

# Draft Summary Report Executive Summary

**Regional District of  
Kitimat-Stikine**

**Lakelse Lake/Jackpine Flats  
Stage 2 LWMP**

**November 2006**



**Associated  
Engineering**

*GLOBAL PERSPECTIVE.  
LOCAL FOCUS.*

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# Executive Summary

## 1 INTRODUCTION

The Regional District of Kitimat-Stikine (RDKS) initiated the Lakelse Lake/ Jackpine Flats liquid waste management plan (LWMP) because of concerns about the potential for domestic wastewater negatively impacting the water quality in the lake. There were signs of increased weed growth, perhaps due to nutrients from wastewater, and it was known that many of the septic systems around the lake are within the 1 in 200 year flood plain and/or a 30 m minimum set-back distance from the lake. In addition, there were concerns about the impact of humans and farm animals residing in the Jackpine Flats area potentially causing impacts on the groundwater quality in the area and, by connection, Sockeye and Williams Creeks that drain into Lakelse Lake. As a result, the three stage LWMP process was initiated. Stage 1 was completed in February 2005. Stage 2 started in late spring 2005. This report summarizes the findings and recommendations that have developed out of the Stage 2 tasks outlined at the end of Stage 1.

Stage 2 has involved investigations and writing of several technical memoranda (TMs) and/or reports. These TMs have been presented to and reviewed by RDKS staff, a technical advisory committee (TAC) and a public advisory committee (PAC). The tasks of Stage 2 have included the following:

- Review of the New Sewerage Regulation affecting on-site system installations
- Review of Lot Size and Density and Land Use Zoning Bylaws
- Review of RDKS Investigations of GIS Map Requirements for Septic Tanks and Water Wells in the Study Area
- Investigation of Procedures to Bring Non-compliant Systems Back Into Compliance
- Review of the RDKS's Well Head Protection and Septic System Education Programs
- Investigation of Water Quality Monitoring and Data Management Program
- Investigation of Programs for Managing On-site Treatment Systems
- Review of the Septic Tank and Disposal Field Flood Plain Setbacks
- Identification of Areas of Concern that Need Cluster or Communal Treatment
- Investigation of On-site Treatment Options Including Those Used in Ontario
- Investigation of On-site Versus Cluster-type Treatment Schemes
- Investigation of Water Supply Options
- Investigation of Options to Partner with the Provincial Park or Private Firms
- Review of the Current Septic Tank Disposal Trench Designs
- Development of a Strategy to Deal with Older Jackpine Flats Disposal Fields

Most of these tasks were addressed by Associated Engineering. Some of them were addressed by the RDKS directly or through third parties, e.g. a professional land use planner. Associated Engineering's work was completed through eight (8) technical memoranda (TM). A review of the contents of these TMs follows and the other reports is contained in the summary report.

## 2 STAGE 2 CONCLUSIONS

Based on the information discussed in the summary report, the following conclusions are put forward:

- Lakelse Lake is a regional amenity that is used not only by those who reside at the Lake but by tourists and the residents of Terrace, Kitimat, Prince Rupert and the RDKS.
- Lakelse Lake water quality is at some risk from increased human activity around the Lake including, but not limited to, the direct or indirect discharge of partially treated sewage to the Lake.
- As a regional amenity, the RDKS has the obligation to help protect the water quality of the Lake regardless of levels of concern and actions taken or not taken by Federal or Provincial Ministries whose mandate the Lake is within.
- There are areas around the Lake that are serviced by septic systems that are inappropriately located in the flood plain and/or are too close to the Lake and could not be constructed as they are under the new Sewerage System Regulation.
- Areas with the highest density of these inappropriately-located septic systems include 1st Avenue North and South, including Kreston and Kroyer and the Snowy Owl resort on the east side of the Lake, and along Beam Station Road west of Mailbox Point, and the lots adjacent to DL 5137 and DL 5138 on the west side of the Lake.
- Some Jackpine Flats lots have septic fields that have inappropriately quick percolation rates and could not have been constructed as gravity distribution systems under the new Sewerage System Regulation.
- Solutions to these problems include cluster and/or communal wastewater treatment for areas around the Lake and improved on-site treatment and/or trench design and/or retrofits for the Jackpine Flats area.
- Cluster or communal wastewater treatment on the east side of the Lake would be more cost effective (cost less) on a per lot basis than individuals trying to comply with the new Sewerage System Regulation on their own.
- Communal piped water supply for domestic purposes (not firefighting) for both the east and west sides of the Lake, is more expensive than bottled water supply (for drinking purposes only), at least at present (due to lower numbers of connections). Future conditions could favour piped water supply on the east side but bottled water would still be less expensive on the west side of the Lake.
- Communal piped drinking water supply for the 1<sup>st</sup> Avenue area on the east side of the Lake could possibly be more affordable if the level of water supply included the ability to

fight fires which should allow insurance premiums for homes and cabins in the area to decrease.

- The Provincial Park Campground wastewater system would be less expensive if the Park built their own septic system; however, the effluent quality and the Lake stewardship would be better served if the Park joined with the RDKS in a 1<sup>st</sup> Avenue communal wastewater collection and treatment system.
- If the RDKS decided that a on-site septic system management program was appropriate, it should either follow the Capital Regional District's "Private-Private" model and only be involved in the licensing and record keeping or it could also take on the implementation of inspection and pump-outs as per the Private-Public model.

### **3 STAGE 2 RECOMMENDATIONS**

Based on these conclusions, the following recommendations are put forward for consideration and action in Stage 3:

- The RDKS should investigate the means to provide some form of wastewater treatment or septic system management for all areas around Lakelse Lake at the same cost per lot regardless of whether that lot remains on on-site septic or is served by a cluster-type septic treatment or a communal wastewater collection and treatment system.
- A schedule should be developed in Stage 3 for the compliance of non-complying septic systems, i.e. a five year grace period to allow alternative treatment systems to be selected and implemented around the Lake and in Jackpine Flats.
- In conjunction with senior government, i.e., Ministry of Health and Ministry of Environment, a means of ensuring compliance within the five year period, such as a septic system auditing program and the use of the Sewerage System Regulation to condemn non-complying properties or fines, should be investigated for implementation.
- The RDKS should develop and formalize requirements for improved wastewater treatment in the Jackpine Flats area including the Sewerage System Regulation's requirement for Type 2 (secondary treatment) or slow percolation septic tank disposal fields in the Jackpine Flats through the passing of a bylaw that outlines the RDKS's requirements even if they are beyond guidelines in the Sewerage Regulation Standard Practises Manual.
- The RDKS should implement a larger minimum lot size for Lakelse Lake properties remaining on septic, e.g. to 2300 m<sup>2</sup> to 3000 m<sup>2</sup> minimum instead of the current 1700 m<sup>2</sup>, in a revised land use Bylaw.
- Steps should be taken to immediately promote communal wastewater treatment for the 1<sup>st</sup> Avenue area, including Kreston and Kroyer Streets, on the east side of the Lake. This would take many lots out of the inappropriate situation they are in now with respect to

flood plain and/or set-backs from surface water and decrease the potential for pollution of the Lake.

- The RDKS should encourage Parks to partner with the RDKS in the development of a 1<sup>st</sup> Avenue community sewer and wastewater treatment in order to further improve the treatment of the Parks wastewater. This would alleviate the need for the Park to take down hectares of trees to provide the improved treatment and disposal system on their own.
- Steps should be taken to encourage the development of a cluster treatment system, for the septic systems along Beam Station Road to the west of Mailbox Point, and for specific areas in the vicinity of DL 5137 and DL 5138 on the west side of the Lake.
- The RDKS should continue mapping the location of septic tanks and water wells in the Jackpine Flats area to ensure that drinking water wells are protected from pollution from septic tanks and/or animals on the properties.
- The RDKS and the BC Ministry of Environment should continue sampling selected wells in the Jackpine Flats area to ensure that there is no change to the current situation, i.e., very little if any septic tank impacts on the ground water.
- The RDKS should consider implementing an on-site treatment management program based on either the Private-Private model that is used by the Capital Regional District (CRD) or a Private-Public model in which the RDKS would provide contracted inspection and pump-out services at a fixed cost on a regular, e.g., once per three or four year, basis.

In addition to the above, Michael Rosen, MCIP, of Michael Rosen & Associates, Planners, put forward the following recommendations for consideration:

- Develop an OCP for the Jackpine Flats/Lakelse Lake area
- Develop a separate bylaw re: keeping of animals (targeted for Jackpine Flats)
- Amend Bylaw 57 re: minimum lot size, preventing creation of narrow lots
- Develop Lakeshore Development Guidelines
- Institute a "Siting and Use" permit system
- Develop a Subdivision Servicing Bylaw with minimum standards and requirements