

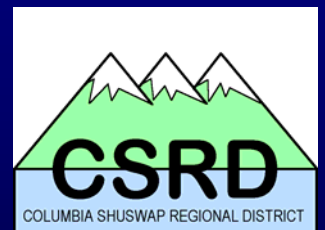
# ***FINAL REPORT***

*for the*

*Columbia Shuswap  
Regional District*

***Liquid Waste Management  
Plan***

***Seymour Arm - Stage 3  
Report***



0476.0077.02 / March 2009

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March 18, 2009

File: 0476.0077.03

Columbia Shuswap Regional District  
PO Box 978  
781 Marine Park Drive N.E.  
SALMON ARM, BC V1E 4P1

**Attention: Gary Holte, Deputy Manager, Works Services**

**RE: SEYMOUR ARM LWMP - STAGE 3 REPORT**

We are pleased to submit the final Stage 3 report of the Seymour Arm Liquid Waste Management Plan.

The LWMP has been endorsed by the Advisory Committee and is to be submitted to the CSRD Board for ratification and to the Minister of Environment for approval.

It has been a pleasure working with you on this project and we look forward to working with you again.

Yours truly,

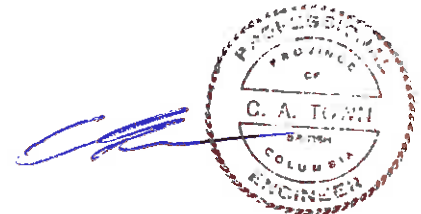
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Peter Gigliotti, P. Eng.  
Project Engineer

PG/crb

Encls.

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Chris Town, P. Eng., M.A.Sc.  
Senior Review



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## EXECUTIVE SUMMARY

The Stage 3 Seymour Arm Liquid Waste Management Plan (LWMP) report is the culmination of a process addressing the management of liquid wastes in the Seymour Arm area of the North Shuswap. Community sewer system approaches were discarded due to unaffordable construction and operation costs. The following seven solutions were supported by the public in Seymour Arm and involve the continuation of on-site sewer systems.

### 1) **Build Public Awareness**

CSRD staff will work with the BC On-site Sewage Association (BCOSSA) or similar organization, the Shuswap Lake Integrated Planning Process (SLIPP) partners (Federal and Provincial government agencies associated with lake water quality), and the Seymour Arm Community Association to develop an annual education program for on-site sewage systems. CSRD will develop a Request for Proposals for a comprehensive public education program for Electoral Areas C, E and F that each have a public education component in their respective LWMP's to maximize efficiency and save costs.

### 2) **Prohibit Lake Discharges from Private Sources**

CSRD will create a By-Law to prohibit lake discharge of treated effluent from private sources.

### 3) **Acquisition of New Community Sewer Systems by CSRD**

CSRD will create a sewer system acquisition policy that defines the terms and conditions under which CSRD would acquire new community sewer systems proposed in the Seymour Arm LWMP service area.

### 4) **Conduct Water Quality Monitoring**

CSRD will collaborate with the MoE regional hydrogeologist to confirm optimum sampling locations, and install piezometers to sample and monitor groundwater to determine health and environmental impacts from on-site sewage systems in the LWMP area; CSRD will prepare a tender for regular water sampling, testing and reporting; CSRD will solicit local resident volunteers for sampling and shipping of samples; CSRD will develop a surface water monitoring program and sampling schedule in collaboration with the Ministry of Environment.

**5) Construct Septage Facility in the Seymour Arm area**

CSR D will apply for senior government funding assistance at the earliest opportunity for a minimum two-thirds funding for the capital cost of a septage facility; distribution of household cost for the remaining 1/3 to be shared equally by all property owners in the designated service area on a per parcel basis. The proposed location of the septage facility is near the existing refuse transfer station and such a facility will be a valuable asset to the community by eliminating long haul distances for septage.

**6) Scheduled Septic Tank Pump-outs**

A scheduled septic tank pump-out service will be initiated by the CSR D once the local septage receiving facility is constructed and operating in the Seymour Arm area. The CSR D will prepare a solicitation with a performance specification for septage haulers in the region.

**7) Introduce Building Regulation Bylaw**

CSR D will adopt a Building Regulation By-Law for the Seymour Arm LWMP area.

**Summary of Costs Per Property**

1. Build Public Awareness	\$25.00 maximum/year
2. Prohibit Lake Discharges from Private Sources	no cost
3. Acquisition of New Community Sewer Systems by CSR D	no cost
4. Conduct Water Quality Monitoring	\$20.00/year
5. Construct Septage Facility in Seymour Arm Area	\$20.00/year
6. Scheduled Septic Tank Sludge Pump-outs	\$20.00/year
7. Introduce Building Regulation By-law	\$5.00 for first year only

The LWMP Implementation will be monitored on an annual basis and progress reported to the Ministry of the Environment, the Interior Health Authority and the community. A full review is mandated after 5 years (2014).

## **1.0 INTRODUCTION**

### **1.1 Subject and Purpose**

This document is the Stage 3 Report of a Liquid Waste Management Plan (LMWP) for the Seymour Arm community of the Columbia Shuswap Regional District. The purpose of the Stage 3 Report is to provide a summary of the activities and conclusions through Stage 1 and Stage 2 of the LWMP process. It also provides an Implementation Plan for the recommended options. The Stage 1 and Stage 2 reports are available for viewing at the CSRD website: [www.csr.bc.ca](http://www.csr.bc.ca).

It should be noted that Seymour Arm lies within Electoral Area F of the CSRD and there is a concurrent LWMP being undertaken for Area F. The Seymour Arm LWMP is being carried out separately because of its remoteness from other settlements in Area F and its unique character.

An Official Community Plan (OCP) is also being carried out for Electoral Area F. It has received two readings; the plan identifies Seymour Arm as a "Secondary Settlement Area".

### **1.2 The LWMP Process**

The process followed for the development of a LWMP was in accordance with the BC Ministry of Environment Guidelines. The process was somewhat streamlined by using a Single Advisory Committee (SAC) which combined the Technical Advisory Committee and Public Advisory Committee into one committee.

The SAC consists of eight (8) local resident members, the CSRD and consultant project team members (non-voting), and a representative from the BC Ministry of Environment and Interior Health (as voting members). The CSRD Area Director for Electoral Area F was also on the SAC as a non-voting member.

Other SAC members included representatives from BC Government Ministries (Community Services, Parks, Agriculture, Transportation and Forests and Range) as well as Environment Canada. These members did not attend the meetings, but were provided meeting notes and opportunities to comment.

Briefly stated the broad objectives for each stage were:

- Stage 1 - Define problems and identify options.
- Stage 2 - Develop and evaluate preferred options.

The Stage 1 and Stage 2 reports were reviewed and approved by the SAC and presented to and approved by the CSRD Board of Directors and by BC Ministry of Environment (MoE).

### **1.3 The Communication Process**

SAC meetings were held at the Seymour Arm Community Hall with invitations extended to the public.

Three meetings were held during Stage 1 on:

- No. 1: April 24, 2008;
- No 2: May 22, 2008; and
- No. 3: June 26, 2008.

Two meetings were held during Stage 2 on:

- No. 4: July 24, 2008; and
- No. 5: September 25, 2008.

A meeting (No.6) to review the Stage 3 report was held on February 16, 2009. The notes of this meeting are included in Appendix B.

Two Newsletters were sent to all property owners:

- Newsletter No. 1: March, 2008; and
- Newsletter No. 2: August, 2008.

Project updates were posted on the CSRD website.

A public Open House was held on August 16, 2008 at the Seymour Arm Community Hall. The event ran from 2:00 p.m. to 9:00 p.m., with formal presentations at 3:00 p.m. and 7:00 p.m. The Open House was attended by approximately 80 - 90 people. A questionnaire survey was provided, soliciting opinions on the seven preferred options; 56 responses were received. The responses were sorted, summarized and presented in the Stage 2 report.

## 2.0 COMMUNITY PROFILE

### 2.1 The Area

The Seymour Arm community lies within Electoral Area F of the CSR. The overall study area is shown on Figure 2.1. The majority of settlements are located at the north end of the Seymour Arm of Shuswap Lake. Other sparsely scattered settlements can be found along the east and west shorelines of Seymour Arm and Anstey Arm and along the 1100 and 1200 Co-Op Forestry roads. The focus of the LWMP was on the settlements at the north end of Seymour Arm. These areas are shown on Figure 2.2.

The community at the north end of Seymour Arm is distinct from other communities in Electoral Area F because of its remoteness and lack of central electric power. The community is marked by low winter occupancy, high summer occupancy and extensive short-term visitation by land or water recreational vehicles (long weekends). There is no Provincial highway to Seymour Arm, and the only access is on the Co-op Forestry Road.

These circumstances pose significant challenges for liquid waste management both with on-site systems and community sewage system approaches.

### 2.2 Settlements and Housing

The settlement areas at the north end of Seymour Arm comprise a Central Area which dates to the early 1900's. The original subdivisions included numerous small lots close to the lakeshore. Later subdivisions were intended mainly for recreational use and utilize larger lots. The neighbourhoods at the north end of the Lake are summarized as follows:

	Existing Lots	Existing Dwellings
Seymour Central Area	114	60
Seymour Ireland Road Subdivision	70	30
Dasniers Bay	93	80
Shemar	33	13
South Shore Subdivisions	18	12
SALDCO	Single property	30
Tranquility Bay	14	4
<b>TOTALS</b>	<b>342</b>	<b>229</b>

Individual cabins are scattered in southern areas along the west and east shorelines of Seymour Arm and Anstey Arm. These cabins are largely boat access only. The Albas Marine Park contains a BC Government campground. The Federated Co-Op log sort camp contains several manufactured bunkhouses and kitchen/dining facilities. There are three Provincial Parks in the Seymour Arm area.

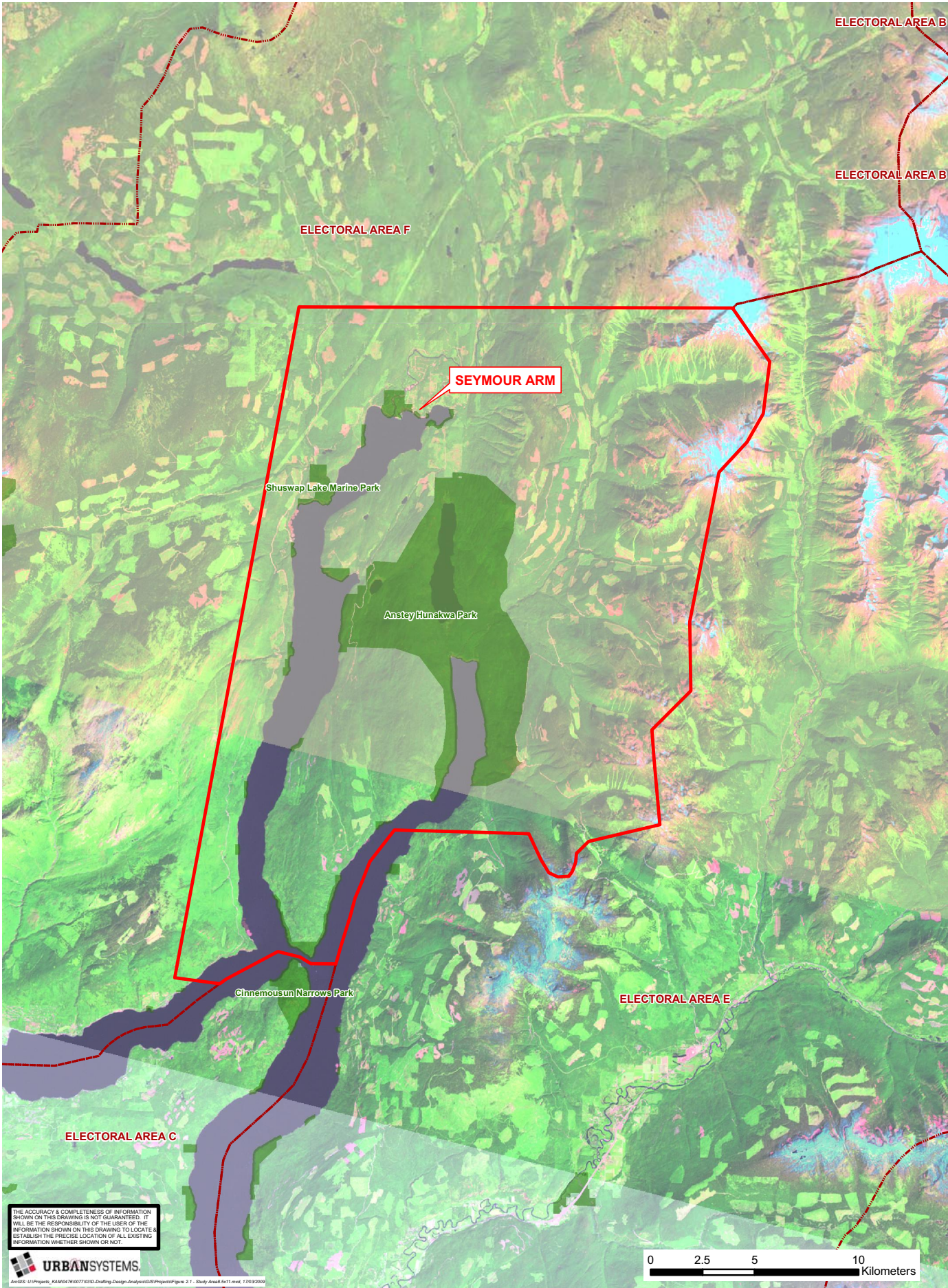
The Provincial Parks are:

- Fowler Point Marine Park;
- Silver Beach Marine Park; and
- Bughouse Bay Provincial Park.


### **2.3 Seasonal Occupancy Patterns**

The dwellings in the area are occupied mostly in the summer season, although a few have winterized their dwellings and remain in the area year-round. The number of year-round residents in the area is estimated at 20 dwellings, or approximately 50 people.

Seasonal residents will occupy their dwellings from 1 to 4 months. Visitors generally stay from 1 to 2 weeks, with the majority arriving on summer long weekends in July and August.



**Legend**

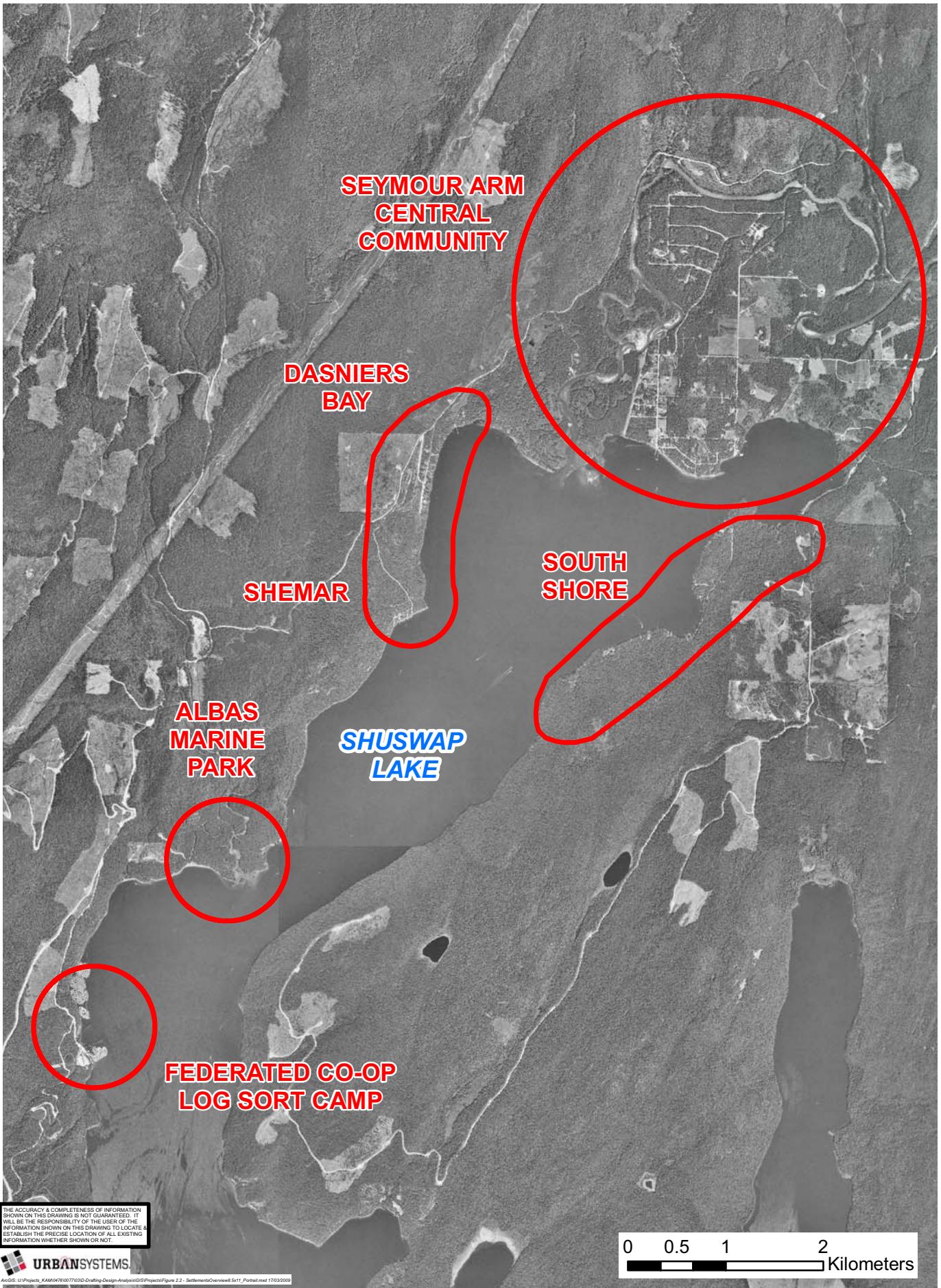
-  Study Area
-  Electoral Boundary

THE ACCURACY & COMPLETENESS OF INFORMATION SHOWN ON THIS DRAWING IS NOT GUARANTEED. IT WILL BE THE RESPONSIBILITY OF THE USER OF THE INFORMATION SHOWN ON THIS DRAWING TO LOCATE & ESTABLISH THE PRECISE LOCATION OF ALL EXISTING INFORMATION WHETHER SHOWN OR NOT.



As of: U:\Projects\_KAM04761077\03-Drafting-Design-Analysis\GIS\Projects\Figure 2.1 - Study Area\611.mxd, 1/10/2009

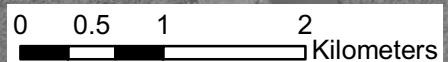




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Settlements Overview

Figure

### **3.0 EXISTING LIQUID WASTE PRACTICES**

#### **3.1 On-Site Systems**

The area has developed with on-site sewage systems. The types of systems range from combinations of pit "outhouses" with grey water discharges to ground, to septic tanks with leaching fields. Leaching fields provide further treatment of septic tank effluent by means of filtration and adsorption of pollutants to the granular soil. Many properties use dry wells instead of leaching fields; dry wells apply septic tank effluent in a singular location and do not provide the level of filtration and adsorption that leaching fields do.

Septic tanks are periodically pumped out to remove sludge accumulations and sludge is hauled to a seepage receiving facility at Scotch Creek. There are no community sewage systems.

Non-resident sewage sources arise from visiting recreational vehicles and watercraft, including houseboats. There are no "sani-dump" or boat pump-out facilities in the area.

#### **3.2 Wastewater Practices in Specific Settlement Areas**

A reconnaissance of the various settlement areas was undertaken and the following observations were recorded:

##### ***3.2.1 The Seymour Arm Central Area***

This area is immediately north of Silver Beach Park up to Ollanson Road, and forms what could be called the "core" of the community. Most of the lots off Abbot Road and near the lakeshore are relatively small (1,000 m<sup>2</sup>). Other properties off Horning Road and Ollanson Road are relatively large (20,000 m<sup>2</sup>). All are equipped with septic tanks. Most properties use leaching fields while some of the smaller lots use drywells for treatment and disposal of the septic tank effluent. The concern with dry wells is the often inadequate vertical separation to the water table and insufficient adsorptive soil depth. The newer lakeshore developments utilize a raised mound with engineered granular material for treatment and disposal of septic tank effluent. There are several commercial properties such as a pub, teahouse and hotel near the lake; the age and effectiveness of the on-site systems is not known, although the teahouse system is reported to be relatively new.

### ***3.2.2 The Ireland Road Subdivision***

This area lies immediately north of the Central Area.

The area was more recently subdivided and the lots are typically larger than 1 Hectare (10,000 m<sup>2</sup>). All houses utilize septic tanks and leaching fields.

### ***3.2.3 Dasniers Bay***

The Dasniers Bay area lies west of the Central Area and is accessed from the 1100 Forestry Road. It contains 93 lots, 36 of which are on the lakeshore. The wastewater systems are largely septic tanks and drywells. Some seasonal cottages utilize outhouse toilets and discharge "grey" water (i.e., sink and shower drains) to a perforated metal drum buried close to the ground surface.

### ***3.2.4 Shemar***

This is a bare land strata development south of Dasniers Bay and has 11 lakeshore lots and 22 upslope lots. The properties are relatively large and utilize septic tanks and leaching fields. Some seasonal cottages utilize outhouses.

### ***3.2.5 West Shore Co-Op***

This is an "undivided interest" co-op housing development lying between Dasniers Bay and Shemar. This area is not subdivided so there are no individual properties within it. It is reported that most houses use septic tanks and leaching fields.

### ***3.2.6 Subdivision South of Shuswap Lake Marine Park***

This area has 25 lots, 20 of which are lake frontage. There is road access from the north (Bradley Road) and all properties appear to be on a community water system (there is evidence of service lines and valve boxes). There is a cluster of cabins at the south end (Sunny Waters) that appears to be a commercial operation. Although not all septic tanks are visible, it appears that most properties use septic tanks, and they could all be accessible for pump-out from Bradley Road. Bradley Road is in good condition and well maintained. Driveways are rough but accessible. It was therefore concluded that these properties could be serviced from the road.

### **3.2.7 SALDCO (*Seymour Arm Land Development Company*)**

This property lies between the two south shore subdivisions. Its status is unclear as it is not subdivided nor is it registered as a bare land strata development. There is an entry at the south end of Bradley Road, but it is gated and posted with a "Private Road" sign and no vehicle entry is allowed. The road may have been in use long ago, but it is overgrown and becomes a narrow walking trail further south. There is, however, evidence of a water line on the trail and this seems to be an extension of the water system in the subdivision to the north.

The area may be what is referred to as an "undivided interest"; that is, many owners on the property title, but without subdivision or fee simple lots. Most houses are within 30 to 50 metres of the lake high water mark, so it would be possible to pump out septic tanks from the water side. However, there is little evidence of septic tanks; most of the 40 houses appear to utilize outhouses. Several houses have exposed drain pipes for "grey water" and these are generally discharged to the ground. Most of the discharges are 30m from the shoreline.

### **3.2.8 Subdivision South of SALDCO**

This subdivision contains 11 relatively large lots, all on the lakeshore. While there is a frontage road Right-of-Way shown on the cadastral plan, there is no road in place. A small trail continues south from the SALDCO property in the road Right-of-Way. Only two properties have evidence of septic tanks; the others have outhouses. One owner indicates he plans to install a septic tank in the future. The houses are within 30 to 50 m of the high water mark, and if septic tanks are installed in future, they should be located where they would be accessible from the water, unless the frontage road is constructed. The status of the road Right-of-Way is not known, nor is there any forecast as to when a road might be constructed in this area. It's therefore assumed that pump-outs, if septic tanks are built, would be from the water.

### **3.2.9 Federated Co-Op**

This logging camp is located approximately 10 km south of the Seymour Arm community on the west shore. The camp has bunkhouse trailers, communal kitchen and dining facilities and communal washrooms for up to 60 people. It is used seasonally and has not seen the full contingent of people in recent years. Sanitary and kitchen facilities are serviced by two large septic tanks and leaching fields.

### ***3.2.10 Isolated Shoreline Dwellings***

Small boat access only and seasonally used cabins are located on the east shoreline of Seymour Arm and the west shoreline of Anstey Arm. These are reported to use outhouses. Without community water systems, grey water is expected to be minimal.

### **3.3 Identified Concerns**

A number of concerns with current wastewater practices were identified by the Committee and the public. These included:

- The risk of groundwater contamination with improperly treated wastewater effluent;
- The risk of effluent movement and impact to the Seymour River and Shuswap Lake;
- The lack of monitoring of water quality in Shuswap Lake;
- The lack of inspection of on-site septic systems;
- The lack of a local septage facility for septic tank sludge pump-outs;
- The lack of power to enable upgrading of wastewater systems;
- The cumulative effect of on-site ground disposal systems;
- The lack of pump-out facilities for RV holding tanks and/or houseboats and marine vessels;
- A suspected proliferation of drywells in lieu of leaching fields;
- The impact of illegal roadside dumping of RV holding tanks, and illegal dumping of marine vessel holding tanks;
- The potential environmental impact of new development proposals such as destination resorts;
- The long-term sustainability of the lake, the foreshore and fish habitat;
- The age and condition of some on-site systems; and
- The Interior Health office reports only 19 onsite systems filed for the area. This is significantly less than the number of existing homes and indicates that many systems have been constructed but not filed with Interior Health.

## **4.0 APPROACHES TO LIQUID WASTE MANAGEMENT**

### **4.1 On-Site Approaches**

The Committee recognized that the Seymour Arm area is unique and the environment should be protected from pollution by human activities. Stage 2 therefore examined the ways in which on-site sewage systems could be managed to mitigate the impact of effluent discharges to the ground. These deliberations resulted in policies that could "Facilitate Improvements" while retaining on-site systems.

### **4.2 Community Sewer System Approaches**

The Committee recognized that the use of community sewage collection systems with centralized sewage treatment and effluent disposal could eliminate the risks associated with improperly functioning on-site systems. Stage 2 therefore also examined the costs associated with the development of community sewer systems. The estimated capital and operating costs of community sewer systems were estimated at approximately \$2500 per property per year. The Advisory Committee deemed this unaffordable and this approach was dropped from further consideration.

### **4.3 Potential Solutions**

#### ***4.3.1 Seven Policies to Facilitate On-Site Improvements***

Seven policies were developed which would allow continued use of on-site systems, without requiring central power supply. These policies would help residents to improve the quality of effluent discharges, monitor the effects of discharges on the environment, and facilitate best practices in the maintenance and operation of on-site systems. The objectives of the general policies for liquid waste management can be briefly described as follows:

#### Policy 1: Build Public Awareness

The objective of this policy is to make sure that all residents are informed on how on-site systems should function and perform and what it takes to keep them operating efficiently. The education program would include information on new technologies, the latest BC Regulations, and ways and means of upgrading poorly functioning older systems.

The program in the first year would be designed and material disseminated to all residents in a newsletter format with information also posted on the CSRD website. Subsequent years would provide information updates through newsletters and the website.

Public awareness programs would be designed to collaborate with the existing Shuswap Lake Integrated Planning Process (SLIPP). SLIPP is a process that involves multi-government agencies (both Provincial and Federal) and promotes inter-agency transfer of information related to Shuswap Lake and related ecosystems. While the process does not have a legislative mandate, it provides a venue for sharing information and protecting the lake and its environment.

#### Policy 2: Prohibit Lake Discharges from Private Sources

This policy would prevent any new developments from proposing lake discharges from privately operated sewage treatment systems. It would be a perpetuation of the existing temporary prohibition which expires in November 2009.

#### Policy 3: Acquisition of New Community Sewer Systems by CSR

This policy would see any proposed community sewer systems built to a CSR standard and turned over to CSR upon commissioning. The CSR would ensure systems are operated and maintained to an acceptable standard.

#### Policy 4: Conduct Water Quality Monitoring

The objective of this policy is to establish a good reliable baseline of water quality data against which water quality can be monitored and tracked to determine any trends towards deterioration. The Advisory Committee felt that watchfulness is the community's best defence against pollution and reliable data is essential.

The program would select strategic locations to sample groundwater and lake water on a regular basis. Any trends towards deterioration of water quality would be detected early and appropriate action taken.

#### Policy 5: Construct Septage Facility in the Seymour Arm Area

The objective of this policy is to make available a local facility for receiving and processing septic tank sludge. Since current haul distance is excessive, the presence of a local facility would save costs and encourage more regular pump-outs.

The proposed location of the facility is near the existing solid waste transfer station. The facility would be managed by CSR.

#### Policy 6: Scheduled Septic Tanks Sludge Pump-outs

Sludge accumulations in septic tanks can lead to carry-over of solids to the leaching field resulting in plugging of the field and catastrophic failure. Regular pump-outs can significantly reduce the risk of sludge carry-over.

The “pooling” of resources and scheduling of septic tank pump-outs will reduce costs to individual property owners. The range of pump-out frequencies varies from 3 to 7 years. An average frequency of 5 years was selected for the purpose of cost comparisons.

In combination with a local septage facility, it was estimated that 5-year frequency pump-outs could be undertaken at a cost of \$20 per year per property. There are some properties which have boat access only and pump-outs for these properties would incur a surcharge to the property owner.

#### Policy 7 Introduce Building Regulation Bylaw

The objective of this policy is to encourage the filing of on-site sewer systems with Interior Health by requiring that a Building Permit be obtained for the construction of any habitable structure (i.e., a structure with domestic plumbing). Given that only 19 on-site sewer systems are on file with Interior Health, the Building Permit requirement would ensure that on-site sewer systems are filed. The Advisory Committee expressed concern with the current Ministry of Health procedure for regulating on-site systems.

Prior to a Building Permit being issued, the building inspector would be in possession of the document from Interior Health which confirms that the design of the on-site sewage system has been completed by an authorized person, is suitable for that property and complies with the Regulations. Once the structure is built, another document from Interior Health (which confirms the sewage system has been installed in compliance with the Regulation) would be received by the building inspector prior to occupancy.

A permanent record of the sewage system would be filed with Interior Health. In addition, the building inspector would require a site plan that clearly identifies the location of the house and sewage system on the property. This would ensure that the sewage system design considers all site constraints such as slopes, soils, and distance to surface and groundwater. The provision of a Building Regulation By-law addresses the concerns identified in the LWMP process.

Cost estimates for the seven policies were prepared and expressed as an annual cost per property for all properties within the LWMP area (approximately 600). Since the policies are intended to benefit all property owners, those living outside the “community” area but within the LWMP study area would also be assessed. The study area is shown on Figure 2.1.

The seven recommended policies and their respective annual costs per property are summarized as follows:

<b><u>Solution</u></b>	<b><u>Costs/Lot</u></b>
1. Build Public Awareness	\$25.00/ year maximum
2. Prohibit Lake Discharge from Private Sources	Nil.
3. Turn New Sewer Systems Over to CSR	Nil.
4. Conduct Water Quality Monitoring	\$20.00/ year
5. Construct Septage Facility in Seymour Arm area	\$20.00/ year
6. Scheduled Septic Tank Sludge Pump-outs	\$20.00/ year
7. Introduce Building Regulation Bylaw	\$5.00 first year only

Typical Annual cost per property: \$85.00 per year

#### ***4.3.2 Community Sewer Systems***

Cost estimates for the development of community sewer systems in each of the settlement areas were prepared and presented to the Committee. The costs to finance and operate and maintain community sewer systems were found to be relatively high compared to other communities. The annual costs per property ranged as follows:

- With Senior Government Grants: \$1,700 - \$2,500/year.
- Without Senior Government Grants: \$3,800 - \$5,000/year.

These high costs are attributed to the remoteness of the area, the lack of central electric power, and the low density of development. Seasonal occupation for all but approximately 20 dwellings adds further complexity to the operation and maintenance of community sewer systems.

### ***4.3.3 The Preferred Policies***

The Project Team and the Committee presented the approaches and costs to the public at an Open House held on August 16<sup>th</sup>, 2008. The recommendation from the Committee was to endorse the seven foregoing policies to Facilitate Improvements. Community sewer systems were not recommended at this time for any of the settlement areas due to the high costs.

The Open House presentations (at 3:00 p.m. and 7:00 p.m.) were well attended. All property owners were asked to respond to a Survey Questionnaire provided at the Open House and mailed to each property owner. A total of 56 responses were received and all seven policy recommendations were endorsed by the respondents. The endorsements ranged from 100% in favour for policy No. 2, to a low of 65% in favour for policy No. 7.

The Stage 2 report contains the results of the survey and the summary of responses is also included in Appendix A of this report. The report was presented to the CSRD Board on October 16<sup>th</sup>, 2008. The Stage 2 report was accepted and ratified by the CSRD Board and by BC MoE.

## **5.0 IMPLEMENTATION PLAN**

### **5.1 General**

Submit the Stage 3 report to the CSRD Board of Directors and the BC Ministry of Environment for approval.

### **5.2 Public Education**

- a) CSRD staff to work with the BC On-site Sewage Association (BCOSSA), or a similar organization, to discuss options for developing an annual education program for on-site sewage systems, and their potential involvement.
- b) CSRD staff to collaborate with the Shuswap Lake Integrated Planning Process (SLIPP) members, and Electoral Areas C, E and F that have a public education component in their respective LWMP.
- c) CSRD staff to maintain close liaison with the Seymour Arm Community Association (SACA) and collaborate on the development of the public education program.
- d) Develop a Request for Proposals (RFP) for a comprehensive public education program for the above electoral areas.

### **5.3 Lake Discharge Prohibition**

- a) CSRD to create a By-Law to prohibit lake discharge of treated effluent from private sources.

### **5.4 Sewer System Acquisition Policy**

- a) CSRD to create a sewer system acquisition policy that defines the terms and conditions under which CSRD would acquire new community sewer systems proposed in the Seymour Arm LWMP area.

### **5.5 Water Sampling Program**

- a) Solicit advice from the project team groundwater consultants on strategic locations and equipment to sample and monitor groundwater and determine the health and environmental impacts from on-site sewage systems in the LWMP area.
- b) Collaborate with the MoE regional hydrogeologist to confirm optimum sampling locations.
- c) Issue a tender for the installation of groundwater sampling. Prepare a tender for regular water sampling, testing and reporting.

- d) Solicit local resident volunteers for sampling and shipping of samples.
- e) Develop a surface water monitoring program and sampling schedule in collaboration with MoE. This should supplement the current CSR D/MoE sampling program to provide surface water quality for the Seymour Arm community.

### **5.6 Local Septage Facility**

- a) Apply for senior government funding assistance at the earliest opportunity following approval of the Seymour Arm LWMP by the CSR D Board of Directors and the Minister of Environment. The application should be for a minimum of two thirds of capital construction costs of the local septage facility proposed to be located near the CSR D solid waste transfer station.
- b) Determine if additional Crown Land is required; if so, make application for expansion of Crown Land lease.
- c) Distribution of household cost for the remaining 1/3 to be financed by CSR D will be shared equally by all property owners in the designated service area on a per parcel basis. Once a grant is approved and CSR D is authorized to start the project, initiate the following tasks:
  - i) Prepare conceptual design of a local facility to be located near the existing CSR D transfer station.
  - ii) Commission topographic survey and geotechnical and hydrogeological investigation of CSR D transfer station site.
  - iii) Prepare design, construction drawings and tender documents for the construction of the facility.

### **5.7 Scheduled Septic Tank Pump-Outs**

A scheduled septic tank pump-out service will be initiated once the local septage receiving facility (5.6) is constructed and operating in the Seymour Arm area. After the septage facility capital grant is approved, the following activities should be undertaken:

- a) Prepare a solicitation with a performance specification for septage haulers in the region.
- b) Include a supplementary solicitation for the boat access only properties. Pumping from a barge will require special provisions to prevent and/or contain spills and BC MoE advice on procedures should be solicited. Boat access only properties will share equally in the cost of the service and also pay the premium for the cost of the barge.



## 5.8 Building Regulation By-Law

- a) CSR will adopt a Building Regulation By-Law for the Seymour Arm LWMP area.

## 5.9 Five Year Review of LWMP

Review this LWMP in five years (2013), as required by MoE, and prepare amendments as necessary to submit to the Minister of Environment.

Through the Public Education Program (5.2), provide residents located in the Seymour Arm LWMP area with an annual update on the progress of all activities in the Implementation Plan.



# APPENDIX A

## *Questionnaire Survey Results*

**OVERVIEW**

A Stage 2 objective of the Seymour Arm LWMP was to solicit feedback from residents about the preferred solutions recommended by the advisory committee. To that end, the project team developed a comprehensive newsletter and survey that was mailed to all Seymour Arm property owners. In addition, the project team and advisory committee hosted an open house at the Seymour Arm Community Hall August 16<sup>th</sup>. The following information summarizes the survey responses received by mail and at the open houses.

A total of 56 surveys were completed. While these qualitative results are not considered statistically valid, they do reflect the opinions of the people who took the time to complete and forward the survey.

Please note that for easier understanding, the 'agree strongly' and 'agree somewhat' categories can be coupled to indicate overall agreement (in green). Conversely, disagree somewhat' and 'disagree strongly' can be coupled to show overall disagreement (in orange).

Preferred Solution	Total	Agree Strongly	Agree Somewhat	AGREE	Neutral	Disagree Somewhat	Disagree Strongly	DISAGREE
1. Build public awareness	51	33 (65%)	9 (18%)	82%	2 (3%)	3 (6%)	4 (8%)	14%
2. Prohibit lake discharges from private systems	54	53 (98%)	1 (2%)	100%	0	0	0	0%
3. Turn all new sewer systems over to the CSR	54	32 (59%)	9 (17%)	76%	7 (13%)	1 (2%)	5 (9%)	11%
4. Conduct water quality monitoring	53	38 (72%)	11 (20%)	92%	3 (6%)	0 (0%)	1 (2%)	2%
5. Construct septage facility	54	29 (53%)	14 (25%)	78%	4 (8%)	3 (6%)	4 (8%)	14%
6. Require septic tank sludge pumpouts	53	27 (51%)	8 (15%)	66%	6 (11%)	3 (6%)	9 (17%)	23%
7. Introduce building regulation bylaw	52	28 (54%)	6 (11%)	65%	4 (8%)	3 (6%)	11 (21%)	27%

The survey also gathered information about the communities in which respondents reside, the types of systems, the number of months they live in their dwellings per year, and the number of people living in each dwelling.

**RESPONDENTS' COMMUNITIES (46 completed):**

Central Core	26 (57%)
South Shore	7 (15%)
Dasniers Bay	5 (11%)
Other	5 (11%)
Shemar Developments	3 (6%)

**TYPES OF SYSTEMS (58 completed):**

Septic with field	23 (40%)
Outhouse	20 (34%)
Septic with drywell	9 (15%)
Other	4 (7%)
Composting toilet	2 (4%)

**NUMBER OF MONTHS IN DWELLING (41):**

Less than three months	19 (46%)
Three to six months	12 (29%)
Twelve months	6 (15%)
Six to nine months	4 (10%)

**NUMBER OF PEOPLE IN DWELLING (43):**

Two to four	19 (44%)
Two or less	18 (42%)
More than four	6 (14%)

**COMMENTS**

**Preferred Solution #1: Build Public Awareness**

- Info online shouldn't have to pay much for this
- Don't want it to change more maximum
- Government responsibility at provincial level
- Provincial Government responsibility
- Agree somewhat – I think specific / practical information aimed at property owners is worthwhile. Telling house boaters not to toss dishwater is a houseboat responsibility. I think \$35 / year is "gilding the Lilly" after a year or two.
- BUILD PUBLIC AWARENESS it is my opinion, albeit optimistic that I should not be paying to educate

individuals. This should be a personal responsibility. Further more, individuals who will not educate themselves will not benefit from public lectures or articles as, my experience indicates, they will not attend meetings or forums and will not read material sent to them. You will be spending money speaking to those already informed and therefore wasting my money.

### **Preferred Solution #2: Prohibit lake discharge from private sources**

- Why not "all" systems?
- CSRD would create / maintain capitol replacement and operating reserve funds.

### **Preferred Solution #3: Turn all new systems over to the CSRD**

- Eg Systems, not single dwelling
- Set ground rules for multi-family developments e.g. Condo's only
- If operated by "user pay"
- No compatible at this time due to Provincial regulations and power of other departments like Fisheries and highway, etc.
- Agree strongly but by Provincial employee inspection
- CSRD would create / maintain capitol replacement and operating reserve funds
- Not private systems for one household but should be systems serving "several" households

### **Preferred Solution #4: Conduct water quality monitoring**

- We know it's okay how later as required
- Government responsibility for the whole Province not CSRD
- Need background / historical data for trend analysis. But I hope CSRD will be disciplined and efficient about sampling, and I think the Federal Government is quick to limit fish impacts and remiss about collecting water quality data.

### **Preferred Solution #5: Construct septage facility**

- Someday
- Increase tourisms SA by having pump out systems. For RV, houseboats, etc. Here make it an RV system too
- I would like to see a holding tank option with available pump outs to sewage facility (local), many little used cabins could agree to 1 – 2 pump outs / year (no fields).
- Costs cannot be controlled
- As we are located in Block D of Dasniers Bay, we don't have nor do we wish to have, road access. As such, installation and up keep (pumping) of a septic tank and field would be much more expensive than outlined here; therefore, we consider it to be not applicable to us

### Preferred Solution #6: Require septic tank sludge pumpouts

- I would like to see a holding tank option with available pump outs to sewage facility (local), many little used cabins could agree to 1 – 2 pump outs / year (no fields).
- Varies too much, self scheduled and reports made
- If #1 is successful – proper care will follow
- Costs cannot be controlled
- Requires further consideration – 5 years too long
- Agree somewhat permits or reports
- I'd guess 25 – 30 septic tanks will require barge support for pumping \$20/year won't do it. \$50 - \$75 / year for water access only properties sounds fair.
- Very hard to regulate for part time summer residence
- Have you taken into account homes reached only by water? Cost of renting barge, etc.
- As we are located in Block D of Dasniers Bay, we don't have nor do we wish to have, road access. As such, installation and up keep (pumping) of a septic tank and field would be much more expensive than outlined here; therefore, we consider it to be not applicable to us

### Preferred Solution #7: Introduce building regulation bylaw

- Disagree somewhat – only if it applies to the building in which water is to be supplied then I agree
- Bylaws should be set up to regulate condo developments
- There must be a better way!
- Requires further consideration overall
- Government responsibility, inspections a problem. No one locally responsible
- Promote YES inspection will be costly and not done now
- Of course we are all hypocrites because we benefited from building however we chose
- We are in the middle of nowhere. Some leeway should be allowed as to size of building rules, regulations, and inspections. Will this ever happen?
- Would like to see building permits for residences only or building with water service involved
- The final approval for installation should not be done by the individual or company doing the install
- Avoid unnecessary bureaucracy
- I wish to state that I do believe some controls are necessary. However to introduce bylaws which will become costly will be unjustified. This maybe necessary some years into the future, but until the CSRD can deal with a number of irritants which have been on the books for years how can they believe they are able to deal with the big picture issues. To my mind they have not demonstrated they can handle small issues. For example; 1. Local roads become almost impossible as the summer season progresses. 2. No maintenance or dust control maintenance is applied to Horning road. This road has the most traffic of any accepting the main roads in Seymour Arm. All the properties on this road have buildings, three of which have permanent residents, yet the many requests for dust control and maintenance are responded to by saying this is not a public road. PLEASE CHECK YOUR MAPS OF THE COMMUNITY AND YOU WILL SEE IT IS CLEARLY MARKED AS A ROAD. 3. Farms and farm animals have and are producing waste within eyesight distance of properties you wish to establish strict waste disposal restrictions upon. 4. Parks facilities, outhouse, which hundreds of campers use for extensive periods are holes in the ground. This needs to be addressed as this effluent being produced is within meters of the lake and are left to leach into the lake, yet you wish to impose significant restrictions on homes which

are several kilometres from the lake. 5. To introduce building bylaws to a community such as Seymour Arm which has no electricity, no communication system, and a virtually impassable road is totally ludicrous. How will the inspector get here? How will communication be handled? The costs will be prohibitive. I could go on about lack of proper signage, no police presents or enforcement, no funding for the community hall, no fire protection, etc. If the CSRD is truly interested in the community of Seymour Arm and its residents then they need to demonstrate this by dealing with some of many other issues that have been mentioned over the past many years.

#### OTHER COMMENTS:

- As before, plant photos submitted before / after the BC Health for septic systems for year-round homes. Large developments must be approved. Pump outs near lake and river
- Concerned about expensive future costs of septic installation if rules are too stringent
- Concerned about too many fees placed on residents re: water and sewage
- This plan needs to go forward as quickly as possible
- Are glossy annual reports with pictures necessary? Couldn't these finances be more suitably placed?
- We have no road access and do not want one. We will be installing a composting toilet. We would support mandatory pump out if it did not apply to Grey Water Systems.
- We live in an area with no road and don't want one! We are going to put in a composting toilet and feel strongly that these should be encouraged
- As a nurse I strongly am in favour of all we can do to ensure water / ground quality. Thank-you for your hard work!
- The sooner the better! X2
- For several environmental reasons we require regulations for composting toilets to protect our environment. Why is this living not made available?
- If we want city regulations we would live in the city. So leave well enough alone.
- CSRD has not solved current problems:
  - Roads
  - Dust Control
  - Business in residential area
  - Telephones and electricity
  - Police Patrol
- Quality monitoring is a must! A list of "authorized persons" for designing and installing systems is needed. Local people to do local work is very desirable.
- Work on roads, the point, telephones, power, etc.
- Thank-you. Bob Beebe Box 16 VOE 2V2 (250) 804-3693. [Crdbb1831@bcglobal.net](mailto:Crdbb1831@bcglobal.net)
- Proper septic systems must be enforced in Seymour Arm
- If Seymour Arm is to have any meaningful input / control over its future growth, this plan (plus the OCP) must be implemented. "Do nothing" invites developer disaster!
- I am quite concerned over the ineffectiveness of the Provincial regulations – licensed practitioners of highly variables quality and ethics. The fox is often watching the hen house!
- Neil Duncan 21 Kestrel Place Vernon, B.C (250) 542-8016
- All of these issues must be dealt with as soon as possible. In particular I see house boats causing huge problems
- All above under CSRD permits. Approved plans or inspection

- Because the boaters bathe in the lake at this time, houseboats should supply shampoo / soap – biodegradable or have clients show same prior to boarding. Should be only alternative sold at Daniels Store. Also residents!
- This is all very good but let's start with the capitol city “Victoria” and how they dump raw sewage into the sea when you do something there then come back and we'll talk
- Power, phone, improved roads are higher priorities. LWMP should be addressed, homes in first in more densely populated areas (Scotch Creek, etc.)



# APPENDIX B

## *Meeting Notes – February 16, 2009*



## MEETING NOTES

subject: **Seymour Arm LWMP**  
date: February 23, 2009  
meeting date: February 16, 2009  
location: CSRD Boardroom - Salmon Arm  
file: 0476.0077.03  
prepared by: Peter Gigliotti  
distribution: all attendees, SAC members

### attendees

Brent Dennis  
Pam Barrett  
Carol Danyluk  
Anita Ely  
Denis Delisle  
Gary Holte  
Darcy Mooney  
Jan Thingsted  
Jay Simons  
Joanne deVries  
Peter Gigliotti

### company

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SAC  
BC MoE  
IH  
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### Absent

Fraser Head  
Doug Mills  
Rob Morrow  
Lloyd Porteous  
Bob Reimer  
Ken Shaw

SAC  
SAC  
SAC  
SAC  
SAC  
SAC

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## **ITEM    DISCUSSION**

## **ACTION BY**

- 1    Purpose of Meeting  
To review and approve the Stage 3 Draft Report that was sent out in mid January
- 2    Attendance  
Four voting Committee members were in attendance (out of a total of 10). These were Brent Dennis, Pam Barrett, Carol Danyluk and Anita Ely. Lloyd Porteous had previously advised he would be out of town and that Brent Dennis would be his proxy vote.

There was some discussion as to whether this would constitute a Quorum. The Committee rules specify 50% of members to be in attendance, so if the proxy vote by Lloyd Porteous is included, the 50% is achieved.

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<b><u>ITEM</u></b>	<b><u>DISCUSSION</u></b>	<b><u>ACTION BY</u></b>
	<p>Notwithstanding, the attendees felt that any comments and edits to the Stage 3 report resulting from this meeting should be passed on to the other Committee members and their comments solicited, including contacting members by phone if possible. Any significant revisions would then be considered.</p>	
3	<p>Discussion</p> <p>It was decided to discuss Section 5 (Implementation Plan) in detail and include those comments in the final draft.</p> <p>A brief summary of the Section 5 discussion follows:</p> <p>Section 5.1: CSRD approval</p> <ul style="list-style-type: none"><li>- tentative date for CSRD Board meeting is March 19, 2009.</li></ul> <p>Section 5.2: Public Education</p> <ul style="list-style-type: none"><li>- use "work with" instead of "meet with".</li><li>- Provide a description of SLIPP either at the appropriate place in the document or as a footnote on this page. Note that SLIPP does not have a legislative mandate.</li><li>- include collaboration with Seymour Arm Community Association.</li></ul> <p>Section 5.3: Lake Discharge Prohibition</p> <ul style="list-style-type: none"><li>- delete reference to Development Services</li><li>- CSRD staff will create a specific by-law for lake discharge prohibition</li><li>- clarify that this is for "private" system discharges</li><li>- CSRD staff to communicate policy to Area F OCP team.</li></ul> <p>Section 5.4: Sewer System Turnover Policy</p> <ul style="list-style-type: none"><li>- delete reference to Development Services</li><li>- ensure that a "community sewer system" is defined in the policy</li><li>- use the term "acquisition" instead of "turnover"</li><li>- leave out any reference to "undivided interests"</li></ul> <p>Section 5.5: Water Sampling Program</p> <ul style="list-style-type: none"><li>- include a reference to collaboration with the MoE regional hydrogeologist</li><li>- include a reference to using local volunteers for sampling</li><li>- ensure the results become public</li><li>- include annual reporting to MoE</li></ul> <p>Section 5.6: Local Septage Facility</p> <ul style="list-style-type: none"><li>- Is a Referendum necessary for a capital project? – Could be a referendum, counter petition, or petition process.</li><li>- delete item (c)</li><li>- convey information on grants in the public education program.</li></ul>	

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**ITEM      DISCUSSION      ACTION BY**

Section 5.7: Scheduled Septic Tank Pump-outs  
- change the term from "program" to "service"  
- CSRD staff to draft a policy for unscheduled pump-outs either for emergencies or at owner request.  
- delete the term "blanket permission" and include a protocol for entry onto private property.

Section 5.7: Building Regulation By-law  
- delete reference to Development Services  
- add the language from the Stage 2 Newsletter  
- clarify that all properties within the LWMP catchment area are included.

Section 5.9 Five Year Review of LWMP  
- add that CSRD will report on the progress of the Implementation Plan on an annual basis.

- 4 The final draft will be prepared and sent to SAC members by e-mail and by regular mail. The target date for submission to CSRD is March 6 and for presentation to the Board is March 19, 2009.
- 5 Meeting adjourned at 2:45 pm.

**The preceding is the writer's interpretation of the proceedings and any discrepancies and/or omissions should be reported to the writer.**

**URBAN SYSTEMS LTD.**

Peter Gigliotti

/pg

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