



# Keeyask Generation Project Environmental Impact Statement

## Supporting Volume Aquatic Environment



June 2012

**KEYYASK GENERATION PROJECT  
ENVIRONMENTAL IMPACT STATEMENT  
AQUATIC ENVIRONMENT SUPPORTING VOLUME**

Prepared by

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# ACRONYMS AND ABBREVIATIONS



AQUATIC ENVIRONMENT  
ACRONYMS AND ABBREVIATIONS

<b>Acronym/Abbreviation</b>	
%F	percent flooding
ABS	Acrylonitrile butadiene styrene
AEA	Adverse Effects Agreements
AEMP	Aquatic Effects Monitoring Plan
AE SV	Aquatic Environment Supporting Volume
AIC	Akaike's Information Criterion
ANOVA	Analysis of Variance
ASL	Above sea level
ATK	Aboriginal traditional knowledge
AVR	The ratio of flooded area to reservoir volume
BCMELP	British Columbia Ministry of Environment, Land, and Parks
BCMOE	British Columbia Ministry of the Environment
BG	background
BOD	Biochemical oxygen demand
CAMPP	Coordinated Aquatic Monitoring Pilot Program
CCME	Canadian Council of Ministers of the Environment
CCREM	Canadian Council of Resource and Environment Ministers
CDED	Canadian Digital Elevation Data
CFIA	Canadian Food Inspection Agency
CL	Confidence limits (statistics)
CM	Core monitoring
CMAMM	Canada-Manitoba Agreement on the Study and Monitoring of Mercury in the Churchill River Diversion
CNP	Cree Nation Partners
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPUE	Catch-per-unit-effort
CRD	Churchill River Diversion
CUE	Catch per unit effort (EMP; not corrected for hours)
DBD	Depositional boundary depth
DELT	Deformities, erosion, lesions or tumours
DFO	Fisheries and Oceans Canada (formerly known as Department of Fisheries and Oceans Canada)

<b>Acronym/Abbreviation</b>	
DIN	Dissolved inorganic nitrogen
DL	Detection limit
DO	Dissolved oxygen
DOC	Dissolved organic carbon
DP	Total dissolved phosphorus
EC	Environment Canada
EE	Existing Environment
EIS	Environmental Impact Statement
EnvPP	Environmental Protection Plan
ELA	Experimental Lakes Area
ELARP	Experimental Lakes Area Reservoir Project
EMP	Ecological Monitoring Program
EMPA	Excavated Material Placement Area
ETL	Enviro-Test Laboratories
FEMP	Federal Ecological Monitoring Program
FFMC	Freshwater Fish Marketing Corporation
FL	Fork length
FLCN	Fox Lake Cree Nation
FLUDEX	Flooded Upland Dynamics Experiment
FOM	Fine organic material
FSL	Full Supply Level
GBT	Gas bubble trauma
GHG	Greenhouse gases
GIS	Geographic Information System
GPS	Global positioning system
GS	Generating station
HSC	Habitat Suitability Curve
HSI	Habitat Suitability Index
HZI	Hydraulic zone of influence
IC	Inorganic carbon
IEZ	Intermittently Exposed Zone



<b>Acronym/Abbreviation</b>	
ITIS	Integrated Taxonomic Information System
KCNs	Keeyask Cree Nations
KIP	Keeyask Infrastructure Project
KIP EA	Keeyask Infrastructure Project Environmental Assessment Report
LC50	Concentration at which 50% mortality of a test organism occurs
LDA	Linear Discriminant Analysis
LEL	Lowest Effect Level
LK	Local Knowledge
LNRIS	Lower Nelson River Information System
LOD	Large organic debris
LWCNRSB	Lake Winnipeg, Churchill and Nelson Rivers Study Board
LWR	Lake Winnipeg Regulation
MAC	Maximum Acceptable Concentration
Max	maximum
MCWS	Manitoba Conservation and Water Stewardship
MDMNR	Manitoba Department of Mines and Natural Resources
MEMP	Manitoba Ecological Monitoring Program
Min	minimum
MMMR	"Monitoring of mercury concentrations in fish in northern Manitoba reservoirs" program
MOL	Minimum Operating Level
MWS	Manitoba Water Stewardship
MWQSOG	Manitoba Water Quality Standards, Objectives, and Guidelines
n	Sample size
NCN	Nisichawayasihk Cree Nation
NHC	Northwest Hydraulic Consultants Inc.
NHN	National Hydro Network
NRSCB	Nelson River Sturgeon Co-Management Board
NSC	North/South Consultants Inc.
NTU	Nephelometric Turbidity Units
OC	Organic carbon
O <sub>f</sub>	Fibrous organic material



<b>Acronym/Abbreviation</b>	
Osc	Distance from the origin of white water and/or a hydraulic feature
ON	Organic nitrogen
PAL	Protection of Aquatic Life
PCA	Principal component analysis
PD SV	Project Description Supporting Volume
PE SV	Physical Environment Supporting Volume
PEL	Probable Effect Level
PE SV	Physical Environment Supporting Volume
PF	Pre-flood
PP	Post-Project
PPER	Post Project Environmental Review
PR	Predictive reservoir
PRSD	Percent Relative Standard Deviation
PTR	Provincial Trunk Road
QA/QC	Quality Assurance/Quality Control
QTC	Quester Tangent Corporation
RA	Relative abundance
RAI	Relative abundance index
RESMERC	Reservoir mercury (model)
RI	Rate of infestation
RMA	Resource Management Area
ROC	Relative operating characteristic
ROW	Right-of-way
RR	Recapture rate
SARA	<i>Species At Risk Act</i>
SAW	Study area waterbodies
SE	Standard Error of the Mean
SE SV	Socio-economic Environment, Resource Use, and Heritage Resources Supporting Volume
SEL	Severe Effect Level
SEM	Specific effects monitoring
SIL	Southern Indian Lake

<b>Acronym/Abbreviation</b>	
SOD	Sediment oxygen demand
SQG	Sediment Quality Guideline
Std.	Standard deviation
TCN	Tataskweyak Cree Nation
TCU	True colour units
TDG	Total dissolved gas
TDGS	Total dissolved gas super-saturation
TDN	Total dissolved nitrogen
TDS	Total dissolved solids
TEMA	Tataskweyak Environmental Monitoring Agency
TE SV	Terrestrial Environment Supporting Volume
TGP	Total gas pressure
TIC	Total inorganic carbon
TKN	Total Kjeldahl nitrogen
TL	Total length
TN	Total nitrogen
TOC	Total organic carbon
TP	Total phosphorus
TPP	Total particulate phosphorus
TSS	Total suspended solids
Ucrit	Critical swimming velocity
UMA	Underwood McLellan and Associates Ltd.
UPF	upstream percent flooding
UTM	Universal Transverse Mercator
VEC	Valued Environmental Component
WLFN	War Lake First Nation
WQI	Water quality index
WSHA	Weighted suitable habitat area
WUA	Weighted usable area
YFFN	York Factory First Nation
YOY	Young-of-the-year

# UNIT LIST



AQUATIC ENVIRONMENT  
UNIT LIST

<b>Unit</b>	<b>Abbreviation</b>
ampere	A
centimetre	cm
centimetres per second	cm/s
coliform forming units	CFU
coliform forming units per millilitre	CFU/mL
condition factor	K
cubic kilometre	km <sup>3</sup>
cubic metre	m <sup>3</sup>
cubic metres per second	m <sup>3</sup> /s or cms
cubic micrometre	µm <sup>3</sup>
Daily average discharge	Q
day(s)	d
degrees (angle)	°
degrees Celsius (temperature)	°C
fish per metre per hour	fish/m/h
gram	g
grams of dried weight per square metre	g dry weight/m <sup>2</sup>
grams per square metre	g/m <sup>2</sup>
grams per square metre per day	g/m <sup>2</sup> /day
greater than	>
greater than or equal to	≥
hectare	ha
hour(s)	h
inch	"
individuals per cubic metre	individuals/m <sup>3</sup>
individuals per square metre	individuals/m <sup>2</sup>
kilogram	kg
kilohertz	kHz
kilometre	km
kilometres per hour	km/h
less than	<

<b>Unit</b>	<b>Abbreviation</b>
less than or equal to	≤
litre	L
metre	m
metres per second	m/s
micrograms per gram	µg/g
micrograms per gram dry weight	µg/g d.w.
micrograms per litre	µg/L
micrometre	µm
micromhos per centimetre (measure of electrical conductance)	µmhos/cm
microSiemens per centimetre	µS/cm
milligram	mg
milligrams of dried weight per 100 cubic metres	mg dried weight/100 m <sup>3</sup>
milligrams per cubic metre	mg/m <sup>3</sup>
milligrams per litre	mg/L
millilitre	mL
millimetre	mm
millisecond	ms
month (s)	mo
nanograms per gram dry weight	ng/g d.w.
nanograms per square metre per day	ng/m <sup>2</sup> /day
nephelometric turbidity units	NTU
parts per million	ppm
percent	%
plus or minus	±
pound(s)	lb(s)
river kilometre	rkm
second	s
square kilometre	km <sup>2</sup>
square metre	m <sup>2</sup>
true colour units	TCU
volt	V

<b>Unit</b>	<b>Abbreviation</b>
watt	W
yard	yd
year(s)	y

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