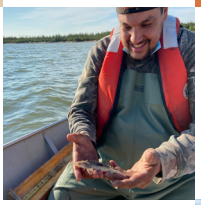
CAMP

Coordinated Aquatic Monitoring Program



Annual Activity Report

2020/2021

Submitted to:
Minister of Agriculture and Resource Development
President of Manitoba Hydro

Submitted by:
MOU Working Group

May 2023

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1.0 Executive Summary

The 2020/21 Coordinated Aquatic Monitoring Program (CAMP) marks the thirteenth 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 in scope for meeting the objectives of the Memorandum of Understanding.

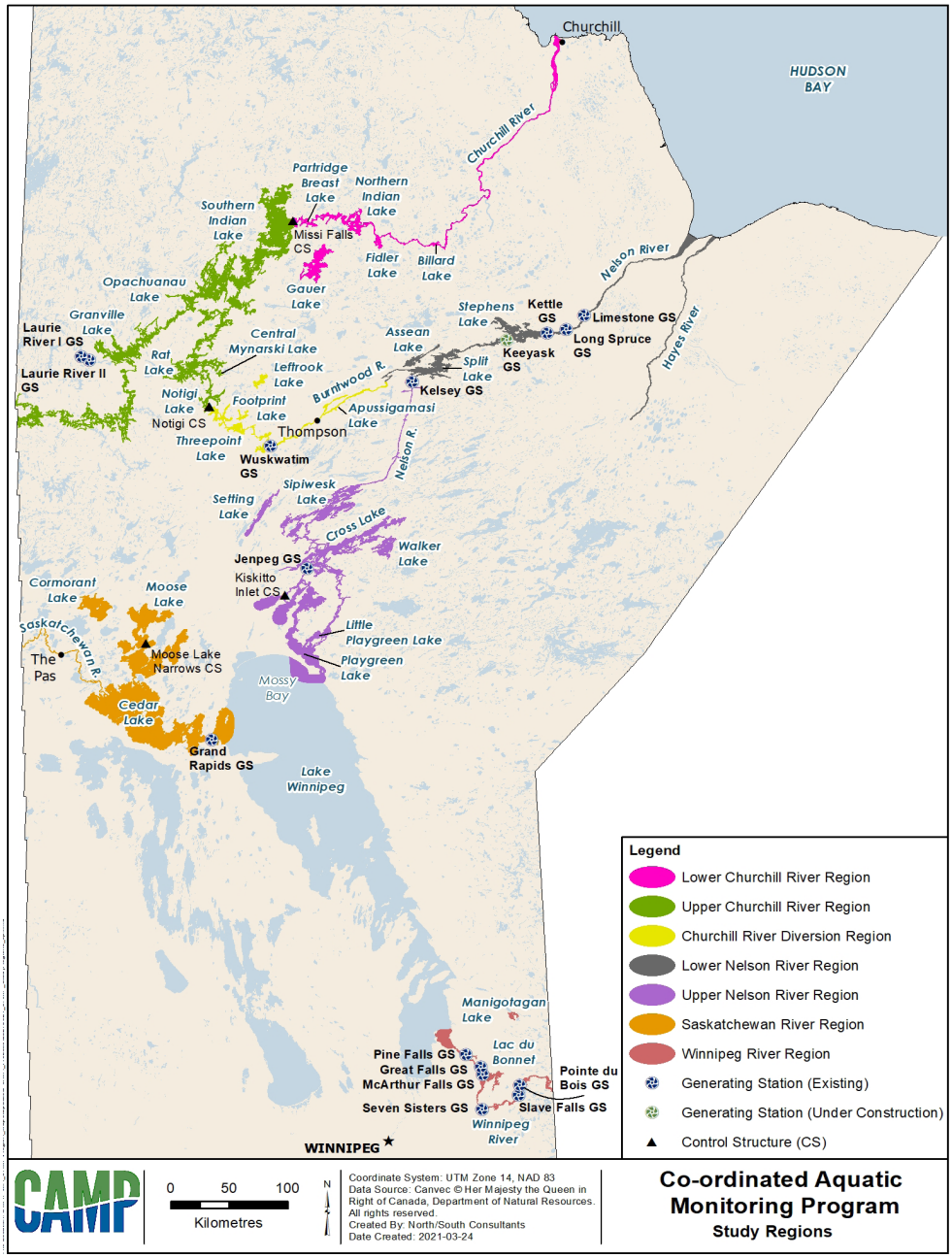
The 2020/21 CAMP was successful and most of the fieldwork was accomplished, as planned and the program goals were met, overall.

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 2020/21 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 2020/21 annual activity report represents the tenth year of a fully implemented, post-pilot phase, Coordinated Aquatic Monitoring Program (CAMP).

CAMP Study Regions



3.0 Program Management

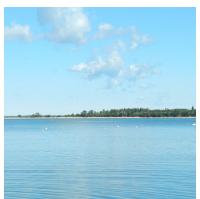
CAMP is a large program that has a broad geographic and topic scope. It comprises waterways across Manitoba (from the Winnipeg River to the Churchill River) and a multitude (hundreds) of monitoring parameters that are sampled on an annual or rotational basis. To accomplish the goals of the program, many 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 17, 2020 , a draft workplan for the 2020/21 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:

- Review of the 2019/20 CAMP
- Update on CAMP reporting and data management (i.e., updates on the 6-Year Report, the Data Integration Strategy, website, plain language documents, Communications Strategy)
- Presentation and discussion of proposed 2020/21 CAMP workplan including changes related to Covid-19
- Update on community dialogue efforts and development of the shoreline monitoring program

No significant concerns or issues were raised by the Working Group members and the 2020/21 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 2020/21.

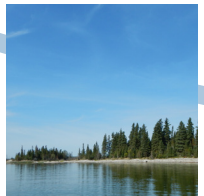
3.3 Annual Workshop

Usually one CAMP workshop is held annually to review the past year's fieldwork, and address any specific topics of relevance. Outside subject matter experts and others are occasionally invited to participate in the workshop, as appropriate. This year, the Working Group met to review the successful field season and discuss upcoming plans (i.e. organizing for the shoreline development program, and the IISD Review Process and Recommendations).

4.0 Ecosystem Monitoring

The following summary documents the major activities undertaken by CAMP in 2020/21 (i.e., April 1, 2020 to March 31, 2021).

Water quality, sediment quality, benthic macroinvertebrates (BMI), and fish community were sampled in up to 31 lakes (or areas of lakes) or riverine reaches (22 on-system and 9 off-system) during the 2020/21 CAMP. In addition, water quality was sampled at the outlets of Lake Winnipeg (Two-Mile Channel and the upper Nelson River near Warren Landing). Mercury in fish monitoring was conducted in 2020/21 at 6 locations. No aquatic habitat (bathymetry and substrate type) surveys were undertaken in 2020/21.



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

4.1 Changes

Due to changes in provincial water quality sampling programs in 2019, CAMP water quality sampling was conducted at all sites by North/South Consultants in spring and fall in 2020, including sites sampled previously by the Province of Manitoba during these periods. Manitoba retained their regular summer sampling program under CAMP.

Fish sampling and associated Benthic Macroinvertebrate (BMI) sampling were not conducted at the lower Churchill River at the Little Churchill River site in 2020 due to a sampling concern expressed by a Tataskewak Cree Nation (TCN) councillor.

The way in which field programs were conducted was modified in some cases in response to COVID-19 (e.g., typical accommodations used for CAMP were altered in some cases to avoid or limit contact with communities; provincial water quality monitoring was conducted by a single field staff). In addition, the spring and summer Namao cruises were not conducted in 2020 due to COVID-19 and water quality

sampling was only completed at Lake Winnipeg and Lake Winnipeg outlet sites in the fall in 2020.

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 have been conducted using boat based hydroacoustic equipment to produce lake bathymetry and substrate/bottom typing. Surveys have been conducted in different waterbodies to build an inventory of maps over time to assist with interpreting monitoring results.

No aquatic habitat surveys were conducted in 2020/21 as efforts were placed on analyzing previously collected habitat data and producing products to communicate the information (e.g. maps and posters).

4.3 Water Quality

CAMP has two programs that contribute to water quality monitoring – one is covered under the Physical Environment umbrella and the other is covered by the Ecosystem umbrella. Manitoba's Agriculture and Resource Development Department, and North/South Consultants on behalf of Manitoba Hydro, collect the Ecosystem water quality data (which includes in situ data and a suite of lab analytes). The Physical Environment water quality data are collected by Manitoba Hydro and include discrete samples for temperature, total suspended solids, conductivity, and pH. In addition to discrete samples, continuous monitoring sensors are used year-round to acquire water quality data every few minutes.

Discrete water quality sampling on the Ecosystem side occurs four times a year in annual and rotational water bodies. Three samples are collected during the open-water season (spring, summer, fall) and one in winter, under ice cover conditions. Samples are collected using a float plane with floats in the open-water season and skis in winter. 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 2020/21. Sampling site locations were adjusted at some sites over the course of the sampling program due to inclement weather/site conditions, such as high wind or unsafe landing conditions, these sites and times included:

•Spring:

- o Southern Indian Lake – Area 4 site was adjusted due the presence of ice;

•Winter:

- o Upper Nelson River Upstream of Kelsey Generating Station site relocated due to access issues (i.e., open-water and thin ice); and
- o The Hayes River site relocated due to access issues (i.e., slush and thin or frazzil ice conditions).

In addition, Lower Churchill River at Churchill Weir could not be sampled in winter (2021) due to unsafe ice conditions.

Mercury was not analysed at sites sampled by Manitoba in summer 2020 as only one field crew member conducted the program due to COVID-19 and the clean hands/dirty hands sampling protocol requires two people.

Manitoba Agriculture and Resource Development expierenced some sampling interuptions resulting from public health restrictions and/or variable water level conditions preventing access to Lake Wnnipeg outlet site locations. As a result, 2020 spring and summer water quality monitoring was not conduced at Warren's Landing, Two Mile Channel inlet, Two Mile Channel outlet, Site 22, or Big Mossy Point. Fall sampling of Two Mile Channel inlet, Two Mile Channel outlet, Site 22, and Big Mossy Point was resumed and completed in October 2020.

Collecting representative samples in the Lake Winnipeg outlet area (i.e., Warren Landing and 2-Mile Channel) was challenging due to turbidity plumes from eroding shorelines. Sampling within the sedimentation plume will provide vastly different results than sampling outside the sedimentation plume. Although both conditions represent the outflow of Lake Winnipeg, it is difficult to characterize conditions in one sample or even an average of several samples from these two locations; both represent different water quality conditions that are simultaneously present (i.e., water at the outlets is not always well mixed).

4.4 Sediment Quality

Sediment quality is monitored on a rotational basis every six years. 2020/21 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 often used as indicators of ecosystem health as they are a food source (i.e., lower trophic level) for higher-level consumers, such as fish. Some BMI are susceptible to environmental changes and can reveal trends that may be occurring in areas of a waterbody over time.

BMI sampling was not conducted at the lower Churchill River at the Little Churchill River site in 2020 due to a concern expressed by a Tataskewak Cree Nation (TCN)

councillor. The concern was related to Lake Sturgeon so fish sampling was cancelled at the site; BMI sampling is usually conducted at the same time as the fish monitoring so it consequently did not occur.

Additionally, nearshore polygons were not sampled at Granville Lake, Northern Indian Lake, Fidler Lake, lower Churchill River at the Weir, lower Nelson River, and Asseam Lake because water levels at the time of sampling were too high which shifted the majority of the wadeable sampling depths into terrestrial habitat.

BMI sampling was completed at all other sites as planned. Field crews also conducted zebra mussel veliger sampling at all sites for Manitoba Water Stewardship. Additional time and effort were required during sampling to comply with Aquatic Invasive Species regulations that require thorough decontamination of gear that is moved between waterbodies.

BMI samples were sorted, identified, and enumerated in the laboratory over the winter. To date, spiny waterfleas (an AIS) have been identified from nearshore samples in the Winnipeg River (Eaglenest Lake, Pointe du Bois forebay, and Lac du Bonnet), Lake Winnipeg (Mossy Bay), and Playgreen Lake; and from offshore samples in the Winnipeg River (Pointe du Bois forebay, and Lac du Bonnet), Lake Winnipeg (Grand Rapids and Mossy Bay), and Playgreen Lake. No new spiny waterflea findings were recorded for 2019; only three of the offshore samples in Lake Winnipeg (Grand Rapids) contained a very small number of this species.

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 how biota are responding to 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 seasons; samples from the four routine annual monitoring sites (Cross, Setting, Split and Assean lakes) were submitted for analysis as planned. Twelve samples were submitted for algal bloom monitoring, as chlorophyll a concentrations exceeded the threshold level of 10 µg/L; including 11 over the open-water season. These samples included:

- Summer:
    - o One site (Pointe du Bois Forebay) on the Winnipeg River; and
    - o One site (Cedar Lake – Southeast) in the Saskatchewan River Region.

•Fall:

- o Both of the on-system sites (Cedar Lake – Southeast and West) in the Saskatchewan River Region;
- o One on-system site (Mynarski Lake) in the Upper Churchill River Region;
- o The off-system site (Gauer Lake) in the Lower Churchill River Region;
- o The off-system site (Leftrook Lake) in the Churchill River Diversion Region; and
- o Three on-system sites (Two-Mile Channel two sites in near the outflow of Lake Winnipeg) in the Upper Nelson River Region.

•Winter

- o One site (Cedar Lake – Southeast) in the Saskatchewan River Region.

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 for 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 not conducted at the lower Churchill River at the Little Churchill River site in 2020 due to a Lake Sturgeon concern expressed by a Tataskweyak Cree Nation councillor. Fish community sampling was completed at all other locations and sites. As per usual, fish ageing structures were collected during fish community sampling; those ageing structures were analyzed in the laboratory over the winter.

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 2020 included sampling at the two annual waterbodies and at four additional waterbodies: the lower Churchill River at the Churchill Weir; Sipiwesk Lake, Cedar Lake – Southeast; and Cormorant Lake (the latter two lakes were sampled in 2020 because sampling was not undertaken at these sites in 2019 as planned). Fish community sampling was not conducted at the lower Churchill River at the Little Churchill River site in 2020 due to a concern expressed by a TCN councillor (sampling initially planned for 2019 was rescheduled for 2020 as it the fish community program did not proceed in 2019 for the same reason as 2020). In addition, mercury was analyzed

in tissue samples from one Lake Sturgeon mortality from Lac du Bonnet collected under CAMP and another 45 mortalities from other Manitoba Hydro monitoring programs (2 under the Keeyask AEMP, 25 under LSSEP, and 18 under the Pointe du Bois AEMP fish sampling programs). After collection, mercury samples were submitted to a laboratory for analysis and laboratory analyses have been completed.

4.9 Physical Environment

4.91. Continuous Water Quality and Sedimentation Monitoring

In 2020, six year-round continuous monitoring sites and two summer season sites were operated. The year-round sites included Pointe du Bois GS, Grand Rapids GS, Jenpeg GS, Wuskwatim GS, Limestone GS and at the Missi Falls control structure. The summer season sites included the Saskatchewan River at The Pas and the upper Churchill River near Leaf Rapids.

The sites monitor turbidity, water temperature, dissolved oxygen and conductivity at regular time intervals and monthly site visits are done to maintain the equipment and collect water samples to measure the total suspended solids (TSS) in the water.

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. Ten requests for data were received in 2020/21, 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).students, and consultants.

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 with the inclusion of Indigenous communities, subject matter experts, regulators, Manitoba, and Manitoba Hydro.

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 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 2020/21 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 Fisheries, Manitoba Water Stewardship, 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 17, 2020

Objective: To present the proposed 2020/2021 program / work plan with the Working Group for discussion and approval.

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

AGENDA

- Review of 2019 Working Group meeting summary and action items
- Review the 2019/20 CAMP
- Discussion of proposed 2020/21 CAMP work plan including changes related to Covid-19
- Communications & Reporting
    - o 3-Year Synthesis Reporting Update
    - o ELA 6-Year Summary Report review
    - o 9-year report
    - o Communications strategy implementation
    - o Website, ARC GIS online
    - o LIMS update
- Shoreline Monitoring Implementation Plan
    - o Establish a Steering Committee
    - o Initial Indigenous Engagement (with NCN)

o Additional Indigenous Engagement

Appendix 3: 2020/21 CAMP Sampling Schedule

Manitoba Hydro
MSD - Water Quality Section
MSD - Fisheries Branch
Consultant
Consultant & MSD

CAMP Sampling Schedule 2020/2021

Region	Site	On-system	Off-system	Fish Community	Water Quality	Benthic Invertebrate	Hg in Fish (3-year)	Sediment Quality (6-year)	Phytoplankton Community	Sedimentation
Winnipeg River	Upstream of Pointe du Bois	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Continuous (Pointe)
	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		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
Saskatchewan River	Cedar Lake - southeast	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Continuous (Grand Rapids)
	Cormorant 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		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
	Saskatchewan River	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				
Lake Winnipeg	Lake Winnipeg - Mossy Bay	X		Annual	Annual	Annual	19/20 & 22/23	23/24		
	Lake Winnipeg - Site 22	X			Annual					
	Lake Winnipeg - Grand Rapids	X		Annual	Annual	Annual		23/24		
	Lake Winnipeg - Sturgeon Bay	X		Annual						
	Lake Winnipegosis		X	Annual	Annual	Annual		23/24		
Upper Churchill River	Southern Indian Lake (Area 4)	X		Annual	Annual	Annual	19/20 & 22/23	23/24		Continuous (Missi)
	Granville 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				
	Southern Indian Lake (Area 6)	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23			
	Opachuanau Lake	X		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
Lower Churchill River	Northern Indian Lake	X		Annual	Annual	Annual	19/20 & 22/23	23/24		
	Churchill R. at Little Churchill R.	X		Annual	Annual	Annual	19/20 & 22/23	23/24		
	Gauer Lake		X	Annual	Annual	Annual	19/20 & 22/23	23/24		
	Partridge Breast 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		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
	Churchill R. at Churchill Weir	X		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21	17/18 & 20/21			
Churchill River Diversion	Threepoint Lake	X		Annual	Annual	Annual	Annual	23/24		
	Leftrook Lake		X	Annual	Annual	Annual	Annual	23/24		
	Notigi Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				
	Rat Lake	X		19/20 & 22/23	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23			
	West/Central Mynarski Lake	X		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
	Apussigamasi Lake	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				
	Wuskwatim	X								Continuous (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	
	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			Continuous (Jenpeg)
	Walker Lake		X	19/20 & 22/23	19/20 & 22/23	19/20 & 22/23				
	Sipiwesk Lake	X		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21	17/18 & 20/21			
	Nelson R: d/s Sipiwesk Lake to Kelsey GS	X		17/18 & 20/21	17/18 & 20/21	17/18 & 20/21				
	2-Mile Channel	X			Annual					
	Warren Landing	X			Annual					
Lower Nelson River	Split Lake	X		Annual	Annual	Annual	19/20 & 22/23	23/24	Annual	
	Assean 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		
	Stephens Lake - north arm	X		18/19 & 21/22	18/19 & 21/22	18/19 & 21/22				
	Stephens Lake - south	X		18/19 & 21/22	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	19/20 & 22/23			Continuous (Limestone)
	Burntwood R. - First Rapids to Split Lake	X		17/18 & 20/21	Annual	17/18 & 20/21				

CAMP

Coordinated Aquatic Monitoring Program

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