



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

First Nations Water and Wastewater Action Plan

Progress Report January 2008 – March 2009

April 2009



Canada 

Table of Contents

Executive Summary	p. ii
Background	p.1
Plan of Action for Drinking Water in First Nations Communities	p.2
First Nations Water and Wastewater Action Plan	p.2
Progress on Water and Wastewater in First Nations Communities	p.3
Protocols	p.4
Ensuring Oversight of Water Systems by Certified Operators	p.4
Address All High-Risk Drinking Water Systems, Starting with 21 Priority Communities	p.6
Address All High-Risk Wastewater Treatment Systems	p.7
Drinking Water Monitoring and Wastewater	p.7
Regulatory Regime for Water and Wastewater on Reserves	p.8
Report on Progress	p.8
Other Progress on Water	p.9
Conclusion	p.10
Appendix A - 21 Priority Communities Progress Report	p.12
Appendix B – Canada’s Economic Action Plan – First Nations Water and Wastewater Projects	p.23

Executive Summary

In March 2006, the Government of Canada announced a [*Plan of Action for Drinking Water in First Nations Communities*](#) to ensure that all First Nation reserves have access to safe drinking water. Indian and Northern Affairs Canada secured \$60 million over two years from Budget 2006 to help reach the objectives of the *Plan of Action for Drinking Water in First Nations Communities*. In Budget 2008, the government renewed its commitment by investing \$330 million over two years to improve access to safe drinking water in First Nation communities through new measures outlined in the First Nations Water and Wastewater Action Plan.

Canada's 2009 [*Economic Action Plan*](#) includes a total of \$515 million over the next two years for First Nations community infrastructure projects. Of this investment, \$165 million will go towards building or upgrading 18 water and wastewater infrastructure projects on reserves. These accelerated projects will provide reliable water facilities which are essential to the health and safety of First Nations communities. A list of the projects under Canada's 2009 Economic Action Plan is included in Appendix B.

As part of the Government of Canada's commitment to provide updates on the progress of water initiatives for First Nations communities, the following information highlights the progress made since January 2008.

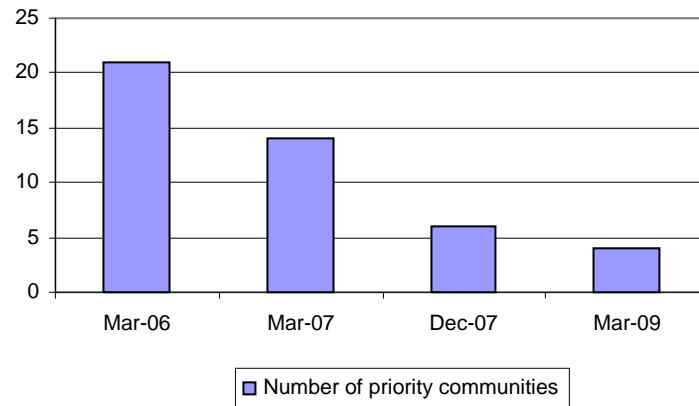
- the number of high-risk drinking water systems has been reduced from 85 to 48;
- only four of the 21 priority communities identified in March 2006 remain on this list;
- the number of water treatment operators with their first level of certification or greater, has increased from 41% to 64%, representing 791 out of the 1226 water system operators across the country;
- improvements are being made to the water protocol, and the department is finalizing a protocol on wastewater treatment and working on a protocol on decentralized systems;
- a national engineering assessment of existing water and wastewater systems that provide services to First Nation communities will begin in 2009;
- the Government of Canada is moving forward with consultations on the development of a regulatory regime to oversee water quality on reserve. As part of a broader consultation process, engagement sessions were held in February-March 2009 with First Nations, regional First Nation

organizations and provincial/territorial government representatives on the development of a legislative framework for water.

- Health Canada has developed drinking water advisory communication products which include public service announcements, posters and door hangers which provide clear information about what residents should do to protect their health if a drinking water advisory has been issued in the community;
- Health Canada has increased its own capacity and the capacity of First Nation communities to sample and test drinking water quality at tap in order to protect public health; and,
- Health Canada has developed a national wastewater program framework in order to reduce public health risks associated with wastewater.

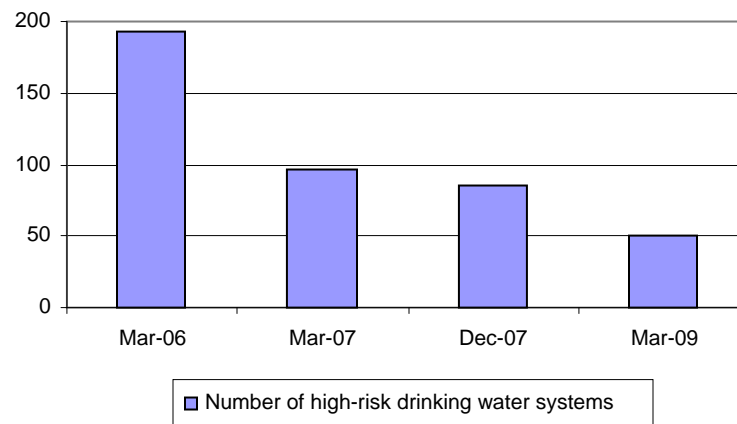
Through collaborative efforts and hard work, we continue to make real and tangible progress.

Status of the 21 priority First Nation communities



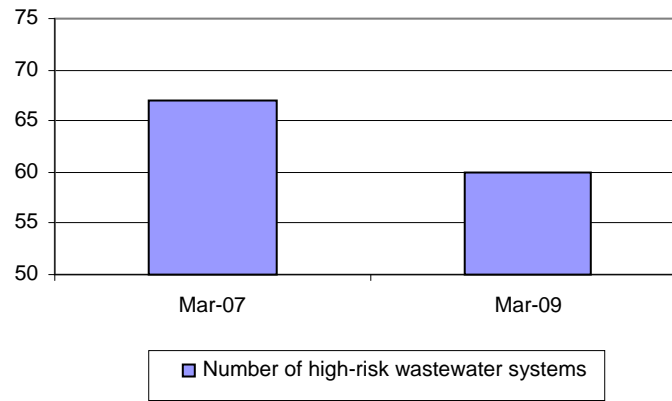
*A priority community is defined as a community that had both a high-risk drinking water system and a drinking water advisory in place at the time of the Minister's March 2006 announcement.

Status of high-risk drinking water systems in First Nation communities



*A high-risk drinking water system is defined as a system that has major deficiencies in several aspects, such as water source, design, operation, reporting and operator training or certification. Should a problem arise in one of those areas, the system is unlikely to be able to compensate, thus there is a high probability that any problem could result in unsafe water.

Status of high-risk wastewater systems in First Nation communities



*A high-risk wastewater system is defined as a system that has major deficiencies in several aspects such as effluent receiver, design, operation, reporting and operator training or certification. Should a problem arise in one of those areas, the system is unlikely to be able to compensate, thus there is a high probability that any problem could result in untreated wastewater entering directly into the environment.

Background

The Government of Canada is committed to helping First Nations in the provision of safe, clean, and reliable drinking water. To achieve this goal, the Government of Canada provides funding and advice to First Nations to assist in the management and operation of water systems.

Indian and Northern Affairs Canada provides advice and funding assistance for the design, construction, operation and maintenance of water and wastewater systems. It also provides funding for the training and certification of water system operators. In 2008-2009 the department invested over \$300 million for the upgrading of water and wastewater infrastructure on reserves and for the maintenance and operation of the facilities, including training for First Nation operators.

Health Canada works with First Nation communities south of 60° to identify potential drinking water quality problems, including: verification monitoring of the overall quality of drinking water at tap, and reviewing, interpreting and disseminating results to First Nations; providing advice, guidance and recommendations about drinking water safety and safe disposal of on-site domestic sewage; and reviewing water and wastewater infrastructure project proposals from a public health perspective.

Environment Canada provides advice and guidance material in the areas of source water protection and sustainable water use.

First Nations are responsible for the daily operation and management of their systems, which includes the design, construction, operation, maintenance, and monitoring of their water systems. First Nations authorities issue drinking water advisories (DWAs) in First Nation communities, usually on the recommendation of Health Canada, or on their own initiative in emergency situations.

Question: Is the number of DWAs in First Nations communities a good indicator of the quality of water?

Answer: Not on their own. DWAs are preventive measures to protect public health from waterborne contaminants that could be, or are known to be, present in drinking water. The number of DWAs in First Nation communities across Canada fluctuates, as is the case off reserve, as water quality is not static. DWAs may occur for reasons such as routine repairs, seasonal conditions such as high spring run-off, failures of the drinking water system or inadequate operation and maintenance. Although action is taken by the Government to help First Nations remediate the problems of DWAs as soon as possible, the Indian and Northern Affairs Canada's strategy focuses on the risk level of a system which indicates the "risk" or "chances" that a drinking water advisory might occur. High-risk systems have the highest risk of acquiring a drinking water advisory, thus are the systems that we focus on addressing first. It is essential that the underlying causes of advisories be addressed to improve the overall management of a system.

Plan of Action for Drinking Water in First Nations Communities

On March 21, 2006 the Minister of Indian and Northern Affairs Canada, along with the National Chief of the Assembly of First Nations, announced a [Plan of Action for Drinking Water in First Nations Communities](#). This action plan examined the multi-barrier approach of the First Nations Water Management Strategy, and placed added emphasis and action on expanding upon the key points that would have the most impact on reducing the risk ranking of water systems in First Nation communities. In addition, these activities would also address the recommendations made by the Commissioner of the Environment and Sustainable Development.

Specifically, in the Plan of Action, Indian and Northern Affairs Canada committed to the following activities:

- issuing a clear protocol on water standards;
- ensuring mandatory training and oversight of water systems by certified operators;
- addressing the drinking water concerns of all high-risk drinking water systems, starting with 21 priority communities that had both a high-risk drinking water system and a drinking water advisory in place as of March 21, 2006;
- creating an expert panel to provide options for a regulatory regime for drinking water on reserve; and,
- committing to future reporting on the progress of the Plan of Action for Drinking Water in First Nations Communities.

First Nations Water and Wastewater Action Plan

Building on the progress made under the *Plan of Action for Drinking Water in First Nations Communities*, on April 15, 2008, the Government of Canada announced a \$330 million two-year investment in the [First Nations Water and Wastewater Action Plan \(FNWWAP\)](#).

The FNWWAP extends most elements of the March 2006 Plan of Action including:

- water quality monitoring in accordance with the *Guidelines for Canadian Drinking Water Quality* (GCDWQ);
- investments in water and wastewater facilities;
- investments in the on-going operations and maintenance of water and wastewater systems; and
- funding for third party water and wastewater systems operation under the Safe Water Operations Program, when required.

The FNWWAP also introduced several enhancements, including:

- a national engineering assessment to determine the state of existing water and wastewater systems that provide services to First Nation communities. The assessment will propose solutions for every First Nation community in Canada;
- consultations on a new federal legislative framework for safe drinking water;
- doubling the funding for the Circuit Rider Training Program in an effort to increase the number of Circuit Rider trainers from the current level of approximately 44 to over 70;
- modification of existing policies and development of a protocol to facilitate investments in small water systems such as individual and community wells, trucked water, septic systems or agreements with neighboring municipalities to buy or provide water/wastewater services;
- investments in a National Wastewater Program whereby Health Canada will be inspecting community wastewater infrastructure project proposals from a public health perspective, inspecting community and onsite wastewater systems, monitoring wastewater effluent if there is a public health threat, providing advice on system decommissioning, and delivering public education and awareness activities;
- implementation of public awareness initiatives targeting First Nation leaders, administrators, and community members, which includes instructions on how to visually inspect and prevent contamination of individual wells;
- renewal of the integrated review process for water and wastewater infrastructure project proposals in First Nation communities; and,
- development of waterborne illness procedures.

Canada's Economic Action Plan includes a total of \$515 million over the next two years for First Nations community infrastructure projects. Of this investment, \$165 million will go towards building or upgrading 18 water and wastewater infrastructure projects on reserves. These accelerated projects will provide reliable water facilities which are essential to the health and safety of First Nation communities. A list of these projects is provided in Appendix B.

Progress on Water and Wastewater in First Nation Communities

The Government of Canada has made significant progress in cooperation with First Nations in the provision of drinking water to First Nations on reserve. The following section outlines activities that have resulted in a decrease of the number of high-risk drinking water systems from 85 in January 2008 to 48 in March 2009.

Protocols

The [Protocol for Safe Drinking Water in First Nations Communities](#) was issued in 2006. The *Protocol for Safe Drinking Water in First Nations Communities* contains standards for design, construction, operation, maintenance, and monitoring of drinking water systems in First Nations communities. Since its publication, Indian and Northern Affairs Canada completed a series of workshops with First Nations across the country to obtain feedback on the department's water protocols. Based on this feedback and comments from other stakeholders, the department is updating the *Protocol for Safe Drinking Water in First Nations Communities*. The revised version is improved based on the experience of two years of implementation, is more complete, and is more appropriate for implementation in First Nation communities.

In addition, the department is using the feedback to finalize the *Protocol for Treatment and Disposal of Wastewater in First Nations Communities* and to develop the *Protocol for Decentralized Systems in First Nations Communities*. The *Protocol for Treatment and Disposal of Wastewater in First Nations Communities* and the revised protocol on water standards mentioned above are anticipated to be released shortly.

Therefore, in summary, with respect to progress on protocols:

- workshops were held with First Nation technical organizations to discuss measures on implementation of the *Protocol for Safe Drinking Water in First Nations Communities*;
- improvements are being made to the water protocol, including the addition of Health Canada's *Procedures for Addressing Drinking Water Advisories*; and,
- the department is finalizing a protocol on wastewater treatment and developing a protocol on decentralized systems.

Ensuring Oversight of Water Systems by Certified Operators

Funding is provided to First Nations and First Nations technical organizations for the training of operators, the provision of certified oversight for facilities without certified operators, and for support of the Circuit Rider Training Program (CRTP). Since the fall of 2007, the number of First Nations water treatment operators who have achieved the first level of certification or greater has increased from 41% to 64% of all water operators.

The CRTP is a mentoring program to help First Nations operators properly operate and maintain their water and wastewater systems to ensure the provision of safe water and compliance with applicable standards. Circuit rider trainers (CRTs) provide on-site, hands-on training to First Nations operators on an as-

needed basis. CRTs also support 24-hour hotlines, which operators can rely on for advice both during normal operations as well as during emergencies.

The department has increased funding so that more CRTs can be hired to ensure CRTP services can be made available to all First Nations communities. Since January 2008, 14 additional Circuit Rider Trainers have been hired and more will be hired in 2009. There are currently 54 Circuit Rider Trainers providing operation and maintenance support to First Nations water operators.

When the support of the CRTP is deemed insufficient to ensure safe drinking water, such as when a system has an untrained operator, direct third-party oversight is provided through the Safe Water Operations Program (SWOP). In some areas, Circuit Rider Trainers provide the SWOP oversight while in others, it is undertaken by private sector service providers.

CRTP is provided through a variety of service providers (private companies, tribal councils, First Nations technical organizations). The CRTs often get involved in helping First Nations to co-ordinate the certification training of their systems operators. Sometimes, they also provide advice to Chiefs and Councils toward helping them understand their responsibilities. The department is working closely with CRTs and CRTP service providers to develop and disseminate best practices and training materials.

Both the Circuit Rider Training Program and the Safe Water Operations Program are being carefully coordinated to ensure the maximum benefit and oversight coverage for First Nations. As such, the combination of both the improved Circuit Rider Training Program, as well as the availability of the Safe Water Operations Program, will improve the capacity to mentor First Nations operators and to provide emergency and oversight support. This will help address risk ranking issues related to the operation of water systems, and provide safe drinking water that meets standards on a more consistent basis.

Therefore, in summary, with respect to progress on oversight:

- the number of certified First Nations water treatment operators has increased from 41% in the fall of 2007 to 64% in March 2009;
- the department has increased funding so that more Circuit Rider Trainers can be hired to ensure CRTP services can be made available to all First Nations communities; and,
- since January 2008, 14 additional Circuit Rider Trainers were hired for a current total of 54. More will be hired in 2009.

Address all High-Risk Drinking Water Systems, Starting with 21 Priority Communities

Improving drinking water systems identified as high risk will help to provide safe drinking water in First Nation communities. Reducing the risk level of a water system can be accomplished by addressing the deficiencies at any of the barriers, notably at the source water, the design of the system, the operation of the system, the training of the operator, and the monitoring and record keeping related to the system.

As of March 2009, there are only 48 identified high-risk drinking water systems remaining – a reduction of 37 since January 2008. From these, six were also identified as being among the priority communities announced by the Minister. Today, there are only four priority communities remaining. The community of Pabineau in New Brunswick and the community of Kingfisher in Ontario have been removed from the priority category since the risk level of their water system was reduced. We are continuing to work with the remaining four priority communities to address the remaining issues. Of these, Northwest Angle No. 37 has operation issues that will be addressed once certified oversight is in place. The other three communities, Kitigan Zibi Anishinabeg, Quebec, Shoal Lake No. 40, Ontario, and Muskrat Dam Lake, Ontario require the design and construction of a new system. The detailed progress for each of the 21 priority communities can be found in Appendix A.

As previously mentioned, the 21 priority communities were only the first to have remedial plans implemented out of all the communities with either high-risk drinking water systems or drinking water advisories. In March 2006, there were an additional 149 First Nation communities beyond the 21 priority communities that also had one or more high-risk community drinking water systems. There were also another 54 communities that had one or more drinking water advisories. In all, this meant that there were a total of 224 First Nations communities that had water issues that needed to be addressed.

Work on assisting these communities to address water issues has progressed very well. As of March 2009, 117 First Nation communities have water issues that need to be addressed, a drop of 107 communities over the past three years.

Therefore, in summary, with respect to progress on risk levels and priority communities:

- there are currently 48 high-risk community drinking water systems; this is down from the 85 high-risk systems as of the January 2008 progress report;
- two more priority communities, Pabineau in New Brunswick, and Kingfisher in Ontario, have been addressed by having the risk level of their water system reduced, therefore only four of the original 21 remain; and,

- there are 117 communities that still have high-risk community drinking water systems and/or drinking water advisories to be addressed; this is a decrease of 107 from the 224 communities (which included the 21 priority communities) at the time of the 2006 announcement.

Address all High-Risk Wastewater Treatment Systems

In March 2007, there were 67 high-risk wastewater treatment systems in First Nation communities. This number has decreased to 60 in March 2009. In the past few years, the department has focused the majority of its efforts to addressing high-risk drinking water systems as opposed to wastewater systems, as the former are the most likely to have a direct impact on health and safety. Appropriate measures are taken to address wastewater issues as they arise.

Health Canada has developed a National Environmental Public Health Program Framework and one of the activities related to wastewater is to inspect community and onsite wastewater disposal systems upon request or if there is a public health threat.

In addition, Indian and Northern Affairs Canada is drafting the *Protocol for Treatment and Disposal of Wastewater in First Nations Communities* that will be harmonized with the proposed Canada-wide Municipal Wastewater Effluent regulations. Furthermore, an independent national engineering assessment will be completed by 2010 and will identify the level of risk for all wastewater systems on reserves and propose solutions for the safe disposal of wastewater.

Drinking Water Monitoring and Wastewater:

Both the number of Health Canada-employed and First Nation-employed Environmental Health Officers dedicated to drinking water quality and the number of community sites with access to a Community-based Water Monitor have increased. In 2008, there were 575 community sites with access to a trained Community-Based Water Quality Monitor or an Environmental Health Officer, up from 272 in 2002. As of 2008, 90% of communities had access to portable test kits for on-site bacteriological analysis of drinking water and more water samples have been analyzed in an accredited lab than ever before. As of 2008, 44% of piped systems nationally met the recommended weekly monitoring and 37% of piped systems sampled biweekly or monthly for bacteriological parameters, compared to only 29% in 2002. In addition 74% had the recommended annual chemical test for piped systems.

Health Canada has developed drinking water advisory communication products which include public service announcements, posters and door hangers which provide clear information about what residents should do to protect their health if a drinking water advisory has been issued in the community.

Based on the National Framework for the review of infrastructure project proposals, Health Canada reviewed 13 water and wastewater project proposals from a public health perspective which included Manitoba, Ontario, Quebec and Atlantic regions.

As part of the National Wastewater Program, Health Canada completed the program framework and during the first year of this program, at least 342 on-site sewage disposal systems were inspected by Health Canada Environmental Health Officers.

Regulatory Regime for Water and Wastewater on Reserves

From May to July, 2008, Indian and Northern Affairs Canada officials, in collaboration with Health Canada, conducted information sharing sessions with regional First Nation organizations, as well as provincial and territorial government officials, in order to prepare for future engagement sessions with respect to the potential development of a legislative framework for drinking water and wastewater in First Nation communities. Officials from Environment Canada and the Assembly of First Nations attended many of these sessions. The information sharing sessions generated positive interest from regional First Nation organizations, First Nation communities and provincial/territorial officials.

In February-March 2009, the government held engagement sessions as part of a consultation process with First Nations, regional First Nations organizations, as well as provincial/territorial governments across Canada, on the proposed development of a legislative and regulatory framework for drinking water and wastewater in First Nation communities.

Discussions during the sessions were focused on the federal government's proposed option of incorporating by reference (reproducing) existing provincial/territorial regulations and adapting them, as required, to meet the needs of First Nation communities.

The government will continue to work with First Nations, regional First Nations organizations and provincial/territorial governments with respect to next steps towards the development of a legislative and regulatory framework to oversee water quality in First Nation communities.

Report on Progress

The first [progress report](#) was tabled to Parliament on December 7, 2006. A second progress report was tabled to Parliament on March 20, 2007. A third report was presented on January 18, 2008. The current report is the fourth report on water progress in First Nation communities.

Other Progress on Water

The Government of Canada is investing in projects that will provide lasting, sustainable benefits to First Nation communities. Canada's 2009 Economic Action Plan includes \$165 million for 18 water and wastewater projects just recently announced as part of the \$1.4 billion investment for Aboriginal peoples. These projects, such as lagoons and water treatment systems, will help ensure more First Nations have access to safe and reliable drinking water and wastewater systems. A detailed list of these projects is provided in Appendix B.

Because drinking water advisories are an important preventive measure to protect public health, research conducted by Health Canada determined that the communication of drinking water advisories in First Nation communities must be improved. Based on this research, Health Canada, in collaboration with Indian and Northern Affairs Canada and First Nations stakeholders, have developed the *Procedure for Addressing Drinking Water Advisories in First Nations Communities South of 60°* (Procedure). The Procedure was developed to provide guidance to Chiefs and Councils and other involved stakeholders on how to efficiently address the underlying cause(s) of a drinking water advisory after it has been issued. Communication and implementation of the Procedure to First Nation communities is underway. Information regarding drinking water advisories is available on Health Canada's website at the following address: http://www.hc-sc.gc.ca/fniah-spnia/promotion/water-eau/advis-avis_concern-eng.php#what_is

Environment Canada has been providing information on federal requirements related to wastewater effluent quality and environmental protection. Indian and Northern Affairs Canada has been working closely with Environment Canada, following the work on the proposed Canada-wide Municipal Wastewater Effluent regulations, and has been drafting a *Protocol for Wastewater Treatment and Disposal in First Nations Communities* that will be harmonized with the regulations. Additionally, Environment Canada has produced technical guidance materials which will help First Nations take action on source water protection and sustainable water use. These products are currently being reviewed and will eventually be incorporated into the *Protocol for Safe Drinking Water in First Nations Communities*.

Together, these three departments have also produced, with the help of the Assembly of First Nations and other First Nations organizations, the [*Water is a Treasure*](#) school kit. The activities in this kit will help increase awareness among First Nations children on the importance of clean and reliable drinking water, and encourage careers in the water sector. *Water is a Treasure* has been provided to Band, federal, or provincial operated schools nationwide, as well as Band Councils, Departments of Education, and various First Nation organizations.

Conclusion

In conclusion, the Government of Canada has continued to make solid progress for improving water conditions on reserve. The *First Nations Water and Wastewater Action Plan* provides added measures to address water issues in First Nation communities, including an additional investment of \$330 million over two years for its implementation. The government is moving forward on that plan with tangible results. In addition, Canada's Economic Action Plan includes a total of \$515 million over the next two years for First Nations community infrastructure projects including \$165 million for building or upgrading 18 water and wastewater infrastructure projects on reserves. These accelerated projects will provide reliable water facilities which are essential to the health and safety of First Nation communities.

Action Taken

- Investments increased for addressing high-risk drinking water and wastewater systems;
- Feedback obtained from First Nations technical organizations on implementation of the *Protocol for Safe Drinking Water in First Nations Communities*;
- Funding increased for hiring of more Circuit Rider Trainers; and,
- Engagement sessions, as part of a consultation process, held with First Nations, regional First Nations organizations and provincial and territorial governments, with respect to the proposed development of a legislative framework for drinking water and wastewater; and,
- Moving forward with the procurement process for the national engineering assessment of water and wastewater systems that provide services to First Nation communities.

Successful Results

- Reduction in the number of priority communities – only four of the identified 21 priority communities from 2006 remain on the list;
- Reduction in the number of high-risk drinking water systems from 85 to 48;
- Reduction in the number of high-risk wastewater systems from 67 to 60;
- Increased access to certified oversight of water systems; and,
- Increased percentage of certified water operators from 41% to 64%.

Future Action

- Continuing work to address high-risk drinking water and wastewater systems;
- Strengthening of the *Protocol for Safe Drinking Water in First Nations Communities*;

- Finalization of the *Protocol for Treatment and Disposal of Wastewater in First Nations Communities* and development of the *Protocol for Decentralized Wastewater in First Nations Communities*;
- Proceeding with a national assessment to review the current status of drinking water and wastewater systems providing services to First Nation communities and to look into alternative ways to provide safe drinking water to the entire community;
- Continuing the enhancement of the implementation of Health Canada's Drinking Water Safety Program in accordance with the *Guidelines for Canadian Drinking Water Quality*;
- Implementing a National Wastewater Program (Health Canada) which aims to reduce and prevent potential public health risks associated with wastewater;
- Implementing the integrated review process (Health Canada, Environment Canada and Indian and Northern Affairs Canada) for water and wastewater infrastructure project proposals in First Nation communities and continuing the review of these proposals from a public health perspective (Health Canada);
- Continuing development of awareness/educational materials related to drinking water and wastewater (Health Canada);
- Continuing to work with First Nations, regional First Nations organizations, provinces and territories with respect to next steps towards the development of a legislative and regulatory framework for drinking water and wastewater in First Nation communities.

The Government of Canada is committed to working in partnership with First Nations to increase confidence in the quality of drinking water. The investments in water and wastewater must be maintained and the facilities operated properly. This means making sure that all First Nations have the infrastructure, skills, information and support they need to manage their water effectively.

Appendix A

21 Priority Communities Progress Report

Atlantic

Pabineau

Pabineau, with a registered population of 227 people, 87 on reserve, is situated about 10 kilometres from Bathurst, New Brunswick. Its water problems date back to June 1, 2005 when a drinking water advisory was put in place because of equipment malfunction, which resulted in inadequate chlorination. Indian and Northern Affairs Canada evaluated the system in 2006 and determined that it was poorly designed.

Progress to date: Pabineau has been removed from the Priority Community category. On September 14, 2006, an agreement was reached between the Chief and Council and Indian and Northern Affairs Canada to install temporary individual treatment systems for each home and work towards the final solution of connecting to the municipal system of the city of Bathurst. Indian and Northern Affairs Canada met with the First Nation on June 12, 2007 where it was agreed that all homes on reserve not meeting the *Guidelines for Canadian Drinking Water Quality* would have individual treatment systems installed, both the homes on private wells and on the community system, and the pumphouse would be upgraded. The project is now complete and with the upgrades to the facility and the oversight of the operator in place, the risk level of the plant has been reduced from high to medium. The department continues to work with the First Nation through the oversight contract to ensure all operation and maintenance items are being addressed such as adequate chlorine residual levels in the distribution system and adequate certification of the operator. Also, through a maintenance contract, regular disinfection of reverse osmosis units installed in the homes is completed. For the long term solution for the water system, a 36 hour pump test was completed to evaluate the potential yield and water quality of the aquifer. The test results indicated there is adequate quantity and quality in the existing well to service the entire community. The First Nation is no longer looking at connecting to the municipal system of the city of Bathurst and has submitted a proposal for the long term solution to construct a water standpipe and chlorination/filtration building at the top of the reserve using the existing well as a water source with a cost estimate of \$3.6 million. The department is currently reviewing the proposal.

Woodstock

Woodstock, with a registered population of 813 people, 260 on reserve, is situated about five kilometres south of Woodstock, New Brunswick. Its water problems date back to March 1, 2005 when a drinking water advisory was put in

place because of inadequate chlorination resulting in unacceptable microbiological levels.

Progress to date: Woodstock has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the work that has been done. Houses in the community are not under a drinking water advisory. Since the installation of pre-filters and disinfection systems, there is no longer a drinking water advisory on the Woodstock Health Centre and canteen. However, the line is still on a drinking water advisory. In addition, the operator has achieved certification to the level of the plant.

Quebec

Kitigan Zibi Anishinabeg

Kitigan Zibi Anishinabeg, with a registered population of 2,707 people, 1,536 on reserve, is situated about 130 kilometres north of Gatineau/Ottawa, adjacent to the town of Maniwaki. Water problems were identified back in 1997.

Many homes and some community buildings are not connected to the community water distribution system of the Municipality of Maniwaki. These homes are serviced through individual wells which have been on a drinking water advisory since 1999 because of an unacceptable level of uranium in the groundwater. To address this problem, Indian and Northern Affairs Canada provides funding for the purchase and distribution of bottled water.

Progress to date: Kitigan Zibi Anishinabeg is still in the Priority Community category. The Municipality of Maniwaki completed recent upgrades on its community water system and since September 3, 2008, the quality of the drinking water distributed to Kitigan Zibi, Maniwaki and Déléage meets the provincial water regulation guidelines. Once a risk evaluation of the on-reserve drinking water distribution system is completed, the level of risk of the system should decrease. In 2008-2009, Indian and Northern Affairs Canada financed the extension and connection of 16 additional homes to the water distribution system of the Municipality of Maniwaki. Kitigan Zibi, in collaboration with Indian and Northern Affairs Canada, will undertake a new feasibility study in 2009 to explore solutions to connect more residences and community buildings to a community distribution system. Until a comprehensive solution is found, the advisory to not consume the drinking water from individual wells will remain in place. Indian and Northern Affairs Canada will continue to provide residents on individual wells with bottled water for drinking until a solution is found.

The new water distribution network for Kitigan Zibi Anishinabeg is part of the \$165 million for water and wastewater projects included in the \$1.4 billion investment for Aboriginal peoples under the Economic Action Plan. The project

will include development of municipal water and wastewater networks for the urban portion of the community.

Ontario

Shoal Lake #40

Shoal Lake #40, with a registered population of 526 people, 254 on reserve, is situated near Kejick. Its water problems date back to December 6, 2000 when a drinking water advisory was put in place because of equipment malfunction resulting in inadequate chlorination. Indian and Northern Affairs Canada evaluated the existing facilities and found that there have been problems with consistent operations dating back to 2000. Work started on May 5, 2003, when a project was initiated to construct a new water treatment plant, which would meet current regulations.

Progress to date: Shoal Lake #40 is still in the Priority Community category. The design phase of a new water treatment plant has been approved but has been placed on hold. Certified oversight, which would result in a lower risk ranking for the community, has been offered to the First Nation. However, to date, the First Nation has not responded. Indian and Northern Affairs Canada also held a workshop concerning certified oversight for all First Nations in the Bimose Tribal Council, which includes Shoal Lake #40, and representatives of the First Nation did not attend. Nevertheless, the department will keep encouraging the First Nation to take advantage of certified oversight services.

Constance Lake

Constance Lake, with a registered population of 1,449 people, 711 on reserve, is situated about 40 kilometres northwest of Hearst. Its water problems date back to November 18, 2005 when a drinking water advisory was put in place because of equipment malfunction. Indian and Northern Affairs Canada evaluated the plant and found the necessary operation and maintenance work was not being done.

Progress to date: Constance Lake has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the work that was completed to repair the equipment. The drinking water advisory was lifted in July 2006. A contract with the Ontario Clean Water Agency was signed in May 2006 to provide certified oversight. As a result, operation and maintenance of the facilities has improved. A water treatability study is underway to identify the long-term solution, as the present plant does not meet current standards. The study should be completed by May 2009.

Moose Deer Point

Moose Deer Point, with a registered population of 449 people, 143 on reserve, is situated on the O'Donnell Point peninsula in Georgian Bay north of Muskoka. Its water problems date back to 1998 when a drinking water advisory was put in place because of significant deterioration in the source water quality as well as

inadequate chlorination. Indian and Northern Affairs Canada evaluated the system and found that the necessary operation and maintenance work was not being done, and the pump houses were substandard.

Progress to date: Moose Deer Point has been removed from the Priority Community category. The drinking water advisory was lifted on December 19, 2007. Interim upgrades were also conducted on the pump houses. The First Nation also receives funding from the Ontario Region's Safe Water Operations Program to assist with the oversight of the water treatment system. The design for the new system is now complete and the effective project approval submission has been approved. The feasibility study is currently being updated and construction is expected to begin in the summer of 2009.

The new water system for Moose Deer Point is part of the \$165 million for water and wastewater projects included in the \$1.4 billion investment for Aboriginal peoples under the Economic Action Plan. The project will include construction of a new water treatment plant and repairs to existing infrastructure.

Northwest Angle No. 37

Northwest Angle No. 37, with a registered population of 336 people, 153 on reserve, is situated southeast of Kenora. Its water problems date back to 2002 when a drinking water advisory was put in place because of inadequate chlorination. Indian and Northern Affairs Canada evaluated the system and found that the chlorinator was malfunctioning, and there were problems with operation and maintenance work.

Progress to date: Northwest Angle No. 37 is still in the Priority Community category. A drinking water advisory is still in place. A service provider ORO (overall responsible operator) has been selected to provide certified oversight for the water treatment plant operation. Problems with the lake intake have caused high heterotrophic plate count and Health Canada recommends that the Drinking Water Advisory remain in place with the new small temporary water treatment plant installed.

Water sampling by Health Canada on November 25, 2008 shows results of high heterotrophic plate count with no E-coli present and chlorine levels of zero. The chlorine is being consumed by the background material in the water. A minor capital project is expected shortly to resolve the intake problems probably caused by the intake orientation. The capital planning study which is under way will define the parameters of a permanent water treatment plant.

Ochiichagwe'babigo-ining

Ochiichagwe'babigo-ining, with a registered population of 329 people, 109 on reserve, is situated north of Kenora. Its water problems date back to 2004 when a drinking water advisory was put in place because of equipment malfunction.

Indian and Northern Affairs Canada evaluated the system and found that the necessary operation and maintenance work was not being done.

Progress to date: Ochiichagwe'babigo-ining has been removed from the Priority Community category. Certified oversight is now in place, and the drinking water advisory has been lifted. In addition, a new water treatment plant was opened in November 2006. The risk level for this community has been reduced from high to low.

Kingfisher

Kingfisher, with a registered population of 461 people, 429 on reserve, is situated about 500 kilometres north of Thunder Bay. Its water problems date back to 2004 when a drinking water advisory was put in place because of equipment malfunction resulting in inadequate chlorination. The water system has been evaluated and it was found that the necessary operation and maintenance work was not being done.

Progress to date: Kingfisher has been removed from the Priority Community category. The relative risk associated with the Kingfisher Lake water treatment plant has been reduced due to an increase in the system reliability. This has resulted in more consistent acceptable treated water quality results. Certified oversight is also being provided in the community. In addition, work started on August 9, 2005 and continues with an upgrade to the existing water treatment plant. Commissioning of the new water treatment plant is scheduled to take place shortly.

Muskrat Dam Lake

Muskrat Dam Lake, with a registered population of 367 people, 213 on reserve, is situated in the Sioux Lookout District on the western shore of the Severn River. Its water problems date back to 2003 when a drinking water advisory was put in place because of inadequate chlorination and a high turbidity.

Progress to date: Muskrat Dam Lake is still in the Priority Community category. Indian and Northern Affairs Canada has worked closely with the First Nation to complete the construction of a piped sewer and water system that resulted in all of the community being connected to a piped system. A diesel station upgrade project is also underway to ensure the provision of a safe and reliable electrical supply. The First Nation's Technical Advisor at the Independent First Nations Alliance is developing terms of reference to undertake a water plant upgrade. Recent Health Canada test results indicate the water treatment plant is capable of producing good treated water within guidelines but presently lacks adequate chlorine. It is expected that certified oversight would result in a lower risk ranking and the removal of the drinking water advisory. As such, the Department has been, and continues to be, in discussions with the First Nation on implementing certified oversight. To date, the First Nation is reviewing the options to contract out services for the Safe Water Operations Program.

Wabigoon Lake Ojibway

Wabigoon Lake Ojibway, with a registered population of 530 people, 153 on reserve, is situated east of Dryden. Its water problems date back to September 2005 when a drinking water advisory was put in place because of equipment malfunction resulting in inadequate chlorination as well as high turbidity. Indian and Northern Affairs Canada evaluated the system and found that the necessary operation and maintenance work was not being done.

Progress to date: Wabigoon Lake Ojibway has been removed from the Priority Community category. The equipment has been repaired. In addition, the DWA removal procedures were completed by the community which resulted in the drinking water advisory being lifted. Indian and Northern Affairs Canada has offered to provide funding for certified oversight of water operations. The First Nation has selected Northern Waterworks INC. (NWI) as a service provider to provide certified oversight. A contract is currently being negotiated and, when in place, should result in a lower risk ranking.

Alberta

Dene Tha'

Dene Tha' has a registered population of 2,493 people with 1,799 on reserve. It is located 812 kilometres northwest of Edmonton and has three primary reserves that are occupied by community members. Water problems in the community of Chateh were identified in 2005 when drinking water advisories were put in place because of unacceptable turbidity or particle counts.

Indian and Northern Affairs Canada has evaluated the community water systems and determined that upgrades were required to the Chateh water plant and that operators needed training and certification. Long-term upgrades to the plant are being reviewed and work has been completed to address immediate needs.

Progress to date: The Chateh water plant at Dene Tha' has been removed from the Priority Community category, however, it still remains as a high-risk system. The DWA was lifted in March 2007.

A Request for Proposal (RFP) has been completed for the feasibility and design of a new water treatment plant. The design is underway and is nearing 98% completion. Construction cost estimates will be further clarified once final design is completed. Construction is anticipated to start in 2009-2010 and estimated for completion in 2010-2011.

Pilot testing was completed on the Chateh water plant and reviews have been completed to determine the long-term requirements. Construction was completed on a new raw water reservoir and the water intake pipe was also replaced.

Repairs were also completed on the existing water plant, fire pump and water main to optimize the existing plant.

Funding was identified to address the long-term requirements for a new water treatment plant and Chief and Council were informed of these developments. A feasibility study has recently been completed and the department has now identified funding for fiscal year 2009-2010 to complete the design of a new water treatment plant. More accurate cost estimates will be determined as the design stage progresses. The next phase would be to tender the project in fiscal year 2009-2010 subject to appropriation of funding.

The new water system for Chateh is part of the \$165 million for water and wastewater projects included in the \$1.4 billion investment for Aboriginal peoples under the Economic Action Plan. The project will replace the existing water treatment plant.

Driftpile

Driftpile, with a registered population of 2,232 people, 778 on reserve, is situated about 300 kilometres northwest of Edmonton. The community water concerns date back to May 2005 when a drinking water advisory was put in place because of unacceptable turbidity levels in the water distribution system.

Progress to date: Driftpile has been removed from the Priority Community category and the water system is now classified as low risk. A new water treatment plant was constructed and opened October 11, 2006. Once the new water treatment plant was in operation, the drinking water advisory was immediately lifted.

The two-year warranty period was due and a deficiency inspection took place in October 2008. Since then, the Alberta Region, the consultant and subcontractors have been working in partnership with the First Nation to correct identified deficiencies in the water treatment plant. The region continues to address an issue associated with increased levels of manganese.

The First Nations Technical Services Advisory Group (TSAG) of Alberta provides the Circuit Rider Training Program for the operators and also provides oversight for the water treatment plant systems. The primary operator is preparing to write his Level III Certification which is equivalent to the classification of the water treatment plant.

Frog Lake

Frog Lake, with a registered population of 2,409 people, 1,415 on reserve, is situated about 245 kilometres east of Edmonton. Its water problems date back to July 2005 when a drinking water advisory was issued because of equipment malfunction resulting in inadequate chlorination.

In fiscal year 2005-0206, the department evaluated the system and determined that plant repairs were required and had observed problems with the operation and maintenance of the systems. The department provided funding to the First Nation in fiscal year 2006-2007 to undertake the necessary repairs. The water intake pipeline was replaced in fiscal year 2006-2007.

Progress to date: Frog Lake has been removed from the Priority Community category since the repairs noted above took place and the risk level was reduced from high to medium. There is no drinking water advisory on the community water treatment plant at this time. A project to upgrade the water treatment plant, address deficiencies and optimize operations is expected to be completed by mid-spring. The Region, Contractor, First Nation and the First Nations Technical Services Advisory Group (TSAG) of Alberta are working to ensure safe drinking water is maintained, while working towards a feasibility study of best options for the First Nation for the long-term needs of the community. TSAG provides the Circuit Rider Training Program for the operators and provides oversight for the water treatment plant systems.

Due to low chlorine levels, a drinking water advisory was issued for the Morning Sky Wellness Centre on September 7, 2007. This is a Health Canada facility serviced by the community water system. The drinking water advisory will remain in effect until repairs to this system take place. The health facility is located at the end of a long distribution pipeline and the First Nation is working with a consultant to place a secondary chlorination system at this location in order to provide residual chlorine protection to this part of the community. This project is ongoing and the region continues to follow up on the progress of this upgrade.

A meeting with Chief and Council was convened on February 6, 2009 to review the status of the projects and to discuss issues associated with their water concerns. A water team has been formed with commitment from the Chief and Council, Health Canada and the department to work cooperatively and to jointly address the water issues in this community.

British Columbia

Semiahmoo

Semiahmoo, with a registered population of 77 people, 48 on reserve, is situated about 15 kilometres south of Surrey. Its water problems date back to October 2005 when the Drinking water advisory was put in place because of unacceptable microbiological quality. Indian and Northern Affairs Canada evaluated the situation and found that a chlorination system was needed. Officials also found that the First Nation had allowed some businesses and homes to be connected without a permit or an inspection, thus creating a potential source of cross contamination.

Progress to date: Semiahmoo has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the work that has been done and construction of the chlorination station. A service contract is in place with a utility company to operate and maintain the chlorination station. It is expected that the drinking water advisory will stay in place until the issue of unauthorized connections is resolved.

Shuswap

Shuswap, with a registered population of 230 people, 72 on reserve, is situated near Invermere. Its water problems date back to 2001 when the drinking water advisory was put in place because of inadequate disinfection or disinfectant residual and unacceptable microbiological quality. Indian and Northern Affairs Canada evaluated the system and found that the operator was uncertified and the wells had been disconnected. This meant the First Nation drew water from another water source, which was untreated.

Progress to date: Shuswap has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the work that has been done. The wells have been reconnected and the operator has been trained and certified. As a result, on November 9, 2006, the drinking water advisory was lifted, and the risk ranking was reduced.

Toquaht

Toquaht, with a registered population of 118 people, 10 on reserve, is situated near Ucluet. Its water problems date back to 2002 when the drinking water advisory was put in place because of inadequate disinfection or disinfectant residual, unacceptable microbiological quality and operational issues. Indian and Northern Affairs Canada evaluated the operation and found problems with the operation and maintenance work, no chlorination and that a new water source was required.

Progress to date: Toquaht has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the certification of the operator. A new groundwater source has been identified and it is expected that detailed design of a pump house and disinfection facility will commence shortly. Construction completion is anticipated in summer 2009.

Canoe Creek

Canoe Creek, with a registered population of 662 people, 120 on reserve, is situated southwest of Williams Lake on the east shore of the Fraser River. Its water problems date back to 1999 when the drinking water advisory was put in place because of inadequate disinfection or disinfectant residual, unacceptable microbiological quality and operational issues. Indian and Northern Affairs Canada evaluated the operation of the system and found that there was no disinfection and problems with the operation and maintenance work.

Progress to date: Canoe Creek has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the work that has been done. A new water treatment plant was completed in the summer of 2008 and the drinking water advisory was lifted.

Lake Babine Nation - Community of Fort Babine

Fort Babine is one of three Lake Babine Nation communities with a total registered population of 2,200 people with 250 on the reserve, situated 100 kilometres north of Smithers. Its water problems date back to 1999 when the drinking water advisory was put in place because of inadequate disinfection or disinfectant residual, unacceptable microbiological quality and operational issues.

Progress to date: Lake Babine has been removed from the Priority Community category. The risk level has been reduced from high to medium as the treatment plant was formally commissioned in April 2008 and the operator has achieved certification for both water treatment and water distribution. The treated drinking water currently meets all objectives of the Drinking Water Quality Guidelines. We are currently working with Health Canada to rescind the drinking water advisory.

Toosey

Toosey, with a registered population of 276 people, 141 on reserve, is situated about 200 kilometres south of Prince George. Its water problems date back to 2004 when the drinking water advisory was put in place because of unacceptable microbiological quality and operational issues. Indian and Northern Affairs Canada evaluated the operation of the system and found that the necessary operation and maintenance work was not being done.

Progress to date: Toosey has been removed from the Priority Community category. The risk level for this community has been reduced from high to medium due to the certification of the operator. Significant upgrades to the water system were completed in August 2008. As a result, Health Canada is currently working with the community to rescind the drinking water advisory. Indian and Northern Affairs Canada is working with the community to provide a new water treatment plant. It is anticipated this will be complete in 2010.

Yukon Office

Taku River Tlingit

Taku River Tlingit, with a registered population of 372 people, 83 on reserve, is situated in northern British Columbia. The community has two water systems, one piped system adjacent to the town of Atlin, and the other is a bulk water fill system at the 5 Mile. The 5-Mile and Townsite drinking water systems were identified as 'high risk' in the 2002 National Assessment citing deficiencies in system design, operator training and need for a back up operator, as the primary risk factors.

Progress to date: Taku River Tlingit has been removed from the Priority Community category. There is no longer a drinking water advisory in place for this community. The construction phase for both drinking water treatment plant upgrades began September 2007. The treatment plant commissioning is currently in progress. This will complete the required upgrades to bring the community's drinking water systems up to current Canadian standards. There are two certified operators on staff.

Appendix B

Canada's Economic Action Plan First Nations Water and Wastewater Projects

The Government of Canada is taking action to ensure First Nations have access to safe and reliable water and wastewater facilities by investing in 18 water and wastewater projects across the country. They are part of the \$165 million for water and wastewater projects included in the \$1.4 billion investment for Aboriginal peoples under the Economic Action Plan.

British Columbia

Tla-o-qui-aht First Nation Community Development Project

- Water supply update and new sewage collection system.

Kamloops First Nation Waste Water Collection System

- Installation of new sewer pipes and lift stations which will provide service to the existing 114 Band homes, an administration building, and the community's school.
- Wastewater collection system will also help to facilitate commercial and economic development opportunities on Kamloops First Nation's other lands.

Alberta

Whitefish Lake – Wastewater Treatment System

- Project will upgrade the waste water treatment system by replacing the non-functioning rotating biological contactor(RBC) and constructing a new lagoon. The Whitefish Lake wastewater system is a high-risk system.

Saddle Lake – Water Treatment Plant

- Water treatment plant in place has capacity issues and is no longer capable of meeting the *Guidelines for Canadian Drinking Water Quality* (GCDWQ). Project will replace existing water treatment plant.

Dene Tha' (Chateh community) – Water Treatment Plant

- Water treatment plant in place has capacity issues and is no longer capable of meeting the *Guidelines for Canadian Drinking Water Quality* (GCDWQ). Project will replace existing water treatment plant. Although Dene Tha' (Chateh community) has been removed from the Priority

Community category, it was one of the 21 Priority Communities identified in 2006 that had both a high-risk drinking water system and a drinking water advisory in place. The drinking water advisory was lifted in March 2007 but the system is classified as high-risk.

Saskatchewan

Black Lake First Nation New Lagoon Project

- Design and construction of a new sewage lagoon and decommissioning of the existing lagoon.

Fond du Lac First Nation New Lagoon Project

- Design and construction of a new sewage lagoon and decommissioning of the existing lagoon.

Manitoba

Pinaymootang First Nation Lagoon Project

- Design and construction of a new sewage lagoon and pumping station as well as decommissioning of the existing lagoon.

War Lake – Water Treatment and Sewage Treatment Plants Upgrade

- Design and construction of critical upgrades to existing water and sewage treatment plants.

Norway House Cree Nation – New Lagoon Project

- Design and construction of a new lagoon and associated works for the Norway House Cree Nation community.

Ontario

Moose Deer Point New Water Treatment Plant

- Construction of a new water treatment plant and repairs to current infrastructure. The water treatment plant, reservoir, and distribution system will connect three parcels of land which are separated by a wildlife nature reserve, providing safe, potable water to residents. Although Moose Deer Point has been removed from the Priority Community category, it was one of the 21 Priority Communities identified in 2006 that had both a high-risk drinking water system and a drinking water advisory in place.

Six Nations of the Grand River New Water Treatment Plant

- Construction of a new water supply and treatment plant sized to service the core area of the community, as well as future community growth.

Quebec

Kitigan Zibi Anishinabeg First Nation Global Water and Wastewater Project

- Development of municipal water and wastewater networks for the urban portion of the community. Kitigan Zibi Anishinabeg is one of the 21 Priority Communities identified in 2006 that had both a high-risk drinking water system and a drinking water advisory in place. It is still in the Priority Community category.

Betsiamites First Nation Water Source and Treatment Plant

- Identification of a new water source and rehabilitation of the treatment facility.

Kahnawake First Nation Water Treatment Plant and Reservoir Capacity

- Improve the water treatment and reservoir capacities to meet the needs of the community. Reservoir capacity will be increased significantly to meet health and safety requirements.

Nova Scotia

Wagmatcook Sewage Treatment Plant / Stabilization Pond Replacement

- Construction of a new extended activated sludge system to replace the existing stabilization pond serving the north side of the reserve. The existing sewage system is classified as high risk.

Newfoundland and Labrador

Natuashish First Nation Sango Water Intake

- Construction of new water intake piping system supplying water from a nearby river to a pumping station, providing a permanent water source for the community.

Sheshatshiu First Nation Sewage Treatment Plant

- Design and construction of a new mechanical sewage treatment plant.