APPENDIX 22

Pacific Booker Minerals Inc.

Morrison Copper/Gold Project

British Columbia, Canada

Morrison Copper/Gold Project
2008 Hydrology Baseline Report

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EXECUTIVE SUMMARY

Executive Summary

This report presents the hydrology study for Pacific Booker Minerals Inc (PBM).

PBM's proposed Morrison Copper/Gold Project (the Project) is 65 km northeast of Smithers and 35 km north of the village of Granisle in north-central British Columbia. The Project is on the east side of Morrison Lake on Crown land and falls within the traditional territory of the Lake Babine Nation. Access to the Project site is by road with barge access across Babine Lake, which is 50 km south of the site. The Project is approximately 35 km north of the former Bell and Granisle copper/gold mines.

The Morrison mine will be a 30,000 tpd open pit operation with ore processed in a conventional milling plant and the copper/gold concentrate transported to the Port of Stewart for shipment to offshore smelters. Molybdenum concentrate will be trucked from the mine to a refinery location to be confirmed. The mine will produce approximately 224 Mt of tailings and 170 Mt of waste rock.

The information contained in this baseline is intended to support a full environmental and socio-economic impact assessment of the Project.

The objective of this study is to describe the baseline surface water hydrology of the Project area. Results from on-site monitoring in 2007 and 2008 and an analysis of long-term regional data are presented in this report.

A total of eight hydrometric stations were established in the Project area. Each station consisted of a staff gauge, pressure transducer, and datalogger to continuously record water levels. Manual flow measurements were collected during regular site visits to develop stage-discharge curves for each station.

Hydrographs for all stations showed a distinct nival response, with a dominant spring freshet peak, receding flow throughout the summer, and secondary peak flows in response to individual rain events. Because of access constraints, some stations could not be installed prior to freshet flows in 2007; however, the entire freshet period was recorded at all stations in 2008. The monitoring stations were removed for the winter. Site visits were conducted in December, 2007, and March, 2008, to observe and measure (where possible) winter low flows.

In addition to on-site monitoring, an extensive regional assessment was undertaken incorporating historical hydrological data from 25 Water Survey of Canada stations in hydrological sub-zone 'm' to derive quantitative estimates of the following key hydrological parameters for on-site watersheds:

- return period annual runoff totals
- monthly distribution of flow
- high flows
- low flows.

ACKNOWLEDGEMENTS

Acknowledgements

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TABLE OF CONTENTS

Morrison Copper/Gold Project: 2008 Hydrology Baseline Report

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

Figure **Page**

LIST OF TABLES

Table **Page**

LIST OF PLATES

Plate **Page**

ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations

ADV	Acoustic Doppler Velocity meter
BC	British Columbia
GEV	generalized extreme value
MCS	McElhanney Consulting Services Ltd.
PBM	Pacific Booker Minerals Inc.
PRISM	(Parameter-elevation Regression on Independent Slopes Model)
the Project	Morrison Copper/Gold Project
USGS	United States Geological Survey
WSC	Water Survey of Canada

1. INTRODUCTION

1. Introduction

The Morrison Copper/Gold Project (the Project) is approximately 65 km northeast of Smithers in northern British Columbia (BC; Figure 1-1). This report presents the results from the hydrology portion of the 2007 and 2008 environmental baseline programs. The main body of the report is divided into three sections:

- description of the hydrological setting of the Project site;
- summary of the 2007 and 2008 field data collection and on-site discharge results; and
- analysis of regional hydrological datasets and derivation of hydrological parameters.

The analysis of regional hydrological datasets complements the on-site discharge results. The parameter estimates (e.g., annual and monthly runoff, extreme flows) characterize the Project area from a hydrologic perspective. They may be used for the purpose of environmental impact assessment (e.g., dilution and flood potential, aquatic habitat suitability), water management planning (e.g., water use, diversion quantities), and infrastructure design (e.g., culvert and ditch sizes).

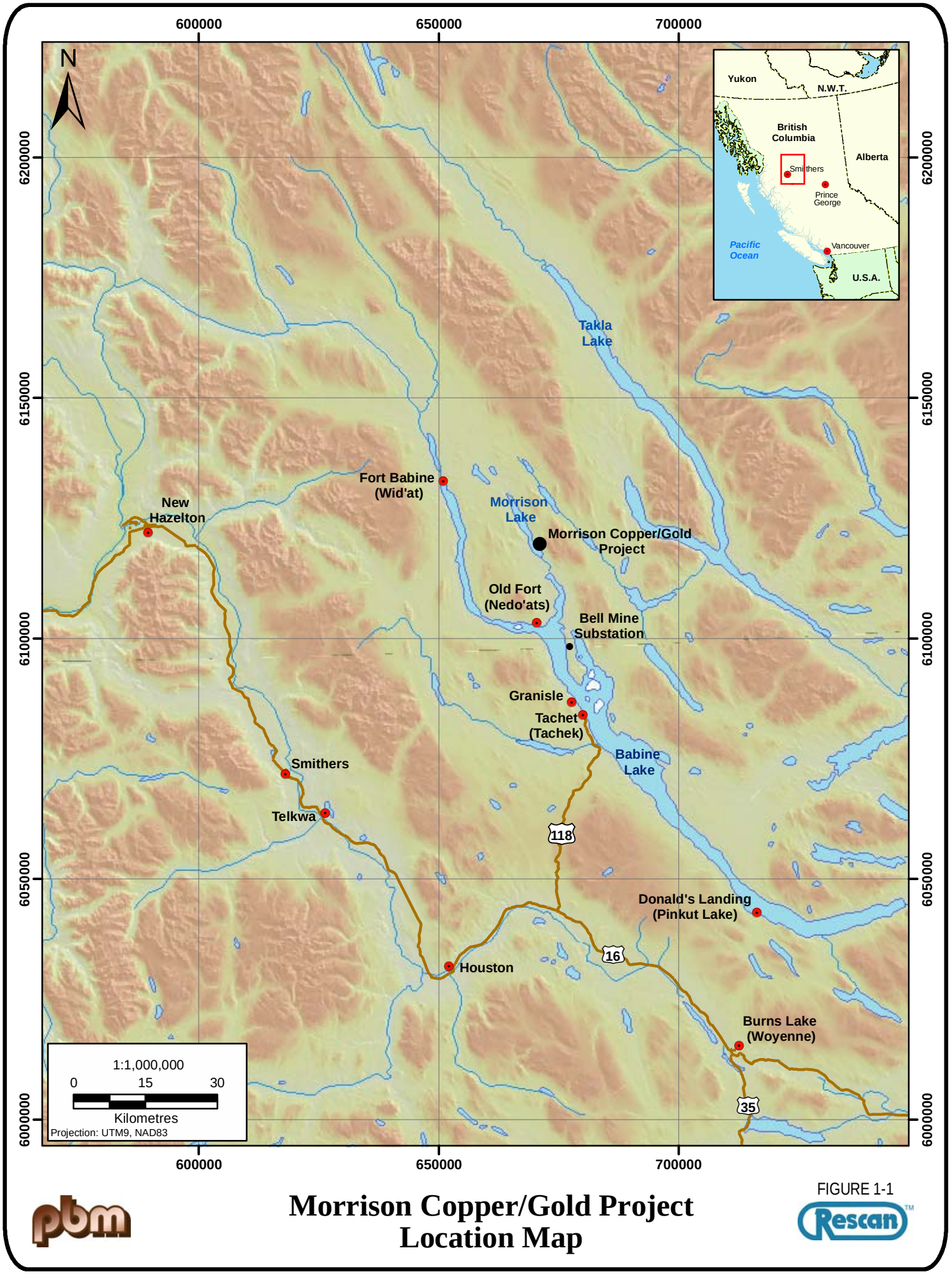


FIGURE 1-1

Morrison Copper/Gold Project Location Map

2. HYDROLOGICAL SETTING

2. Hydrological Setting

2.1 Available Hydrological Data

Long-term data sources specific to the Project area are not available; however, some historical hydrological data have been collected. McElhanney Consulting Services Ltd. (MCS) conducted hydrological monitoring from 2001 to 2006 and operated 6 hydrometric stations at the Project property. Stage-discharge curves and hydrographs are available for some of the stations (MCS 2002; Rescan 2007). The Water Survey of Canada (WSC) operated a hydrometric monitoring station on Morrison River, at the outflow of Morrison Lake, from 1965 to 1970. Despite the station's short-term record, the data allow a comparison with current flows monitored at a nearby site within the field collection program.

2.2 General Hydrology of Study Watersheds

The Project area lies on the eastern side of the Babine Range in north-central BC. The regional hydroclimate of this area is dominated by weather systems generated from the Pacific Ocean, and is also strongly influenced by orographic effects caused by the local mountainous topography. Interactions between incoming weather systems and local topography produce a high degree of spatial variability in snowfall and precipitation. Local topography also influences temperature controls and the rate and timing of snowmelt. Because of the number of competing runoff generating processes and their varying spatial and temporal influences, the hydrological regime of the region is very dynamic, and difficult to predict.

Based on stream flow data from regional and site-specific hydrometric stations, a typical hydrological year for watersheds in the study area can be divided into four main flow periods:

- Winter: characterized by snow and/or ice covered streams with low to negligible stream flow depending on the elevation of the stream and watershed area.
- Spring/freshet: characterized by high flows due to snowmelt and rain-on-snow events. This period often contains the annual peak flow.
- Late spring through summer: characterized by moderate to low flows, with flow rates decreasing into summer as the remaining snow melts. During periods between rainstorms, summer baseflows are supported by groundwater. Secondary short lasting high flow events can occur following rainfall.
- Fall: characterized by low to moderate flows, with higher flow events in response to rainfall. As precipitation turns to snowfall toward the end of fall, stream flow is reduced to winter baseflows.

A number of processes operate to convey water from the hillslopes to the stream network. Precipitation lands on the surface of the watershed as rain or snow. Snow falling in winter will accumulate on the surface of the watershed and remain (with losses to sublimation) until melted. A portion of rain falling on the surface is trapped in surface depressions and on vegetation and the

remainder lands on the ground where it either infiltrates the soil or flows over the ground surface. Surface runoff will travel downslope until it infiltrates the soil or enters a stream channel.

Water entering the subsurface may be trapped in the soil matrix, used by plants, transported downslope, or transported vertically through the soil (recharging groundwater). Depending on the water content of the soil and the presence of preferential flow paths, water transported downslope through the subsurface can travel at different velocities. Subsurface flows following fast flow paths can enter the stream channel during, or soon after, the end of a storm and can contribute to the falling limb of the stream flow hydrograph. Slower subsurface flows will contribute to stream baseflow after the end of the rain event. These hillslope processes vary throughout the watershed depending on many factors such as vegetation cover, soil depth, slope, antecedent soil moisture conditions, and proximity to a stream channel.

The presence of lakes and wetland areas within the study area will tend to regulate stream flows, with runoff generated during storm events being retained within the lakes and decreasing peak flows downstream. However, flow from the wetland areas and lakes will tend to augment stream flow during low flow periods and between rain storm events.

2.3 Study Area Watersheds

The Project is on the east side of Morrison Lake in the Babine Lake watershed. Morrison River flows south from Morrison Lake and discharges to the Morrison Arm (northeast arm) of Babine Lake. Babine Lake is drained by Babine River, a tributary of the Skeena River. The Skeena flows west towards Prince Rupert, where it discharges to the Pacific Ocean.

The Morrison Lake watershed is 490 km^2. The south-east side of the lake is dominated by a ridge, which includes Hearne Hill. East of this ridge, there is a lake/wetland/river complex that drains around Hearne Hill to Morrison Lake and Babine Lake (Figure 2.3-1). The location of the proposed mine site is at the foot of the ridge, close to Morrison Lake. The tailings management facility will be to the north of the ridge in a topographically subdued upland area dominated by lakes and wetlands. The west side of Morrison Lake has less relief, with a number of smaller lakes and wetlands that drain towards Morrison Lake and Babine Lake.

MCS started a hydrological monitoring program in 2001 that continued until 2006. In that time, eight locations were monitored for discharge and stage was recorded at six locations; stage was measured continuously from 2004 to 2006 (see MCS 2002 for more details). The main focus of the 2007 and 2008 baseline programs was to characterize the hydrology of the watersheds at the proposed Project site and to add to the available data set from MCS. Key watersheds considered within the hydrological monitoring program are shown in Figure 2.3-1 and described below.

- Morrison Creek drains water from Morrison Lake and its tributaries into Babine Lake.
- MCS-1 flows into Babine Lake. The headwaters are a lake and wetland complex (i.e., a low-gradient watershed with high water table) with no clear divide with neighbouring watershed MCS-6 (which also drains high water table upland areas).

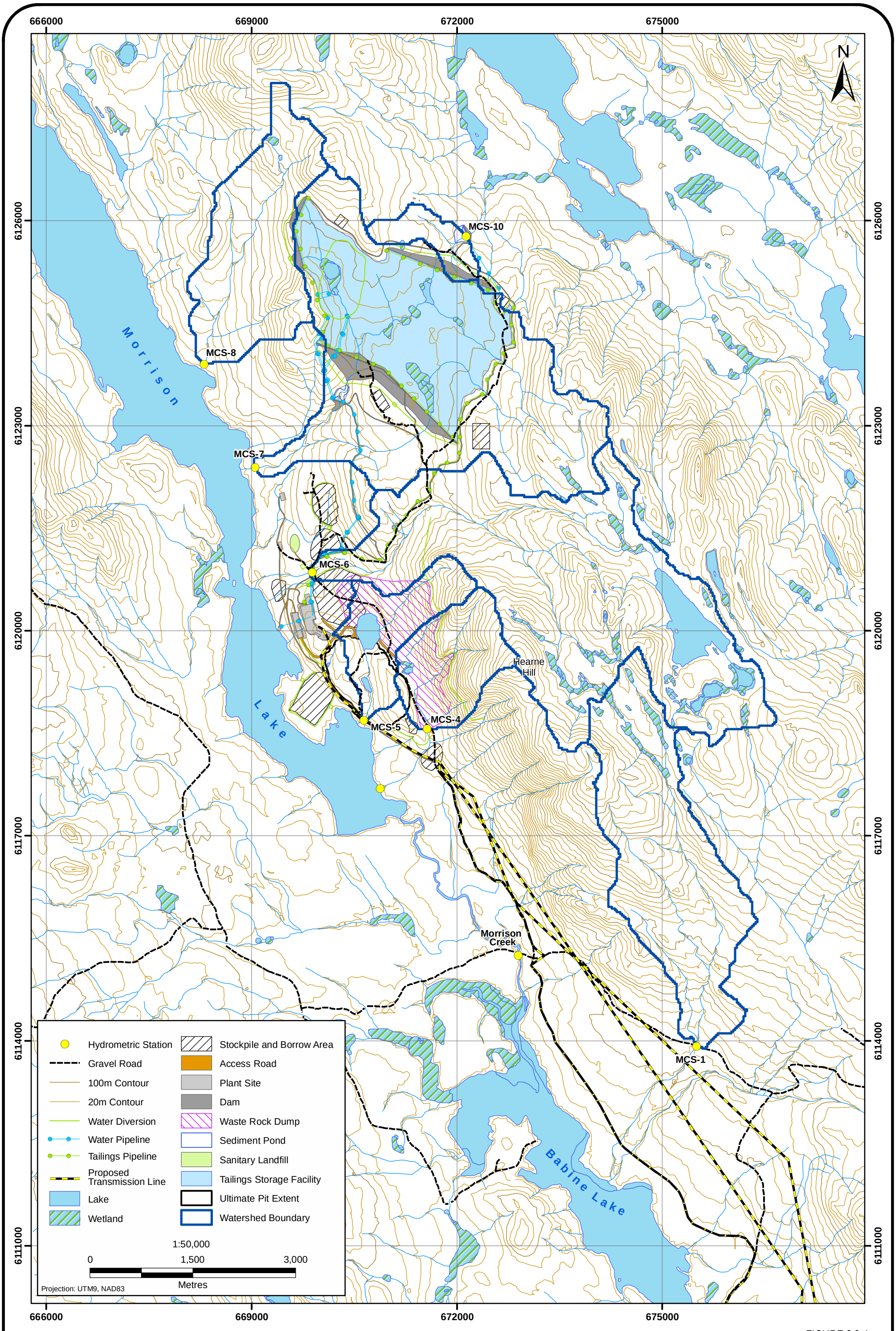


FIGURE 2.3-1

Morrison Copper / Gold Project
Hydrometric Stations and Watersheds

- MCS-4 encompasses a very small watershed area and drains the ridge to the east of Morrison Lake. It is a steep-gradient watershed with a small pond (Pond X).
- MCS-5 collects runoff from most of the Morrison deposit (see "Open Pit" area in Figure 2.3-1). Headwaters enter a small pond (Ore Pond) from the east, drain to a smaller pond, and then drain south into Morrison Lake. It is a steep-gradient watershed, and the outlet is dominated by a large waterfall and cascades between 4 and 6 m high.
- MCS-6 flows into Morrison Lake at Morrison Narrows. The headwaters are a lake and wetland complex with no clear divide with neighbouring watersheds. The watershed drains an upland area with wetland water storage.
- MCS-7 drains a low-gradient, upland watershed northwest of the Morrison deposit. The area comprises most of the tailings management facility (see Figure 2.3-1).
- MCS-8 drains a relatively low-gradient area northwest of the proposed tailings management facility into Morrison Lake. The watershed has little high-water table area.
- MCS-10 drains a very small watershed that lies east of the Babine Lake drainage divide, on the east side of the proposed tailings management facility. There is little water storage in this upland watershed.

3. FIELD DATA COLLECTION

3. Field Data Collection

Hydrometric stations were established at a number of locations within the study area to provide site specific hydrologic data for watersheds the Project could affect. The objective of the 2007 and 2008 field monitoring was to characterize streamflow within the study area and quantify discharge for different sized watersheds, focusing on water quantity and the timing of streamflow events.

3.1 Methodology

In spring of 2007, a total of seven continuous water level monitoring hydrometric stations were installed in the Project area (Table 3.1-1). The monitoring stations were established at similar locations to the original MCS stations, but new staff gauges were generally installed because either the original staff gauge location did not produce a good rating curve (e.g., MCS-5), or because the original staff gauge could not be accessed. Only the MCS-6 station used the existing staff gauge. During the 2007 open water season, the stations were visited as many as eight times, at which point flow measurements were taken. Stations were demobilized in the fall for the winter period. Winter site visits were also conducted in December, 2007, and March, 2008, at most of the stations.

Table 3.1-1
Baseline Study On-site Hydrometric Stations

Hydrometric Station	UTM (Northing, Easting)	Upstream Watershed Area (km^2)	Median Watershed Elevation (m)	Location Description
Morrison Creek	6115254, 672896	490	916	On right bank, downstream of the Hagan Road Bridge.
MCS-1	6113913, 675481	6.8	1129	On left bank (on north side of the Project access road)
MCS-4	6118497, 670653	2.3	1094	On right bank, approximately 10 m downstream of the Project access road.
MCS-5	6118694, 670638	2.2	847	On right bank, approximately 15 m downstream of the waterfall.
MCS-6	6120857, 669885	12.9	1204	On right bank, approximately 20 m upstream of the Project access road.
MCS-7	6122373, 669180	12.7	992	On left bank, approximately 15 m upstream of Morrison Lake.
MCS-8	6123895, 668306	4.6	907	On left bank, approximately 25 m upstream of Morrison Lake.
MCS-10	6125776, 672134	0.8	961	On left bank, approximately 200 m downstream of the Project TMF rear access road.

In the spring of 2008, the seven on-site stations were re-mobilized, and an additional station (MCS-1) was added to the monitoring program. This station was established at the original MCS staff gauge. During the 2008 open water season, up to four site visits were made at each station, and one or two flow measurements were taken.

Each hydrometric station consists of a staff gauge, INW Model PS9800 pressure transducer, and Terrascience Elf2 datalogger. The staff gauge is a semi-permanent installation that provides a visual indication of water depths in the stream. The combination of pressure transducer and datalogger automatically collect a water depth reading at 10-minute intervals.

Water depth readings are subsequently converted to streamflow estimates by use of a stage-discharge curve. A stage-discharge curve is an empirical relationship between water depth (stage) and discharge. Manual flow measurements are collected in the field to determine discharge. In general, a minimum of five to seven manual flow measurements over a range of water depths are desired to develop a reliable stage-discharge curve.

Manual streamflow monitoring involves measuring the velocity and depth of the water across a cross-section at regular intervals. The cross-sectional area of the stream (m^2) and the velocity of the water (m/s) are used to calculate discharge (m^3/s). Measurements were taken using a hand-held Swoffer velocity meter.

A minimum of ten velocity and depth measurements were taken along the cross-section at each site; in most cases the number of measurements taken at each cross-section exceeded ten. The accuracy of manual flow measurements is affected by flow and channel conditions at each site. In the analyses herein, measurement error is estimated to be 15%. This proportion is conservative, as errors have been reported to be as low as 5% (Sauer and Meyer 1992).

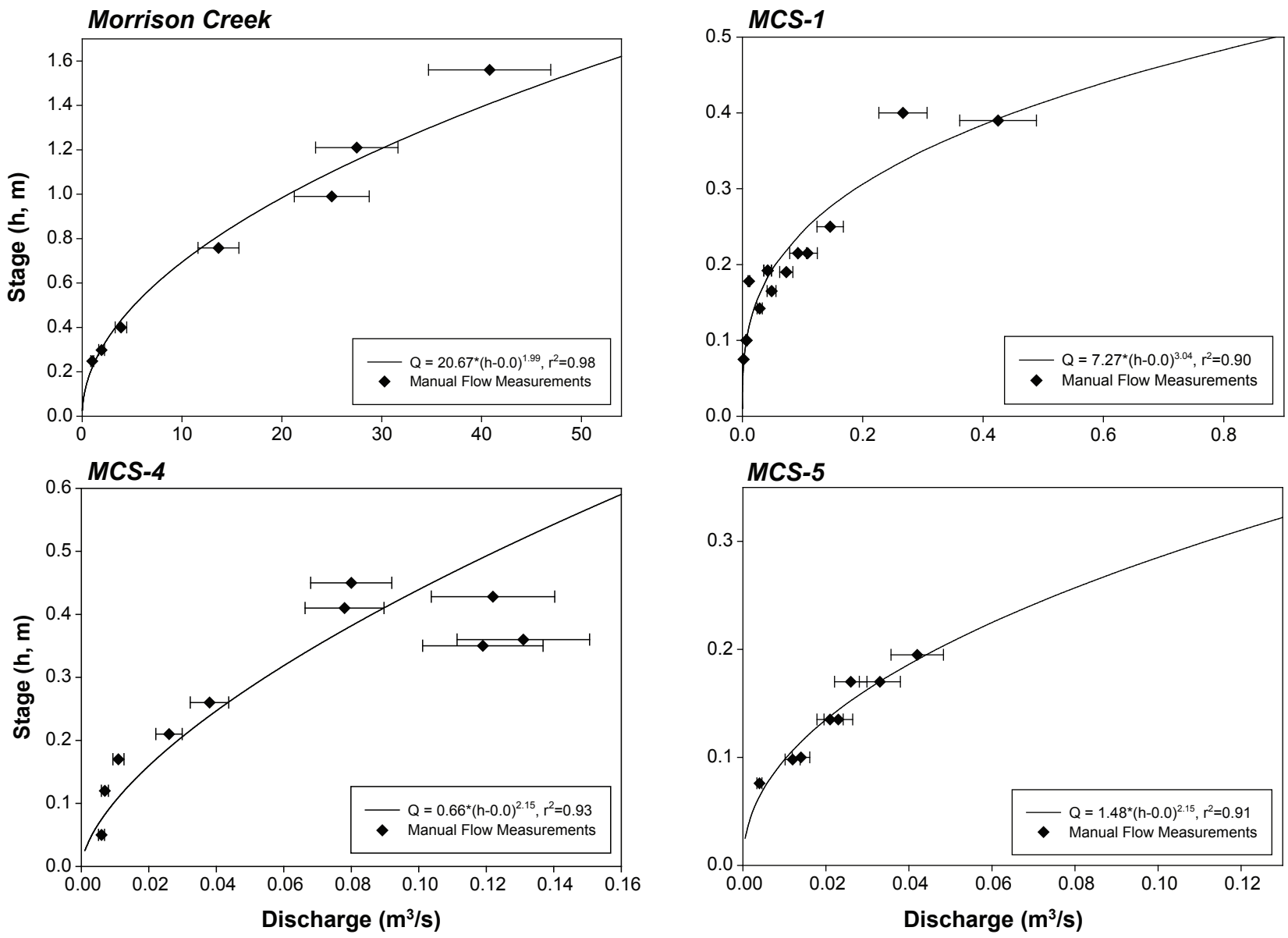
The stage-discharge curve equations were calculated using standard methods outlined by the United States Geological Survey (USGS; Rantz and others 1982). The natural logarithm of both stage and discharge is calculated, and a line is fitted through the logged data with least squares linear regression. The regression coefficients are then back transformed to produce a power function.

For most stations at the Project, the stage-discharge curve was developed using manual flow measurements taken over the 2007 and 2008 open water seasons. The relationship was then applied to both 2007 and 2008 continuous stage data obtained via pressure transducer and datalogger. This enabled the estimation of flow volumes at the outlets of the monitored watersheds.

3.2 On-Site Discharge Results

3.2.1 Stage-discharge Curves

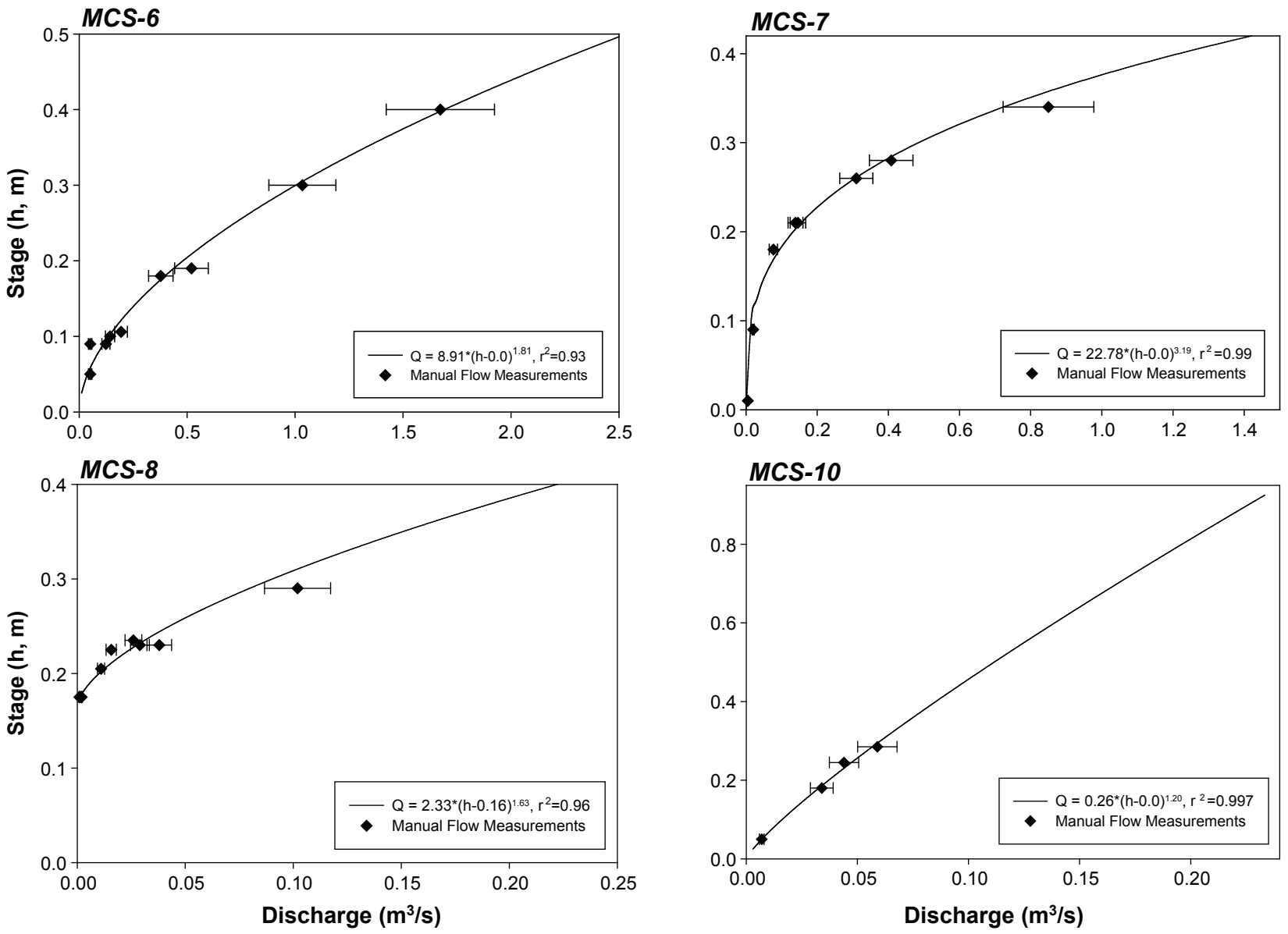
The manual flow measurements were used to develop stage-discharge curves for each station (Figures 3.2-1 and 3.2-2). A list of the individual measurement results is presented in Appendix A. In general the flow measurements collected represented a wide range of flow conditions, providing a degree of confidence in the resultant relationships. High r^2 values (> 0.90) also indicate a good fit of the equations to the available data points. At MCS-1, no manual flow measurements were taken in 2007 and only two were collected in 2008; however, flow measurements had been taken by MCS from 2001 until 2005. Therefore, a stage-discharge curve was determined by combining the older and newer flow measurements. Since the station had not been altered, the measurements were consistent, resulting in a relationship with a relatively high r^2 value (0.90).



Note: Error bars on manual flow measurements equal to +- 15% of measured flow

FIGURE 3.2-1

Morrison Copper/Gold Project: Stage Discharge Curves for Morrison Creek,MCS-1, MCS-4, and MCS-5 Hydrometric Stations



Note: Error bars on manual flow measurements equal to +- 15% of measured flow

FIGURE 3.2-2

Morrison Copper/Gold Project: Stage Discharge Curves for MCS-6, MCS-7, MCS-8 and MCS-10 Hydrometric Stations

3.2.2 Watershed Flows

The stage-discharge curves were used to convert the 2007 and 2008 recorded stream water levels (stage) to watershed discharge values. Mean daily flow hydrographs (along with manual discharge measurements) for the 2007 and 2008 seasons are illustrated in figures 3.2-3 to 3.2-7. Because of a data logger malfunction at MCS-4 and an inconsistent record at MCS-10 in 2007, hydrographs could not be produced for these stations for that year. Mean daily flow hydrographs for the 2008 season at MCS-1, MCS-4, and MCS-10 are illustrated in Figure 3.2-8. Daily flow data for each station are summarized in Appendix B. Streamflow summary statistics for the 2007 and 2008 monitoring period are presented in Table 3.2-1, and monthly observed runoff (for the monitoring periods encompassing full calendar months) is summarized in Table 3.2-2.

3.2.2.1 Daily Hydrographs

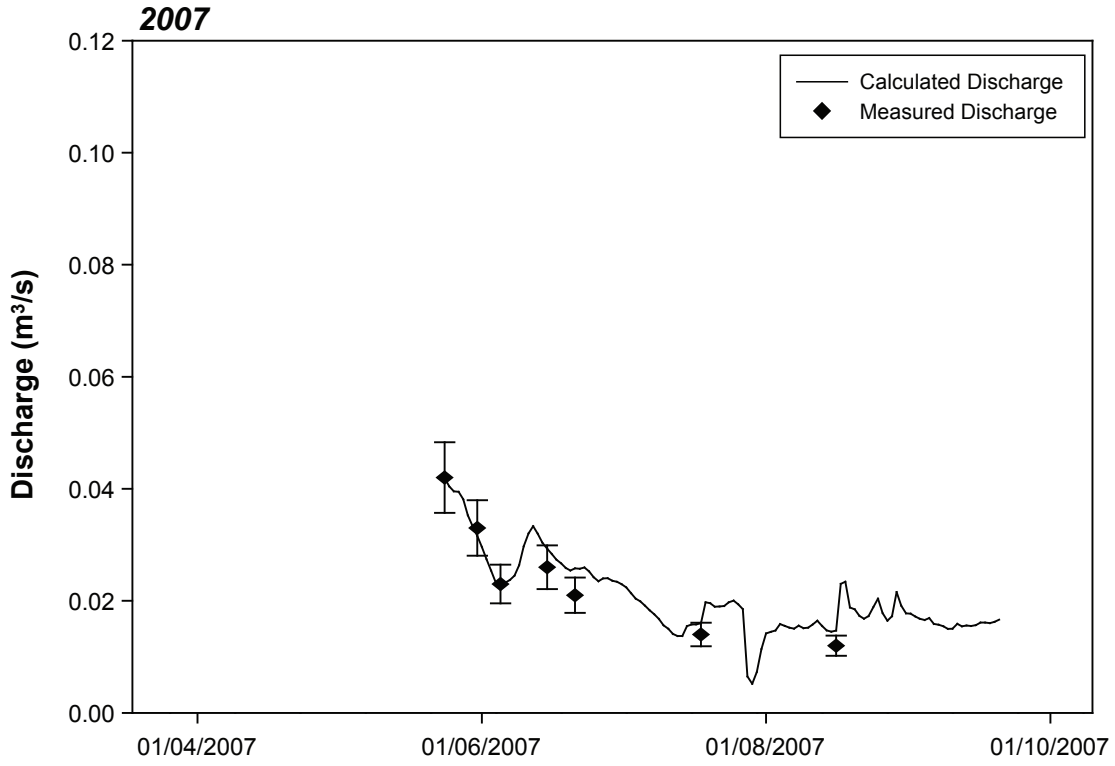
The Morrison Creek and MSC-6 stations recorded the entire freshet period in 2007. Because of limitations in site access, other stations were installed after peak flows in 2008. To ensure the entire 2008 freshet period was recorded, stations for all sites were installed early in 2008, when the sites were accessible by snowmobile.

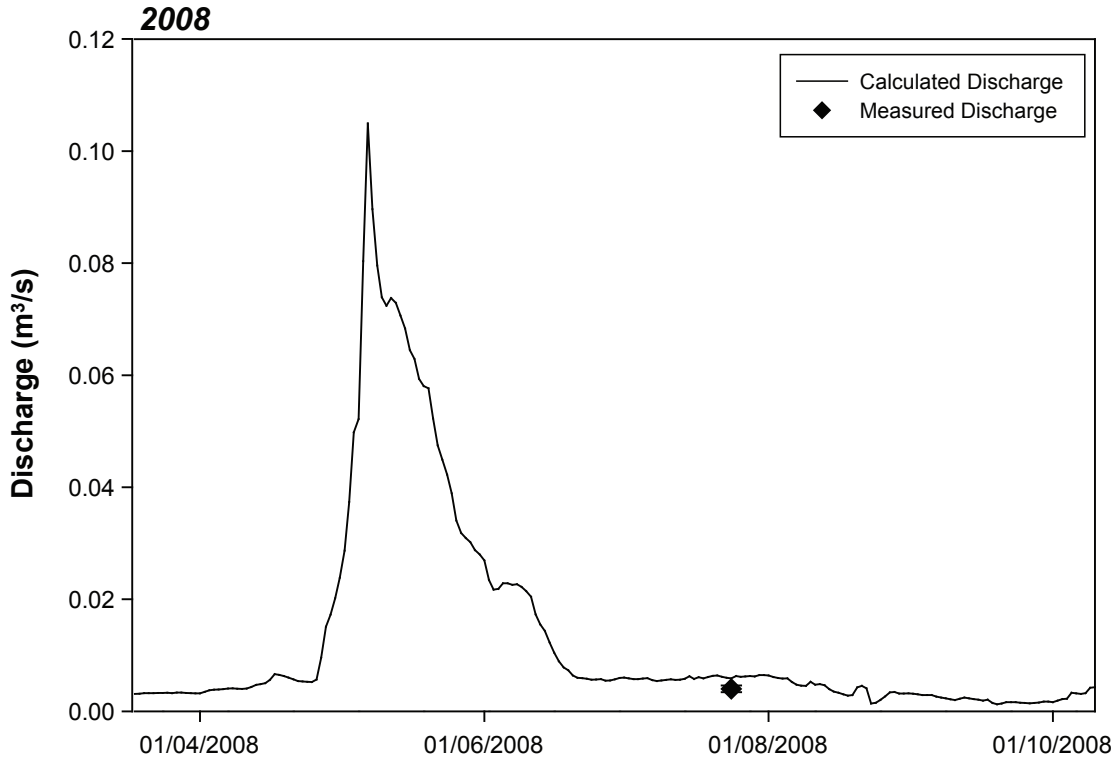
As seen in the Morrison Creek and MCS-6 hydrographs, the 2007 freshet occurred later and consisted of a higher peak than 2008. This is consistent with observations at other stations in the region: high peak flows and flooding concerns were common in 2007. As well, the 2007 hydrographs are generally flashier compared to 2008, suggesting that significant rainfall events occurred, or that temperatures during the freshet period were highly variable, causing melt rates to fluctuate.

At MCS-7, the 2008 hydrograph is the most bi-modal of all the hydrographs in any year. This indicates that in addition to the spring snowmelt, another process must have contributed to runoff in the fall season. Such contributions may have come from groundwater or rainfall runoff events.

Data recorded at MCS-8 from 26 April to 3 May, 2008, was not consistent with observations from neighbouring stations. Since the monitoring station is just upstream of a lake, it is likely that springtime lake water levels rose and “backed-up” to the level of the monitoring station; the higher water levels resulting from this would not be representative of flows at that site. Therefore, the data spanning the above-mentioned dates was disregarded in flow analyses for this site. Rather, a straight line was drawn to fill the gap between 26 April and 3 May, 2008.

In summary, given the lack of flow data in 2007, it is difficult to compare flows for many stations, but summary statistics at stations where spring freshet was fully captured (i.e., Morrison Creek and MCS-6) suggest that 2007 was a greater flow year. MCS-6 also experienced a greater peak flow in 2007. Maximum discharge values listed in Table 3.2-1 are lower for most stations in 2007 compared to 2008, and this is because of the lack of monitoring during the freshet period in 2007. This lack of data should also be considered when comparing peak flow dates. For example, it appears the peak flow period lasted longer in 2007 compared to 2008; however, many of the peak flows were recorded after the actual peak had likely occurred in 2007.

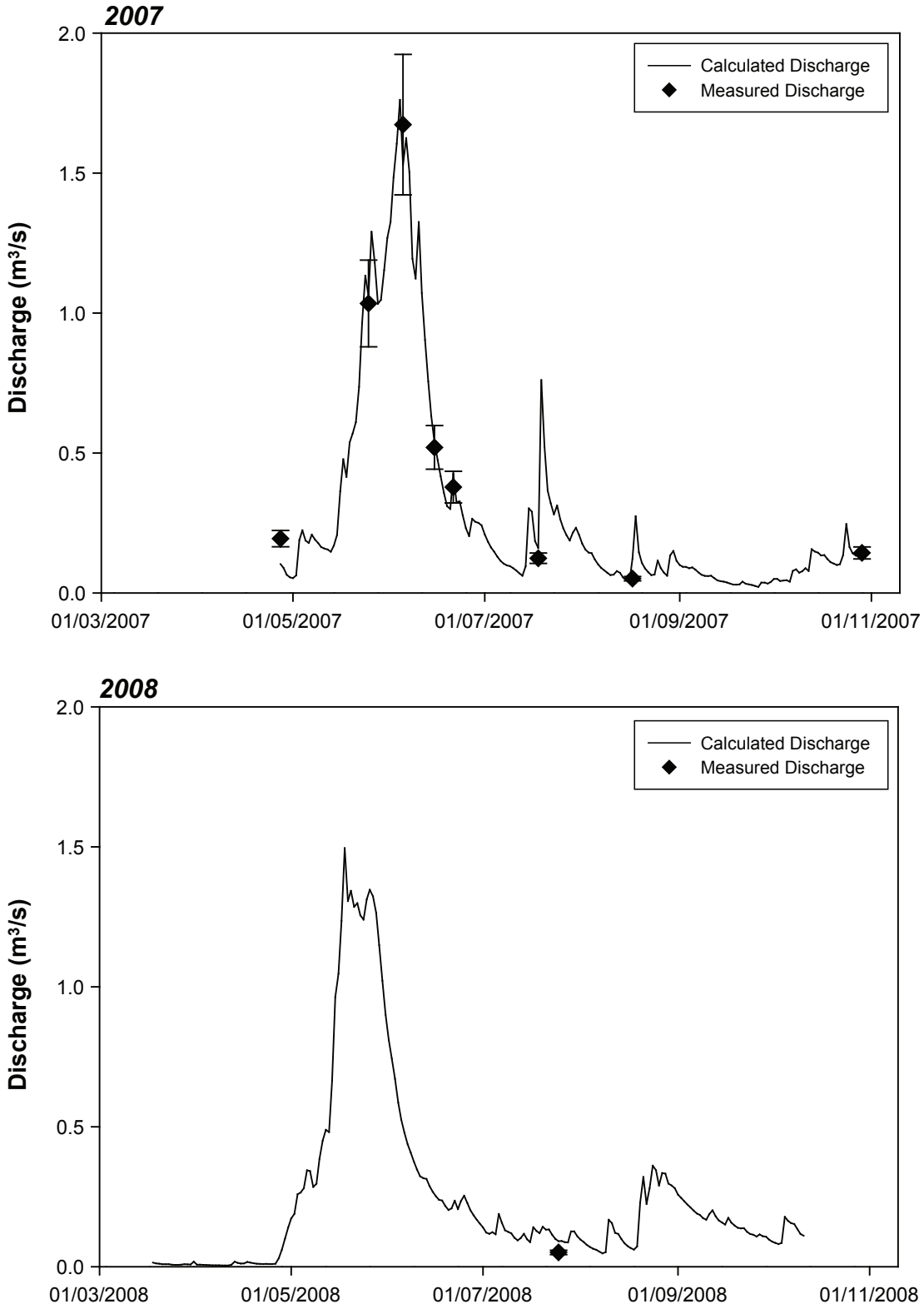




Note: Error bars on manual flow measurements equal to +- 15% of measured flow

Morrison Copper/Gold Project:
Baseline Hydrometric Monitoring Period Discharge Hydrographs for MCS-5 Station

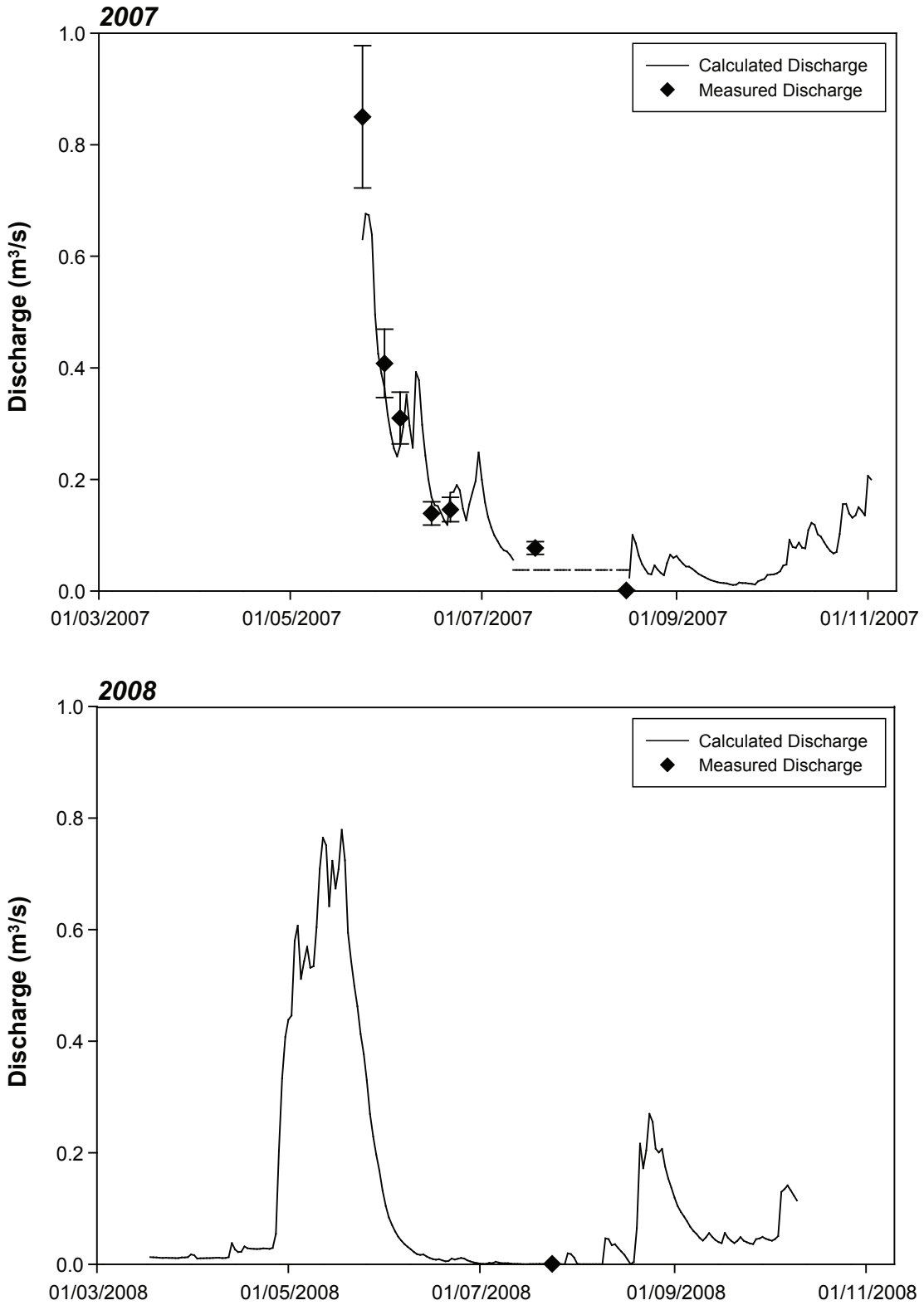
FIGURE 3.2-3



Note: Error bars on manual flow measurements equal to +- 15% of measured flow

Morrison Copper/Gold Project:
Baseline Hydrometric Monitoring Period
Discharge Hydrographs for MCS-6 Station

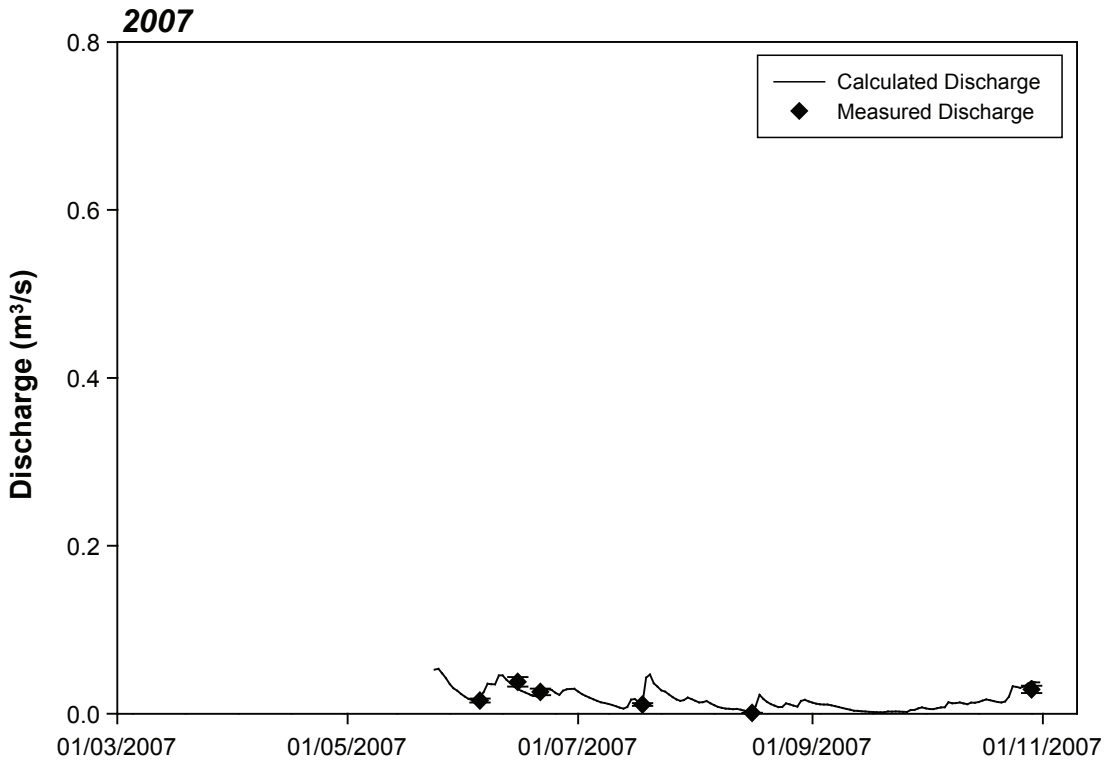
FIGURE 3.2-4

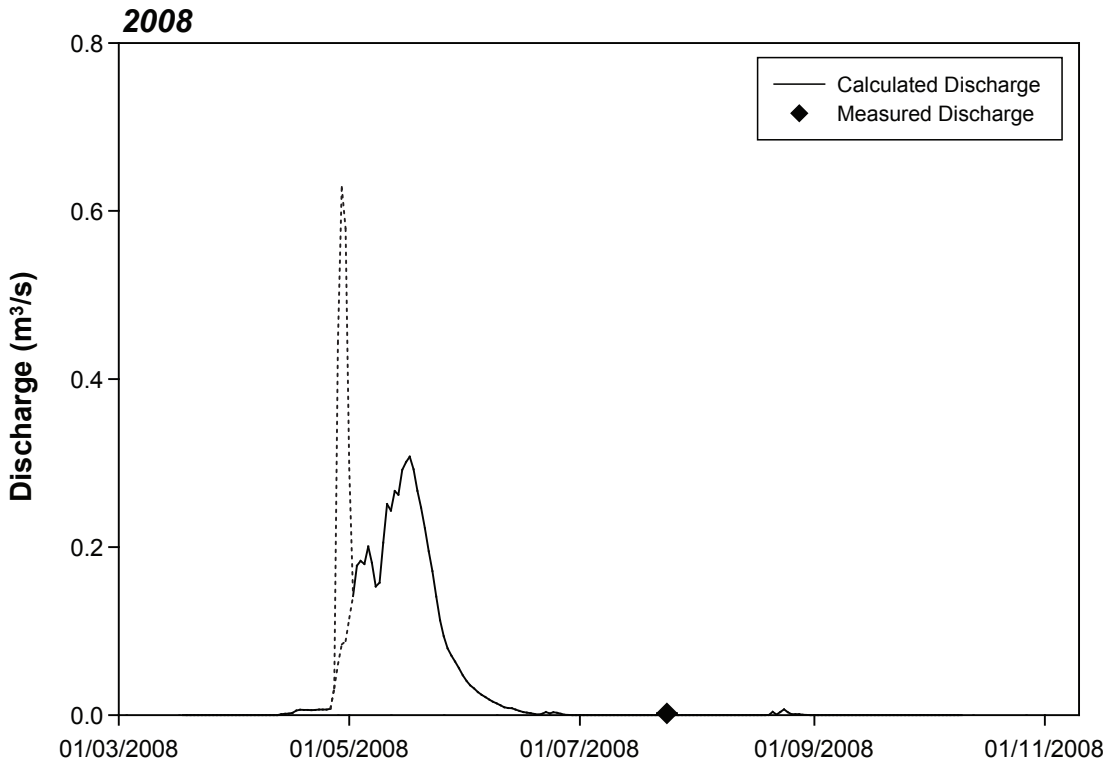


Notes: Error bars on manual flow measurements equal to +- 15% of measured flow
Averaged values fill a data gap from 12 July 2007 to 16 August 2007, represented by the dashed line.

Morrison Copper/Gold Project: Baseline Hydrometric Monitoring Period Discharge Hydrographs for MCS-7 Station

FIGURE 3.2-5

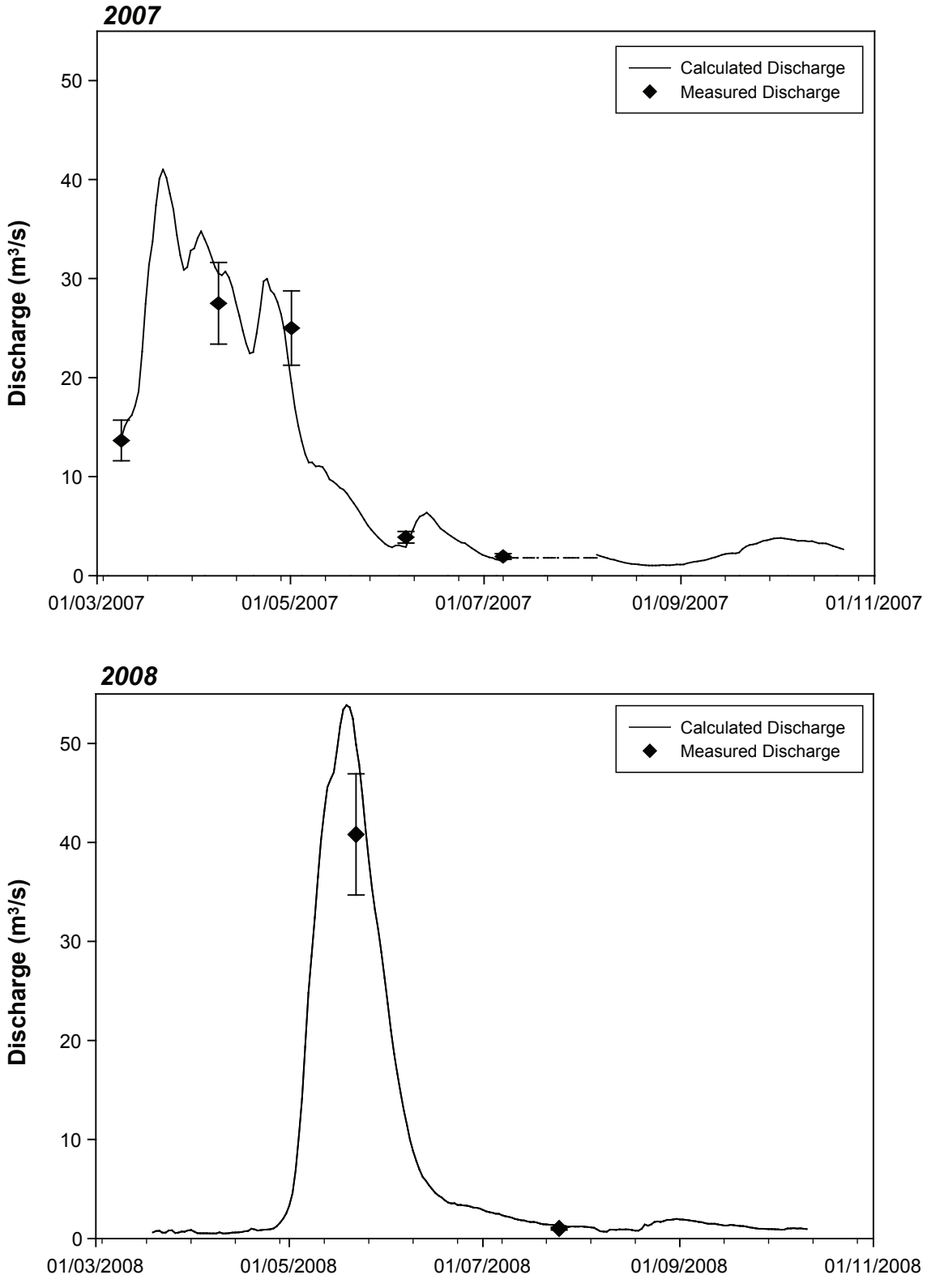




Notes: Error bars on manual flow measurements equal to +- 15% of measured flow
Data spanning 26 April 2008 to 2 May 2008 is suspect to the backwater effect (the spike represented as a dashed line), and was ignored in data analysis.

Morrison Copper/Gold Project:
Baseline Hydrometric Monitoring Period
Discharge Hydrographs for MCS-8 Station

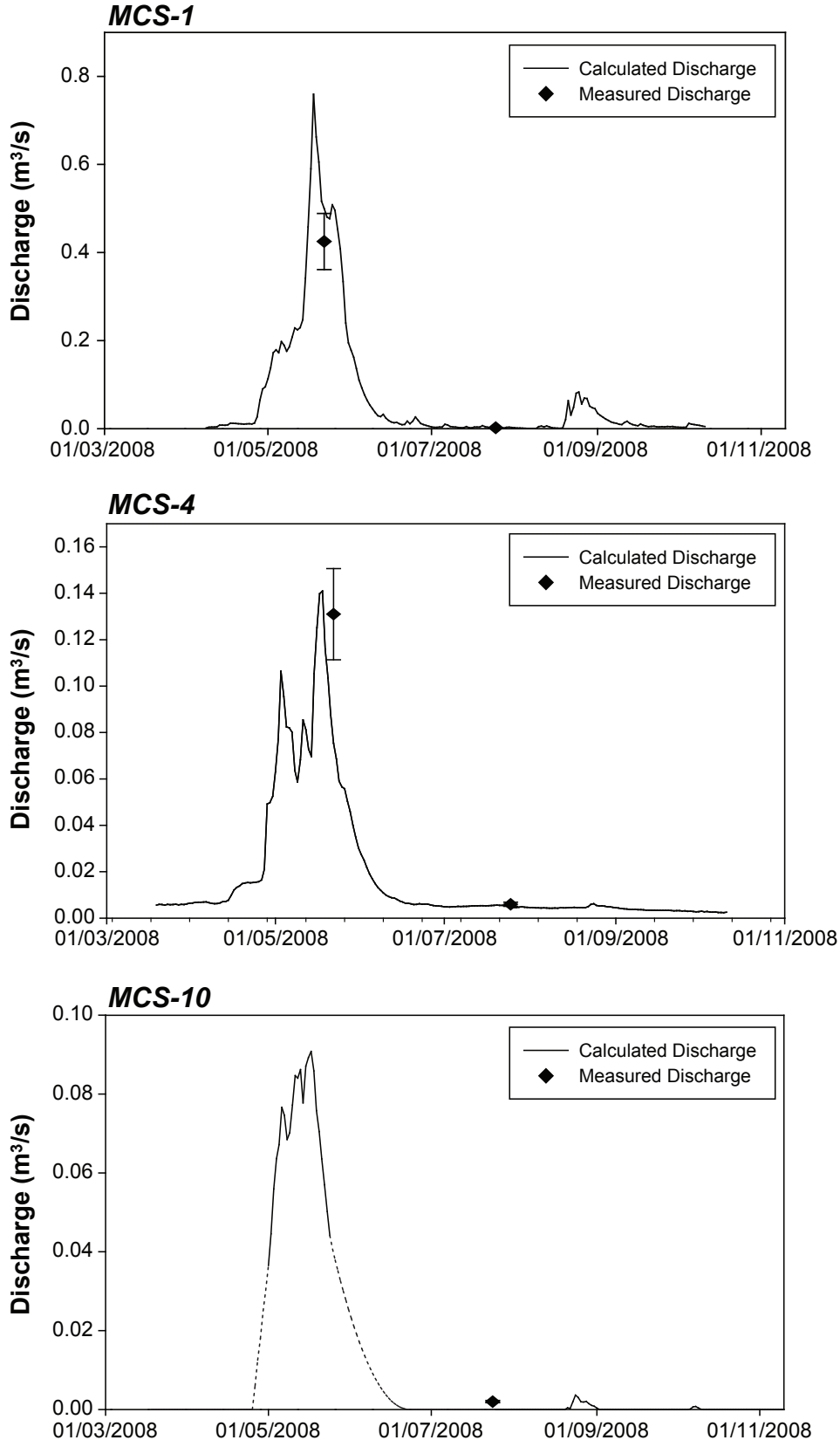
FIGURE 3.2-6



Notes: Error bars on manual flow measurements equal to +- 15% of measured flow
A data gap from 16 August 2007 to 10 September 2007 is represented by the dashed line.

Morrison Copper/Gold Project:
Baseline Hydrometric Monitoring Period
Discharge Hydrographs for Morrison Creek Station

FIGURE 3.2-7



Notes: Error bars on manual flow measurements equal to +- 15% of measured flow
Data gaps from 18 March to 1 May and from 25 May to 24 July for MCS-10 are represented by the dashed line

Morrison Copper/Gold Project:
Discharge Hydrographs for MCS-1, MCS-4 and MCS-10 Hydrometric Stations for the 2008 Season

FIGURE 3.2-8

Table 3.2-1
Flow Summary Statistics

Year	Station	Monitoring Period	Average Discharge (L/s)	Maximum Discharge (L/s)	Maximum Yield (L/s/km^2)	Jun to Sep 7-day Low Flow (L/s)
2007	Morrison Creek	27 Apr – 21 Nov [a]	9,550	40,000 (9 May)	83.8	1050
	MCS-4	27 Apr – 21 May	-	-	-	-
	MCS-5	24 May – 20 Sep	19.3	48.65 (24 May)	22.1	7.4
	MCS-6	27 Apr – 29 Oct	291	1,761.611 (4 June)	136.6	29.7
	MCS-7	24 May [b] – 31 Oct	112	676.04 (25 May)	53.2	12.9
	MCS-8	24 May – 31 Oct	17.4	53.47 (24 May)	11.6	2.1
	MCS-10	25 May – 29 Oct	3.2	48.86 (25 May)	66.0	n/a
2008	Morrison Creek	19 Mar – 11 Oct	7,265	53900 (19 May)	110	522
	MCS-1	8 Apr – 11 Oct	77.4	806.53 (18 May)	118.6	0.8
	MCS-4	19 Mar – 11 Oct	17.8	141.0 (18 May)	61.30	2.6
	MCS-5	18 Mar – 10 Oct	13.2	105.0 (7 May)	47.7	1.5
	MCS-6	18 Mar – 11 Oct	248	1,495.3 (18 May)	116	4.9
	MCS-7	18 Mar – 10 Oct	114	778.71 (18 May)	61.3	0.0
	MCS-8	18 Mar – 10 Oct	30.6	307.4 (29 April)	66.8	0.0
	MCS-10	18 Mar – 10 Oct	10.6	90.8 (17 May)	123	0.0

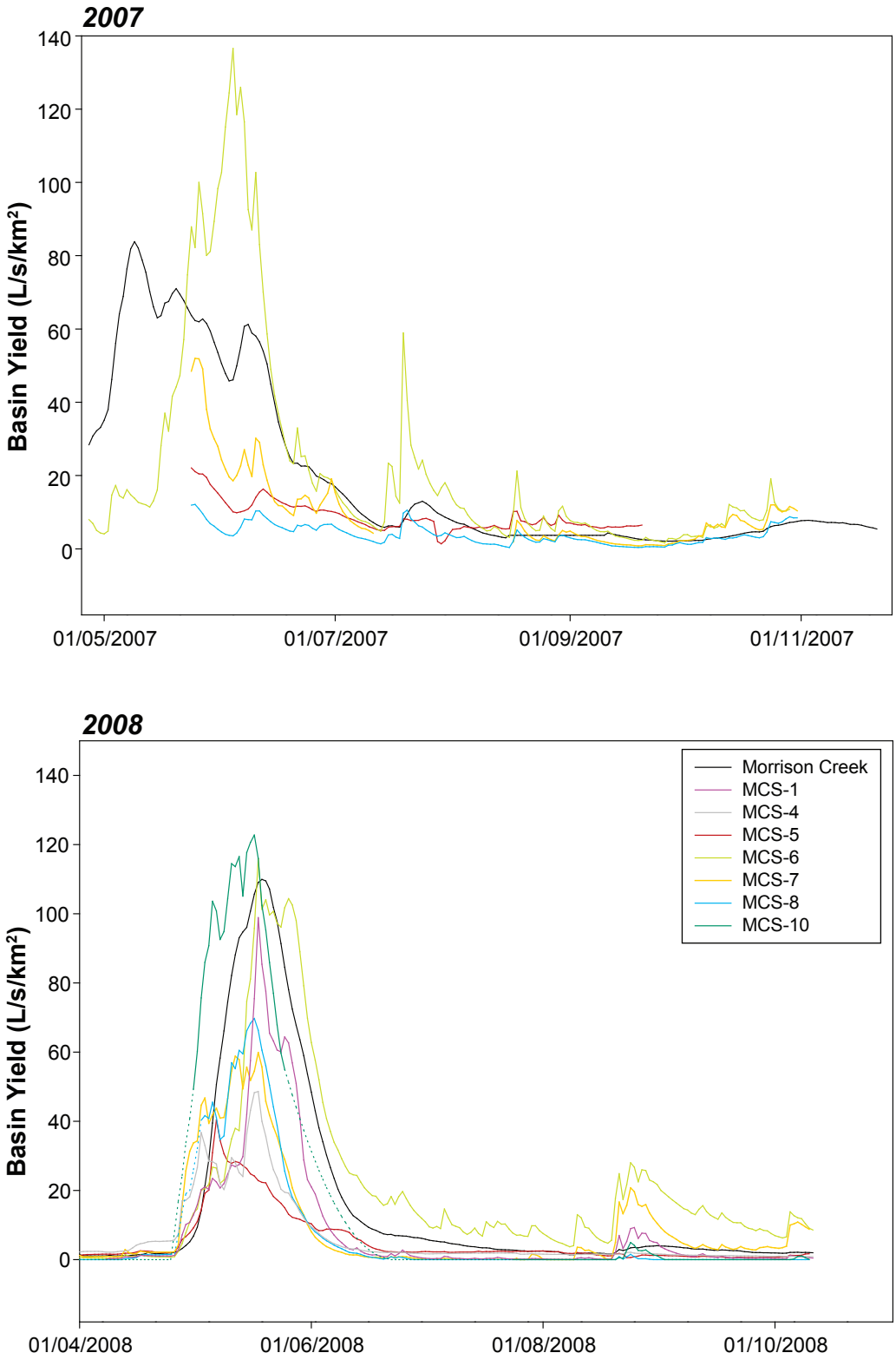
[a] data gap from 16 August to 16 September, average used.
[b] data gap from 12 July to 16 August, average used.

Similarly, peak flow dates in 2007 ranged from 9 May to 4 June, and are not representative of the true range of peak flows for that year. In 2008, when the majority of the freshet period was captured for all stations, the peak flow dates occurred earlier and ranged from 29 April to 19 May.

For the months that encompassed continuous monitoring, runoff sums were calculated and are shown in Table 3.2-2. These data are analyzed in Section 3.3, to estimate the monthly distribution of annual flows.

Daily Yield

Yield is a measure of the hydrological response of a watershed. Unit yield is calculated by dividing discharge measurements at a given station by the upstream contributing (watershed) area. It is expressed in units of L/s/km^2. The data are normalized in such a way to more appropriately compare flow between watersheds of varying sizes. Figure 3.2-9 illustrates the daily yield hydrographs for all monitored watersheds during 2007 and 2008. Within-year comparisons are made first, followed by comparisons between 2007 and 2008.



Morrison Copper/Gold Project:
Hydrometric Monitoring Period Daily Yield Hydrographs for All Stations

FIGURE 3.2-9

Table 3.2-2
Observed Monthly Runoff Depth Totals (mm)

Year	Watershed	Apr	May	Jun	Jul	Aug	Sep	Oct
2007	Morrison Creek	-	173.5	97.4	26.7	11.6	8.1	11.5
	MCS-4	-	-	-	-	-	-	-
	MCS-5	-	-	31.1	17.8	18.0	-	-
	MCS-6	-	133.0	187.9	54.5	25.9	12.5	30.7
	MCS-7	-	-	46.7	13.1	9.3	5.1	20.0
	MCS-8	-	-	16.5	11.8	6.2	3.2	10.9
	MCS-10	-	-	-	-	-	-	-
2008	Morrison Creek	4.4	193.1	40.4	9.9	6.5	7.3	-
	MCS-1	6.1	144.2	17.3	1.4	9.5	4.5	-
	MCS-4	16.5	91.0	11.4	6.0	5.5	3.9	-
	MCS-5	7.3	66.4	16.0	7.3	4.9	2.4	-
	MCS-6	3.8	172.0	67.7	24.6	34.9	32.9	-
	MCS-7	10.2	106.7	4.7	0.5	16.7	26.9	-
	MCS-8	34.3	114.8	5.9	0.0	0.4	0.0	-
	MCS-10	10.7	223.2	20.9	0.0	2.2	0.0	-

The summer unit yield values for 2007 indicate that all watersheds responded similarly to precipitation events; however, it appears as though MCS-6 responded more dramatically to events compared to other watersheds (Figure 3.2-9). The response to an event in late July is noticeable, when MCS-6 increased in basin yield by approximately 60 L/s/km^2 compared to less than 20 L/s/km^2 for the other stations. Baseflow was generally similar for all the stations and none of the stations responded significantly to fall rainfall conditions before pressure transducers were removed for the season. MCS-6 was more flashy in response to both freshet and rainfall events compared to the other stations, which could be a result of several factors. For example, the lakes and wetlands in the headwaters of MCS-6 could be responsible for producing high runoff coefficients in the watershed. In addition, uncertainty in the stage-discharge relation may overestimate high flow conditions.

In 2008, station MCS-10 displayed the highest peak yield (Figure 3.2-9). The freshet for this station also preceded those of other stations by a few days. All stations displayed a similar freshet pattern, with peaks occurring close to one another. As was mentioned earlier, a portion of the recorded data at MCS-8 in 2008 was disregarded. The MCS-8 daily yield hydrograph for 2008 appearing in Figure 3.2-9 is based on that station's presumed daily hydrograph (i.e., without the dashed line shown in Figure 3.2-7). The shape resulting from this presumed data is consistent compared with other stations, solidifying the assumptions outlined earlier.

Comparing 2007 and 2008 yield hydrographs, there is more consistency in hydrograph shapes among stations in 2008 (Figure 3.2-9). For example, the shape of the 2008 hydrographs consistently shows a spring peak, followed by a relatively gradual recession, with a small spike again in the fall. In 2007, the recession limbs of the yield hydrographs are flashier. This

suggests that unlike 2008, spring temperatures may not have resulted in a consistent melting of the snowpack and there may have been more intense precipitation events.

3.2.2.2 Historical Hydrographs

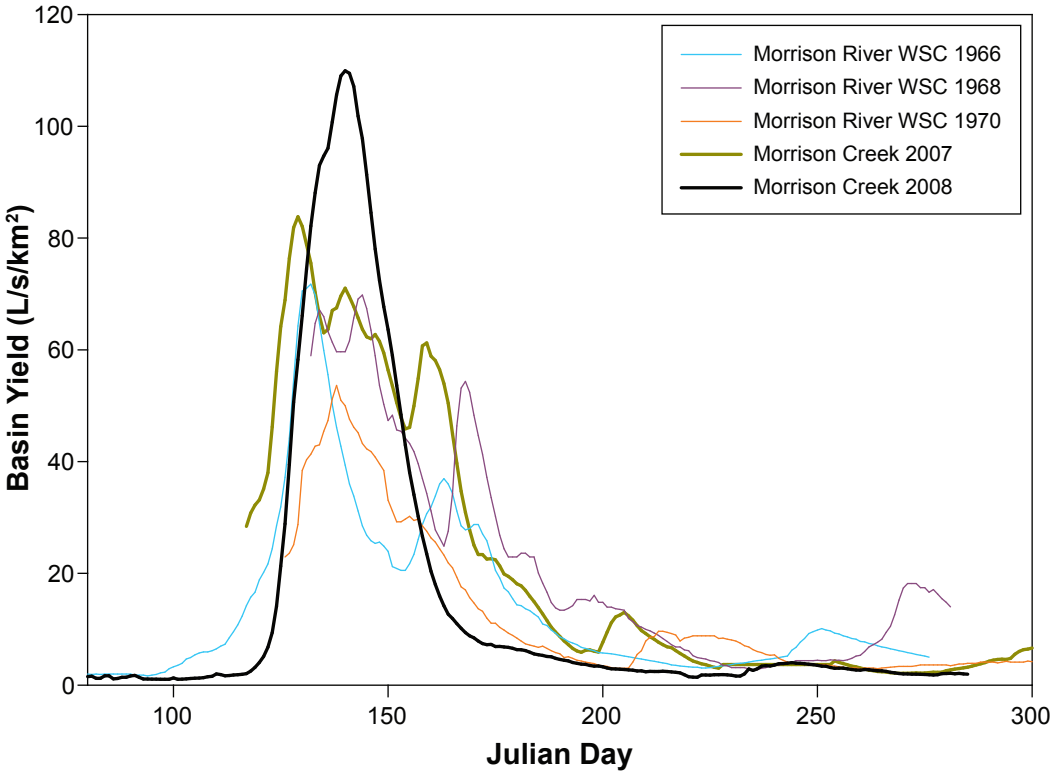
Historical data from the WSC station on Morrison River were used to compare with the recent observed data on Morrison Creek (Figure 3.2-10). Hydrographs for three of the five years display a bi-modal distribution (i.e., 1966, 1968, and 2007). The daily yield hydrograph for 1970 merely shows a step from the peak into the recession limb. In contrast to other years, the shape of the 2008 yield hydrograph is dominated by one large spring peak. Both 2007 and 2008 experienced above-average snowpack, which helps to explain why spring freshets were larger in these years compared to those in previous years.

3.2.3 Winter Flow Measurements

During the winter months water is frozen and it is not possible to collect continuous data as done during the open water season. Therefore, winter flow measurements are important for determining low flow estimates in the streams of interest. The winter season can represent a significant proportion of time, extending from November to March for the Project area. Winter flow measurements were collected in December 2007 and March 2008 at stations that could be reasonably accessed. Most of the stations exhibit very low flow, and where possible, an Acoustic Doppler Velocity meter (ADV) was used (Table 3.2-3). This device was used at Morrison Creek, MCS-4, and MCS-6 stations in December 2007. It was also used at Morrison Creek in March 2008 (Plate 3.2-1). All other stations were snowed-in when visited in March 2008, as shown in Plates 3.2-2 and 3.2-3; only visual flow estimates were possible at these stations. The measurements taken in December 2007 are slightly larger than those taken in March 2008. Indeed, decreasing flows are expected as the winter progresses.

Table 3.2-3
Summary of Winter Flow Measurements (m^3/s)

Location	December 19, 2007	Method	March 19, 2008	Method
Morrison Creek	0.485	Velocity-area with ADV	0.148	Area-Velocity
MCS-1	-	-	0.002	Visual estimate
MCS-4	0.009	Float velocity-area	0.003	Visual estimate
MCS-5	0.005	Visual estimate	0.003	Visual estimate
MCS-6	0.006	Velocity-area with ADV	0.013	Visual estimate
MCS-7	0.005	Visual estimate	0.000	Visual estimate
MCS-8	-	-	0.000	Visual estimate
MCS-10	-	-	0.000	Visual estimate



Morrison Copper/Gold Project:
Morrison Creek Station and Historical Data from Morrison River WSC Station

FIGURE 3.2-10

Plate 3.2-1. Morrison Creek view Upstream on 19 March, 2008.

Plate 3.2-2. MCS-6 on 18 March, 2008

Plate 3.2-3. MCS-4 on 19 March, 2008

4. REGIONAL ANALYSIS

4. Regional Analysis

4.1 Introduction

The previous chapter described the field data collected within the study area during the 2007 and 2008 baseline monitoring program. While these data allowed a detailed assessment of hydrological conditions during the measurement period, they only provide an indication of the possible flow range within the study area. Estimates of a number of key hydrological parameters, such as mean and return period annual runoff, monthly distribution of flow rates, and extreme high and low flows are required as inputs for mine site development, for engineering design, and for the effects assessment process. To make robust estimates of these parameters, long-term flow records are required. For watersheds with limited historical data, like those in the Project area, these key parameters can be estimated through a regional assessment incorporating historical data from a broader geographic area.

In this section available regional hydrological data sets are analyzed and used to estimate average and extreme hydrological conditions within the study area. These predictions are then compared to field data obtained during the current baseline studies program. The key parameters considered in this report are:

- annual runoff totals
- monthly runoff distributions
- high flows
- low flows.

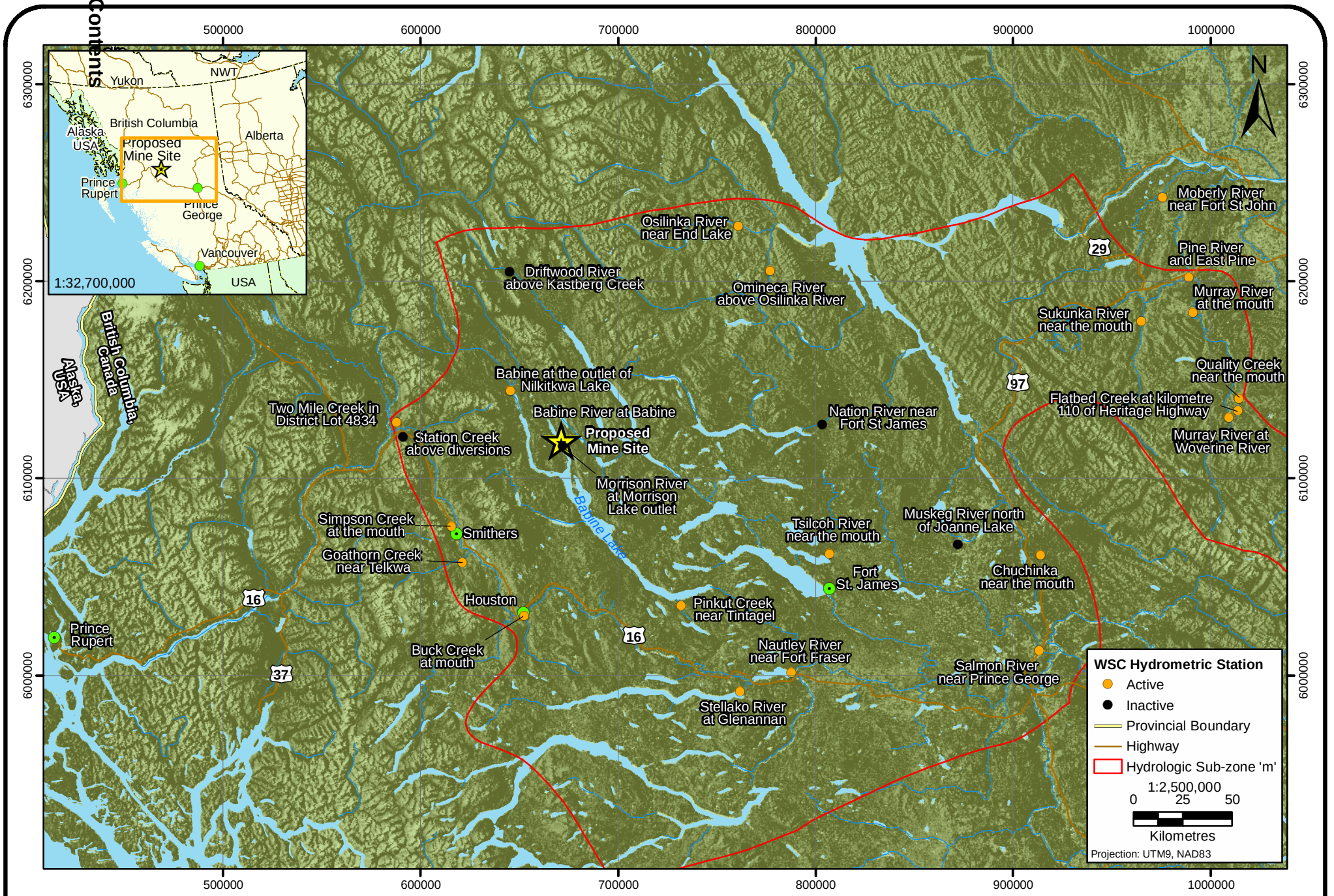
Notably, there are a limited number of hydrological monitoring stations in northern BC when compared to regions in southern BC. This lack of data increases the uncertainty associated with the results of any regional hydrological assessment.

Analysis of available meteorological data is also a key component of a regional hydrological analysis. Information on the analysis of meteorological data relevant to the study area is provided in the Meteorology and Air Quality Baseline Report.

4.2 Regional Hydrological Stations

A key requirement of a regional hydrological analysis is that the stations used in the assessment are in watersheds that are hydrologically similar to the sites of interest. In BC there have been a number of studies that have attempted to divide the province into regions of hydrological similarity. Coulson and Obedkoff (1998) analyzed data from over 400 WSC hydrology stations in BC and identified 17 hydrological zones within the province. This work updated previous estimates made in the Provincial Hydrologic Zone Map 1995. Obedkoff (2000) then considered north-central BC in more detail and re-defined the hydrological zones in the Omnica-Peace Region on the basis of a more thorough analysis of available hydrological data. Figure 4.2-1 illustrates hydrological sub-zone ‘m’ defined by Obedkoff (2000). The figure also shows the location of the WSC hydrology stations used in the Obedkoff hydrological assessment.

Table of Contents



Morrison Copper / Gold Project WSC
Hydrometric Stations in Hydrologic Sub-zone 'm'

FIGURE 4.2-1

There are 25 (20 active) WSC stations within sub-zone 'm' (Table 4.2-1), ranging in watershed areas from 10.8 to 12,100 km^2. Seven of these stations have watershed areas <500 km^2. The 25 stations used in this analysis are referred to henceforth simply as the "regional stations."

4.3 Hydrological Parameter Estimates

4.3.1 Mean Annual Runoff

The variation in runoff across northwestern BC is strongly controlled by spatial patterns of precipitation. A strong gradient in precipitation exists from west to east across the regional study area reflecting the change from a wet coastal to a dry interior climate. In addition, precipitation varies with elevation. Runoff is also affected by local watershed characteristics such as area, slope, and land cover.

Obedkoff (2000) related annual runoff totals for Regional stations in northern British Columbia to the median elevation of the watershed lying upstream of the gauging station. The median elevation is the elevation within a watershed for which half of the basin area lies above and half lies below. The results of this analysis for hydrometric stations in sub-zone 'm' produced a reasonable relationship with elevation, though there is a fair amount of scatter (Figure 4.3-1). The relationship was used to estimate average annual runoff for the eight baseline (on-site) monitoring stations (Table 4.3-1). Runoff estimates for neighbouring watersheds were quite variable, with differences between estimates reaching as much as 100%.

Annual runoff was also estimated based on precipitation estimates for the area. Mean annual precipitation of 750 mm was estimated using the Parameter-elevation Regression on Independent Slopes Model (PRISM) data set (PRISM Group 2001), and available Environment Canada data at Topley Landing suggests mean annual precipitation is 530 mm. Topley Landing is at a lower elevation and is on the leeward side of the Babine Range; therefore, this estimate is considered a lower bound while the PRISM estimate has not been validated with on-site precipitation data. These precipitation estimates can be combined with a runoff coefficient to estimate runoff depth. Coulson (1991) suggests that for moderate slopes in forested areas, an appropriate runoff coefficient would be approximately 0.65. This analysis produces average annual runoff in the range from 340 to 490 mm. These results are similar to the middle range of annual runoff values resulting from the regional median elevation relationship.

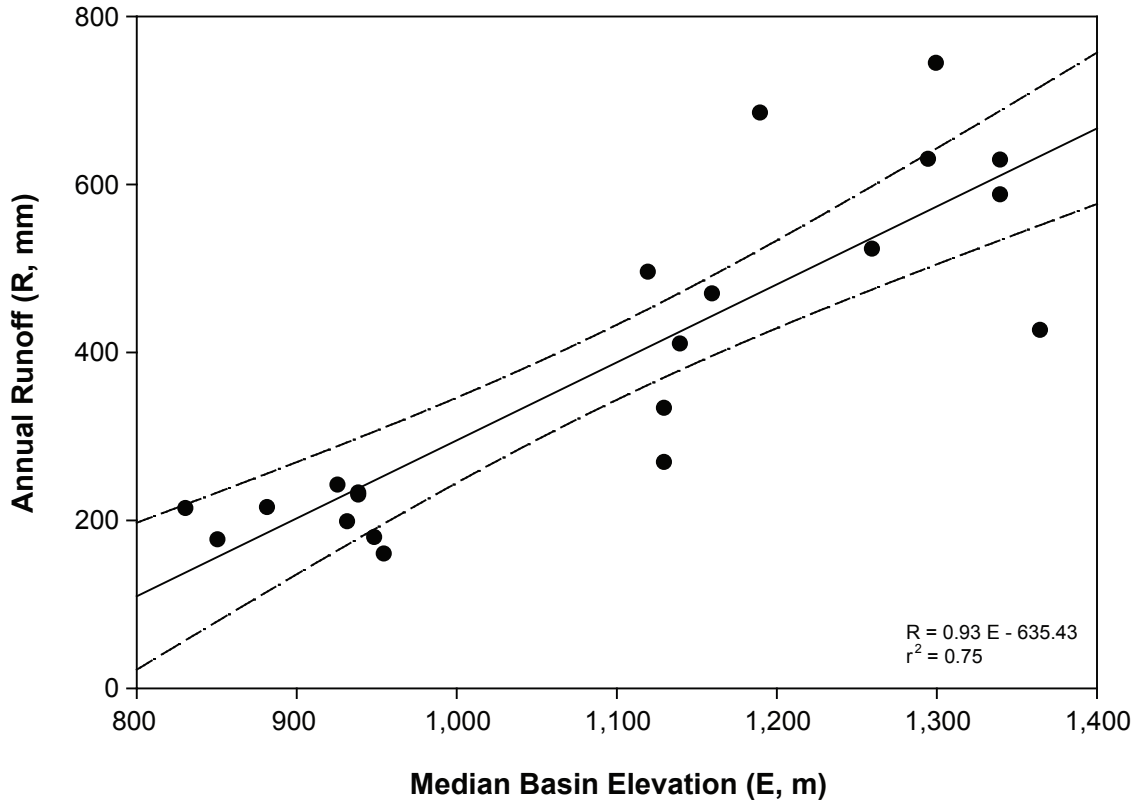
4.3.2 Return Period Annual Runoff

In the previous section, estimates were made of average annual runoff for watersheds in the Project area. This analysis will be extended in this section to derive estimates of runoff during dry and wet years for a range of different return periods.

Return period estimates of annual runoff totals for the Project watersheds were made by developing a regional growth curve for annual runoff based on return period assessments for each of the four WSC gauging stations used for runoff analysis. For each station the 10-year, 25-year, 50-year, and 100-year dry and wet annual runoff totals were estimated assuming that the historical data is part of a normal probability distribution. Other distributions (e.g., Log Pearson III, beta, gamma) were considered but none gave a better fit to the data than the normal distribution.

Table 4.2-1
Morrison Copper/Gold Project:Regional WSC Hydrological Monitoring Stations in Hydrological Sub-zone 'm'

Station Name ID	Location (N, W)	Drainage Area (km^2)	Median Elevation (m)	Mean Annual Runoff (mm)	Period of Record
Babine at the outlet of Nilkitkwa Lake 08EC013	55˚ 26' 126˚ 42'	6,790	939	229	1972–present
Buck Creek at Mouth 08EE013	54˚ 24' 126˚ 39'	566	939	232	1973–present
Chuchinka near the mouth 07EE009	54˚ 32' 122˚ 36'	311	952	512	1975–present
Driftwood River above Kastberg Creek 08JD006	55˚ 59' 126˚ 41'	407	1,295	629	1979–present
Flatbed Creek at km 110 of Heritage Hwy. 07FB009	55˚ 5' 120˚ 56'	479	1,130	268	1982–present
Goathorn Creek near Telkwa 08EE008	54˚ 39' 127˚ 7'	132	1,365	425	1960–present
Moberly River near Fort St John 07FB008	56˚ 6' 121˚ 21'	1,520	926	241	1980–present
Morrison River at outlet of Morrison Lake 08EC008	55˚ 10' 126˚ 18'	414	n/a	n/a	1965–1970
Murray River at the mouth 07FB002	55˚ 33' 121˚ 12'	5,620	1,160	469	1977–present
Murray River at Woverine River 07FB006	55˚ 4' 121˚ 1'	2,410	1,300	744	1977–present
Muskeg River north of Joanne Lake 08KC003	54˚ 36' 123˚ 14'	303	882	215	1975–1998
Nation River near Fort St James 07ED001	55˚ 12' 123˚ 37'	4,350	1,140	409	1938–1995
Nautley River near Fort Fraser 08JB003	54˚ 5' 124˚ 36'	6,030	955	159	1945–present
Omineca River above Osilinka River 07EC002	55˚ 55' 124˚ 34'	5,490	1,260	522	1975–present
Osilinka River near End Lake 07EC004	56˚ 8' 124˚ 48'	1,960	1,340	587	1981–present
Pine River at East Pine 07FB001	55˚ 43' 121˚ 12'	12,100	1,120	495	1961–present
Pinkut Creek near Tintage l08EC004	54˚ 24' 125˚ 26'	818	1,130	333	1929–present
Quality Creek near the mouth 07FB005	55˚ 9' 120˚ 55'	37	1,100	168	1978–2001
Salmon River near Prince George 08KC001	54˚ 6' 122˚ 41'	4,300	831	213	1953–present
Simpson Creek at the Mouth 08EE012	54˚ 49' 127˚ 12'	13	1,340	628	1969–present
Station Creek above diversions 08EE028	55˚ 14' 127˚ 34'	11	n/a	813	1985–1996
Stellako River at Glenannan 08JB002	54˚ 0' 125˚ 0'	3,600	949	179	1929–present
Sukunka River near the mouth 07FB003	55˚ 33' 121˚ 37'	2,510	1,190	684	1977–present
Tsilcoh River near the mouth 08JE004	54˚ 37' 124˚ 15'	431	851	176	1975–present
Two Mile Creek in District Lot 4834 08EE025	55˚ 18' 127˚ 37'	20	932	198	1982–present



Note: dashed lines indicate 95% confidence intervals

Morrison Copper/Gold Project:
Mean Annual Runoff versus Median Basin Elevation from WSC Hydrometric Stations in Hydrologic Sub-zone 'm'

FIGURE 4.3-1

Table 4.3-1
Estimated Average Annual Runoff at On-site Monitoring Stations Based on Regional Median Elevation Relationship

Station	Area (km^2)	Median Elevation (m)	Estimated Average Annual Runoff (mm)
Morrison Creek	490	916	216
MCS-1	8.2	1,129	415
MCS-4	1.8	1,094	382
MCS-5	1.9	847	152
MCS-6	11.7	1,204	484
MCS-7	12.4	992	287
MCS-8	4.4	907	208
MCS-10	0.74	961	258

The return period runoff totals for each station were divided by that station's 2-year (average) annual runoff to obtain a scaling factor for each return period. Results are summarized in Table 4.3-2. Averages for all stations are included in the results, in addition to an average for watersheds having basin areas less than 500 km^2 (deemed to represent the baseline monitoring stations more adequately).

There is uncertainty associated with the estimates provided in Table 4.3-2. Given the limited amount of data it is difficult to accurately quantify the uncertainty; it is likely to be at least ±20%. However, the estimates were made using best-available data, following a detailed regional assessment.

4.3.3 Monthly Runoff Distribution

An assessment of the average monthly flow distribution for a watershed (the percent of the annual flow that occurs during each month) provides an indication of the seasonal variation in flows at a site. These values can be combined with annual runoff totals to estimate monthly runoff totals and average monthly flows associated with different annual runoff totals.

Table 4.3-3 shows the mean monthly distribution of runoff for the WSC hydrometric stations in sub-zone 'm.' The stations are listed in order of increasing watershed area. The watersheds of interest in the Morrison area are very small (i.e., <15 km^2, except for Morrison Creek, which is <500 km^2). In general it is expected that the large regional watersheds will exhibit a broader distribution, with a later peak than the small stations. Therefore, it is expected that the distribution of the smaller regional watersheds (i.e., <500 km^2) will be more representative of the Project area.

Table 4.3-2
Scaling Factors and Return Period Estimates for Annual Runoff at the Morrison Copper/Gold Project

Hydrometric Station Name	Station ID	Basin Area (km^2)	Dry Return Periods				Mean Annual Runoff (mm)	Wet Return Periods			
			100 Year	50 Year	25 Year	10 Year		10 Year	25 Year	50 Year	100 Year
Station Creek above diversions	08EE028	10.8	0.10	0.12	0.16	0.25	745	2.71	4.18	5.54	7.13
Simpson Creek at the mouth	08EE012	13.2	0.65	0.68	0.72	0.78	634	1.25	1.37	1.44	1.52
Two Mile Creek in District Lot 4834	08EE025	20	0.52	0.56	0.61	0.69	196	1.36	1.54	1.67	1.80
Quality Creek near the mouth	07FB005	36.8	0.17	0.21	0.26	0.35	162	2.00	2.75	3.38	4.07
Goathorn Creek near Telkwa	08EE008	132	0.55	0.59	0.63	0.71	418	1.34	1.51	1.62	1.74
Muskeg River north of Joanne Lake	08KC003	303	0.49	0.53	0.58	0.67	215	1.39	1.59	1.73	1.87
Chuchinka near the mouth	07EE009	311	0.59	0.62	0.67	0.74	512	1.30	1.44	1.53	1.63
Driftwood River above Kastberg Creek	08JD006	407	0.69	0.72	0.75	0.81	629	1.21	1.30	1.36	1.42
Tsilcoh River near the mouth	08JE004	431	0.54	0.57	0.62	0.70	176	1.34	1.52	1.64	1.75
Flatbed Creek at km 110 of Heritage Hwy.	07FB009	479	0.39	0.43	0.48	0.57	269	1.48	1.76	1.97	2.18
Buck Creek at mouth	08EE013	566	0.51	0.54	0.59	0.67	232	1.37	1.55	1.69	1.82
Pinkut Creek near Tintagel	08EC004	818	0.32	0.36	0.41	0.51	340	1.65	2.05	2.35	2.66
Moberly River near Fort St John	07FB008	1520	0.58	0.61	0.66	0.73	241	1.30	1.45	1.55	1.65
Osilinka River near End Lake	07EC004	1960	0.76	0.78	0.81	0.85	587	1.16	1.22	1.27	1.31
Murray River at Wolverine River	07FB006	2410	0.68	0.71	0.74	0.80	744	1.22	1.31	1.38	1.44
Sukunka River near the mouth	07FB003	2510	0.69	0.72	0.75	0.81	684	1.21	1.30	1.36	1.42
Stellako River at Glenannan	08JB002	3600	0.43	0.47	0.53	0.61	176	1.46	1.70	1.89	2.07
Salmon River near Prince George	08KC001	4300	0.43	0.47	0.53	0.62	206	1.47	1.73	1.91	2.10
Nation River near Fort St James	07ED001	4350	0.48	0.51	0.54	0.59	409	0.97	1.06	1.13	1.19
Omineca River above Osilinka River	07EC002	5490	0.68	0.71	0.75	0.81	522	1.21	1.31	1.37	1.43
Murray River at the mouth	07FB002	5620	0.63	0.67	0.71	0.77	469	1.25	1.37	1.45	1.53
Nautley River near Fort Fraser	08JB003	6030	0.10	0.13	0.17	0.26	151	2.84	4.40	5.83	7.52
Babine River	08EC013	6790	0.58	0.62	0.66	0.73	230	1.30	1.44	1.54	1.64
Pine River at East Pine	07FB001	12100	0.64	0.67	0.71	0.78	495	1.24	1.36	1.43	1.51
Average (watershed areas < 500 km^2)		**214**	**0.47**	**0.50**	**0.55**	**0.63**		**1.54**	**1.89**	**2.19**	**2.51**
Average (all watersheds)		**2509**	**0.51**	**0.54**	**0.58**	**0.66**		**1.46**	**1.76**	**2.00**	**2.27**

Table 4.3-4 summarizes the estimated monthly runoff distribution from each of the on-site stations. To determine the percentages, runoff estimates were first required for the months where continuous monitoring data were not available. These estimates were based on results from winter flow measurements and comparison with regional data. In addition, two distinct runoff regimes emerged within the observed on-site data, and were incorporated to help complete the monthly runoff distributions at each station. Runoff Regime 1 is characterized by lower annual runoff and earlier peak flow during the spring freshet; this regime incorporates monitored basins MCS-4, MCS-5, MCS-7, and MCS-8. Runoff Regime 2 incorporates the monitored basins of Morrison Creek, MCS-1, MCS-6, and MCS-10. It is characterized by a delayed spring freshet and greater magnitude spring freshet than Regime 1.

It is interesting to note that neither the Regime 1 nor the Regime 2 distributions match the distributions from the long-term regional stations. Namely, both regimes suggest that the spring freshet flow at the on-site monitoring stations is proportionally higher compared to that observed at the regional stations. This difference may be related to variances in hydrologic response, or it may be related to the short-term nature of the on-site monitoring data. While the reasons for the differences are unclear at this time, the on-site monitoring station distributions are recommended. These distributions are conservative, as they will produce higher flow estimates during the freshet period, and lower flow estimates during the low-flow period.

4.3.4 High Flows

Floods in northwest BC are typically produced by three main mechanisms:

1. Rapid snowmelt: during freshet conditions in late May, June, or July.
2. Rain falling on melting snow: during freshet conditions in June or July, or during early winter in November and December.
3. Heavy rainfall: during September or October.

In the Project area, floods can be caused by any of these mechanisms, but because of the relatively flat terrain, rapid snow melt is often the dominant mechanism for generating peak flow.

A flood frequency analysis is used to predict peak stream flows for different return periods. The return period refers to the flood event's probability of occurrence. A 1-in-100-year return period (Q_{100}) event is the magnitude of flow that has a 1% chance of being equalled or exceeded in a given year. Similarly, a Q_{50} has a 2% chance of being exceeded in a given year. The mean annual flood is generally defined as the Q_2 (i.e., a 50% probability of being equalled or exceeded in a given year).

On gauged rivers, a single-site flood frequency analysis is the most commonly used method for predicting extreme peak flows (e.g., Chow 1981). The method requires fitting statistical probability distributions to the observed annual peak flow time series from the flow records at a gauging station. The approach identifies the peak discharge event that occurred in each year of record and creates a frequency-magnitude plot for those events.

Table 4.3-3
Morrison Copper/Gold Project: Average Monthly Runoff Distributionat Regional Stations

Abbreviated Station Name	Watershed Area (km^2)	Median Elevation (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Station	11	n/a	2.5	2.2	3.3	21.2	38.2	12.3	4.6	2.5	2.2	3.4	4.6	3.1
Simpson	12	1,340.0	3.5	3.0	3.0	3.8	15.9	24.2	17.6	10.5	6.3	4.5	4.0	3.7
Two Mile	20	932.0	3.4	2.9	3.2	6.1	22.4	22.2	14.9	8.6	5.1	4.1	3.7	3.4
Quality	37	1,100.0	1.5	1.3	1.6	4.6	24.2	28.8	13.8	6.3	5.1	6.6	4.1	2.2
Goathorn	147	1,365.0	1.1	0.8	1.0	5.0	23.4	25.2	16.0	8.6	5.8	7.0	4.2	1.7
Muskeg	303	882.0	2.1	1.8	2.7	30.9	37.9	7.5	3.3	1.5	1.7	3.5	4.4	2.7
Chuchinka	311	952.0	3.9	3.4	3.6	4.6	14.5	20.7	16.6	10.6	7.0	5.8	5.0	4.4
Driftwood	406	1,295.0	5.1	4.0	5.6	11.1	10.3	8.1	12.1	11.0	8.6	9.1	8.4	6.3
Tsilcoh	431	851.0	1.6	1.3	1.7	5.0	21.3	26.8	15.5	7.7	6.4	6.7	3.9	2.1
Flatbed	479	1,130.0	1.0	0.7	1.2	13.2	24.0	19.3	17.6	8.2	6.4	4.5	2.4	1.4
Buck	566	939.0	0.6	0.5	1.2	3.9	19.5	30.0	18.8	8.4	6.8	6.2	3.0	1.1
Pinkut	818	1,130.0	1.7	1.3	1.6	4.5	20.8	27.2	15.4	7.7	6.5	6.7	4.2	2.3
Moberly River	1,520	926.0	3.0	2.5	3.8	24.4	38.6	9.2	4.1	2.1	2.0	3.2	3.9	3.2
Oslinka	1,960	1,340.0	1.4	1.0	1.3	4.5	22.7	31.5	17.1	7.7	4.1	3.8	2.9	1.9
Murray at Wolverine	2,410	1,300.0	1.3	0.9	1.0	3.4	29.4	31.6	11.5	4.0	4.6	6.6	3.7	2.1
Sukunka	2,510	1,190.0	1.7	1.2	1.3	2.4	20.7	34.2	15.6	6.1	5.0	5.8	3.6	2.4
Stellako	3,600	949.0	2.3	1.7	1.7	2.5	24.9	32.8	12.8	5.1	3.3	4.6	5.1	3.3
Salmon	4,300	831.0	1.4	1.1	1.5	6.0	28.2	27.7	11.7	4.3	5.1	6.9	4.3	2.0
Nation	4,350	1,140.0	1.2	0.9	1.3	9.8	29.5	22.5	14.4	5.8	5.5	4.4	3.0	1.6
Omineca	5,490	1,260.0	3.4	2.9	3.4	5.3	30.6	24.1	9.7	4.9	4.1	3.8	4.1	3.7
Murray at Mouth	5,620	1,160.0	2.2	1.8	3.0	23.5	36.7	10.0	3.8	2.3	2.7	5.8	5.1	3.0
Nautley	6,030	955.0	1.1	0.8	1.4	13.1	43.8	20.8	6.4	1.9	1.9	3.5	3.6	1.7
Babine	6,790	939.0	1.4	1.0	1.1	2.2	14.0	24.5	21.5	12.2	9.4	7.6	3.3	1.9
Pine	12,100	1,120.0	1.8	1.3	1.4	2.1	17.6	34.6	17.7	7.3	5.5	5.5	3.1	2.1
Average (all watersheds)	**2,509**	**1,088.1**	**2.1**	**1.7**	**2.2**	**8.9**	**25.4**	**23.2**	**13.0**	**6.5**	**5.1**	**5.4**	**4.1**	**2.6**
Average (watersheds < 500 km^2)	**215.7**	**1,094.1**	**2.6**	**2.1**	**2.7**	**10.6**	**23.2**	**19.5**	**13.2**	**7.6**	**5.5**	**5.5**	**4.5**	**3.1**

Table 4.3-4
Morrison Copper/Gold Project: Estimated Monthly Runoff Distributions (%)

A. Hydrometric Stations														
	Watershed	**Associated Runoff Regime**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
2007	Morrison Creek	2	0.5	0.4	0.4	1.0	48.5	27.2	7.5	3.2	2.3	3.2	4.8	1.1
	MCS-4	-	-	-	-	-	-	-	-	-	-	-	-	
	MCS-5	1	1.3	1.2	1.6	7.7	58.0	7.5	4.3	4.3	3.9	3.8	3.5	2.9
	MCS-6	2	0.5	0.4	0.4	1.0	27.5	38.8	11.3	5.4	2.6	6.3	4.8	1.1
	MCS-7	1	1.3	1.2	1.6	7.7	58.0	11.8	3.3	2.4	1.3	5.1	3.5	2.9
	MCS-8	1	1.3	1.2	1.6	7.7	58.0	8.1	5.8	3.1	1.6	5.3	3.5	2.9
	MCS-10													
2008	Morrison Creek	2	0.5	0.4	0.4	1.5	64.9	13.6	3.3	2.2	2.5	4.8	4.8	1.1
	MCS-1	2	0.5	0.4	0.4	2.9	69.3	8.3	0.7	4.6	2.1	4.8	4.8	1.1
	MCS-4	1	1.3	1.2	1.6	10.8	57.5	7.4	3.9	3.6	2.5	3.8	3.5	2.9
	MCS-5	1	1.3	1.2	1.6	6.0	54.5	13.1	6.0	4.0	2.0	3.8	3.5	2.9
	MCS-6	2	0.5	0.4	0.4	1.0	45.1	17.7	6.4	9.1	8.6	4.8	4.8	1.1
	MCS-7	1	1.3	1.2	1.6	5.3	55.2	2.5	0.3	8.6	13.9	3.8	3.5	2.9
	MCS-8	1	1.3	1.2	1.6	18.9	63.3	3.3	0.0	0.2	0.0	3.8	3.5	2.9
	MCS-10	2	0.5	0.4	0.4	3.7	76.4	7.2	0.0	0.7	0.0	4.8	4.8	1.1
B. Runoff Regimes														
	Regime 1		1.3	1.2	1.6	7.7	58.0	10.0	3.9	2.3	3.8	3.8	3.5	2.9
	Regime 2		0.5	0.4	0.4	1	44.4	27.7	7.6	4	3.3	4.8	4.8	1.1

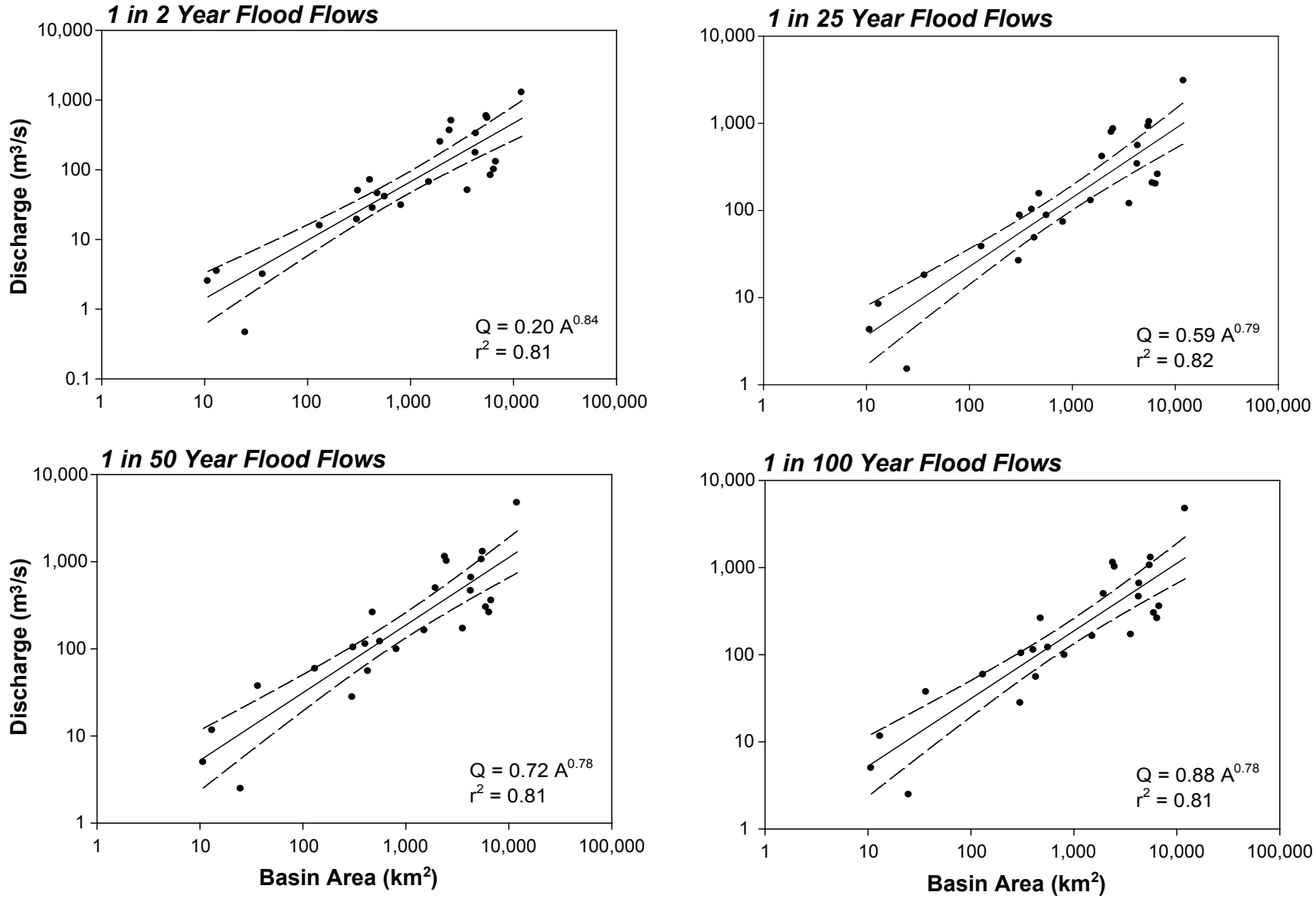
Observed peak flows are ranked based on their magnitude, and assigned a probability of occurrence, or frequency. An extreme-value statistical distribution, such as the log normal, generalized extreme value (GEV), or log-Pearson Type III, is then fit to the frequency-magnitude data. From the fitted distribution, the magnitude of any return period event can be estimated. The GEV distribution was found to be the most appropriate distribution for the regional data sets.

For each of the regional stations in sub-zone 'm,' peak discharge values for return periods of 2, 25, 50, and 100 years were developed using the GEV distribution analyzed in the software CFA (Pilon and Harvey 1993). The results of the flood flow analysis are presented in Table 4.3-5. These site-specific return period values were plotted against basin area to create regression equations that can be used to calculate peak discharge values for given watershed size. Figure 4.3-2 shows regression equations from the sub-zone 'm' for the 2-, 25-, 50-, and 100-year return period floods.

Table 4.3-5
Flood Flows at Regional Stations

Station Name	Station ID	Basin Area (km^2)	Q_2 (m^3/s)	Q_{25} (m^3/s)	Q_{50} (m^3/s)	Q_{100} (m^3/s)
Babine at the outlet of Nilkitkwa Lake	08EC013	6,790	129	257	301	355
Buck Creek at Mouth	08EE013	566	40.6	87.2	103	120
Chuchinka near the mouth	07EE009	311	49.6	87.2	95.3	103
Driftwood River above Kastberg Creek	08JD006	407	70.5	102	107	112
Flatbed Creek at km 110 of Heritage Hwy.	07FB009	479	45.4	154	201	259
Goathorn Creek near Telkwa	08EE008	132	15.6	38.2	47.3	58.4
Moberly River near Fort St John	07FB008	1,520	66.1	129	145	161
Murray River at the mouth	07FB002	5,620	547	103	1,162	1,294
Murray River at Wolverine River	07FB006	2,410	362	787	946	1,133
Muskeg River north of Joanne Lake	08KC003	303	19.1	26.2	27.1	27.7
Nation River near Fort St James	07ED001	4,350	327	552	603	652
Nautley River near Fort Fraser	08JB003	6,030	82.3	205	248	299
Omineca River above Osilinka River	07EC002	5,490	585	916	986	1,051
Osilinka River near End Lake	07EC004	1,960	249	412	453	493
Pine River at East Pine	07FB001	12,100	1,273	3,065	3,802	4,707
Pinkut Creek near Tintagel	08EC004	818	30.7	73.0	85.2	98.0
Quality Creek near the mouth	07FB005	36.8	3.12	17.8	25.8	37.1
Salmon River near Prince George	08KC001	4,300	174	340	396	460
Simpson Creek at the Mouth	08EE012	13.2	3.48	8.34	9.87	11.5
Station Creek above diversions	08EE028	10.8	2.51	4.24	4.61	4.96
Stellako River at Glenannan	08JB002	3,600	50.2	119	142	169
Sukunka River near the mouth	07FB003	2,510	501	854	933	1,008
Tsilcoh River near the mouth	08JE004	431	27.9	48.1	51.8	55.0
Two Mile Creek in District Lot 4834	08EE025	20.0	0.460	1.50	1.93	2.47

Peak flow relationships with basin area were strong and r^2 values were 0.81 and 0.82, suggesting a good, consistent fit of the regression line to the data. These regressions were used to estimate return period flood flows at sites of interest in the Project area (Table 4.3-6).



Note: dashed lines indicate 95% confidence intervals

Morrison Copper/Gold Project:
Regression Equations for Return Period Peak Flows

FIGURE 4.3-4

Table 4.3-6
Estimated Return Period Flood Flows for Select On-Site Stations

Watershed	Watershed Area (km^2)	Q_2 (m^3/s)	Q_{25} (m^3/s)	Q_{50} (m^3/s)	Q_{100} (m^3/s)
Morrison Creek	490	36	79	90	110
MCS-1	6.8	1.0	2.7	3.2	3.9
MCS-4	2.3	0.4	1.1	1.4	1.7
MCS-5	2.2	0.4	1.1	1.3	1.6
MCS-6	12.9	1.7	4.5	5.3	6.5
MCS-7	12.7	1.7	4.4	5.2	6.4
MCS-8	4.6	0.7	2.0	2.4	2.9

Most of the stations incorporated in the regional analysis are on rivers with large drainage areas (> 100 km^2), and therefore extrapolation to smaller streams may not be reasonable and large error bounds should be considered when analyzing these values. Peak discharge for MCS-6 and Morrison Creek for the 2007 season suggests that flows were slightly greater than a Q_2 or mean annual discharge (Table 3.2-2). In 2008, with the exception of the Morrison Creek station, flows at all stations were below the Q_2 discharge value.

4.3.5 Low Flows

Different indices exist to characterize low flow, with the most common measure being the 7-day low flow. This is the minimum average 7-day flow that occurs over a specified period, such as a month, season, or year. It is obtained by calculating a rolling 7-day average and then finding the minimum average that occurred within the specified period. Streams naturally exhibit periods of low flow. The average annual low flow provides an estimate of the normal baseflow conditions of a stream and is important to the sustained health of a stream's aquatic community. Another common index of low flow is the 7-day Q_{10}. This is the 7-day average minimum flow that is expected to occur once every 10 years.

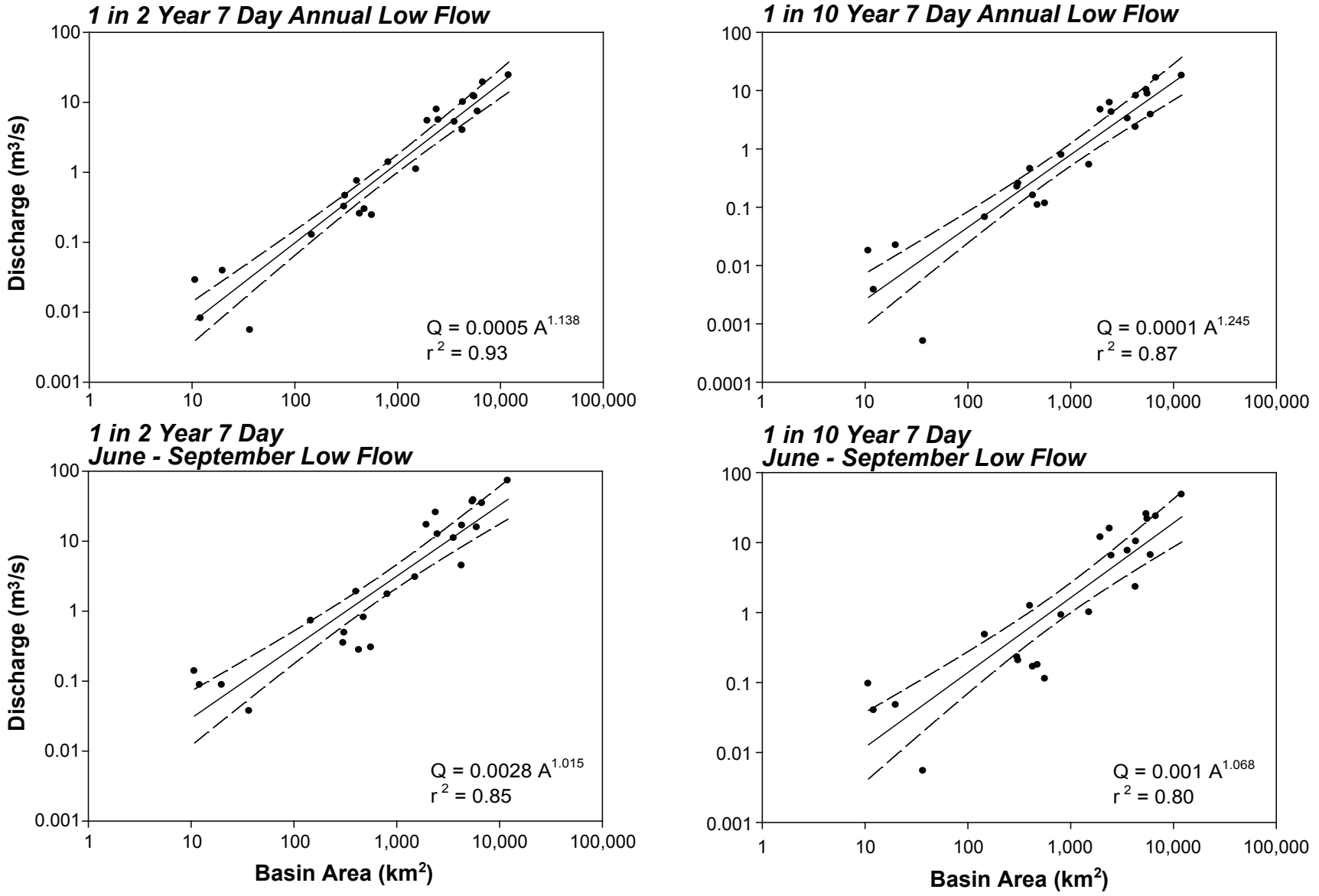
For streams at higher elevations or latitudes, the annual low flow will consistently occur during the winter, when most water is stored as either ice or snow. However, important aspects of a stream's health, such as the presence of certain aquatic species, or activities that could affect the quantity or quality of water in a stream may be restricted to the open water season. Therefore, it is also useful to identify the low flow that occurs during this period. For this study, estimates are made of the average annual 7-day low flow and the annual 7-day Q_{10} as well as the average 7-day low flow and 7-day Q_{10} that occurs from June through September.

The average annual 7-day low flow and 7-day Q_{10} were calculated for each of the WSC station in sub-zone 'm' using the LFA Software Gumble type III distribution (Pilon and Jackson 1988). The results are presented in Table 4.3-7 and were regressed against basin area (Figure 4.3-3) to develop estimates for on-site watersheds of interest (Table 4.3-8).

Table 4.3-7
Low Flows at Regional Stations

Station Characteristics		Flow Estimate (m^3/s)			
	Watershed	7-day Q_2		7-day Q_{10}	
Station Name	Area (km^2)	Annual	Jun – Sep	Annual	Jun – Sep
Babine at the outlet of Nilkitkwa Lake	6,790	19.11	34.47	16.25	23.51
Buck Creek at Mouth	566	0.242	0.300	0.115	0.112
Chuchinka near the mouth	311	0.459	0.486	0.252	0.205
Driftwood River above Kastberg Creek	407	0.743	1.876	0.452	1.235
Flatbed Creek at km 110 of Heritage Hwy.	479	0.294	0.802	0.108	0.177
Goathorn Creek near Telkwa	132	0.126	0.724	0.067	0.477
Moberly River near Fort St John	1,520	1.093	3.032	0.528	0.996
Morrison River at outlet of Morrison Lake	414	11.93	38.23	8.709	21.46
Murray River at the mouth	5,620	7.822	25.46	6.110	15.68
Murray River at Woverine River	2,410	0.320	0.348	0.222	0.229
Muskeg River north of Joanne Lake	303	9.955	16.53	8.069	10.26
Nation River near Fort St James	4,350	7.343	15.63	3.824	6.553
Nautley River near Fort Fraser	6,030	12.22	36.41	10.200	25.32
Omineca River above Osilinka River	5,490	5.372	16.98	4.646	11.78
Osilinka River near End Lake	1,960	24.19	72.51	17.93	48.03
Pine River at East Pine	12,100	1.378	1.729	0.781	0.910
Pinkut Creek near Tintagel	818	0.006	0.037	0.001	0.005
Quality Creek near the mouth	36.8	3.953	4.440	2.345	2.293
Salmon River near Prince George	4,300	0.008	0.087	0.004	0.040
Simpson Creek at the Mouth	13.2	0.029	0.138	0.018	0.095
Station Creek above diversions	10.8	5.187	10.92	3.286	7.581
Stellako River at Glenannan	3,600	5.536	12.47	4.223	6.407
Sukunka River near the mouth	2,510	0.253	0.276	0.158	0.166
Tsilcoh River near the mouth	431	0.039	0.087	0.022	0.047
Two Mile Creek in District Lot 4834	20	19.11	34.47	16.25	23.51

Observed June through September low flows were calculated from the on-site station data (Table 3.2-1), and may be compared to the estimated low flows based on the regional analysis. For example, low flows from MCS-6 and Morrison Creek were similar for the 2007 study period for June to September 7-day low flow parameter. Also in 2007, MCS-5 showed higher 7-day low flows while MCS-7 and MCS-8 were lower than estimated from the regional analysis (Table 3.2-8). In 2008, all observed low flow values were smaller than those estimated through the regional analysis (Table 4.3-8). For example, the observed low flow at Morrison Creek was 522 L/s, whereas the estimated low flow was 576 L/s. Observed low flow at stations MCS-7, MCS-8, and MCS-10 was 0 L/s, which is much lower than the regional analysis estimation.



Note: dashed lines indicate 95% confidence intervals

FIGURE 4.3-5

Morrison Copper/Gold Project:
Regression Equations for Annual and June to September Low Flows

Table 4.3-8
Low Flow Estimates for Select On-site Stations

	7-day Q_2		7-day Q_{10}	
Watershed	**Annual (L/s)**	**Jun–Sep (L/s)**	**Annual (L/s)**	**Jun–Sep (L/s)**
Morrison Creek	576.0	1505.6	223.5	746.7
MCS-1	4.4	19.6	1.1	7.8
MCS-4	1.3	6.5	0.3	2.4
MCS-5	1.2	6.2	0.3	2.3
MCS-6	9.2	37.7	2.4	15.4
MCS-7	9.0	36.8	2.4	15.0
MCS-8	2.9	13.2	0.7	5.1

5. SUMMARY

5. Summary

Watershed characterization is required for the effects assessment process, for engineering design, and mine site development. On-site hydrological monitoring conducted as part of the 2007 and 2008 baseline program allowed a detailed assessment of hydrological conditions during the measurement period. However, on a temporal scale these data only provide an indication of the possible range of flows within the study area.

There were no locations of long-term hydrological record within the Project area. Therefore, an extensive assessment incorporating historical hydrological data from the regional area was undertaken. The regional analysis incorporated WSC data from 25 stations in hydrological sub-zone 'm.' Resulting from this analysis, quantitative estimates of the following key hydrological parameters were made for on-site watersheds:

- return period annual runoff totals
- monthly distribution of flow
- high flows
- low flows.

Notably, most of the on-site watersheds at the Project area are <15 km^2; therefore, results from the regional analysis (comprising much greater watershed sizes) should be applied with caution. Where possible, multiple methods of analysis and conservative estimates were made.

The hydrological characteristics estimated by the regional analysis combined with the field data obtained from the on-site hydrological monitoring program provide a detailed assessment of the current surface water quantity baseline conditions of the Project area.

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An explanation of the acronyms used throughout this reference list can be found in the *Acronyms and Abbreviations* section.

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APPENDIX A
SUMMARY OF MANUAL FLOW MEASUREMENTS

Appendix A — Summary of Manual Flow Measurements

Table A-1
Manual Flow Measurements at Morrison Creek

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
27 April 2007	13.65	0.76	0.68	Station Installed
25 May 2007	27.50	1.21	1.08	
15 June 2007	25.00	0.99	0.84	
18 July 2007	3.89	0.40	0.24	
15 August 2007	1.95	0.30	0.29	Data Logger Malfunctioned
11 September 2007	NA	0.36	0.19	Data Logger Restarted
31 October 2007	NA	0.46	0.30	
21 November 2007	NA	NA	NA	Station Deactivated
18 December 2007	1.87	NA	NA	
22 May 2008	40.81	1.56	1.49	Station Installed
25 July 2008	1.01	0.25	0.19	
11 October 2008	NA	0.21	0.15	Station Deactivated

Table A-2
Manual Flow Measurements at MCS-1

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	AquaRod/Pressure Transducer (m)	Notes
31 May 2001	0.27	0.4		
3 September 2001	0.04	0.19		
10 October 2001	0.01	0.18		
26 August 2002	0.00	0.02		
20 May 2004	0.15	0.25		
29 June 2004	0.09	0.21		
6 August 2004	0.11	0.21		
3 September 2004	0.01	0.10		
20 October 2004	0.04	0.19	0.15*	
31 May 2005	0.05	0.16		
30 June 2005	0.03	0.14	0.09*	
17 November 2005	0.01	0.10		
22 May 2008	0.42	0.39	0.41**	Station Installed
25 July 2008	0.00	0.7	0.08**	
11 October 2008	NA	0.01	0.10**	Station Deactivated

*** Measurements were taken with an AquaRod device installed by MCS.**
**** Measurements were taken using a pressure transducer installed by Rescan.**

Table A-3
Manual Flow Measurements at MCS-4

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
27 April 2007	0.119	0.35	0.32	Data Logger Start
24 May 2007	0.122	0.43	0.40	Data Logger Malfunctioned
31 May 2007	0.080	0.45	NA	
5 June 2007	0.078	0.41	NA	
15 June 2007	0.038	0.26	NA	
21 June 2007	0.026	0.21	NA	
18 July 2007	0.011	0.17	NA	
17 August 2007	0.007	0.12	NA	
18 December 2007	0.005	NA	NA	
19 March 2008	NA	0.07	0.00	Station Installed
22 May 2008	0.13	0.36	0.29	
25 July 2008	0.00	0.05	0.00	
11 October 2008	NA	0.04	0.00	Station Deactivated

Table A-4
Manual Flow Measurements at MCS-5

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
24 May 2007	0.042	0.20	0.17	Station Installed
31 May 2007	0.033	0.17	0.14	
5 June 2007	0.023	0.14	0.11	
15 June 2007	0.026	0.17	0.13	
21 June 2007	0.021	0.14	0.12	
18 July 2007	0.014	0.10	0.08	
16 August 2007	0.012	0.10	0.08	
20 September 2007	NA	0.10	0.08	
31 October 2007	NA	NA	NA	Station Deactivated
18 December 2007	0.005	NA	NA	
24 July 2008	0.00	0.08	0.06	Station Installed
10 October 2008	NA	0.07	0.05	Station Deactivated

Table A-5
Manual Flow Measurements at MCS-6

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
27 April 2007	0.194	0.11	0.16	Station Installed
25 May 2007	1.034	0.30	0.35	
5 June 2007	1.673	0.40	0.42	
15 June 2007	0.520	0.19	0.28	
21 June 2007	0.378	0.18	0.27	
18 July 2007	0.124	0.09	0.18	
17 August 2007	0.051	0.05	0.13	
29 October 2007	0.143	0.10	0.17	Station Deactivated
18 December 2007	0.010	NA	NA	
23 May 2008	NA	0.34	0.36	Station Installed
25 July 2008	0.05	0.09	0.11	
11 October 2008	NA	0.08	0.11	Station Deactivated

Table A-6
Manual Flow Measurements at MCS-7

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
24 May 2007	0.850	0.34	0.35	Station Installed
31 May 2007	0.408	0.28	0.29	
5 June 2007	0.310	0.26	0.27	
15 June 2007	0.139	0.21	0.23	
21 June 2007	0.146	0.21	0.24	
12 July	NA	NA	NA	Data Logger Malfunctioned
18 July 2007	0.077	0.18	NA	
16 August 2007	0.001	0.09	0.10	Data Logger Restarted
11 September 2007	NA	0.11	0.13	
31 October 2007	NA	0.20	0.22	Station Deactivated
18 December 2007	0.005	NA	NA	
23 May 2008	NA	0.31	0.36	
24 July 2008	0.01	0.01	0.083	
10 October 2008	NA	0.1	0.18	

Table A-7
Manual Flow Measurements at MCS-8

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
24 May 2007	0.102	0.29	0.29	Station Installed
5 June 2007	0.016	0.23	0.23	
15 June 2007	0.038	0.23	0.24	
21 June 2007	0.026	0.24	0.24	
18 July 2007	0.011	0.21	0.21	
16 August 2007	0.001	0.18	0.19	
29 October 2007	0.029	0.23	0.25	Station Deactivated
24 July 2008	0.00	0.17	0.15	Station Installed
10 October 2008	NA	0.09	0.17	Station Deactivated

Table A-8
Manual Flow Measurements at MCS-10

Date	Discharge Measurement (m^3/s)	Staff Gauge Reading (m)	Pressure Transducer (m)	Notes
24 May 2007	0.044	0.25	0.26	Station Installed
18 July 2007	0.034	0.18	0.20	
16 August 2007	0.000	0.00	0.00	Adjusted Pressure Transducer Height
29 October 2007	0.007	0.05	0.06	Station Deactivated
22 May 2008	0.06	0.28	0.08	Station Installed
10 October 2008	NA	0.00	0.05	Station Deactivated

APPENDIX B
SUMMARY OF MEAN DAILY FLOWS

Appendix B

Summary of Mean Daily Flow (m^3/s) at Morrison Creek, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07	17.2	1-Jun-07	24.7	1-Jul-07	8.3	1-Aug-07	3.8	1-Sep-07	-	1-Oct-07	1.1	1-Nov-07	3.8
2-Apr-07		2-May-07	18.6	2-Jun-07	23.4	2-Jul-07	7.8	2-Aug-07	3.5	2-Sep-07	-	2-Oct-07	1.1	2-Nov-07	3.8
3-Apr-07		3-May-07	22.6	3-Jun-07	22.4	3-Jul-07	7.3	3-Aug-07	3.4	3-Sep-07	-	3-Oct-07	1.1	3-Nov-07	3.8
4-Apr-07		4-May-07	27.5	4-Jun-07	22.6	4-Jul-07	6.8	4-Aug-07	3.3	4-Sep-07	-	4-Oct-07	1.1	4-Nov-07	3.8
5-Apr-07		5-May-07	31.4	5-Jun-07	24.4	5-Jul-07	6.2	5-Aug-07	3.0	5-Sep-07	-	5-Oct-07	1.1	5-Nov-07	3.7
6-Apr-07		6-May-07	33.7	6-Jun-07	26.9	6-Jul-07	5.7	6-Aug-07	2.8	6-Sep-07	-	6-Oct-07	1.1	6-Nov-07	3.7
7-Apr-07		7-May-07	37.4	7-Jun-07	29.7	7-Jul-07	5.1	7-Aug-07	2.6	7-Sep-07	-	7-Oct-07	1.3	7-Nov-07	3.6
8-Apr-07		8-May-07	40.1	8-Jun-07	30.0	8-Jul-07	4.6	8-Aug-07	2.3	8-Sep-07	-	8-Oct-07	1.3	8-Nov-07	3.5
9-Apr-07		9-May-07	41.0	9-Jun-07	28.8	9-Jul-07	4.3	9-Aug-07	2.1	9-Sep-07	-	9-Oct-07	1.4	9-Nov-07	3.5
10-Apr-07		10-May-07	40.2	10-Jun-07	28.4	10-Jul-07	3.9	10-Aug-07	2.0	10-Sep-07	-	10-Oct-07	1.5	10-Nov-07	3.5
11-Apr-07		11-May-07	38.6	11-Jun-07	27.6	11-Jul-07	3.5	11-Aug-07	1.9	11-Sep-07	2.1	11-Oct-07	1.5	11-Nov-07	3.5
12-Apr-07		12-May-07	37.0	12-Jun-07	26.4	12-Jul-07	3.2	12-Aug-07	1.8	12-Sep-07	2.0	12-Oct-07	1.6	12-Nov-07	3.5
13-Apr-07		13-May-07	34.4	13-Jun-07	24.7	13-Jul-07	3.0	13-Aug-07	1.7	13-Sep-07	1.9	13-Oct-07	1.7	13-Nov-07	3.4
14-Apr-07		14-May-07	32.3	14-Jun-07	22.0	14-Jul-07	2.9	14-Aug-07	1.6	14-Sep-07	1.8	14-Oct-07	1.8	14-Nov-07	3.3
15-Apr-07		15-May-07	30.9	15-Jun-07	19.4	15-Jul-07	3.0	15-Aug-07	1.5	15-Sep-07	1.7	15-Oct-07	1.9	15-Nov-07	3.3
16-Apr-07		16-May-07	31.2	16-Jun-07	17.0	16-Jul-07	3.1	16-Aug-07	**a**	16-Sep-07	1.6	16-Oct-07	2.0	16-Nov-07	3.3
17-Apr-07		17-May-07	32.8	17-Jun-07	15.1	17-Jul-07	3.0	17-Aug-07	-	17-Sep-07	1.5	17-Oct-07	2.1	17-Nov-07	3.1
18-Apr-07		18-May-07	33.0	18-Jun-07	13.6	18-Jul-07	2.9	18-Aug-07	-	18-Sep-07	1.4	18-Oct-07	2.2	18-Nov-07	3.0
19-Apr-07		19-May-07	34.1	19-Jun-07	12.3	19-Jul-07	3.8	19-Aug-07	-	19-Sep-07	1.3	19-Oct-07	2.2	19-Nov-07	2.9
20-Apr-07		20-May-07	34.8	20-Jun-07	11.4	20-Jul-07	4.6	20-Aug-07	-	20-Sep-07	1.3	20-Oct-07	2.3	20-Nov-07	2.8
21-Apr-07		21-May-07	34.0	21-Jun-07	11.4	21-Jul-07	5.5	21-Aug-07	-	21-Sep-07	1.2	21-Oct-07	2.3	21-Nov-07	2.7
22-Apr-07		22-May-07	33.2	22-Jun-07	11.0	22-Jul-07	6.0	22-Aug-07	-	22-Sep-07	1.2	22-Oct-07	2.3	22-Nov-07	
23-Apr-07		23-May-07	32.2	23-Jun-07	11.1	23-Jul-07	6.1	23-Aug-07	-	23-Sep-07	1.1	23-Oct-07	2.7	23-Nov-07	
24-Apr-07		24-May-07	31.2	24-Jun-07	11.0	24-Jul-07	6.4	24-Aug-07	-	24-Sep-07	1.1	24-Oct-07	3.0	24-Nov-07	
25-Apr-07		25-May-07	30.5	25-Jun-07	10.4	25-Jul-07	6.1	25-Aug-07	-	25-Sep-07	1.1	25-Oct-07	3.1	25-Nov-07	
26-Apr-07		26-May-07	30.3	26-Jun-07	9.7	26-Jul-07	5.7	26-Aug-07	-	26-Sep-07	1.0	26-Oct-07	3.2	26-Nov-07	
27-Apr-07	13.9	27-May-07	30.7	27-Jun-07	9.5	27-Jul-07	5.2	27-Aug-07	-	27-Sep-07	1.0	27-Oct-07	3.2	27-Nov-07	
28-Apr-07	15.1	28-May-07	30.1	28-Jun-07	9.2	28-Jul-07	4.8	28-Aug-07	-	28-Sep-07	1.0	28-Oct-07	3.4	28-Nov-07	
29-Apr-07	15.8	29-May-07	29.1	29-Jun-07	8.9	29-Jul-07	4.5	29-Aug-07	-	29-Sep-07	1.1	29-Oct-07	3.5	29-Nov-07	
30-Apr-07	16.2	30-May-07	27.6	30-Jun-07	8.7	30-Jul-07	4.2	30-Aug-07	-	30-Sep-07	1.1	30-Oct-07	3.6	30-Nov-07	
		31-May-07	26.2			31-Jul-07	4.0	31-Aug-07	-			31-Oct-07	3.7		

a Data logger malfunctioned from 17 Aug to 10 Sep

Summary of Mean Daily Flow (m^3/s) at Morrison Creek, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.7	1-May-08	3.3	1-Jun-08	23.7	1-Jul-08	2.9	1-Aug-08	1.2	1-Sep-08	1.9	1-Oct-08	0.9
2-Mar-08		2-Apr-08	0.5	2-May-08	4.6	2-Jun-08	21.1	2-Jul-08	2.7	2-Aug-08	1.2	2-Sep-08	1.9	2-Oct-08	0.9
3-Mar-08		3-Apr-08	0.5	3-May-08	6.9	3-Jun-08	18.7	3-Jul-08	2.7	3-Aug-08	1.2	3-Sep-08	1.9	3-Oct-08	0.9
4-Mar-08		4-Apr-08	0.5	4-May-08	10.4	4-Jun-08	16.7	4-Jul-08	2.6	4-Aug-08	1.1	4-Sep-08	1.8	4-Oct-08	0.9
5-Mar-08		5-Apr-08	0.5	5-May-08	14.1	5-Jun-08	14.8	5-Jul-08	2.5	5-Aug-08	1.1	5-Sep-08	1.8	5-Oct-08	1.0
6-Mar-08		6-Apr-08	0.5	6-May-08	19.3	6-Jun-08	13.0	6-Jul-08	2.5	6-Aug-08	0.9	6-Sep-08	1.7	6-Oct-08	1.0
7-Mar-08		7-Apr-08	0.5	7-May-08	24.8	7-Jun-08	11.5	7-Jul-08	2.3	7-Aug-08	0.7	7-Sep-08	1.7	7-Oct-08	1.0
8-Mar-08		8-Apr-08	0.5	8-May-08	28.5	8-Jun-08	10.0	8-Jul-08	2.3	8-Aug-08	0.7	8-Sep-08	1.6	8-Oct-08	1.0
9-Mar-08		9-Apr-08	0.6	9-May-08	32.4	9-Jun-08	8.8	9-Jul-08	2.2	9-Aug-08	0.7	9-Sep-08	1.5	9-Oct-08	1.0
10-Mar-08		10-Apr-08	0.5	10-May-08	36.5	10-Jun-08	7.8	10-Jul-08	2.1	10-Aug-08	0.9	10-Sep-08	1.5	10-Oct-08	1.0
11-Mar-08		11-Apr-08	0.5	11-May-08	40.3	11-Jun-08	7.0	11-Jul-08	2.0	11-Aug-08	0.9	11-Sep-08	1.5	11-Oct-08	1.0
12-Mar-08		12-Apr-08	0.5	12-May-08	43.2	12-Jun-08	6.2	12-Jul-08	1.9	12-Aug-08	0.9	12-Sep-08	1.5	12-Oct-08	
13-Mar-08		13-Apr-08	0.6	13-May-08	45.6	13-Jun-08	5.8	13-Jul-08	1.8	13-Aug-08	0.9	13-Sep-08	1.4	13-Oct-08	
14-Mar-08		14-Apr-08	0.6	14-May-08	46.4	14-Jun-08	5.4	14-Jul-08	1.8	14-Aug-08	0.9	14-Sep-08	1.4	14-Oct-08	
15-Mar-08		15-Apr-08	0.6	15-May-08	47.1	15-Jun-08	5.0	15-Jul-08	1.7	15-Aug-08	0.9	15-Sep-08	1.3	15-Oct-08	
16-Mar-08		16-Apr-08	0.7	16-May-08	49.4	16-Jun-08	4.6	16-Jul-08	1.7	16-Aug-08	0.9	16-Sep-08	1.3	16-Oct-08	
17-Mar-08		17-Apr-08	0.7	17-May-08	51.8	17-Jun-08	4.3	17-Jul-08	1.7	17-Aug-08	0.9	17-Sep-08	1.4	17-Oct-08	
18-Mar-08		18-Apr-08	0.8	18-May-08	53.4	18-Jun-08	4.1	18-Jul-08	1.6	18-Aug-08	0.8	18-Sep-08	1.3	18-Oct-08	
19-Mar-08	0.6	19-Apr-08	1.0	19-May-08	53.9	19-Jun-08	3.9	19-Jul-08	1.5	19-Aug-08	0.8	19-Sep-08	1.3	19-Oct-08	
20-Mar-08	0.7	20-Apr-08	0.9	20-May-08	53.6	20-Jun-08	3.6	20-Jul-08	1.4	20-Aug-08	1.0	20-Sep-08	1.3	20-Oct-08	
21-Mar-08	0.8	21-Apr-08	0.8	21-May-08	52.5	21-Jun-08	3.5	21-Jul-08	1.4	21-Aug-08	1.4	21-Sep-08	1.3	21-Oct-08	
22-Mar-08	0.6	22-Apr-08	0.8	22-May-08	49.9	22-Jun-08	3.6	22-Jul-08	1.4	22-Aug-08	1.3	22-Sep-08	1.2	22-Oct-08	
23-Mar-08	0.6	23-Apr-08	0.9	23-May-08	47.9	23-Jun-08	3.4	23-Jul-08	1.4	23-Aug-08	1.4	23-Sep-08	1.1	23-Oct-08	
24-Mar-08	0.8	24-Apr-08	0.9	24-May-08	44.8	24-Jun-08	3.4	24-Jul-08	1.3	24-Aug-08	1.7	24-Sep-08	1.1	24-Oct-08	
25-Mar-08	0.8	25-Apr-08	0.9	25-May-08	41.4	25-Jun-08	3.3	25-Jul-08	1.3	25-Aug-08	1.7	25-Sep-08	1.0	25-Oct-08	
26-Mar-08	0.6	26-Apr-08	1.0	26-May-08	38.2	26-Jun-08	3.3	26-Jul-08	1.2	26-Aug-08	1.7	26-Sep-08	1.0	26-Oct-08	
27-Mar-08	0.6	27-Apr-08	1.2	27-May-08	35.5	27-Jun-08	3.2	27-Jul-08	1.2	27-Aug-08	1.8	27-Sep-08	1.0	27-Oct-08	
28-Mar-08	0.7	28-Apr-08	1.6	28-May-08	33.2	28-Jun-08	3.1	28-Jul-08	1.2	28-Aug-08	1.9	28-Sep-08	1.0	28-Oct-08	
29-Mar-08	0.7	29-Apr-08	2.0	29-May-08	31.2	29-Jun-08	3.1	29-Jul-08	1.2	29-Aug-08	1.9	29-Sep-08	1.0	29-Oct-08	
30-Mar-08	0.8	30-Apr-08	2.5	30-May-08	28.9	30-Jun-08	3.0	30-Jul-08	1.2	30-Aug-08	1.9	30-Sep-08	0.9	30-Oct-08	
31-Mar-08	0.9			31-May-08	26.3			31-Jul-08	1.2	31-Aug-08	2.0			31-Oct-08	

Table of Contents

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-1, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
		1-Apr-08		1-May-08	0.1131	1-Jun-08	0.1783	1-Jul-08	0.0040	1-Aug-08	0.0020	1-Sep-08	0.0349	1-Oct-08	0.0032
		2-Apr-08		2-May-08	0.1376	2-Jun-08	0.1621	2-Jul-08	0.0031	2-Aug-08	0.0015	2-Sep-08	0.0299	2-Oct-08	0.0030
		3-Apr-08		3-May-08	0.1724	3-Jun-08	0.1366	3-Jul-08	0.0029	3-Aug-08	0.0013	3-Sep-08	0.0257	3-Oct-08	0.0031
		4-Apr-08		4-May-08	0.1788	4-Jun-08	0.1105	4-Jul-08	0.0036	4-Aug-08	0.0010	4-Sep-08	0.0217	4-Oct-08	0.0033
		5-Apr-08		5-May-08	0.1723	5-Jun-08	0.0925	5-Jul-08	0.0035	5-Aug-08	0.0008	5-Sep-08	0.0185	5-Oct-08	0.0121
		6-Apr-08		6-May-08	0.1976	6-Jun-08	0.0767	6-Jul-08	0.0097	6-Aug-08	0.0006	6-Sep-08	0.0153	6-Oct-08	0.0102
		7-Apr-08		7-May-08	0.1897	7-Jun-08	0.0644	7-Jul-08	0.0082	7-Aug-08	0.0005	7-Sep-08	0.0133	7-Oct-08	0.0092
		8-Apr-08	0.0016	8-May-08	0.1760	8-Jun-08	0.0536	8-Jul-08	0.0048	8-Aug-08	0.0003	8-Sep-08	0.0120	8-Oct-08	0.0084
		9-Apr-08	0.0034	9-May-08	0.1860	9-Jun-08	0.0454	9-Jul-08	0.0039	9-Aug-08	0.0004	9-Sep-08	0.0099	9-Oct-08	0.0073
		10-Apr-08	0.0035	10-May-08	0.2079	10-Jun-08	0.0368	10-Jul-08	0.0035	10-Aug-08	0.0044	10-Sep-08	0.0092	10-Oct-08	0.0057
		11-Apr-08	0.0036	11-May-08	0.2287	11-Jun-08	0.0294	11-Jul-08	0.0026	11-Aug-08	0.0056	11-Sep-08	0.0140	11-Oct-08	0.0050
		12-Apr-08	0.0043	12-May-08	0.2245	12-Jun-08	0.0275	12-Jul-08	0.0019	12-Aug-08	0.0039	12-Sep-08	0.0168	12-Oct-08	
		13-Apr-08	0.0080	13-May-08	0.2293	13-Jun-08	0.0324	13-Jul-08	0.0025	13-Aug-08	0.0060	13-Sep-08	0.0121	13-Oct-08	
		14-Apr-08	0.0079	14-May-08	0.2473	14-Jun-08	0.0240	14-Jul-08	0.0044	14-Aug-08	0.0038	14-Sep-08	0.0092	14-Oct-08	
		15-Apr-08	0.0075	15-May-08	0.3415	15-Jun-08	0.0185	15-Jul-08	0.0025	15-Aug-08	0.0021	15-Sep-08	0.0076	15-Oct-08	
		16-Apr-08	0.0086	16-May-08	0.4580	16-Jun-08	0.0151	16-Jul-08	0.0016	16-Aug-08	0.0014	16-Sep-08	0.0065	16-Oct-08	
		17-Apr-08	0.0125	17-May-08	0.5901	17-Jun-08	0.0133	17-Jul-08	0.0036	17-Aug-08	0.0010	17-Sep-08	0.0104	17-Oct-08	
		18-Apr-08	0.0121	18-May-08	0.7595	18-Jun-08	0.0142	18-Jul-08	0.0036	18-Aug-08	0.0009	18-Sep-08	0.0078	18-Oct-08	
		19-Apr-08	0.0117	19-May-08	0.6625	19-Jun-08	0.0110	19-Jul-08	0.0036	19-Aug-08	0.0016	19-Sep-08	0.0057	19-Oct-08	
		20-Apr-08	0.0112	20-May-08	0.6056	20-Jun-08	0.0089	20-Jul-08	0.0069	20-Aug-08	0.0204	20-Sep-08	0.0045	20-Oct-08	
		21-Apr-08	0.0108	21-May-08	0.5166	21-Jun-08	0.0096	21-Jul-08	0.0046	21-Aug-08	0.0634	21-Sep-08	0.0053	21-Oct-08	
		22-Apr-08	0.0102	22-May-08	0.4998	22-Jun-08	0.0170	22-Jul-08	0.0034	22-Aug-08	0.0309	22-Sep-08	0.0056	22-Oct-08	
		23-Apr-08	0.0107	23-May-08	0.4806	23-Jun-08	0.0111	23-Jul-08	0.0021	23-Aug-08	0.0485	23-Sep-08	0.0044	23-Oct-08	
		24-Apr-08	0.0110	24-May-08	0.4767	24-Jun-08	0.0172	24-Jul-08	0.0013	24-Aug-08	0.0803	24-Sep-08	0.0039	24-Oct-08	
		25-Apr-08	0.0106	25-May-08	0.5085	25-Jun-08	0.0264	25-Jul-08	0.0011	25-Aug-08	0.0830	25-Sep-08	0.0044	25-Oct-08	
		26-Apr-08	0.0128	26-May-08	0.4960	26-Jun-08	0.0190	26-Jul-08	0.0018	26-Aug-08	0.0560	26-Sep-08	0.0040	26-Oct-08	
		27-Apr-08	0.0268	27-May-08	0.4529	27-Jun-08	0.0118	27-Jul-08	0.0017	27-Aug-08	0.0693	27-Sep-08	0.0050	27-Oct-08	
		28-Apr-08	0.0650	28-May-08	0.4085	28-Jun-08	0.0093	28-Jul-08	0.0015	28-Aug-08	0.0683	28-Sep-08	0.0045	28-Oct-08	
		29-Apr-08	0.0901	29-May-08	0.3342	29-Jun-08	0.0074	29-Jul-08	0.0031	29-Aug-08	0.0513	29-Sep-08	0.0048	29-Oct-08	
		30-Apr-08	0.0952	30-May-08	0.2400	30-Jun-08	0.0055	30-Jul-08	0.0034	30-Aug-08	0.0475	30-Sep-08	0.0037	30-Oct-08	
				31-May-08	0.1949			31-Jul-08	0.0027	31-Aug-08	0.0455			31-Oct-08	

Table of Contents

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-4, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07	0.0666	1-Jun-07		1-Jul-07		1-Aug-07		1-Sep-07		1-Oct-07		1-Nov-07	
2-Apr-07		2-May-07	0.0684	2-Jun-07		2-Jul-07		2-Aug-07		2-Sep-07		2-Oct-07		2-Nov-07	
3-Apr-07		3-May-07	0.0924	3-Jun-07		3-Jul-07		3-Aug-07		3-Sep-07		3-Oct-07		3-Nov-07	
4-Apr-07		4-May-07	0.0988	4-Jun-07		4-Jul-07		4-Aug-07		4-Sep-07		4-Oct-07		4-Nov-07	
5-Apr-07		5-May-07	0.0957	5-Jun-07		5-Jul-07		5-Aug-07		5-Sep-07		5-Oct-07		5-Nov-07	
6-Apr-07		6-May-07	0.0891	6-Jun-07		6-Jul-07		6-Aug-07		6-Sep-07		6-Oct-07		6-Nov-07	
7-Apr-07		7-May-07	0.0786	7-Jun-07		7-Jul-07		7-Aug-07		7-Sep-07		7-Oct-07		7-Nov-07	
8-Apr-07		8-May-07	0.0702	8-Jun-07		8-Jul-07		8-Aug-07		8-Sep-07		8-Oct-07		8-Nov-07	
9-Apr-07		9-May-07	0.0651	9-Jun-07		9-Jul-07		9-Aug-07		9-Sep-07		9-Oct-07		9-Nov-07	
10-Apr-07		10-May-07	0.0602	10-Jun-07		10-Jul-07		10-Aug-07		10-Sep-07		10-Oct-07		10-Nov-07	
11-Apr-07		11-May-07	0.0612	11-Jun-07		11-Jul-07		11-Aug-07		11-Sep-07		11-Oct-07		11-Nov-07	
12-Apr-07		12-May-07	0.0632	12-Jun-07		12-Jul-07		12-Aug-07		12-Sep-07		12-Oct-07		12-Nov-07	
13-Apr-07		13-May-07	0.0678	13-Jun-07		13-Jul-07		13-Aug-07		13-Sep-07		13-Oct-07		13-Nov-07	
14-Apr-07		14-May-07	0.0790	14-Jun-07		14-Jul-07		14-Aug-07		14-Sep-07		14-Oct-07		14-Nov-07	
15-Apr-07		15-May-07	0.0749	15-Jun-07		15-Jul-07		15-Aug-07		15-Sep-07		15-Oct-07		15-Nov-07	
16-Apr-07		16-May-07	0.0773	16-Jun-07		16-Jul-07		16-Aug-07		16-Sep-07		16-Oct-07		16-Nov-07	
17-Apr-07		17-May-07	0.0775	17-Jun-07		17-Jul-07		17-Aug-07		17-Sep-07		17-Oct-07		17-Nov-07	
18-Apr-07		18-May-07	0.0762	18-Jun-07		18-Jul-07		18-Aug-07		18-Sep-07		18-Oct-07		18-Nov-07	
19-Apr-07		19-May-07	0.0797	19-Jun-07		19-Jul-07		19-Aug-07		19-Sep-07		19-Oct-07		19-Nov-07	
20-Apr-07		20-May-07	0.0848	20-Jun-07		20-Jul-07		20-Aug-07		20-Sep-07		20-Oct-07		20-Nov-07	
21-Apr-07		21-May-07	0.0515	21-Jun-07		21-Jul-07		21-Aug-07		21-Sep-07		21-Oct-07		21-Nov-07	
22-Apr-07		22-May-07	0.0000	22-Jun-07		22-Jul-07		22-Aug-07		22-Sep-07		22-Oct-07		22-Nov-07	
23-Apr-07		23-May-07	0.0000	23-Jun-07		23-Jul-07		23-Aug-07		23-Sep-07		23-Oct-07		23-Nov-07	
24-Apr-07		24-May-07	0.0592	24-Jun-07		24-Jul-07		24-Aug-07		24-Sep-07		24-Oct-07		24-Nov-07	
25-Apr-07		25-May-07	0.1124	25-Jun-07		25-Jul-07		25-Aug-07		25-Sep-07		25-Oct-07		25-Nov-07	
26-Apr-07		26-May-07	0.0000	26-Jun-07		26-Jul-07		26-Aug-07		26-Sep-07		26-Oct-07		26-Nov-07	
27-Apr-07	0.0680	27-May-07	[a]	27-Jun-07		27-Jul-07		27-Aug-07		27-Sep-07		27-Oct-07		27-Nov-07	
28-Apr-07	0.0697	28-May-07		28-Jun-07		28-Jul-07		28-Aug-07		28-Sep-07		28-Oct-07		28-Nov-07	
29-Apr-07	0.0679	29-May-07		29-Jun-07		29-Jul-07		29-Aug-07		29-Sep-07		29-Oct-07		29-Nov-07	
30-Apr-07	0.0656	30-May-07		30-Jun-07		30-Jul-07		30-Aug-07		30-Sep-07		30-Oct-07		30-Nov-07	
		31-May-07				31-Jul-07		31-Aug-07				31-Oct-07		1-Dec-07	

[a] Data logger began malfunctioning.

Summary of Mean Daily Flow (m^3/s) at MCS-4, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.0065	1-May-08	0.0631	1-Jun-08	0.0274	1-Jul-08	0.0049	1-Aug-08	0.0046	1-Sep-08	0.0045	1-Oct-08	0.0028
2-Mar-08		2-Apr-08	0.0067	2-May-08	0.0771	2-Jun-08	0.0250	2-Jul-08	0.0048	2-Aug-08	0.0046	2-Sep-08	0.0044	2-Oct-08	0.0030
3-Mar-08		3-Apr-08	0.0069	3-May-08	0.1064	3-Jun-08	0.0219	3-Jul-08	0.0048	3-Aug-08	0.0044	3-Sep-08	0.0041	3-Oct-08	0.0028
4-Mar-08		4-Apr-08	0.0068	4-May-08	0.0956	4-Jun-08	0.0191	4-Jul-08	0.0049	4-Aug-08	0.0044	4-Sep-08	0.0040	4-Oct-08	0.0028
5-Mar-08		5-Apr-08	0.0069	5-May-08	0.0824	5-Jun-08	0.0170	5-Jul-08	0.0050	5-Aug-08	0.0043	5-Sep-08	0.0039	5-Oct-08	0.0026
6-Mar-08		6-Apr-08	0.0070	6-May-08	0.0820	6-Jun-08	0.0149	6-Jul-08	0.0051	6-Aug-08	0.0044	6-Sep-08	0.0038	6-Oct-08	0.0026
7-Mar-08		7-Apr-08	0.0066	7-May-08	0.0801	7-Jun-08	0.0133	7-Jul-08	0.0050	7-Aug-08	0.0043	7-Sep-08	0.0037	7-Oct-08	0.0027
8-Mar-08		8-Apr-08	0.0063	8-May-08	0.0636	8-Jun-08	0.0120	8-Jul-08	0.0051	8-Aug-08	0.0043	8-Sep-08	0.0038	8-Oct-08	0.0025
9-Mar-08		9-Apr-08	0.0062	9-May-08	0.0586	9-Jun-08	0.0109	9-Jul-08	0.0051	9-Aug-08	0.0043	9-Sep-08	0.0036	9-Oct-08	0.0025
10-Mar-08		10-Apr-08	0.0063	10-May-08	0.0682	10-Jun-08	0.0099	10-Jul-08	0.0051	10-Aug-08	0.0043	10-Sep-08	0.0036	10-Oct-08	0.0024
11-Mar-08		11-Apr-08	0.0066	11-May-08	0.0854	11-Jun-08	0.0092	11-Jul-08	0.0052	11-Aug-08	0.0043	11-Sep-08	0.0036	11-Oct-08	0.0025
12-Mar-08		12-Apr-08	0.0071	12-May-08	0.0811	12-Jun-08	0.0088	12-Jul-08	0.0053	12-Aug-08	0.0045	12-Sep-08	0.0035	12-Oct-08	
13-Mar-08		13-Apr-08	0.0072	13-May-08	0.0728	13-Jun-08	0.0087	13-Jul-08	0.0053	13-Aug-08	0.0044	13-Sep-08	0.0034	13-Oct-08	
14-Mar-08		14-Apr-08	0.0077	14-May-08	0.0696	14-Jun-08	0.0080	14-Jul-08	0.0054	14-Aug-08	0.0044	14-Sep-08	0.0034	14-Oct-08	
15-Mar-08		15-Apr-08	0.0098	15-May-08	0.1054	15-Jun-08	0.0074	15-Jul-08	0.0054	15-Aug-08	0.0045	15-Sep-08	0.0034	15-Oct-08	
16-Mar-08		16-Apr-08	0.0121	16-May-08	0.1252	16-Jun-08	0.0069	16-Jul-08	0.0053	16-Aug-08	0.0046	16-Sep-08	0.0033	16-Oct-08	
17-Mar-08		17-Apr-08	0.0132	17-May-08	0.1398	17-Jun-08	0.0064	17-Jul-08	0.0054	17-Aug-08	0.0046	17-Sep-08	0.0034	17-Oct-08	
18-Mar-08		18-Apr-08	0.0139	18-May-08	0.1410	18-Jun-08	0.0064	18-Jul-08	0.0055	18-Aug-08	0.0045	18-Sep-08	0.0033	18-Oct-08	
19-Mar-08	0.0056	19-Apr-08	0.0148	19-May-08	0.1159	19-Jun-08	0.0062	19-Jul-08	0.0055	19-Aug-08	0.0046	19-Sep-08	0.0034	19-Oct-08	
20-Mar-08	0.0059	20-Apr-08	0.0152	20-May-08	0.1034	20-Jun-08	0.0058	20-Jul-08	0.0056	20-Aug-08	0.0045	20-Sep-08	0.0034	20-Oct-08	
21-Mar-08	0.0059	21-Apr-08	0.0153	21-May-08	0.0876	21-Jun-08	0.0059	21-Jul-08	0.0055	21-Aug-08	0.0046	21-Sep-08	0.0033	21-Oct-08	
22-Mar-08	0.0056	22-Apr-08	0.0152	22-May-08	0.0754	22-Jun-08	0.0062	22-Jul-08	0.0055	22-Aug-08	0.0050	22-Sep-08	0.0031	22-Oct-08	
23-Mar-08	0.0059	23-Apr-08	0.0153	23-May-08	0.0686	23-Jun-08	0.0060	23-Jul-08	0.0054	23-Aug-08	0.0059	23-Sep-08	0.0032	23-Oct-08	
24-Mar-08	0.0058	24-Apr-08	0.0155	24-May-08	0.0590	24-Jun-08	0.0061	24-Jul-08	0.0054	24-Aug-08	0.0062	24-Sep-08	0.0032	24-Oct-08	
25-Mar-08	0.0058	25-Apr-08	0.0157	25-May-08	0.0565	25-Jun-08	0.0061	25-Jul-08	0.0053	25-Aug-08	0.0055	25-Sep-08	0.0031	25-Oct-08	
26-Mar-08	0.0060	26-Apr-08	0.0165	26-May-08	0.0558	26-Jun-08	0.0057	26-Jul-08	0.0046	26-Aug-08	0.0052	26-Sep-08	0.0032	26-Oct-08	
27-Mar-08	0.0058	27-Apr-08	0.0211	27-May-08	0.0504	27-Jun-08	0.0055	27-Jul-08	0.0046	27-Aug-08	0.0053	27-Sep-08	0.0029	27-Oct-08	
28-Mar-08	0.0059	28-Apr-08	0.0492	28-May-08	0.0460	28-Jun-08	0.0053	28-Jul-08	0.0047	28-Aug-08	0.0051	28-Sep-08	0.0030	28-Oct-08	
29-Mar-08	0.0058	29-Apr-08	0.0498	29-May-08	0.0399	29-Jun-08	0.0052	29-Jul-08	0.0049	29-Aug-08	0.0049	29-Sep-08	0.0028	29-Oct-08	
30-Mar-08	0.0062	30-Apr-08	0.0526	30-May-08	0.0349	30-Jun-08	0.0052	30-Jul-08	0.0047	30-Aug-08	0.0048	30-Sep-08	0.0027	30-Oct-08	
31-Mar-08	0.0065			31-May-08	0.0302			31-Jul-08	0.0046	31-Aug-08	0.0047			31-Oct-08	

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-5, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07		1-Jun-07	0.0307	1-Jul-07	0.0219	1-Aug-07	0.0116	1-Sep-07	0.0155	1-Oct-07	-	1-Nov-07			
2-Apr-07		2-May-07		2-Jun-07	0.0277	2-Jul-07	0.0212	2-Aug-07	0.0119	2-Sep-07	0.0150	2-Oct-07	-	2-Nov-07			
3-Apr-07		3-May-07		3-Jun-07	0.0250	3-Jul-07	0.0199	3-Aug-07	0.0122	3-Sep-07	0.0145	3-Oct-07	-	3-Nov-07			
4-Apr-07		4-May-07		4-Jun-07	0.0222	4-Jul-07	0.0187	4-Aug-07	0.0134	4-Sep-07	0.0142	4-Oct-07	-	4-Nov-07			
5-Apr-07		5-May-07		5-Jun-07	0.0217	5-Jul-07	0.0181	5-Aug-07	0.0130	5-Sep-07	0.0146	5-Oct-07	-	5-Nov-07			
6-Apr-07		6-May-07		6-Jun-07	0.0222	6-Jul-07	0.0172	6-Aug-07	0.0127	6-Sep-07	0.0134	6-Oct-07	-	6-Nov-07			
7-Apr-07		7-May-07		7-Jun-07	0.0229	7-Jul-07	0.0162	7-Aug-07	0.0125	7-Sep-07	0.0133	7-Oct-07	-	7-Nov-07			
8-Apr-07		8-May-07		8-Jun-07	0.0239	8-Jul-07	0.0154	8-Aug-07	0.0131	8-Sep-07	0.0130	8-Oct-07	-	8-Nov-07			
9-Apr-07		9-May-07		9-Jun-07	0.0263	9-Jul-07	0.0144	9-Aug-07	0.0126	9-Sep-07	0.0124	9-Oct-07	-	9-Nov-07			
10-Apr-07		10-May-07		10-Jun-07	0.0309	10-Jul-07	0.0132	10-Aug-07	0.0127	10-Sep-07	0.0125	10-Oct-07	-	10-Nov-07			
11-Apr-07		11-May-07		11-Jun-07	0.0341	11-Jul-07	0.0125	11-Aug-07	0.0133	11-Sep-07	0.0134	11-Oct-07	-	11-Nov-07			
12-Apr-07		12-May-07		12-Jun-07	0.0359	12-Jul-07	0.0115	12-Aug-07	0.0141	12-Sep-07	0.0130	12-Oct-07	-	12-Nov-07			
13-Apr-07		13-May-07		13-Jun-07	0.0340	13-Jul-07	0.0111	13-Aug-07	0.0130	13-Sep-07	0.0131	13-Oct-07	-	13-Nov-07			
14-Apr-07		14-May-07		14-Jun-07	0.0317	14-Jul-07	0.0111	14-Aug-07	0.0122	14-Sep-07	0.0130	14-Oct-07	-	14-Nov-07			
15-Apr-07		15-May-07		15-Jun-07	0.0303	15-Jul-07	0.0130	15-Aug-07	0.0119	15-Sep-07	0.0132	15-Oct-07	-	15-Nov-07			
16-Apr-07		16-May-07		16-Jun-07	0.0290	16-Jul-07	0.0133	16-Aug-07	0.0121	16-Sep-07	0.0137	16-Oct-07	-	16-Nov-07			
17-Apr-07		17-May-07		17-Jun-07	0.0276	17-Jul-07	0.0133	17-Aug-07	0.0224	17-Sep-07	0.0137	17-Oct-07	-	17-Nov-07			
18-Apr-07		18-May-07		18-Jun-07	0.0267	18-Jul-07	0.0136	18-Aug-07	0.0226	18-Sep-07	0.0136	18-Oct-07	-	18-Nov-07			
19-Apr-07		19-May-07		19-Jun-07	0.0257	19-Jul-07	0.0179	19-Aug-07	0.0168	19-Sep-07	0.0139	19-Oct-07	-	19-Nov-07			
20-Apr-07		20-May-07		20-Jun-07	0.0251	20-Jul-07	0.0177	20-Aug-07	0.0164	20-Sep-07	0.0143	20-Oct-07	-	20-Nov-07			
21-Apr-07		21-May-07		21-Jun-07	0.0256	21-Jul-07	0.0170	21-Aug-07	0.0151	21-Sep-07	**a**	21-Oct-07	-	21-Nov-07			
22-Apr-07		22-May-07		22-Jun-07	0.0255	22-Jul-07	0.0170	22-Aug-07	0.0145	22-Sep-07	-	22-Oct-07	-	22-Nov-07			
23-Apr-07		23-May-07		23-Jun-07	0.0258	23-Jul-07	0.0171	23-Aug-07	0.0150	23-Sep-07	-	23-Oct-07	-	23-Nov-07			
24-Apr-07		24-May-07	0.0487	24-Jun-07	0.0249	24-Jul-07	0.0179	24-Aug-07	0.0169	24-Sep-07	-	24-Oct-07	-	24-Nov-07			
25-Apr-07		25-May-07	0.0464	25-Jun-07	0.0235	25-Jul-07	0.0183	25-Aug-07	0.0187	25-Sep-07	-	25-Oct-07	-	25-Nov-07			
26-Apr-07		26-May-07	0.0450	26-Jun-07	0.0226	26-Jul-07	0.0175	26-Aug-07	0.0156	26-Sep-07	-	26-Oct-07	-	26-Nov-07			
27-Apr-07		27-May-07	0.0449	27-Jun-07	0.0232	27-Jul-07	0.0165	27-Aug-07	0.0141	27-Sep-07	-	27-Oct-07	-	27-Nov-07			
28-Apr-07		28-May-07	0.0429	28-Jun-07	0.0233	28-Jul-07	0.0044	28-Aug-07	0.0150	28-Sep-07	-	28-Oct-07	-	28-Nov-07			
29-Apr-07		29-May-07	0.0387	29-Jun-07	0.0227	29-Jul-07	0.0031	29-Aug-07	0.0202	29-Sep-07	-	29-Oct-07	-	29-Nov-07			
30-Apr-07		30-May-07	0.0360	30-Jun-07	0.0225	30-Jul-07	0.0048	30-Aug-07	0.0172	30-Sep-07	-	30-Oct-07	-	30-Nov-07			
		31-May-07	0.0335			31-Jul-07	0.0087	31-Aug-07	0.0156			31-Oct-07	-	1-Dec-07			

a Data not reliable.

Summary of Mean Daily Flow (m^3/s) at MCS-5, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.0032	1-May-08	0.0238	1-Jun-08	0.0269	1-Jul-08	0.0060	1-Aug-08	0.0064	1-Sep-08	0.0031	1-Oct-08	0.0016		
2-Mar-08		2-Apr-08	0.0035	2-May-08	0.0287	2-Jun-08	0.0234	2-Jul-08	0.0059	2-Aug-08	0.0061	2-Sep-08	0.0030	2-Oct-08	0.0019		
3-Mar-08		3-Apr-08	0.0038	3-May-08	0.0373	3-Jun-08	0.0217	3-Jul-08	0.0058	3-Aug-08	0.0060	3-Sep-08	0.0029	3-Oct-08	0.0022		
4-Mar-08		4-Apr-08	0.0039	4-May-08	0.0498	4-Jun-08	0.0219	4-Jul-08	0.0058	4-Aug-08	0.0058	4-Sep-08	0.0029	4-Oct-08	0.0023		
5-Mar-08		5-Apr-08	0.0039	5-May-08	0.0522	5-Jun-08	0.0229	5-Jul-08	0.0058	5-Aug-08	0.0059	5-Sep-08	0.0029	5-Oct-08	0.0033		
6-Mar-08		6-Apr-08	0.0040	6-May-08	0.0804	6-Jun-08	0.0228	6-Jul-08	0.0059	6-Aug-08	0.0052	6-Sep-08	0.0026	6-Oct-08	0.0032		
7-Mar-08		7-Apr-08	0.0041	7-May-08	0.1049	7-Jun-08	0.0226	7-Jul-08	0.0056	7-Aug-08	0.0047	7-Sep-08	0.0024	7-Oct-08	0.0031		
8-Mar-08		8-Apr-08	0.0041	8-May-08	0.0896	8-Jun-08	0.0227	8-Jul-08	0.0054	8-Aug-08	0.0046	8-Sep-08	0.0023	8-Oct-08	0.0032		
9-Mar-08		9-Apr-08	0.0040	9-May-08	0.0796	9-Jun-08	0.0222	9-Jul-08	0.0055	9-Aug-08	0.0045	9-Sep-08	0.0021	9-Oct-08	0.0042		
10-Mar-08		10-Apr-08	0.0040	10-May-08	0.0739	10-Jun-08	0.0214	10-Jul-08	0.0056	10-Aug-08	0.0053	10-Sep-08	0.0020	10-Oct-08	0.0043		
11-Mar-08		11-Apr-08	0.0041	11-May-08	0.0724	11-Jun-08	0.0204	11-Jul-08	0.0057	11-Aug-08	0.0048	11-Sep-08	0.0022	11-Oct-08			
12-Mar-08		12-Apr-08	0.0043	12-May-08	0.0738	12-Jun-08	0.0173	12-Jul-08	0.0056	12-Aug-08	0.0048	12-Sep-08	0.0024	12-Oct-08			
13-Mar-08		13-Apr-08	0.0047	13-May-08	0.0729	13-Jun-08	0.0155	13-Jul-08	0.0056	13-Aug-08	0.0047	13-Sep-08	0.0023	13-Oct-08			
14-Mar-08		14-Apr-08	0.0048	14-May-08	0.0706	14-Jun-08	0.0144	14-Jul-08	0.0058	14-Aug-08	0.0040	14-Sep-08	0.0022	14-Oct-08			
15-Mar-08		15-Apr-08	0.0050	15-May-08	0.0684	15-Jun-08	0.0123	15-Jul-08	0.0063	15-Aug-08	0.0035	15-Sep-08	0.0021	15-Oct-08			
16-Mar-08		16-Apr-08	0.0056	16-May-08	0.0645	16-Jun-08	0.0104	16-Jul-08	0.0058	16-Aug-08	0.0033	16-Sep-08	0.0019	16-Oct-08			
17-Mar-08		17-Apr-08	0.0066	17-May-08	0.0629	17-Jun-08	0.0089	17-Jul-08	0.0061	17-Aug-08	0.0031	17-Sep-08	0.0021	17-Oct-08			
18-Mar-08		18-Apr-08	0.0065	18-May-08	0.0593	18-Jun-08	0.0078	18-Jul-08	0.0059	18-Aug-08	0.0028	18-Sep-08	0.0015	18-Oct-08			
19-Mar-08		19-Apr-08	0.0063	19-May-08	0.0581	19-Jun-08	0.0073	19-Jul-08	0.0061	19-Aug-08	0.0029	19-Sep-08	0.0013	19-Oct-08			
20-Mar-08		20-Apr-08	0.0060	20-May-08	0.0577	20-Jun-08	0.0064	20-Jul-08	0.0063	20-Aug-08	0.0043	20-Sep-08	0.0014	20-Oct-08			
21-Mar-08		21-Apr-08	0.0057	21-May-08	0.0523	21-Jun-08	0.0060	21-Jul-08	0.0064	21-Aug-08	0.0045	21-Sep-08	0.0016	21-Oct-08			
22-Mar-08		22-Apr-08	0.0054	22-May-08	0.0475	22-Jun-08	0.0059	22-Jul-08	0.0062	22-Aug-08	0.0041	22-Sep-08	0.0016	22-Oct-08			
23-Mar-08		23-Apr-08	0.0053	23-May-08	0.0449	23-Jun-08	0.0058	23-Jul-08	0.0060	23-Aug-08	0.0014	23-Sep-08	0.0016	23-Oct-08			
24-Mar-08		24-Apr-08	0.0053	24-May-08	0.0423	24-Jun-08	0.0057	24-Jul-08	0.0059	24-Aug-08	0.0015	24-Sep-08	0.0015	24-Oct-08			
25-Mar-08		25-Apr-08	0.0052	25-May-08	0.0389	25-Jun-08	0.0057	25-Jul-08	0.0063	25-Aug-08	0.0021	25-Sep-08	0.0015	25-Oct-08			
26-Mar-08	0.0033	26-Apr-08	0.0057	26-May-08	0.0341	26-Jun-08	0.0058	26-Jul-08	0.0061	26-Aug-08	0.0027	26-Sep-08	0.0014	26-Oct-08			
27-Mar-08	0.0033	27-Apr-08	0.0096	27-May-08	0.0318	27-Jun-08	0.0055	27-Jul-08	0.0062	27-Aug-08	0.0034	27-Sep-08	0.0015	27-Oct-08			
28-Mar-08	0.0034	28-Apr-08	0.0151	28-May-08	0.0309	28-Jun-08	0.0055	28-Jul-08	0.0063	28-Aug-08	0.0035	28-Sep-08	0.0016	28-Oct-08			
29-Mar-08	0.0033	29-Apr-08	0.0173	29-May-08	0.0302	29-Jun-08	0.0057	29-Jul-08	0.0062	29-Aug-08	0.0032	29-Sep-08	0.0017	29-Oct-08			
30-Mar-08	0.0033	30-Apr-08	0.0202	30-May-08	0.0288	30-Jun-08	0.0059	30-Jul-08	0.0065	30-Aug-08	0.0032	30-Sep-08	0.0017	30-Oct-08			
31-Mar-08	0.0032			31-May-08	0.0280			31-Jul-08	0.0065	31-Aug-08	0.0			31-Oct-08			

Table of Contents

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-6, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07	0.0526	1-Jun-07	1.3249	1-Jul-07	0.2086	1-Aug-07	0.1761	1-Sep-07	0.0998	1-Oct-07	0.0497	1-Nov-07			
2-Apr-07		2-May-07	0.0627	2-Jun-07	1.4852	2-Jul-07	0.1830	2-Aug-07	0.1551	2-Sep-07	0.0934	2-Oct-07	0.0502	2-Nov-07			
3-Apr-07		3-May-07	0.1890	3-Jun-07	1.6049	3-Jul-07	0.1627	3-Aug-07	0.1444	3-Sep-07	0.0929	3-Oct-07	0.0425	3-Nov-07			
4-Apr-07		4-May-07	0.2237	4-Jun-07	1.7616	4-Jul-07	0.1471	4-Aug-07	0.1420	4-Sep-07	0.0886	4-Oct-07	0.0442	4-Nov-07			
5-Apr-07		5-May-07	0.1869	5-Jun-07	1.5289	5-Jul-07	0.1297	5-Aug-07	0.1199	5-Sep-07	0.0910	5-Oct-07	0.0457	5-Nov-07			
6-Apr-07		6-May-07	0.1786	6-Jun-07	1.6246	6-Jul-07	0.1147	6-Aug-07	0.1025	6-Sep-07	0.0831	6-Oct-07	0.0404	6-Nov-07			
7-Apr-07		7-May-07	0.2084	7-Jun-07	1.5031	7-Jul-07	0.1047	7-Aug-07	0.0899	7-Sep-07	0.0730	7-Oct-07	0.0787	7-Nov-07			
8-Apr-07		8-May-07	0.1906	8-Jun-07	1.1943	8-Jul-07	0.0984	8-Aug-07	0.0806	8-Sep-07	0.0650	8-Oct-07	0.0844	8-Nov-07			
9-Apr-07		9-May-07	0.1783	9-Jun-07	1.1232	9-Jul-07	0.0955	9-Aug-07	0.0717	9-Sep-07	0.0607	9-Oct-07	0.0724	9-Nov-07			
10-Apr-07		10-May-07	0.1640	10-Jun-07	1.3247	10-Jul-07	0.0891	10-Aug-07	0.0635	10-Sep-07	0.0602	10-Oct-07	0.0777	10-Nov-07			
11-Apr-07		11-May-07	0.1587	11-Jun-07	1.0712	11-Jul-07	0.0801	11-Aug-07	0.0653	11-Sep-07	0.0616	11-Oct-07	0.0885	11-Nov-07			
12-Apr-07		12-May-07	0.1549	12-Jun-07	0.9037	12-Jul-07	0.0701	12-Aug-07	0.0782	12-Sep-07	0.0531	12-Oct-07	0.0788	12-Nov-07			
13-Apr-07		13-May-07	0.1472	13-Jun-07	0.7565	13-Jul-07	0.0617	13-Aug-07	0.0715	13-Sep-07	0.0451	13-Oct-07	0.1564	13-Nov-07			
14-Apr-07		14-May-07	0.1691	14-Jun-07	0.6319	14-Jul-07	0.0951	14-Aug-07	0.0553	14-Sep-07	0.0419	14-Oct-07	0.1475	14-Nov-07			
15-Apr-07		15-May-07	0.2071	15-Jun-07	0.5385	15-Jul-07	0.3018	15-Aug-07	0.0461	15-Sep-07	0.0404	15-Oct-07	0.1437	15-Nov-07			
16-Apr-07		16-May-07	0.3631	16-Jun-07	0.4749	16-Jul-07	0.2900	16-Aug-07	0.0404	16-Sep-07	0.0372	16-Oct-07	0.1340	16-Nov-07			
17-Apr-07		17-May-07	0.4776	17-Jun-07	0.4164	17-Jul-07	0.1849	17-Aug-07	0.1227	17-Sep-07	0.0335	17-Oct-07	0.1352	17-Nov-07			
18-Apr-07		18-May-07	0.4144	18-Jun-07	0.3580	18-Jul-07	0.1605	18-Aug-07	0.2741	18-Sep-07	0.0300	18-Oct-07	0.1208	18-Nov-07			
19-Apr-07		19-May-07	0.5372	19-Jun-07	0.3100	19-Jul-07	0.7604	19-Aug-07	0.1454	19-Sep-07	0.0293	19-Oct-07	0.1100	19-Nov-07			
20-Apr-07		20-May-07	0.5699	20-Jun-07	0.2995	20-Jul-07	0.5224	20-Aug-07	0.1073	20-Sep-07	0.0304	20-Oct-07	0.1046	20-Nov-07			
21-Apr-07		21-May-07	0.6098	21-Jun-07	0.4251	21-Jul-07	0.3650	21-Aug-07	0.0871	21-Sep-07	0.0404	21-Oct-07	0.0997	21-Nov-07			
22-Apr-07		22-May-07	0.7364	22-Jun-07	0.3247	22-Jul-07	0.3205	22-Aug-07	0.0739	22-Sep-07	0.0329	22-Oct-07	0.1025	22-Nov-07			
23-Apr-07		23-May-07	0.9647	23-Jun-07	0.3272	23-Jul-07	0.2806	23-Aug-07	0.0639	23-Sep-07	0.0305	23-Oct-07	0.1350	23-Nov-07			
24-Apr-07		24-May-07	1.1334	24-Jun-07	0.2775	24-Jul-07	0.3120	24-Aug-07	0.0655	24-Sep-07	0.0281	24-Oct-07	0.2462	24-Nov-07			
25-Apr-07		25-May-07	1.0607	25-Jun-07	0.2310	25-Jul-07	0.2623	25-Aug-07	0.1158	25-Sep-07	0.0247	25-Oct-07	0.1639	25-Nov-07			
26-Apr-07		26-May-07	1.2899	26-Jun-07	0.2030	26-Jul-07	0.2306	26-Aug-07	0.0889	26-Sep-07	0.0212	26-Oct-07	0.1419	26-Nov-07			
27-Apr-07	0.1029	27-May-07	1.1801	27-Jun-07	0.2650	27-Jul-07	0.2060	27-Aug-07	0.0720	27-Sep-07	0.0366	27-Oct-07	0.1335	27-Nov-07			
28-Apr-07	0.0894	28-May-07	1.0329	28-Jun-07	0.2538	28-Jul-07	0.1872	28-Aug-07	0.0617	28-Sep-07	0.0366	28-Oct-07	0.1337	28-Nov-07			
29-Apr-07	0.0648	29-May-07	1.0469	29-Jun-07	0.2502	29-Jul-07	0.2148	29-Aug-07	0.1338	29-Sep-07	0.0335	29-Oct-07	0.1393	29-Nov-07			
30-Apr-07	0.0555	30-May-07	1.1530	30-Jun-07	0.2413	30-Jul-07	0.2329	30-Aug-07	0.1501	30-Sep-07	0.0390	30-Oct-07		30-Nov-07			
		31-May-07	1.2685			31-Jul-07	0.2065	31-Aug-07	0.1148			31-Oct-07		1-Dec-07			

Summary of Mean Daily Flow (m^3/s) at MCS-6, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.0072	1-May-08	0.1724	1-Jun-08	0.8093	1-Jul-08	0.1403	1-Aug-08	0.0969	1-Sep-08	0.2576	1-Oct-08	0.0895		
2-Mar-08		2-Apr-08	0.0069	2-May-08	0.1890	2-Jun-08	0.7434	2-Jul-08	0.1220	2-Aug-08	0.0881	2-Sep-08	0.2459	2-Oct-08	0.0847		
3-Mar-08		3-Apr-08	0.0065	3-May-08	0.2584	3-Jun-08	0.6711	3-Jul-08	0.1176	3-Aug-08	0.0781	3-Sep-08	0.2342	3-Oct-08	0.0810		
4-Mar-08		4-Apr-08	0.0060	4-May-08	0.2646	4-Jun-08	0.5865	4-Jul-08	0.1233	4-Aug-08	0.0709	4-Sep-08	0.2222	4-Oct-08	0.0846		
5-Mar-08		5-Apr-08	0.0057	5-May-08	0.2805	5-Jun-08	0.5256	5-Jul-08	0.1158	5-Aug-08	0.0644	5-Sep-08	0.2116	5-Oct-08	0.1782		
6-Mar-08		6-Apr-08	0.0049	6-May-08	0.3444	6-Jun-08	0.4783	6-Jul-08	0.1885	6-Aug-08	0.0601	6-Sep-08	0.2003	6-Oct-08	0.1640		
7-Mar-08		7-Apr-08	0.0048	7-May-08	0.3417	7-Jun-08	0.4373	7-Jul-08	0.1569	7-Aug-08	0.0537	7-Sep-08	0.1901	7-Oct-08	0.1559		
8-Mar-08		8-Apr-08	0.0046	8-May-08	0.2850	8-Jun-08	0.4082	8-Jul-08	0.1300	8-Aug-08	0.0480	8-Sep-08	0.1847	8-Oct-08	0.1526		
9-Mar-08		9-Apr-08	0.0045	9-May-08	0.2964	9-Jun-08	0.3760	9-Jul-08	0.1245	9-Aug-08	0.0519	9-Sep-08	0.1732	9-Oct-08	0.1338		
10-Mar-08		10-Apr-08	0.0041	10-May-08	0.3851	10-Jun-08	0.3464	10-Jul-08	0.1192	10-Aug-08	0.1678	10-Sep-08	0.1675	10-Oct-08	0.1167		
11-Mar-08		11-Apr-08	0.0042	11-May-08	0.4502	11-Jun-08	0.3229	11-Jul-08	0.1032	11-Aug-08	0.1556	11-Sep-08	0.1875	11-Oct-08	0.1104		
12-Mar-08		12-Apr-08	0.0069	12-May-08	0.4891	12-Jun-08	0.3165	12-Jul-08	0.0938	12-Aug-08	0.1210	12-Sep-08	0.2012	12-Oct-08			
13-Mar-08		13-Apr-08	0.0180	13-May-08	0.4811	13-Jun-08	0.3134	13-Jul-08	0.1021	13-Aug-08	0.1171	13-Sep-08	0.1797	13-Oct-08			
14-Mar-08		14-Apr-08	0.0133	14-May-08	0.6639	14-Jun-08	0.2884	14-Jul-08	0.1175	14-Aug-08	0.0989	14-Sep-08	0.1657	14-Oct-08			
15-Mar-08		15-Apr-08	0.0113	15-May-08	0.9630	15-Jun-08	0.2675	15-Jul-08	0.0978	15-Aug-08	0.0835	15-Sep-08	0.1578	15-Oct-08			
16-Mar-08		16-Apr-08	0.0115	16-May-08	1.0464	16-Jun-08	0.2518	16-Jul-08	0.0875	16-Aug-08	0.0733	16-Sep-08	0.1506	16-Oct-08			
17-Mar-08		17-Apr-08	0.0170	17-May-08	1.2351	17-Jun-08	0.2389	17-Jul-08	0.1411	17-Aug-08	0.0664	17-Sep-08	0.1745	17-Oct-08			
18-Mar-08	0.0144	18-Apr-08	0.0145	18-May-08	1.4953	18-Jun-08	0.2362	18-Jul-08	0.1275	18-Aug-08	0.0610	18-Sep-08	0.1577	18-Oct-08			
19-Mar-08	0.0120	19-Apr-08	0.0122	19-May-08	1.3060	19-Jun-08	0.2169	19-Jul-08	0.1197	19-Aug-08	0.0723	19-Sep-08	0.1469	19-Oct-08			
20-Mar-08	0.0105	20-Apr-08	0.0107	20-May-08	1.3426	20-Jun-08	0.2023	20-Jul-08	0.1428	20-Aug-08	0.2288	20-Sep-08	0.1389	20-Oct-08			
21-Mar-08	0.0091	21-Apr-08	0.0100	21-May-08	1.2852	21-Jun-08	0.2085	21-Jul-08	0.1321	21-Aug-08	0.3202	21-Sep-08	0.1370	21-Oct-08			
22-Mar-08	0.0089	22-Apr-08	0.0097	22-May-08	1.2986	22-Jun-08	0.2355	22-Jul-08	0.1328	22-Aug-08	0.2242	22-Sep-08	0.1373	22-Oct-08			
23-Mar-08	0.0089	23-Apr-08	0.0100	23-May-08	1.2549	23-Jun-08	0.2057	23-Jul-08	0.1142	23-Aug-08	0.2795	23-Sep-08	0.1242	23-Oct-08			
24-Mar-08	0.0073	24-Apr-08	0.0094	24-May-08	1.2396	24-Jun-08	0.2346	24-Jul-08	0.0990	24-Aug-08	0.3610	24-Sep-08	0.1167	24-Oct-08			
25-Mar-08	0.0067	25-Apr-08	0.0093	25-May-08	1.3120	25-Jun-08	0.2536	25-Jul-08	0.0909	25-Aug-08	0.3450	25-Sep-08	0.1139	25-Oct-08			
26-Mar-08	0.0067	26-Apr-08	0.0107	26-May-08	1.3466	26-Jun-08	0.2273	26-Jul-08	0.0919	26-Aug-08	0.2899	26-Sep-08	0.1075	26-Oct-08			
27-Mar-08	0.0070	27-Apr-08	0.0300	27-May-08	1.3229	27-Jun-08	0.2023	27-Jul-08	0.0874	27-Aug-08	0.3348	27-Sep-08	0.1151	27-Oct-08			
28-Mar-08	0.0091	28-Apr-08	0.0600	28-May-08	1.2644	28-Jun-08	0.1836	28-Jul-08	0.0868	28-Aug-08	0.3324	28-Sep-08	0.1090	28-Oct-08			
29-Mar-08	0.0085	29-Apr-08	0.1000	29-May-08	1.1484	29-Jun-08	0.1675	29-Jul-08	0.1259	29-Aug-08	0.2966	29-Sep-08	0.1074	29-Oct-08			
30-Mar-08	0.0077	30-Apr-08	0.1400	30-May-08	1.0212	30-Jun-08	0.1542	30-Jul-08	0.1262	30-Aug-08	0.2897	30-Sep-08	0.0971	30-Oct-08			
31-Mar-08	0.0180			31-May-08	0.9002			31-Jul-08	0.1082	31-Aug-08	0.2805			31-Oct-08			

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-7, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07		1-Jun-07	0.3159	1-Jul-07	0.1996	1-Aug-07	*0.0374*	1-Sep-07	0.0628	1-Oct-07	0.0294	1-Nov-07	0.2065
2-Apr-07		2-May-07		2-Jun-07	0.2829	2-Jul-07	0.1589	2-Aug-07	*0.0374*	2-Sep-07	0.0555	2-Oct-07	0.0297	2-Nov-07	0.1999
3-Apr-07		3-May-07		3-Jun-07	0.2555	3-Jul-07	0.1328	3-Aug-07	*0.0374*	3-Sep-07	0.0493	3-Oct-07	0.0315	3-Nov-07	
4-Apr-07		4-May-07		4-Jun-07	0.2414	4-Jul-07	0.1141	4-Aug-07	*0.0374*	4-Sep-07	0.0439	4-Oct-07	0.0352	4-Nov-07	
5-Apr-07		5-May-07		5-Jun-07	0.2603	5-Jul-07	0.0994	5-Aug-07	*0.0374*	5-Sep-07	0.0435	5-Oct-07	0.0456	5-Nov-07	
6-Apr-07		6-May-07		6-Jun-07	0.2943	6-Jul-07	0.0896	6-Aug-07	*0.0374*	6-Sep-07	0.0399	6-Oct-07	0.0474	6-Nov-07	
7-Apr-07		7-May-07		7-Jun-07	0.3518	7-Jul-07	0.0797	7-Aug-07	*0.0374*	7-Sep-07	0.0352	7-Oct-07	0.0917	7-Nov-07	
8-Apr-07		8-May-07		8-Jun-07	0.2964	8-Jul-07	0.0729	8-Aug-07	*0.0374*	8-Sep-07	0.0307	8-Oct-07	0.0789	8-Nov-07	
9-Apr-07		9-May-07		9-Jun-07	0.2567	9-Jul-07	0.0709	9-Aug-07	*0.0374*	9-Sep-07	0.0275	9-Oct-07	0.0772	9-Nov-07	
10-Apr-07		10-May-07		10-Jun-07	0.3925	10-Jul-07	0.0644	10-Aug-07	*0.0374*	10-Sep-07	0.0248	10-Oct-07	0.0866	10-Nov-07	
11-Apr-07		11-May-07		11-Jun-07	0.3778	11-Jul-07	0.0558	11-Aug-07	*0.0374*	11-Sep-07	0.0220	11-Oct-07	0.0776	11-Nov-07	
12-Apr-07		12-May-07		12-Jun-07	0.2979	12-Jul-07	*0.0374*	12-Aug-07	*0.0374*	12-Sep-07	0.0194	12-Oct-07	0.0765	12-Nov-07	
13-Apr-07		13-May-07		13-Jun-07	0.2431	13-Jul-07	*0.0374*	13-Aug-07	*0.0374*	13-Sep-07	0.0175	13-Oct-07	0.1090	13-Nov-07	
14-Apr-07		14-May-07		14-Jun-07	0.2001	14-Jul-07	*0.0374*	14-Aug-07	*0.0374*	14-Sep-07	0.0159	14-Oct-07	0.1221	14-Nov-07	
15-Apr-07		15-May-07		15-Jun-07	0.1679	15-Jul-07	*0.0374*	15-Aug-07	*0.0374*	15-Sep-07	0.0148	15-Oct-07	0.1183	15-Nov-07	
16-Apr-07		16-May-07		16-Jun-07	0.1539	16-Jul-07	*0.0374*	16-Aug-07	*0.0374*	16-Sep-07	0.0141	16-Oct-07	0.1015	16-Nov-07	
17-Apr-07		17-May-07		17-Jun-07	0.1522	17-Jul-07	*0.0374*	17-Aug-07	0.0238	17-Sep-07	0.0136	17-Oct-07	0.0973	17-Nov-07	
18-Apr-07		18-May-07		18-Jun-07	0.1401	18-Jul-07	*0.0374*	18-Aug-07	0.1004	18-Sep-07	0.0118	18-Oct-07	0.0876	18-Nov-07	
19-Apr-07		19-May-07		19-Jun-07	0.1271	19-Jul-07	*0.0374*	19-Aug-07	0.0855	19-Sep-07	0.0107	19-Oct-07	0.0790	19-Nov-07	
20-Apr-07		20-May-07		20-Jun-07	0.1184	20-Jul-07	*0.0374*	20-Aug-07	0.0636	20-Sep-07	0.0112	20-Oct-07	0.0715	20-Nov-07	
21-Apr-07		21-May-07		21-Jun-07	0.1760	21-Jul-07	*0.0374*	21-Aug-07	0.0485	21-Sep-07	0.0149	21-Oct-07	0.0672	21-Nov-07	
22-Apr-07		22-May-07		22-Jun-07	0.1775	22-Jul-07	*0.0374*	22-Aug-07	0.0391	22-Sep-07	0.0140	22-Oct-07	0.0697	22-Nov-07	
23-Apr-07		23-May-07		23-Jun-07	0.1899	23-Jul-07	*0.0374*	23-Aug-07	0.0311	23-Sep-07	0.0143	23-Oct-07	0.1021	23-Nov-07	
24-Apr-07		24-May-07	0.6305	24-Jun-07	0.1805	24-Jul-07	*0.0374*	24-Aug-07	0.0299	24-Sep-07	0.0132	24-Oct-07	0.1555	24-Nov-07	
25-Apr-07		25-May-07	0.6760	25-Jun-07	0.1474	25-Jul-07	*0.0374*	25-Aug-07	0.0460	25-Sep-07	0.0126	25-Oct-07	0.1563	25-Nov-07	
26-Apr-07		26-May-07	0.6738	26-Jun-07	0.1263	26-Jul-07	*0.0374*	26-Aug-07	0.0385	26-Sep-07	0.0116	26-Oct-07	0.1390	26-Nov-07	
27-Apr-07		27-May-07	0.6386	27-Jun-07	0.1551	27-Jul-07	*0.0374*	27-Aug-07	0.0325	27-Sep-07	0.0173	27-Oct-07	0.1314	27-Nov-07	
28-Apr-07		28-May-07	0.4953	28-Jun-07	0.1765	28-Jul-07	*0.0374*	28-Aug-07	0.0281	28-Sep-07	0.0196	28-Oct-07	0.1355	28-Nov-07	
29-Apr-07		29-May-07	0.4253	29-Jun-07	0.1970	29-Jul-07	*0.0374*	29-Aug-07	0.0497	29-Sep-07	0.0214	29-Oct-07	0.1501	29-Nov-07	
30-Apr-07		30-May-07	0.3904	30-Jun-07	0.2484	30-Jul-07	*0.0374*	30-Aug-07	0.0650	30-Sep-07	0.0287	30-Oct-07	0.1435	30-Nov-07	
		31-May-07	0.3634			31-Jul-07	*0.0374*	31-Aug-07	0.0593			31-Oct-07	0.1352		

Note: Italicized numbers where filled-in using an average of the numbers preceding and following the data gap.

Summary of Mean Daily Flow (m^3/s) at MCS-7, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.0160	1-May-08	0.4381	1-Jun-08	0.1043	1-Jul-08	0.0013	1-Aug-08	0.0011	1-Sep-08	0.1189	1-Oct-08	0.0439
2-Mar-08		2-Apr-08	0.0103	2-May-08	0.4460	2-Jun-08	0.0842	2-Jul-08	0.0007	2-Aug-08	0.0000	2-Sep-08	0.1044	2-Oct-08	0.0422
3-Mar-08		3-Apr-08	0.0107	3-May-08	0.5798	3-Jun-08	0.0704	3-Jul-08	0.0008	3-Aug-08	0.0000	3-Sep-08	0.0940	3-Oct-08	0.0450
4-Mar-08		4-Apr-08	0.0106	4-May-08	0.6071	4-Jun-08	0.0587	4-Jul-08	0.0023	4-Aug-08	0.0000	4-Sep-08	0.0856	4-Oct-08	0.0504
5-Mar-08		5-Apr-08	0.0109	5-May-08	0.5117	5-Jun-08	0.0492	5-Jul-08	0.0020	5-Aug-08	0.0000	5-Sep-08	0.0769	5-Oct-08	0.1295
6-Mar-08		6-Apr-08	0.0110	6-May-08	0.5433	6-Jun-08	0.0422	6-Jul-08	0.0045	6-Aug-08	0.0000	6-Sep-08	0.0670	6-Oct-08	0.1346
7-Mar-08		7-Apr-08	0.0114	7-May-08	0.5691	7-Jun-08	0.0359	7-Jul-08	0.0029	7-Aug-08	0.0000	7-Sep-08	0.0596	7-Oct-08	0.1412
8-Mar-08		8-Apr-08	0.0117	8-May-08	0.5317	8-Jun-08	0.0311	8-Jul-08	0.0019	8-Aug-08	0.0000	8-Sep-08	0.0545	8-Oct-08	0.1324
9-Mar-08		9-Apr-08	0.0116	9-May-08	0.5342	9-Jun-08	0.0268	9-Jul-08	0.0018	9-Aug-08	0.0000	9-Sep-08	0.0473	9-Oct-08	0.1230
10-Mar-08		10-Apr-08	0.0111	10-May-08	0.6046	10-Jun-08	0.0218	10-Jul-08	0.0019	10-Aug-08	0.0464	10-Sep-08	0.0425	10-Oct-08	0.1141
11-Mar-08		11-Apr-08	0.0112	11-May-08	0.7089	11-Jun-08	0.0182	11-Jul-08	0.0010	11-Aug-08	0.0449	11-Sep-08	0.0482	11-Oct-08	
12-Mar-08		12-Apr-08	0.0127	12-May-08	0.7647	12-Jun-08	0.0168	12-Jul-08	0.0006	12-Aug-08	0.0341	12-Sep-08	0.0558	12-Oct-08	
13-Mar-08		13-Apr-08	0.0378	13-May-08	0.7510	13-Jun-08	0.0175	13-Jul-08	0.0006	13-Aug-08	0.0359	13-Sep-08	0.0491	13-Oct-08	
14-Mar-08		14-Apr-08	0.0265	14-May-08	0.6420	14-Jun-08	0.0140	14-Jul-08	0.0005	14-Aug-08	0.0292	14-Sep-08	0.0437	14-Oct-08	
15-Mar-08		15-Apr-08	0.0217	15-May-08	0.7234	15-Jun-08	0.0112	15-Jul-08	0.0003	15-Aug-08	0.0230	15-Sep-08	0.0397	15-Oct-08	
16-Mar-08		16-Apr-08	0.0224	16-May-08	0.6736	16-Jun-08	0.0093	16-Jul-08	0.0002	16-Aug-08	0.0169	16-Sep-08	0.0379	16-Oct-08	
17-Mar-08		17-Apr-08	0.0319	17-May-08	0.7083	17-Jun-08	0.0082	17-Jul-08	0.0005	17-Aug-08	0.0086	17-Sep-08	0.0562	17-Oct-08	
18-Mar-08	0.0126	18-Apr-08	0.0287	18-May-08	0.7787	18-Jun-08	0.0089	18-Jul-08	0.0005	18-Aug-08	0.0000	18-Sep-08	0.0475	18-Oct-08	
19-Mar-08	0.0125	19-Apr-08	0.0279	19-May-08	0.7240	19-Jun-08	0.0071	19-Jul-08	0.0004	19-Aug-08	0.0041	19-Sep-08	0.0421	19-Oct-08	
20-Mar-08	0.0121	20-Apr-08	0.0275	20-May-08	0.5945	20-Jun-08	0.0054	20-Jul-08	0.0006	20-Aug-08	0.0647	20-Sep-08	0.0380	20-Oct-08	
21-Mar-08	0.0116	21-Apr-08	0.0273	21-May-08	0.5431	21-Jun-08	0.0058	21-Jul-08	0.0004	21-Aug-08	0.2162	21-Sep-08	0.0419	21-Oct-08	
22-Mar-08	0.0112	22-Apr-08	0.0275	22-May-08	0.4986	22-Jun-08	0.0103	22-Jul-08	0.0003	22-Aug-08	0.1720	22-Sep-08	0.0488	22-Oct-08	
23-Mar-08	0.0114	23-Apr-08	0.0284	23-May-08	0.4626	23-Jun-08	0.0084	23-Jul-08	0.0003	23-Aug-08	0.2041	23-Sep-08	0.0423	23-Oct-08	
24-Mar-08	0.0114	24-Apr-08	0.0282	24-May-08	0.4130	24-Jun-08	0.0098	24-Jul-08	0.0004	24-Aug-08	0.2696	24-Sep-08	0.0395	24-Oct-08	
25-Mar-08	0.0113	25-Apr-08	0.0276	25-May-08	0.3768	25-Jun-08	0.0112	25-Jul-08	0.0045	25-Aug-08	0.2554	25-Sep-08	0.0371	25-Oct-08	
26-Mar-08	0.0111	26-Apr-08	0.0293	26-May-08	0.3296	26-Jun-08	0.0103	26-Jul-08	0.0000	26-Aug-08	0.2070	26-Sep-08	0.0360	26-Oct-08	
27-Mar-08	0.0111	27-Apr-08	0.0543	27-May-08	0.2695	27-Jun-08	0.0070	27-Jul-08	0.0000	27-Aug-08	0.2004	27-Sep-08	0.0451	27-Oct-08	
28-Mar-08	0.0121	28-Apr-08	0.2039	28-May-08	0.2291	28-Jun-08	0.0050	28-Jul-08	0.0002	28-Aug-08	0.2067	28-Sep-08	0.0461	28-Oct-08	
29-Mar-08	0.0121	29-Apr-08	0.3331	29-May-08	0.1967	29-Jun-08	0.0033	29-Jul-08	0.0195	29-Aug-08	0.1753	29-Sep-08	0.0490	29-Oct-08	
30-Mar-08	0.0126	30-Apr-08	0.4072	30-May-08	0.1677	30-Jun-08	0.0022	30-Jul-08	0.0182	30-Aug-08	0.1536	30-Sep-08	0.0459	30-Oct-08	
31-Mar-08	0.0176			31-May-08	0.1320			31-Jul-08	0.0118	31-Aug-08	0.1367			31-Oct-08	

Table of Contents

Appendix B

Summary of Mean Daily Flow (m^3/s) at MCS-8, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07		1-Jun-07	0.0202	1-Jul-07	0.0262	1-Aug-07	0.0153	1-Sep-07	0.0131	1-Oct-07	0.0063	1-Nov-07			
2-Apr-07		2-May-07		2-Jun-07	0.0175	2-Jul-07	0.0232	2-Aug-07	0.0134	2-Sep-07	0.0119	2-Oct-07	0.0055	2-Nov-07			
3-Apr-07		3-May-07		3-Jun-07	0.0161	3-Jul-07	0.0210	3-Aug-07	0.0138	3-Sep-07	0.0111	3-Oct-07	0.0055	3-Nov-07			
4-Apr-07		4-May-07		4-Jun-07	0.0155	4-Jul-07	0.0190	4-Aug-07	0.0150	4-Sep-07	0.0108	4-Oct-07	0.0065	4-Nov-07			
5-Apr-07		5-May-07		5-Jun-07	0.0190	5-Jul-07	0.0171	5-Aug-07	0.0123	5-Sep-07	0.0109	5-Oct-07	0.0074	5-Nov-07			
6-Apr-07		6-May-07		6-Jun-07	0.0258	6-Jul-07	0.0152	6-Aug-07	0.0101	6-Sep-07	0.0099	6-Oct-07	0.0077	6-Nov-07			
7-Apr-07		7-May-07		7-Jun-07	0.0355	7-Jul-07	0.0135	7-Aug-07	0.0081	7-Sep-07	0.0089	7-Oct-07	0.0135	7-Nov-07			
8-Apr-07		8-May-07		8-Jun-07	0.0349	8-Jul-07	0.0127	8-Aug-07	0.0070	8-Sep-07	0.0079	8-Oct-07	0.0124	8-Nov-07			
9-Apr-07		9-May-07		9-Jun-07	0.0349	9-Jul-07	0.0116	9-Aug-07	0.0060	9-Sep-07	0.0067	9-Oct-07	0.0126	9-Nov-07			
10-Apr-07		10-May-07		10-Jun-07	0.0453	10-Jul-07	0.0103	10-Aug-07	0.0058	10-Sep-07	0.0057	10-Oct-07	0.0133	10-Nov-07			
11-Apr-07		11-May-07		11-Jun-07	0.0454	11-Jul-07	0.0088	11-Aug-07	0.0054	11-Sep-07	0.0048	11-Oct-07	0.0122	11-Nov-07			
12-Apr-07		12-May-07		12-Jun-07	0.0403	12-Jul-07	0.0072	12-Aug-07	0.0057	12-Sep-07	0.0039	12-Oct-07	0.0113	12-Nov-07			
13-Apr-07		13-May-07		13-Jun-07	0.0363	13-Jul-07	0.0061	13-Aug-07	0.0048	13-Sep-07	0.0034	13-Oct-07	0.0131	13-Nov-07			
14-Apr-07		14-May-07		14-Jun-07	0.0323	14-Jul-07	0.0080	14-Aug-07	0.0036	14-Sep-07	0.0029	14-Oct-07	0.0130	14-Nov-07			
15-Apr-07		15-May-07		15-Jun-07	0.0291	15-Jul-07	0.0174	15-Aug-07	0.0026	15-Sep-07	0.0027	15-Oct-07	0.0139	15-Nov-07			
16-Apr-07		16-May-07		16-Jun-07	0.0270	16-Jul-07	0.0173	16-Aug-07	0.0017	16-Sep-07	0.0022	16-Oct-07	0.0155	16-Nov-07			
17-Apr-07		17-May-07		17-Jun-07	0.0252	17-Jul-07	0.0141	17-Aug-07	0.0101	17-Sep-07	0.0021	17-Oct-07	0.0169	17-Nov-07			
18-Apr-07		18-May-07		18-Jun-07	0.0232	18-Jul-07	0.0123	18-Aug-07	0.0224	18-Sep-07	0.0018	18-Oct-07	0.0160	18-Nov-07			
19-Apr-07		19-May-07		19-Jun-07	0.0212	19-Jul-07	0.0433	19-Aug-07	0.0175	19-Sep-07	0.0017	19-Oct-07	0.0149	19-Nov-07			
20-Apr-07		20-May-07		20-Jun-07	0.0205	20-Jul-07	0.0464	20-Aug-07	0.0140	20-Sep-07	0.0017	20-Oct-07	0.0138	20-Nov-07			
21-Apr-07		21-May-07		21-Jun-07	0.0282	21-Jul-07	0.0360	21-Aug-07	0.0113	21-Sep-07	0.0027	21-Oct-07	0.0133	21-Nov-07			
22-Apr-07		22-May-07		22-Jun-07	0.0272	22-Jul-07	0.0321	22-Aug-07	0.0095	22-Sep-07	0.0025	22-Oct-07	0.0144	22-Nov-07			
23-Apr-07		23-May-07		23-Jun-07	0.0291	23-Jul-07	0.0277	23-Aug-07	0.0079	23-Sep-07	0.0027	23-Oct-07	0.0201	23-Nov-07			
24-Apr-07		24-May-07	0.0555	24-Jun-07	0.0281	24-Jul-07	0.0262	24-Aug-07	0.0081	24-Sep-07	0.0025	24-Oct-07	0.0325	24-Nov-07			
25-Apr-07		25-May-07	0.0531	25-Jun-07	0.0247	25-Jul-07	0.0228	25-Aug-07	0.0122	25-Sep-07	0.0022	25-Oct-07	0.0317	25-Nov-07			
26-Apr-07		26-May-07	0.0479	26-Jun-07	0.0223	26-Jul-07	0.0197	26-Aug-07	0.0111	26-Sep-07	0.0021	26-Oct-07	0.0306	26-Nov-07			
27-Apr-07		27-May-07	0.0421	27-Jun-07	0.0273	27-Jul-07	0.0169	27-Aug-07	0.0096	27-Sep-07	0.0044	27-Oct-07	0.0322	27-Nov-07			
28-Apr-07		28-May-07	0.0351	28-Jun-07	0.0289	28-Jul-07	0.0152	28-Aug-07	0.0084	28-Sep-07	0.0045	28-Oct-07	0.0357	28-Nov-07			
29-Apr-07		29-May-07	0.0302	29-Jun-07	0.0293	29-Jul-07	0.0162	29-Aug-07	0.0152	29-Sep-07	0.0064	29-Oct-07	0.0384	29-Nov-07			
30-Apr-07		30-May-07	0.0272	30-Jun-07	0.0295	30-Jul-07	0.0191	30-Aug-07	0.0165	30-Sep-07	0.0075	30-Oct-07	0.0371	30-Nov-07			
		31-May-07	0.0234			31-Jul-07	0.0173	31-Aug-07	0.0146			31-Oct-07	0.0371				

Summary of Mean Daily Flow (m^3/s) at MCS-8, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	0.0000	1-May-08	*0.1148*	1-Jun-08	0.0406	1-Jul-08	0.0000	1-Aug-08	0.0000	1-Sep-08	0.0000	1-Oct-08	0.0000		
2-Mar-08		2-Apr-08	0.0000	2-May-08	*0.1415*	2-Jun-08	0.0354	2-Jul-08	0.0000	2-Aug-08	0.0000	2-Sep-08	0.0000	2-Oct-08	0.0000		
3-Mar-08		3-Apr-08	0.0000	3-May-08	0.1777	3-Jun-08	0.0316	3-Jul-08	0.0000	3-Aug-08	0.0000	3-Sep-08	0.0000	3-Oct-08	0.0000		
4-Mar-08		4-Apr-08	0.0000	4-May-08	0.1835	4-Jun-08	0.0273	4-Jul-08	0.0000	4-Aug-08	0.0000	4-Sep-08	0.0000	4-Oct-08	0.0000		
5-Mar-08		5-Apr-08	0.0000	5-May-08	0.1799	5-Jun-08	0.0241	5-Jul-08	0.0000	5-Aug-08	0.0000	5-Sep-08	0.0000	5-Oct-08	0.0000		
6-Mar-08		6-Apr-08	0.0000	6-May-08	0.2006	6-Jun-08	0.0214	6-Jul-08	0.0000	6-Aug-08	0.0000	6-Sep-08	0.0000	6-Oct-08	0.0000		
7-Mar-08		7-Apr-08	0.0000	7-May-08	0.1810	7-Jun-08	0.0185	7-Jul-08	0.0000	7-Aug-08	0.0000	7-Sep-08	0.0000	7-Oct-08	0.0000		
8-Mar-08		8-Apr-08	0.0000	8-May-08	0.1531	8-Jun-08	0.0159	8-Jul-08	0.0000	8-Aug-08	0.0000	8-Sep-08	0.0000	8-Oct-08	0.0000		
9-Mar-08		9-Apr-08	0.0000	9-May-08	0.1576	9-Jun-08	0.0139	9-Jul-08	0.0000	9-Aug-08	0.0000	9-Sep-08	0.0000	9-Oct-08	0.0000		
10-Mar-08		10-Apr-08	0.0000	10-May-08	0.2052	10-Jun-08	0.0115	10-Jul-08	0.0000	10-Aug-08	0.0000	10-Sep-08	0.0000	10-Oct-08	0.0000		
11-Mar-08		11-Apr-08	0.0000	11-May-08	0.2510	11-Jun-08	0.0092	11-Jul-08	0.0000	11-Aug-08	0.0000	11-Sep-08	0.0000	11-Oct-08			
12-Mar-08		12-Apr-08	0.0000	12-May-08	0.2433	12-Jun-08	0.0084	12-Jul-08	0.0000	12-Aug-08	0.0000	12-Sep-08	0.0000	12-Oct-08			
13-Mar-08		13-Apr-08	0.0010	13-May-08	0.2667	13-Jun-08	0.0081	13-Jul-08	0.0000	13-Aug-08	0.0000	13-Sep-08	0.0000	13-Oct-08			
14-Mar-08		14-Apr-08	0.0015	14-May-08	0.2624	14-Jun-08	0.0066	14-Jul-08	0.0000	14-Aug-08	0.0000	14-Sep-08	0.0000	14-Oct-08			
15-Mar-08		15-Apr-08	0.0016	15-May-08	0.2918	15-Jun-08	0.0049	15-Jul-08	0.0000	15-Aug-08	0.0000	15-Sep-08	0.0000	15-Oct-08			
16-Mar-08		16-Apr-08	0.0027	16-May-08	0.3011	16-Jun-08	0.0035	16-Jul-08	0.0000	16-Aug-08	0.0000	16-Sep-08	0.0000	16-Oct-08			
17-Mar-08		17-Apr-08	0.0053	17-May-08	0.3075	17-Jun-08	0.0029	17-Jul-08	0.0000	17-Aug-08	0.0000	17-Sep-08	0.0000	17-Oct-08			
18-Mar-08	0.0000	18-Apr-08	0.0062	18-May-08	0.2925	18-Jun-08	0.0022	18-Jul-08	0.0000	18-Aug-08	0.0000	18-Sep-08	0.0000	18-Oct-08			
19-Mar-08	0.0000	19-Apr-08	0.0061	19-May-08	0.2669	19-Jun-08	0.0013	19-Jul-08	0.0000	19-Aug-08	0.0000	19-Sep-08	0.0000	19-Oct-08			
20-Mar-08	0.0000	20-Apr-08	0.0060	20-May-08	0.2470	20-Jun-08	0.0007	20-Jul-08	0.0000	20-Aug-08	0.0000	20-Sep-08	0.0000	20-Oct-08			
21-Mar-08	0.0000	21-Apr-08	0.0059	21-May-08	0.2223	21-Jun-08	0.0016	21-Jul-08	0.0000	21-Aug-08	0.0038	21-Sep-08	0.0000	21-Oct-08			
22-Mar-08	0.0000	22-Apr-08	0.0061	22-May-08	0.1948	22-Jun-08	0.0035	22-Jul-08	0.0000	22-Aug-08	0.0006	22-Sep-08	0.0000	22-Oct-08			
23-Mar-08	0.0000	23-Apr-08	0.0066	23-May-08	0.1712	23-Jun-08	0.0020	23-Jul-08	0.0000	23-Aug-08	0.0035	23-Sep-08	0.0000	23-Oct-08			
24-Mar-08	0.0000	24-Apr-08	0.0064	24-May-08	0.1412	24-Jun-08	0.0033	24-Jul-08	0.0000	24-Aug-08	0.0066	24-Sep-08	0.0000	24-Oct-08			
25-Mar-08	0.0000	25-Apr-08	0.0064	25-May-08	0.1128	25-Jun-08	0.0026	25-Jul-08	0.0000	25-Aug-08	0.0034	25-Sep-08	0.0000	25-Oct-08			
26-Mar-08	0.0000	26-Apr-08	0.0075	26-May-08	0.0937	26-Jun-08	0.0015	26-Jul-08	0.0000	26-Aug-08	0.0010	26-Sep-08	0.0000	26-Oct-08			
27-Mar-08	0.0000	27-Apr-08	*0.0319*	27-May-08	0.0795	27-Jun-08	0.0004	27-Jul-08	0.0000	27-Aug-08	0.0011	27-Sep-08	0.0000	27-Oct-08			
28-Mar-08	0.0000	28-Apr-08	*0.0599*	28-May-08	0.0708	28-Jun-08	0.0000	28-Jul-08	0.0000	28-Aug-08	0.0010	28-Sep-08	0.0000	28-Oct-08			
29-Mar-08	0.0000	29-Apr-08	*0.0840*	29-May-08	0.0636	29-Jun-08	0.0000	29-Jul-08	0.0000	29-Aug-08	0.0003	29-Sep-08	0.0000	29-Oct-08			
30-Mar-08	0.0000	30-Apr-08	*0.0880*	30-May-08	0.0558	30-Jun-08	0.0000	30-Jul-08	0.0000	30-Aug-08	0.0000	30-Sep-08	0.0000	30-Oct-08			
31-Mar-08	0.0000			31-May-08	0.0475			31-Jul-08	0.0000	31-Aug-08	0.0000			31-Oct-08			

Note: Italicized numbers where filled-in using an average of the numbers preceding and following the data gap

Appendix B

Mean Daily Flow (m^3/s) at MCS-10, 2007

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Apr-07		1-May-07		1-Jun-07	0.0110	1-Jul-07	0.0152	1-Aug-07	*0.0000*	1-Sep-07	*0.0000*	1-Oct-07	*0.0000*	1-Nov-07	
2-Apr-07		2-May-07		2-Jun-07	0.0006	2-Jul-07	0.0090	2-Aug-07	*0.0000*	2-Sep-07	*0.0000*	2-Oct-07	*0.0000*	2-Nov-07	
3-Apr-07		3-May-07		3-Jun-07	*0.0000*	3-Jul-07	*0.0000*	3-Aug-07	*0.0000*	3-Sep-07	*0.0000*	3-Oct-07	*0.0000*	3-Nov-07	
4-Apr-07		4-May-07		4-Jun-07	*0.0000*	4-Jul-07	*0.0000*	4-Aug-07	*0.0000*	4-Sep-07	*0.0000*	4-Oct-07	*0.0000*	4-Nov-07	
5-Apr-07		5-May-07		5-Jun-07	0.0005	5-Jul-07	*0.0000*	5-Aug-07	*0.0000*	5-Sep-07	*0.0000*	5-Oct-07	*0.0000*	5-Nov-07	
6-Apr-07		6-May-07		6-Jun-07	0.0109	6-Jul-07	*0.0000*	6-Aug-07	*0.0000*	6-Sep-07	*0.0000*	6-Oct-07	*0.0000*	6-Nov-07	
7-Apr-07		7-May-07		7-Jun-07	0.0140	7-Jul-07	*0.0000*	7-Aug-07	*0.0000*	7-Sep-07	*0.0000*	7-Oct-07	*0.0000*	7-Nov-07	
8-Apr-07		8-May-07		8-Jun-07	0.0058	8-Jul-07	*0.0000*	8-Aug-07	*0.0000*	8-Sep-07	*0.0000*	8-Oct-07	0.0001	8-Nov-07	
9-Apr-07		9-May-07		9-Jun-07	0.0044	9-Jul-07	*0.0000*	9-Aug-07	*0.0000*	9-Sep-07	*0.0000*	9-Oct-07	0.0003	9-Nov-07	
10-Apr-07		10-May-07		10-Jun-07	0.0199	10-Jul-07	*0.0000*	10-Aug-07	*0.0000*	10-Sep-07	*0.0000*	10-Oct-07	0.0009	10-Nov-07	
11-Apr-07		11-May-07		11-Jun-07	0.0187	11-Jul-07	*0.0000*	11-Aug-07	*0.0000*	11-Sep-07	*0.0000*	11-Oct-07	0.0003	11-Nov-07	
12-Apr-07		12-May-07		12-Jun-07	0.0144	12-Jul-07	*0.0000*	12-Aug-07	*0.0000*	12-Sep-07	*0.0000*	12-Oct-07	0.0001	12-Nov-07	
13-Apr-07		13-May-07		13-Jun-07	0.0119	13-Jul-07	*0.0000*	13-Aug-07	*0.0000*	13-Sep-07	*0.0000*	13-Oct-07	0.0013	13-Nov-07	
14-Apr-07		14-May-07		14-Jun-07	0.0053	14-Jul-07	*0.0000*	14-Aug-07	*0.0000*	14-Sep-07	*0.0000*	14-Oct-07	0.0015	14-Nov-07	
15-Apr-07		15-May-07		15-Jun-07	*0.0000*	15-Jul-07	0.0024	15-Aug-07	*0.0000*	15-Sep-07	*0.0000*	15-Oct-07	0.0018	15-Nov-07	
16-Apr-07		16-May-07		16-Jun-07	*0.0000*	16-Jul-07	*0.0000*	16-Aug-07	*0.0000*	16-Sep-07	*0.0000*	16-Oct-07	0.0020	16-Nov-07	
17-Apr-07		17-May-07		17-Jun-07	*0.0000*	17-Jul-07	*0.0000*	17-Aug-07	*0.0000*	17-Sep-07	*0.0000*	17-Oct-07	0.0023	17-Nov-07	
18-Apr-07		18-May-07		18-Jun-07	*0.0000*	18-Jul-07	*0.0000*	18-Aug-07	0.0018	18-Sep-07	*0.0000*	18-Oct-07	0.0019	18-Nov-07	
19-Apr-07		19-May-07		19-Jun-07	*0.0000*	19-Jul-07	0.0227	19-Aug-07	0.0005	19-Sep-07	*0.0000*	19-Oct-07	0.0017	19-Nov-07	
20-Apr-07		20-May-07		20-Jun-07	*0.0000*	20-Jul-07	0.0178	20-Aug-07	*0.0000*	20-Sep-07	*0.0000*	20-Oct-07	0.0011	20-Nov-07	
21-Apr-07		21-May-07		21-Jun-07	0.0070	21-Jul-07	0.0067	21-Aug-07	*0.0000*	21-Sep-07	*0.0000*	21-Oct-07	0.0010	21-Nov-07	
22-Apr-07		22-May-07		22-Jun-07	*0.0000*	22-Jul-07	*0.0000*	22-Aug-07	*0.0000*	22-Sep-07	*0.0000*	22-Oct-07	0.0011	22-Nov-07	
23-Apr-07		23-May-07		23-Jun-07	0.0052	23-Jul-07	*0.0000*	23-Aug-07	*0.0000*	23-Sep-07	*0.0000*	23-Oct-07	0.0021	23-Nov-07	
24-Apr-07		24-May-07		24-Jun-07	*0.0000*	24-Jul-07	*0.0000*	24-Aug-07	*0.0000*	24-Sep-07	*0.0000*	24-Oct-07	0.0056	24-Nov-07	
25-Apr-07		25-May-07	0.0489	25-Jun-07	*0.0000*	25-Jul-07	*0.0000*	25-Aug-07	*0.0000*	25-Sep-07	*0.0000*	25-Oct-07	0.0055	25-Nov-07	
26-Apr-07		26-May-07	0.0436	26-Jun-07	*0.0000*	26-Jul-07	*0.0000*	26-Aug-07	*0.0000*	26-Sep-07	*0.0000*	26-Oct-07	0.0051	26-Nov-07	
27-Apr-07		27-May-07	0.0348	27-Jun-07	0.0038	27-Jul-07	*0.0000*	27-Aug-07	*0.0000*	27-Sep-07	*0.0000*	27-Oct-07	0.0055	27-Nov-07	
28-Apr-07		28-May-07	0.0267	28-Jun-07	*0.0000*	28-Jul-07	*0.0000*	28-Aug-07	*0.0000*	28-Sep-07	*0.0000*	28-Oct-07	0.0060	28-Nov-07	
29-Apr-07		29-May-07	0.0212	29-Jun-07	0.0145	29-Jul-07	*0.0000*	29-Aug-07	*0.0000*	29-Sep-07	*0.0000*	29-Oct-07	0.0065	29-Nov-07	
30-Apr-07		30-May-07	0.0175	30-Jun-07	0.0236	30-Jul-07	*0.0000*	30-Aug-07	*0.0000*	30-Sep-07	*0.0000*	30-Oct-07		30-Nov-07	
		31-May-07	0.0140			31-Jul-07	*0.0000*	31-Aug-07	*0.0000*			31-Oct-07			

Note: Italicized numbers were assumed as the datalogger was malfunctioning.

Mean Daily Flow (m^3/s) at MCS-10, 2008

Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)	Date	Mean Daily Flow (m^3/s)
1-Mar-08		1-Apr-08	*0.0000*	1-May-08	*0.0365*	1-Jun-08	*0.0232*	1-Jul-08	*0.0000*	1-Aug-08	0.0000	1-Sep-08	0.0004	1-Oct-08	0.0000
2-Mar-08		2-Apr-08	*0.0000*	2-May-08	0.0446	2-Jun-08	*0.0211*	2-Jul-08	*0.0000*	2-Aug-08	0.0000	2-Sep-08	0.0000	2-Oct-08	0.0000
3-Mar-08		3-Apr-08	*0.0000*	3-May-08	0.0560	3-Jun-08	*0.0191*	3-Jul-08	*0.0000*	3-Aug-08	0.0000	3-Sep-08	0.0000	3-Oct-08	0.0000
4-Mar-08		4-Apr-08	*0.0000*	4-May-08	0.0636	4-Jun-08	*0.0172*	4-Jul-08	*0.0000*	4-Aug-08	0.0000	4-Sep-08	0.0000	4-Oct-08	0.0000
5-Mar-08		5-Apr-08	*0.0000*	5-May-08	0.0672	5-Jun-08	*0.0154*	5-Jul-08	*0.0000*	5-Aug-08	0.0000	5-Sep-08	0.0000	5-Oct-08	0.0000
6-Mar-08		6-Apr-08	*0.0000*	6-May-08	0.0767	6-Jun-08	*0.0137*	6-Jul-08	*0.0000*	6-Aug-08	0.0000	6-Sep-08	0.0000	6-Oct-08	0.0001
7-Mar-08		7-Apr-08	*0.0000*	7-May-08	0.0746	7-Jun-08	*0.0121*	7-Jul-08	*0.0000*	7-Aug-08	0.0000	7-Sep-08	0.0000	7-Oct-08	0.0007
8-Mar-08		8-Apr-08	*0.0000*	8-May-08	0.0685	8-Jun-08	*0.0106*	8-Jul-08	*0.0000*	8-Aug-08	0.0000	8-Sep-08	0.0000	8-Oct-08	0.0008
9-Mar-08		9-Apr-08	*0.0000*	9-May-08	0.0702	9-Jun-08	*0.0092*	9-Jul-08	*0.0000*	9-Aug-08	0.0000	9-Sep-08	0.0000	9-Oct-08	0.0004
10-Mar-08		10-Apr-08	*0.0000*	10-May-08	0.0772	10-Jun-08	*0.0079*	10-Jul-08	*0.0000*	10-Aug-08	0.0000	10-Sep-08	0.0000	10-Oct-08	0.0000
11-Mar-08		11-Apr-08	*0.0000*	11-May-08	0.0847	11-Jun-08	*0.0067*	11-Jul-08	*0.0000*	11-Aug-08	0.0000	11-Sep-08	0.0000	11-Oct-08	
12-Mar-08		12-Apr-08	*0.0000*	12-May-08	0.0840	12-Jun-08	*0.0056*	12-Jul-08	*0.0000*	12-Aug-08	0.0000	12-Sep-08	0.0000	12-Oct-08	
13-Mar-08		13-Apr-08	*0.0000*	13-May-08	0.0862	13-Jun-08	*0.0046*	13-Jul-08	*0.0000*	13-Aug-08	0.0000	13-Sep-08	0.0000	13-Oct-08	
14-Mar-08		14-Apr-08	*0.0000*	14-May-08	0.0778	14-Jun-08	*0.0037*	14-Jul-08	*0.0000*	14-Aug-08	0.0000	14-Sep-08	0.0000	14-Oct-08	
15-Mar-08		15-Apr-08	*0.0000*	15-May-08	0.0871	15-Jun-08	*0.0029*	15-Jul-08	*0.0000*	15-Aug-08	0.0000	15-Sep-08	0.0000	15-Oct-08	
16-Mar-08		16-Apr-08	*0.0000*	16-May-08	0.0892	16-Jun-08	*0.0022*	16-Jul-08	*0.0000*	16-Aug-08	0.0000	16-Sep-08	0.0000	16-Oct-08	
17-Mar-08		17-Apr-08	*0.0000*	17-May-08	0.0908	17-Jun-08	*0.0016*	17-Jul-08	*0.0000*	17-Aug-08	0.0000	17-Sep-08	0.0000	17-Oct-08	
18-Mar-08	0.0000	18-Apr-08	*0.0000*	18-May-08	0.0859	18-Jun-08	*0.0011*	18-Jul-08	*0.0000*	18-Aug-08	0.0000	18-Sep-08	0.0000	18-Oct-08	
19-Mar-08	0.0000	19-Apr-08	*0.0000*	19-May-08	0.0758	19-Jun-08	*0.0007*	19-Jul-08	*0.0000*	19-Aug-08	0.0000	19-Sep-08	0.0000	19-Oct-08	
20-Mar-08	0.0000	20-Apr-08	*0.0000*	20-May-08	0.0705	20-Jun-08	*0.0004*	20-Jul-08	*0.0000*	20-Aug-08	0.0000	20-Sep-08	0.0000	20-Oct-08	
21-Mar-08	0.0000	21-Apr-08	*0.0000*	21-May-08	0.0636	21-Jun-08	*0.0002*	21-Jul-08	*0.0000*	21-Aug-08	0.0004	21-Sep-08	0.0000	21-Oct-08	
22-Mar-08	0.0000	22-Apr-08	*0.0000*	22-May-08	0.0570	22-Jun-08	*0.0000*	22-Jul-08	*0.0000*	22-Aug-08	0.0003	22-Sep-08	0.0000	22-Oct-08	
23-Mar-08	0.0000	23-Apr-08	*0.0000*	23-May-08	0.0502	23-Jun-08	*0.0000*	23-Jul-08	*0.0000*	23-Aug-08	0.0020	23-Sep-08	0.0000	23-Oct-08	
24-Mar-08	0.0000	24-Apr-08	*0.0000*	24-May-08	0.0442	24-Jun-08	*0.0000*	24-Jul-08	*0.0000*	24-Aug-08	0.0037	24-Sep-08	0.0000	24-Oct-08	
25-Mar-08	0.0000	25-Apr-08	*0.0000*	25-May-08	*0.0407*	25-Jun-08	*0.0000*	25-Jul-08	0.0000	25-Aug-08	0.0030	25-Sep-08	0.0000	25-Oct-08	
26-Mar-08	0.0000	26-Apr-08	*0.0060*	26-May-08	*0.0379*	26-Jun-08	*0.0000*	26-Jul-08	0.0000	26-Aug-08	0.0020	26-Sep-08	0.0000	26-Oct-08	
27-Mar-08	0.0000	27-Apr-08	*0.0125*	27-May-08	*0.0352*	27-Jun-08	*0.0000*	27-Jul-08	0.0000	27-Aug-08	0.0019	27-Sep-08	0.0000	27-Oct-08	
28-Mar-08	0.0000	28-Apr-08	*0.0180*	28-May-08	*0.0326*	28-Jun-08	*0.0000*	28-Jul-08	0.0000	28-Aug-08	0.0020	28-Sep-08	0.0000	28-Oct-08	
29-Mar-08	0.0000	29-Apr-08	*0.0250*	29-May-08	*0.0301*	29-Jun-08	*0.0000*	29-Jul-08	0.0000	29-Aug-08	0.0015	29-Sep-08	0.0000	29-Oct-08	
30-Mar-08	0.0000	30-Apr-08	*0.0302*	30-May-08	*0.0277*	30-Jun-08	*0.0000*	30-Jul-08	0.0000	30-Aug-08	0.0010	30-Sep-08	0.0000	30-Oct-08	
31-Mar-08	0.0000			31-May-08	*0.0254*			31-Jul-08	0.0000	31-Aug-08	0.0008			31-Oct-08	

Note: Italicized numbers were assumed as the datalogger was malfunctioning.