



YEAR IN REVIEW

For the year ending March 31, 2017



WUSKWATIM

Power Limited Partnership

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Directors of the General Partner of WPLP

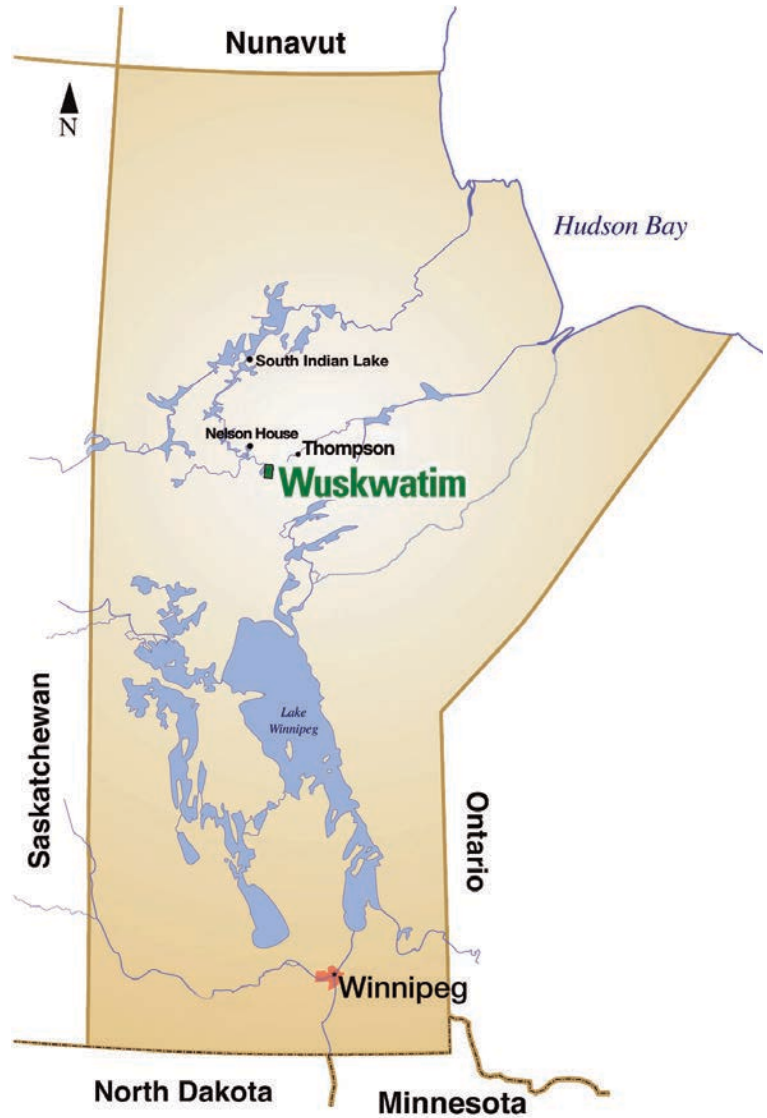
Back row (L to R): Lorne Midford, Chair (Manitoba Hydro), Marcel Moody (Nisichawayasihk Cree Nation)
Front row (L to R): Jimmy Hunter-Spence (Nisichawayasihk Cree Nation), Jamie MacCallum (Manitoba Hydro), Nancy Willms (Manitoba Hydro), Wesley Penner (Manitoba Hydro)



WUSKWATIM

Power Limited Partnership

Wuskwatim Power Limited Partnership (WPLP), a legal entity involving Manitoba Hydro and Nisichawayasihk Cree Nation through its wholly owned Taskinigahp Power Corporation (TPC), has developed the Wuskwatim Generating Station on the Burntwood River in northern Manitoba. It marked the first time in Manitoba and Canada that a First Nation and an electric utility have entered into a formal equity partnership to develop and operate a hydroelectric project. Manitoba Hydro provides management and operational services to WPLP in accordance with the Project Development Agreement (PDA).



INTRODUCTION AND BACKGROUND

Nisichawayasihk Cree Nation and Manitoba Hydro spent nearly a decade discussing, planning and undertaking the environmental studies and regulatory processes for the 200-megawatt Wuskwatim Generation Project operating in Nisichawayasihk Cree Nation's traditional territory on the Burntwood River downstream of Wuskwatim Lake at Taskinigup Falls.

In 2006, the Wuskwatim Project Development Agreement (PDA) that governs all aspects of the Project was approved by Nisichawayasihk Cree Nation Citizens and signed by senior Manitoba Hydro officials and Nisichawayasihk Cree Nation Chief and Council. Construction started in August that year.

The agreement provided the option for Nisichawayasihk Cree Nation to own up to one-third of the Wuskwatim Generating Station through its wholly owned Taskinigahp Power Corporation. Nisichawayasihk Cree Nation has confirmed its intent to maintain its 33 per cent ownership position in the Wuskwatim Project.

The Wuskwatim Power Limited Partnership (WPLP) is governed by the Board of Directors of its General Partner (5022649 Manitoba Ltd., a wholly owned Manitoba Hydro subsidiary). The Board consists of two Nisichawayasihk Cree Nation and four Manitoba Hydro representatives. Pursuant to the PDA, WPLP contracted Manitoba Hydro to construct, manage, operate and maintain the Wuskwatim Generating Station.

Manitoba has a large self-renewing supply of waterpower with many hydroelectric generating stations developed to provide electrical energy for its citizens. Wuskwatim became fully operational in October 2012 and produces clean, renewable hydroelectric power. It adds to Manitoba's generation assets, helps to meet the province's domestic needs and provides energy to export customers.

MESSAGE FROM THE CHAIR



Lorne Midford
Chair, Wuskwatim Power Limited Partnership

The Wuskwatim Generating Station continues to perform well and to generate clean and reliable hydroelectric power for Manitobans and our export customers in Canada and the US. Over the past year, it has produced 1.4 million megawatt hours of electricity or 90 per cent of its forecasted production capacity. In addition, the average monthly unit availability factor of 97 per cent is well above the average for a hydraulic generating station of this kind.

I am pleased to report that northern Indigenous persons continue to be well represented in the facility's workforce. Over the past year, nine of the 16 full-time staff employed at the facility were Indigenous (two Nisichawayasihk

Cree Nation members). In addition, several Nisichawayasihk Cree Nation members were hired on a part-time basis.

Safety continues to be a primary consideration and efforts continue to promote a safe and healthy workplace. Our efforts have been very successful in this area with no lost-time injuries since the plant began operation.

An extensive and on-going monitoring program has been in place since the start of the Project and is essential to understanding the environmental impacts of the facility. Monitoring confirms that impacts on the area's environment continue to be minimal.

Ethinesewin, the traditional knowledge and collective wisdom of Nisichawayasihk Nehethowuk continues to be an integral part of environmental monitoring activities and vital to ensuring that the Project maintains a high level of environmental responsibility. As in past years, Nisichawayasihk Cree Nation Elders, supported by Nisichawayasihk Cree Nation youth, conducted their annual environmental inspection of Wuskwatim Lake and the inner forebay. The information gathered and the insights and recommendations they generate are of great value in ensuring the overall environmental health of the Project.

From a financial perspective, WPLP reported a net loss for 2016-17 of \$36 million, which is consistent with the expectations and projections for the early years of operations. This compares to a net loss of \$31 million in 2015-16. Hydroelectric generating stations characteristically show losses in the early years of operations due to high up-front carrying costs associated with significant initial capital investment.

As Chair of the General Partner of Wuskwatim Power Limited Partnership, I appreciate the collaboration and great working relationship that has developed within the Partnership. We have worked well together to meet challenges and achieve our mutual objectives and interests. I look forward to building on these successes over the coming year.

Tansi

Lorne Midford

A handwritten signature in black ink that reads "Lorne Midford". The signature is written in a cursive, flowing style.

Chair of the General Partner of
Wuskwatim Power Limited Partnership
(5022649 Manitoba Ltd.)

OPERATIONS



STATION PERFORMANCE

Manitoba Hydro uses three main criteria to measure generating station performance: net generation output, unit availability and unit forced outage rate.

Net Generation Output

Wuskwatim Generating Station produced 1.4 million megawatt hours of electricity this year, which is about 90 per cent of its forecasted production capacity. Normal flows this past fiscal year are reflected in the near-forecasted output at the generating station. Monthly production averaged nearly 118,125 megawatt hours, with peak production of 138,036 megawatt hours in August and a low of 87,407 megawatt hours in June. These production numbers are a result of the near-normal water supply available in the Burntwood and Churchill River watersheds.

Unit Availability Factor

The generating station demonstrated an average monthly unit availability factor of 97.1 per cent, a measure of when the station is available to run when required. This is above average for a hydraulic generating station of this kind.

Unit Forced Outage Rate

The generating station demonstrated a forced outage rate of less than one per cent, a measure of the frequency of electrical or mechanical problems that remove a unit from service. The total of 3.7 hours of unit forced outage time meets the target, which is set at less than one per cent.

MAINTENANCE AND REPAIRS

In May 2016, Unit 2 was taken out of service for several days for a three-year maintenance check. The generator passed all inspections and did not require any major repair. Only normal cleaning and inspections were required. As information is gathered on the condition of the units, the maintenance program will be further refined.

During a routine inspection in June 2016, cracks were found in some of the discharge ring rib stiffeners on all three units. Repairs were undertaken and Manitoba Hydro has been working with the supplier of these parts to complete a root cause analysis of this problem and to provide a long term solution. In addition, these cracks have been monitored on a weekly basis.

DIRECT CONTRACT OPPORTUNITIES

Nisichawayasihk Construction Limited Partners (NCLP) was awarded a service contract for road maintenance and other related work.

SYSTEMS AND PROCEDURES

The generating station's operating procedures manuals are now complete but efforts to improve these are continuous.

SAFETY

Safety incident and activity reports are prepared monthly. During the past year, quarterly Workplace Safety and Health Committee meetings were held.

Presentations were delivered on topics such as cold weather safety, ladder safety and safe driving. No lost-time incidents occurred during this fiscal year.

NAVIGATION SAFETY

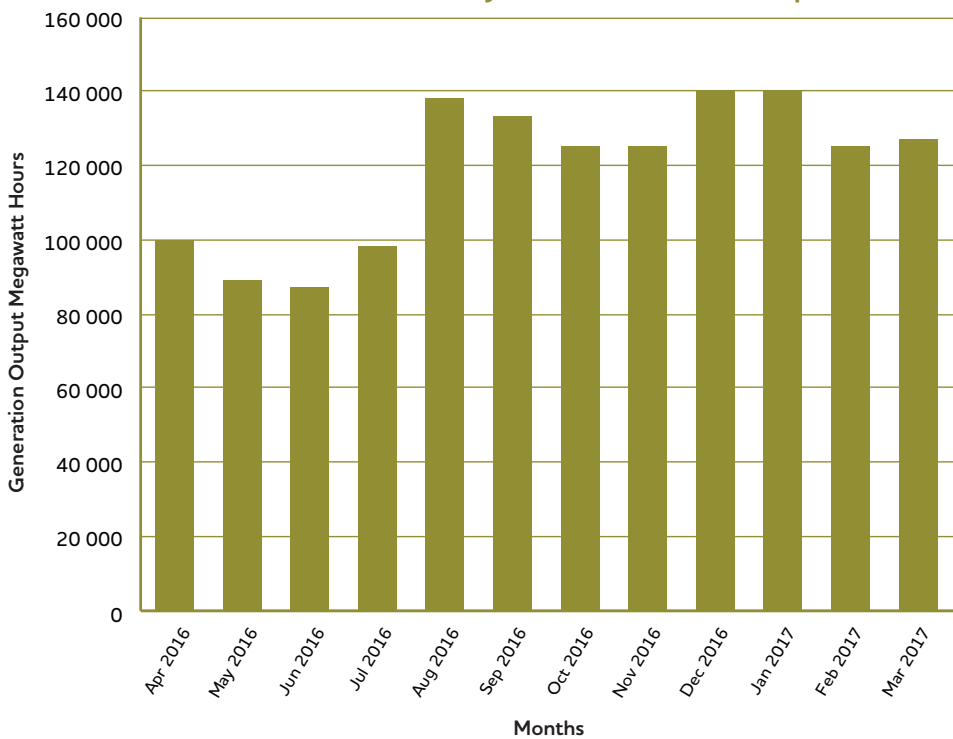
During the 2016 open water season, two Nisichawayasihk Cree Nation members were hired through Manitoba Hydro's Waterways Management Program to patrol Wuskwatim Lake and gather data on debris type and quantity. The crew patrolled a total of 3,169 kilometres of shoreline and removed an estimated 396 pieces of debris. This work will continue during the 2017 open water season. No safety incidents were reported over the past year on Wuskwatim Lake or downstream of the station.

PLANT TOURS

This year, tours were given to representatives from the City of Thompson and Federation of Canadian Municipalities (FCM), the Minister of Crown Services and the Nisichawayasihk Cree Nation Chief and some community members.



Wuskwatim Monthly Net Generation Output



ENVIRONMENTAL MONITORING

As part of Wuskwatim's federal and provincial licensing requirements, a rigorous environmental monitoring program has been in place since before construction began. With the generating station now operating, the monitoring program has evolved to focus on potential operations-related components to determine if the station is having any long-term environmental impacts upstream or downstream, on lands along the access road and at the station site.

The Monitoring Advisory Committee (MAC) met four times during the year and hosted an open house in November 2016 at Nelson House.

ETHINESEWIN MONITORING

Ethinesewin is the traditional knowledge and collective wisdom of Nisichawayasi Nehetho (the people from where the three rivers meet and who speak the language of the four winds) that has been communicated orally for generations. The central focus of *Ethinesewin* is on relationships with and between the land, nature and people.

Nisichawayasi Nehethowuk, and in particular the Nisichawayasihk Cree Nation Elders, have been sharing *Ethinesewin* with

Manitoba Hydro and Aski'otutoskeo Ltd. as an integral part of the environmental monitoring activities conducted during station construction and the current Wuskwatim operational phase. Shared *Ethinesewin* is vital to ensuring the Project achieves *Kistethichikewin*, meaning the conduct of a person must adhere to the sacred responsibility to treat all things with respect and honour, according to *Kihche'othasowewin* (the Great Law of the Creator).

Nisichawayasihk Cree Nation Elders supported by Nisichawayasihk Cree Nation youth conducted their 2016 environmental inspection of the Wuskwatim Generating Station and surrounding area in August.

As in past years, their work began with orientation sessions that included reviewing the Project's history, the results of past inspections, plus its relationship with the customary laws and traditional Nehetho understanding of the 13 moons and six seasons of the year. Participants headed out each day to examine different parts of the Project. The following is a summary of the outcomes of those activities.

Inspection of Wuskwatim Lake and the inner forebay at the generating station included an assessment of the ongoing changes related to the initial establishment of the reservoir's water level at its full supply level and its ongoing operation within a narrow range, plus study of the shoreline conditions along the forebay's north and south shores and at Wuskwatim Falls and the channel improvement area.

The forebay is considered by the Elders to be one of the most impacted areas of the entire Project. Wuskwatim Falls and Taskinigup Falls, and now the Wuskwatim Generating Station site, have been a significant gathering place for them and their ancestors. The human remains found in this area during the construction of the Project confirm the people's early existence in the traditional territory. The Nisichawayasi Elders feel that it is at this special location, in particular, where shoreline inspections and erosion repair and rehabilitation should be carried out.

One of the differences that the *Ethinesewin* team has noticed since completion of the Project is that the water flows through the Wuskwatim and Taskinigup Falls area are much less visible with the raised water level now being maintained above the dam and generating station. From an *Ethinesewin* perspective, it is difficult to compare the flows going through the generating station to what they were prior to construction.

At the Wuskwatim Lake grave sites, shoreline conditions, trees, bank, and bank protection were all inspected to assess any changes that have occurred over the most recent year of Project operation. The grave sites were honoured during the visit through song and prayer along with an offering. The group cleaned the North Point gravesite and recommended that some of the crosses and fences be rehabilitated.

Following their reinspection of the shoreline bioengineering sites a year after the previous visit, the Elders recommended continued monitoring of the sites and a fresh look at methods to mitigate shoreline



erosion on Wuskwatim Lake. Work to create spawning areas and mitigate adverse shoreline erosion caused by projects such as Wuskwatim will help restore balance and respect for Mother Earth.

The *Ethinesewin* team inspected the functioning of culverts, ditches, erosion protection and revegetation, and the success of remedial work done along the Wuskwatim Access Road. As not all participating Elders were able to easily walk up and down the slopes, it was suggested the use of small remote-controlled, camera-carrying aircraft, or “drones”, to facilitate their field work.

The *Ethinesewin* team also noted any wildlife observed or detected and the locations of sightings of animals and/or their sign were recorded.

The condition of both established plant sites and recently transplanted sites was assessed again in 2016. This inspection task also provided opportunity for the gathering of berries and medicinal plants and the teaching of traditional skills to the accompanying youth.

The Elders and youth noted small, healthy growth since the previous year's visit at the balsam fir planting near the Wuskwatim village site. They concluded that annual monitoring and minor maintenance by the group, such as removal of deadfalls on planted trees, could ensure the success of the balsam fir tree plantings. There are many traditional uses of balsam fir. Protecting and rehabilitating important species and medicine is part of the duty to protect *N'tuskenan* (land, life home and spiritual shelter).

Several cultural, heritage, and grave sites were inspected. *Aniskowatesewew Kanache Pumenikewin* means people must act in accordance with the sacred responsibility to protect heritage resources. Sharing the records of such sites with the community will help ensure that the Nisichawayasi Nehetho history and culture is preserved and passed down.

The Elders recommended that a handrail be installed at the access to the dock at the Wuskwatim Lake south shore breakwater and boat launch, as it was relatively difficult for some of the Elders to navigate. It also appeared that the breakwater may have been undergoing some erosion or settling. As it is a very important site for Nisichawayasihk Cree Nation, the Elders thought the dock, size and placement, as well as the installed safety features should all be reviewed in light of the few years of experience now accumulated.

Ayakwamisiwin means a person must be cautious of their actions where there is uncertainty. The Burntwood River downstream of the Wuskwatim Generating Station is a more dangerous place to travel than most of the upstream areas, so travel out from the downstream boat launch should only be undertaken by experienced people. The Elders and youth of the Nisichawayasihk Cree Nation *Ethinesewin* inspection team noted that warning signs and route guides are provided at the site. For recreational users possibly using the Wuskwatim Generating Station portage route in the downstream direction, the warning signs will be very important. All travellers up and down the river must be aware of operational downstream fluctuations, as well as the skills and precautions required of lake travel.

As with previous years' inspection tours, the team discussed the Burntwood River water levels, flows, and operational erosion downstream of the Wuskwatim Generating Station without actually doing a physical inspection, due to the normally risky travel conditions. Understanding that some ongoing erosion has been documented during the periodic river bank and bottom surveys that are being undertaken as part of the monitoring of physical effects of the Project, the Elders recommended that the existing heritage sites located along the downstream Burntwood River be monitored for undiscovered artifacts or remains, if they were not already being monitored. Furthermore, an eye should be kept on previously undocumented shorelines for possible new exposures.

For many years, Manitoba Hydro's extensive quantitative shoreline survey has been monitoring erosion and near-shore sedimentation regularly at dozens of sites in the Wuskwatim Project area. The Elders remain concerned about shoreline erosion and how water levels upstream of the dam, will compare to levels prior to the Project. Further complicating the long-term assessment are the possible effects of climate change on the environment: will they be significant, and if so, what will those effects be?

The 2016 *Ethinesewin* inspection tour finished up with a debriefing of the participants. The Elders noted that the technicians and youth assisting them on the tour had listened to their traditional teachings and shared knowledge and were pleased that both were going to be passed on. The best way to have a relationship with the land is to be out on the land.



BIOLOGICAL MONITORING

Terrestrial Effects Monitoring

Avian Monitoring

Breeding bird monitoring during operations began in 2014 to evaluate whether breeding bird diversity or abundance are affected by proximity to the access road. The EIS predicted that the Project may affect birds through habitat loss, alteration and fragmentation along the road right-of-way. As well, the potential for auditory and visual disturbances from passing vehicles and potential mortality as a result of vehicle collisions. Vehicle collision mortality was expected to be very low during operations because of low traffic volumes. The 2016 findings represent year two of a three-year study. Eighty-one bird species were identified in 2016, 36 more than in 2014. Common and abundant species in 2016 included the ruby-crowned kinglet, Nashville warbler, chipping sparrow and white-throated sparrow. Species of Conservation Concern detected in 2016 included the common nighthawk, olive-sided flycatcher and rusty blackbird. To date, there is no evidence that road disturbance had an adverse effect on bird diversity or abundance in either 2014 or 2016. The absence of an adverse access road effect was not surprising given the very low traffic volumes on the road since construction completion. Monitoring will continue in 2018.

Bird Collision Monitoring

Bird collision mortality surveys were conducted during the breeding bird season (June and July 2016) and the fall migration period (September 2016) in the right-of-

way below the outlet transmission line between the generating station and the switching station and surrounding the communications tower. The EIS predicted there were potential effects related to the risk of birds colliding with transmission power lines and a communication tower during operations. The potential effects were expected to be small to moderate, site-specific and not significant to local populations.

A few occurrences of bird-wire collisions were found along the Wuskwatim transmission lines and the communications tower. No evidence of federal (*Species at Risk Act*) or provincially (*Manitoba Endangered Species and Ecosystems Act*) listed threatened or endangered bird species mortality were found.

Under the Wuskwatim outlet transmission lines evidence of two collision mortalities was found during the spring searches (remains from one mallard and one woodpecker) and evidence of one collision mortality during the fall searches (feathers from a female mallard). Evidence of two collision mortalities (a Swainson's thrush and a willow ptarmigan) was found in spring and one collision mortality (a female blackpoll) was found in fall at the Wuskwatim communications tower. The total estimated collision mortality at both sites (birds/km) was similar to rates reported in the scientific literature. Monitoring will continue in 2017.

Beaver Lodge Survey

Due to the significant role beaver (*Castor canadensis*) can play in riparian ecology and as a species of documented importance to Nisichawayasihk Cree Nation, the monitoring

of beaver is of high importance. Beaver monitoring is being conducted to confirm the effects predictions of the Environment Impact Statement (EIS) and to determine whether there are Project effects on beaver populations by quantifying their distribution and relative abundance during operations. Beaver lodge surveys were conducted in September 2016 to collect data during the operation phase of the Wuskwatim Project, on the current distribution and relative abundance of beaver lodges in the Wuskwatim area. Comparisons were made between active lodge densities in 2016 to three years (2009, 2010 and 2011) of baseline studies undertaken during construction.

During the fall of 2016, a total of 474 beaver lodges (211 active lodges and 263 inactive lodges) were observed with overall densities of 0.25 active lodges/km of shoreline. Density of active lodges in areas upstream of the generating station was double the density observed in the areas downstream of the generating station and 11 per cent less than in the Bison Lake reference area (located south-east of Wuskwatim Lake).

In the entire Project study area, active lodge density was marginally greater in 2016 compared to active lodge densities in all baseline study years. The beaver population in the Project study area appeared stable, and near or at habitat carrying capacity, which is partly supported by a high ratio of inactive to active beaver lodges.

Waterfowl

A monitoring program for waterfowl was developed to determine potential effects on waterfowl abundance and distribution

caused by Wuskwatim construction and operation. The parameters to be measured during operation-phase surveys included the changes in waterfowl distribution and abundance due to potential increase in hunting activity, and decreased nest flooding events due to more stable water levels in Wuskwatim Lake.

Aerial surveys for waterfowl were conducted on May 6-7 for breeding waterfowl, July 6-7 for waterfowl broods, and on September 14-15, 2017 for staging waterfowl. Aerial surveys followed the shorelines of waterbodies and all observed waterfowl were counted. The number of waterfowl hunting parties observed was recorded opportunistically during aerial surveys to provide an estimate of hunting pressure. Surveyed waterbodies were classified as either “on-system” (influenced by existing or future hydroelectric operations) or “off-system” (unaffected by hydroelectric operations).

Based on monitoring results, it does not appear that operation of the Wuskwatim Generating Station is affecting waterfowl abundance or distribution.

Ecologically Sensitive Sites

Terrestrial environment monitoring for the Wuskwatim Project includes monitoring effects on ecologically sensitive plant species. Plants perform important functions in ecosystems and are valued by local people. Some plant species are particularly sensitive to Project effects because they are rare. Monitoring of ecologically sensitive plant species focuses on Project effects on provincially very rare to uncommon species.

Construction monitoring included documenting the locations of ecologically sensitive plants, marking sites for avoidance

where practicable and monitoring construction effects on all sites marked for avoidance. It confirmed Environmental Impact Statement predictions that construction effects on ecologically sensitive plants would be insignificant. Additionally, the magnitude of effects was generally lower than anticipated. Lower effects partly resulted because actual Project clearing or disturbance were considerably lower than assumed in the Environmental Impact Statement, which reduced effects on sensitive plant habitats.

Monitoring during the first four years of operation showed that additional Project-related effects on ecologically sensitive plant species have been either absent or minor. For some species, additional sites have been found without actively searching for them. Results to date also suggested that some of the affected plant species were recovering in areas that were affected by Project construction.

On this basis, cumulative effects on ecologically sensitive sites from Project construction and the first four years of operation were not significant, and lower than predicted in the Environmental Impact Statement.

Based on these results, no further monitoring is required provided that new Project clearing or other major impacts are not anticipated. Additionally, incidental observations for provincially very rare to uncommon species will continue to be recorded during fieldwork conducted for other terrestrial habitat or ecosystems monitoring.

Habitat Regeneration

As of summer 2015, rehabilitation efforts had occurred in all of the areas where some type of treatment was planned (suitable areas are being left for natural regeneration).

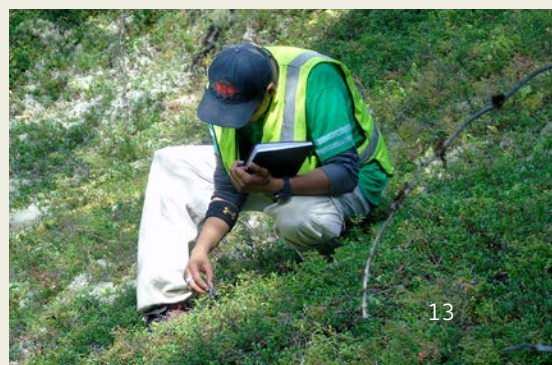
Monitoring up to 2015 showed that areas to be rehabilitated to a forest habitat were on a pathway to eventually achieve the rehabilitation targets. On this basis, habitat regeneration surveys in 2016 focused on the forest habitat areas that were recently planted, had not been previously sampled, had stem densities below the targets in 2015 or had a declining survival rate. Results from the 2016 regeneration surveys continued to support the expectation that these areas were on a pathway to eventually achieve the rehabilitation targets as long as mortality remains low and/or natural regeneration continues to add seedlings. Habitat regeneration surveys in these areas will continue in 2019.

Invasive Plant Distribution and Abundance

Non-native plants are species that are growing outside of their region of origin. Invasive plants are the non-native plant species that are able to outcompete or replace native plants.

Invasive plants are a concern because they have the potential to cause substantial adverse effects on natural ecosystems. They can crowd out other plant species and, in extreme cases, change vegetation composition. The Wuskwatim Environmental Impact Statement predicted that the Project was not expected to significantly increase the risk that invasive plants would crowd out sensitive species or change terrestrial habitat composition.

Monitoring during the first three years of operation (i.e., up to 2015) recorded 19 non-native plant species, which was five more than found during construction monitoring. With the exception of the camp area, the number of non-native species and their recorded locations increased between 2011 and 2015. As of August 2016, non-native plants were widely distributed



within the Project footprint, occurring in 29 per cent of the surveyed roadside areas and nearly 36 per cent of the remaining areas surveyed (percentages do not include alfalfa on the access road). No evidence was found during terrestrial habitat and plant monitoring studies indicating that non-native plants except for alfalfa were spreading into adjacent undisturbed native habitat.

Alfalfa was also identified as a species of concern for the Project since it was inadvertently introduced during hydroseeding of roadside areas. It became abundant during construction and it has been colonizing new areas partly through seeds produced by the introduced plants. The 2015 alfalfa monitoring report indicated that natural regeneration of other plant species and past revegetation efforts may eventually reduce alfalfa distribution and abundance. However, results from 2016 indicated that, to the extent this was occurring, it was still a potential emerging trend. Alfalfa distribution and cover generally increased throughout the Project footprint between the 2015 and 2016 surveys.

An Invasive Species Control Plan will be developed in 2017-18 with recommendations on measures to control the spread of invasive species.

AQUATIC EFFECTS MONITORING PLAN

Walleye and Whitefish Movement Study

The EIS predicted that the fish community in the Burntwood River immediately below the generating station would be adversely affected by the decline in migrants from upstream as a result of a predicted reduction in the number of fish attempting to migrate downstream and potential mortality of

a portion of those migrants as a result of turbine passage. As a result, the monitoring plan included two studies to address effects to downstream fish movements: a movement study using acoustic telemetry and a turbine passage effects study previously reported.

The basic intent of monitoring movements of fish during operation of the Wuskwatim Generating Station was to determine the proportion of fish that moved downstream through the generating station. The study focused on two species: Lake Whitefish and Walleye, as these were the primary species of concern with respect to movements during the EIS studies.

Walleye Movement Study

The movements of 90 Walleye implanted with acoustic transmitters between May 23 to June 10, 2015 continued to be monitored with 13 stationary acoustic receivers from September 19, 2015 to June 11, 2016, and with 22 receivers until September 27, 2016. The receivers were deployed in eight zones in Wuskwatim Lake and the forebay, at the outlet and within the Cranberry Lakes, in the Burntwood River downstream of the generating station and at Opegano Lake. Receivers were deployed to maximize spatial coverage, and placed at the inlets/outlets of Wuskwatim Lake to monitor potential emigration.

On average, Walleye were located for 52 per cent of the study period. Results indicate that Walleye are mobile throughout Wuskwatim Lake but generally remain within the zones in which they were tagged (particularly those tagged in the northern portion of the lake near the inlet of the Burntwood River, and those tagged near the outlet of Wuskwatim Lake), with the majority of movements occurring during the spawning period

(particularly to the southern portion of Wuskwatim Lake near the inlet of Wuskwatim Brook).

One Walleye moved downstream through Wuskwatim Generating Station to Opegano Lake during the reporting period (1 per cent of detected fish). The fish moved downstream through the powerhouse since the spillway was not in operation at the time of passage (September 2015). Based on the frequency of detections within Opegano Lake, it is likely that this fish survived passage.

Lake Whitefish Movement Study

The movements of 116 Lake Whitefish tagged with acoustic transmitters continued to be monitored with 13 stationary acoustic receivers from September 19, 2015 to June 11, 2016, and with 22 receivers until September 27, 2016. The receivers were deployed in the same eight zones as the Walleye movement study.

One hundred and one of the 116 tagged Lake Whitefish were detected during this study. Results indicate that Lake Whitefish are mobile and move throughout Wuskwatim Lake. However, fish tended to show a higher degree of residency for the zone in which they were captured.

Only two fish moved downstream through the Wuskwatim Generating Station shortly after being tagged and released (2% of detected). Both fish moved downstream through the powerhouse since the spillway was not in operation at the time of passage. Based on a lack of detections downstream of the generating station, it does not appear that these fish survived passage. It is also possible that because of the short time between release and movement downstream through the generating station, that tagging or stress was a factor in their movements.



Twelve Lake Whitefish moved into Wuskwatim Brook (12 per cent of located fish). Most of these detections occurred during the winter and the majority of fish had been released in the south end of Wuskwatim Lake. Twelve Lake Whitefish moved into the Cranberry Lakes (12 per cent of located fish) and 52 fish were detected at the outlet of the Cranberry Lakes at Wuskwatim Lake (51 per cent of located fish). Most of these detections occurred during September and likely represent pre-spawning movements.

The transmitters for both Walleye and Lake Whitefish have a four year battery life, so movements will continue to be tracked through 2018. The longer study period will allow evaluation of the overall proportion of fish that move downstream past the generating station over several years.

RESOURCE USE MONITORING PLAN

Country Foods Program (CFP) monitoring is intended to compare CFP harvests among the pre-construction, construction and operation periods and to document changes to the program's resource use activities and harvests. Distribution of foods through the Country Food Program declined from the pre-Project period through construction to the post-Project period. There appears to have been an increase in food distribution in 2016 when compared with 2013 and 2014 results.

Commercial fishing was conducted in Wuskwatim Lake in 2015 and 2016 for the first time since 2010 which, in turn, was the first effort since 2000. The Lake Whitefish and Walleye quota was not met in either year

despite a lengthier fishing effort in 2016. Commercial fishers expressed concern about fish abundance in Wuskwatim Lake. The Walleye and Lake Whitefish catch increased by 3,000 kg in 2016 as compared to 2015 levels. The fish community on Wuskwatim Lake continues to be monitored during operations. Results to date indicate that generally, species composition and catch-per-unit-effort were similar during baseline and operation studies, indicating that no large-scale changes have occurred.

The Wuskwatim Environmental Impact Statement predicted that four traplines had the greatest potential for increased production due to construction and use of the Wuskwatim access road, open since 2008. During construction, production and revenue increased slightly from pre-Project levels but has since declined to below pre-Project levels. The decrease in production on these four traplines is similar to that seen on most traplines in the Resource Management Area.

PHYSICAL ENVIRONMENT MONITORING

The Physical Environment Monitoring Program (PEMP) is an adaptive program designed to measure various physical environment components that may experience some change from Wuskwatim Generating Station operations. Physical environment components addressed in the PEMP include climate, water regime, erosion, sediment transport and woody debris. The geographic area subject to PEMP monitoring includes a section of the Burntwood River upstream of the Wuskwatim Generating Station to the

foot of Early Morning Rapids, including Wuskwatim Lake, and downstream to Birch Tree Lake.

Climate

To characterize climatic conditions in the Wuskwatim monitoring area, weather data from six meteorological stations within the region were analyzed. Due to the quality and length of the climate record at Thompson, this site was selected as an indicator climate station. The 2016-17 annual average temperature recorded at Thompson was warmer than 1981 to 2010 normals and total annual precipitation was well above normal. The region experienced large snowfall events from March 6 to 7 which may have exceeded historic daily snowfall accumulation records at Thompson. These extremes have not yet been confirmed by Environment Canada and therefore are not included in the official record for 2016-17.

Water Regime

Flows at the Notigi Control Structure were below normal from April to June, near normal from July to September and at the operating maximum for the ice-covered portions of the 2016-17 period. Wuskwatim Lake operated within its licence limits of 233.75 metres to 234 metres.

Shoreline Erosion

Comparing 2016 to the previous year, annual bank recession rates at lake monitoring sites show lower average recession rates than 2015 (0.33 metres per year compared to 0.74 metres per year). Average recession rates at riverine sites were also lower in 2016 than in 2015 (0.35 metres per year compared to 0.82 metres per year).

ENVIRONMENTAL MONITORING

Lake Monitoring Sites

Of the 23 unaltered sites surveyed:

- 12 had negligible average bank recession rates since 2015 (less than 0.25 metres per year);
- Seven had moderate recession rates (0.25 to 0.99 metres per year); and
- Four had recession rates greater than one metre per year.

River Monitoring Sites

Of the seven unaltered riverbank erosion sites downstream of the station:

- Five had negligible average bank recession rates since 2015 (less than 0.25 metres per year);
- None had moderate recession rates (0.25 to 0.99 metres per year); and
- Two had recession rates greater than one metre per year.

The post-Project increase in erosion rates at lake sites is consistent with a predicted increase due to the Project. It was also predicted that rates would decrease over time as shorelines gradually eroded back to bedrock.

Sediment Transport

Sediment transport data were collected at 19 locations upstream and downstream of the generating station in the summer of 2016. Total suspended solids (TSS), turbidity and sediment grain size data were measured at each site; however, bed load samples were not collected as no measurement could be acquired.

Flow conditions were average in 2016 and average suspended-solids concentrations and turbidity levels observed were consistent with previous years. Results for sediment-grain-size analyses were consistent with past observations in the monitoring area.

The results do not indicate any changes in sediment-transport conditions at the monitoring sites.

SOCIO-ECONOMIC MONITORING

Operational Employment

During construction, a socio-economic monitoring program was in place. Construction employment, business and income outcomes were reported and social monitoring was undertaken to follow up on the predictions

of the environmental assessment. With the generating station now operating, socio-economic construction monitoring has concluded. Operational employment will be tracked through the life of the Project.

During 2016-17, the majority of employees working at Wuskwatim were operating (mechanical and electrical) technicians, utility workers and trainees. Other positions employed at Wuskwatim included storekeepers, maintenance planners,

Components	Year 4 2016/17	Year 5 2017/18	Year 6 2018/19	Year 7 2019/20
ETHINESEWIN MONITORING				
Traditional Knowledge Annual Tour	•	•	•	
BIOPHYSICAL MONITORING				
Aquatic				
Water Quality	•		•	
Fish Community	•		•	
Invertebrates	•		•	
Fish Movements		•		
Bioengineering Sites				
Mercury in Fish	•		•	
No Net Loss Plan	•	•	•	
Terrestrial				
Birds	•	•	•	
Plants	•	•	•	
Mammals	•	•	•	
Resource Use				
Harvest Calendar Study		•		
PHYSICAL MONITORING				
Climate	•	•	•	
Water Regime	•	•	•	
Erosion	•	•	•	
Sediment Transport	•	•	•	
SOCIO-ECONOMIC MONITORING				
Operations Employment	•	•	•	

Evaluation and Adaptive Management

administrative representatives and supervisory staff. As at the end of March 2017, there were 16 full-time employees and four trainees. Of these 20 employees, 12 were of Indigenous descent.

Indirect employment throughout the year included terrestrial and aquatic environmental monitoring during the 2016 field season. Activities included: semi-aquatic fur bearer sampling, spring larval fish sampling, waterfowl aerial surveys, commercial fishery monitoring, fish movement monitoring, beaver lodge and dam surveys, Early Morning breeding bird surveys, acoustic monitoring, sediment trap and habitat trutring and monitoring of sensitive plants, benthic macroinvertebrates, water quality and fish communities. Employment associated with this in 2016-17 resulted in over 2,100 hours of work or approximately 1.1 person-years of employment.

Since operations began in 2012 to the end of 2016-17, there have been almost 19,000 hours of indirect work or approximately 9.4 person-years of employment. A person-year of employment is defined as one full-time job for one year, which is typically about 2,000 hours of work.

PHASES OF OPERATIONAL MONITORING

With the transition to operations, a 15 year, two-phase monitoring plan was developed beginning with the 2013-14 fiscal year. Phase 1, ending in 2019-20, is mapped out in detail. Once Phase 1 findings are complete and analyzed, a Phase 2 plan and schedule will be developed to cover the subsequent seven-year period ending in 2025-26.



2016-2017 FINANCIAL REPORT

Statement of Loss

(for the year ended March 31)

(in millions of dollars)	2017	2016
Revenue	80	86
Expenses		
Operating and administrative	10	11
Finance expense	76	76
Depreciation	19	19
Amortization	6	6
Water rentals	5	5
	116	117
Net loss	(36)	(31)

Partnership Assets, Liabilities and Equity

(as at March 31)

(in millions of dollars)	2017	2016
Assets		
Property, plant and equipment	1 250	1 266
Intangible assets	276	282
Current assets	13	16
	1 539	1 564
Liabilities and Equity		
Current liabilities	24	23
Long-term debt	1 393	1 383
Partners' capital	122	158
	1 539	1 564

Partners' Capital
(as at March 31, 2017)

	Units	%	(net) Capital (in millions of dollars)
General Partner ¹	32.967	0.01	–
Manitoba Hydro	220 843.700	66.99	82
Taskinigahp Power Corporation	108 790.000	33.00	40
	329 666.667	100.00	122

Operating, Financing and Investing Activities
(for the year ended March 31)

(in millions of dollars)	2017	2016
Operating Activities		
Cash receipts from customers	80	125
Cash paid to suppliers	(14)	(16)
Interest paid	(76)	(76)
Cash provided by (used in) operating activities	(10)	33
Financing Activities		
Net proceeds (repayment) of long-term debt	10	(23)
Cash provided by (used in) financing activities	10	(23)
Investing Activities		
Additions to property, plant and equipment	(2)	(3)
Other	2	(7)
Cash used in investing activities	Ø	(10)

¹ The business affairs of WPLP are carried out by a general partner (GP), 5022649 Manitoba Ltd., a wholly owned Manitoba Hydro subsidiary.



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