

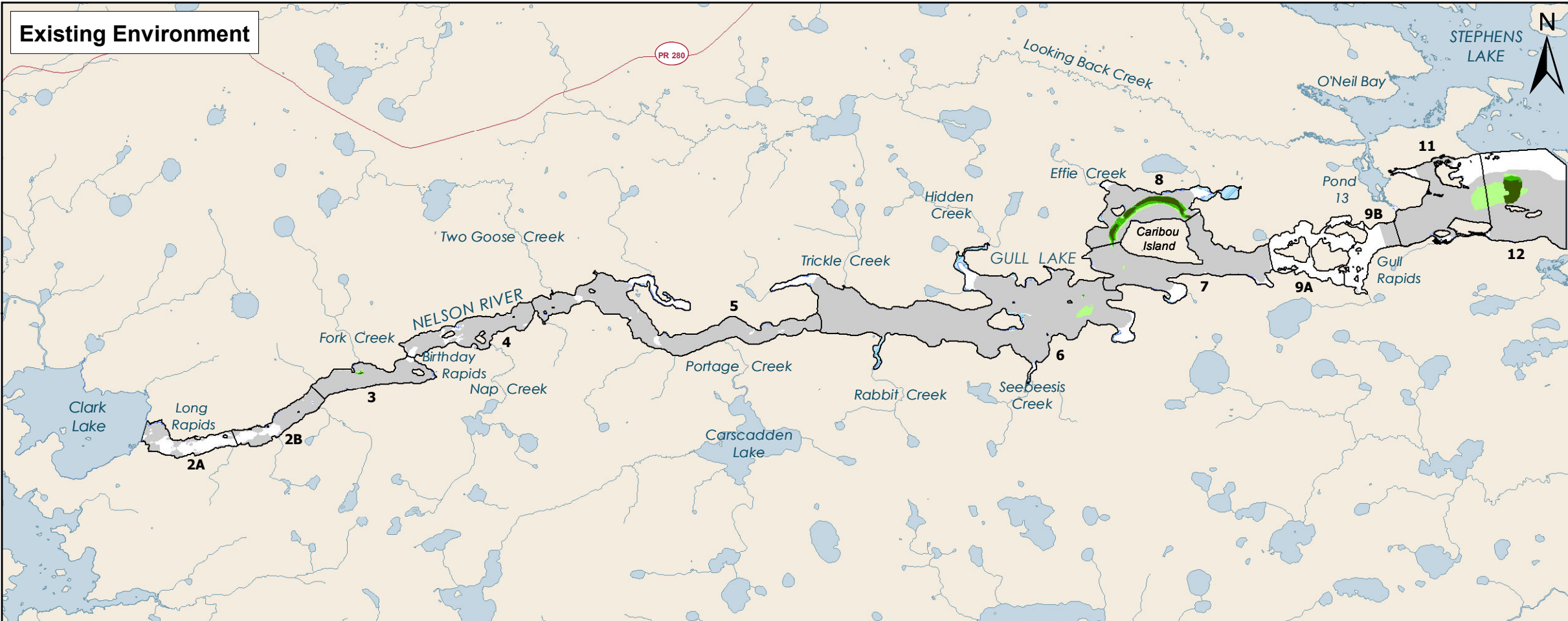


Keeyask Generation Project Environmental Impact Statement

Supporting Volume Aquatic Environment



June 2012

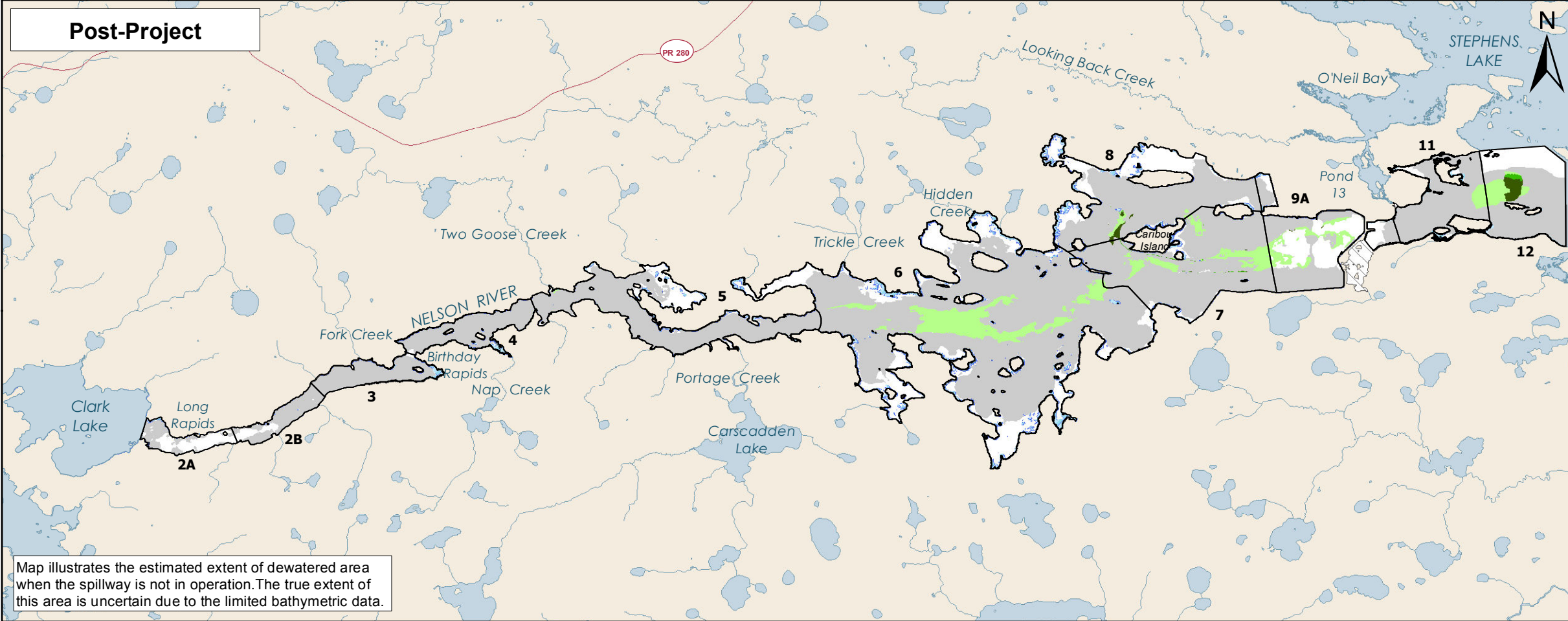


Legend

Habitat Suitability Index

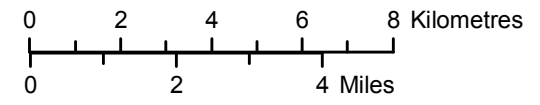
- 0.00
- 0.01 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00

- Intermittently Exposed Zone
- Potential Dewatered Area
- Keyask Principal Structures



Note: Existing Environment frame shows 50th percentile inflow and Stephens Lake level of 141.1m. Post-Project frame shows Year 30 shoreline, reservoir at 159 metres and 50th percentile inflow with 6 unit full gate plant operation with spill and Stephens Lake level of 141.1m. Mitigation measures are not shown. Extents of dewatered area are estimated based on the existing environment 95th percentile flow.

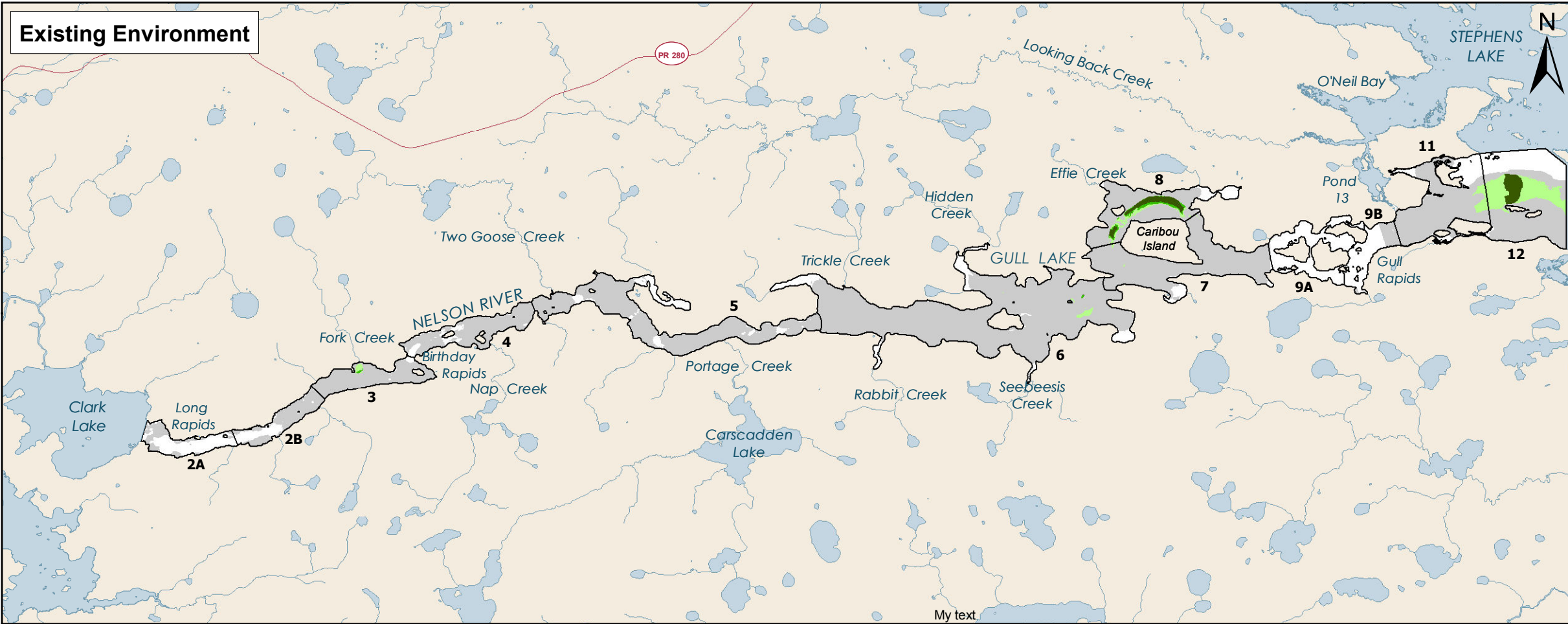
Projection: UTM Zone 15, NAD 83
 Data Source: NTS base 1:50 000
 Stephens Lake Shoreline - Quickbird@Digitalglobe, 2006
 Nelson River Shoreline modelled by Manitoba Hydro



**Young-of-the-Year Lake Sturgeon
 Habitat at 50th Percentile Inflow
 Habitat Suitability Index Model**

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





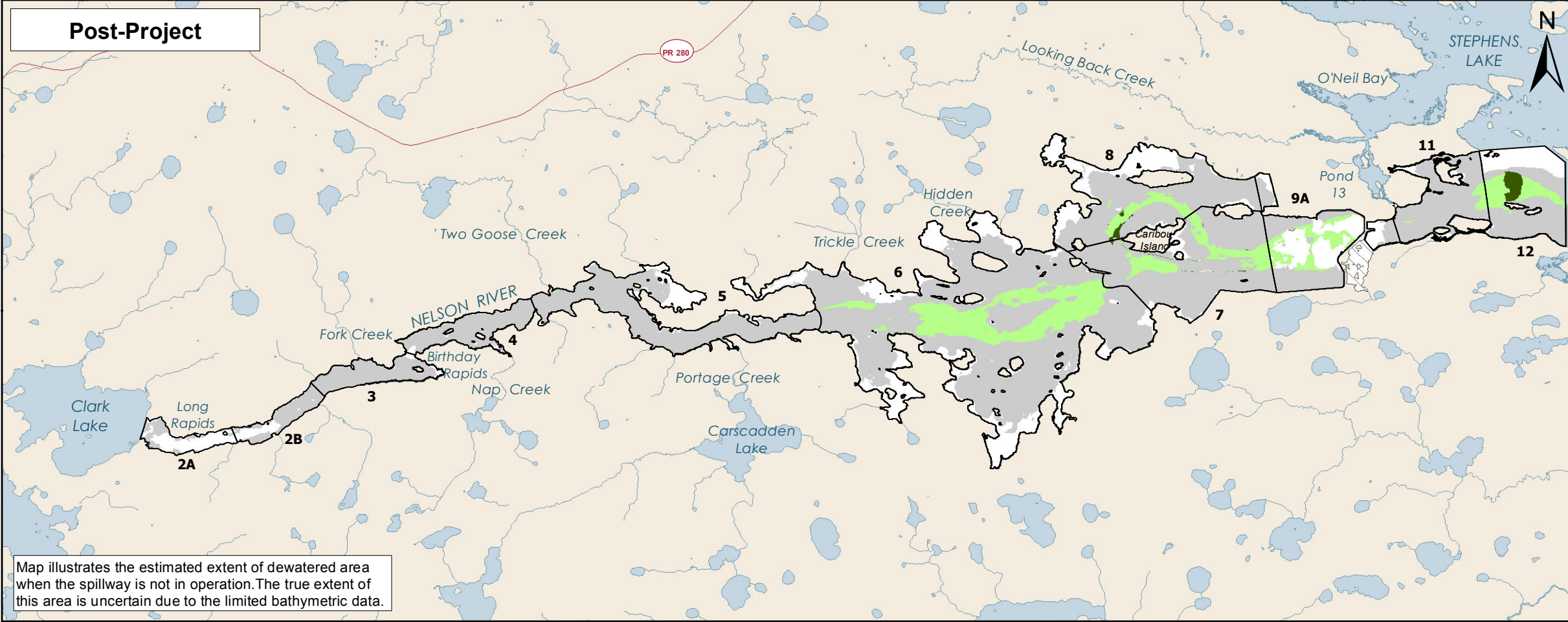
Legend

Habitat Suitability Index

- 0.00
- 0.01 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00

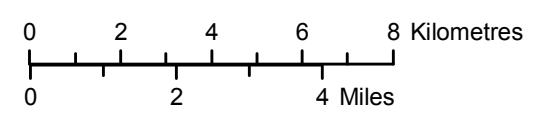
▨ Potential Dewatered Area

— Keyask Principal Structures



Note: Existing Environment frame shows 95th percentile inflow and Stephens Lake level of 141.1m. Post-Project frame shows Year 30 shoreline, reservoir at 159 metres and 95th percentile inflow with 7 unit full gate plant operation with spill and Stephens Lake level of 141.1m. Mitigation measures are not shown. Extents of dewatered area are estimated based on the existing environment 95th percentile flow.

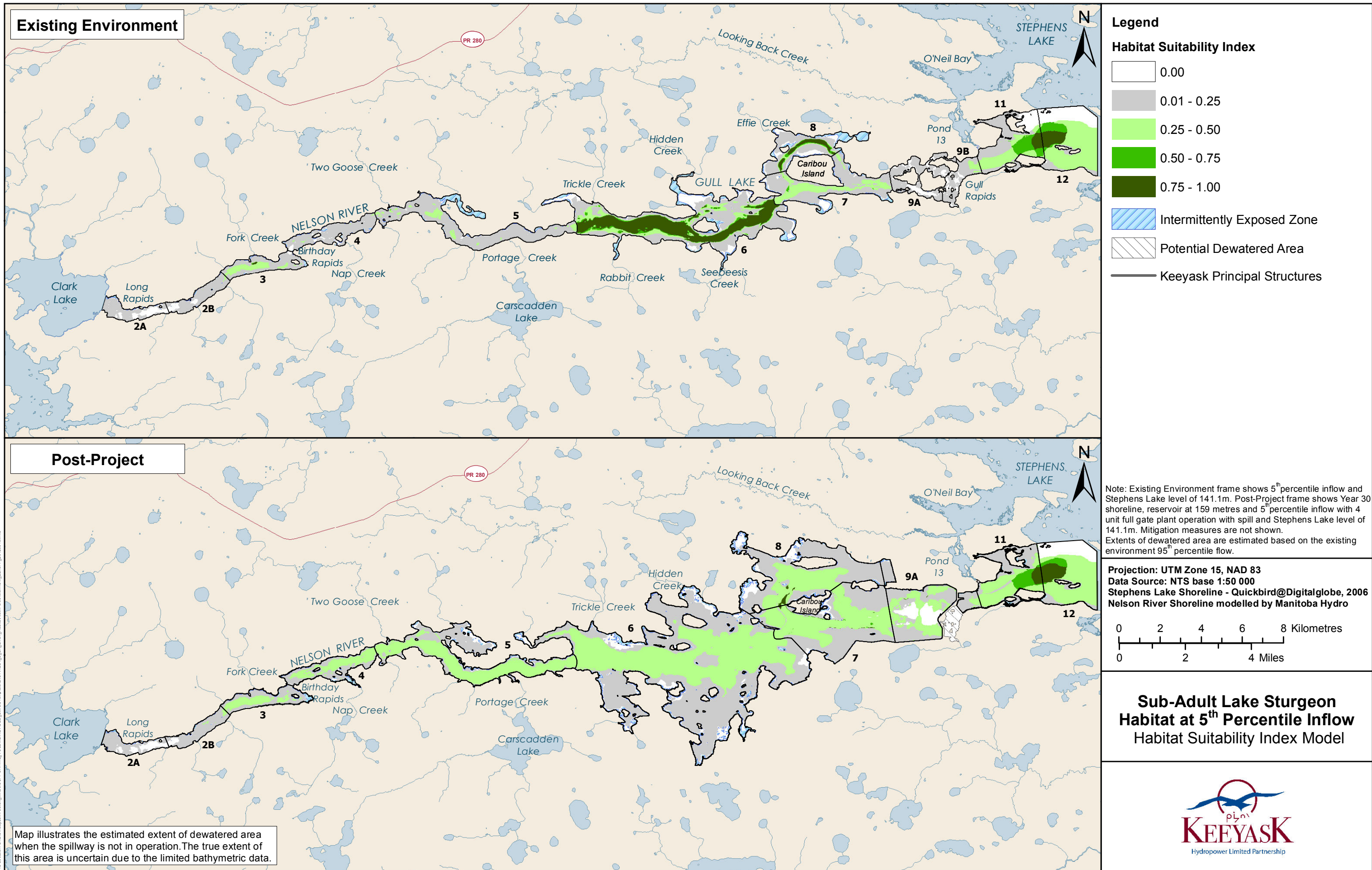
Projection: UTM Zone 15, NAD 83
 Data Source: NTS base 1:50 000
 Stephens Lake Shoreline - Quickbird@Digitalglobe, 2006
 Nelson River Shoreline modelled by Manitoba Hydro



**Young-of-the-Year Lake Sturgeon
 Habitat at 95th Percentile Inflow
 Habitat Suitability Index Model**

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





Existing Environment

Legend

Habitat Suitability Index

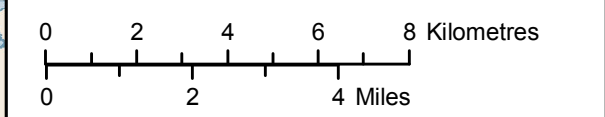
- 0.00
- 0.01 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00

- Intermittently Exposed Zone
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Post-Project

Note: Existing Environment frame shows 5th percentile inflow and Stephens Lake level of 141.1m. Post-Project frame shows Year 30 shoreline, reservoir at 159 metres and 5th percentile inflow with 4 unit full gate plant operation with spill and Stephens Lake level of 141.1m. Mitigation measures are not shown. Extents of dewatered area are estimated based on the existing environment 95th percentile flow.

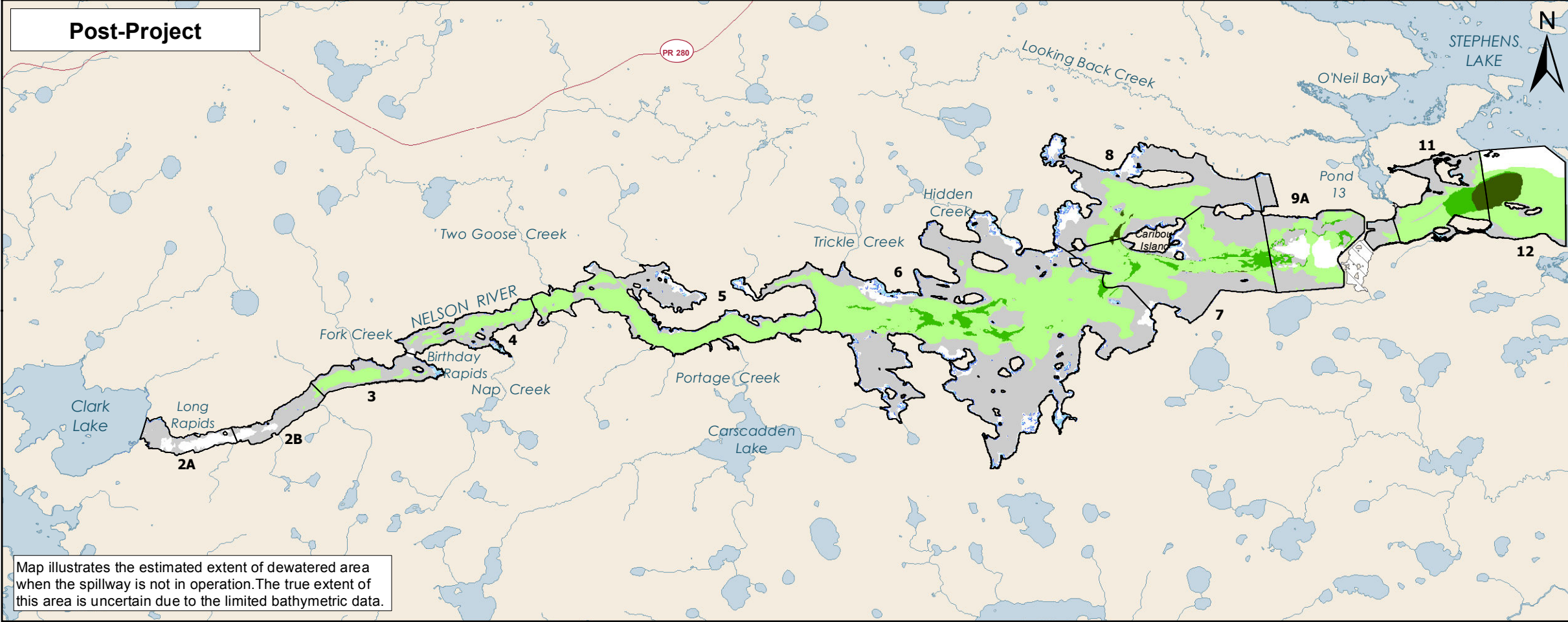
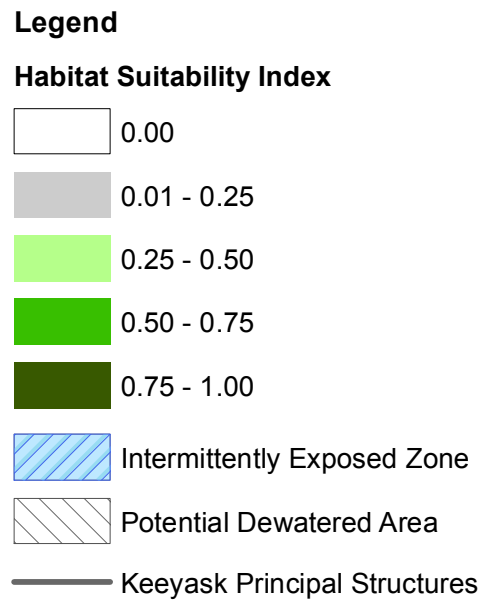
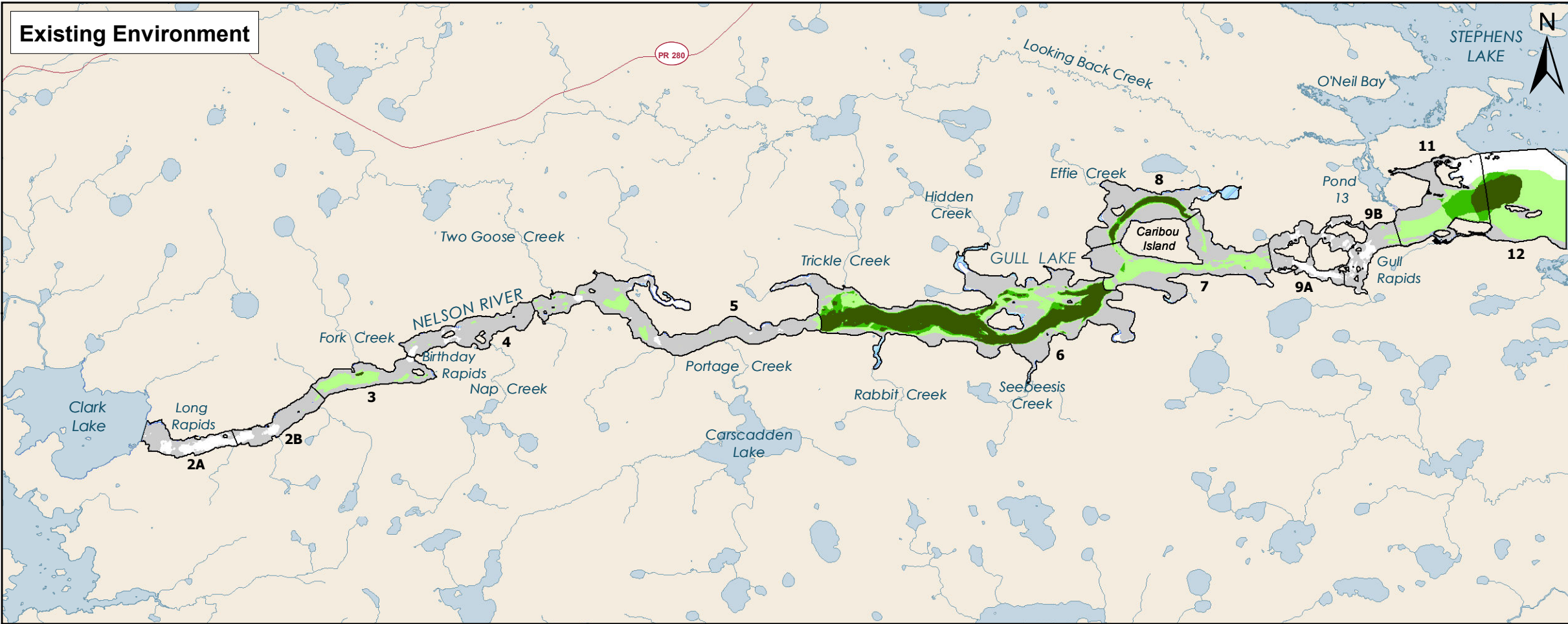
Projection: UTM Zone 15, NAD 83
 Data Source: NTS base 1:50 000
 Stephens Lake Shoreline - Quickbird@Digitalglobe, 2006
 Nelson River Shoreline modelled by Manitoba Hydro



**Sub-Adult Lake Sturgeon
 Habitat at 5th Percentile Inflow
 Habitat Suitability Index Model**

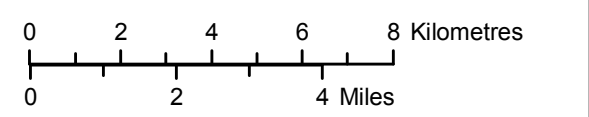
Map illustrates the estimated extent of dewatered area when the spillway is not in operation. The true extent of this area is uncertain due to the limited bathymetric data.





Note: Existing Environment frame shows 50th percentile inflow and Stephens Lake level of 141.1m. Post-Project frame shows Year 30 shoreline, reservoir at 159 metres and 50th percentile inflow with 6 unit full gate plant operation with spill and Stephens Lake level of 141.1m. Mitigation measures are not shown. Extents of dewatered area are estimated based on the existing environment 95th percentile flow.

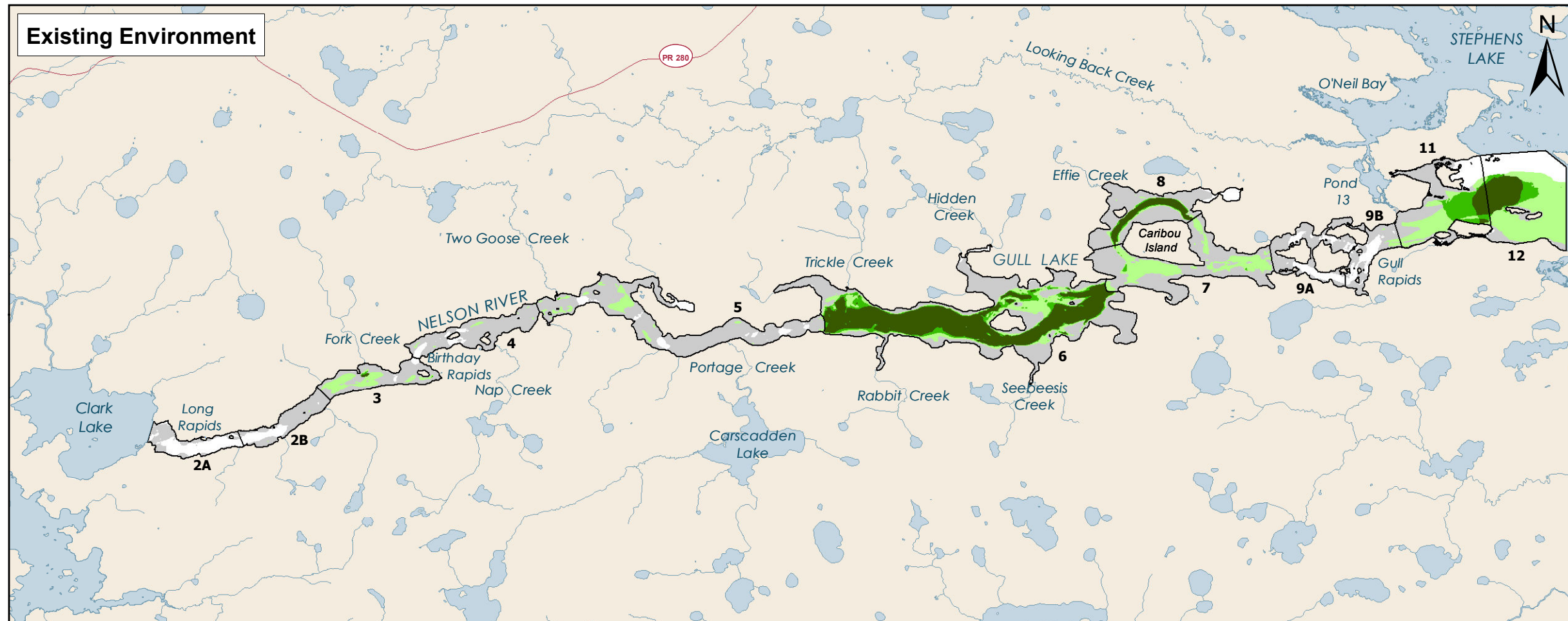
Projection: UTM Zone 15, NAD 83
 Data Source: NTS base 1:50 000
 Stephens Lake Shoreline - Quickbird@Digitalglobe, 2006
 Nelson River Shoreline modelled by Manitoba Hydro



**Sub-Adult Lake Sturgeon
 Habitat at 50th Percentile Inflow
 Habitat Suitability Index Model**

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





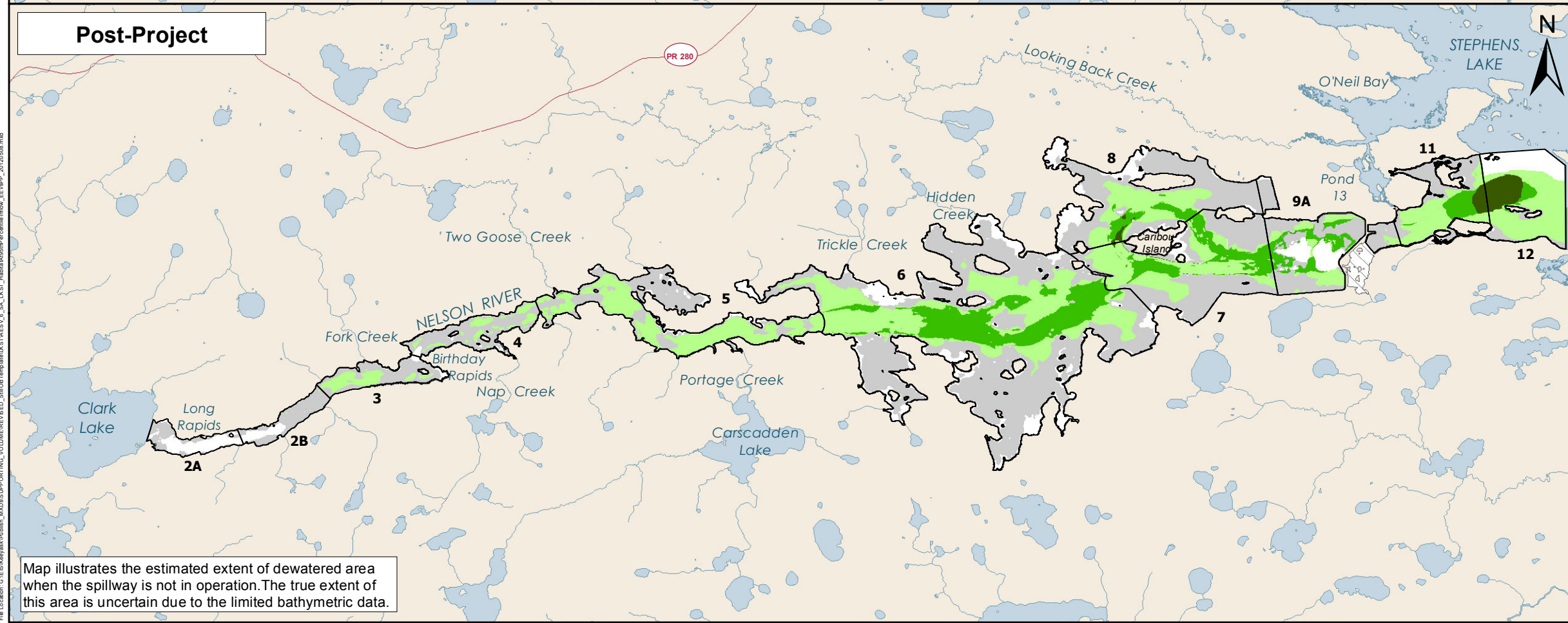
Legend

Habitat Suitability Index

- 0.00
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- 0.50 - 0.75
- 0.75 - 1.00

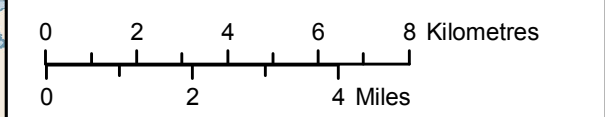
Potential Dewatered Area

Keyeyask Principal Structures



Note: Existing Environment frame shows 95th percentile inflow and Stephens Lake level of 141.1m. Post-Project frame shows Year 30 shoreline, reservoir at 159 metres and 95th percentile inflow with 7 unit full gate plant operation with spill and Stephens Lake level of 141.1m. Mitigation measures are not shown. Extents of dewatered area are estimated based on the existing environment 95th percentile flow.

Projection: UTM Zone 15, NAD 83
 Data Source: NTS base 1:50 000
 Stephens Lake Shoreline - Quickbird@Digitalglobe, 2006
 Nelson River Shoreline modelled by Manitoba Hydro



**Sub-Adult Lake Sturgeon
 Habitat at 95th Percentile Inflow
 Habitat Suitability Index Model**

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

