

**Nunatsiavut
Regional Impact Document**

**ITK National Position Document
on
Canada-Wide Strategy for
Management of Municipal Wastewater Effluent**

Draft

January 29, 2008

1.0 Introduction and Overview

Sikumiut Environmental Management Ltd. (Sikumiut) was retained by ITK to coordinate a review by the Nunatsiavut communities of the proposed Regulatory Framework for Wastewater Treatment.

In compiling this response, information was collected through contact with the five Labrador Inuit communities which comprise Nunatsiavut, the portion of Labrador which was the subject of a recently settled Land Claims Agreement. Other sources of information included the Community Accounts website as well as the Municipal Plans for each community.

The communities comprising Nunatsiavut (Figure 1) are all located on the North Coast of Labrador adjacent to salt water. There are no road connections. Each community is accessible by air, with twin otter aircraft providing regular service from Happy Valley-Goose Bay to gravel airstrips adjacent to each community. During open water season (July - October) a marine coastal service provides less expensive transport of passengers and goods. Snowmobile trails connect Rigolet, Makkovik and Postville with Upper Lake Melville and the town of Happy Valley-Goose Bay. The total population of the North Coast is approximately 2 500, ranging between approximately 200 (Rigolet and Postville) and 1,000 (Nain). The communities are dominantly (90 – 95%) Inuit. The economies of the communities are based on renewable resources generally (fishing, hunting, wood harvesting) however mining and quarrying have become important contributors in recent years. Tourism is at a modest level, but is expected to grow, especially for Nain with respect to the Torngat Mountains National Park Reserve.

Community infrastructure includes gravel roads, a high proportion of government-built housing and severe limitations on services such as water and sewer. In most communities the soils represent a significant challenge – Hopedale sits on bedrock with minimal overburden; Nain has soils with clay lenses and poor foundation conditions. As a consequence the cost of installing and maintaining water and sewer collection systems tends to be extreme. No community has any form of sewage treatment; rather disposal is by marine outfalls to the adjacent harbour. Given the myriad challenges faced by the community governments, sewage treatment is not a high priority for any of the communities.

In preparing this material, two dominant and relevant themes emerge, neither of which is accommodated within the prescribed format for this report, hence these are noted as a preface to the document. For the coastal communities of Nunatsiavut, sewage treatment is not a high priority either currently or in the recent past. As a consequence, none of these communities have any form of sewage treatment. The systems in place provide only collection and transport of sewage to untreated marine outfalls. Secondly, the community government representatives do not feel that there has been an adequate

level of consultation on the scope of Environment Canada's Proposed Regulatory Framework for Wastewater and the CCME Canada-Wide Strategy for Management of Municipal Wastewater Effluent. Each community felt that a higher level of consultation is required in order for them to understand the proposed regulatory change and the implications for their community.

1.1 Administrative Context

The Labrador Inuit Constitution allows a two level governance structure in Nunatsiavut - the regional Nunatsiavut Government (NG), and five local or Community Governments in Nain, Hopedale, Makkovik, Rigolet and Postville. Nain is the administrative centre for the regional government, and Hopedale houses the Legislative Assembly.

The Assembly is considered a forum for policy and debate, and oversees the actions of the Executive Council, which in turn implements Inuit laws, develops policy, prepares legislation, and oversees government administration.

Each Community Government comprises an elected Inuit Community Council composed of an AngajukKak and Community Councillors. Each AngajukKak serves on the Nunatsiavut Assembly. The Community Government has the right to govern its own community affairs, and the responsibility for providing a variety of community services, including water and sewage.

The Department of Lands and Resources within the Nunatsiavut Government is responsible for water management, water rights and ocean management. Annual budgets (operating and capital works) for each community flow through Nunatsiavut Government by means of a Joint Management Committee comprising the Minister of Finance, the Deputy to the President and each AngajukKak. The administration of funds is in accordance with the Municipal Planning Act of the Province and funding is provided in accordance with the Fiscal Financing Agreement. A small proportion of each community budget is met through local taxes.

1.2 Regulatory Context

The Nunatsiavut Government has defined jurisdiction over Labrador Inuit Lands, including each Community. Within a broader land mass, (Labrador Inuit Settlement Area - LISA), NG is to be consulted by other Governments and can participate in regulatory decisions.

The Province of Newfoundland and Labrador has in place regulations regarding wastewater effluent standards under the *Environmental Control Water and Sewage Regulations (Water Resources Act)*. Each owner of a sewage collection, treatment and discharge system operates under license to the Province. The regulations establish

maximum discharge concentrations for selected constituents at the discharge point to any body of water

The communities of Nunatsiavut are all coastal and discharges are to the marine environment. The *Fisheries Act* applies to these discharges as the receiving waters are fish habitat.

Note that any agreement or protocol on a regulatory change affecting Labrador Inuit will need to include Nunatsiavut Government as a signatory. As well, the Land Claims Agreement includes a formal requirement to consult on proposed regulatory changes.

1.3 Financial Context

The Nunatsiavut Government receives funding from the Federal government, and this money is distributed to the community governments for programs and services. Other sources of revenue include transfers of (federal and provincial) Income taxes from all residents of Nunatsiavut and registered Beneficiaries. The Nunatsiavut government also receives a portion of royalty revenue from subsurface mining within Labrador Inuit Lands (The Voisey's Bay Mine and Mill). A Trust Fund has been established to administer this income.

2.0 Region and Communities

The North Coast communities have all shown population growth, however this is not always reflected in Census data. In some cases, communities have completed their own census and these efforts have been regarded as providing more reliable information. As well, even in communities with declining populations, household population sizes have also decreased resulting in a continued rise in demand for housing. Not surprisingly therefore, the provision of suitable serviced lots and quality housing have been high priorities for all of the Nunatsiavut communities.

While each community has an approved Municipal Plan, some are quite dated, hence contact was made with each community government to provide updated profiles relevant to this assessment. The collected information is summarized in tables provided in Appendix A to this report.

2.1 Table of Communities, current populations and growth

Table 2: Populations and growth by community for 1991-2006

Community	1991	1996	2001	2006	Growth
Hopedale	515	591	559	530	2.9%
Nain	1069	996	1159	1034	-3.4%
Postville	231	223	215	219	-5.2%
Makkovik	370	367	384	362	-2.2%
Rigolet	334	259	317	269	-20.1%

Source: Statistics Canada:

<http://www12.statcan.ca/english/census06/data/profiles/community/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=1011010&Geo2=PR&Code2=10&Data=Count&SearchText=Nain&SearchType=Begins&SearchPR=10&B1=Population>

The Town of Nain was incorporated in 1970, however the community has a much longer history as a Moravian missionary station dating back centuries. The current Municipal Plan encompasses an area of 28 Km² plus an adjacent Protected Public Water Supply (Nain Brook and Anaink's Pond). The Municipal Plan is based on a population growth rate of 50% over the planning period (2003 – 2013). The provision of serviced lots and the construction of adequate dwellings is the main challenge facing the town.

The Town of Hopedale was incorporated in 1969, however the community has a much longer history dating back to around 1600 A.D.. A Moravian missionary station was established in 1782 and administered the community until around 1926. The town is severely challenged by a lack of suitable building land. Some areas are also of concern as a legacy of past military usage and potential soil contamination. The current Municipal Plan (2005 – 2015) is based on a projected population growth of 19% and a demand for 71 new dwelling units. The priority challenges include expansion and quality improvement of the existing water supply, extension of the road and sewage collection system, recreational and community service improvements and contaminant remediation. There is also recognition that water quality in the harbour needs to be improved through such actions as consolidation of sewage outfalls.

The Town of Postville was incorporated in 1975, however the community has a much longer history as a trading post. The current Municipal Plan encompasses an area of 1250 ha, which includes the public water supply (Big Pond). The developed area of the town covers 24 ha. The Municipal Plan is based on a modest annual population growth rate of 1% over the planning period (2003 – 2013). A recent increase in mineral exploration activity in the Central Mineral Belt region of Labrador has led to a dramatic increase in demand for temporary housing and services that were clearly not anticipated when the Municipal Plan was last revised (2003). The provision of a modest number of serviced lots and the replacement of older homes is the main challenge identified in the Plan.

The Town of Makkovik was incorporated in 1970. However, the community has a much longer history dating to 1860 when a Norwegian immigrant established a trading post. In 1896 the Moravians selected Makkovik as their most southerly mission station. The current Municipal Plan (2007–2017) encompasses an area of 1600 ha, which includes the municipal water supply at Ranger Bight Pond. At present Makkovik is a fishing centre with a fish plant that attracts workers to the community for seasonal work in fish processing. The Municipal Plan is based on an population growth rate of 25% over the planning period (2003 – 2013). The provision of serviced lots and the construction of adequate dwellings is the main challenge facing the town. Other demands are for a multi-use community centre to provide recreational and meeting services.

The Town of Rigolet is the southernmost Inuit community in Nunatsiavut and was incorporated in 1977, however the community has a much longer history of Inuit occupancy and more recent establishment of a French trading post in the early 1800s. The community is located on the banks of the Narrows between Groswater Bay and Lake Melville, an area that has high tidal currents and does not freeze over in winter. The current Municipal Plan (2005–2015) encompasses an area of 343 ha, which includes part of the municipal water supply at Rigolet Pond. While Rigolet is a fishing centre, there is no processing facility in the community and most jobs are in the service and administration sectors. The Municipal Plan is based on a modest population growth rate of 1.5% over the planning period (2003 – 2013) accompanied by a decrease in household size, with a resulting increase in demand for housing. . The provision of serviced lots and the construction of adequate dwellings is the main challenge facing the town. Other demands are for a multi-use community centre and for a strategy to develop the tourism potential of the community.

2.2 Map showing location of communities



Figure 1: Labrador showing Nunatsiavut Communities – Nain, Hopedale, Postville, Makkovik and Rigolet.

2.3 Community Built Environment

Most of this information was obtained from Community Accounts, and the Nunatsiavut Government website. Residential information was obtained from Census data (2006).

Nain

According to 2006 Census data, Nain had a population of 1034. This data reports there being 335 total private dwellings, but only 270 of those were occupied by usual residents of the community. Of the total occupied dwellings, 81.5% of those were single detached houses, 7.4% semi-detached, and 7.4% were row housing. 180 were owned, and 90 were rented by the occupants. Approximately one third of these dwellings were reported as needing major repair.

Nain has a ferry terminal and dock, a primary and a high school, an indoor ice rink, a clinic and an airstrip. A fish plant is operated seasonally (maximum July - October) by Torngat Fish Producers Co-operative. Nain also has a variety of businesses including a 26 room hotel, a coffee shop; diving company; bulk fuel storage facility; two convenience stores; several boarding houses; three retail outlets; and small contracting companies offering home office services, construction, heavy equipment, heating, plumbing, electrical, trucking, logistics/expediting and boat charters. Nain is headquarters for the OkalaKatiget Society (radio and television) and for Parks Canada staff assigned to the Torngat Mountains National Park Reserve. The community is administration headquarters for Nunatsiavut Government and a new office building is in progress.

The anorthosite quarry at Ten Mile Bay is a short distance from Nain, and is operated by the Labrador Inuit Development Corporation.

Hopedale

In 2006, Hopedale had a population of 530, with a total of 181 private dwellings, and 151 of those dwellings were occupied by permanent residents of the area. Most of the occupied dwellings (86.7%) were single detached houses, and 6.7% were apartment buildings. Most of the houses (90) were owner-occupied; the rest were rental units. Major repairs were needed for 36.7% of these houses.

Hopedale has a museum, three retail outlets including a gift shop, a grocery store, and a take-out restaurant. It also contains an Inn, which has 11 guest rooms, a restaurant, and a bar.

Postville

In 2006, Postville had a reported population of 219, and 87 private dwellings. 70 of these dwellings were reported as being occupied by usual residents of the community. Of the total occupied dwellings, 92.9% were single detached houses; 40 were owned, and 30 were rented by the occupants. Of the occupied houses, 21.4% were reported as needing major repair.

Postville has a school, airstrip, ferry terminal, two variety stores, one general store; a 5-room hotel; and a craft centre.

Makkovik

The population of Makkovik in 2006 was 362, with a total of 130 private dwellings. 120 of these dwellings were occupied by permanent residents of Makkovik. 95.8% of the total occupied dwellings were single detached houses. Seventy were owned, and 45 were rented by the occupants. 29.2% of the total occupied houses were reported as needing major repairs.

Makkovik has a school, airstrip, ferry terminal, museum and marine service centre. A main source of employment is the fish plant operation, Other community features include a local craft shop, a small museum, two churches, an inn with food and bar service, and several boarding houses.

Rigolet

In 2006, Rigolet had a total population of 269, with 125 private dwellings. Only 90 were occupied by usual residents of Rigolet, and 100% were single detached houses. Half of the occupied dwellings were owned, and half were rented by the occupants. An estimated 27.8% of the dwellings were reported as needing major repairs. Rigolet has a school, airstrip, ferry terminal, museum 3 retail stores, and a 7-room Inn which provides food and lodging.

Sources: *Nunatsiavut.com* and *Community Accounts* (www.communityaccounts.com)

2.4 Community Natural Environment

The North Coast communities share a maritime climate, with cool summers and cold winters. The extent of southward drifting Labrador pack ice has a dominating influence on weather conditions as well as marine travel. In late ice seasons, cold conditions, often accompanied by fog and reduced visibility, persist into early summer and the seasonal shipping season can be delayed until well into July. Ice in the form of landfast ice, pack ice and icebergs is present year round.

The most northerly community, Nain is at the mouth of a small river valley surrounded by a rugged land area with peaks of up to 264 m in the vicinity of the town. The community faces Unity Bay and the North Atlantic Ocean.

The community of Hopedale is located on rocky terrain with both borrow material and vegetation at a premium.

Postville is located inland of the coast along the rolling topography of the north shoreline of Kaipokok Bay where the raised shoreline provides porous sand and gravel overburden, generally suitable for development. The region provides terrain suitable for tree growth and a supply of wood fibre is available for industrial use.

Makkovik is along the coast just south of Kaipokok Bay in Makkovik Harbour and the setting for the community is characterized by rising terrain to a surrounding ridge that tends to contain development. The community's central area, with more soil and flatter terrain is better suited to habitation. However, there is little space for expansion or development within this area. The surrounding terrain has little overburden and consists of many bedrock outcrops.

The community of Rigolet is located on steep terrain with the lower land experiencing severe drainage conditions. The town is severely challenged by the lack of suitable land for development.

2.4 Community Socio-economics

The communities of Nunatsiavut are all dominantly Inuit, however the lengthy influence of European contact is evident in many ways, not the least of which is the relatively low use of Inuktitut.

Through a survey conducted amongst community councils as background to the preparation of this document, information was solicited on the relative importance attached to sewage treatment and community attitudes towards the existing disposal systems. The results are presented in tabular format in Appendix A.

3.0 Wastewater Technology

None of the Nunatsiavut communities have any form of treatment systems in place for wastewater. All provide marine outfalls and rely on the marine environment to absorb the discharges. Generally, residents refrain from fishing in the community harbour or near outfalls. In planning the sewage collection systems, an effort was made to limit the number of outfalls to a single location. This has resulted in the inclusion of pumping stations in most municipal systems. For some communities (e.g. Hopedale) the conditions are such that multiple outfalls were necessary.

Appendix A provides summary descriptions of each community system, O&M costs are reported, a description of the challenges for maintaining the sewage systems, and any associated monitoring and reporting activities. Although each community is licensed by the Province to operate a sewer collection system, there are no monitoring or reporting requirements in place or implemented.

4.0 Meeting Future Needs for Wastewater Treatment

Since there are no treatment systems present in any of the Nunatsiavut communities, no training is available for maintenance or operation. The Province has taken measures to provide training related to servicing the water supply and sewage collection systems, including pumping station operation, outfall maintenance and the like.

4.1 Training Needs for Operators

Certification is not yet required for operation or maintenance of sewer systems in Newfoundland and Labrador. However, the Department of Environment and Conservation does make training attainable and offers a few different types of training for operators of systems within Newfoundland and Labrador. Educational seminars are offered in 20 different towns throughout the province, and usually do not require those interested in attending to travel very far (less than 50 km). On-site training is also provided, which gives the operators one-on-one, hands on training in their own facility. There are 3 mobile training units based out of St. John's, Grand Falls-Windsor and Corner Brook which travel to different areas for training. Certification exams are also offered and arranged by the Department of Environment and Conservation, which allows operators to attend special courses and receive certification. Unfortunately, given their isolated location, access to this training is a real problem for communities on the North Coast of Labrador.

Source: Guidelines for the design, construction & operation of water and sewage systems from the Department of Environment and Conservation (gov.nl.ca website).

5.0 Conclusions

In preparation for this workshop, Sikumiut organized a teleconference with participation from each community government as well Nunatsiavut Government (Dept. of Lands and Resources – Marina Biasutti-Brown).

Each community representative identified their overall concerns with respect to the proposed Canada-Wide Strategy for Management of Municipal Wastewater Effluent. Many of these issues were shared; hence the following list is not assigned to any single community:

- **Finances** is an important issue – where will money come from to complete the Risk assessment, to build and maintain the required systems, to train workers and to provide support for the required monitoring.
- How and by whom will the required **training** be provided.
- The **consultation** carried out to date has not been adequate. More consultation is required to deal with the large amount of information provided. This should be a face-to-face process. The requirements to consult as laid out in Section 5.5.5 of the the Labrador Inuit Land Claims Agreement will need to be respected, as the process being facilitated by ITK does not fulfill this obligation
- How and when to complete the **risk assessment** is not clear.

Each community was then asked what level of priority they had assigned the issue of sewage treatment.

For **Postville**, sewage treatment is not a capital works priority. The lack of attendance at the EC meetings may be due to the low level of priority that sewage treatment has for the community.

In **Rigolet**, sewage treatment is not on the priority list now. Even the completion of the risk assessment stage of regulation implementation would be a challenge.

For **Makkovik**, sewage treatment is not currently a priority, but may need to be put on the 5 year priority list.

At **Hopedale** it is not a priority at present but should be on the list. There would be enormous challenges given the need to collect the sewage in one place and the lack of overburden (all bedrock) in the community.

It was noted that, for **Nain**, sewage treatment is in the five year plan but it has been there for ten years and is at the bottom of the list. Where to place a plant and how to put it in place is a big problem.

In summary, the teleconference participants agreed that this issue would only become a priority as a result of the regulation change, not based on community priorities.

Some discussion then centered on the consequences for a community should they be unable to afford sewage treatment; for example, would they be forced to shut down the existing systems?

The Environment Canada slide presentation on the Canada-Wide Strategy indicates that once a system has been worked on, it will be expected to comply with the regulations. Does this mean that works such as repair to a section or adding lines to the existing community systems would cause the regulation to apply for the entire system (including effluent standards)?

At the Nunatsiavut Government level, there are many environmental issues to be addressed for the region, both as a result of concerns voiced by its beneficiaries and as tasks laid out for the implementation of the Labrador Inuit Land Claims Agreement. These include remediation of contaminated sites (legacy sites), regulation of industrial operations and mineral exploration activities, and environmental policy development. Few issues have come forward with respect to waste water treatment or untreated sewage in the communities. i.e. this appears to be a low priority issue based on feedback to Nunatsiavut Government.

The summary of the message to come from the communities was:

- The process of consultation should be continued. More information is required.
- A recurring question is how to finance the community participation in this process.
- Another is how to provide the needed training associated with this program, especially for the risk assessment work
- The technology for sewage treatment must be suitable, i.e. functional within the physical and social realities of the communities.
- The applicable requirements of the Labrador Inuit Land Claims Agreement must be met by the Federal and Provincial Governments.
- A better understanding is required as to how federal regulations will be enforced at the community level.

The communities all expressed concern as to how they would reconcile this anticipated requirement with the other higher community priorities.

Appendix A

Community Profiles

Nain

Hopedale

Postville

Makkovik

Rigolet

January 2008 as completed by Community Government Respondents

Nain	
Category	Item
Demographics	Population Number of households Trend
Municipal Infrastructure	Proportion of community population serviced with sewer system. Number of households with water and sewer Number of households with water only Number of households with sewer only
Industry Users	Industrial users in the community Description Sewage Service
Capital Works	major capital works planned in the next five years plans for sewage treatment installation or upgrade Priority Rank
O & M	Annual budget for the community Proportion spent on maintaining the sewage system Main challenges for maintaining the sewage system
Sewage Treatment	Treatment System Compliance status re. Water and Sewer Regulations of the Province Availability of monitoring results Number and location of outfalls. Pumping stations Community concerns about sewage outfalls and their effects Worker training in sewage system maintenance or in sewage treatment systems.

Source: Sarah Erickson Town of Nain, Jan 11, 2008

Hopedale	
Category	Item
Demographics	Population Number of households Trend
Municipal Infrastructure	Proportion of community population serviced with sewer system. Number of households with water and sewer Number of households with water only Number of households with sewer only
Industry Users	Industrial users in the community Description Sewage Service
Capital Works	major capital works planned in the next five years plans for sewage treatment installation or upgrade Priority Rank
O & M	Annual budget for the community Proportion spent on maintaining the sewage system Main challenges for maintaining the sewage system
Sewage Treatment	Treatment System Compliance status re. Water and Sewer Regulations of the Province Availability of monitoring results Number and location of outfalls. Pumping stations Community concerns about sewage outfalls and their effects Worker training in sewage system maintenance or in sewage treatment systems.

Source: Judy Dicker Town of Hopedale, Jan 09, 2008

Postville	
Category	Item
Demographics	Population Number of households Trend
Municipal Infrastructure	Proportion of community population serviced with sewer system. Number of households with water and sewer Number of households with water only Number of households with sewer only
Industry Users	Industrial users in the community Description Sewage Service
Capital Works	major capital works planned in the next five years plans for sewage treatment installation or upgrade Priority Rank
O & M	Annual budget for the community Proportion spent on maintaining the sewage system Main challenges for maintaining the sewage system
Sewage Treatment	Treatment System Compliance status re. Water and Sewer Regulations of the Province Availability of monitoring results Number and location of outfalls. Pumping stations Community concerns about sewage outfalls and their effects Worker training in sewage system maintenance or in sewage treatment systems.

Source: Postville AngajukKak Keith Decker , Jan 14, 2008

Makkovik	
Category	Item
Demographics	Population Number of households Trend
Municipal Infrastructure	Proportion of community population serviced with sewer system. Number of households with water and sewer Number of households with water only Number of households with sewer only
Industry Users	Industrial users in the community Description Sewage Service
Capital Works	major capital works planned in the next five years plans for sewage treatment installation or upgrade Priority Rank
O & M	Annual budget for the community Proportion spent on maintaining the sewage system Main challenges for maintaining the sewage system
Sewage Treatment	Treatment System Compliance status re. Water and Sewer Regulations of the Province Availability of monitoring results Number and location of outfalls. Pumping stations Community concerns about sewage outfalls and their effects Worker training in sewage system maintenance or in sewage treatment systems.

Source: Town Manager, Makkovik , Jan 08, 2008

Rigolet	
Category	Item
Demographics	Population Number of households Trend
Municipal Infrastructure	Proportion of community population serviced with sewer system. Number of households with water and sewer Number of households with water only Number of households with sewer only
Industry Users	Industrial users in the community Description Sewage Service
Capital Works	major capital works planned in the next five years
O & M	plans for sewage treatment installation or upgrade Priority Rank Annual budget for the community Proportion spent on maintaining the sewage system Main challenges for maintaining the sewage system
Sewage Treatment	Treatment System Compliance status re. Water and Sewer Regulations of the Province Availability of monitoring results Number and location of outfalls. Pumping stations Community concerns about sewage outfalls and their effects Worker training in sewage system maintenance or in sewage treatment systems.

Source: Sarah Blake, Town of Rigolet, Jan 11, 2008