



Coordinated Aquatic Monitoring Program

Annual Activity Report

2022/2023

Submitted to:
Minister of Environment Climate and Parks
President/CEO of Manitoba Hydro

Submitted by:
MOU Working Group

February 2024



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1.0 Executive Summary

The 2022/23 Coordinated Aquatic Monitoring Program (CAMP) marks the fifteenth year of monitoring since implementation in 2008/09. The program was initiated to address comments received from communities and the Clean Environment Commission (CEC) about the need for system-wide monitoring to better understand the effects of hydroelectric operations on the aquatic environment. In 2006, Manitoba and Manitoba Hydro signed a Memorandum of Understanding (MOU) and the CAMP partnership was established. The MOU outlines the objectives of the program and requires an annual summary of activities, which is provided in this report.

CAMP is an ecosystem-based monitoring program that samples key biological/ chemical/ physical parameters at different levels of the food web. These variables, along with hydrometric data are used to describe the ecological condition and status of aquatic ecosystem health in the waterways in which Manitoba Hydro operates. The selected parameters were determined based on the best advice of scientists and regulators that participated in annual CAMP workshops that started in November 2007. Attendees included representatives from Manitoba Conservation and Water Stewardship, Manitoba Hydro, Fisheries and Oceans Canada, University of Manitoba, Environment Canada and North/South Consultants Inc.

The program is assessed annually and adjusted to ensure it maintains scientific credibility and is on scope for meeting the objectives of the Memorandum of Understanding.

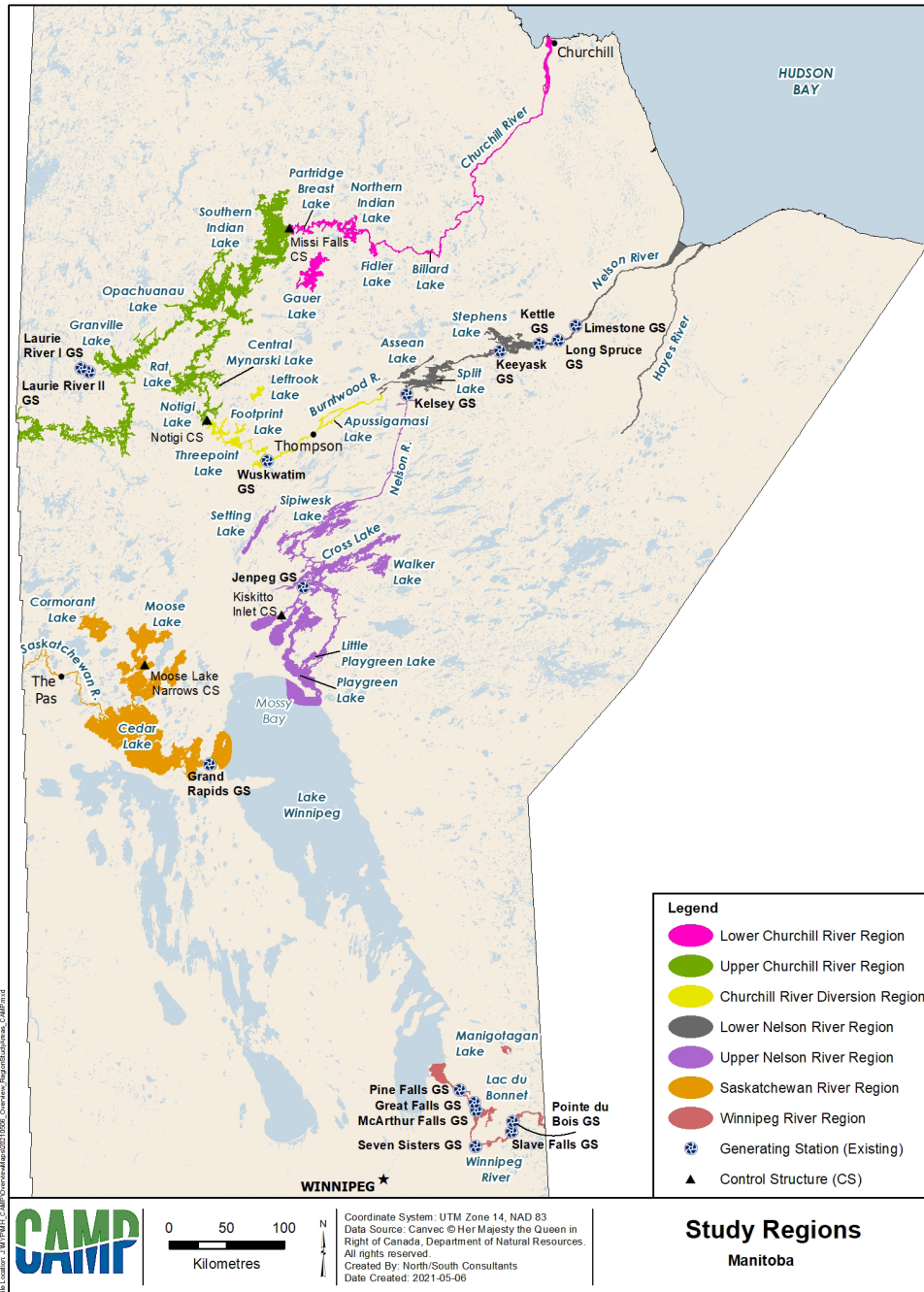
The past year was successful and most of the fieldwork was accomplished, as planned and the program goals were met, overall.

2.0 Background

The purpose of this report is to provide the signatories of the “Memorandum of Understanding about the Program of LWR/CRD Monitoring Activities (MOU)” with a summary of the 2022/23 Coordinated Aquatic Monitoring Program. The MOU, signed in 2006 by the Province of Manitoba and Manitoba Hydro (Appendix 1), outlines the need to develop a system-wide aquatic monitoring program to address concerns related to potential effects associated with Manitoba Hydro operations.

The Coordinated Aquatic Monitoring Pilot Program (CAMPP) was developed and implemented in 2008/09 and operated for the first three years to test sampling methodologies. This 2022/23 annual activity report represents the twelfth year of a fully implemented, post-pilot phase, Coordinated Aquatic Monitoring Program (CAMP).

CAMP Study Regions



3.0 Program Management

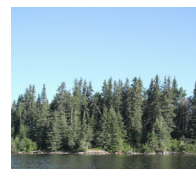
CAMP is a large program that has a broad geographic and topic scope. It comprises waterways across Manitoba (from the Winnipeg River to the Churchill River) and a multitude (hundreds) of monitoring parameters that are sampled on an annual or rotational basis. To accomplish the goals of the program, many different groups (i.e., Manitoba government, Manitoba Hydro, environmental consultants, technical experts, lab technicians and community members) perform various duties to:

- Plan and direct the work
- Manage and budget effectively
- Acquire resources
- Conduct field sampling
- Ensure legislative compliance
- Process and analyze results
- Report results and progress in various formats
- Manage data
- Ensure safety
- Communicate, share information, and receive feedback
- Collaborate and develop relationships
- Strive for continuous improvement

CAMP supports Water Power Act licensing, and a Working Group composed of individuals from Manitoba Hydro and Manitoba Sustainable Development oversees the program.

Smaller subcommittees, with subject matter experts from Manitoba Hydro, Manitoba Agriculture and Resource Development, Fisheries and Oceans Canada, Environment and Climate Change Canada, environmental consultants, and other research scientists, are also brought together occasionally to address specific topics and issues. Day to day administration, budgeting, and management of the program are conducted by Manitoba Hydro. Monitoring activities (i.e., data collection and fieldwork) are performed by Manitoba Hydro, Manitoba Agriculture and Resource Development, and North/South Consultants Inc. (on behalf of Manitoba Hydro). The Lake Winnipeg Research Consortium performs CAMP water quality sampling in a few locations in the north basin of Lake Winnipeg from their large research vessel, The Namao.

More detailed information about the program, sampling parameters, monitoring sites, and results can be found on the website at www.campmb.com.



3.1 Working Group

On June 1, 2022, a draft workplan for the 2022/23 program was presented to the MOU Working Group, which is the oversight committee identified in the MOU. Items that were presented and discussed at the meeting include:

- Overview and update on CAMP
- Shoreline Monitoring Update and Discussion
- Review of the proposed 2022/23 Aquatic Monitoring Program
- Communications Update

No significant concerns or issues were raised by the Working Group members and the 2022/23 workplan was subsequently accepted as presented. A summary of CAMP meetings is provided in Appendix 2.

3.2 Subcommittee

The subcommittee is composed of groups of technical experts from Manitoba Hydro, Manitoba, North/South Consultants Inc., and other experts as needed for each of the specific parameters sampled in CAMP. There were no specific technical subcommittee meetings during 2022/23.

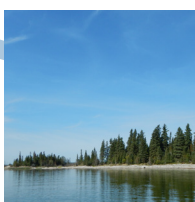
3.3 Annual Workshop

Usually one CAMP workshop is held annually with approximately 30 people representing federal and provincial agencies, private consultants, research groups, and Manitoba Hydro staff. The intent of the workshop is to disseminate information related to CAMP activities and receive feedback on future directions. This year, the workshop took place on December 1, 2022, and was held with Manitoba Hydro participants to identify and prioritize criteria and approaches for including Indigenous participation in CAMP.

Participants included staff from the following Manitoba Hydro departments:

- Generation Environmental Services
- Indigenous and Community Relations
- Project Services
- Stakeholder Relations
- Transmission and Distribution Environment and Engagement
- Waterways Approvals and Monitoring
- Water Resources

The primary purpose of the workshop was to facilitate a decision-making process to determine a preferred approach for including Indigenous communities in CAMP. The workshop agenda included the following:



- Overview of CAMP
- Discussion and consensus of interpretation of language in Water Power Act licenses related to CAMP and Indigenous participation
- Objectives for Indigenous inclusion in CAMP
- Identification of approaches for Indigenous inclusion in CAMP
- Group evaluation of approaches for Indigenous inclusion

4.0 Ecosystem Monitoring

The following summary documents the major activities undertaken by CAMP in 2022/23 (i.e., April 1, 2022 to March 31, 2023).

Water quality, sediment quality, benthic macroinvertebrates (BMI), and fish community were sampled in up to 34 lakes (or areas of lakes) or riverine reaches (24 on-system and 10 off-system) during the 2022/23 CAMP (Appendix 3). Mercury in fish monitoring was conducted in 2022/23 at 22 areas, including two lakes (Leftrook and Threepoint lakes) that are monitored annually. An aquatic habitat (bathymetry and substrate type) survey was undertaken in Lac du Bonnet in 2022.



Overall, the program goals were achieved; however, a few sites were missed or changed, mainly due to inclement weather.

4.1 Changes

Fish sampling and associated Benthic Macroinvertebrate (BMI) sampling were not conducted at the lower Churchill River at the Little Churchill River site in 2022 due to a sampling concern expressed by a Tataskweyak Cree Nation (TCN) councillor.

No other substantive changes were made to the program.

4.2 Aquatic Habitat

Characterizing the aquatic habitat of a waterbody helps inform our understanding of the ecosystem components, such as fish and invertebrates. CAMP aquatic habitat surveys are done using boat based hydroacoustic equipment to produce lake bathymetry and substrate/bottom typing. Surveys are conducted each year in a different waterbody as budget allows to build an inventory of maps over time to assist with interpreting monitoring results.



An aquatic habitat survey of Lac du Bonnet was conducted in 2022 but surveying in the area adjacent to the MacArthur Falls GS was not undertaken due to high water and safety concerns. The area where surveying was not completed in Lac du Bonnet in 2022 will be surveyed in 2023.

4.3 Water Quality

Water quality is sampled four times a year in annual and rotational water bodies. Three samples are collected during the open-water season (spring, summer, fall) and one is conducted during winter, under ice conditions. Over 50 parameters are analyzed in the water quality samples through in-situ (i.e. on site) or lab analysis. With a few exceptions, water quality sampling was completed at all sites as planned in 2022/2023. Exceptions were:

- water quality sampling in the Pointe du Bois Forebay did not occur during spring 2022 due to extremely high flows and flooding on the Winnipeg River that made it unsafe to access (by plane or boat) this reach of the river; and
- sampling site locations were adjusted at Lac du Bonnet and Cedar Lake - southeast in summer 2022 due to high wind and waves, which affected site access and safety when sampling from a float plane.

Regular water quality sampling at the Lake Winnipeg CAMP stations resumed in 2022/2023 after several sampling interruptions due to public health restrictions and site access due to water level variations. The following table summarizes the Lake Winnipeg water quality sampled by Manitoba Environment, Climate & Parks in 2022/2023.

Sampling Dates	Lake Winnipeg CAMP sites sampled
Spring Cruise (June 13 - June 14, 2022)	All Cruises: <ul style="list-style-type: none"> • Big Mossy Point • 2 Mile Channel Inlet • 2 Mile Channel Outlet • Warren Landing • Lake Winnipeg Site 22
Summer Cruise (July 24 - July 25, 2022)	
Fall Cruise (September 21, 2022)	

4.4 Sediment Quality

Sediment quality is monitored on a rotational basis every six years. 2022/23 was not a sampling year so no sediment quality data were collected. The next round of sediment quality monitoring will occur in 2023/2024.

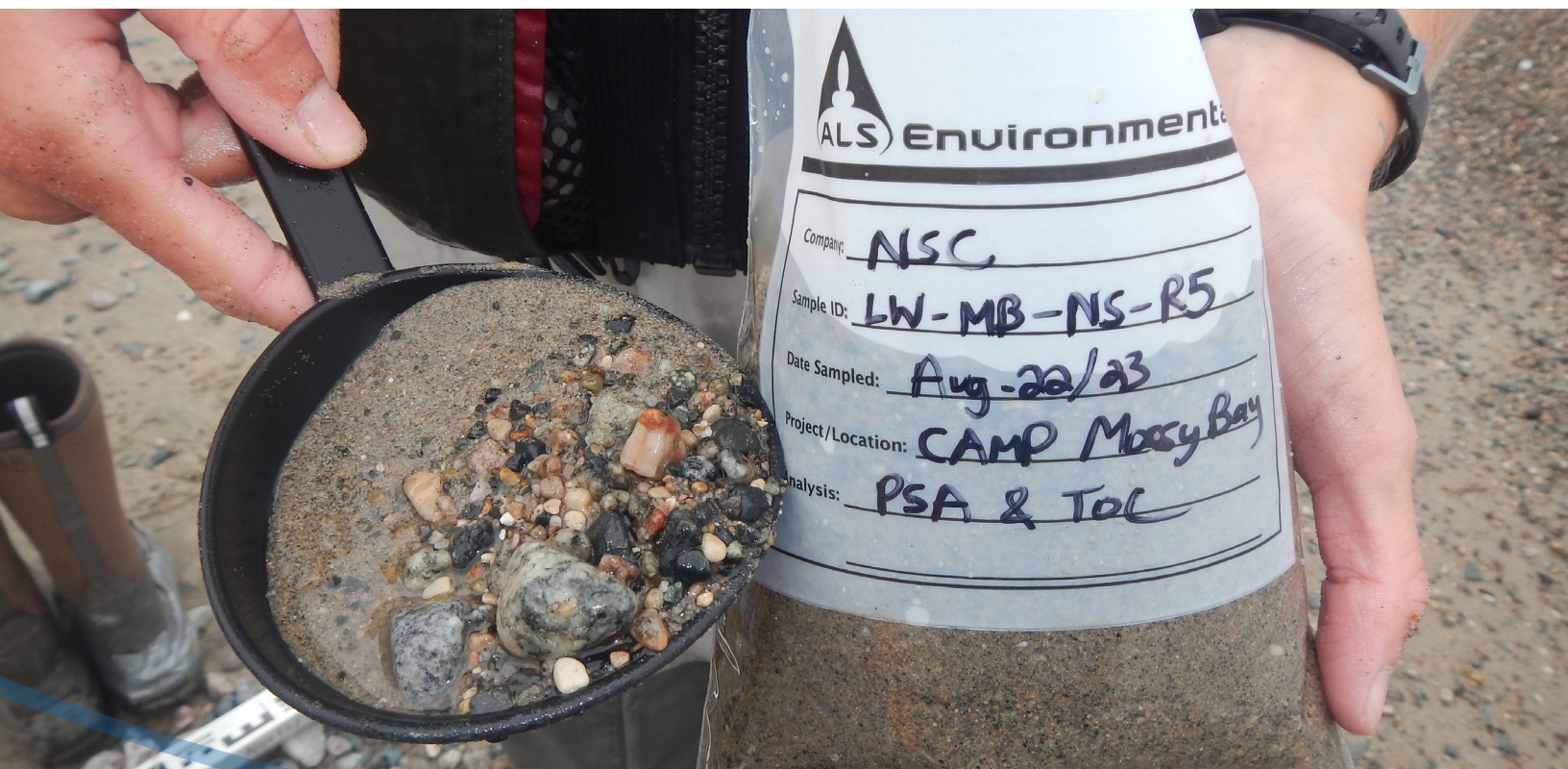
4.5 Benthic Macroinvertebrates

Benthic macroinvertebrate (BMI) (i.e., bugs in the sediment) monitoring is conducted

once per year at annual and rotational sites. BMI are an important food source for higher-trophic consumers, such as fish, and often used as indicators of ecosystem health. Some BMI are sensitive to environmental stressors and can reveal changes that may be occurring in areas of a waterbody over time.

Benthic invertebrate sampling was completed at most sites as planned in 2022 with the following exceptions:

- BMI sampling was not conducted at the lower Churchill River at the Little Churchill River site in 2022 due to a concern expressed by a Tataskeweyak Cree Nation (TCN) councillor related to fish monitoring. BMI sampling is usually conducted at the same time as the fish monitoring so it consequently did not occur;
 - High water levels on the lower Nelson River downstream of the Limestone Generating Station prevented benthic invertebrate sample collection in the nearshore (flooded terrestrial) and offshore (compact/coarse substrate) sampling areas;
 - Nearshore benthic invertebrate samples at the Saskatchewan River site were collected using a kicknet sampler, whereas in previous monitoring years samples were collected using a benthic grab sampler; and
 - High water levels at the Eaglenest Lake site prevented benthic invertebrate sample collection in the nearshore (flooded terrestrial) sampling area.
- Following the field sampling, benthic invertebrate samples were sorted, identified, and enumerated in the laboratory.



4.6 Phytoplankton

Phytoplankton are small, often microscopic, plant-like organisms in the water column that make up the base of the food web (i.e., they are primary producers). They are an important food source and provide oxygen in the aquatic environment. An over-abundance of phytoplankton (called blooms, which occur when nutrients are plentiful) can be a detriment to the environment; oxygen can be depleted from decomposition after they die, they can prevent sunlight from penetrating into the water column, or some (e.g., blue-green algae) contain toxins. Sampling for phytoplankton helps us understand how the primary producers are contributing to the health of the ecosystem, as well as the nutrient levels in the water.

Samples for phytoplankton analysis (i.e., community composition and biomass) were collected from all sites during the open-water and ice-cover season; samples from the four routine annual monitoring sites (Cross, Setting, Split and Assean lakes) were submitted for analysis as planned. Over the open-water season, 12 samples were submitted for bloom monitoring, as chlorophyll a concentrations exceeded the threshold level of 10 µg/L. These samples included:

•Spring:

- o One on-system site (Lac du Bonnet) and one off-system site (Eaglenest Lake) in the Winnipeg River Region;
- o One on-system site (Northern Indian Lake) in the Lower Churchill River Region; and
- o One on-system site (Lake Winnipeg – Site 22) in the Upper Nelson River Region.

•Summer:

- o One on-system site (Lac du Bonnet) in the Winnipeg River Region.

•Fall:

- o Two on-system sites (the Saskatchewan River and Cedar Lake – southeast) in the Saskatchewan River Region;
- o One on-system site (Southern Indian Lake – Area 6) in the Upper Churchill River Region;
- o One on-system site (Footprint Lake) in the Churchill River Diversion Region; and
- o Three off-system lakes (Gauer, Leftrook, and Walker lakes).

4.7 Fish Community

Fish community sampling is conducted once per year at annual and rotational sites. The intent of the sampling is to estimate fish abundance and diversity, and to collect information on fish condition (e.g., length, weight, condition factor, etc.). Ageing structures are also collected from target species (i.e., Walleye, Northern Pike, Lake Whitefish, Sauger and any incidental Lake Sturgeon mortalities). Otoliths (ear bones) or cleithra (jaw bones) are collected and analyzed for age in a way similar to counting tree rings. Knowing the age of a fish and the abundance of that age-class within a particular species provides information on fish growth and the relative strength of a particular year class.

Fish community sampling was conducted at most sites as planned in 2022. Exceptions were:

- fish community sampling was not conducted at the lower Churchill River at the Little Churchill River site in 2022 due to a Lake Sturgeon concern expressed by a Tataskweyak Cree Nation councillor; and
- sites were relocated slightly due to high flows in the Hayes River, large waves in Split Lake, and low water levels and debris in Threepoint Lake.

Fish ageing structures collected during fish community sampling have been analysed and data have been entered into the ENVIS database.

4.8 Mercury in Fish

Mercury in fish is monitored in CAMP waterbodies every three years, except for two sites that are monitored annually (Threepoint and Leftrook lakes). The fish mercury sampling program conducted in 2022 was relatively large as it represented the first year of the three year cycle; a total of 22 areas were scheduled for sampling in 2022 including the two annual waterbodies and the Pointe du Bois Forebay, Manigotagan Lake, Cedar Lake-Southeast, Cormorant Lake, Lake Winnipeg-Mossy Bay, Granville Lake, Southern Indian Lake - Area 4, Southern Indian Lake - Area 6, Northern Indian Lake, Gauer Lake, Rat Lake, Little Playgreen Lake, Cross Lake, Setting Lake, Split Lake, the Limestone GS forebay, the lower Nelson River downstream of Limestone GS, Assean Lake, and the Hayes River.

With one exception, fish tissue samples (i.e., muscle) were collected during fish community monitoring at each of the waterbodies that were scheduled to be sampled in 2022 :

- As fish community sampling was not conducted at the lower Churchill River at the Little Churchill River site in 2023 due to a concern expressed by a Tataskweyak Cree Nation councillor, fish mercury monitoring was also not undertaken at this site.

In addition to monitoring of target species, mercury was analyzed in incidental

mortalities of Lake Sturgeon as follows:

- five fish from the lower Nelson River downstream of the Limestone GS collected under CAMP; and
- three fish from other Manitoba Hydro monitoring programs (LSSEP).

After collection, mercury samples were submitted to an analytical laboratory for analysis and analyses have been completed.

4.9 Physical Environment

4.91. Continuous Water Quality Monitoring

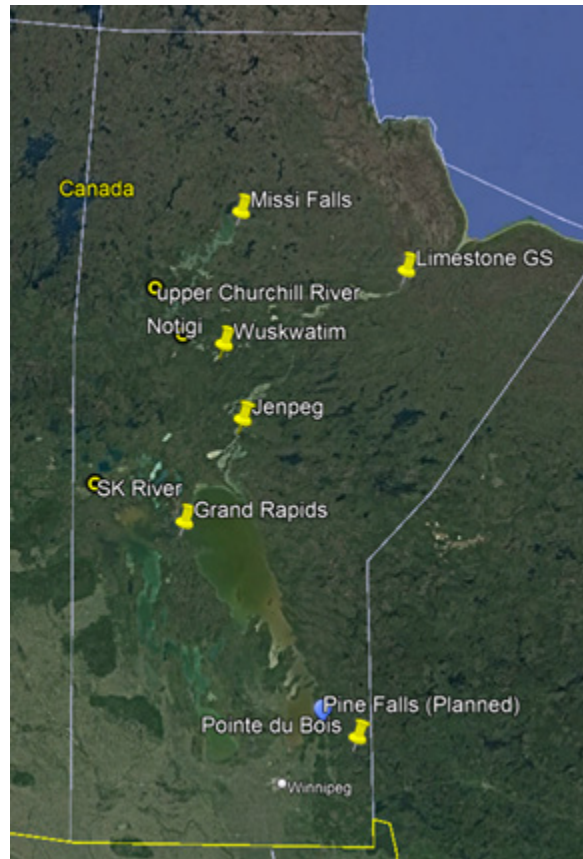
The continuous water quality monitoring came out of the need to monitor system wide sediment transport processes. CAMP built on knowledge and experience gained on numerous other projects to incorporate equipment that could monitor turbidity continuously to provide a more complete understanding of how turbidity, which is proxy for suspended sediment, was related to changes in hydro operations and environmental factors such as flow, ice conditions and wind. The equipment also allows the monitoring of other parameters such as water temperature, dissolved oxygen and conductivity with very little additional effort.

In the 2022/23 monitoring period six year round sites located at Pointe du Bois Generating Station (GS), JenPeg GS, Grand Rapids GS, Wuskwatim GS, Missi Falls Control Structure (CS), and Limestone GS and three seasonal (summer) sites located on the Saskatchewan River near The Pas, upper Churchill River near Leaf Rapids, and at the Notigi CS were monitored. The three seasonal sites are removed prior to the onset of winter conditions and installed again in the spring after the ice has melted.

Each site has an EXO2 multi-parameter sonde (monitoring device) installed that records data on turbidity, water temperature, dissolved oxygen and conductivity every 5 minutes. Manitoba Hydro technicians visit the sites monthly to maintain the equipment and verify readings with independent sensors. During site visits water samples are collected for laboratory analysis of Total Suspended Solids (TSS) in the water.

Planning was started to install a second site on the Winnipeg River at the Pine Falls GS. This site would complement the site at Pointe du Bois to see how water quality varies along the Winnipeg River.

2022/23 Continuous monitoring sites



5.0 Communications

Increasing awareness of CAMP and sharing information and results have become priorities for the program. The program has evolved from establishing the technical parameters of the program into now focusing more on communicating what we are learning from the data. CAMP data and information have been shared in several venues and formats and we are continuing to work to provide plain language documents and materials that are accessible to wider audiences.

5.1 Data Sharing

Requests for CAMP data continue to be received from the public. Six requests for data were received in 2022/23, and included universities, Indigenous communities, students, and consultants. Currently, data must be manually extracted from the database and forwarded to the requester. To streamline this process and make all the data available to the public on a self-serve basis, we are working on implementing a map-based interface on the website (i.e., ArcGIS Online).

6.0 Conclusion

CAMP is a successful ecosystem monitoring program. It continues to grow and evolve and currently has a focus on increasing communications. Plain language documents, website updates, public meetings and easier data sharing are a few of the ways that CAMP information is becoming more accessible. The value of the program continues to increase as data are acquired; however, the true benefit lies in usage of the data and not just its collection.

The next monitoring milestone for CAMP is to establish a new component focusing on the shoreline. This will be a collaborative endeavour and will be developed in partnership with Indigenous communities.

CAMP will continue to provide information to support decision-making processes at various levels. Regulators use the information to contribute to licence conditions and recommendations, and CAMP data can be used to support provincial broad-area planning in the future (as recommended in the Clean Environment Commission's "A Review of the Regional Cumulative Effects Assessment" (2018).

Overall, CAMP is a positive, high-profile environmental monitoring project that is expected to continue to grow in usefulness and support decision making in the coming years.

7.0 Appendices

Appendix 1: Memorandum of Understanding

Memorandum of Understanding about Program of LWR/CRD Monitoring Activities, dated October 16, 2006.

The Government of Manitoba and Manitoba Hydro are committed to work together on matters relating to monitoring of hydrometric (water level and stream flow) and environmental data in certain areas in the Lake Winnipeg Regulation and Churchill River Diversion system.

Manitoba and Manitoba Hydro have the common objective of developing a program of activities ("the activities"), building on the existing monitoring program of Manitoba Hydro, that would provide objective information about hydrometric and environmental effects of hydro-electric development on agreed rivers and lakes comprising the Lake Winnipeg Regulation and Churchill River Diversion systems ("the system"). The information from the activities could be of benefit to Manitoba, Manitoba Hydro and other interested parties, including communities in the area of the Lake Winnipeg Regulation/Churchill River Diversion project. Objectives of the program of activities would include:

- (a) assisting in evaluating whether and to what extent the water regime in areas of the system is or will be affected by the addition of additional hydro-electric facilities;
- (b) assisting in identifying adverse effects and positive effects resulting from effects on the water regime; and
- (c) assisting in considering measures that may be undertaken to address any identified adverse effects.

Manitoba and Manitoba Hydro may establish additional objectives of the activities.

Manitoba and Manitoba Hydro recognize that Manitoba Hydro has made commitments to monitoring and follow up programs as part of the environmental licensing process for the Wuskwatim Generating Station. These commitments will be considered in developing the activities.

The program of activities will be reviewed each year and annual workplans will be developed by Manitoba and Manitoba Hydro to assist in achieving the program of activities. The agreed workplan for the fiscal year ending March 31, 2007 is attached as Appendix A to this Memorandum.

Manitoba and Manitoba Hydro will consider methods of making information from the activities available to interested parties.

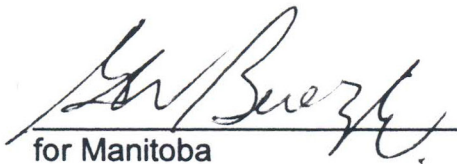
It is intended that the nature and scope of activities will be developed starting in Fiscal Year 2006-07 (starting April 1, 2006) and will continue until Manitoba and Manitoba Hydro agree to no longer proceed with a program of activities.

As part of the development of the annual program of activities, Manitoba and Manitoba Hydro will consider the resources each will provide in order to carry out the activities

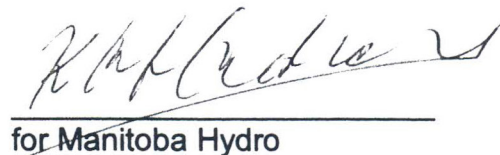
It is intended that Manitoba and Manitoba Hydro personnel will prepare an Annual Report to be delivered to the Minister of Water Stewardship and the Minister of Conservation, on behalf of Manitoba and to the President and CEO of Manitoba Hydro. Additional reports may be prepared as Manitoba and Manitoba Hydro determine to be appropriate. The Annual Report may include:

- a description of the activities for that year;
- a description of any information determined as a result of the activities;
- information about any circumstances where water levels or flows were outside of ranges provided for in licences;
- methods of making the information available to interested parties and to the public;
- any other matters that are considered appropriate. It is expected that Manitoba and Manitoba Hydro will make the Annual Reports available to the public.

Manitoba and Manitoba Hydro may amend this Memorandum from time to time by further Memorandum.


for Manitoba

Oct. 16, 2006
Date


for Manitoba Hydro

06 09 06
Date

Appendix 2: Summary of 2022/23 CAMP Meetings

Various meetings and workshops occur throughout the year to share CAMP information with different audiences. Regular administrative monthly meetings are held with CAMP participants from Manitoba Natural Resources & Northern Development, Manitoba Environment, Climate & Parks, Manitoba Hydro, and consultants. The purpose of these meetings is to discuss day-to-day progress, planning, budget, and to address any issues that arise. In addition to the internal monthly meetings, Working Group meetings and workshops are held for specific purposes, as needed. Those meetings that occurred over the past year are described below.

Spring MOU Working Group Meeting – June 1, 2022

Objective: To review and endorse the 2022/23 workplan with the Working Group, and discuss updates on the shoreline monitoring program

Attendees: CAMP Working Group (members from Manitoba and Manitoba Hydro)

AGENDA

- Overview and update on CAMP
 - Manitoba Hydro staff changes and retirements
 - Reorganization and formalization of CAMP working structure (including Terms of Reference)
- Shoreline Monitoring Update and Discussion of Options
 - Clarification of Objectives (stated and unstated goals in the WPA license: relationship building and monitoring)
 - Stakeholder mapping process and proposed communities for engagement
 - Program “Governance” (i.e., how to structure the program)
 - A regional approach is proposed
 - Retain a consultant
 - Budget and payment options
 - Geographic Scope
 - Draft Schedule
 - Next Steps
- Review of the proposed 2022/23 Aquatic Monitoring Program
 - Discuss plans for fish monitoring of Lower Churchill River
 - Lower Trophic Level Review
- Communications Update
 - 12-Year Report status
 - Social Media news
 - Newsletter
 - Community Fieldwork Notification
 - Winnipeg River Engagement Sessions & Proposed Northern Sessions
- Other business and round table

Manitoba Hydro Strategic Planning Workshop for Including Indigenous Participation in CAMP – December 1, 2022

Objective: facilitate a decision-making process to determine a preferred approach for including Indigenous communities in CAMP.

Attendees: Staff from Manitoba Hydro (Generation Environmental Services, Indigenous and Community Relations, Project Services, Stakeholder Relations, Transmission and Distribution Environment and Engagement, Waterways Approvals and Monitoring, Water Resources)

AGENDA

- Overview of CAMP
- Discussion and consensus of interpretation of language in Water Power Act licenses related to CAMP and Indigenous participation
- Objectives for Indigenous inclusion in CAMP
- Identification of approaches for Indigenous inclusion in CAMP
- Group evaluation of approaches for Indigenous inclusion

Appendix 3: 2019/20 CAMP Sampling Schedule

Manitoba Hydro MSD - Water Quality Section MSD - Fisheries Branch		CAMP Sampling Schedule 2022/2023 <i>(Orange text indicates monitoring this year)</i>									CAMP
Consultant	Consultant & MSD	On-system	Off-system	Fish Community	Water Quality	Benthic Invertebrate	Hg in Fish (3-year)	Sediment Quality (5-year)	Phytoplankton Community	Sedimentation	
Winnipeg River	Upstream of Pointe du Bois	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Year-round (Pointe du Bois)	
	Lac du Bonnet	X		Annual	Annual	Annual		23/24			
	Manigotagan Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24			
	Eaglenest Lake		X	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23					
	Pine Falls Reservoir	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24				Planned Site (Pine Falls)	
Saskatchewan River	Cedar Lake - southeast	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Year-round (Grand Rapids)	
	Comorant Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24			
	Moose Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22					
	Cedar Lake - west	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24					
	Saskatchewan River	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				Summer site (Sask River)	
	Lake Winnipeg - Site 22	X		Annual	Annual	Annual					
	Lake Winnipeg - Grand Rapids	X		Annual	Annual	Annual		23/24			
	Lake Winnipeg - Sturgeon Bay	X		Annual	Annual	Annual					
Upper Churchill River	Southern Indian Lake (Area 4)	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Year-round (Mist Falls)	
	Gravelly Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24			
	Southern Indian Lake (Area 1)	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				Summer site (Upper Churchill)	
	Southern Indian Lake (Area 6)	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				
	Opechuanou Lake	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24					
Lower Churchill River	Northern Indian Lake	X		Annual	Annual	Annual	19/20 & 22/23	23/24			
	Churchill R. at Little Churchill R.	X		on hold	Annual	on hold	on hold	23/24			
	Gauer Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24			
	Partridge Inset Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22					
	Billard Lake	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23					
	Fidler Lake	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24					
Churchill River Division	Churchill R. at Churchill Weir	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24	20/21 & 23/24				
	Threepoint Lake	X		Annual	Annual	Annual	Annual	23/24			
	Leffbrook Lake		X	Annual	Annual	Annual	Annual	23/24			
	Notigi Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				Summer site (Notigi Structure)	
	Rat Lake	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				
	West/Central Mynarski Lake	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24					
	Apusigamasi Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22					
Wuskwatim	X								Year-round (Wuskwatim)		
	Footprint Lake	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23					
Upper Nelson River	Cross Lake - West basin	X		Annual	Annual	Annual	19/20 & 22/23	23/24	Annual		
	Lake Winnipeg - Mossy Bay	X		Annual	Annual	Annual	19/20 & 22/23	23/24			
	Setting Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24	Annual		
	Playgreen Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				
	Little Playgreen	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23			Year-round (Jasper)	
	Walker Lake		X	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23					
	Spiwek Lake	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24	20/21 & 23/24				
	Nelson R. d/s Spiwek Lake to Kelsey GS	X		20/21 & 23/24	20/21 & 23/24	20/21 & 23/24					
2 Mile Channel	X		Annual	Annual	Annual						
Warren Landing	X		Annual	Annual	Annual						
Lower Nelson River	Split Lake	X		Annual	Annual	Annual	19/20 & 22/23	23/24	Annual		
	Ascan Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24	Annual		
	Nelson R. Mainstem - d/s Limestone GS	X		Annual	Annual	Annual	19/20 & 22/23	23/24			
	Hayes River		X	Annual	Annual	Annual	19/20 & 22/23	23/24			
	Strophens Lake - north arm	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22					
	Strophens Lake - south	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22					
Limestone Forebay	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				Year-round (Limestone)		
	Burnwood R. - First Rapids to Split Lake	X		20/21 & 23/24	Annual	20/21 & 23/24					





Coordinated Aquatic Monitoring Program

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