

**THE SALMON
RIVER WATERSHED**

**FRASER RIVER
ACTION PLAN**

**AN OVERVIEW
OF CONDITIONS,
TRENDS AND
ISSUES**

**PUBLIC SUMMARY
REPORT**



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Environment
Canada

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**THE SALMON RIVER WATERSHED
AN OVERVIEW OF CONDITIONS, TRENDS AND ISSUES**

PUBLIC SUMMARY REPORT

Prepared on behalf of the:

Salmon River Watershed Roundtable

by

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November 1995

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Introduction

There is a growing recognition that in order to preserve and restore the quality of life we enjoy in the Salmon River Watershed we must address a number of issues. The goal is to achieve sustainable living, socially, economically and environmentally. This report is intended to provide an overview of trends and challenges to residents of the watershed and concerned others as they face issues regarding the sustainability of their watershed,

Issues outlined in this summary report, which we refer to as the "Public Document" are highlights taken from a longer, more detailed, "Technical Report". The technical report is an overview of readily available information regarding the Salmon River Watershed from government and other sources.

Copies of both the "Public Document" and the "Technical Report" are available from:

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This report is organized into the following sections:

- ***What is Happening in the Watershed?***

This section examines some of the key trends in the watershed from a social and economic perspective, land use (including settlement, agriculture, forestry), fish and wildlife, water quantity and water quality.

- ***Major Challenges Facing the Watershed***

Based on what is happening (key trends) in the watershed, a number of major challenges or problems are posed which could affect long term sustainability of the watershed,

- ***Meeting the Challenges***

To meet the challenges of sustainability for the watershed will require actions in a number of areas. This section is meant to stimulate ideas and discussion and to assist residents and concerned others in formulating actions to meet the challenges facing the watershed.

What is Happening in the Watershed?

The Salmon River Watershed has been affected by many changes over the past 100 years. Many of these changes are internal to the watershed, while others are from outside. This section tries to help us understand what is happening in the watershed so that residents are better informed about their watershed and to assist them in making choices about what actions should be taken to address sustainability issues. For more detailed information on trends in the watershed, readers should consult the "Technical Report".

Social and Economic Trends

Many of the social and economic trends occurring in the Salmon River Watershed are also found throughout the province. These include, for example, increasing population, less reliance on traditional primary industries for employment (e. g., forestry), greater cultural diversity, and more dependency on government income support.

Population Growth

- The Salmon Arm area will continue to grow most quickly compared to other areas within the watershed. This is faster than the provincial growth rate.
- In-migration has, and will, bring new cultural influences, skills, investment capital and incomes. *However, the sense of community will also be challenged by greater cultural diversity, and by higher crime rates, which appear*

to be related to larger centres of population.

- Population growth will continue to drive up property values and the demand for rental housing. This will increase wealth and/or rental incomes of property owners. *However, this could reduce the availability of affordable housing for renters and first time home buyers.*

Employment

- Total income and employment in the watershed will continue to grow as population increases, despite declines in the importance of resource sectors. Retiree incomes, tourism and service industries will be the strongest growth areas. *However, per capita incomes may decline as the proportion of the labour force in lower wage service sector jobs increases.*
- Government income assistance and other programs will have a steady influence on the economy and help displaced workers find other jobs. Education levels are much higher, helping people to adjust to a changing economy. *However, there is a possibility that government will cut back income support, education, health and other social services, and that a permanent "under-class" is developing, with little or no stake in the economy or community.*
- Greater participation of women in the economy will continue, thereby adding to, and diversify-

ing family incomes. However, *there may be increased stress on two worker or single parent families with children that are having difficulties finding work and adequate child care.*

Economic Opportunities

- Goods and services that were once bought outside the watershed will be provided by local businesses (e. g., retailing). Improved communications will create growing opportunities in home businesses.
- Settling Native land claims will generate economic benefits to all watershed residents in the long term, because of First Nations business ventures and greater investment certainty.
- Government will manage Crown-owned resources more intensively and is likely to expect a higher economic return from them. Forest Renewal BC represents an example of this trend. *There is a possibility that public resources, such as water, Crown timber and range lands may be underpriced, discouraging more efficient uses and providing insufficient resources for properly managing and sustaining them.*

Land Use Trends

Settlement

- The majority of the new settlement in the watershed will continue to be in the District of Salmon Arm. In recent years, housing construction in the Dis-

trict of Salmon Arm has increased at a more rapid rate than population growth.

- While local and regional governments have policies to discourage sprawl, there will be increasing demand for rural residential development. This is due primarily to the proximity of the area to employment centres in Vernon and Kamloops and the attraction of the climate and character of the area to retired and semi-retired people. *There could be some diminishing of the rural character of the watershed.*
- Increasing residential growth will result in pressure to remove land from the agricultural resource base, including lands within the Agricultural Land Reserve (ALR). *However, the current policies of local and regional governments within the watershed have been to firmly maintain the A LR.*
- Impacts from land development on water quality and streamside vegetation are likely to occur in some rural areas where there is no requirement for building inspections to ensure stream protection policies or regulations are being met.

Agriculture

- There has been minimal exclusion of land from the Agricultural Land Reserve within the watershed since its designation in 1974. *Some limited subdivision of larger parcels has been allowed within the ALR by the Agricultural Land Commission*

mostly on 10 w capability agricultural lands.

- It is anticipated that the current distribution, mix and range of agricultural uses within the watershed will remain relatively stable for the foreseeable future with some increased emphasis on specialty crops or commodities.

A comparison of the 1981 and 1991 Census of Agriculture suggests:

Livestock enterprises were the dominant agricultural use with 58% of farms in 1991, although this is a significant t reduction from 74. 5% of farms in 1981.

Specialty agricultural operations have increased from 9.8 % to 26.5% between 1981 and 1991.

Land use for dairying has increased since 1981 while the land area used for beef production has declined significant tly. Hog and poultry farms have also declined in numbers. Field crop, tree fruit, vegetable and livestock combination uses remained relatively consistent in the ten year period.

- There will likely be a trend to higher value agricultural products with more intensive management. Historically beef/forage production has been the dominant type of agricultural use within the watershed. This has gradually changed to the current situation where there are over 30 different agricultural uses and

commodities. However, the diversity of agricultural uses will vary with market demand and production economics.

- Although there is some opportunity for expansion of existing farm and ranch production units within the watershed, opportunities are constrained by a limit of available high capability agricultural land (Crown or private). *Competition for alternative uses and competition for water required for irrigation purposes will affect agricultural opportunities.*
- Implementation of province-wide environmental management practices within the agricultural industry should contribute towards sustainability in the watershed. Codes of practice and environmental guidelines for particular agricultural commodity groups are part of provincial waste management laws (e. g., Environmental Guidelines for Dairy Producers).
- The recently adopted Farm Practices Protection Act should assist with urban-rural land and water use conflict resolution.

Forestry

- The current levels of harvesting in the Timber Supply Areas (TSA) within the Salmon River watershed are not sustainable over the longer term. In the Okanagan TSA, which covers the majority of the watershed, the current level of harvesting can be maintained for 20 years.

After that, it must be reduced by 10% per decade, until the long-term harvest level is reached in 40 years.

- Implementation of the Forest Practices Code should result in better harvesting methods and protection of fish and wildlife resources. *In the past, harvesting methods have not always respected other values and have led to increased runoff, soil erosion and removal of streamside vegetation. Fish and wildlife habitat has been negatively affected. There is some concern that the Forest Practices Code does not apply to private lands that are subject to logging activities.*

Fish and Wildlife Trends

Salmon Abundance

- Salmon populations that depend on the Salmon River as their home waters remain in jeopardy. Salmon returns to the Salmon River have declined by about a 100 times (from over 200,000 to 2,000-3,000), *Agriculture, logging and commercial fishing practices, acceptable in their day, have contributed to this decline.*

Wetland and Riparian Habitat

- Important fish and wildlife habitat has been lost due to impacts of development on wetlands and riparian zones in the Salmon River Watershed, *The majority of the losses have occurred as a result of past land use practices,*

including river channelization, draining and filling.

Old Growth Forest

- Due to natural and man-made fires and logging over the past several decades, old growth forest components of the Salmon River Watershed ecosystem have been significantly reduced. *The old growth forest component of the ecosystem cannot be rapidly replaced, and is a key part of maintaining biodiversity and ecosystem health.*

Limited Knowledge

- Our perspective of ecosystem health is based on limited knowledge of only a few species and their habitats. *Assessments of habitat impact have traditionally emphasized a select few species which are of particular economic or cultural importance such as salmon or deer. These species are often used as biological indicators of ecosystem health. Biodiversity and ecological health will remain difficult to protect unless ecological linkages between species and their physical environment in the watershed are better understood.*

Water Quantity Trends

Low River Flow and Water Demand

- Summer low flows continue to be a critical problem in the Salmon River. Water temperature in the Salmon River during summer low flow periods are a major threat to fish survival. Lack of

water exerts tremendous pressure on salmon populations attempting to spawn and rear in the Salmon River watershed. The peak irrigation season coincides with critical low flow periods.

Conservation and Regulation

- Water resources, generally, have been treated as a free, unrestricted resource (first come, first serve). There are very few economic incentives to conserve water in our current regulatory system. *Surface water use is controlled through regulation and licensing, but there is no regulation of groundwater use.*

Water Quality Trends

Streambank Erosion and Nutrient Loading

- Water quality in the Salmon River is being seriously impacted due to streambank erosion and nutrient inputs. Erosion of streambanks and upland areas are increasing the fine sediments in the river and impacting on fish spawning gravels. Nutrients are entering the Salmon River and Shuswap Lake from animal wastes, fertilizers, human sewage and natural sources. *Bacteria concentrations are known to have sometimes exceeded health standards for human use in the Salmon River.*

Initiatives to improve Water Quality

- Recent initiatives in the watershed should contribute to

improved water quality. These include: public education and streambank restoration projects along the Salmon River, improved forest practices through the Forest Practices Code, implementation of stream-side setbacks by local and regional governments and control of nutrients through application of agricultural environmental guidelines and codes of practice. *However, despite these initiatives, water quality will also be affected by low flows.*

Major Challenges Facing the Watershed

The trends identified above suggest a number of major challenges facing the Salmon River watershed, including water, ecosystem health, sense of community and rural lifestyle and livelihood. The challenges outlined below are not meant to include all the issues facing the watershed. It is important to recognize that there are many linkages and overlaps between issues of sustainability in the watershed. This section is intended to help in the understanding of the linkages.

Water

Water is the lifeblood of the watershed. It sustains trees, crops, fish and wildlife, and humans. Water provides recreational and tourism opportunities. It dilutes our wastes. Virtually all activities in the watershed involve water in one way or another. There are very real concerns that water is less available when needed in the watershed and is in danger of becoming more polluted.

Rapid snow melt and reduced storage of ground and surface water from activities such as logging, land clearing, drainage of wetlands, straightening of river channels and removing streamside vegetation contribute to rapid runoff, erosion, loss of productive soils, and loss of fish and wildlife habitat.

Low flows are of particular concern in the late summer when high water temperatures can be lethal to fish and create shortages for irrigation and spawning salmon. Pollutants from urban and rural runoff, faulty septic systems, fertilizers and pesticides are more concentrated during low flows.

There are growing concerns over inefficient uses of water in the watershed. Surface water rights are allocated through licences and no new licences are being issued, however there is no regulation of ground water, and no incentive to conserve it. It is believed that there is a strong relationship between surface water and ground-water in the watershed. Wells close to the Salmon River may be drawing river water.

With growing population and settlement in the watershed there will be increasing demands on water resources. Water will be a key factor in the long term sustainability of the watershed. Steps have been taken by the Roundtable and other partners in educating people about the linkages between land use activities and water quantity and quality. Projects to re-establish streamside vegetation and keep livestock away from the river, in cooperation with landowners, are positive initiatives.

Opportunities also exist to store water in upland areas and to restore wetlands in some areas (e. g., vicinity of Salmon Lake) which can have positive benefits for wildlife habitat and possibly create recreational opportunities (e. g., hunting and fishing).

Ecosystem Health

There is a growing recognition that we cannot treat the environment as a separate entity. We are all part of it and we affect it as much as we are affected by it. *The system of which we are a part also has a limited capacity to support us. There are thresholds at which point certain parts may not function properly or may be destroyed completely.*

We might ask why the residents of the watershed should value and take steps to protect the quality of environmental resources?

One reason is the respect for other life forms. From this perspective, fish, mammals, birds and other species are accorded an inherent survival value, independent of whether or not they have any particular "use" to humans.

A second reason is that protecting natural areas and a diversity of plants and animals is an important indicator of the health of human communities.

A third reason is that natural areas have both an economic and social value. The watershed contains significant forest resources that have the ability to sustain economic, social and environmental values in perpetuity. The same is true of productive soils, waterbodies and wetlands of the watershed. Many of these areas of the

watershed also provide recreational and tourism opportunities,

Ecosystem health in the Salmon River watershed has been compromised in the past. Land use decisions, settlement patterns and human activities have not always considered effects on fish and wildlife resources or habitats.

When habitats are altered, there can be serious implications on the food chain and interrelationships between life forms. Some wildlife are forced to leave when their shelter becomes too exposed or as certain plant species are destroyed. In some cases, alternative habitat areas do not exist either locally or regionally.

When a species is removed from the food chain of a habitat, a break occurs which has ramifications throughout the biological community. Some species may be driven out, others may overpopulate, and others may develop a dependency on humans. There is also the potential for habitat fragmentation where habitat is isolated into small units, unable to support viable populations of fish and wildlife.

The most common forms of habitat alteration occur through land clearing, draining and filling of wetlands, road building, removal of streamside vegetation and alteration and obstruction of watercourses (damming, culverting, straightening, water withdrawal). Habitat impacts which are not always as visible, but can be just as damaging include water pollution from siltation, sewage, toxic chemicals, fertilizers, pesticides and stormwater runoff.

Linking important habitats through corridors is also a critical element in

protecting and maintaining a healthy ecosystem. Riparian corridors are especially important for a wide variety of wildlife and in connecting upland and lowland habitats. This is why ecosystem management cannot just stop at an administrative or property boundary. An integrated approach is essential.

Identifying and protecting important ecosystems is a first step towards an integrated approach. While there has been progress in this regard through the Forest Practices Code, old growth strategy and other initiatives, there are relatively few protected areas within the watershed.

Sense of Community

The rapid population growth in the watershed, and the increased cultural mix of new residents to the area have put strains on the sense of community. Higher rates of crime are often associated with increasing population growth. With the majority of the population growth occurring in the Salmon Arm area, there is a concern that the rural-urban split in the watershed will heighten. Should sprawl tend to occur, there is likely to be increasing friction between suburban and rural lifestyles.

The sense of community in the watershed is also linked to resource sustainability. With decreasing dependency on forestry in the watershed, a greater proportion of residents may have to find other sources of livelihood or commute to jobs outside the watershed.

There is also a concern that as more people become dependent upon government income support, that a permanent "underclass" may develop, with

little or no stake in the economy or community. A strong, sustainable economy will help to counteract this tendency and lead to more citizen interest and involvement in the community.

Another issue affecting the sense of community is the outstanding settlement of native land claims. The uncertainty regarding the settlement of claims is of concern to many. However, tensions may increase during negotiations if natives are dissatisfied with slow progress and if non-natives believe their economic opportunities are being diminished.

There is also a general level of frustration among many residents that most decisions affecting sustainability are being made outside the watershed, with little effective local input or control.

There are also positive signs of community involvement as more residents take an interest in sustainability of the watershed and participate in forums and programs such as those sponsored by the Salmon River Watershed Roundtable and its members.

Rural Lifestyle and Livelihood

Rapid population growth and fewer jobs in forestry and agriculture are viewed by many people as an erosion of the traditional rural lifestyle in the watershed. A perceived decline in the sense of community is directly related to this view.

While more traditional resource dependent jobs are expected to decline over the years, there will be an increase in employment in Tourism and service

industries. More money will come into the watershed economy through retiree incomes. Job opportunities for young people in the more traditional resource sectors, however, may be limited.

There are more part-time farmers in the watershed, living on smaller farms who supplement their incomes with other jobs. Because of the existence of the Agricultural Land Reserve and the policies of local and regional governments, residential development opportunities in the rural areas of the watershed are limited. However, this could increase property values and may mean that traditional livelihoods are less viable, particularly for younger people or first-time home buyers.

While overall, there has been a reduction of farms in the watershed, there has been an increase in the number of specialty and higher value commodities. It must be recognized that farming, like many other economic enterprises, is market driven. These types of farms may use land more intensively and be more efficient in their operations. It is difficult to estimate at this time whether this could lead to greater demands on water or greater use of fertilizers and pesticides. One effect may be that such agricultural operations will be able to afford more modern technology (e. g., automated irrigation systems) that would make more efficient use of water.

Preserving rural lifestyles and traditional livelihoods will require that sustainable approaches to resource management are followed. Not only will productive agricultural land need to be protected, but soil productivity must also be maintained through good farming practices. The same is true of forest lands and

forestry practices. Both sectors must be managed on an ecosystem basis to ensure that ecological, social and economic values are integrated. This also applies to land use and community planning.

Population growth and economic change will continue in the watershed. The challenge will be to manage the growth in a sustainable way and to ensure the benefits of growth are distributed more broadly among those vulnerable to economic change. This will help to maintain a sense of community and interest in the affairs of the watershed.

Meeting the Challenges

This section explores some ways in which residents and others can start to tackle the challenges facing the watershed. It begins by looking at some of the barriers in each challenge; legislative/administrative constraints, information needs, cooperation, and resources (funding, etc.) Several actions are proposed and some of the possible advantages and disadvantages (implications) of these actions are outlined. These are not exhaustive. They are meant to stimulate discussion and to generate further ideas.

Challenge: Water

Barriers

Legislative/administrative

- very little incentive for users to conserve water
- surface water users are licensed while ground water is virtually a "free resource" with no licensing

or regulation

- "underpriced resource" - use of water, either for supply or as a system of disposing of wastes does not always reflect the full environmental costs or their value to future generations
- possible oversubscription of water licences has resulted in not enough water for salmon
- lack of local control over water allocation
- in some jurisdictions there are no bylaws or building inspections to protect natural drainage systems and to control erosion
- no bylaws to regulate land clearing activities and protect trees on private land

Information Needs

- measurement of water use and supply (water budget)
- stream flows at different times of year
- assessment of non-point discharges to Salmon River (amount and type)
- lack of awareness and understanding among water users and property owners about the need for water conservation and retention of streamside vegetation
- assessment of creating wetlands at Salmon Lake and other areas to increase water storage, fish and wildlife benefits and tourism opportunities
- identification of potential areas and methods of water storage
- evaluation of forest harvesting practices on runoff rates
- widely publicized water health indicators

Cooperation

- property owners concerns over loss of water rights and potential user fees
- property owner concerns over greater regulation re: land clearing, tree removal and fencing of livestock
- farm operators cooperation required in implementing environmental guidelines and codes of practice
- government-community cooperation to ensure integrated water management

Resources

- funding/resources required to undertake water budget studies, study alternative water storage options and assess non-point pollution sources
- funding/resources required to fill information gaps and other barriers

Water: Actions and Implications

Possible Actions	Advantages	Disadvantages
Undertake a water budget of supply and demand for both surface and ground-water (domestic and irrigation)	<ul style="list-style-type: none">● necessary information base for effective management● opportunity to work jointly with property owners	<ul style="list-style-type: none">● time-consuming/costly● difficulties in obtaining data
Create a local water authority to regulate water use	<ul style="list-style-type: none">● provides for local responsibility and decision making on water issues● rents, fees collected would stay in region	<ul style="list-style-type: none">● may be seen as another layer of government! bureaucracy● costs of establishing and running
Introduce user fees for water use and waste discharges	<ul style="list-style-type: none">recognizes true value/cost of resources● more efficient use of water and waste treatment systems● fees collected could be targeted to specific needs in the watershed (e.g., water storage, waste treatment)	<ul style="list-style-type: none">● additional fees may place a burden on some users● an administrative system will be required to set, collect and distribute fees

Possible Actions	Advantages	Disadvantages
Licence groundwater use	<ul style="list-style-type: none"> ● recognizes inequities between surface and groundwater use allocation ● creates ability to take a more holistic approach to water use management 	<ul style="list-style-type: none"> ● more resources required to administer ● concern over more regulation
Work with local and regional governments to develop and implement policies and bylaws to protect watercourses and natural drainages (e.g., wetlands)	<ul style="list-style-type: none"> ● protection of natural drainage systems to recharge groundwater ● protection of fish and wildlife habitat ● opportunities to work cooperatively with all levels of government and landowners 	<ul style="list-style-type: none"> ● requires resources to implement (i.e., building inspections) ● resistance to greater control over private land development
Work with government agencies and landowners to identify and create water storage opportunities, e.g., snow wells and strips in forests, impoundments, wetlands	<ul style="list-style-type: none"> ● create opportunities for more water storage, particularly during melting and freshet periods for later release during low flows ● provision of wetlands for fish and wildlife and recreation/tourism ● cooperation opportunities between residents and others ● individuals take more responsibility in water management 	<ul style="list-style-type: none"> ● resources required to undertake studies and to implement storage measures
Develop, educate and demonstrate: water conservation methods, stream-side vegetation retention, codes of environmental practice in agricultural operations	<ul style="list-style-type: none"> ● more efficient use of water ● protection of water quality ● builds on initiatives, partnerships and cooperation now underway 	<ul style="list-style-type: none"> ● resources required to develop and implement
Undertake an assessment of non-point pollution sources	<ul style="list-style-type: none"> ● increased understanding of significant sources of water quality degradation ● opportunities for community involvement in collecting data and monitoring 	<ul style="list-style-type: none"> ● resources required to implement study and organize community involvement

Challenge: Ecosystem Health

Barriers

Legislative/Administrative

- current fragmentation of administrative boundaries of government agencies in the watershed are not conducive to an ecosystem approach
- “underpriced resource” - use of water, wetlands and old growth forests does not always reflect the full environmental costs or their value to future generations
- benefits of protecting a resource may not go directly to watershed residents (e. g., salmon produced in the watershed are caught elsewhere)
- lack of growth management strategies in the watershed
- lack of formal provincial wetland restoration and protection policy
- minimal control of environmentally harmful activities on private land
- ineffective management of population growth

Information Needs

- biophysical inventories to identify important wildlife habitats, especially for rare, endangered and threatened species
- identification of key wetlands in the watershed and their significance as fish and wildlife habitat and opportunities for recreation and tourism
- identification of important wildlife corridors
- establishment of ecosystem objectives and indicators as a basis for future monitoring of

ecosystem health

Cooperation

- **fragmented jurisdictions** has been a barrier to ecosystem management
- some private property owners have resisted participation in cooperative programs to address ecosystem health issues
- different views and opinions on the seriousness of ecosystem issues

Resources

- funding/resources required to fill information gaps and address other barriers

Ecosystem Health: *Actions and Implications*

Possible Actions	Advantages	Disadvantages
Develop ecosystem objectives and indicators as a basis for monitoring ecosystem health	<ul style="list-style-type: none"> ● provides a basis for evaluation of sustainability of the watershed 	<ul style="list-style-type: none"> ● some costs associated with identifying suitable objectives and indicators and monitoring and reporting
Examine ways of pricing resources that lead to more efficient use and reflect environmental values	<ul style="list-style-type: none"> ● takes a more holistic view of management of resources and environmental costs 	<ul style="list-style-type: none"> ● may result in higher fees for some resource uses
Municipalities and regional districts to work together on a growth management strategy (Note: Thompson-Nicola Reg. District has begun this for the upper portion of the watershed)	<ul style="list-style-type: none"> ● identifies and protects important ecosystem values ● identifies where and how future growth will be accommodated in the watershed ● provides opportunities for resident and senior government involvement and cooperation ● covers private land 	<ul style="list-style-type: none"> ● resources required to undertake planning process and to implement policies
Undertake biophysical inventories to identify important fish and wildlife habitat and corridors	<ul style="list-style-type: none"> ● could be part of LRMP and growth management initiatives ● increased understanding of habitat requirements ● opportunities to involve community and naturalists in inventory work 	<ul style="list-style-type: none"> ● additional costs of inventory
Participate in and support government initiatives such as forest ecosystem planning and land and resource management plans (LRMP)	<ul style="list-style-type: none"> ● takes an ecosystem and integrated approach to management of provincial forest and crown land ● builds on existing initiatives such as the Forest Practices Code ● offers a mechanism for involving government agencies, residents and others in resource management planning 	<ul style="list-style-type: none"> ● does not apply to private land ● requires government resources/funding

Possible Actions: Ecosystem Health	Advantages	Disadvantages
Examine opportunities for re-establishing wetland habitat	<ul style="list-style-type: none"> ● opportunity to integrate wetland restoration with recreation and tourism activities ● opportunity to undertake cooperative initiatives between private land-owners, non-profit orgs. and First Nations 	<ul style="list-style-type: none"> ● possible loss of agricultural production
Examine feasibility of establishing a watershed management authority to overcome jurisdictional and administrative barriers to ecosystem management	<ul style="list-style-type: none"> ● opportunity for a more holistic approach to management of the watershed ● more local authority and accountability 	<ul style="list-style-type: none"> ● might be perceived as another layer of bureaucracy
Investigate whether important wetland complexes and other significant habitats meet criteria for formal protection as Wildlife Management Areas	<ul style="list-style-type: none"> ● provides protection for significant ecosystem components 	<ul style="list-style-type: none"> ● funding/resources required to investigate potential acquisition and management costs

Challenge: Sense of Community

Barriers

Legislative/Administrative

- fragmented jurisdictions and decision making authority
- perceived lack of growth management in some areas of watershed
- perceived lack of local control and involvement in decisions affecting the watershed
- lack of resolution of native land claims

Information Needs

- articulation of residents' vision of community - this may vary across communities within the

watershed

- identification of groups or people at risk of becoming part of a permanent "underclass"
- status of native land claims

Cooperation

- need for coordinating mechanisms to ensure growth, social and sustainability issues are addressed in the watershed
- residents feel their input is not being listened to by government

Resources

- concern that income support, education, health and other social services may be reduced
- lack of available opportunities for job retraining and employment
- costs of native land claims

Sense of Community: Actions and Indications

possible Actions	Advantages	Disadvantages
Examine feasibility of a local watershed management authority	<ul style="list-style-type: none"> ● more local authority and accountability 	<ul style="list-style-type: none"> ● might be perceived as another layer of bureaucracy
Build on initiatives like Forest Renewal BC to Provide community involvement projects	<ul style="list-style-type: none"> ● opportunities for cooperation with agencies and community groups ● job training and experience 	<ul style="list-style-type: none"> ● dependence on government programs
Implement outreach program for street kids	<ul style="list-style-type: none"> ● provides a supportive environment for kids at risk ● opportunity for government/community partnerships 	resources to implement
Encourage affordable housing initiatives (e. g., creating extra densities in villages for rental housing or for a community land bank for co-op housing)	<ul style="list-style-type: none"> ● provides housing for those who need it ● Contributes to a sense of community if a number of groups can become involved 	<ul style="list-style-type: none"> ● some concern over subsidies
Provide opportunities for community forums to discuss growth management issues, land claims and other issues	<ul style="list-style-type: none"> ● provides much needed communication and awareness ● can be done in cooperation with Roundtable and other partners (e.g., community colleges, agencies, First Nations) 	<ul style="list-style-type: none"> ● requires coordination and logistics
Encourage local and regional governments to undertake coordinated growth management strategies	<ul style="list-style-type: none"> ● provides a means for addressing community concerns over population growth and sprawl ● should incorporate social, economic and environmental objectives 	requires resources for planning and implementation

Challenge: Rural Lifestyle and Livelihood

Barriers

Legislative/Administrative

- need for growth management strategy in watershed
- need for land and resource management plan in watershed that covers crown land and links with growth management strategies and local plans for private land

Information Needs

- need to understand the impacts of reduced timber harvests on jobs and the economy within the watershed so that strategies can be developed to offset these impacts
- obtain information on the viability of other business opportunities and employment generators (e. g., eco-tourism, farm experience holidays, etc.)

Cooperation

- concern over lack of integration of social, economic and environmental agencies of government to deal with issues of sustainability
- perceived lack of local input and control over decisions affecting rural lifestyle and livelihood
- lack of communication and awareness in order to build a common understanding of issues
- difference of opinion over what the problems are and how to deal with them

Resources

- until recently, with introduction of Forest Renewal BC, there has been concern over lack of resources for those displaced from forest related jobs; there is skepticism that such programs will be effective

Rural Lifestyle and Livelihood: Actions and Implications

Possible Actions	Advantages	Disadvantages
Encourage retention of productive farm land in the ALR	<ul style="list-style-type: none"> ● to maintain a viable agricultural industry in the watershed ● helps to maintain a rural character ● discourages urban sprawl 	<ul style="list-style-type: none"> ● restricts ability of private property owners to develop land ● may drive up the price of developable land in the watershed (reduced supply) and the cost of housing
Encourage local and regional governments to avoid sprawl through infill, higher density neighbourhoods, cluster housing, etc.	<ul style="list-style-type: none"> ● helps maintain the rural character of the watershed ● protects important green space and open areas ● protects productive agricultural land ● lower servicing costs 	<ul style="list-style-type: none"> ● as land becomes scarcer, property values will rise making it more difficult to obtain affordable housing
Participate in programs like Forest Renewal BC	<ul style="list-style-type: none"> ● will help some re-adjust to job losses ● provides for joint government-community projects 	<ul style="list-style-type: none"> ● requires resources to implement
New economic projects to enhance agricultural opportunities (e.g., farm folk/city folk concept (pre-sell system), cooperative marketing to promote more local buying, food processing and agro-tourism)	<ul style="list-style-type: none"> ● helps to diversify the local economy ● encourages money to be spent in local community ● contributes to sense of community and rural character 	<ul style="list-style-type: none"> ● requires coordination and resources to implement
Encourage profitable enterprises on smaller farms which are underutilized	<ul style="list-style-type: none"> ● greater diversity ● better utilization of farm land 	<ul style="list-style-type: none"> ● potential resistance from landowners who believe their land is unproductive
Put more emphasis on co-op education programs which combine education and work experience	<ul style="list-style-type: none"> ● allows more community involvement in education ● positive work/training experience ● greater local investment 	<ul style="list-style-type: none"> ● requires coordination
Through provincial land and resource management planning (LRMP), ensure that sustainable harvesting practices are implemented and integrated with ecosystem objectives	<ul style="list-style-type: none"> ● provides an opportunity for residents to be involved in decisions about the watershed 	<ul style="list-style-type: none"> ● covers crown land only and needs to be integrated with growth management planning on private lands