

## **Shuswap River Watershed Sustainability Plan Preliminary Issue Identification Paper**

The Regional District of North Okanagan (RDNO) has committed to facilitate the development of a watershed sustainability plan for the Shuswap River. The decision to undertake such a planning process was prompted by the recognition that the current convergence of uses, values and pressures, on the Shuswap River could compromise the integrity of the watershed. Residents in local communities are conscious of this situation and have expressed concerns to the Board of Directors, the City of Enderby and regional planning staff with regard to a range of issues along the Shuswap River including impacts of recreational use, impacts of adjacent land uses, water quality concerns and ecosystem health.

The purpose of the Shuswap River watershed sustainability planning process is to:

- 1) Create a common long-term vision for the management of the Shuswap River Watershed (which includes its tributaries) that all stakeholders and community members agree to and strive to achieve.
- 2) Create a comprehensive plan that will guide agencies and the community in decision making with regard to land and water planning within the Shuswap River Watershed.

Phase I of the process to develop the Shuswap River Watershed Sustainability Plan (SRWSP) has focused on developing a vision for the Shuswap River Watershed, identification of issues to be addressed during the planning process and determining the current condition of the watershed.

Visioning and issue identification has been undertaken through stakeholder and public engagement during a stakeholder workshop held in December 2010 and two public workshops held in June 2011. Surveys were also distributed at the public workshops and have been available on-line.

The condition of the Shuswap River Watershed has been assessed through two technical exercises, the Shuswap River Technical Assessment undertaken by Golder Associates with an emphasis on water quality, water quantity and riparian health, and the Lower Shuswap River and Mabel Lake Inventory, Mapping and Aquatic Habitat Index undertaken by Ecoscape Environmental Consultants Ltd. Both of these exercises have contributed to the issue identification process and will inform how issues are addressed in Phase II of the planning process – Plan Development.

### **Stakeholder and Public Engagement**

27 organizations were represented at the December 2010 Stakeholders workshop including environmental groups, community associations, federal, provincial and local government and first nations.

The June 2011 public workshops were held in Ashton Creek in the northern part of the watershed and in Lumby in the south. Over 76 people attended the two workshops and surveys and written comments have been received from 16 individuals.

## **Draft Vision Statement**

A vision statement for the SRWSP describes the collective desired future state of the Shuswap River Watershed. It provides guidance for all components of the planning process and the plan itself. The development of the vision statement is an on-going process and to date has been informed through the public and stakeholder engagement process. An initial vision statement was developed after the stakeholders' workshop in December, 2010 based on the feedback received during a visioning exercise. This draft statement was presented at the public workshops and in the survey and participants were asked to indicate if they felt it required changes and/or additions. The feedback received during this part of the process was then used to edit the original version and generate the following vision statement for the SRWSP.

*Working together to sustain a healthy, resilient watershed where ecosystems are protected and restored and environmental and cultural values are respected. Through the management of human activities, impacts on the watershed will be minimized, ensuring that wildlife, habitat and people thrive.*

Review and endorsement of this version will be sought during the initial stage of Phase II of the planning process.

## **Issue Identification**

Exercises undertaken at the workshops were designed to inform the issue identification process. In all three workshops and within the survey, comments were sought in two categories;

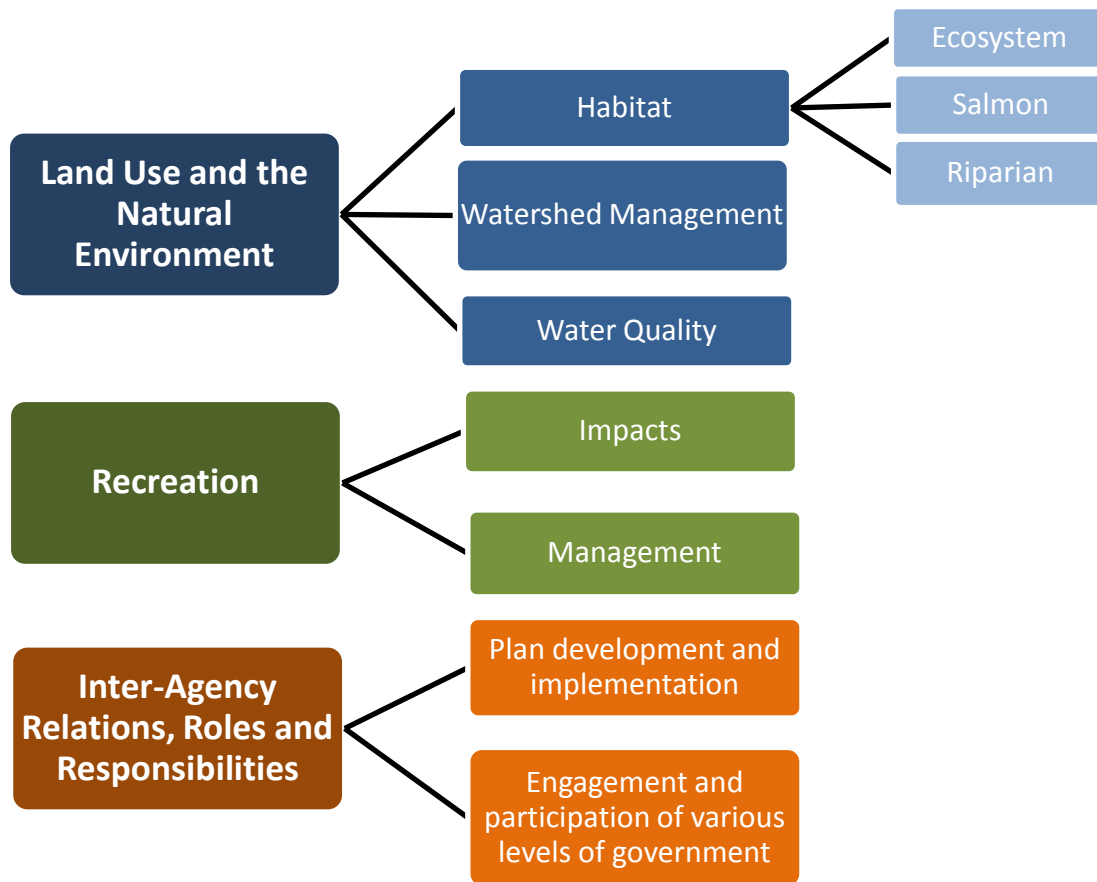
1. Identification of areas of interest and importance
2. Identification of areas of concern

Over 150 comments were received specifically addressing these categories. The issues identified were broad in range but they can be grouped into three general themes;

1. Land use and the natural environment
2. Recreation
3. Inter-agency relations, roles and responsibilities

Each of these themes can then be organized into a number of sub-themes as shown in Figure 1.

The comments received have been organized into themes to provide topic areas to shape policy and action development within the planning process. It is recognized that the issues are frequently interconnected, and therefore will need to be addressed in an integrated manner within the planning process. There is also a geographic element to the issues with some being specific to certain parts of the watershed and others applying watershed wide. Policy development will need to account for geographic scope to reflect the nature of the issues identified.



**Figure 1: SRWSP Issue Themes as Emerged from the Stakeholder and Public Workshops**

During the workshops participants were asked to identify areas of importance and specific geographic concerns on large maps of the Shuswap River watershed. This exercise has provided a geographic reference for a number of the issues raised. All the maps from the workshops have been amalgamated into two master maps, one for the stakeholder workshop and one for the public workshops (Appendix 1). The comments generally fall into the natural environment and recreation themes and provide specific locations where issues are known to be evident.

In the discussion of the issue themes that follow relevant results from the Shuswap River Technical Assessment and the Lower Shuswap and Mabel Lake Inventory and Mapping work will be included where appropriate.

### **Land Use and the Natural Environment**

Analysis of the comments received during the issue identification phase indicates that protection and restoration of the natural environment within the Shuswap River Watershed is of paramount concern. Concerns were raised regarding degradation of habitat, protection of overall watershed health and impacts on water quality. The majority of the comments relate to the impacts that land and water uses are having on the watershed and that management of these activities needs to give priority to protecting the integrity of the natural environment.

## **Habitat**

Maintenance of ecosystem health and prioritizing it above all other considerations in management decisions was a strong theme within the comments. Participants were concerned about impacts on wildlife habitat throughout the watershed from upland areas being impacted by logging practices to aquatic habitats being compromised due to adjoining land use practices and activities on the river itself.

The significance of the Shuswap River Watershed as a salmon fishery was illustrated through the comments of many participants. Comments referenced the value of salmon to the entire ecosystem as well as concerns regarding damage to spawning habitat and the impediment to fish passage at Wilsey Dam. Actions to protect and restore salmon spawning habitat were identified as critical in the on-going management of the watershed.

Protection and restoration of riparian areas, the areas bordering streams, rivers, lakes, and wetlands that link water to land, was another strong theme within the comments received. Concern was expressed relating to loss of vegetation and bank damage in riparian areas due to development on adjoining lands, cattle access and erosion caused by motorized boat traffic.

Riparian health and identification of sites for restoration was a key component of the two technical assessments that have been undertaken within the watershed. Orthophoto interpretation of the state of riparian areas was conducted on the Upper and Middle Shuswap River by Golder as a part of the Shuswap River Technical Assessment and a very detailed inventory of riparian areas was undertaken on the Lower Shuswap River and Mabel Lake by Ecoscape. These two assessments have provided a list of priority sites for restoration in the case of the Lower Shuswap River, and a list of sites to be ground-truthed in the Middle and Upper Shuswap River. The assessments have found that the condition of riparian areas of the Shuswap River varies in level and source of impact between the upper, middle, and lower sections of the river.

The health of riparian areas is strongly linked to the quality of salmon habitat. Vegetated riparian areas play a significant role in maintaining water temperature, providing large woody debris and ensuring river banks remain intact, all of which are important for salmon spawning habitat. Loss of vegetation in riparian areas increases the vulnerability of banks to erosion which in turn can lead to sedimentation, affecting water quality and the condition of spawning areas. Areas of high value spawning habitat were identified on the watershed maps by workshop participants as were areas with compromised riparian zones and significant bank erosion. The Lower Shuswap was repeatedly identified as having significant bank erosion and riparian damage.

## **Watershed Management**

The comments made in relation to watershed management were general in nature identifying watershed wide concerns with regard to the environmental impacts of land uses, lack of appropriate management and controls and identifying the Shuswap River as the “ecological heart” of the region. The need to manage the watershed in a sustainable manner was imbedded in this theme. It is the purpose of the Shuswap River Watershed Sustainability planning process to do just that, to provide a policy framework within which to implement sustainable management of the watershed.

## **Water Quality**

Water quality in the Shuswap River and its tributaries featured significantly in the comments received. Comments referred to the need to protect water quality in general as well as identifying particular activities and point sources of concern. These included emergency dumping of sewage, pesticides, manure management, failure of septic systems, pharmaceuticals and toxins, storm water run-off and sedimentation caused by erosion to river and stream banks. Land use activities within the catchment including logging, agriculture and industrial businesses were also connected to water quality concerns. Specific point sources of potential water pollution were identified on the watershed maps (Appendix 1).

Gaining an understanding of the current quality of the water throughout the Shuswap River watershed is a detailed and potentially costly process. However, some information already exists and on-going monitoring is being undertaken at a number of points within the system by community groups and government agencies. The Shuswap River Technical Assessment included a high level review of existing water quality data based on information presented in historical monitoring reports. The review identified that the overall water quality of the Shuswap River Watershed is considered “good,” however water quality impacts have been observed for nutrients and microbial parameters predominantly attributed to human activities.

A preliminary risk assessment was also conducted for the Shuswap River Watershed as a part of the Technical Assessment. As a result potential areas of concern were identified and mapped, largely related to intensive agriculture, waste management and wastewater treatment, and industry, found within the Middle and Lower Shuswap River Watersheds.

### **Water Quantity**

Linked to the theme of protection of the natural environment is water quantity. Although water quantity was not directly raised within the comments received from the workshops and survey it relates directly to in-stream habitat and water quality. Water quantity was one of the three focus areas of the Shuswap River Technical Assessment.

It was concluded within the Shuswap River Technical Assessment that overall surface water use does not appear to be an issue relative to flow; however, summer use is up to 2.5 times higher than the annual use due to agricultural and domestic irrigation, and summer flows are much lower. As such, water use in late summer and early fall has the ability to significantly reduce in-stream flows especially in some tributary streams of the Shuswap River Watershed. This is further compounded by a trend of lower summer flows over the last 30 years attributed to climate change.

### **Recreation**

Recreation emerged as a strong theme within the comments; concerns included the impacts recreational activities are having on the natural environment, conflicts between different users, maintenance of access points and recommendations for management.

### **Impacts of Recreation**

Concern was expressed primarily with respect to the use of motorized vehicles within the watershed, including boats, personal water crafts, ATVs and snowmobiles and the impacts they can have on riparian areas, wetlands and in-stream habitats. Damage is connected to driving directly on or in sensitive areas or through associated impacts such as erosion of river banks caused by wave action from motor boat wakes.

The erosive effect that boat wakes may be having on riparian areas was identified as a concern in both the Shuswap River Technical Assessment and the Inventory and Mapping report. The areas of primary concern are those banks and stretches of the river that have experienced a loss of vegetation which exposes the bank substrates.

Conflict between different recreational uses was identified as a concern specifically between motor boats and swimmers, tubers, canoeists and kayakers. There is concern that collisions between motorized and non-motorized users are imminent given the speed at which some boats are being driven and the number of other users on the river. Observations from residents within the watershed would suggest that recreational use of the Shuswap River has increased in recent years especially in terms of number of motorized boats and people “tubing” on the lower stretches of the river. The increase in numbers of recreational users increases any impacts they cause on the natural environment and the potential for conflict between different users.

The themes identified regarding recreation within the watershed link into the themes discussed earlier with respect to the natural environment, illustrating the interconnected nature of the issues. Recreational activities are perceived to be having an impact on the natural environment especially with regard to habitat degradation and water quality. Loss of vegetation in riparian areas due to land use activities renders river banks vulnerable to erosion caused by wave action from motor boat wakes, undermining banks and potentially leading to more loss of vegetation. Erosion caused by motorized vehicles, be it in riparian or upland areas, leads to an increase in sediment in the system which can smother fish spawning habitat and aquatic vegetation and decrease water quality. Nutrients and pollutants can be transported into the waterway attached to the sediment particles, also having a negative impact on water quality.

### **Recreation Management**

Policy development will need to reflect the relationship between human activities, including recreation, and the natural environment. This was reflected in the sub-theme of recreational management. Comments included both a desire for restrictions on activities to reduce or eliminate impacts on the environment and potential conflicts between users, and an interest in maintaining access for recreational activities within the catchment. These two themes speak to the balance that policy will need to achieve, protecting the natural environment and the safety of users while still providing for recreational opportunities.

### **Inter-Agency Relations, Roles and Responsibilities**

The third general theme that comments fell into was inter-agency relations, roles and responsibilities. Participants expressed significant frustration at the perceived lack of coordination between government agencies with regard to management of the Shuswap Watershed and lack of understanding of each other's roles. This sentiment is emphasized by the absence of a lead agency or single authority with regard to management of the river. Participation by all relevant agencies in the planning process for the SRWSP was identified as critical to the success of the project but participants exhibited a general lack of confidence in the ability of RDNO to facilitate such participation. It was also suggested that the planning process appeared to be very bureaucratic and that there needed to be more involvement of the community at a grass roots level.

It is intended that the SRWSP will be an integrated plan with involvement from the community, relevant agencies, community groups and first nations in its development and implementation. The development of the plan is to be carried out through a bottom up approach, not top down. The goal is to facilitate and provide opportunities for the community and agencies to identify issues and areas of importance develop policies and ultimately implement the plan. Phase 1 – Issue Identification, has primarily been informed by the stakeholder and public workshops. The outcomes of the technical assessment and the mapping work currently being undertaken will add to and reinforce the outputs of the workshops and inform policy development.

Agency and community involvement will continue in Phase II of the planning process – Plan Development. The development of policy and short and long-term objectives and strategies will be informed by working groups populated by interested volunteers sought from the community, first nations and agency representatives. The outputs of the working groups will be open for review and input by the community and stakeholders. Phase III of the plan development – Implementation will likely involve multiple agencies, community groups and individuals.

### **Priority Setting**

At the public workshops participants were given stickers to place against issues that they felt were a priority for the SRWSP to address. This exercise will not exclusively drive which issues will be given

highest priority, but does provide some guidance to the issues of greatest concern. The ten comments that received the most stickers were as follows:

<b>Issue</b>	<b># Stickers</b>
• Impacts from house boats and speed boats	32
• Agricultural practices (pesticide use and manure management and impacts of run-off)	32
• Preserve and protect water quality	18
• Maintaining good water quality and clarity	18
• Spawning areas/habitat	17
• Sustainability of watershed	14
• Erosion	11
• Intensification of water based recreation activities (Lower Shuswap)	11
• Failure of septic systems	10
• Critical spawning habitat	10

These ten comments speak primarily to concerns regarding the impacts human activities are having on the natural environment and a desire to manage the watershed in a sustainable manner.

### **Next Steps**

Based on the results of Phase I of the planning process, Visioning and Issue Identification, the results of the Shuswap River Technical Assessment and the Lower Shuswap River and Mabel Lake Inventory, Mapping and Aquatic Habitat Index, working groups will be formed to inform Phase II – Plan Development. These working groups will address the three broad themes derived from the Issue Identification phase of the planning process, land use and the natural environment, recreation and inter-agency relations, roles and responsibilities.

# Appendix 1

## SRWSP Workshop Watershed Maps

