WUSKWATIM

Power Limited Partnership

Monitoring Overview

2011–12

Monitoring Overview for the period ending March 31, 2012

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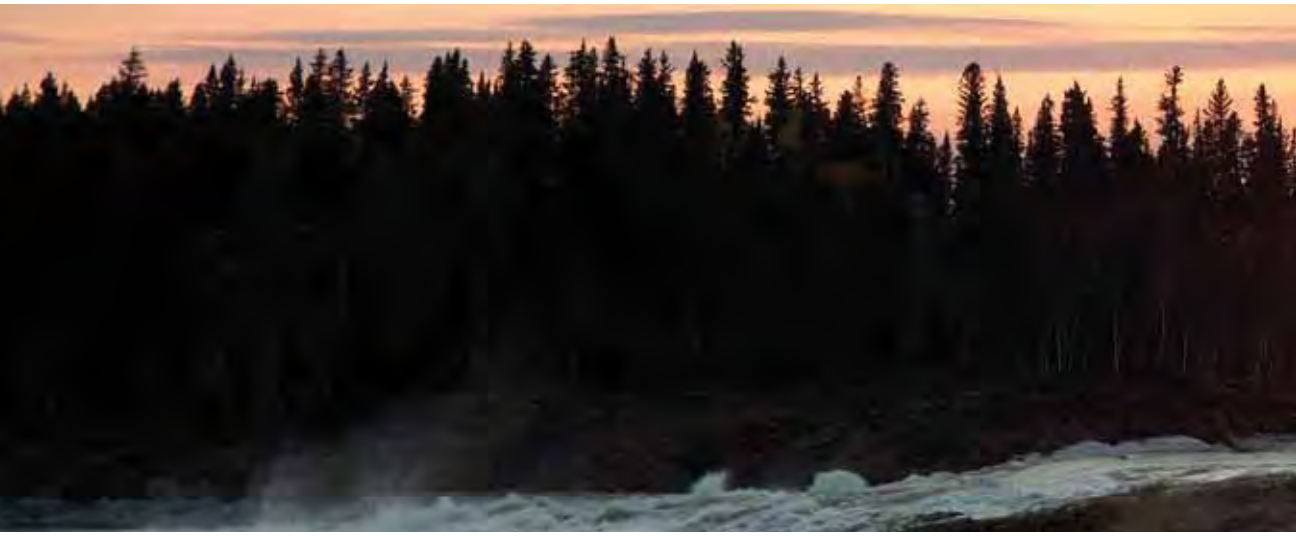


Message from the chair of the general partner of WPLP

Wuskwatim Power Limited Partnership (WPLP) is pleased to present the 2011–12 Monitoring Overview for the period ending March 31, 2012. The Wuskwatim Generation Project's monitoring activities were performed in accordance with prescribed government legislation, permits and authorizations, as well as the Wuskwatim Project Development Agreement signed between Manitoba Hydro and the Nisichawayasihk Cree Nation (NCN), partners in WPLP. This Monitoring Overview is a public document summarizing the results of ongoing monitoring programs being undertaken as part of the development of Wuskwatim. Separate technical reports are filed annually with regulators under the terms and conditions of the Wuskwatim Environmental Protection Program and are available for review on the public registry.

A number of milestones were achieved during the 2011-2012 construction season. In August 2011, the Stage I upstream and Stage II downstream cofferdams were removed, allowing the waters of the Burntwood River to touch the station's powerhouse structure for the first time. The station's main earth dam was completed to crest level, allowing for the impoundment of the forebay in early winter. Inside the powerhouse, turbine and generator installation continued, while substantial progress was also made on installation of the required electrical and mechanical support systems within the rest of the generating station. The first generator is expected to be in operation by early summer 2012. The last of the three units is expected to be commissioned and operational by the end of 2012.

The inclusion of *Ethinesewin* – the traditional knowledge and collective wisdom of Nisichawayasihk people – is a unique and important component of the monitoring programs for the Wuskwatim Generation Project.

Manitoba Hydro manages the project on behalf of WPLP, ensuring consistency with its Corporate Environmental Management Policy and Sustainable Development Guiding Principles. The following overview was developed by NCN and Manitoba Hydro on behalf of WPLP.

Sincerely,

Ken R.F. Adams, P. Eng

Chair of the general partner of Wuskwatim Power Limited Partnership

(5022649 Manitoba Ltd.)

Introduction

Since the turn of the 20th century, Manitoba has primarily relied on a large, self-renewing supply of hydropower to provide electricity for the province, and — in more recent years — for growing export markets in both Canada and the United States. Located on the Burntwood River in northern Manitoba, the 200-megawatt Wuskwatim Generating Station now nearing completion is being developed to harness some of that power, taking advantage of the growing demand for clean, renewable hydroelectricity. As a low head, run-of-river plant, Wuskwatim will create less than one-half of one square kilometre of flooding, minimizing local environmental impacts.

The project is being developed by Wuskwatim Power Limited Partnership (WPLP), an entity consisting of Manitoba Hydro and the Nisichawayasihk Cree Nation (NCN). This is the first time in Canada that an electric utility has partnered with a First Nation to develop a major hydroelectric generating station. Wuskwatim is located in NCN's traditional territory at Taskinigup Falls, near the outlet of Wuskwatim Lake on the Burntwood River.

The Wuskwatim Project Development Agreement (PDA), signed in June 2006, provided the option for NCN to own up to one third of the Wuskwatim Generating Station through its wholly owned Taskinigahp Power Corporation. NCN had until first power to confirm that it intends to maintain a significant ownership position in the Wuskwatim Project and has notified Manitoba Hydro of its intention to do that. It now has until July 3, 2013, to make final payment for the 33% equity position it currently holds.

Removal of the Stage II downstream cofferdam – September 2011

An essential part of the Wuskwatim planning and monitoring process is the use of *Ethinesewin* — the traditional knowledge and collective wisdom of Nisichawayasihk people — which helps reduce adverse effects of the generating station, and was used to help establish the locations of the construction camp, access road and transmission lines. To ensure minimum disruption to the local environment as the project moves through the various phases of construction and into operation, traditional knowledge and conventional science continue to be used equally as part of project monitoring activities. Traditional ceremonies, led by NCN Citizens, are undertaken to express respect for the land and resources which helps to mitigate the effect of the project on culture and heritage.

All monitoring activities for the project are overseen by the Monitoring Advisory Committee (MAC) made up of NCN Citizens and Manitoba Hydro staff involved in the various monitoring programs. This committee meets bimonthly to discuss the monitoring being undertaken to follow-up on predictions made in the Environmental Impact Assessment. The MAC is also responsible for overseeing production of this document.

Manitoba Hydro continues to provide construction and management services to WPLP.

Project Status

Construction of the Wuskwatim Generating Station is nearing completion. During the past year, the final concrete was placed, the powerhouse exterior finished, and the remaining cofferdams removed, allowing the Burntwood River to come in direct contact with the station's powerhouse structure for the first time.

The main earth dam was completed in mid-2011. In early winter, the forebay was impounded by lowering the spillway gates to control the flow of the Burntwood River. Water levels in the immediate forebay were raised close to the level that will occur during station operation.

Several important milestones were achieved inside the powerhouse. All three turbine runners and generator rotors were assembled and installed, as were the associated wicket gates, head covers and other ancillary equipment. Substantial progress was also made on installation of electrical and mechanical support and control systems within the generating station. Testing and commissioning of equipment and systems in the generating station are underway and the first unit is expected to be in operation by early summer 2012. The last of the three units is expected to be operational by the end of 2012.

Environmental monitoring and management programs continue to be undertaken in accordance with approvals from provincial and federal regulatory agencies. Monitoring programs that began prior to construction are ongoing and will continue into operation. Key environmental activities undertaken during this past year included:

- an aerial survey to estimate the size of the Wapisu woodland caribou herd;
- aerial and ground surveys to locate beaver lodges, food caches and assess beaver activity;
- a breeding bird study to determine where birds are choosing to nest;
- aerial and boat-based surveys to map shoreline habitat and assess invasive plant species;
- planting jack pine seedlings at the road construction camp as part of rehabilitation efforts;
- placing rock and planting wetland vegetation in the forebay, and planting aquatic vegetation in a stream mouth on Wuskwatim Lake to create fish habitat;
- using soil bioengineering techniques to stabilize shorelines at selected sites on Wuskwatim Lake;
- turbidity, sediment, bed load and erosion monitoring to measure pre-operation conditions and the effects of in-water construction activities;
- archaeological assessment conducted in three areas (Wuskwatim Falls island, the north shore of Wuskwatim Falls and the south shore between the falls);
- heritage resources investigations conducted by the provincial Historic Resources Branch with assistance from the project archaeologist and NCN archaeologist; and
- ongoing *Ethinesewin*-based monitoring by NCN of the project site and surrounding areas.

As construction nears completion, the number of workers employed on the project is declining. As of March 31, 2012, there were 316 workers on site. Total project hires have been 5832 and, from the start of construction to the present, approximately 37 percent of hires have been Aboriginal.

Wuskwatim Power Limited Partnership spent almost $158 million so far on goods and services purchased from northern Manitoba Aboriginal businesses, including several contracts with entities owned by NCN. Cross-cultural training sessions, cultural ceremonies and counseling services continue to be managed and provided at site by NCN and are available to all employees.

Wuskwatim Monitoring

Monitoring for the construction phase of the Wuskwatim Generation Project is being conducted in accordance with the limits, terms and conditions of regulatory approvals issued by the Province of Manitoba and Government of Canada. These licences include an *Environment Act* Licence, an interim *Water Power Act* Licence and *Fisheries Act* Authorizations.

The Environment Act Licence for Wuskwatim, issued by Manitoba Conservation on June 21, 2006, prescribed monitoring for specific elements of the project and required the development and approval of the following documents:

- Environmental Protection Plan for construction and operation of the access road
- Environmental Protection Plan for construction and operation of the construction camp
- Environmental Protection Plan for construction of the generating station
- Aquatic Effects Monitoring Plan
- Heritage Resources Protection Plan
- No Net Loss Plan (compensation plan for fish habitat loss)
- Physical Environment Monitoring Program
- Resource Use Monitoring Plan
- Road Access Management Plan
- Sediment Management Plan
- Socio-economic Monitoring Plan
- Terrestrial Effects Monitoring Plan

Since the beginning of construction in August 2006, these plans and programs have been implemented and the results of monitoring activities have been summarized in annual Monitoring Overviews. The technical monitoring reports on which the overview is based are submitted annually to Manitoba Conservation and Water Stewardship.

A major milestone in the construction sequence was achieved in August 2011 when the waters of the Burntwood River touched the station's powerhouse for the first time. In mid-2011 the main earth dam was completed to crest level, allowing for the impoundment of the forebay in early winter. Aquatic monitoring activities undertaken at that time included measurement of total suspended solids concentrations in the water. All measured levels remained within regulatory limits.

Terrestrial monitoring in 2011 included aerial and ground surveys of aquatic fur bearers to determine lodge locations and collection of pre-impoundment data to determine mercury levels in the muscle and livers. An aerial survey of the Wapisu woodland caribou herd was completed in February 2012 to estimate the size of the herd.

Physical environment monitoring included pre-impoundment greenhouse gas (GHG) measurements. This study is the first of its kind in Manitoba to measure GHG emissions before flooding a forebay. Additionally, turbidity and suspended sediment monitoring took place during the construction period in the summer of 2011, when cofferdams were being removed. Observations were similar to those previously observed and did not indicate any changes due to the project.

As a result of low water levels in 2011, heritage resources were recovered from Wuskwatim Falls island, an area that was previously inaccessible.

After six years of construction activities, socio-economic monitoring continues to provide information on the economic and social impacts resulting from the project. The project continues to contribute significantly to Manitoba's economy in terms of employment, labour income and tax revenues.

Downstream cofferdam removal

Environmental Protection Plans

The Environmental Inspector, also known as *Aski Kihche O'nanakachechikew* (AKO), conducts compliance monitoring to ensure mitigation measures outlined in the Environmental Protection Plans, licences, permits and authorizations are followed during construction. Environmental Protection Plans were prepared for construction of the access road, camp and generating station. The plans outline measures to be implemented to minimize adverse environmental effects of construction. Daily field inspections cover actions by contractors, performance of completed works and success of areas where rehabilitation efforts have occurred. These inspections normally indicated that environmental requirements are met. In the event environmental concerns and issues do arise, they are addressed quickly. The AKO attends regular contractor meetings to discuss specific environmental issues requiring attention. Corrective action reports are used to track and document non-compliance issues or concerns that require specific remediation or mitigation measures to be implemented by the contractor. The environmental issues that required resolution during the year are documented below.

Wastewater

The wastewater lagoon was discharged four times in 2011, between June 15 and October 31. Prior to the June and July releases, it was noted that ammonia and pH in the effluent were elevated. The lagoon was at maximum level, so a release was necessary. With the concurrence of Manitoba Conservation and Water Stewardship, water was added to the discharge to dilute the lagoon b effluent before it entered the Burntwood River. Although elevated in the effluent in June and July, ammonia concentrations in the receiving stream did not exceed provincial regulations at any time. Before the release in October, a bubbler was added to the lagoon to remove some of the ammonia, which improved the effluent quality.

Construction

Monitoring and maintenance of erosion and sediment control works on the access road continued during 2011. Work included improving existing rock check dams. The improvements on the access road address the concerns that the NCN Elders had regarding sediment inputs to the streams that are crossed by the access road.

Prior to cofferdam removal and watering-up of the upstream powerhouse intake and downstream tailrace, the AKO conducted an inspection to make sure all wastes, including hazardous wastes and contaminated soils, were removed. The contractor was asked to remove some non-hazardous waste from the tailrace area. Filling on both sides of the powerhouse began only after all waste was removed.

This is thought to be occurring because the Wuskwatim Falls channel improvement was not completed immediately after impoundment, resulting in higher than expected flow along the shoreline. As a mitigation measure to prevent woody debris from entering the waterway from this spot, trees were cleared along the eroding shoreline.

In July 2011, major in-stream work began. The cofferdams that surrounded the generating station were removed to allow water to come into contact with the powerhouse both upstream at the intake and downstream at the tailrace. Blasting and rock removal happened concurrently at the channel improvement area on the north shore of Wuskwatim Falls. Only a small rock plug remains for removal in 2012. During major in-stream work, the total suspended solids (TSS) in the water was monitored by the AKO using real-time data. Some increases in TSS were measured during the summer, all remained within regulatory limits. All TSS information was recorded daily during in-stream work and reported to the federal Department of Fisheries and Oceans according to *Fisheries Act* Authorization MB 01-0595-6-A4.

Water filling tailrace area

Low water conditions in 2011 allowed access to the centre island and a low area on the south shore below Wuskwatim Falls. Trees were cleared from these two locations by NCN Citizens in July 2011 prior to forebay impoundment. This was done as mitigation to minimize the potential for woody debris to be washed downstream to the station and through the spillway.

The cleared vegetation at both locations was burned. After the burning was complete and the fire was believed to be extinguished, the workers left the site. Unfortunately, a fire later flared up on the south shore, fueled by strong winds. Firefighting resources, including a group from Thompson, were assembled to put out the blaze. As this fire occurred after workers had vacated the area, the general civil contractor was fined for leaving a fire un-monitored.

A fire along a distribution line at the construction site was caused by a tree falling on the line. This incident caused a camp-wide power outage. Both construction personnel and an outside firefighting group from Thompson worked together to put out the blaze.

Site maintenance and remediation

Joint field inspections between Manitoba Hydro's Wuskwatim Construction Department and the general contractor began in 2010. Housekeeping and construction waste at the general contracting area have been regular agenda items. These inspections have proved beneficial regarding non-conformance issues. Inspections have been extended from the powerhouse to the marshalling yards and the excavated materials placement area. General site housekeeping can be difficult to keep up with during large construction projects; however, the AKO continues to be vigilant about site tidiness. The AKO continues to educate site personnel about the importance of proper disposal and recycling of wastes.

Twelve minor spills, due to mechanical failure or vehicular accidents, were reported by contractors to Manitoba Hydro during the 2011 – 2012 field season. All releases were less than the provincially reportable 100-litre limit. All spill sites were cleaned-up and post-remediation soil samples at each site were collected and sent for analysis. Results showed that all contaminated soil had been removed and that remediation at each site was completed. As a result, there were no effects on the surrounding environment from any of the spills.

An example of a spill that occurred this year was the release of petroleum product from a piece of contractor's equipment when the machine was operated too close to the edge of a service road and rolled into the ditch. The equipment was lifted out of the ditch, but while doing so it came loose of the sling and fell to the ground resulting in a spill.

Wildlife

Many foxes, martens and other small animals were successfully live trapped and relocated from the camp and construction site areas. Three bear sightings were reported, and one bear was relocated from the construction site.

Education regarding feeding wildlife in camp is an ongoing effort. Additional garbage receptacles were installed in an effort to reduce littering and deter wildlife from the camp.

Decommissioning

Decommissioning of the construction camp and contractor work areas has begun. The general contractor removed some of the wastewater holding tanks being used at the site. The AKO monitored the removal of the wastewater by a licenced hauler, to be disposed of at a licenced facility and the removal of the tanks was completed without incident.

The concrete batch plant settling pond was decommissioned. All sludge was removed, dried and placed in the excavated materials placement area. Berms surrounding the settling pond were levelled and the entire site was sloped to promote drainage away from the site.

Decommissioned concrete batch plant settling ponds.

Ethinesewin

Ethinesewin, the traditional knowledge and collective wisdom of *Nisichawayasihk Nehethowuk* (the people from where the three rivers meet and who speak the language of the four winds), is an integral component of the monitoring of the Wuskwatim Generation Project. *Ethinesewin* shared by Nisichawayasihk Cree Nation (NCN) Elders is vital to ensuring the project achieves *Kistethichekewin*, which means that the conduct of a person must be based on the sacred responsibility to treat all things with respect and honour, according to *Kihche'othasowewin* (the Great Law of the Creator).

The duty to apply and respect *Ethinesewin* is documented and incorporated through Nisichawayasihk traditional knowledge of the natural environment in project monitoring and assessment. In 2011, two observational tours of the Wuskwatim Generating Station construction site and area were conducted by Elders, youth and support personnel. Tour No. 8, the summer tour of 2011, was conducted from July 25th–29th and from August 2nd–6th. Tour No. 9, the fall tour of 2011, was undertaken from October 14th–21st.

Summer *Ethinesewin* Tour 2011

Along the access road, the Elders commented on the water clarity at the stream crossings. The water was high at most of the stream crossings and the water appeared to be clearer than during some of the inspections in previous years. The Elders appreciated the remedial work that was being done to repair the damage done to the ditches by heavy rainfall. Their recommendation was that maintenance work on the silt fencing and rock check dams should continue, as the rain and runoff has been continuing to erode the ditches and carry sediment into the streams.

The Elders indicated that they presently had no concerns about the culverts along the access road and believed that there is adequate facility for passage of aquatic and other wildlife across the road. Wildlife continues to be spotted along the access road near the stream crossings. For example, there have been ongoing sightings of moose, bears, wolverines, aquatic fur-bearing animals, and minnows in some of the stream crossings.

Ethinesewin fall 2011 tour

There are also signs of wildlife in the borrow pits, where tracks and droppings have been observed. The Elders see this as a positive outcome because the animals appear not to be affected permanently by the construction disturbance and permanent changes.

The borrow pit regeneration work being conducted restores harmony to the land and the project. The Elders were impressed with the regeneration efforts. It was recommended that the area should be designated as a restricted zone, particularly not to be used recreationally, in order to allow the planted trees to grow without disturbance. The Elders also recommended that medicinal and berry planting be incorporated into the regeneration plan as soil conditions allow.

Elders translated some of the construction terms of the project to the youth accompanying them on the tour, in order that their language would be passed on and a better understanding of the project realized.

The group visited soil bioengineering sites to see the work being done to stabilize erosion on the shoreline of Wuskwatim Lake. The Elders observed the progress on the different sites in different phases around the lake and indicated that they would like to see the work when it is finished. The group also appreciated the harmful alteration, disruption or destruction of fish habitat (HADD) works, including where debris was being cleaned out of the stream outlets so that fish could inhabit the streams for spawning. This work also will restore balance and harmony for the Wuskwatim project.

The Wuskwatim Lake area, like most of the NCN Resource Management Area, is full of medicinal resources. The *Ethinesewin* group continued its work to document the plants and their locations for future use. Medicinal gatherings with the youth took place with the younger members observing and helping the Elders as they harvested, prepared and consumed some of the harvested medicines, including *weekuswah*, *weekees* (ginger root), and *uskiweskattusk* (rat root). Cattail was one of the plants that was harvested and documented; its root can be eaten. The live vegetation (willow) that is being used to stabilize the shorelines also has traditional uses and also could be harvested. Every plant, tree, grass, and medicine has a spirit which must be balanced and lived with in harmony.

Bison Lake is an area that could be used as an alternative location to balance the loss of shoreline medicines due to the upcoming higher average water level in Wuskwatim Lake. *Weekees* is an important medicine that has many uses. An NCN team will need to access the Bison Lake area and find a new source of medicinal plants that have not been disturbed.

Several Elders reviewed tagged archaeological sites on a map, contributing their traditional knowledge on how these areas are referred to in Cree, in order to document it for future Nisichawayasihk generations. The Elders also worked with the NCN archaeologist on developing a list of the families that lived on Wuskwatim Lake in the past.

The *Ethinesewin* team assisted the NCN archaeologist with surface monitoring of graves and other archaeological sites. The group inspected some grave sites and would like to go back and do some maintenance at the graves. The group recommended that, due to their proximity to the shore and vulnerability, the identified graves sites should be monitored for shoreline erosion. The Elders have long observed that permafrost presence and melting in the area has been affected by water level changes and they believe that the effects will continue to change the shorelines and affect the existing and undiscovered NCN heritage sites. They are very concerned about the long-term need to care for and protect them.

Fall *Ethinesewin* Tour 2011

The group monitored the Wuskwatim forebay area and commented on the wood cutting that was done there in 2011. The group consensus about the cutting was that it would maintain the respect for the waterways because it would minimize the debris and sediment entering the water. It is an example of a proactive approach that should always be the basis for any future work that will impact the environment.

Work being done to transplant cattail plants along the forebay shoreline close to the generating station, prior to the raising of the water level in this area, was also reviewed. The cattail has food, medicinal and technological uses. The Elders see the work as part of the sacred duty to protect *N'tuskenan*, which is the land, life, home and spiritual shelter entrusted to us by *Kihche'manitou* (the Creator) for our children *Michimahch'ochchi* (since time immemorial).

Boulder gardens placed to improve fish habitat along the north shore of the impoundment area were also inspected by the *Ethinesewin* group. The Elders' comments were that any additional work that can be taken on in the forebay area, being the area most impacted by flooding for the Wuskwatim project, should be, as it shows respect and harmony for the land. The Elders believe that works like the boulder gardens and cattail planting, as well as any others that can be identified, will help reconcile with *Kihche'othasowewin* (the Great Law of the Creator).

The Elders used the upstream boat launch and commented favourably on the south shore breakwater, meant to decrease wave action when docking or launching a boat. They also noticed the docking pads that will be placed in the boat launch and which will make it safer, respecting the well-being of *Ithiniwuk* (individuals). The Elders also commented on the downstream boat launch facility which will benefit the individuals who want to access the Burntwood River downstream from the Wuskwatim generating station site. It has made access safer. The Elders also noticed debris in the bay area and recommended that it be cleaned up before it damages motors or causes an accident.

Summary

During their inspections of the progressing construction of the Wuskwatim Generating Station and its environmental aspects, impacts, and mitigation, the Elders expressed their past experiences on the land, which has always been a source of life. The Elders respect the land, for it gives them sustenance.

The development of the Wuskwatim Generating Station gave NCN an opportunity to invest and protect the use of our Mother Earth. If there is destruction, then balance needs to be restored. The relationship that the Elders have with the land is mutual respect. Balance can be restored in many ways, including through ceremony and modern rehabilitation methods. When bioengineering and HADD works and other remediation and mitigation are being implemented, it restores balance and reconciliation with the land and shows respect and honour.

The NCN Elders that have roamed through and lived in the traditional territory of NCN have experienced the impacts on the waterways and land that have occurred around *Oskotimi Sakahikan* (Wuskwatim Lake). They are proud to have been a part of the *Ethinesewin* inspections so far, and will continue to participate in any way they can.

Aquatic Effects Monitoring

Water quality monitoring occurred in conjunction with construction activities including the removal of the downstream cofferdam and the upstream cofferdam. In addition, one stream crossing along the access road was monitored to determine whether elevated total suspended solids (TSS) results previously recorded persisted, or whether erosion and sediment control measures were effective. Water quality monitoring also was conducted during each of the four effluent releases from the camp wastewater lagoon.

Generating station construction monitoring

Water quality monitoring took place at 13 locations along the Burntwood River from Wuskwatim Lake to the inlet of Split Lake. In 2011, sampling was conducted in June, September and October before, during and after in-stream work. Monitoring data indicated that in-stream construction activities did not have a notable effect on the water quality in the Burntwood River.

Wastewater quality monitoring

The secondary cell of the camp wastewater lagoon was discharged on four occasions in 2011. Effects on water quality were within the parameters for Environment Act Licence No. 2699. No notable effects of the effluent discharge were observed on water quality in the Burntwood River.

Stream crossing water quality monitoring

Nine stream crossings (eight along the access road and one in the camp) have been monitored since construction commenced for turbidity and TSS to record any ongoing effects to water quality following construction. In 2010, all crossings met the Manitoba water quality objectives for the protection of aquatic life with the exception of stream crossing six, which had an elevated TSS. In June 2011, water samples were collected on three occasions from stream crossing six and all measurements were within the Manitoba water quality, standards, objectives and guidelines.

No Net Loss Plan

The No Net Loss Plan was developed to compensate for fish habitat that was affected by the construction of the generating station and associated features. The plan was first proposed to Fisheries and Oceans Canada in 2004, with an addendum proposed in 2010. Compensation completed to date includes armouring the peninsula, constructing reefs and removing woody debris.

Soil bioengineering commenced in 2010 using various techniques including plants and plant parts to stabilize the shoreline and encourage fish use.

Fish habitat compensation

Approximately 300 boulder gardens were placed in a random pattern in the north forebay area in summer 2011. Now that the forebay is impounded, the rock is submerged and has created habitat for fish.

An area downstream of the main dam has been isolated from the tailrace by a weir that was initially constructed as an access road. The general contractor lined the inlet with rock and boulder gardens were placed to create diverse fish habitat. Additional work will be conducted at this site to modify flows in and out of the impounded area, in order to allow fish to pass in and out of it, and vegetation may be planted at one end.

In October 2011, a portion of the south side of the forebay was planted with aquatic plants, such as bulrushes and cattails, prior to forebay impoundment.

The compensation work planned for a tributary mouth on Wuskwatim Lake was completed in July 2011. The work conducted included harvesting aquatic vegetation from donor sites around the work site and transplanting them to various locations in the tributary mouth.

Three other tributary mouths on Threepoint and Wapisu Lakes were cleared of debris in 2010 and 2011 in preparation for additional work to take place. Tamarack root wads were installed in the stream mouths in the fall, of 2011 to enhance the habitat for fish. The potential for aquatic vegetation establishment at these sites, similar to what was done at the tributary on Wuskwatim Lake, will be investigated in 2012.

Soil bioengineering

Soil bioengineering uses locally available live plants, primarily live cut branches (from willows found along the Wuskwatim access road), together with other materials, such as wooden stakes and coir (blankets made from coconut fibre), to hold streambanks in place and prevent erosion. Over time, the willows develop roots that further reinforce the soil.

Two soil bioengineering installation sites were completed in 2010. The third and most complicated site was finished in fall 2011 by a crew from NCN. Work at each site included clearing trees, grading slopes, harvesting willows, and installing materials — all by hand. Work will resume on the remaining two sites in the fall of 2012.

Terrestrial Effects Monitoring

Several terrestrial monitoring programs took place in 2011, including a breeding bird study, aquatic furbearer surveys, collection of mercury samples from muskrat, beaver and otter, a caribou survey, and terrestrial habitat and invasive plant surveys.

Bird monitoring

Bird monitoring was conducted for a third and final year of the construction phase (previously conducted in 2007 and 2009). In June 2011, sites adjacent to the access road and sites in the vicinity of the generating station were surveyed. A total of 32 breeding bird species and six species that were flying over the survey area were recorded. All birds encountered were common boreal forest species.

In 2011, no significant difference in the quantity of birds (density) or the types of birds (diversity) was found among transects that run parallel to the access road, starting near the edge of the road and getting progressively deeper into the forest. These results indicate that the access road and related construction activities are likely having minimal effect on bird communities. The study conducted near the generating station showed significantly higher diversity and density near cleared areas than further into the forest. Results indicate that clearing near the generating station is having an effect on bird communities that is likely related to temporary crowding by bird species that prefer edge habitat.

Aquatic furbearer monitoring

An aerial and a ground survey of beaver took place in the fall of 2011 to collect a final year of pre-operation baseline data on areas used by beaver and activity at these areas. In the aerial survey, areas assessed included Wuskwatim, Cranberry and Opegano Lakes, the Burntwood River and a reference area at Bison Lake. A total of 290 beaver lodges, 151 dams, and 149 food caches were observed. Through the ground survey, approximately 113 lodges were monitored in the immediate area of the generating station, Wuskwatim and Opegano lakes and the Burntwood River area. About 41 lodges were studied in the Bison Lake area. Most beaver lodges were empty.

Beaver and other aquatic furbearers were trapped in the immediate area of the generating station, including Wuskwatim Lake, to collect pre-operation data on mercury levels in the muscle and livers of these animals. The number of samples collected to date is small, but results from the beaver samples generally show that mercury is less than 0.01 ppm which is below the detection limits of the laboratory. These results will be compared to post-operation samples.

Caribou monitoring

A population survey of the Wapisu woodland caribou herd was conducted throughout the Wuskwatim region. The survey area covered about 5,000 square kilometres and observations of caribou and caribou tracks were found mainly in the Harding Lake and Partridge Crop Hill areas. These traditional caribou winter ranges have not changed since surveys began prior to the construction of the Wuskwatim Generating Station.

In total, 81 caribou were observed, including several calves. Observers saw 38 caribou in the Harding Lake area, and 43 animals near Partridge Crop Hill. Groups of caribou ranged in size from two to 15 animals, which is similar to previous survey years and to woodland caribou populations elsewhere in Manitoba. Monitoring of the Wapisu woodland caribou will continue in 2013.

Wapisu Caribou Committee

The Wapisu Caribou Committee (WCC) provides advice and recommendations regarding caribou monitoring and research undertaken as part of the Wuskwatim Generation Project Environmental Protection Program. The committee membership currently includes representatives from Manitoba Hydro, NCN, Manitoba Conservation, and Wildlife Resources Consulting Services MB Inc. The WCC was established as a specific condition of Environment Act Licence No. 2699.

This year, in order to supplement the educational objectives of the *Woodland Caribou: Conserving the Herd* video produced by the committee in 2010, the WCC has been collecting items for a caribou kit to accompany the video. Once the kit is assembled it will consist of items related to woodland caribou biology and research such as caribou antlers, hooves, caribou hide, bones, tools, lichen and caribou collars, providing hands on learning opportunities to students.

The WCC also pursued developing a Boreal Woodland Caribou teaching module to accompany the video and caribou kit. Creation of the module and kit will continue in 2012.

Non-native and invasive plants

Invasive plants were surveyed along the shoreline upstream and downstream of the generating station in 2011. This baseline monitoring is required to detect how the presence, type or amount of invasive plants change over time. Canary reed grass was located at four locations upstream of the generating station. No other invasive plants were recorded during the survey. Canary reed grass was also sighted at two other locations upstream of the generating station during the shoreline wetland habitat survey.

Invasive plants have also been observed along the Wuskwatim access road. These plants were unintentionally introduced through seeding of the access road ditches. To determine the extent of the invasives, truck and foot-based surveys were conducted in late September 2011 along the access road and throughout the camp and construction areas. Invasive species were found to be present in all areas planted with the seed mix. A management plan is being developed to prescribe what will be done to reduce or remove invasive species introduced to the project site.

Site Rehabilitation

A rehabilitation plan is being prepared to determine areas where re-vegetation will be initiated to restore habitat types affected by construction of the project. This includes determining locations that will support white spruce and balsam fir plantings. White spruce seeds were donated to the Wuskwatim Power Limited Partnership by Tolko Industries and these trees are now being grown at a nursery. Appropriate areas to plant the seedlings are being determined and planting will begin in the fall of 2012 and onward.

In 2011, as part of rehabilitation efforts, 4,200 jack pine seedlings were planted in areas around the road construction camp and 2,400 seedlings were planted in borrow areas along the access road. Trees planted in previous years are being monitored. Growth and survival of a large proportion of the trees has been observed.

As part of the rehabilitation plan, medicinal plants and culturally significant berries will be incorporated, as specified by NCN Elders. To prevent attraction of wildlife to the road and minimize vehicle and wildlife interaction sites away from the access road are being investigated. Possible sites for berries will be evaluated to determine if there safe access for Elders and other harvesters.

Tolko presentation of white spruce seed to WPLP

Sediment Management

Major in-stream work in 2011 consisted of removing cofferdams, removing the majority of the rock plug from the channel improvement area at the outlet of Wuskwatim Lake, watering up the intake and tailrace areas at the generating station, and impounding the immediate forebay.

Total suspended solids (TSS) concentrations were measured during in-stream construction. The Wuskwatim Sediment Management Plan indicates that TSS levels up to 25 mg/L above background conditions in the fully mixed portion of the Burntwood River, which is measured at the inlet to Opegano Lake, are not expected to cause change to aquatic life in the river.

Instantaneous analysis of TSS is not possible. Therefore, a numerical correlation between turbidity and TSS was developed for the Wuskwatim environment, which allowed the use of real-time turbidity measurements to estimate TSS. Turbidity loggers were placed directly upstream and downstream of the construction site and at the inlet to Opegano Lake. These loggers transmitted readings to the construction site every five minutes, enabling assessment of the data in real-time. TSS levels immediately downstream of the station provided an initial indication of whether or not construction activities were affecting TSS. This allowed site personnel to take action to prevent levels from exceeding the regulatory limit at Opegano if required. All monitoring results during in-stream construction were sent to Fisheries and Oceans Canada for review on a daily basis.

Removal of the downstream cofferdam and watering up the tailrace took place between July 25 and October 9, 2011. Removal of the upstream cofferdam and watering up of the intake channel took place between August 24 and September 18, 2011. During both major in-stream events, real-time monitoring showed TSS levels remained within regulatory limits at all times.

Forebay impoundment took place slowly by lowering the spillway gates starting on October 31, 2011. Water levels rose in the forebay by approximately 0.5 metres per day. Due to the impending freeze up, real-time turbidity monitoring could not take place during forebay impoundment. Therefore, samples were taken by hand at several locations around the forebay to monitor TSS and turbidity during impoundment. Sampling was restricted to a few locations that could be safely accessed from shore. TSS met the limits listed in the Manitoba Water Quality Standards, Objectives, and Guidelines.

Heritage Resources Protection

Archaeological monitoring in 2011 began with an examination of the collector transmission tower footing excavations for heritage resources in mid-June. No heritage resources were found.

Three areas were monitored in mid-July. The first was along the south shore of the forebay, between the falls, in an area where excavation was required for aquatic vegetation planting associated with the fish habitat compensation work. No heritage resources were found there.

The second area monitored was along the north shore of Wuskwatim Falls. This site was monitored in past years and visited again to confirm that no additional materials were uncovered. Three lithic flakes were found along the lakeside shoreline.

The third area monitored was at the island in the middle of Wuskwatim Falls. This survey was particularly desirable, as it was the first time a heritage resource assessment could occur at this site, as high water levels and safety concerns prohibited access prior to 2011. The assessment occurred over the entire island. A heritage site was discovered on the northwest corner of the Wuskwatim Falls island in shallow depressions in the bedrock. Artifacts recovered included clay pipe fragments, a 12 gauge shotgun shell base, tin cans, and a frying pan as well as pre-European contact artifacts including lithic flakes of quartz and chert. The site was registered with the provincial Historic Resources Branch (HRB).

A pre-European contact human burial was recovered in July 2011 on the south shore of the Burntwood River, immediately below Wuskwatim Falls. The site was registered with the provincial HRB and recovery was led by the HRB and assisted by the project archaeologist and NCN archaeologist. Additional human remains were recovered at the same site in mid- and late-September. The remains were displaced by erosion due to low water conditions. It was determined that all remains were from the same individual. The remains were handled carefully and with respect, and were placed into a solid container lined with white linen, cedar and tobacco.

Physical Environment

The Physical Environment Monitoring Program (PEMP) is an adaptive program designed to measure various components of the physical environment that may experience some form of change from the construction and operation of the Wuskwatim Generating Station.

Components of the physical environment addressed in the PEMP include:

- climate
- water regime
- physiography
- erosion
- sediment transport
- woody debris

The PEMP monitoring area includes a section of the Burntwood River upstream of the project to the foot of Early Morning Rapids — including Wuskwatim Lake — and downstream of the project area to Birch Tree Lake.

Climate, water regime and reservoir greenhouse gas monitoring

To characterize the climate in the Wuskwatim monitoring area, weather data was analyzed at six meteorological stations within the region. The 2011-2012 annual average temperature was warmer than the 1971 - 2000 historical normal recorded at Thompson. Total annual precipitation was also above normal with over half of the total falling as rain in July and August. Based on data collected at Thompson, no new extreme temperature or precipitation events were recorded during this monitoring period. Water levels within the region were not dramatically impacted by the high rainfall in July and August.

The Churchill River Diversion was maintained at low flows for an extended period of time in 2011, from mid-March to mid-October, due to reduced Notigi Control Structure outflows. During this period, Wuskwatim Lake water levels dropped by just over one metre. Wuskwatim Lake twice rose above the licensing limit of 234.0 meters during the monitoring period. In both instances, the rise in lake levels was a result of flow restrictions at the outlet of Wuskwatim Lake. A rise in lake levels that commenced in November 2011 was caused by backwater effects from the filling of the forebay. In early February, a rise in Wuskwatim Lake levels was attributed to ice formation at the outlet of the lake, which restricted flow downstream. Opening of the Wuskwatim Falls channel improvement in the summer of 2012 will alleviate the hydraulic restriction at the outlet. In both cases, the water level on Wuskwatim Lake was brought down after the high levels were detected by increasing flow through the spillway and lowering the immediate forebay.

Pre-impoundment greenhouse gas monitoring continued in 2011-2012. This study is designed to characterize spatial and temporal conditions within the planned Wuskwatim reservoir before and after impoundment. Continuous monitoring of carbon dioxide, methane, and oxygen concentrations took place from June through September between Wuskwatim Falls and Taskinigup Falls, prior to reservoir creation.

Physiography

Major project earthworks were largely finished during the 2011-2012 season, including completion of the powerhouse tailrace channel and main dam, and removal of remaining cofferdams. Excavation of the Wuskwatim Falls channel improvement also took place, however the final section — the upstream rock-plug — was not removed. It is scheduled for removal in the summer of 2012.

Shoreline erosion

Erosion monitoring activities consist of surveying the shape of the bank and comparing the position of the bank and nearshore underwater slope from year to year. The project has 35 erosion monitoring sites, all of which were surveyed in both 2009 and 2011. Annual bank recession rates were lower in the 2009-2011 period than observed previously.

Of the 27 lake monitoring sites surveyed, 15 had negligible average bluff-recession rates since 2009 (less than 0.25 metres per year), eight had moderate recession rates (0.25 to 0.99 metres per year), two had recession rates greater than one metre per year, and two had been modified by shoreline stabilization work. Downstream of the project, six of the eight riverbank erosion sites had no bluff recession and two had been modified by shoreline stabilization work. The 2011 survey represents new baseline profiles for those sites modified by shoreline stabilization works. Monitoring on the south shore immediately downstream of the spillway showed that the river bottom had been scoured due to flow from the spillway.

The south shore immediately downstream of Wuskwatim Falls has experienced greater than expected erosion since forebay water levels were raised during impoundment. The new shoreline has been exposed to greater than expected flow velocities because the Wuskwatim Falls channel improvement on the north side of the falls was not opened up immediately after impoundment. Most of the Wuskwatim Lake outflow will pass through the channel once it is opened up in the summer of 2012, which will substantially reduce flow velocities on the south shore.

Sediment transport

Sediment transport data were collected at 33 locations upstream and downstream of the project in summer 2011, including bed-load sampling at nine locations. Total suspended solids (TSS), turbidity and sediment grain size data were collected at each site. Average TSS concentrations and turbidity levels observed in 2011 were generally lower than observed in previous years, likely due to the lower flow conditions in 2011. Results from sediment grain size analyses were consistent with past observations within the monitoring area. The results do not indicate changes in sediment transport conditions due to construction activities at the project site.

Woody debris

Data collected through Manitoba Hydro's Waterways Management Program includes types and quantities of debris removed upstream and downstream of the project prior to forebay impoundment. This information can be used along with data to be collected during operation to determine if the debris environment changes as a result of operating the Wuskwatim Generating Station.

Socio-economic Monitoring

Economic monitoring

The Wuskwatim Generation Project influences the economy of Manitoba in many ways. This includes providing employment (creating labour income) and purchasing the goods and services required to build the project. In turn, these expenditures result in incremental provincial tax revenues and contributions to provincial gross domestic product (GDP).

Job and labour income creation continues as long as some portion of spending on the project occurs in Manitoba. Influences are categorized as direct, indirect or induced impacts. Direct impacts result from project expenditures and refer to employment, purchases and income generated by the project itself. Indirect impacts refer to the employment, purchases and income created in other industries as the effects of project expenditures work their way through the economy. For example, there will be indirect impacts on businesses supplying materials and equipment to companies in the direct impact segment. Induced impacts result from the spending and re-spending of direct and indirect income generated by the project, increasing sales for consumer goods and the businesses that supply them. These are the impacts that are created by the additional income and profits earned by workers and businesses that are associated with the project either directly or indirectly. The sum of the direct, indirect and induced impacts is the total economic impact of the project. Data is available to provide estimates of direct employment, labour income, tax revenue impacts and purchases associated with the project from the start of construction to March 2012. While data is not available to calculate GDP specifically for the project, the economic impacts provide a positive contribution to provincial GDP.

Direct economic impacts

These are impacts of the initial project expenditures made to suppliers of labour, equipment and services required for the construction of the project. Major direct economic impacts of the project from start of construction to March 2012 include:

Person-years of direct employment	2,726
Direct project purchases ($ Millions)	$887.7
Direct labour income ($ Millions)	$204.7
Direct federal & provincial taxes ($ Millions)	$122.1

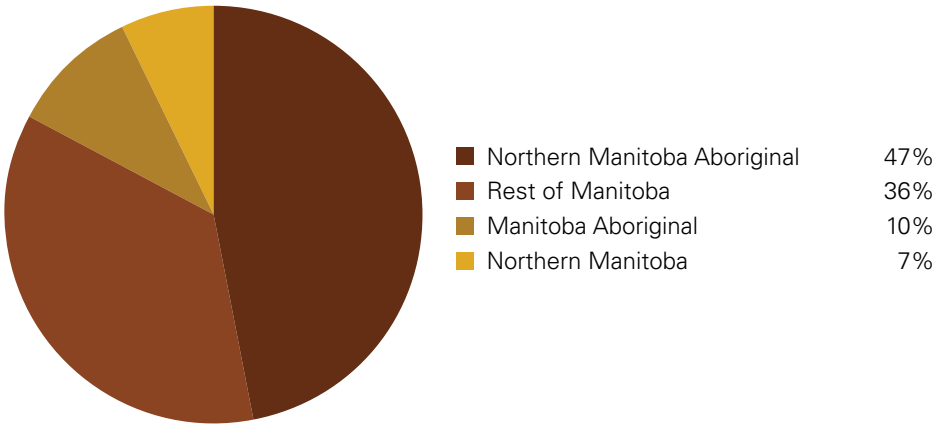
Employment

Employment can be measured in different ways, including hires and person-years. Hires refers to the number of people hired for any duration at the project site. One individual may be hired more than once (for example, for different contracts) and each hire is recorded separately. However, when part-time and/or seasonal workers are used, or when there is turnover at the work site, it is useful to standardize the hires in terms of person-years of employment. A person-year of employment is defined as one full-time job for one year. This typically represents about 2,000 hours of work. Information on both hires and person-years is provided in this report.

Person-years of employment

From the start of construction to March 31, 2012, direct employment created on the project amounted to 2,726 person-years. Of this, 69 per cent, or 1,885 person-years represent Manitoba employment. Total northern Manitoba and northern Manitoba Aboriginal employment represents approximately 54 per cent (1,024 person-years) and 47 per cent (891 person-years), respectively, of Manitoba employment.

Person-years of employment — breakdown of Manitobans



Hires on the project

From the start of construction to March 31, 2012, there were 5,832 hires on the work site, including Aboriginal hires. Of the total hires, 3,769 or approximately 65 per cent were Manitobans. Total northern Manitoba and northern Manitoba Aboriginal hires represent approximately 51 per cent (1,927 hires) and 44 per cent (1,651 hires), respectively, of Manitoba hires. There were a total of 2,184 Aboriginal hires including 1,630 Status, 502 Métis, and 52 other (Inuit and non-Status). There were a total of 610 Nisichawayasihk Cree Nation (NCN) hires on the project. Included in the total NCN hires are 25 apprentices including carpenters, electricians, millwrights, painters, pipefitters and plumbers.

	Total Hires	Aboriginal	Non-Aboriginal
Labourer	790	449	341
Security Guard	99	70	29
Operating Engineers (Crane & Equipment)	659	287	372
Teamster	334	231	103
Carpenter & Millwright	966	124	842
Painter	35	10	25
Glass Worker	5	0	5
Floor Coverer	8	0	8
Insulator	12	0	12
Lather	18	11	7
Plasterer & Cement Mason	85	6	79
Sheet Metal Worker	22	3	19
Roofer	24	8	16
Sheeter, Decker & Cladder	27	7	20
Bricklayer	15	0	15
Boilermaker	26	4	22
Ironworker & Rodmen	407	128	279
Electrician	348	63	285
Pipefitter & Plumber	156	33	123
Office Worker	250	73	177
Elevator Worker	2	0	2
Caterer	597	560	37
Other*	947	117	830
Total Hires	**5,832**	**2,184**	**3,648**
Total Person-Years	**2,726**	**1,079**	**1,647**

**The "Other" category refers to hires in job classifications not covered by the Burntwood Nelson Agreement. This would include managerial and supervisory staff (both contractor and Manitoba Hydro), other Manitoba Hydro site staff and certain technical staff (engineers and technicians).*

Employee turnover

From project inception to March 31, 2012, there have been 1,666 occurrences where employees were discharged or resigned. This represents a rate of turnover of 29 per cent of total hires[1].Of the 1,666 occurrences where employees were discharged or resigned, 829 reported being of Aboriginal descent. This represents a 38 per cent rate of turnover among Aboriginal hires. The majority of turnover (73 per cent) on the job site comprised resignations as opposed to discharges. A resignation represents an individual choosing to leave a job and does not include layoffs.

To date there have been a number of instances where individuals have resigned or been discharged from the job site, but have later returned to work on the project. Since project inception to March 31, 2012 this has occurred 279 times — approximately 16.7 per cent of total resignations and discharges. Of these returns to the work site, approximately 174 reported to be of Aboriginal descent, representing about 21.0 per cent of all Aboriginal resignations and discharges.

Employee training

A key component of the Wuskwatim Project Development Agreement is the provision for both pre-project and on-the-job training for northern Aboriginal people seeking employment on the project.

Pre-project training, designed to train and prepare northern Aboriginal people for employment in a wide range of occupations during the construction of both the Wuskwatim and the proposed Keeyask projects, was offered through the Wuskwatim and Keeyask Training Consortium (WKTC). Pre-project training was offered through Atoskiwin Training and Employment Centre (ATEC) for NCN Citizens. Funded by Manitoba Hydro and the provincial and federal governments, WKTC facilitated the Hydro Northern Training and Employment Initiative (HNTEI) and provided project-based funding to five Cree Nations and two Aboriginal organizations, who in turn offered training to their citizens.

The training portion of HNTEI came to an end on March 31, 2010. As of March 31, 2012, 189 pre-project trainees, including 112 NCN Citizens, had found work at the Wuskwatim project site.

[1] Turnover is calculated as the total incidences of discharges and resignations divided by total hires. The total number of resignations has been corrected to exclude circumstances where an individual left a position but was rehired to improve their job level on-site.

Purchasing

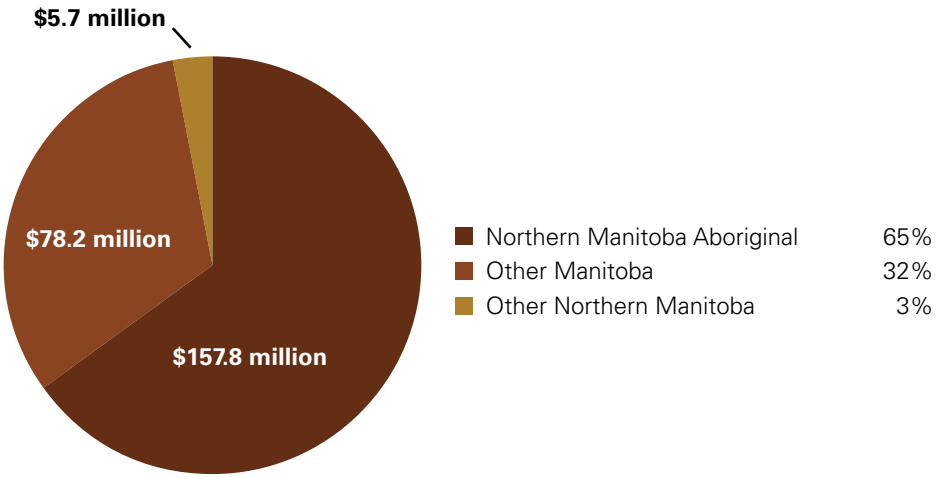
To the end of March 31, 2012, a total of $887.7 million was spent on goods and services for the project. Of this, $241.7 million were Manitoba purchases. Total northern Manitoba (Aboriginal and non-Aboriginal) purchases represent $163.5 million or 68 per cent of total Manitoba purchases. Total northern Manitoba Aboriginal purchases represent $157.8 million or 65 per cent of total Manitoba purchases. Another $4.1 million was spent on other purchases where there is no definitive way to confirm whether the vendor is a northern, Aboriginal, Manitoba or non-Manitoba business.

The table below summarizes total purchases to date while the accompanying pie chart provides a further breakdown of the Manitoba purchases.

The information provided represents direct purchases of the project from contractors. Secondary purchases by contractors, in turn, would include purchases of goods and services from Manitoba based businesses.

Purchases to end of March 2012	$Millions	% of Total
Manitoba	$241.7	27%
Outside of Manitoba	$641.9	72%
Other	$4.1	1%
Total	**$887.7**	**100%**

Breakdown of Manitoba Purchases

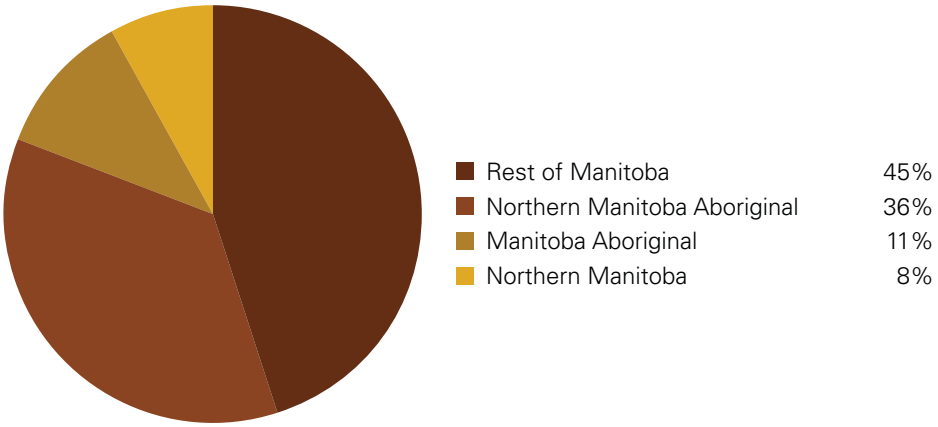


Labour income

Labour income is an important indicator of the direct economic impact of a project. The estimate of labour income reflects the direct income earned by workers from employment on the project. It is the sum of wages and salaries associated with direct person-years of employment. The total direct labour income impact of the project to the end of March 31, 2012 is approximately $204.7 million[2]. Nearly 63 per cent or $127.8 million represents labour income associated with direct Manitoba employment.

Total northern Manitoba and northern Manitoba Aboriginal direct labour income represent approximately 44 per cent ($56.8 million) and 36.5 per cent ($46.6 million), respectively, of the total Manitoba direct labour income. The chart below provides a breakdown of the estimated labour income in Manitoba.

Manitoba labour income breakdown



Tax revenues

The Wuskwatim Generation Project also contributes to government revenues. This includes direct revenues received by federal and provincial governments such as payroll tax, personal income tax, fuel tax and provincial sales tax. Not all of these taxes are payable by the project; however, they are generated as a result of it. The estimate provided here does not include taxes received by local or municipal governments or taxes associated with indirect or induced employment.

The estimate of tax impacts to the end of March 2012 is $122.1 million and includes $4.4 million in payroll taxes[3], $57.7 million in personal income taxes[4], $20.4 million in capital tax, $2.4 million in fuel tax[5] and $37.2 million in provincial retail sales tax[6].

[2] Labour income is calculated based on information provided by contractors and Manitoba Hydro.

[3] Health and Post-secondary Education Tax is calculated as 2.15 per cent of the estimated labour income of $204.7 million.

[4] Personal income taxes are paid by individual employees to the federal and provincial governments. Each individual's personal tax situation (and therefore taxes payable) will vary. However, this estimate is based on a range of reasonable assumptions.

[5] The fuel tax estimate is based on provincial taxes of 11.5 cents/litre for both diesel and gasoline and federal taxes of 4.0 cents/litre for diesel fuel and 10.0 cents/litre for gasoline, provincial and federal taxes of 3.2 cents/litre and 4.0 cents/litre, respectively, for aviation fuel.

[6] PST is based on estimates of taxes paid directly by the project and PST on materials provided by suppliers under real property contracts

Social monitoring

Cultural awareness activities and employee retention support programs

Numerous measures were in effect during the reporting period to support the retention of northern and Aboriginal employees at the job site and to ensure that sensitivity and respect for local culture is established throughout construction of the project. These measures include on-site cultural awareness training for employees, voluntary counseling services and cultural ceremonies prior to many key construction activities. NCN is responsible for providing cultural and retention support programming on-site under contract with WPLP.

Cultural awareness training

The purpose of cultural awareness training is to address the challenges that arise from cultural differences experienced on the job site and as a result of interactions between employees and nearby communities. Training sessions consist of facilitated face-to-face cultural awareness workshops delivered by a qualified NCN Coordinator with the assistance of NCN Elders.

Over the past fiscal year, 14 cultural awareness workshops were held at the Wuskwatim Cultural Centre which were attended by contractor employees, Manitoba Hydro employees and external guests. These sessions provided training for 190 individuals. From April 2011 to March 2012, training sessions were held on a monthly basis. Workshops continue to be delivered each month, with recognition, that as the Wuskwatim project nears completion, most on-site workers may have already received training. Since project inception in 2006, over 1,500 employees have obtained cultural awareness training.

On-site counselling

On-site counselling is available on a voluntary basis to help all employees deal with any issues experienced while working on the project. This includes issues such as work adjustment problems, vocational/career issues, cultural adjustments, family stresses and money management. Employees also have the option to involve other family members in counselling sessions and to meet with community Elders. On-site counselling is available year-round and informational brochures are made available throughout the camp to publicize the service.

Cultural ceremonies

Site ceremonies are held at key construction milestones to help mitigate the effect of the project on culture and heritage and to demonstrate respect for the land. Ceremonies are organized by NCN spiritual leaders and attended by Wuskwatim workers and other NCN Citizens. To the end of March 2012, a total of 35 ceremonies have been held, including 10 sweat lodge ceremonies and three pipe ceremonies.

A special ceremony was held at the Wuskwatim Cultural Centre in late September 2011 to mark the forebay impoundment. This ceremony was organized by the cultural coordinator for the Wuskwatim project, and included a pipe ceremony, songs, and tobacco offerings. Guests included NCN Elders, pipe and drum carriers, and other NCN Citizens.

Population

Community of Nelson House

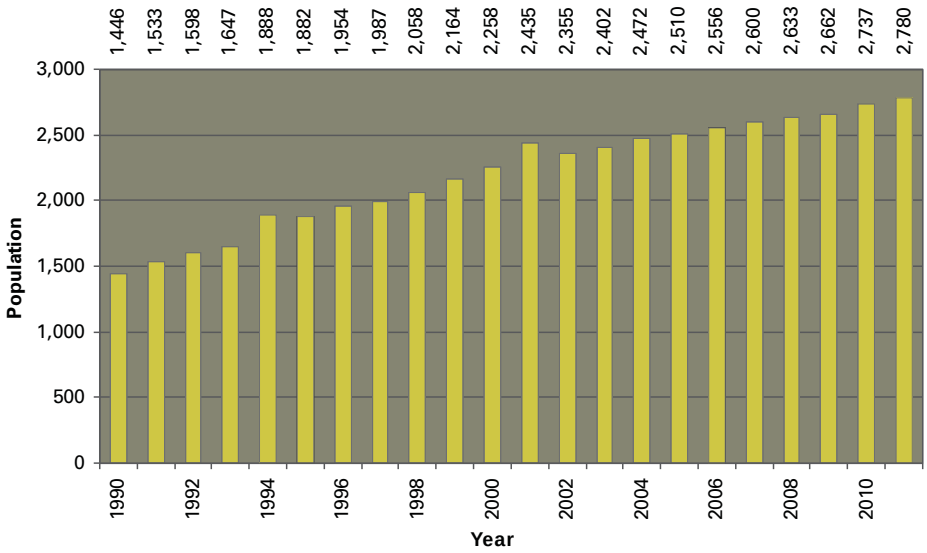
The Wuskwatim Generation Project Environmental Impact Assessment predicted a moderate amount of immigration and emigration at Nelson House associated with construction of the project. The possibility of immigration is associated with the lure of well-paying construction jobs as well as community-based training opportunities. This type of migration may have been mitigated somewhat by the use of the Wuskwatim Job Referral Service for hiring on the project, which allows individuals to register for employment without relocating closer to the project. Potential emigration could occur as families with new construction income choose to relocate to more urban centres, such as Thompson or Winnipeg, in order to access housing and other services less available in the community.

Data from Aboriginal Affairs and Northern Development Canada suggest that the population at Nelson House has continued to remain stable since the start of construction on Wuskwatim.

As shown below, the total population at Nelson House increased from 2,737 to 2,780, an increase of 43 people, between the 2010–11 and 2011–12 reporting periods. Since the start of construction, the population has increased from 2,510 at the end of 2005 to 2,780 at the end of 2011, an increase of 270 people.

This represents an average annual growth rate of 1.5 per cent. This compares to an average annual growth rate of 2.4 per cent in the Nelson House population from 2000 to 2004.

NCN on-reserve Population (1990-2011)



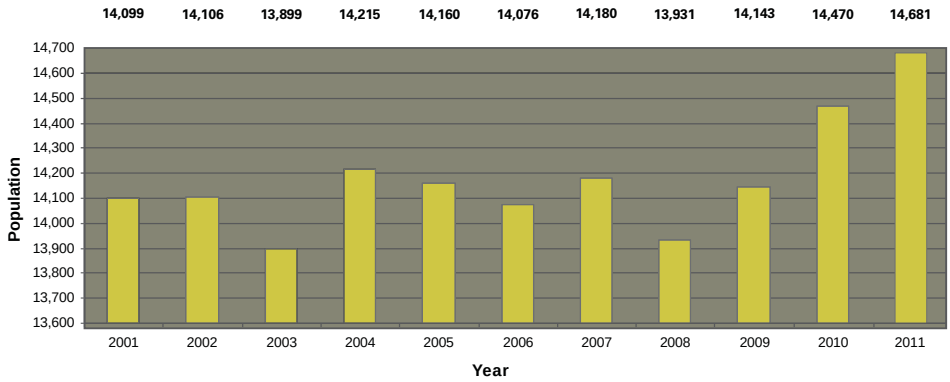
http://pse5-esd5.ainc-inac.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=313&lang=eng

City of Thompson

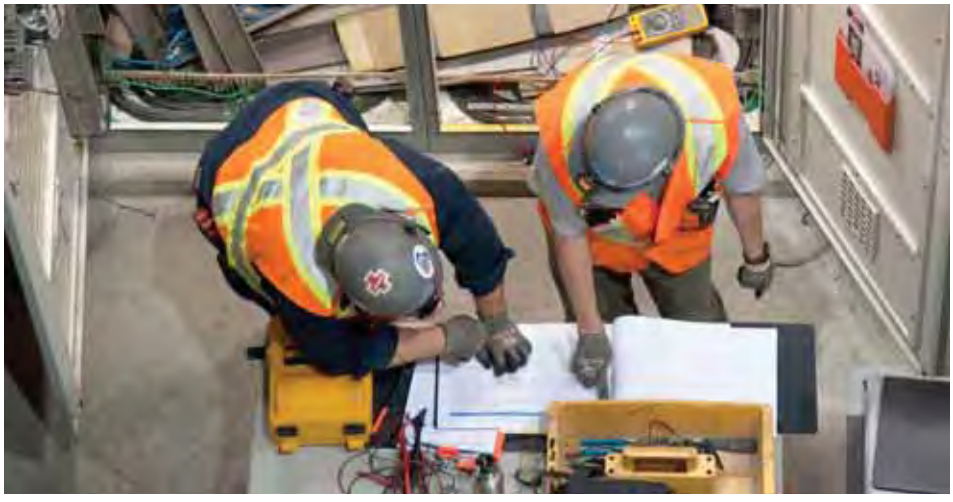
Thompson is the nearest industrial and commercial centre to the project and is potentially a significant contributor to the project workforce. There is also the potential that workers may take up residence in the community and/or visit the community during off hours to take advantage of various services (restaurants, shopping). This type of migration can positively impact the local community economy, but can also place a temporary strain on existing infrastructure and services. Measures have been taken to minimize immigration and off-hour worker visits to Thompson, including the construction of a camp at site outfitted with various recreational facilities for workers.

While the annual data from Manitoba Health's annual health statistics show a slight increase (of 211 people) from the previous reporting period, the overall Thompson population has not increased significantly during the construction of Wuskwatim (a cumulative total of 605 persons since the start of construction).

Thompson Population (1990-2011)



http://www.gov.mb.ca/health/population/3/burntwood.pdf



NCN impact management process

Manitoba Hydro and NCN continue to work together to monitor project impacts on NCN Citizens. An evaluation of training and employment related to the generation project will be undertaken in 2012.

Transportation monitoring

Traffic safety — Wuskwatim access road

The access road connects Provincial Road 391 to the construction site. It is a private road with access restricted to a list of authorized users. Access is controlled by means of a gate at the PR 391/access road intersection. The gate office is staffed 24 hours per day, seven days per week and security staff document all authorized vehicles entering and exiting the road.

The table below provides a summary of traffic use on the Wuskwatim access road during the reporting period. On average, 97 vehicles per day used the road from April 2011 to March 2012. This is a decrease of 54 vehicles per day on average compared to the previous year and reflects the decrease in construction activity that continued during this reporting period due to the Wuskwatim Project nearing completion. There were no motor vehicle accidents along the access road during this reporting period, largely due to mild weather conditions.

	2011									2012			
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Total	3338	3912	4059	3719	3639	3393	3094	2536	1676	1975	1942	2281	**35564**
Daily Average	111	126	135	120	117	113	100	85	54	64	67	74	97

Navigation safety

During construction and operation of the generating station, new access to the Wuskwatim Lake area was expected to bring more people in contact with Wuskwatim Lake and areas downstream of the station on the Burntwood River. NCN and Manitoba Hydro have begun to implement safety measures to mitigate potential effects associated with this new access and to assist resource users in reaching their traplines safely. There are currently two winter trails in operation around the Wuskwatim site. These trails were established and continue to be maintained as a result of the project. NCN Citizens were hired to construct safe haven cabins along these trails for use by resource users such as hunters, fishers, and berry pickers.

In 2007–08, two docks were installed on Wuskwatim Lake as part of the safety measures program. One dock is located near the Wuskwatim construction site and the other is located on the west side of Wuskwatim Lake at the old Wuskwatim village site. As planned, these docks were in place during the 2010 open water season.

During the 2011 open water season, a crew of three NCN Citizens was hired through Manitoba Hydro's Waterways Management Program to patrol Wuskwatim Lake. The boat patrols were deployed to gather data on debris type and quantity. Crews travelled 4,586 kilometres during the open water season, and a lot of shorelines were travelled more than once. Of the material removed, 89% was old and 11% was new. Debris removal activities work toward addressing NCN's concern about debris along shorelines on Wuskwatim Lake. Work will continue in the open water season of 2012.

There have been no safety incidents reported over the last year on Wuskwatim Lake or downstream on the Burntwood River in the project area.

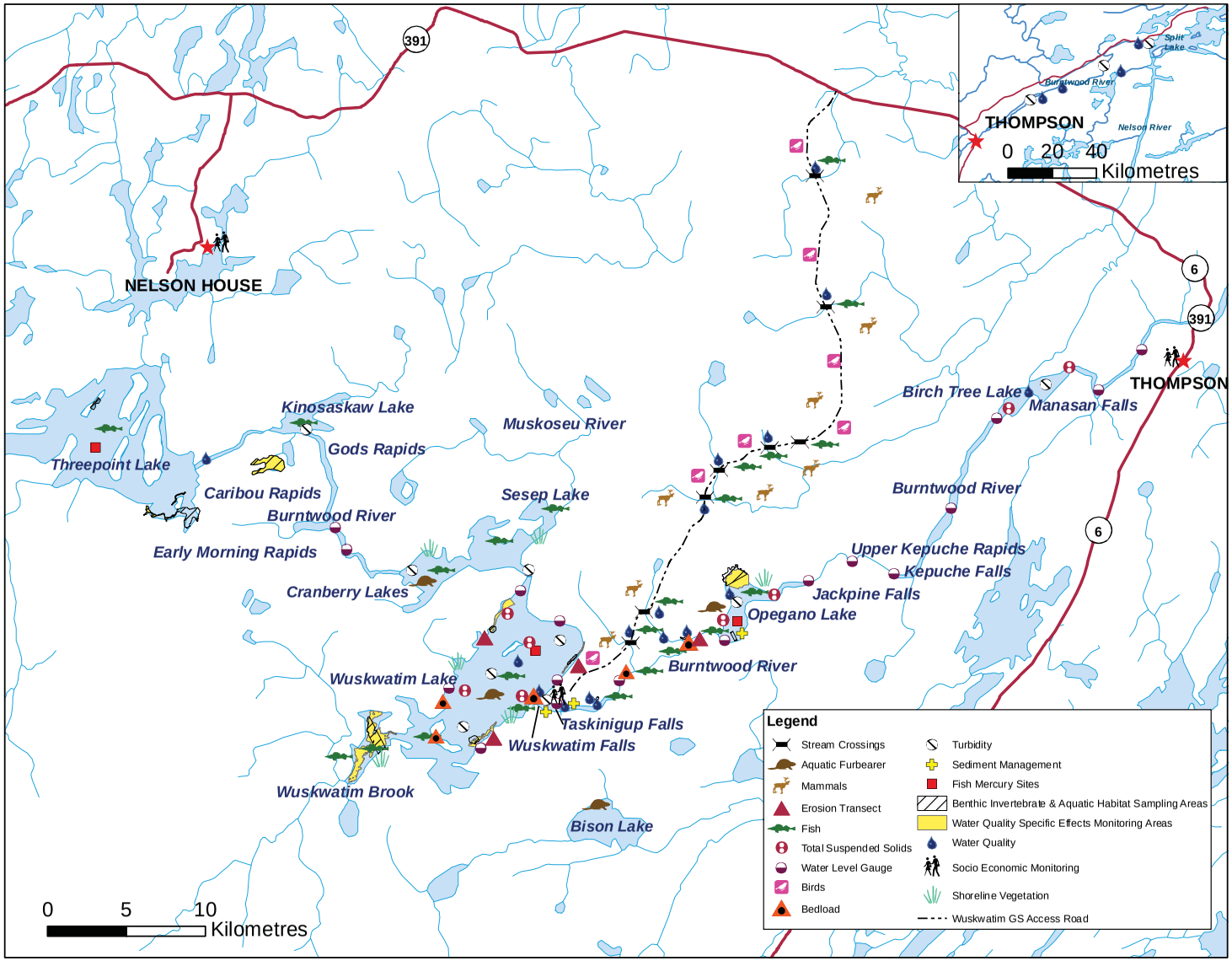
Public Communication

Wuskwatim Power Limited Partnership (WPLP) is committed to providing the public with information about its monitoring activities and the results of monitoring studies undertaken each year. As part of its public communication activities, WPLP:

- Annually develops this Monitoring Overview document to summarize key outcomes from the previous year. This document is distributed to NCN Citizens living both on and off reserve and to various other stakeholders. The document is also available at the Wuskwatim Implementation Office in Nelson House, in the Public Registry and on the WPLP website at www.wuskwatim.ca. A summary of this document is translated verbally to Cree, recorded on compact disc and made available to NCN Citizens.

- Annually schedules a Wuskwatim Monitoring Advisory Committee (MAC) open house in Nelson House to provide the community with up-to-date information on monitoring programs and to answer any related questions. This past year, WPLP's Wuskwatim MAC held its open house on November 15, 2011 at the OK School.

WUSKWATIM MONITORING



WUSKWATIM

Power Limited Partnership

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