

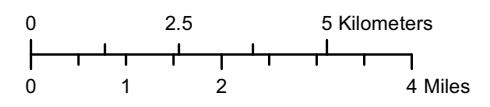
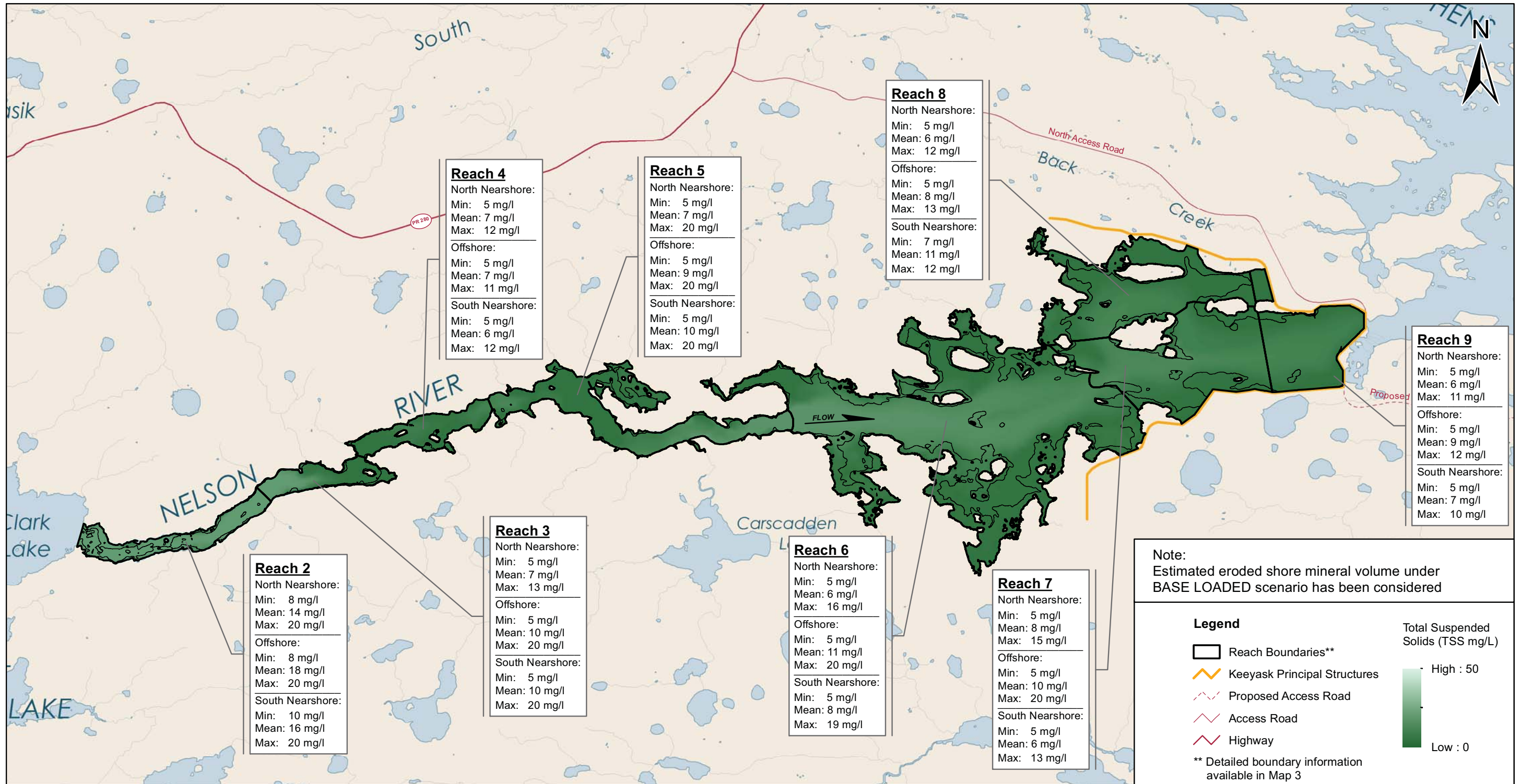


Keeyask Generation Project Environmental Impact Statement

Supporting Volume Physical Environment



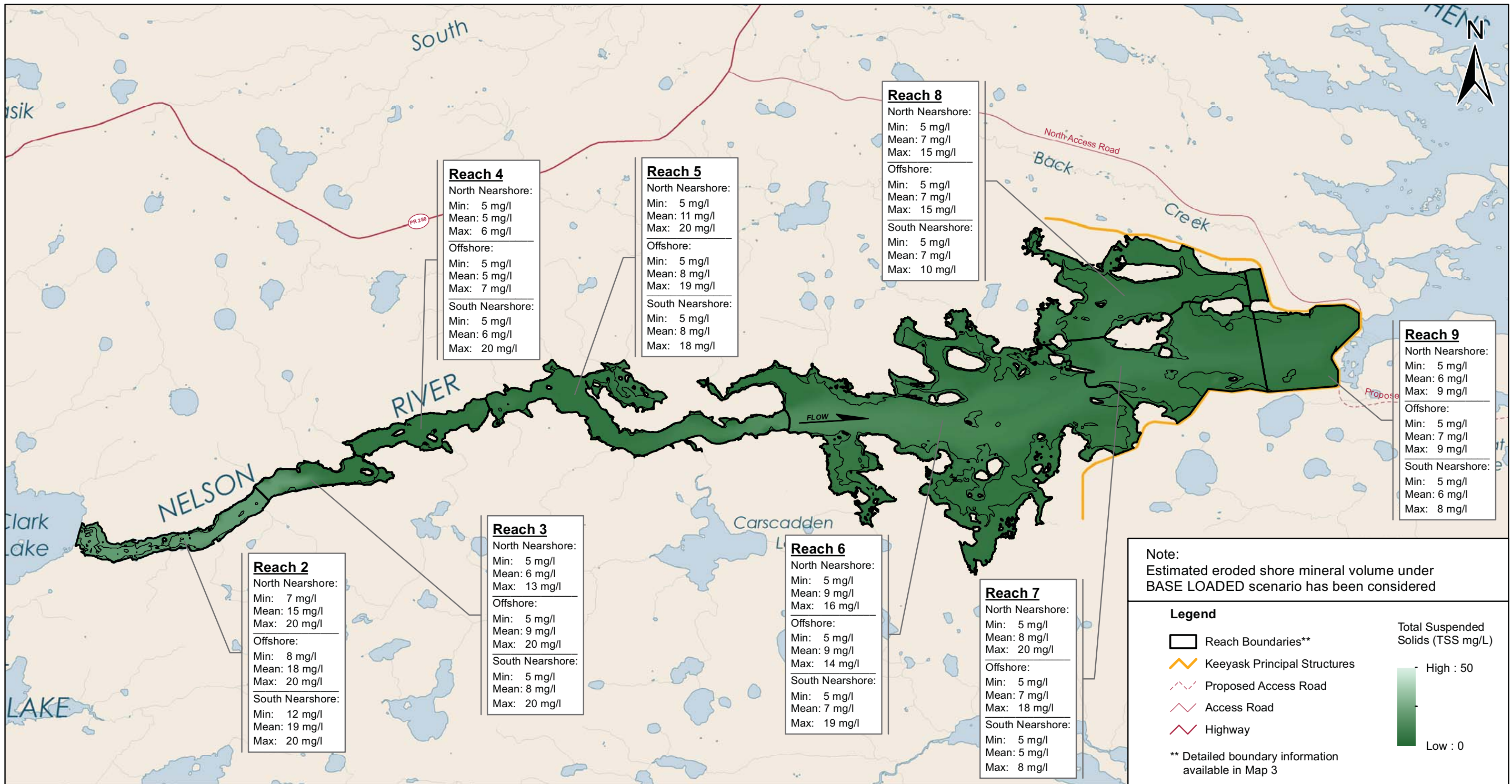
June 2012



Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration

Year 1 after Impoundment - 50th Percentile Flow (Base Loaded)

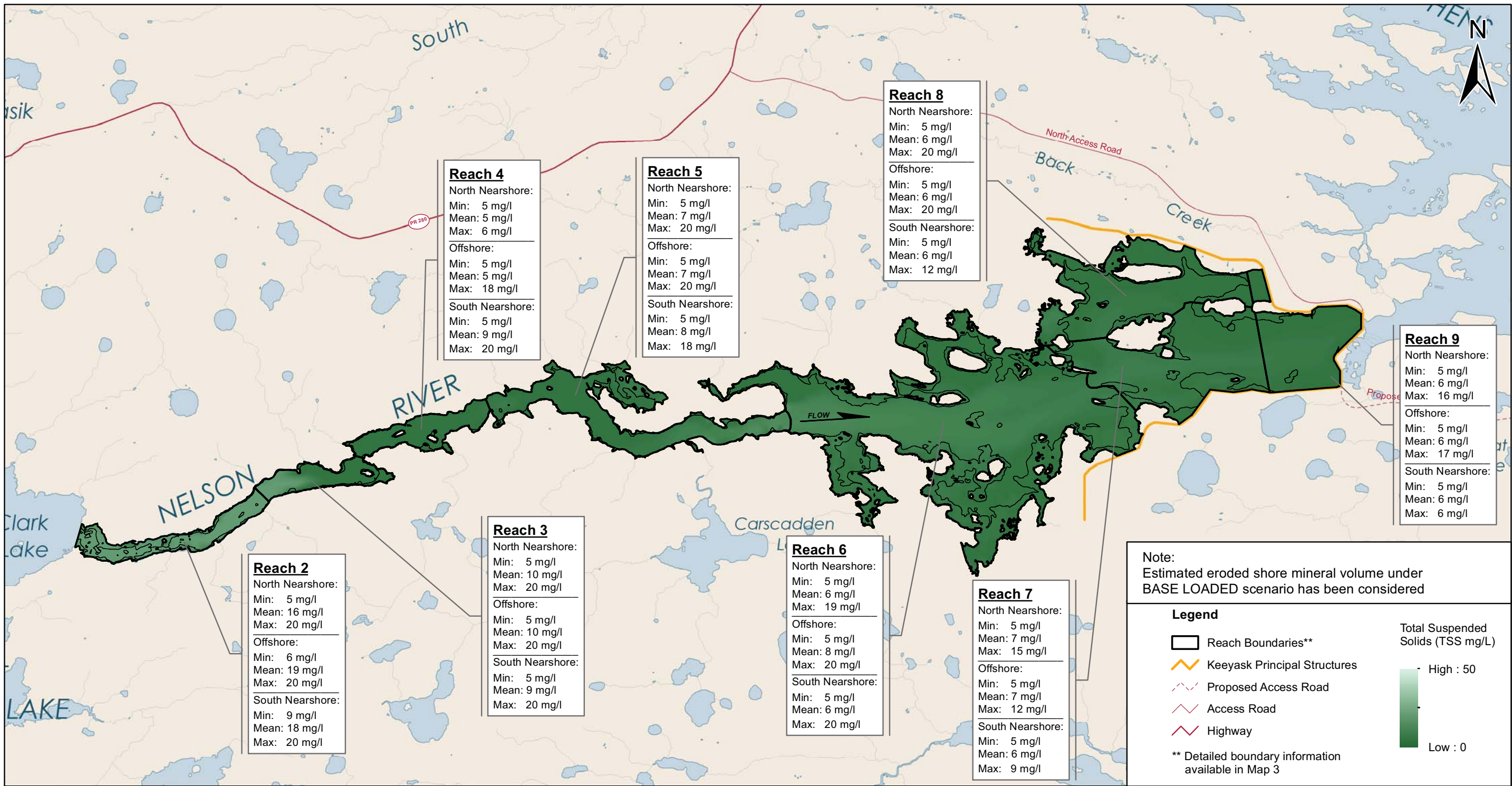


Projection: Universal Transverse Mercator Zone 15N, NAD 83

Data Source:
 1. Lakes and Rivers Provided by Geogratix, 2004

Spatial Distribution of Depth Averaged Sediment Concentration

Year 5 after Impoundment - 50th Percentile Flow (Base Loaded)



Reach 4
 North Nearshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 6 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 18 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 9 mg/l
 Max: 20 mg/l

Reach 5
 North Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 18 mg/l

Reach 8
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 12 mg/l

Reach 9
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 16 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 17 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 6 mg/l

Reach 2
 North Nearshore:
 Min: 5 mg/l
 Mean: 16 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 6 mg/l
 Mean: 19 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 9 mg/l
 Mean: 18 mg/l
 Max: 20 mg/l

Reach 3
 North Nearshore:
 Min: 5 mg/l
 Mean: 10 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 10 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 9 mg/l
 Max: 20 mg/l

Reach 6
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 19 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 20 mg/l

Reach 7
 North Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 15 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 12 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 9 mg/l

Note:
 Estimated eroded shore mineral volume under BASE LOADED scenario has been considered

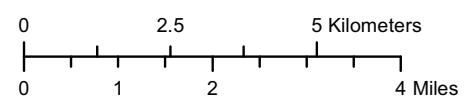
Legend

- Reach Boundaries**
- Keeyask Principal Structures
- Proposed Access Road
- Access Road
- Highway

** Detailed boundary information available in Map 3

Total Suspended Solids (TSS mg/L)

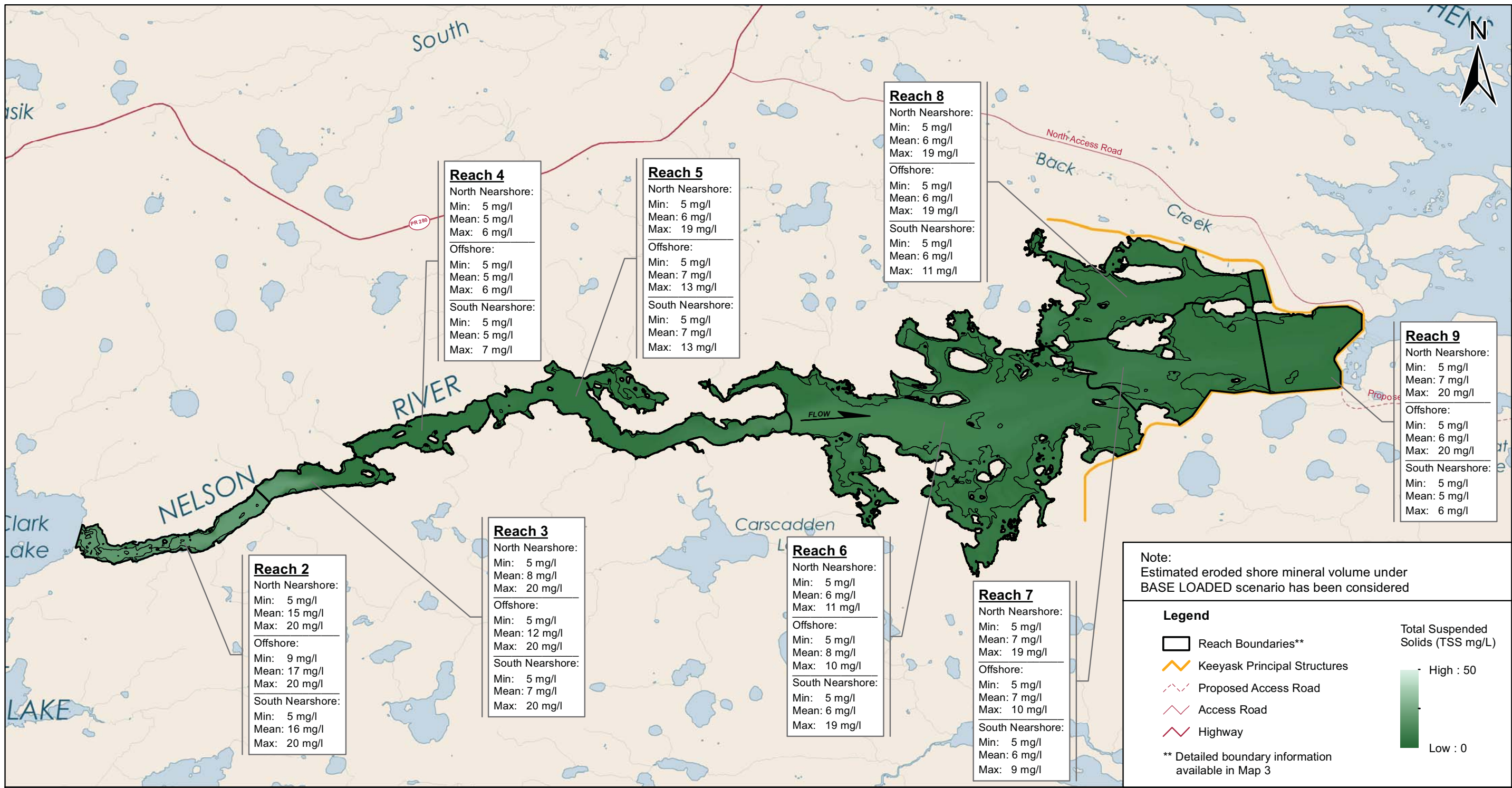
High : 50
 Low : 0



Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration

Year 15 after Impoundment - 50th Percentile Flow (Base Loaded)



Reach 4
 North Nearshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 6 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 6 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 7 mg/l

Reach 5
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 19 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 13 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 13 mg/l

Reach 8
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 19 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 19 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 11 mg/l

Reach 9
 North Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 5 mg/l
 Max: 6 mg/l

Reach 2
 North Nearshore:
 Min: 5 mg/l
 Mean: 15 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 9 mg/l
 Mean: 17 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 16 mg/l
 Max: 20 mg/l

Reach 3
 North Nearshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 20 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 12 mg/l
 Max: 20 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 20 mg/l

Reach 6
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 11 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 10 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 19 mg/l

Reach 7
 North Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 19 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 10 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 9 mg/l

Note:
 Estimated eroded shore mineral volume under BASE LOADED scenario has been considered

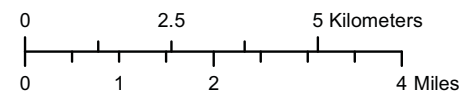
Legend

- Reach Boundaries**
- Keeyask Principal Structures
- Proposed Access Road
- Access Road
- Highway

** Detailed boundary information available in Map 3

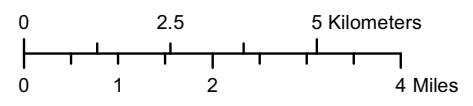
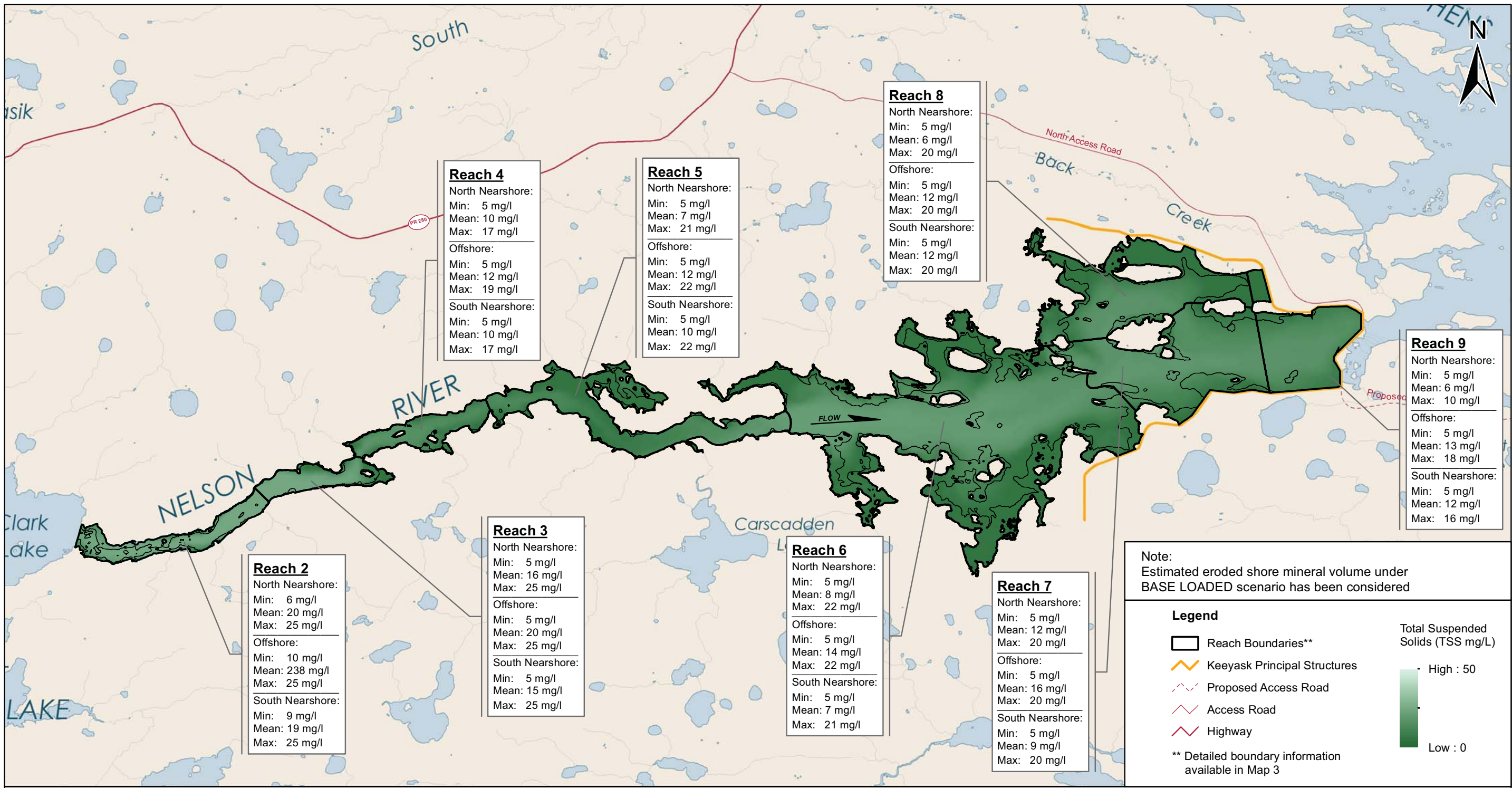
Total Suspended Solids (TSS mg/L)

High : 50
 Low : 0



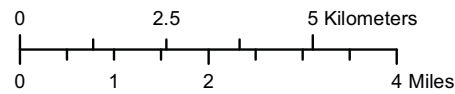
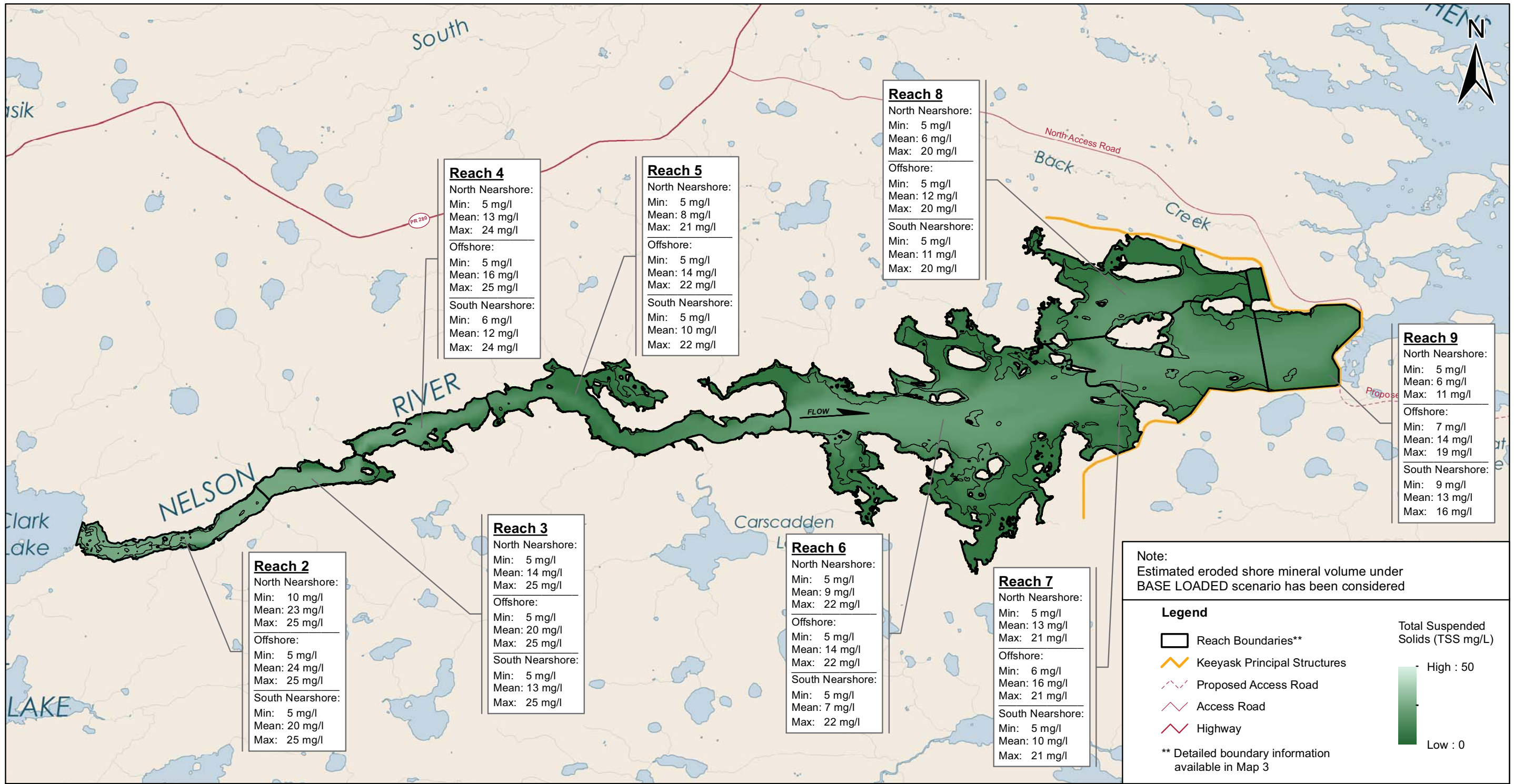
Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration
 Year 30 after Impoundment - 50th Percentile Flow (Base Loaded)



Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

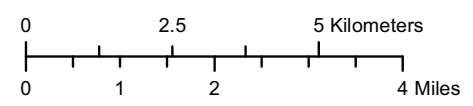
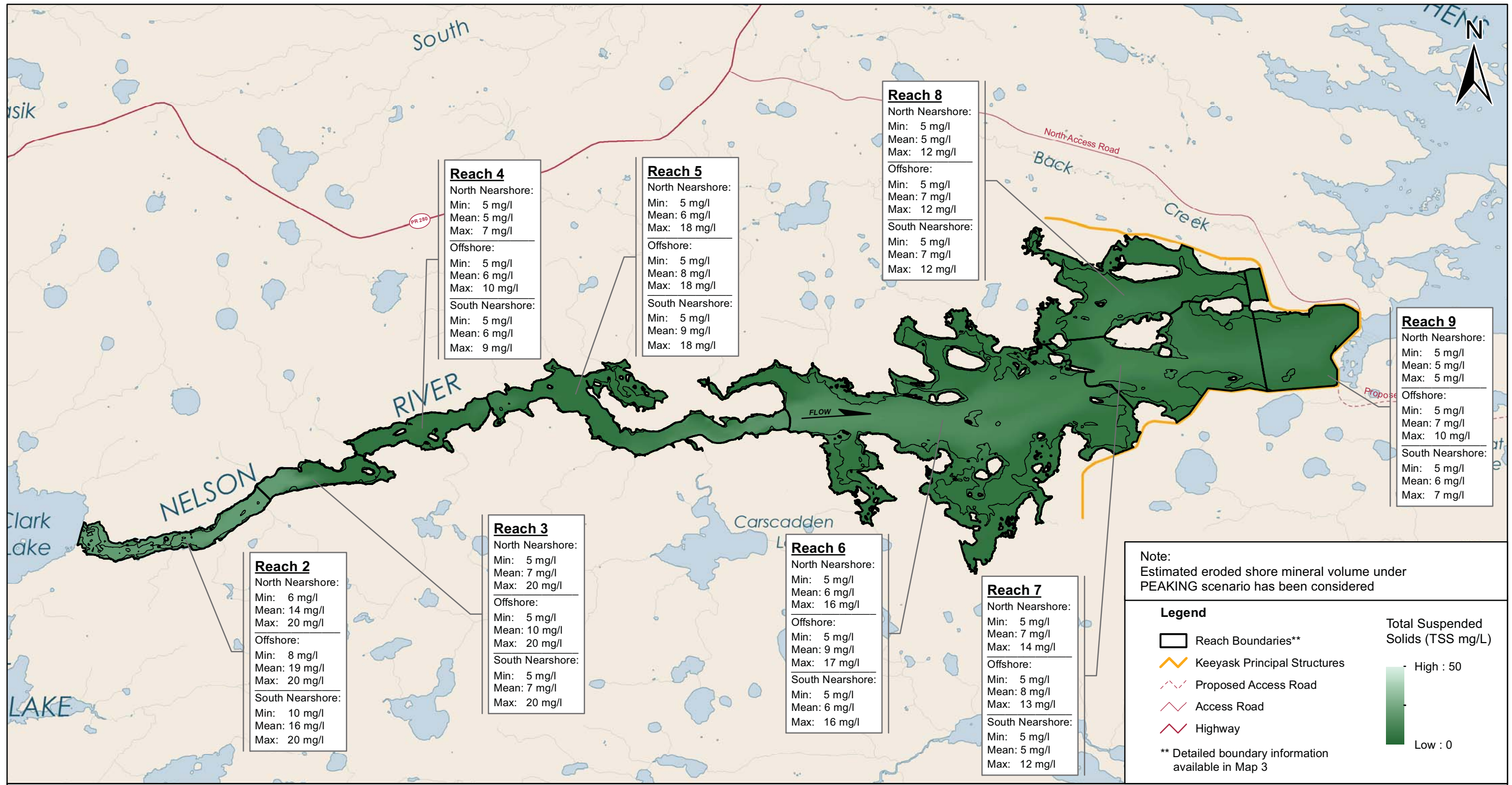
Spatial Distribution of Depth Averaged Sediment Concentration
 Year 1 after Impoundment - 95th Percentile Flow (Base Loaded)



Projection: Universal Transverse Mercator Zone 15N, NAD 83

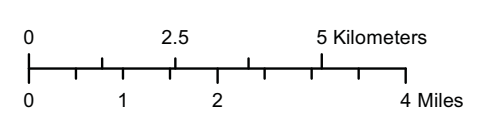
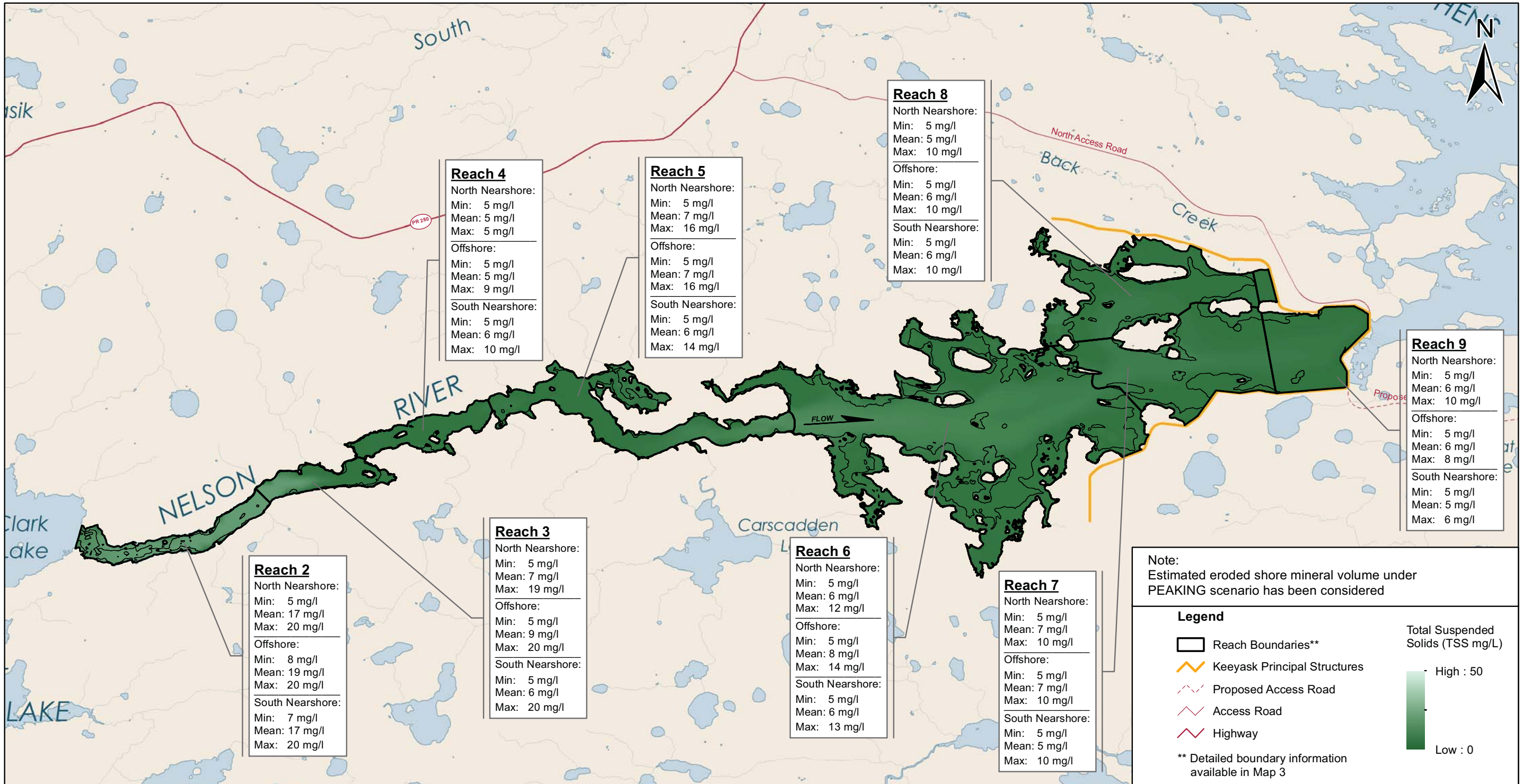
Data Source:
1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration
Year 5 after Impoundment - 95th Percentile Flow (Base Loaded)



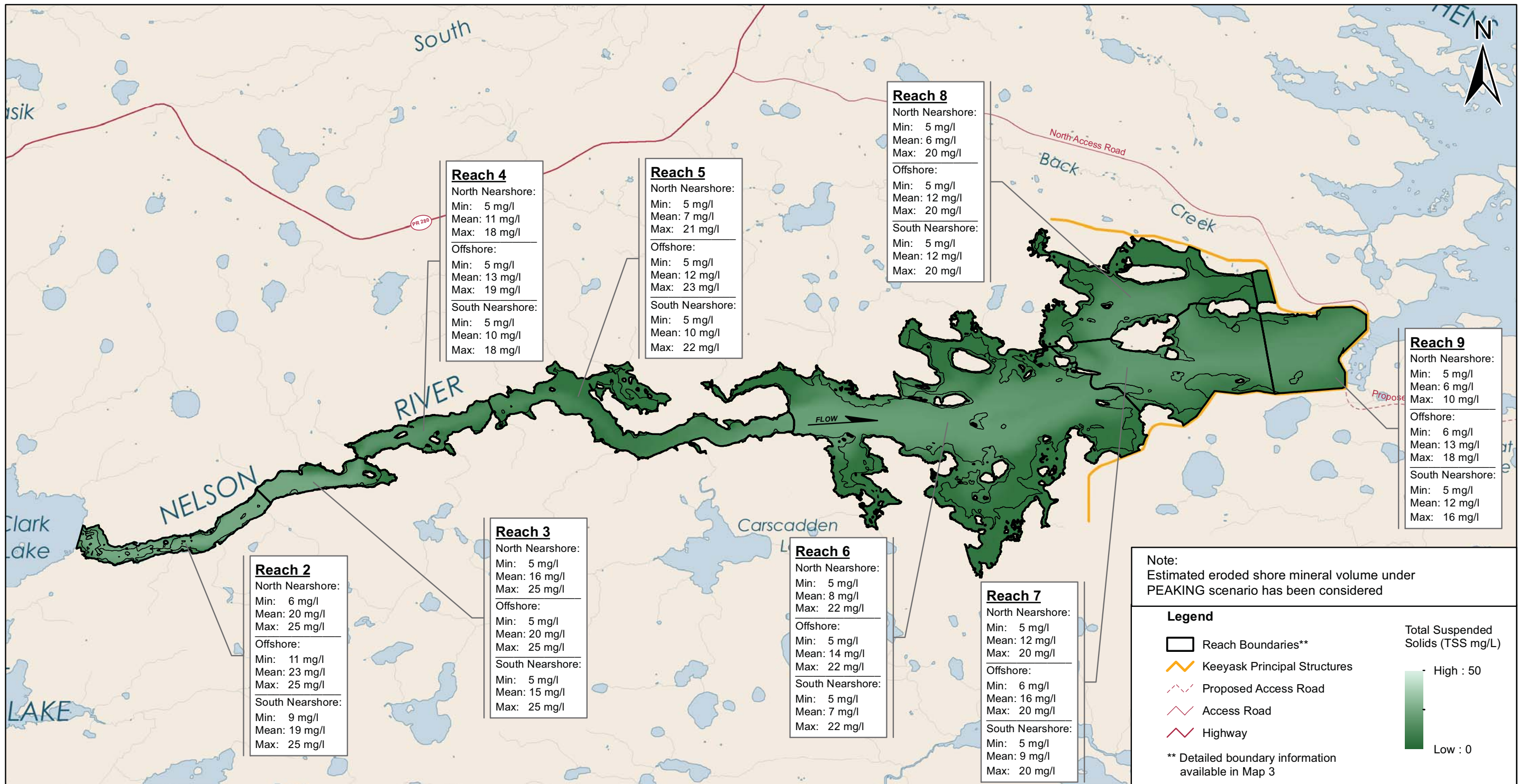
Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration
 Year 1 after Impoundment - 50th Percentile Flow (Peaking)



Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

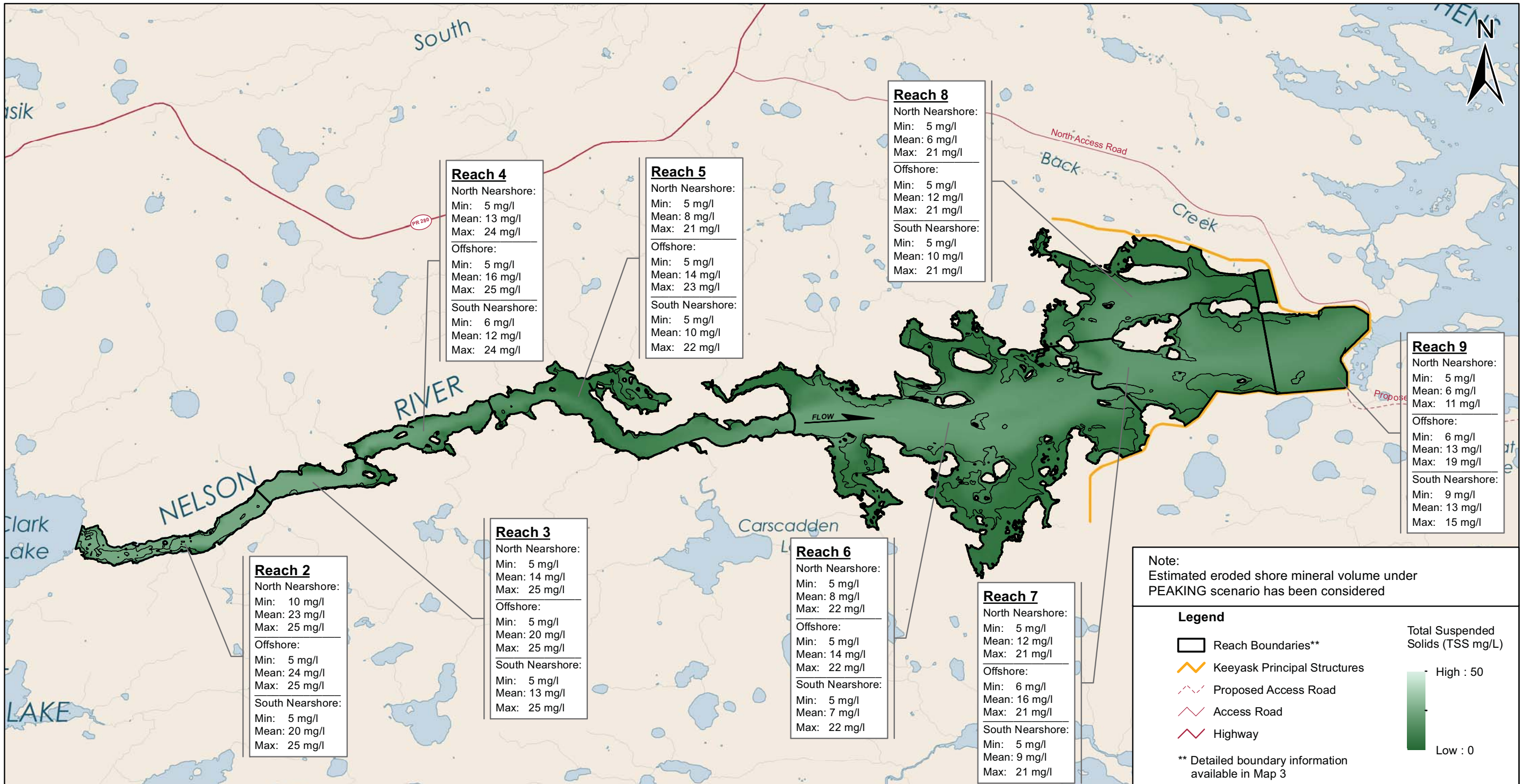
Spatial Distribution of Depth Averaged Sediment Concentration
 Year 5 after Impoundment - 50th Percentile Flow (Peaking)



Spatial Distribution of Depth Averaged Sediment Concentration
 Year 1 after Impoundment - 95th Percentile Flow (Peaking)



Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004



Reach 4
 North Nearshore:
 Min: 5 mg/l
 Mean: 13 mg/l
 Max: 24 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 16 mg/l
 Max: 25 mg/l
 South Nearshore:
 Min: 6 mg/l
 Mean: 12 mg/l
 Max: 24 mg/l

Reach 5
 North Nearshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 21 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 14 mg/l
 Max: 23 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 10 mg/l
 Max: 22 mg/l

Reach 8
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 21 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 12 mg/l
 Max: 21 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 10 mg/l
 Max: 21 mg/l

Reach 9
 North Nearshore:
 Min: 5 mg/l
 Mean: 6 mg/l
 Max: 11 mg/l
 Offshore:
 Min: 6 mg/l
 Mean: 13 mg/l
 Max: 19 mg/l
 South Nearshore:
 Min: 9 mg/l
 Mean: 13 mg/l
 Max: 15 mg/l

Reach 2
 North Nearshore:
 Min: 10 mg/l
 Mean: 23 mg/l
 Max: 25 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 24 mg/l
 Max: 25 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 20 mg/l
 Max: 25 mg/l

Reach 3
 North Nearshore:
 Min: 5 mg/l
 Mean: 14 mg/l
 Max: 25 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 20 mg/l
 Max: 25 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 13 mg/l
 Max: 25 mg/l

Reach 6
 North Nearshore:
 Min: 5 mg/l
 Mean: 8 mg/l
 Max: 22 mg/l
 Offshore:
 Min: 5 mg/l
 Mean: 14 mg/l
 Max: 22 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 7 mg/l
 Max: 22 mg/l

Reach 7
 North Nearshore:
 Min: 5 mg/l
 Mean: 12 mg/l
 Max: 21 mg/l
 Offshore:
 Min: 6 mg/l
 Mean: 16 mg/l
 Max: 21 mg/l
 South Nearshore:
 Min: 5 mg/l
 Mean: 9 mg/l
 Max: 21 mg/l

Note:
 Estimated eroded shore mineral volume under PEAKING scenario has been considered

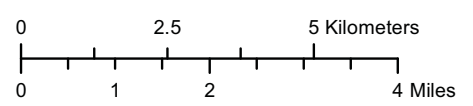
Legend

- Reach Boundaries**
- Keeyask Principal Structures
- Proposed Access Road
- Access Road
- Highway

** Detailed boundary information available in Map 3

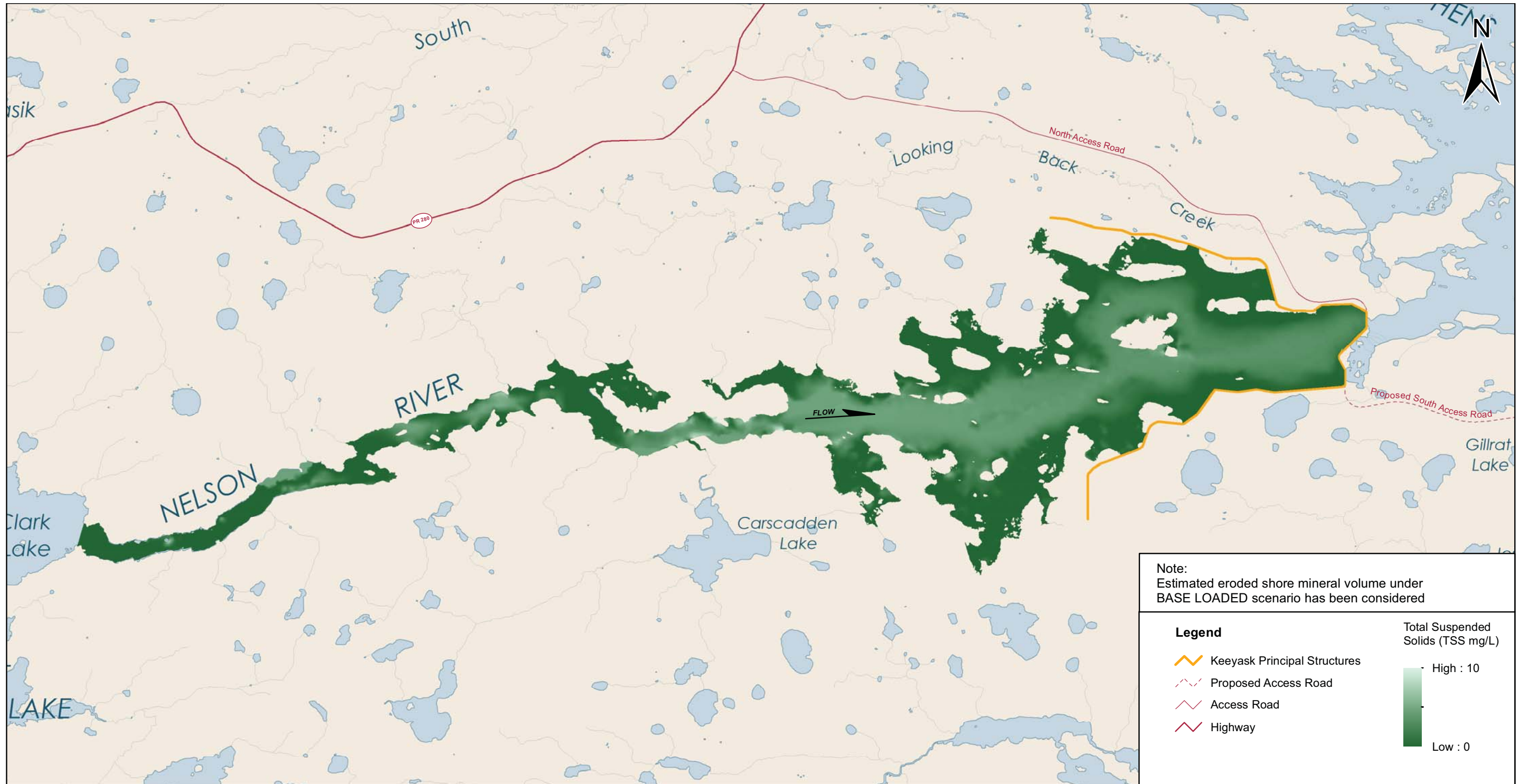
Total Suspended Solids (TSS mg/L)

High : 50
 Low : 0



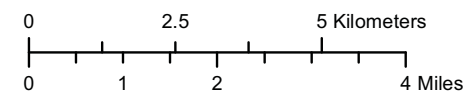
Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Spatial Distribution of Depth Averaged Sediment Concentration
 Year 5 after Impoundment - 95th Percentile Flow (Peaking)



Note:
 Estimated eroded shore mineral volume under
 BASE LOADED scenario has been considered

Legend		Total Suspended Solids (TSS mg/L)
	Keeyask Principal Structures	 High : 10 Low : 0
	Proposed Access Road	
	Access Road	
	Highway	

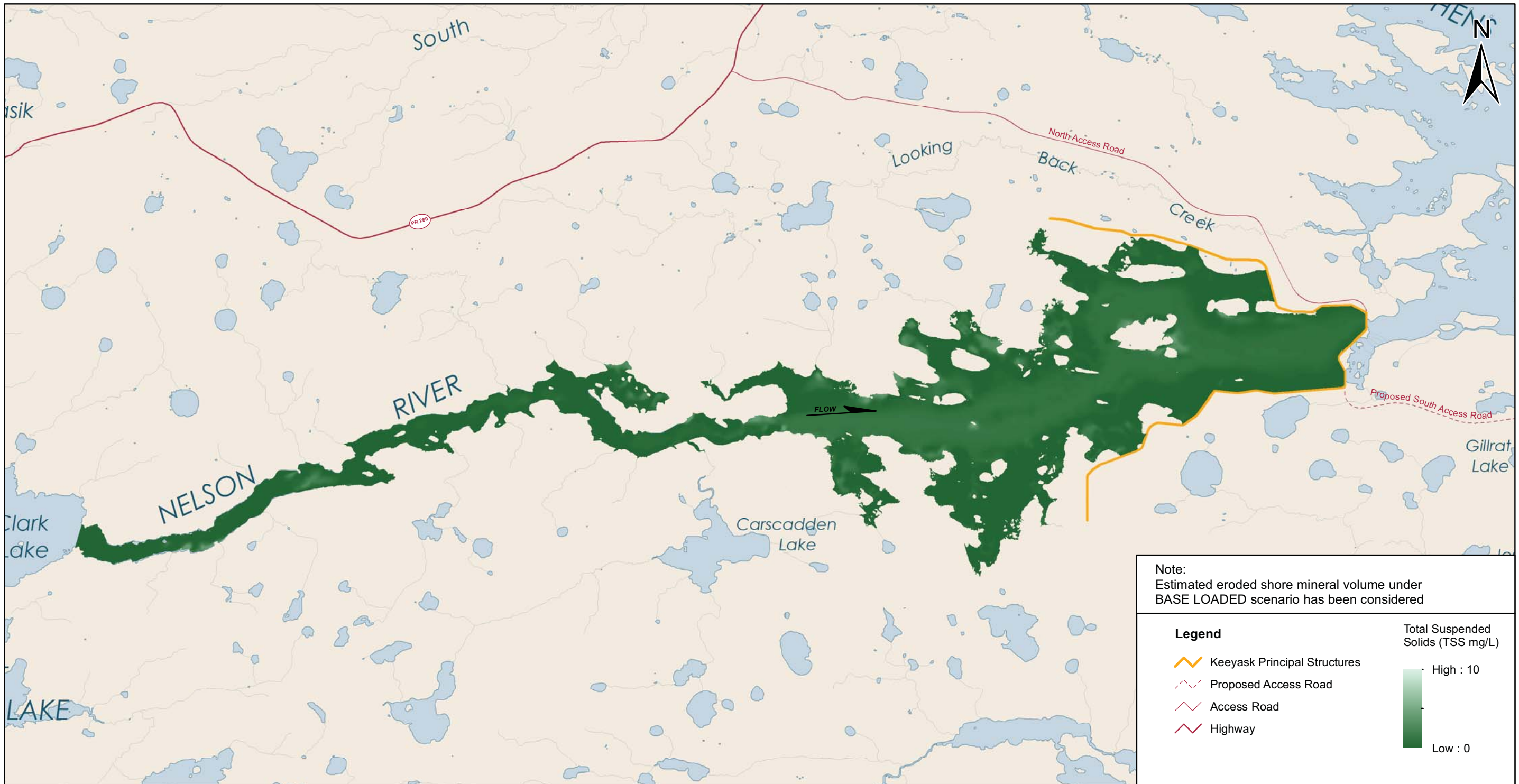


Projection: Universal Transverse Mercator Zone 15N, NAD 83

Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Changes in Depth Averaged Sediment Concentration

Year 1 to 5 after Impoundment - 50th Percentile Flow (Base Loaded)



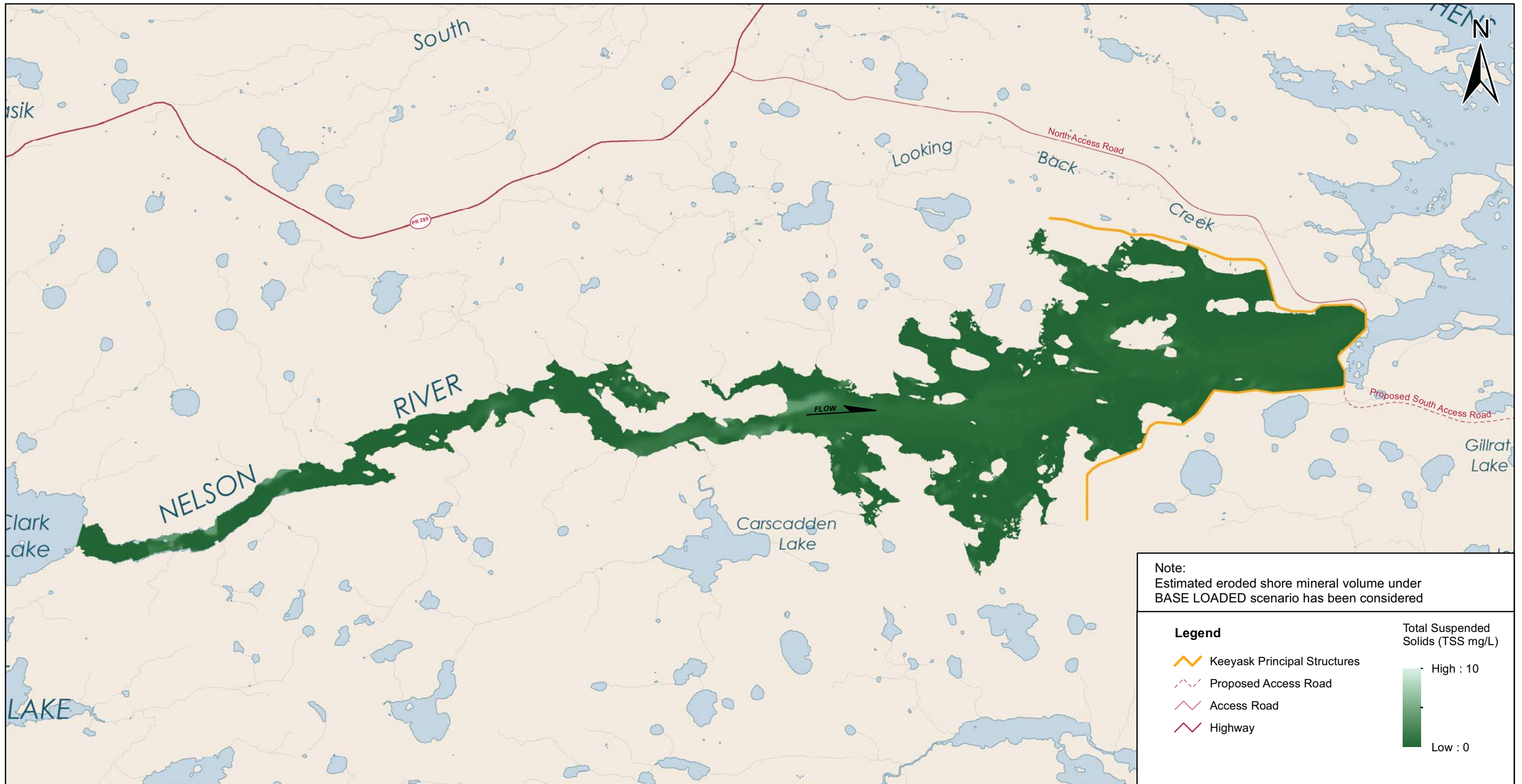
Note:
 Estimated eroded shore mineral volume under
 BASE LOADED scenario has been considered

Legend		Total Suspended Solids (TSS mg/L)
	Keeyask Principal Structures	 High : 10 Low : 0
	Proposed Access Road	
	Access Road	
	Highway	



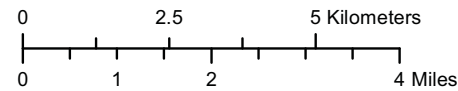
Projection: Universal Transverse Mercator Zone 15N, NAD 83
 Data Source:
 1. Lakes and Rivers Provided by Geogratis, 2004

Changes in Depth Averaged Sediment Concentration
 Year 5 to 15 after Impoundment - 50th Percentile Flow (Base Loaded)



Note:
 Estimated eroded shore mineral volume under
 BASE LOADED scenario has been considered

Legend		Total Suspended Solids (TSS mg/L)
	Keeyask Principal Structures	 High : 10 Low : 0
	Proposed Access Road	
	Access Road	
	Highway	



Projection: Universal Transverse Mercator Zone 15N, NAD 83

Data Source:
 1. Lakes and Rivers Provided by Geogritis, 2004

Changes in Depth Averaged Sediment Concentration

Year 15 to 30 after Impoundment - 50th Percentile Flow (Base Loaded)