.00	3,954,978	3,885,075	649,961	657,208	671,625	683,132	713,132

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-387 Derived Summer Monthly Mean Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		May	June	July	August	September	October
Wet	100	6.49	6.92	6.82	6.76	6.85	6.82
	50	6.45	6.89	6.80	6.73	6.81	6.80
	20	6.40	6.85	6.76	6.68	6.75	6.76
	10	6.35	6.81	6.73	6.65	6.69	6.72
	5	6.30	6.76	6.69	6.60	6.64	6.68
Median	2	6.21	6.65	6.61	6.52	6.54	6.59
Dry	5	6.14	6.51	6.52	6.44	6.46	6.50
	10	6.10	6.43	6.47	6.40	6.43	6.45
	20	6.07	6.36	6.43	6.37	6.40	6.40
	50	6.04	6.28	6.38	6.33	6.37	6.35
	100	6.02	6.22	6.34	6.31	6.36	6.32

m = metre.

Table 8D5-388 Derived Winter Monthly Mean Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Monthly Mean Stage (m)					
		January	February	March	April	November	December
Wet	100	6.53	6.49	6.46	6.42	6.59	6.56
	50	6.50	6.47	6.43	6.40	6.58	6.54
	20	6.46	6.43	6.40	6.36	6.55	6.50
	10	6.43	6.40	6.36	6.33	6.52	6.47
	5	6.39	6.36	6.33	6.29	6.48	6.43
Median	2	6.32	6.29	6.26	6.22	6.41	6.36
Dry	5	6.26	6.22	6.19	6.15	6.34	6.29
	10	6.22	6.19	6.15	6.12	6.30	6.26
	20	6.19	6.16	6.13	6.09	6.27	6.23
	50	6.16	6.13	6.10	6.06	6.23	6.19
	100	6.14	6.11	6.08	6.04	6.21	6.17

m = metre.

Table 8D5-389 Derived Representative Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	50	7.08	7.05	7.01	6.35	6.36	6.36	6.37	6.37
	20	7.04	7.01	6.97	6.31	6.32	6.33	6.34	6.34
	10	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
	5	6.95	6.93	6.90	6.24	6.25	6.26	6.27	6.28
Median	2	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
Dry	5	6.75	6.74	6.73	6.11	6.11	6.12	6.13	6.15
	10	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
	20	6.65	6.65	6.63	6.04	6.05	6.05	6.07	6.08
	50	6.60	6.59	6.58	6.01	6.02	6.02	6.04	6.05
	100	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03

m = metre.

8D5.6.3.9 Derived Annual Water Yields

Table 8D5-390 Derived Annual Water Yields at Lac du Sauvage, Lac de Gras and Desteffany Lake Outlets – Post-Closure

Condition	Return Period (years)	Annual Water Yield (mm)					
		Baseline			Post-Closure		
		Lac du Sauvage	Lac de Gras	Desteffany Lake	Lac du Sauvage	Lac de Gras	Desteffany Lake
Wet	100	270	234	246	270	234	246
	50	253	221	233	252	221	233
	20	229	203	214	228	202	214
	10	210	188	200	209	188	199
	5	189	173	183	189	172	183
Median	2	155	148	156	155	147	156
Dry	5	128	128	135	128	128	135
	10	116	119	125	116	119	125
	20	108	113	117	108	112	117
	50	99	106	110	99	106	110
	100	93	102	105	93	102	105

mm = millimetre.

8D5.6.4 Post-Closure Effects Analysis Results

8D5.6.4.1 Lake B0 Outlet

The effects analysis results for the Lake B0 outlet are the same as the baseline conditions as reported in Section 8D4.3.1.

8D5.6.4.2 Lake Ac35 Outlet

The effects analysis results for the Lake Ac35 outlet are the same as the baseline conditions as reported in Section 8D4.3.2.

8D5.6.4.3 Lake C1 Outlet

Table 8D5-391 Summer Monthly Mean Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	10,645	33,984	21,865	16,946	17,923	11,118
		Post-Closure	9,386	30,606	20,208	15,664	16,557	10,245
	10	Baseline	4,973	24,138	16,594	11,543	11,070	6,009
		Post-Closure	4,382	21,675	15,327	10,688	10,222	5,565
Median	2	Baseline	797	15,602	11,138	7,243	6,598	2,644
		Post-Closure	700	13,927	10,273	6,653	6,053	2,454
Dry	10	Baseline	-	9,794	6,617	4,517	4,146	786
		Post-Closure	-	8,652	6,084	4,061	3,753	725
	100	Baseline	-	6,463	3,513	2,948	2,855	-
		Post-Closure	-	5,626	3,207	2,556	2,537	-

m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-392 Derived Representative Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	0.57	45,394	41,139	4,800	11,062	11,953
		Post-Closure	0.50	39,872	36,478	4,313	10,096	10,927
	10	Baseline	0.43	33,892	31,127	2,255	7,373	8,509
		Post-Closure	0.37	29,658	27,480	2,031	6,752	7,842
Median	2	Baseline	0.29	23,364	21,783	377	4,419	5,535
		Post-Closure	0.25	20,422	19,200	339	4,044	5,085

Table 8D5-392 Derived Representative Discharges at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Dry	10	Baseline	0.19	15,755	14,882	-	2,580	3,598
		Post-Closure	0.17	13,837	13,180	-	2,337	3,249
	100	Baseline	0.13	11,143	10,616	-	1,609	2,710
		Post-Closure	0.11	9,895	9,512	-	1,424	2,401

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day; - = zero discharge due to ice conditions.

Table 8D5-393 Summer Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.37	0.54	0.41	0.33	0.35	0.32
		Post-Closure	0.34	0.51	0.39	0.32	0.33	0.31
	10	Baseline	0.30	0.45	0.34	0.27	0.26	0.24
		Post-Closure	0.28	0.42	0.32	0.25	0.25	0.23
Median	2	Baseline	0.21	0.35	0.26	0.20	0.18	0.17
		Post-Closure	0.20	0.33	0.25	0.19	0.17	0.17
Dry	10	Baseline	0.14	0.27	0.18	0.14	0.13	0.12
		Post-Closure	0.13	0.25	0.17	0.13	0.13	0.12
	100	Baseline	0.10	0.23	0.12	0.10	0.11	0.09
		Post-Closure	0.09	0.21	0.11	0.09	0.10	0.09

m = metre.

Table 8D5-394 Winter Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.33	0.33	0.33	0.33	0.32	0.32
		Post-Closure	0.31	0.31	0.31	0.31	0.30	0.30
	10	Baseline	0.24	0.24	0.24	0.24	0.27	0.27
		Post-Closure	0.23	0.23	0.23	0.23	0.24	0.24
Median	2	Baseline	0.17	0.17	0.17	0.17	0.17	0.17
		Post-Closure	0.16	0.16	0.16	0.16	0.16	0.16

Table 8D5-394 Winter Monthly Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Dry	10	Baseline	0.12	0.12	0.12	0.12	0.14	0.14
		Post-Closure	0.12	0.12	0.12	0.12	0.12	0.12
	100	Baseline	0.09	0.09	0.09	0.09	0.11	0.11
		Post-Closure	0.09	0.09	0.09	0.09	0.10	0.10

m = metre.

Table 8D5-395 Derived Representative Mean Stages at Lake C1 Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	0.71	0.67	0.63	0.22	0.22	0.25	0.30	0.31
		Post-Closure	0.65	0.61	0.58	0.21	0.21	0.24	0.28	0.29
	10	Baseline	0.58	0.55	0.52	0.18	0.18	0.20	0.23	0.24
		Post-Closure	0.53	0.50	0.48	0.18	0.18	0.19	0.22	0.23
Median	2	Baseline	0.45	0.43	0.41	0.14	0.14	0.15	0.17	0.18
		Post-Closure	0.41	0.39	0.38	0.13	0.13	0.14	0.16	0.17
Dry	10	Baseline	0.35	0.34	0.32	0.10	0.10	0.11	0.13	0.14
		Post-Closure	0.32	0.31	0.30	0.09	0.10	0.10	0.12	0.13
	100	Baseline	0.28	0.27	0.26	0.07	0.08	0.09	0.10	0.11
		Post-Closure	0.26	0.25	0.24	0.07	0.08	0.08	0.09	0.10

m = metre.

8D5.6.4.4 Lake C17 Outlet

The effects analysis results for the Lake C17 outlet are the same as for the early operations phase as reported in Section 8D5.4.4.4.

8D5.6.4.5 Lac du Sauvage Outlet

Table 8D5-396 Summer Monthly Mean Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	473,119	2,400,912	2,906,610	2,539,087	2,694,332	1,729,010
		Post-Closure	469,551	2,392,066	2,906,279	2,535,158	2,675,159	1,727,042
	10	Baseline	234,025	1,395,601	1,988,526	1,843,223	1,793,760	1,349,657
		Post-Closure	232,701	1,389,539	1,987,626	1,842,068	1,789,409	1,348,415
Median	2	Baseline	145,337	721,081	1,246,447	1,242,189	1,196,082	973,628
		Post-Closure	144,906	717,320	1,245,296	1,241,828	1,195,210	972,940
Dry	10	Baseline	113,218	376,696	779,576	837,812	864,255	676,683
		Post-Closure	113,126	374,358	778,414	837,198	862,712	676,289
	100	Baseline	100,087	225,170	530,478	596,430	688,205	481,524
		Post-Closure	100,138	223,558	529,382	595,377	685,454	481,238

m^3/d = cubic metres per day.

Table 8D5-397 Winter Monthly Mean Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	374,032	292,517	240,114	212,393	877,199	525,856
		Post-Closure	373,783	292,101	239,696	211,834	834,716	506,590
	10	Baseline	321,568	252,505	206,941	173,567	773,517	478,179
		Post-Closure	321,328	252,204	206,653	173,254	722,121	453,676
Median	2	Baseline	267,860	211,399	172,945	142,599	559,958	371,934
		Post-Closure	267,652	211,205	172,775	142,446	559,867	371,668
Dry	10	Baseline	223,903	225,701	178,491	123,405	468,040	322,061
		Post-Closure	223,743	178,373	145,711	123,325	424,076	297,124
	100	Baseline	194,054	203,146	160,369	113,303	389,752	277,108
		Post-Closure	193,939	160,289	130,831	113,249	353,015	255,109

m^3/d = cubic metres per day.

Table 8D5-398 Derived Representative Discharges at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	39.59	3,398,172	3,345,893	183,705	186,788	182,488	208,193	215,608
		Post-Closure	39.57	3,389,982	3,332,000	183,149	186,192	181,978	207,550	215,041
	10	Baseline	26.95	2,308,498	2,277,746	150,242	152,711	156,902	168,826	180,036
		Post-Closure	26.92	2,305,702	2,273,986	149,911	152,359	156,554	168,456	179,678
Median	2	Baseline	17.46	1,492,978	1,475,733	123,015	124,928	130,764	137,502	148,959
		Post-Closure	17.44	1,491,714	1,475,004	122,845	124,749	130,565	137,311	148,758
Dry	10	Baseline	11.97	1,022,261	1,011,120	105,760	107,279	109,963	118,138	127,635
		Post-Closure	11.95	1,020,254	1,009,159	105,674	107,192	109,867	118,031	127,521
	100	Baseline	9.25	790,280	781,376	96,490	97,778	98,560	107,972	115,313
		Post-Closure	9.24	787,166	777,434	96,443	97,732	98,514	107,897	115,239

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-399 Summer Monthly Mean Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.74	425.54	416.41	416.35	425.62	416.28
		Post-Closure	415.69	425.54	416.41	416.35	425.62	416.28
	10	Baseline	415.63	421.82	416.27	416.24	421.95	416.18
		Post-Closure	415.63	421.82	416.27	416.24	421.95	416.18
Median	2	Baseline	415.55	415.98	416.09	416.09	416.17	416.05
		Post-Closure	415.56	415.98	416.09	416.09	416.17	416.05
Dry	10	Baseline	415.50	409.92	415.92	415.95	410.19	415.91
		Post-Closure	415.49	409.92	415.92	415.95	410.19	415.91
	100	Baseline	415.48	405.20	415.82	415.84	405.52	415.81
		Post-Closure	415.43	405.19	415.82	415.84	405.51	415.81

m = metre.

Table 8D5-400 Winter Monthly Mean Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.91	415.76	415.76	415.64	416.14	415.94
		Post-Closure	415.83	415.76	415.69	415.69	416.10	415.92
	10	Baseline	415.77	415.71	415.65	415.60	416.05	415.89
		Post-Closure	415.77	415.71	415.65	415.60	416.01	415.87
Median	2	Baseline	415.68	415.64	415.58	415.56	415.88	415.78
		Post-Closure	415.70	415.64	415.59	415.55	415.90	415.78
Dry	10	Baseline	415.65	415.58	415.56	415.51	415.82	415.72
		Post-Closure	415.62	415.58	415.54	415.52	415.80	415.70
	100	Baseline	415.63	415.52	415.55	415.47	415.78	415.67
		Post-Closure	415.56	415.52	415.49	415.51	415.76	415.65

m = metre.

Table 8D5-401 Derived Representative Mean Stages at Lac du Sauvage Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.51	416.45	416.44	415.64	415.65	415.61	415.63	415.64
		Post-Closure	416.51	416.50	416.44	415.60	415.60	415.61	415.67	415.67
	10	Baseline	416.33	416.32	416.32	415.57	415.57	415.58	415.59	415.60
		Post-Closure	416.33	416.33	416.32	415.57	415.57	415.58	415.59	415.60
Median	2	Baseline	416.16	416.17	416.17	415.52	415.52	415.53	415.55	415.56
		Post-Closure	416.16	416.16	416.16	415.52	415.53	415.53	415.54	415.55
Dry	10	Baseline	416.03	416.02	416.01	415.49	415.50	415.49	415.50	415.52
		Post-Closure	416.03	416.03	416.01	415.49	415.49	415.49	415.51	415.53
	100	Baseline	415.95	415.89	415.89	415.49	415.49	415.45	415.47	415.48
		Post-Closure	415.95	415.94	415.89	415.46	415.46	415.45	415.50	415.52

m = metre.

8D5.6.4.6 Lac du Sauvage Narrows

Table 8D5-402 Summer Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Surface Water Top Width (m)					
			May	June	July	August	September	October
Wet	100	Baseline	23.80	54.49	55.69	54.67	56.74	52.24
		Post-Closure	23.67	54.41	55.73	54.66	56.69	52.22
	10	Baseline	10.78	40.39	49.21	48.27	47.73	43.30
		Post-Closure	10.73	40.29	49.20	48.26	47.69	43.25
Median	2	Baseline	7.81	26.57	38.82	38.74	38.01	33.39
		Post-Closure	7.80	26.47	38.79	38.73	37.97	33.35
Dry	10	Baseline	7.06	16.36	27.90	29.22	30.31	25.84
		Post-Closure	7.06	16.29	27.87	29.21	30.28	25.84
	100	Baseline	6.82	9.91	19.30	21.98	25.24	22.38
		Post-Closure	6.82	9.87	19.30	21.95	25.21	22.42

m = metre.

Table 8D5-403 Winter Monthly Mean Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Surface Water Top Width (m)					
			January	February	March	April	November	December
Wet	100	Baseline	34.95	36.81	22.56	15.82	47.02	36.29
		Post-Closure	34.85	36.55	22.30	15.76	42.28	34.28
	10	Baseline	23.78	15.06	9.98	8.60	36.75	31.28
		Post-Closure	23.70	14.94	9.92	8.59	33.01	28.69
Median	2	Baseline	13.63	9.07	7.81	7.47	25.09	20.57
		Post-Closure	13.59	9.04	7.80	7.46	25.06	20.55
Dry	10	Baseline	8.01	7.33	7.37	7.25	22.26	16.21
		Post-Closure	8.01	7.34	7.37	7.25	21.18	14.20
	100	Baseline	6.36	6.71	7.24	7.19	20.42	12.66
		Post-Closure	6.38	6.74	7.25	7.19	19.68	11.04

m = metre.

Table 8D5-404 Derived Representative Surface Water Top Widths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Top Width (m)	7-Day Mean Peak Top Width (m)	14-Day Mean Peak Top Width (m)	7-Day Low Flow Top Width (m)	14-Day Low Flow Top Width (m)	30-Day Low Flow Top Width (m)	60-Day Low Flow Top Width (m)	90-Day Low Flow Top Width (m)
Wet	100	Baseline	53.01	53.14	53.33	13.19	13.51	14.10	14.27	15.06
		Post-Closure	53.03	53.16	53.35	13.16	13.48	14.07	14.19	14.90
	10	Baseline	50.74	50.72	50.67	8.18	8.23	8.31	8.42	8.73
		Post-Closure	50.73	50.72	50.67	8.18	8.22	8.30	8.41	8.70
Median	2	Baseline	44.24	44.05	43.74	7.30	7.31	7.35	7.42	7.54
		Post-Closure	44.22	44.02	43.72	7.30	7.31	7.34	7.42	7.53
Dry	10	Baseline	33.94	33.71	33.43	7.11	7.12	7.15	7.21	7.27
		Post-Closure	33.90	33.67	33.40	7.11	7.12	7.15	7.21	7.27
	100	Baseline	23.46	23.36	23.37	7.06	7.07	7.10	7.15	7.19
		Post-Closure	23.43	23.33	23.35	7.06	7.07	7.10	7.15	7.20

m = metre.

Table 8D5-405 Summer Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Maximum Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.68	1.23	1.29	1.26	1.34	1.26
		Post-Closure	0.68	1.23	1.29	1.26	1.34	1.26
	10	Baseline	0.55	1.03	1.16	1.14	1.15	1.09
		Post-Closure	0.55	1.03	1.16	1.14	1.15	1.09
Median	2	Baseline	0.46	0.80	1.00	1.00	0.99	0.92
		Post-Closure	0.46	0.80	1.00	1.00	0.99	0.92
Dry	10	Baseline	0.43	0.61	0.85	0.88	0.88	0.80
		Post-Closure	0.43	0.61	0.85	0.88	0.88	0.80
	100	Baseline	0.42	0.48	0.74	0.79	0.81	0.72
		Post-Closure	0.42	0.48	0.74	0.79	0.81	0.72

m = metre.

Table 8D5-406 Winter Monthly Mean Channel Maximum Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Maximum Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.93	0.88	0.77	0.67	1.15	1.02
		Post-Closure	0.93	0.88	0.77	0.67	1.09	0.96
	10	Baseline	0.71	0.63	0.56	0.52	1.01	0.88
		Post-Closure	0.71	0.63	0.56	0.52	0.94	0.82
Median	2	Baseline	0.58	0.52	0.48	0.46	0.77	0.66
		Post-Closure	0.58	0.52	0.48	0.46	0.77	0.66
Dry	10	Baseline	0.52	0.48	0.45	0.43	0.70	0.60
		Post-Closure	0.52	0.48	0.45	0.43	0.67	0.58
	100	Baseline	0.50	0.46	0.44	0.42	0.64	0.56
		Post-Closure	0.50	0.46	0.44	0.42	0.62	0.55

m = metre.

Table 8D5-407 Derived Representative Channel Maximum Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Max. Depth (m)	7-Day Mean Peak Max. Depth (m)	14-Day Mean Peak Max. Depth (m)	7-Day Low Flow Max. Depth (m)	14-Day Low Flow Max. Depth (m)	30-Day Low Flow Max. Depth (m)	60-Day Low Flow Max. Depth (m)	90-Day Low Flow Max. Depth (m)
Wet	100	Baseline	1.34	1.34	1.33	0.58	0.59	0.61	0.62	0.59
		Post-Closure	1.37	1.36	1.36	0.58	0.59	0.61	0.62	0.59
	10	Baseline	1.23	1.22	1.22	0.48	0.49	0.49	0.51	0.51
		Post-Closure	1.21	1.21	1.21	0.48	0.49	0.49	0.50	0.51
Median	2	Baseline	1.07	1.06	1.06	0.44	0.44	0.44	0.45	0.47
		Post-Closure	1.06	1.06	1.05	0.44	0.44	0.44	0.45	0.46
Dry	10	Baseline	0.89	0.88	0.89	0.42	0.42	0.42	0.43	0.44
		Post-Closure	0.94	0.94	0.94	0.42	0.42	0.42	0.43	0.44
	100	Baseline	0.73	0.72	0.73	0.41	0.41	0.41	0.42	0.43
		Post-Closure	0.87	0.86	0.86	0.41	0.41	0.41	0.42	0.43

m = metre; Max. = maximum.

Table 8D5-408 Summer Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Depths (m)					
			May	June	July	August	September	October
Wet	100	Baseline	0.33	0.43	0.51	0.49	0.57	0.50
		Post-Closure	0.33	0.43	0.51	0.49	0.56	0.50
	10	Baseline	0.32	0.39	0.44	0.43	0.44	0.42
		Post-Closure	0.32	0.39	0.44	0.43	0.43	0.42
Median	2	Baseline	0.30	0.33	0.38	0.38	0.37	0.36
		Post-Closure	0.30	0.33	0.38	0.38	0.37	0.36
Dry	10	Baseline	0.28	0.28	0.34	0.35	0.35	0.31
		Post-Closure	0.28	0.28	0.34	0.35	0.35	0.31
	100	Baseline	0.26	0.25	0.31	0.33	0.33	0.29
		Post-Closure	0.26	0.25	0.31	0.33	0.33	0.29

m = metre.

Table 8D5-409 Winter Monthly Mean Channel Mean Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Depths (m)					
			January	February	March	April	November	December
Wet	100	Baseline	0.41	0.35	0.35	0.34	0.45	0.45
		Post-Closure	0.41	0.35	0.35	0.34	0.45	0.44
	10	Baseline	0.34	0.35	0.34	0.33	0.37	0.31
		Post-Closure	0.34	0.35	0.34	0.33	0.37	0.31
Median	2	Baseline	0.28	0.32	0.32	0.31	0.30	0.25
		Post-Closure	0.28	0.32	0.32	0.31	0.30	0.25
Dry	10	Baseline	0.23	0.26	0.29	0.28	0.24	0.23
		Post-Closure	0.23	0.26	0.29	0.28	0.24	0.23
	100	Baseline	0.19	0.16	0.25	0.26	0.21	0.21
		Post-Closure	0.19	0.16	0.25	0.26	0.21	0.21

m = metre.

Table 8D5-410 Derived Representative Channel Mean Depths at Lac du Sauvage Narrows – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Mean Depth (m)	7-Day Mean Peak Mean Depth (m)	14-Day Mean Peak Mean Depth (m)	7-Day Low Flow Mean Depth (m)	14-Day Low Flow Mean Depth (m)	30-Day Low Flow Mean Depth (m)	60-Day Low Flow Mean Depth (m)	90-Day Low Flow Mean Depth (m)
Wet	100	Baseline	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
		Post-Closure	0.58	0.58	0.57	0.26	0.27	0.26	0.25	0.28
	10	Baseline	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
		Post-Closure	0.47	0.47	0.46	0.24	0.24	0.24	0.25	0.27
Median	2	Baseline	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
		Post-Closure	0.40	0.40	0.39	0.23	0.23	0.23	0.24	0.26
Dry	10	Baseline	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
		Post-Closure	0.36	0.36	0.36	0.22	0.22	0.23	0.24	0.25
	100	Baseline	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25
		Post-Closure	0.35	0.35	0.35	0.22	0.22	0.22	0.23	0.25

m = metre.

8D5.6.4.7 Lac de Gras Outlet

Table 8D5-411 Summer Monthly Mean Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	1,921,227	2,875,810	3,403,790	3,717,485	4,057,399	3,271,158
		Post-Closure	1,915,613	2,862,311	3,398,708	3,713,677	4,050,694	3,263,713
	10	Baseline	1,485,668	2,364,319	2,773,734	2,951,805	3,132,020	2,718,382
		Post-Closure	1,483,128	2,358,598	2,769,972	2,947,186	3,125,626	2,711,631
Median	2	Baseline	1,089,285	1,803,570	2,146,698	2,236,633	2,332,944	2,055,712
		Post-Closure	1,088,508	1,803,021	2,145,375	2,233,576	2,328,124	2,050,695
Dry	10	Baseline	812,269	1,308,455	1,649,336	1,707,968	1,791,715	1,482,670
		Post-Closure	812,194	1,309,174	1,650,937	1,707,969	1,788,947	1,480,408
	100	Baseline	643,002	948,161	1,321,132	1,380,895	1,482,673	1,169,086
		Post-Closure	643,159	947,601	1,325,257	1,383,862	1,481,591	1,169,287

m^3/d = cubic metres per day.

Table 8D5-412 Winter Monthly Mean Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,412,422	2,215,767	2,031,934	1,854,988	2,857,406	2,627,063
		Post-Closure	2,407,868	2,211,384	2,027,745	1,851,057	2,688,706	2,476,387
	10	Baseline	1,907,015	1,748,300	1,598,709	1,455,733	2,453,752	2,265,330
		Post-Closure	1,903,990	1,745,552	1,596,210	1,453,431	2,263,893	2,093,662
Median	2	Baseline	1,441,041	1,319,473	1,204,214	1,094,484	1,710,636	1,586,655
		Post-Closure	1,439,316	1,318,008	1,202,966	1,093,363	1,707,395	1,584,440
Dry	10	Baseline	1,101,532	1,008,777	920,730	836,729	1,428,895	1,323,713
		Post-Closure	1,100,663	1,008,066	920,148	836,216	1,302,568	1,204,510
	100	Baseline	894,248	820,057	749,831	682,350	1,207,815	1,114,490
		Post-Closure	893,852	819,707	749,523	682,073	1,110,222	1,021,166

m^3/d = cubic metres per day.

Table 8D5-413 Derived Representative Discharges at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	48.68	4,155,249	4,126,419	1,667,107	1,703,067	1,725,951	1,745,566	1,741,855
		Post-Closure	48.58	4,147,330	4,118,877	1,664,941	1,700,016	1,723,217	1,742,287	1,740,197
	10	Baseline	37.39	3,212,157	3,197,586	1,315,132	1,325,723	1,347,136	1,388,438	1,407,035
		Post-Closure	37.30	3,204,572	3,190,248	1,314,275	1,324,463	1,345,671	1,386,716	1,405,878
Median	2	Baseline	28.12	2,422,857	2,413,787	988,831	991,802	1,009,061	1,051,188	1,081,957
		Post-Closure	28.06	2,417,215	2,408,221	988,598	991,426	1,008,433	1,050,434	1,081,174
Dry	10	Baseline	22.20	1,906,583	1,896,375	749,629	759,370	771,504	798,829	831,089
		Post-Closure	22.16	1,903,426	1,893,153	749,371	759,064	771,234	798,380	830,498
	100	Baseline	18.99	1,621,092	1,607,825	602,767	623,283	631,205	640,946	669,647
		Post-Closure	18.97	1,619,924	1,606,511	602,222	622,724	631,022	640,447	669,122

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-414 Summer Monthly Mean Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	415.53	415.72	415.93	416.05	416.04	416.07
		Post-Closure	415.53	415.68	415.85	415.94	416.19	416.21
	10	Baseline	415.35	415.54	415.69	415.76	415.82	415.85
		Post-Closure	415.35	415.53	415.68	415.75	415.83	415.86
Median	2	Baseline	415.19	415.34	415.45	415.49	415.56	415.58
		Post-Closure	415.19	415.35	415.47	415.51	415.53	415.55
Dry	10	Baseline	415.07	415.17	415.27	415.30	415.30	415.32
		Post-Closure	415.07	415.17	415.26	415.27	415.33	415.35
	100	Baseline	415.01	415.06	415.16	415.18	415.08	415.10
		Post-Closure	415.01	415.02	415.09	415.08	415.22	415.23

m = metre.

Table 8D5-415 Winter Monthly Mean Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	415.77	415.68	415.59	415.59	415.99	415.99
		Post-Closure	415.87	415.68	415.67	415.51	415.94	415.91
	10	Baseline	415.61	415.53	415.45	415.39	415.86	415.80
		Post-Closure	415.61	415.53	415.46	415.38	415.79	415.71
Median	2	Baseline	415.40	415.34	415.28	415.21	415.54	415.45
		Post-Closure	415.38	415.34	415.27	415.23	415.54	415.47
Dry	10	Baseline	415.20	415.15	415.11	415.09	415.38	415.32
		Post-Closure	415.22	415.15	415.13	415.08	415.29	415.27
	100	Baseline	415.03	415.00	414.98	415.02	415.22	415.22
		Post-Closure	415.12	415.00	415.05	414.95	415.14	415.18

m = metre.

Table 8D5-416 Derived Representative Mean Stages at Lac de Gras Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	416.26	416.25	416.25	415.43	415.43	415.45	415.52	415.47
		Post-Closure	416.25	416.25	416.25	415.43	415.51	415.52	415.52	415.53
	10	Baseline	415.89	415.89	415.89	415.32	415.32	415.33	415.35	415.35
		Post-Closure	415.89	415.88	415.88	415.32	415.32	415.33	415.35	415.36
Median	2	Baseline	415.59	415.59	415.58	415.18	415.18	415.19	415.19	415.22
		Post-Closure	415.59	415.58	415.58	415.18	415.16	415.17	415.19	415.20
Dry	10	Baseline	415.40	415.39	415.39	415.04	415.04	415.05	415.07	415.08
		Post-Closure	415.40	415.39	415.39	415.04	415.06	415.06	415.07	415.09
	100	Baseline	415.29	415.29	415.29	414.93	414.93	414.93	415.00	414.96
		Post-Closure	415.29	415.29	415.29	414.93	415.00	415.00	415.00	415.02

m = metre.

8D5.6.4.8 Desteffany Lake Outlet

Table 8D5-417 Summer Monthly Mean Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Discharge (m^3/d)					
			May	June	July	August	September	October
Wet	100	Baseline	3,970,592	10,824,574	8,172,011	6,948,693	7,760,927	5,098,168
		Post-Closure	3,968,969	10,822,588	8,169,593	6,945,983	7,758,417	5,096,390
	10	Baseline	1,969,727	8,259,418	6,596,333	5,352,176	5,360,544	4,142,672
		Post-Closure	1,968,543	8,257,634	6,594,274	5,349,822	5,358,226	4,140,894
Median	2	Baseline	1,158,494	5,624,720	4,917,821	3,907,319	3,685,474	3,001,086
		Post-Closure	1,157,598	5,623,170	4,916,124	3,905,329	3,683,514	2,999,436
Dry	10	Baseline	844,784	3,460,444	3,482,142	2,876,141	2,720,747	2,019,262
		Post-Closure	844,032	3,459,112	3,480,739	2,874,445	2,719,087	2,017,902
	100	Baseline	711,315	1,985,858	2,467,231	2,258,389	2,197,281	1,486,042
		Post-Closure	710,632	1,984,690	2,466,024	2,256,887	2,195,816	1,484,975

m^3/d = cubic metres per day.

Table 8D5-418 Winter Monthly Mean Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Discharge (m^3/d)					
			January	February	March	April	November	December
Wet	100	Baseline	2,465,530	2,269,591	2,086,407	1,910,144	2,953,225	2,679,409
		Post-Closure	2,464,179	2,268,332	2,085,230	1,909,046	2,802,325	2,528,028
	10	Baseline	1,960,247	1,803,520	1,655,222	1,512,696	2,587,182	2,316,354
		Post-Closure	1,958,926	1,802,303	1,654,102	1,511,666	2,408,620	2,144,528
Median	2	Baseline	1,494,258	1,374,856	1,261,119	1,151,606	1,858,843	1,639,132
		Post-Closure	1,493,057	1,373,753	1,260,109	1,150,685	1,857,532	1,637,844
Dry	10	Baseline	1,154,633	1,063,375	976,737	892,785	1,557,244	1,378,480
		Post-Closure	1,153,594	1,062,414	975,856	891,981	1,415,807	1,260,712
	100	Baseline	947,220	873,675	804,642	737,117	1,306,731	1,171,960
		Post-Closure	946,322	872,835	803,865	736,405	1,191,350	1,080,133

m^3/d = cubic metres per day.

Table 8D5-419 Derived Representative Discharges at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Q (m^3/s)	7-Day Mean Peak Q (m^3/d)	14-Day Mean Peak Q (m^3/d)	7-Day Low Flow Q (m^3/d)	14-Day Low Flow Q (m^3/d)	30-Day Low Flow Q (m^3/d)	60-Day Low Flow Q (m^3/d)	90-Day Low Flow Q (m^3/d)
Wet	100	Baseline	185.98	15,131,331	13,743,182	1,723,016	1,736,772	1,773,578	1,792,777	1,796,912
		Post-Closure	185.96	15,129,450	13,741,313	1,722,016	1,735,762	1,772,538	1,791,796	1,795,827
	10	Baseline	140.11	11,573,195	10,751,558	1,351,083	1,362,319	1,390,480	1,435,493	1,457,455
		Post-Closure	140.09	11,571,375	10,749,774	1,350,166	1,361,393	1,389,533	1,434,512	1,456,407
Median	2	Baseline	97.27	8,171,513	7,781,715	1,019,794	1,028,988	1,050,126	1,097,131	1,128,817
		Post-Closure	97.25	8,169,850	7,780,089	1,018,984	1,028,170	1,049,291	1,096,236	1,127,879
Dry	10	Baseline	65.60	5,591,031	5,432,586	787,509	795,429	812,172	843,134	876,007
		Post-Closure	65.59	5,589,567	5,431,148	786,801	794,713	811,438	842,376	875,218
	100	Baseline	46.02	3,956,267	3,886,350	650,596	657,851	672,287	683,763	713,788
		Post-Closure	46.00	3,954,978	3,885,075	649,961	657,208	671,625	683,132	713,132

Q = discharge; m^3/s = cubic metres per second; m^3/d = cubic metres per day.

Table 8D5-420 Summer Monthly Mean Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Summer Monthly Mean Stages (m)					
			May	June	July	August	September	October
Wet	100	Baseline	6.49	6.92	6.82	6.76	6.85	6.82
		Post-Closure	6.49	6.92	6.82	6.76	6.85	6.82
	10	Baseline	6.35	6.81	6.73	6.65	6.69	6.72
		Post-Closure	6.35	6.81	6.73	6.65	6.69	6.72
Median	2	Baseline	6.21	6.65	6.61	6.52	6.54	6.59
		Post-Closure	6.21	6.65	6.61	6.52	6.54	6.59
Dry	10	Baseline	6.10	6.43	6.47	6.40	6.43	6.45
		Post-Closure	6.10	6.43	6.47	6.40	6.43	6.45
	100	Baseline	6.02	6.22	6.35	6.31	6.36	6.32
		Post-Closure	6.02	6.22	6.34	6.31	6.36	6.32

m = metre.

Table 8D5-421 Winter Monthly Mean Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Winter Monthly Mean Stage (m)					
			January	February	March	April	November	December
Wet	100	Baseline	6.53	6.49	6.46	6.42	6.59	6.56
		Post-Closure	6.53	6.49	6.46	6.42	6.58	6.54
	10	Baseline	6.43	6.40	6.36	6.33	6.55	6.50
		Post-Closure	6.43	6.40	6.36	6.33	6.52	6.47
Median	2	Baseline	6.32	6.29	6.26	6.22	6.41	6.36
		Post-Closure	6.32	6.29	6.26	6.22	6.41	6.36
Dry	10	Baseline	6.22	6.19	6.15	6.12	6.34	6.29
		Post-Closure	6.22	6.19	6.15	6.12	6.30	6.26
	100	Baseline	6.14	6.11	6.08	6.04	6.27	6.23
		Post-Closure	6.14	6.11	6.08	6.04	6.24	6.19

m = metre.

Table 8D5-422 Derived Representative Mean Stages at Desteffany Lake Outlet – Post-Closure

Condition	Return Period (years)	Phase	Peak Daily Stage (m)	7-Day Mean Peak Stage (m)	14-Day Mean Peak Stage (m)	7-Day Low Flow Stage (m)	14-Day Low Flow Stage (m)	30-Day Low Flow Stage (m)	60-Day Low Flow Stage (m)	90-Day Low Flow Stage (m)
Wet	100	Baseline	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
		Post-Closure	7.11	7.08	7.03	6.38	6.38	6.39	6.40	6.40
	10	Baseline	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
		Post-Closure	7.00	6.98	6.94	6.28	6.29	6.29	6.31	6.31
Median	2	Baseline	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
		Post-Closure	6.85	6.84	6.82	6.17	6.18	6.18	6.20	6.21
Dry	10	Baseline	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
		Post-Closure	6.70	6.69	6.68	6.07	6.07	6.08	6.10	6.11
	100	Baseline	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03
		Post-Closure	6.57	6.56	6.55	5.99	6.00	6.00	6.02	6.03

m = metre.

8D6 CONCLUSION

The regional water balance model described in this appendix was developed to compare the Application Case to the Base Case with respect to discharges and water levels of lake outlets in the hydrology ESA. Project phases of construction (including dewatering), operations and closure were modelled for the Application case. Post-closure was also run for the Application Case to evaluate long-term effects of the Project.

The Project will affect the hydrology of small lakes and streams in sub-basin Ac, sub-basin B, and sub-basin C due to infrastructure and the Jay WRSA. The Project effects to the hydrology of Lac du Sauvage, Lac de Gras, and Desteffany Lake are largely due to the water management and closure of the Jay and Misery pits.

Frequency analyses were run on Application Case results to quantify changes in discharge and water level relative to baseline. The effects analysis results were used to directly compare Project effects to baseline conditions. A discussion of the results effects, mitigations and uncertainties is provided in Section 8.5.3.2.

8D7 REFERENCES

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