

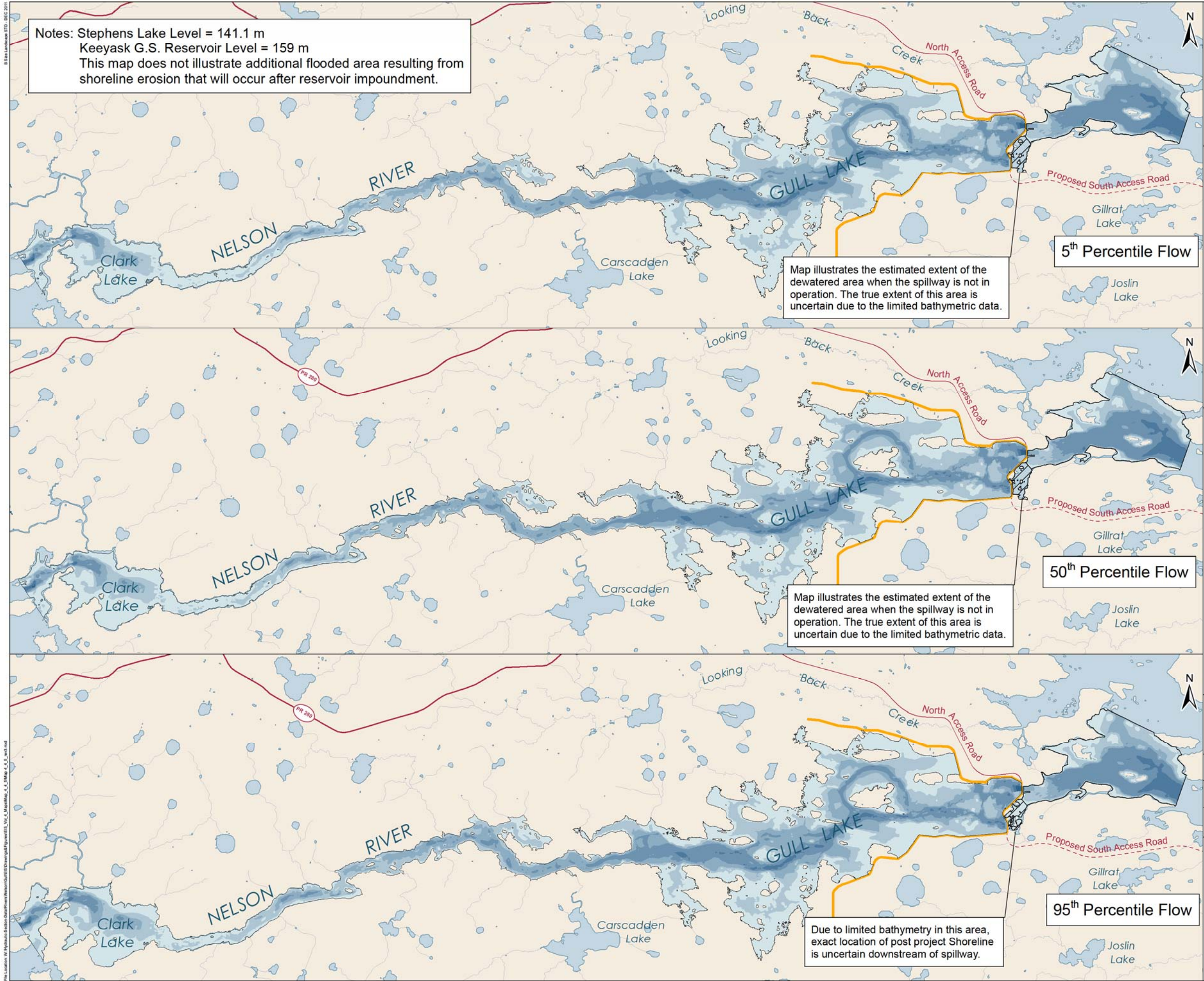


# Keeyask Generation Project Environmental Impact Statement

## Supporting Volume Physical Environment



June 2012



Notes: Stephens Lake Level = 141.1 m  
 Keeyask G.S. Reservoir Level = 159 m  
 This map does not illustrate additional flooded area resulting from shoreline erosion that will occur after reservoir impoundment.

Map illustrates the estimated extent of the dewatered area when the spillway is not in operation. The true extent of this area is uncertain due to the limited bathymetric data.

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Due to limited bathymetry in this area, exact location of post project Shoreline is uncertain downstream of spillway.



**Legend**

**Depth (m)**

- 0 - 4
- 4 - 8
- 8 - 12
- 12 - 18
- 18 - 23
- 23 - 31

Keyeyask Principal Structures

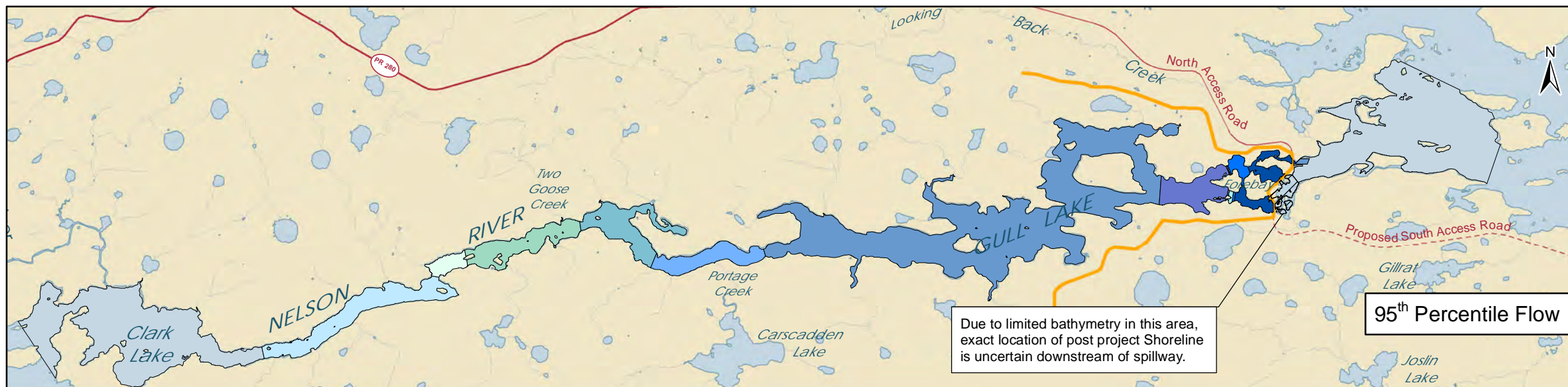
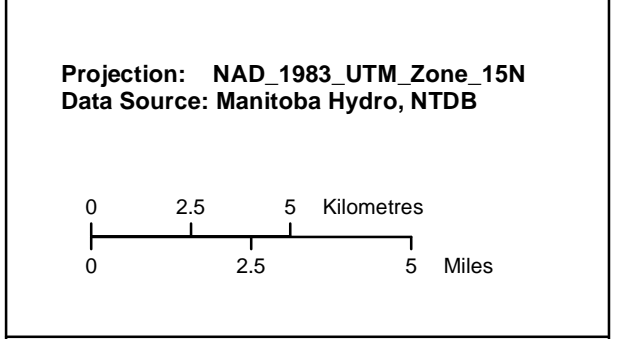
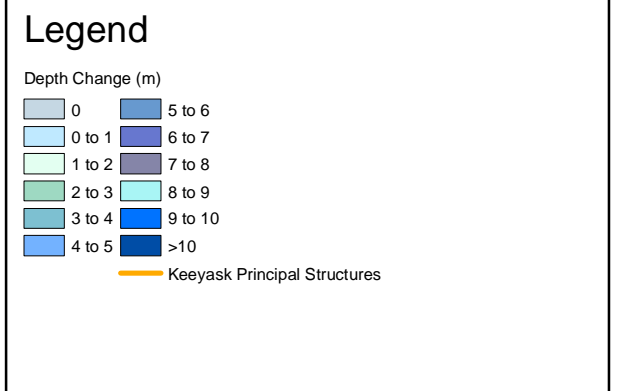
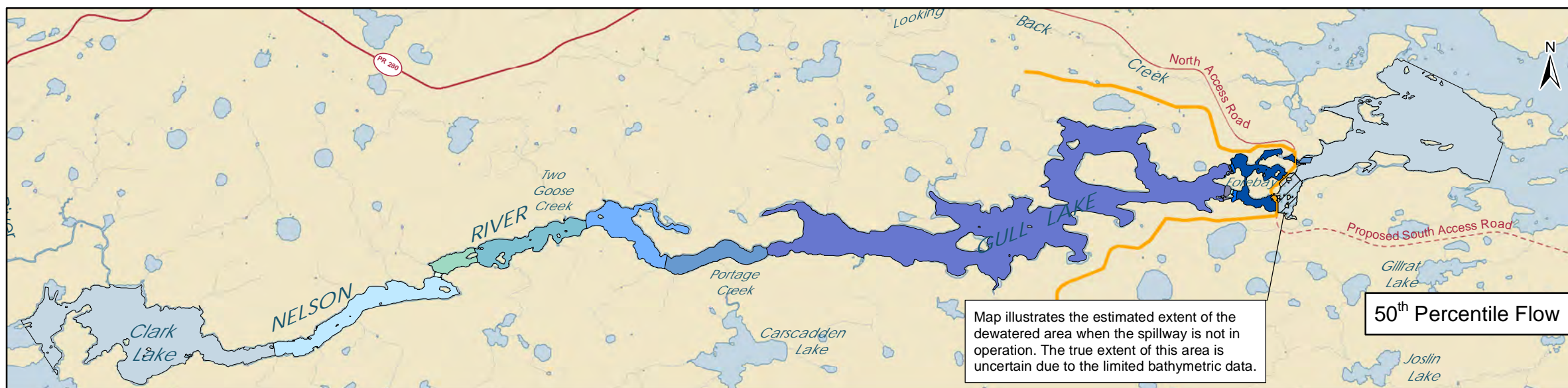
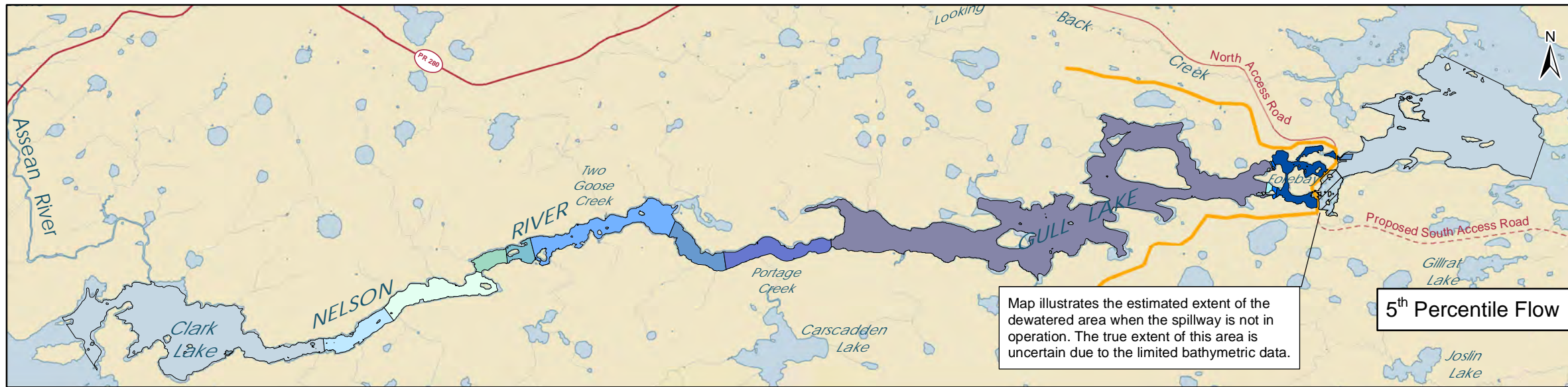


DATA SOURCE:  
 Manitoba Hydro; Government of Manitoba; Government of Canada

CREATED BY:  
 Manitoba Hydro - Water Resources Department

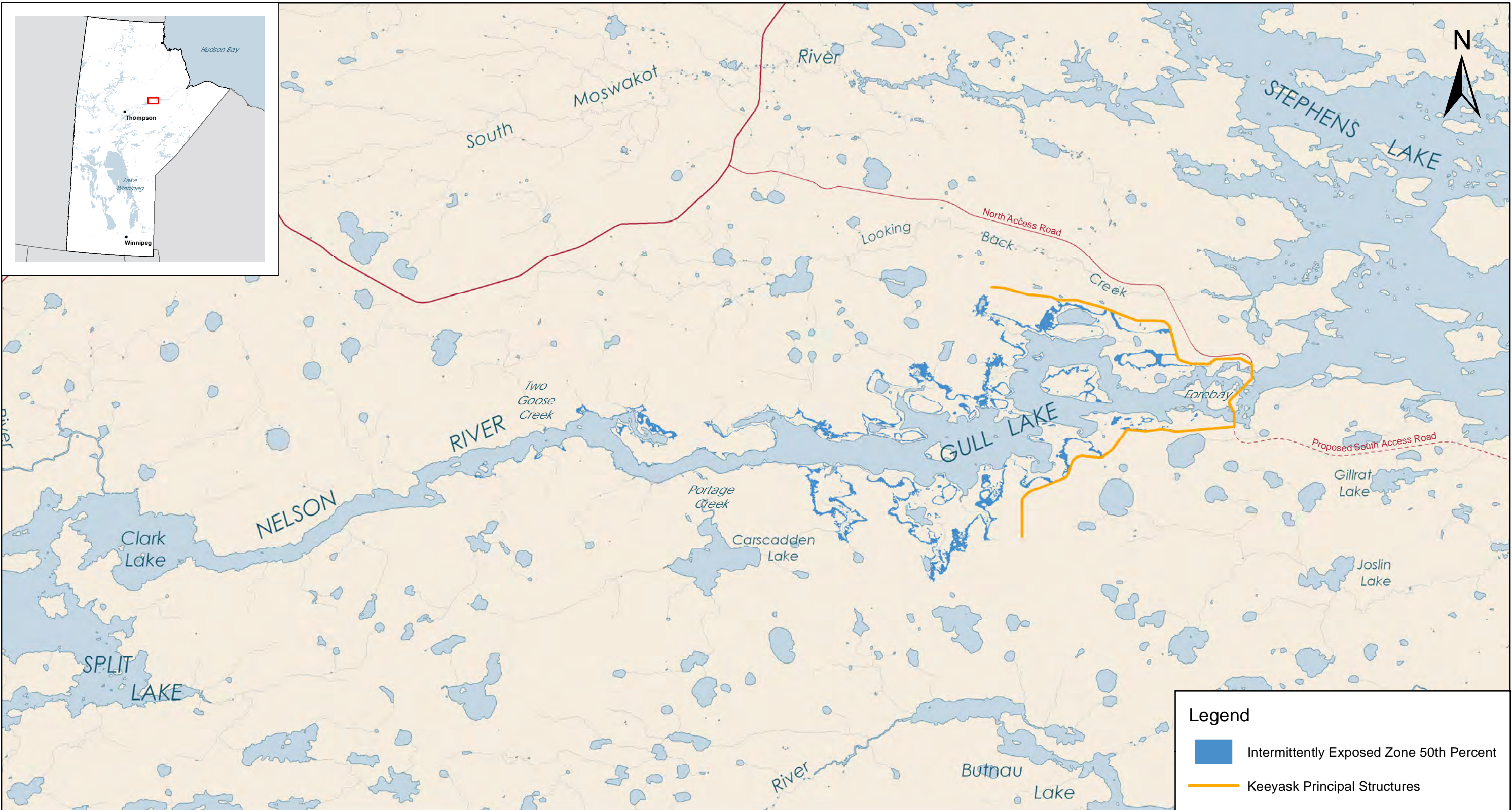
COORDINATE SYSTEM: UTM NAD 1983 Z15N	DATE CREATED: 08-JAN-10	REVISION DATE: 18-MAY-12
	VERSION NO: 1.0	QA/QC: APPROVED

## Water Depth Grid Post Project Environment



**Estimated Water Depth Changes Resulting from Forebay Impoundment**





**Legend**

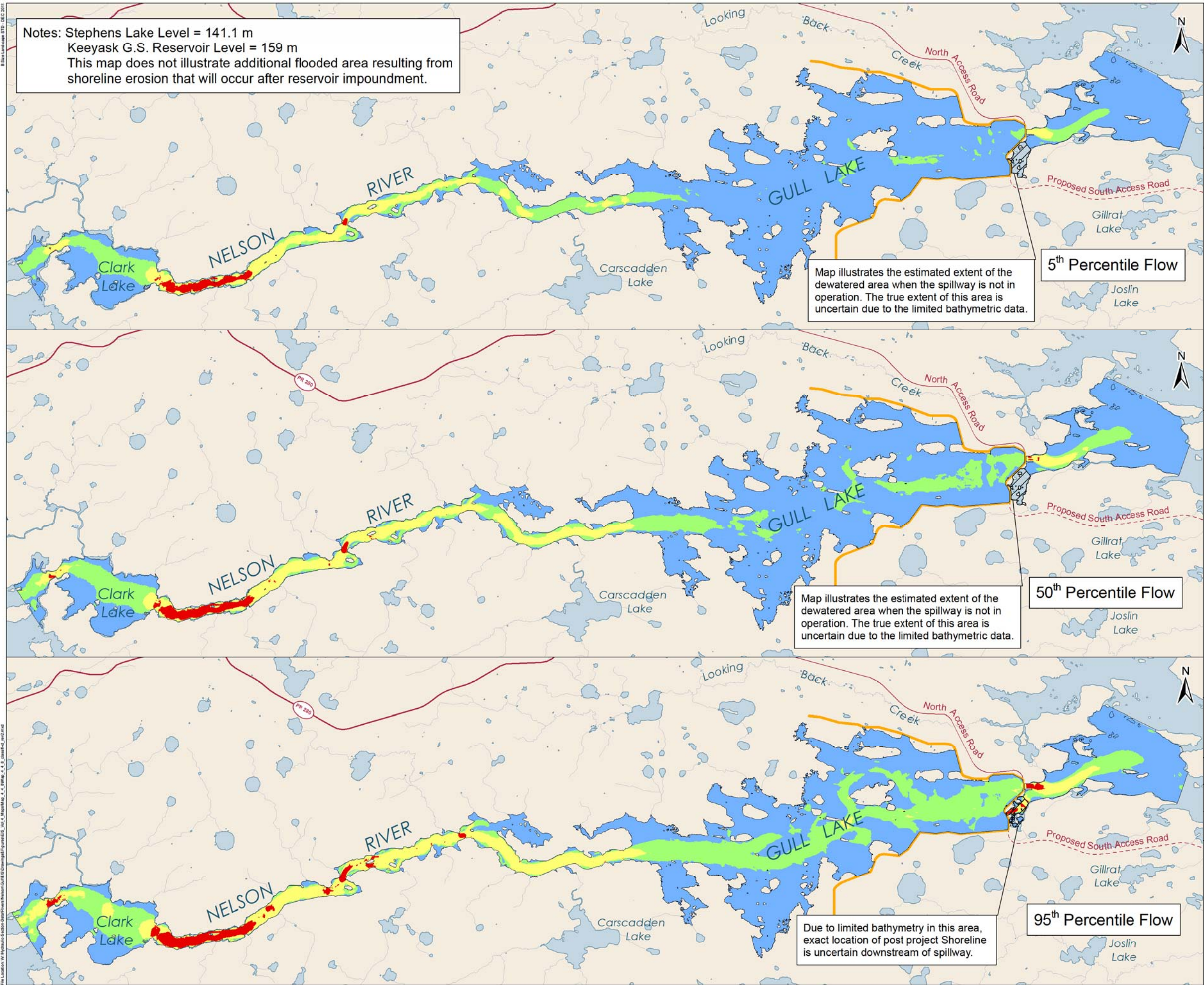
- Intermittently Exposed Zone 50th Percent
- Keyask Principal Structures



Projection: NAD\_1983\_UTM\_Zone\_15N  
 Data Source: Manitoba Hydro, NTDB

**Intermittently Exposed Post Project Shoreline  
 50<sup>th</sup> Percentile Flow**

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5<sup>th</sup> Percentile Flow

Map illustrates the estimated extent of the dewatered area when the spillway is not in operation. The true extent of this area is uncertain due to the limited bathymetric data.

50<sup>th</sup> Percentile Flow

Due to limited bathymetry in this area, exact location of post project Shoreline is uncertain downstream of spillway.

95<sup>th</sup> Percentile Flow

**Legend**

**Velocity (m/s)**

- Standing (0 - 0.2)
- Low (0.2 - 0.5)
- Moderate (0.5 - 1.5)
- High (>1.5)
- Keeyask Principal Structures



DATA SOURCE:  
 Manitoba Hydro; Government of Manitoba; Government of Canada

CREATED BY:  
 Manitoba Hydro - Water Resources Engineering Department

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**Water Velocity Grids  
 Post Project Environment**

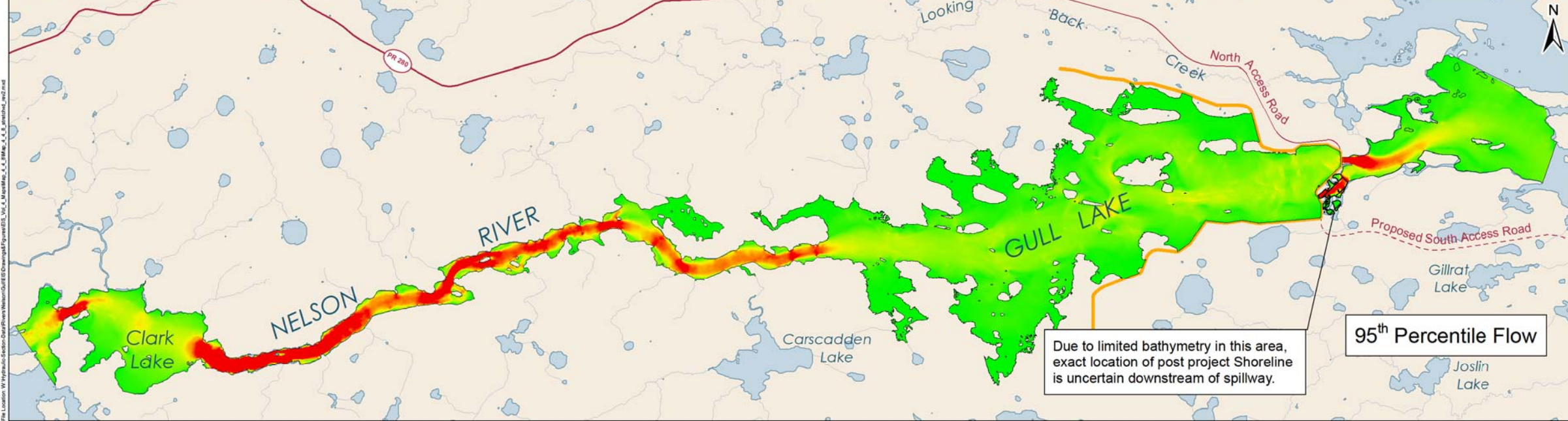
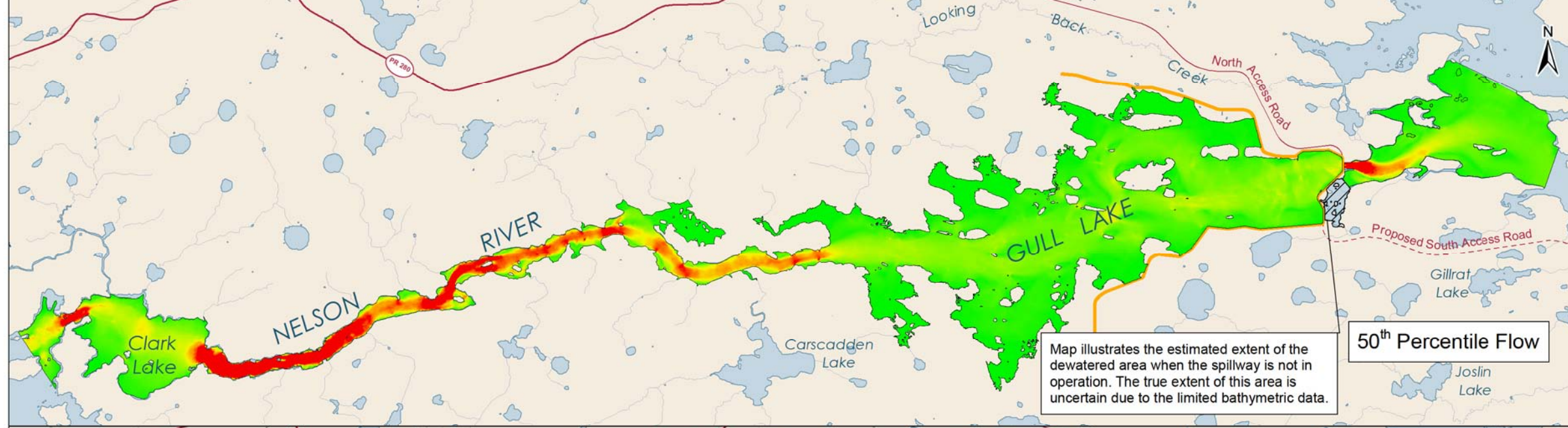
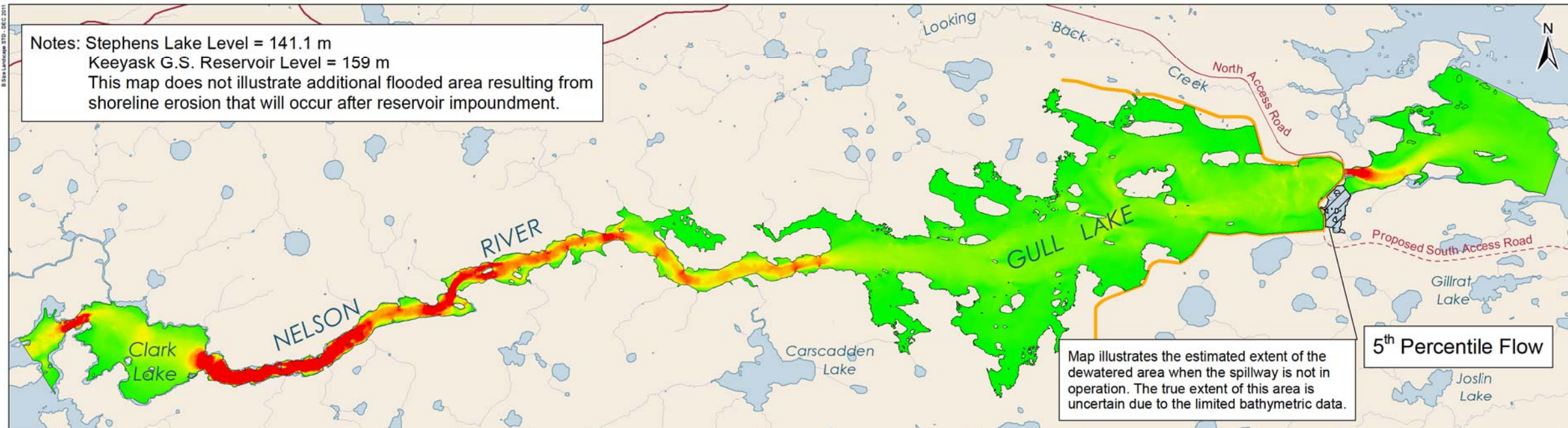
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**Legend**

**Velocity (m/s)**  
 High : 10.2  
 Low : 0

Keeyask Principal Structures

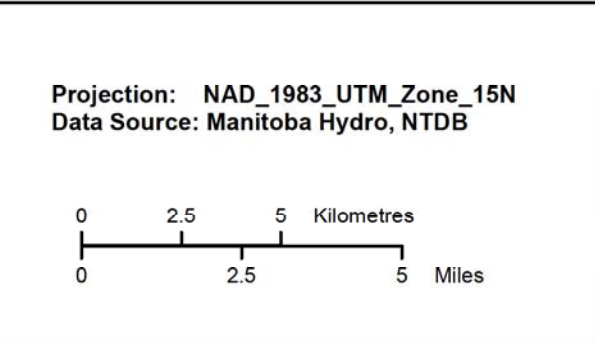
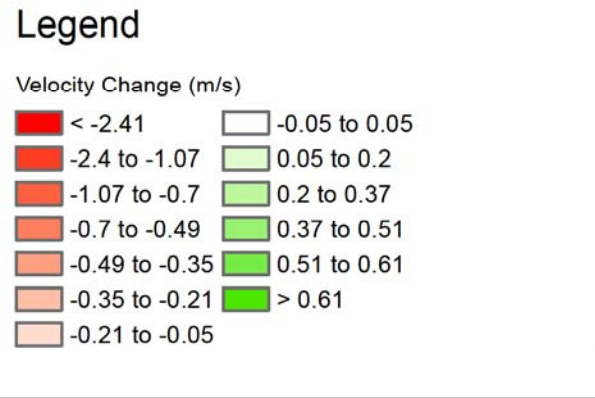


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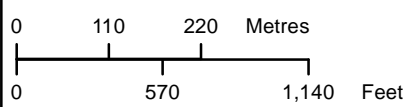
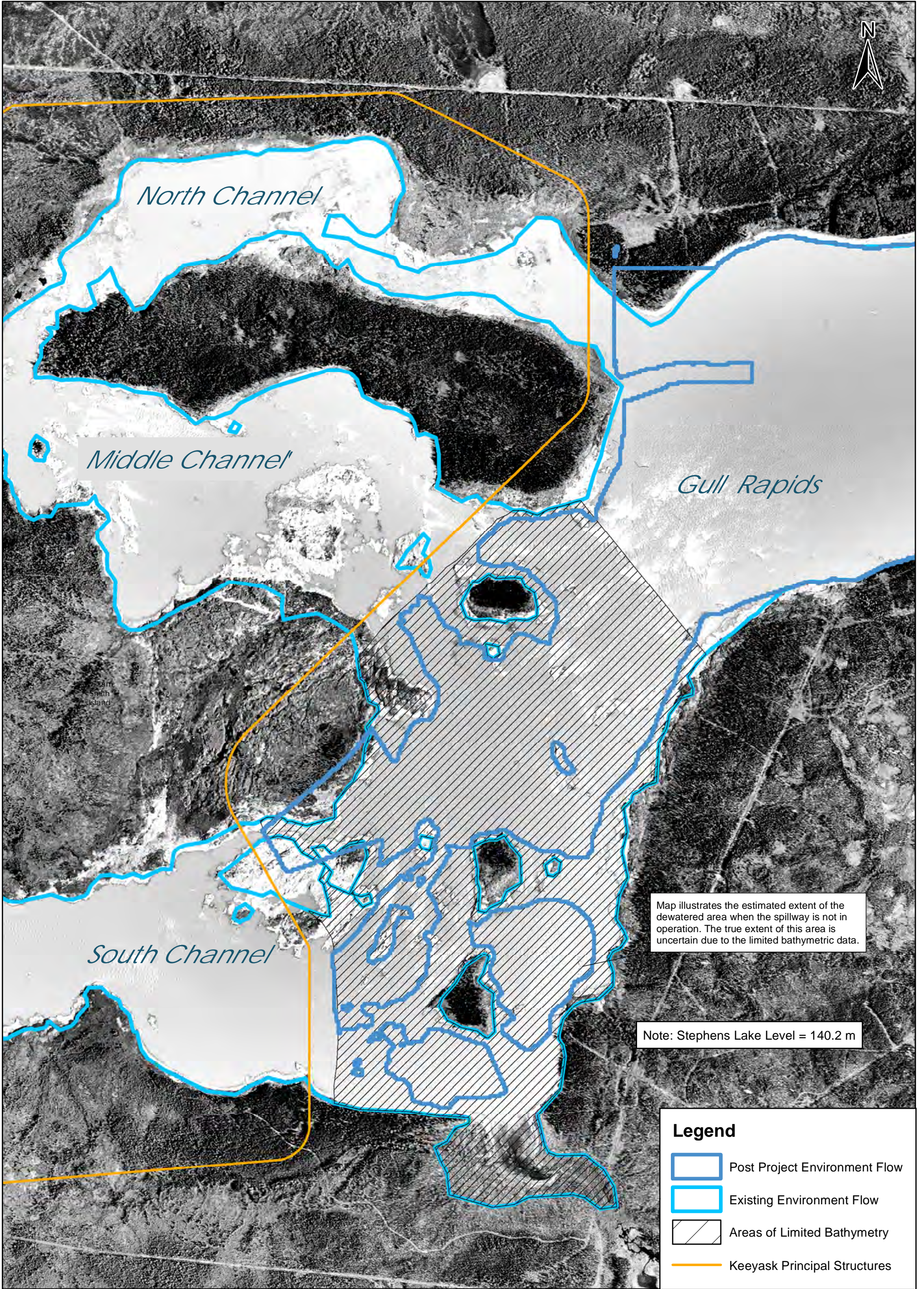
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		QA/QC: APPROVED

**Water Velocity Grids  
 Post Project Environment**



**Estimated Velocity Changes Resulting From Forebay Impoundment**





Projection: NAD\_1983\_UTM\_Zone\_15N  
 Data Source: Manitoba Hydro  
 NTDB

**95th Percentile Shoreline Locations  
 Downstream of Project Site**