

# HOWE SOUND 20/20

## Issues and Initiatives in Growth and Sustainability for Howe Sound: A Watershed-Wide Perspective

FEBRUARY, 1996



*on environmental, economic & social sustainability*

Submitted to the Communities of Howe Sound by the Howe Sound Round Table  
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## PREFACE

The Howe Sound 20/20 Report is a call to action. For too long we have simply taken for granted those things that we cherish most about what has often been referred to as a “Jewel” situated on the doorstep of Vancouver.

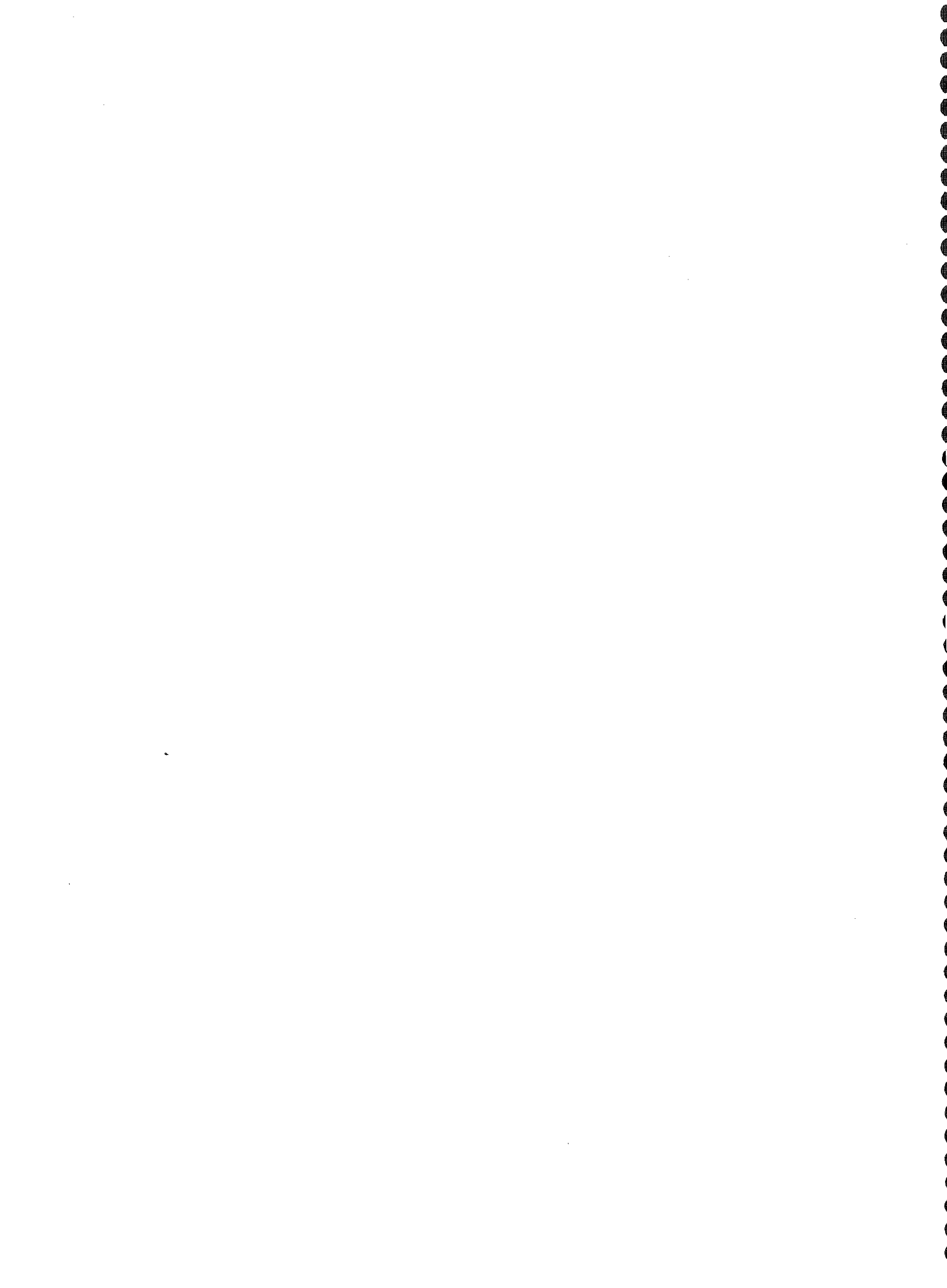
It is becoming increasingly obvious that we can no longer afford the luxury of complacency. Our world is changing. We are no longer part of “a sleepy little village on the edge of the Pacific.” By the year 2020, approximately 100,000 people could reside in Howe Sound. It is imperative that we take the appropriate actions now that will shape our future.

The Howe Sound Round Table undertook the development of this report in response to two years of public forums and community consultations. Over and over the Round Table heard that we need to establish a Watershed-wide perspective for Howe Sound. We need to coordinate our activities, both at the government level and the community level. We all need to take responsibility towards achieving economic, environmental and social sustainability.

This report is part of a process. It is not meant to provide a comprehensive analysis of issues but rather to identify those issues that need to be addressed in further detail. It recognizes that many positive steps are already being taken by individuals, organizations and governments. It attempts to establish linkages between issues, initiatives, communities and decisions that are being made.

The Howe Sound Round Table is made up of 22 citizens representative of the diversity of interests, perspectives and geographic areas of Howe Sound. See Appendix 4 for the list of members. The Round Table believes that sustainability is the key to our future quality of life and intends to play a role in advancing the sustainability agenda by tirelessly promoting initiatives that will identify and connect issues, stimulate public involvement and develop partnerships - three critical components of managing our future.

The Howe Sound 20/20 Report is meant to promote the fundamental changes in attitudes, values and actions that are necessary if we wish to have the communities we want to live in come the year 2020.



## ACKNOWLEDGEMENTS

The Howe Sound Round Table wishes to gratefully acknowledge the Ministry of Municipal Affairs-Georgia Basin Initiative, Whistler Centre for Business and the Arts, B.C. Ferry Corporation, VanCity Savings Credit Union, and Canada Trust for their support and ongoing assistance.

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Most of all, thank you to the many other individuals, organizations, governments and agencies whose work, energy, interviews, submissions and participation made this project possible.



## EXECUTIVE SUMMARY

Standing from any viewpoint in Howe Sound, you will gaze with wonder on the communities of this majestic fjord, nestled between high mountain peaks and the deep waters of the Sound. What will not be evident are the current trends and increasing pressures which place this exceptional region at a turning point in terms of being able to secure a sustainable future.

The Howe Sound Round Table in association with the Ministry of Municipal Affairs - Georgia Basin Initiative and Whistler Centre for Business and the Arts undertook the Howe Sound 20/20 project as a jumping-off point for action on the critical issues which challenge the future of Howe Sound communities.

This report is the culmination of input from many individuals representative of the communities, governments, agencies and organizations of Howe Sound. Almost 50 interviews were conducted with key individuals and numerous submissions were received during the research phase. In addition 85 individuals from throughout the Watershed and adjoining areas, representing a wide spectrum of interests and experiences in the Sound, attended the Howe Sound 20/20 conference in October 1995.

The Howe Sound 20/20 Report is not intended to provide a comprehensive analysis of issues surrounding growth and sustainability; rather, it is intended to identify and outline such issues, generate discussion, and develop the basis for future actions.

Chapter 1 contains recollections of Howe Sound's past 50 years, as told by long-term residents. This sets the context for consideration of current issues and trends.

Chapter 2 provides an overview of the Sound as a region, including its jurisdictional framework and governance systems. It identifies a number of key issues including:

- Cross-boundary impacts of change between communities
- Weak inter-governmental coordination
- Inadequate protection of the aquatic environment and fisheries
- Negative impacts on community identity caused by economic transition
- Shortage of domestic water supplies
- Increasing traffic congestion on Highway 99
- Disagreements over forest management practices and preservation of natural habitat
- Threats to scarce ecosystems and the natural beauty of the Sound due to encroaching urbanization
- Growing presence of incomplete communities that lack a balance between employment opportunities and affordable housing
- Persistent acid mine drainage problems at Britannia and the uncertainty it brings to the community's future development opportunities

Chapter 3 examines these key issues in the context of the following ten categories: population growth and urban development; housing; social services and facilities; domestic water and sewage

treatment; transportation; economic development; ecosystem health; open space, parks and recreation; attitudes, values and community identity; and governance. Discussion of key issues within these 10 categories includes a description of the issues, who is involved, the relevant information base, the areas affected, trends, and initiatives aimed at addressing the issues.

Chapter 4 summarizes the research findings and reveals three emerging primary concerns. The first is growth and the increasing pressures it puts on existing transportation infrastructure; on potable water supplies; on aquatic environments and fisheries; on wilderness and wildlife; on the quality of natural amenities such as viewscapes, recreational opportunities and wilderness experiences; and on the very social fabric and identity of communities themselves.

The second concern, particularly for certain communities, is the economic transition from a primarily resource based economy to an increasingly tourism oriented economy. Declines in the level of family income and the influx of new residents are placing increasing pressures on access to affordable housing and social services.

The third concern stems from lack of a formal process for coordination among local governments and agencies to address the problems cited above. Communities for the most part continue to act as independent units although their plans and activities are increasingly having direct impacts on each other and on the region as a whole.

Chapter 4 also identifies specific actions recommended by conference participants and other contributors, to provide the basis for future planning and decision-making, including:

- Compile and distribute more historical data and personal stories that comprehensively illustrate the history and character of Howe Sound and its communities.
- Examine and document the many government and non-government sponsored initiatives already underway to address some of the critical issues identified in this report.
- Undertake an exercise to determine which trends are moving us towards sustainability in specific areas and which are diverging from a sustainable path.
- Create a vision and “back-cast” to identify the steps that must be taken and the time frames necessary to make this vision a reality.
- Engage in coordinated, comprehensive planning which involves an ecosystem approach.
- Develop strategies for managing growth; in particular develop a Watershed-wide strategy which draws together the various municipalities and regional districts.
- Base decision-making on full cost accounting which includes the social, economic, and environmental costs associated with decision-making.
- Communicate and share information among the different levels of government and between government and non-government organizations by consolidating all relevant reports in a central library, forming a clearing house for information, using electronic communication systems such as internet, developing formal and informal networking sessions, and making better use of community media and local newsletters.

Other conference recommendations for new or expanded initiatives include the following:

- Develop an inventory of initiatives and organizations in the watershed, both government and non-government, including all the “key players.”
- Develop an inventory of funding programs, their mandates and criteria.



- Develop an inventory of important private and public open spaces. Develop a process to identify methods of retaining this open space and encouraging private land stewardship.
- Develop a program that profiles local individuals and organizations that are making positive efforts to support sustainability.
- Encourage demonstration projects such as community forests or fish hatcheries.
- Promote partnerships between senior agencies, municipalities, industry and citizens in stewardship projects and encourage creative approaches to problem solving.
- Develop the “Annual Howe Sound 100 Awards” by assembling 100 success stories of personal actions or public initiatives undertaken by government, industry, organizations and individuals that have pushed the sustainability agenda forward.
- Encourage high profile personalities to champion sustainability initiatives.
- Encourage community projects that build linkages between issues.
- Encourage the involvement of students and educational institutions in local initiatives.
- Celebrate the many volunteers that give their expertise and energies to their communities.
- Celebrate the major successes that have been achieved and the little successes that are being achieved every day.



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# HOWE SOUND 20/20

## ISSUES AND INITIATIVES IN GROWTH AND SUSTAINABILITY FOR HOWE SOUND: A WATERSHED-WIDE PERSPECTIVE

Sustainability is about maintaining or enhancing desired environmental, economic and social conditions that can be sustained into the future. While precise definitions vary widely, sustainability generally means *managing our communities in a way that balances the social, economic and environmental implications of our activities in order to meet the needs of people today without compromising the ability of future generations to meet their own needs.*

Sustainability requires attention to longer time frames and more interconnections than any other way of doing business. Progress towards sustainability, especially in situations of rapid growth, depends on looking ahead and understanding how social, economic and environmental issues are linked together. Tradeoffs between economic, social and environmental priorities to achieve sustainability are best approached in the context of a region such as Howe Sound. The pursuit of sustainability can help Howe Sound and the communities within it:

- balance the positive and negative impacts of conservation and development;
- become more self-reliant and reduce dependence on external resources;
- develop long-term economic stability;
- provide for the needs of residents;
- create awareness of social, economic and environmental resources in communities;
- build a unique identity and sense of cohesion;
- maintain a healthy environment while benefiting from the use of natural resources;<sup>1</sup> and
- identify opportunities for community well being.

This report identifies sustainability and growth issues and initiatives in Howe Sound with the purpose of informing and inspiring action towards sustaining the Watershed. It is based on 48 interviews with a wide range of stakeholders,<sup>2</sup> including planners, government agencies, First Nations, regional and local governments, community groups, industry, and business. It also incorporates input from over 85 participants at a workshop held in Squamish on October 21st who gathered for a day to comment upon and improve an earlier draft of the report.

The report compiles information and begins to establish a watershed-wide perspective that will be useful to ongoing planning initiatives. It also provides a preliminary analysis of growth issues that could contribute to a Regional Growth Strategy (or Strategies), if the governments and communities of Howe Sound choose to follow this route. The purpose of the report is not to initiate a Growth Strategy; nor is it intended to supplant the research and analysis responsibilities of any government or government agency.

<sup>1</sup> These points about sustainability are from *Navigating for Sustainability: A Guide for Local Government Decision Makers*. See Appendix 2 under Fraser Basin Management Program for more details on this report.

<sup>2</sup> The term "stakeholder" here refers to people who, as individuals or as members of groups or organizations, have a "stake" or vital interest in Howe Sound at present and into the future.

***The report has three objectives:***

- To identify and outline sustainability and growth issues in Howe Sound (and assess the information base associated with these issues).
- To describe initiatives (plans, programs, projects, etc.) related to current issues in Howe Sound.
- To generate ideas for next steps in achieving sustainability in Howe Sound.

***The report is organized into 4 Chapters:***

Chapter 1 paints a picture of Howe Sound's past, through the eyes of long-term residents, setting the context for the consideration of current issues and trends.

Chapter 2 provides an overview of the Sound as a region as well as its governance systems. It also reviews the key issues, trends and initiatives in the Sound, drawing on the more detailed issue analysis of Chapter 3.

Chapter 3 examines a wide range of issues organized into 10 categories. The issues are described in terms of their origins, who is involved, the relevant information base, the areas affected, trends, and initiatives aimed at addressing the issue.

Chapter 4 summarizes the research findings and reveals three emerging primary concerns. It also identifies specific actions recommended by conference participants and other contributors, to provide the basis for future planning and decision-making.

***The information base for the report is drawn primarily from stakeholder experience.***

Information contributed by the stakeholders was primarily in the form of experience-based, or "expert," opinions. The people interviewed are not specifically cited in the main body of the analysis - Chapter 3. Instead, complementary interpretations of issues are synthesized and contrasting perspectives are pointed out without reference to the specific parties that hold these perspectives.<sup>3</sup> The intention of keeping the stakeholders anonymous is to give all interests equal weight, setting the scene for a discussion of Howe Sound that will be as open and unbiased as possible. Quantitative data drawn from research reports, surveys, etc. are used to help illuminate issues where possible.

## **1. LOOKING BACK: HOWE SOUND RECOLLECTIONS<sup>4</sup>**

Half a century ago, European settlement in the Sound was focused on three isolated, resource-based communities: Woodfibre - a mill town, Squamish - a forestry town, and Britannia - a mining town. Squamish was the largest of the three; the other two were company towns. The three were connected only by the Union Steamship which stopped at each town daily, until the railway was constructed from Horseshoe Bay to Squamish in 1955, with the highway following a couple of years later. The communities shared sporting events and were linked by the annual Sun Fishing Derby. Each had only rudimentary sewage disposal facilities. Industrial effluent into the Sound was significant, although its impact was barely recognized at this time. Residents recall that it used to snow more in the winter and that the storms were worse. There was a Native community in

<sup>3</sup> The list of persons interviewed for this document is attached as Appendix 1.

<sup>4</sup> This section of the report is not intended to be a description of the history of Howe Sound. Many aspects of the history of the region are not covered here, in particular, that of the aboriginal peoples (apart from Gilbert Joe's recollections of Sechelt).



Squamish, and its members would travel in their own boats to Woodfibre with baskets to trade for clothing. They also visited Horseshoe Bay and Britannia.

The following sections recount stories told by a small group of interviewees about their recollections of Howe Sound communities in days gone by. While the stories of the past mostly illuminate the cultural heritage of the Watershed, connections with the natural heritage of the area are a common theme, and economic circumstances are also woven in. The three foundations of sustainability clearly have deep roots in the history of the Sound. The stories are reported from the viewpoint of the long term resident who was interviewed, but the wording is not an exact quotation.

## 1.1. Recollections of Britannia

### *Joan Ehler*

I thought Britannia was the most beautiful place I'd ever seen the first day I came here in 1964. It was like living in a broken tea cup with high sides all around and this space in the front coming out onto the open where the water was.

Britannia had been a mine since 1905. The mine had closed from 1952-58. From 1962-74, the mine changed hands a couple of times. It went from belonging to the Howe Sound Company to Anaconda while I was there. The women were finally allowed underground. In 1974 we had up to 1000 employees living and working here. The company owned everything.

The company ran things in the town. They were fairly strict as I recall. If you stepped out of line, you were out. And, that was quite something, because if you lost your job at the mine, you'd lose your house as well and you and your family would have to move. There was strict control over the children too. Your children were considered to be your responsibility. If they were causing trouble in the community or getting up to mischief you'd have to leave the community.

I paid \$10 per month for an apartment in the "teacherage." This was a building for the teachers with a kindergarten downstairs. I had a kitchen and a bed sitter. We shared a common bathroom. This building is still standing.

There used to be two communities: one was up at Mount Shear, the other was down by the beach (where Britannia is located today). When the Mount Shear community was dismantled, some of the houses were brought down to Minaty Bay. That was a lovely community. There were houses along the water with a dock for fishing.

We had an active church, built by the community, which gave both Catholic and Protestant services. The church had partitions down the middle. The Protestants held service on one side and the Catholics on the other. We sometimes drowned each other out with our singing. Today the church serves as a business office and a post office.

There used to be a big elaborate library at Mount Shear that was moved down to the lower area by the beach. I used to help put out a monthly and a weekly newsletter. We had a Women's Association that put on social functions such as a Crazy Hat contest and Strawberry Teas. We all belonged to the community club. We had dances at every excuse, including Copper Queen Festival and Miners' Day. There was the annual Homes with Gardens contest which was lovely. We also had the Britannia Beach Boat Club which was like a marina. There was a very strong sense of community. I used to go to bed without having to worry about somebody opening my door.

We had a company doctor with an X-ray machine which was used during annual check-ups to check for silicosis - a lung problem caused by breathing silica dust which was in the air of the

mine. In later years, everyone went to the Squamish Hospital. In 1974 we had a nurse in residence and a doctor who came on visits. Mount Shear, referred to as the town site, had a hospital but this was dismantled.

Woodfibre created a horrible stench. We would choke on the smell on foggy nights.

Because people were concerned about water pollution from the mine, pressure from The Save Howe Sound Society forced the mine to build a tailings pond. The water went into a settling pond and then through a pipe deep under the Sound. When the mine shut down in 1974 (it was sold in 1979 to Copper Beach Estates) they took everything out and flooded it. Now, the acids and minerals leach out. When the mine was open, if the guys left their shovels in the water, when they came back the next day, the metal would be half eaten away.

We had several big floods. In 1976 there was a flood caused by the rail trusses. When the mine was closed, Anaconda took out the rail lines, but they left the trusses behind. When the water came in, the trusses floated up to the top and created a dam holding back the flow of water through the flooded mine. This eventually gave way and the flood it caused destroyed my house. Fortunately, my neighbours helped set up a new house for me. They approached the company saying that they needed to find me a new place to live.

I think we should keep the museum. As long as the museum is here, Britannia will always be remembered.

## 1.2. Recollections of Horseshoe Bay

*Tommy Sewell and Joe Troll*

Originally, Horseshoe Bay was called White Cliff. In 1903, Western Shore and Northern Lands Ltd. came to acquire the land in Horseshoe Bay and they subdivided it. A man named Colonel Whyte who worked for this company was sent out to manage the area. He changed the name White Cliff to the "District of Whyte Cliff."

At the turn of the century it was a popular recreational area, busy from Easter to Labour Day. Three things happened that changed Horseshoe Bay into the community that it is today: First, the war broke out in 1939. The labour force that came from all over Canada to work on the Victory Ships in the North Vancouver Shipyards filled up the summer cottages and over night the place became a village. Then, in 1950, the ferries came in. They were called Black Ball Ferries at the time. They had one slip in Horseshoe Bay and they offered a service to Gibsons. The third influence was the extension of the railway and then the Highway through to Squamish.

Once the war ended, most of the ship workers left. They stopped renting the summer cottages. It went back to being a summer recreational area. A lot of the old age pensioners started moving in from Winnipeg. Eventually, the summer cottages were converted into permanent homes.

In the late 1920s and early 1930s we had a one room school. It closed in the early 1940s and the children were bused to school. Now there is Gleneagles which was built in 1947.

In the early 1950s we started having a lot of town planning meetings. We built the community hall in 1946. Sewell's raffled a boat to raise money for construction, and the ladies had bake sales. There was a lot of volunteer labour to help build it.

"The Bay" was lush with everything. The bottom trawlers would just go back and forth scraping along the bottom and taking up everything. It was a sport fishing centre. We had to show around people from the United States coming up to fish. Sewell's Marina was advertised on the radio in

the United States. In 1937 we held the first fishing derby which became the Vancouver Sun Derby. This was started by Tommy Sewell. It became a national event. Our recreation revolved around fishing and boating. As part of West Vancouver, we did not get involved in the sporting competitions between Woodfibre, Squamish and Britannia.

Tommy Sewell tried to designate Howe Sound as a sanctuary in the late 1930s to protect it from the commercial fisheries (bottom trawlers). He was successful. The lower Howe Sound was set aside as a reserve with no commercial fishing in the early 1940s.

We had septic tanks that eventually led into ditches. Then, we were the first on the North Shore to have sewerage in the early 1950s. The sewage was treated and then pumped out into the bay.

Today we are experiencing water shortages and development that other people call "progress." At least the water and mountains cannot be changed. They have always been here. Their grandeur is one of the most memorable features of Howe Sound. When I first came here I was just flabbergasted by its beauty.

### 1.3. Recollections of Sechelt

#### *Gilbert Joe*<sup>5</sup>

Prior to European contact, the Sechelt and the Squamish Nations were somewhat interconnected. Each had territories, but there was no precise boundary line. The Department of Indian Affairs and Northern Development (DIAND) wanted precise territories. They amalgamated people onto reserves. Children had to go to residential schools. Our way of life was denied us through the shutting down of traditional fishing, hunting, and tree harvesting. This happened through the licensing process which prevented access by First Nations people who were illiterate.

From 1862 to 1912 there were small pox epidemics. During this time, our population declined from 24,000 to 167. Now we are 920.

John Scales was granted 300 acres of the Sechelt Indian Band's land through pre-emption. This is a process by which the government gave land free to pioneer homesteaders. John Scales sold this land to Burt Whitiker, who sold it to Union Estates who subdivided the land and sold it off. The homes built on this subdivided land were the start of the present Sechelt Municipality.

In the 1920s, DIAND abolished potlatches. In 1951 they abolished the hereditary system and established the elected democratic process. The municipalities had always operated under this system, and now we were expected to do the same. At that time we were lacking all the program funding that most Canadians enjoyed. We received no social assistance and no child support.

We used fish boats to get around, and then we used the Union Steamship which came twice a week. It became Gulf Mariner which became Black Ball Ferries which became B.C. Ferries. In 1947, there were only 16 cars in the whole Sechelt peninsula. By 1975, you could no longer count how many cars there were.

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<sup>5</sup> Note that, although Sechelt is not part of the Howe Sound watershed in terms of the physical geography of the area, it is included in this report because the management, the activities and the prospects of the area are so closely intertwined with those of Howe Sound proper. First Nations peoples clearly have the much longer history in the area, so Gilbert Joe, of the Sechelt Band, was interviewed for his perspectives on the past. Keep in mind, however, that the Squamish and Sechelt Nations have an agreement that Howe Sound falls in the Squamish territory and the Squamish are therefore the appropriate spokespersons for the Sound among the First Nations.

People were employed in logging and fishing. A few worked for the ferries and some worked in the public schools. Some people worked in the Port Mellon mill. Then we got our own programs going such as the housing program. We bought 48 homes from the Airport Wireless Service in Ladner when it shut down. We even bought the church as well. We paid \$100 for the buildings, and it cost \$60,000 to transfer them to the Sechelt reserve. Today we have 100% employment and a very good housing program.

Fishing, hiking, hunting and trapping were the favorite recreational activities. Everything was a sport that was involved with survival. I used to have my own canoe when I was five years old. We were raised to be providers. When I caught a fish, my grandmother cooked it even though it was too small to feed anyone.

It is important to know the history of our local geographical area. There are pictographs, moon rocks, Indian middens. The middens appear as a dark layer under the surface sand along the beaches. In them can be found the remains of eaten shellfish, arrow heads, and other remnants of daily village life.

Since the abolition of the potlatches and the introduction of the residential schools, people realized how fast their culture was disappearing. People are now turning this around. Today, when doing industrial development, people find artifacts and return them to the First Nations. Everybody has their cultural base. We lost ours for a bit, but we are getting it back now.

#### **1.4. Recollections of Woodfibre**

*Beth Fitzpatrick*

We did not have an organized government in the form of a mayor and council, but there were community clubs such as the legion who participated in the July 1st celebration with a parade and sports day. They really helped us keep community spirit. The women got together to form the Woodfibre Service Club. They would put on bake sales and do the catering for the high school graduation ceremonies. The government was the management of the pulp mill since they owned the place.

There were trucks that worked around the mill site and these trucks would do deliveries to peoples' homes if needed, e.g. if someone was bringing in a piece of furniture on the Union Steam Ships. Some people owned bicycles, but most of us walked.

There was a grocery store, a post office, a cafe with a pool table and an ice cream bar. There was also a legion where, if you were of age and if you were sponsored by one of the members, you could get a drink. There was also a butcher's shop. These were the only independent economic operations. Everything else was owned by the mill. There were no supply stores and no clothing stores. Either our mothers sewed our clothes or we went to Vancouver to buy them.

We had a community hall and everything took place there: movies, dances, basketball games. In fact, the Harlem Globe Trotters came to play there once. There was a big focus on sports: baseball, and basketball in winter. We also played card games such as bridge and poker. We did some bowling and eventually Woodfibre got a bowling alley and swimming pool. Most people owned some kind of a motor or row boat.

There were problems. There was a sulfur smell from the pulp mill gases. The biggest pollution went into the Sound. It was a dark purple-brown liquor that came out of the mill and traveled along the beaches. The kids loved to swim in it because it made the water warm.

Virtually everyone was employed by the mill, except the school teachers and ministers in the churches. A community tragedy struck when there was an explosion at the mill and seven men were killed.

We no longer have three small isolated communities that interact with each other. Now, with the highway, we are no longer isolated, nor are we close knit. As a child, I couldn't do anything wrong in Woodfibre without someone seeing me and telling my parents. Today, people do not seem to care anymore. Today, you do not know your neighbours. My fondest memories are of Woodfibre and I am sorry that it is not a community anymore. On the positive side, more attention is being paid now to the environment and the impacts of pollution.

## **2. HOWE SOUND TODAY: A REGIONAL PERSPECTIVE**

### **2.1. The Howe Sound Region**

The Howe Sound watershed is defined by high mountain peaks and the pattern of river drainage converging on the waters of the Sound, which itself is a fjord. It is a region of outstanding scenic beauty and rugged topography, squeezed between water and mountains.

Topographic constraints resulting from this rugged terrain have caused settlement to hug the coastline or follow the valleys. This has led to a linear development pattern, with significant competition for the limited land base suitable for urban, industrial and transportation uses.

Settlement planning and administration are the responsibility of the local level of government. Within the Howe Sound watershed this includes three regional districts, which are responsible for unincorporated electoral areas; the Islands Trust, responsible for planning on the Howe Sound islands; and five incorporated communities.

This report considers a slightly larger region than the Watershed by including the communities of Sechelt and Pemberton. The majority of West Vancouver also lies beyond the Watershed boundary. These places are included because their management, activities, prospects and impacts are closely related to those of Howe Sound proper.

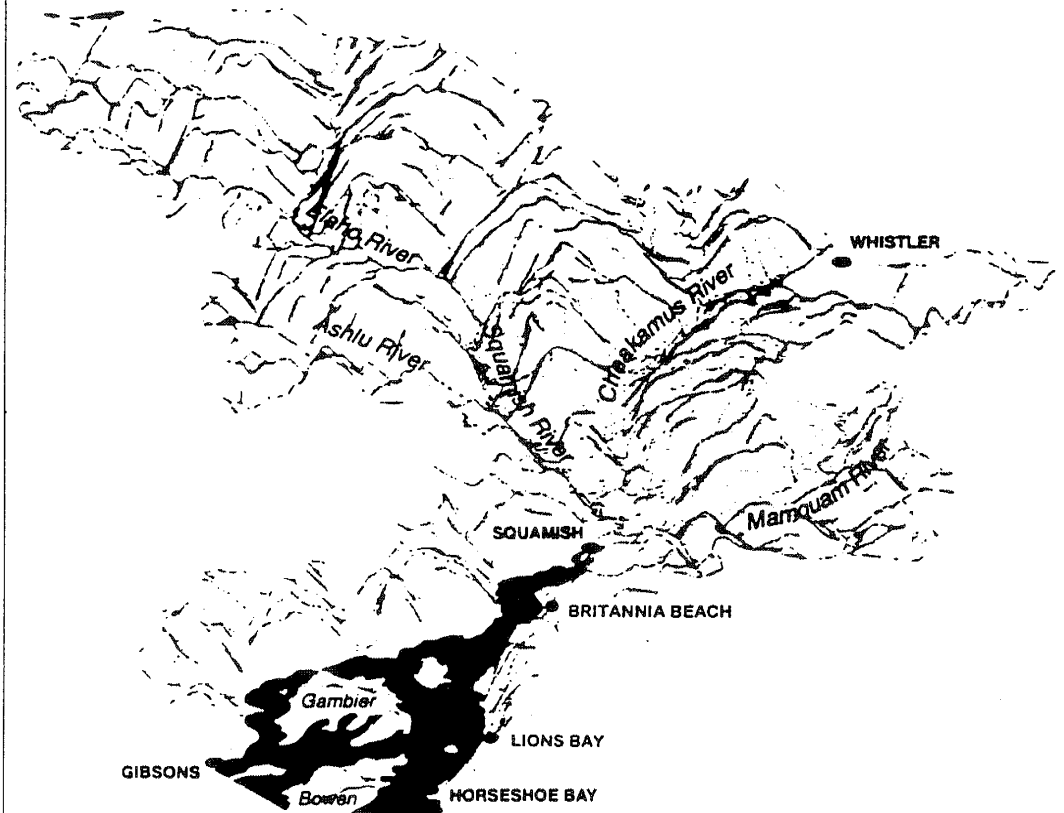
### **2.2. Government Organizations**

Local and regional government authority (municipal and regional or district) is legally delegated to those governments by the provincial Ministry of Municipal Affairs. Through their land use planning powers, municipal governments have a major influence on land use. They have to adhere to provincial and federal legislation in their decision-making. No one provincial or federal agency is responsible for resource management. Instead, each one has a sectoral mandate - parks, environment, forestry, highways, health, etc. Responsibilities between agencies and different levels of government frequently overlap. First Nations are a separate, senior level of government, except in the case where the Sechelt Band has established a municipal government.

#### **2.2.1. Municipalities**

The *District Municipality of Squamish* covers 10,850 ha. and extends approximately 25 km from just north of Britannia to north of Cheakamus. Its current population is approximately 13,000 and is growing rapidly. The Official Community Plan (OCP) provides for a capacity of at least 40,000.

# HOWE SOUND WATERSHED



Source: Environment Canada

FIGURE 1: Howe Sound Watershed

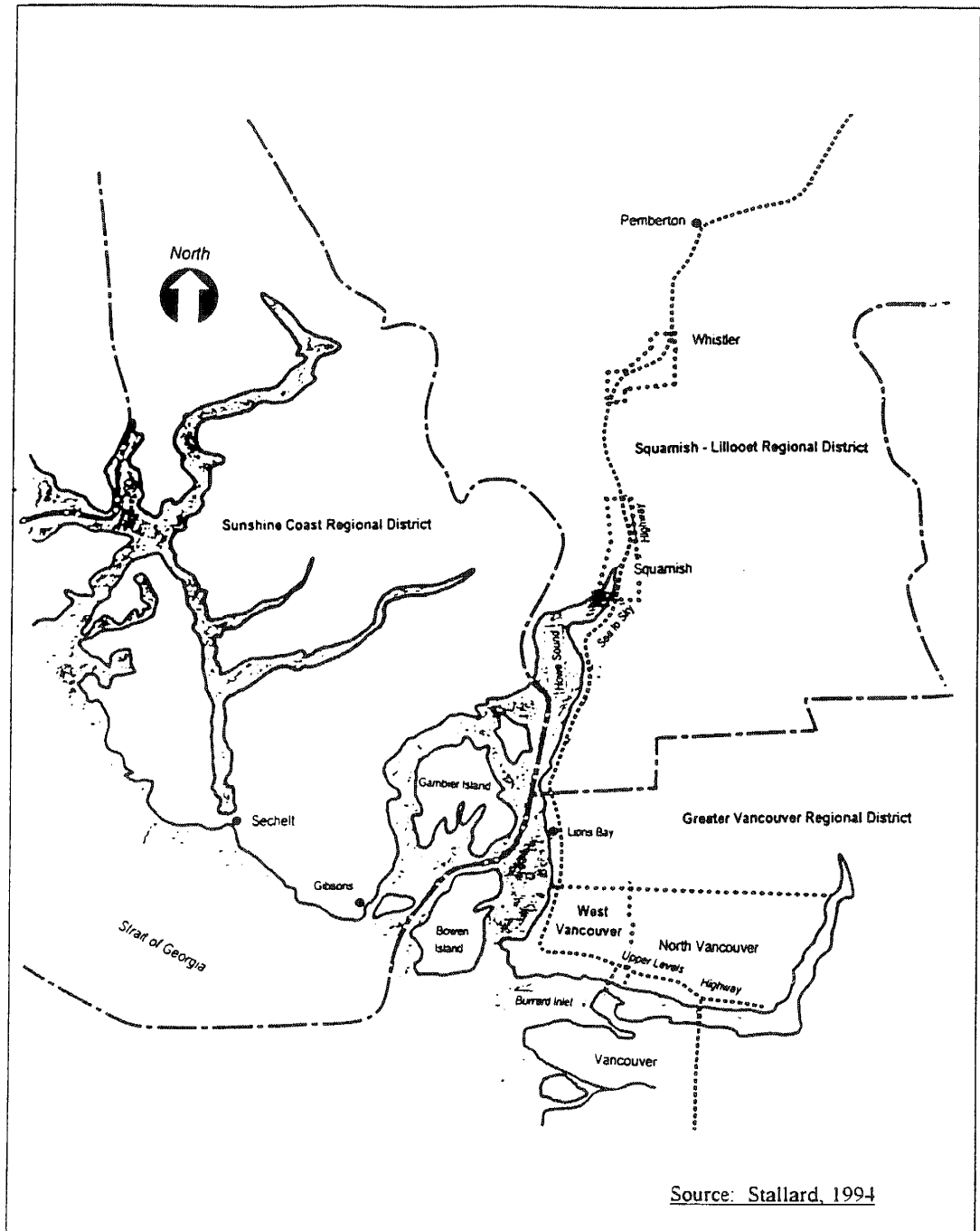


FIGURE 2: Regional District Boundaries

The *Resort Municipality of Whistler* has a relatively small permanent population of approximately 5,000, but a very large number (approximately 40,000) of part-time residents or visitors. Whistler also has an extensive land area (12,630 ha.), and the OCP predicts that both permanent and part-time populations will nearly double.

The *Village of Pemberton* is situated 34 km north of Whistler, and currently has a population of approximately 800.

The *Village of Lions Bay* has a population of about 1,400. Due to its tight boundaries and rugged terrain there is very little room for additional development.

The *Town of Gibsons* has a population of approximately 4,500, but it has adjacent unincorporated urban areas. Thus the total population adjacent to the south-western shoreline of Howe Sound is close to 8,000.

The *District of Sechelt*, situated 27 km west of Gibsons, has a population of approximately 7,500.

The *Corporation of the District of West Vancouver* has a large population by Howe Sound standards (just over 40,000), but only 8,000 live within the Watershed. This community is part of Metropolitan Vancouver. An extensive area of the long-term urban development lands designated in the OCP overlook Howe Sound, above Horseshoe Bay.

There are many *unincorporated communities* in Howe Sound as well which are administered by the regional districts described below.

#### **2.2.2. Regional Governments with Jurisdiction in the Sound**

Prior to 1983 regional governments had planning powers and municipalities had to adhere to regional plans. Since this power was dismantled in 1983 regional powers have been weaker. The 1995 *Growth Strategies Amendment Act* provides a new structure and encouragement for regional planning in areas of high growth. This Act has not yet been implemented in any part of the Howe Sound watershed.

The Islands in the Sound which fall under the jurisdiction of regional governments include Gambier, Anvil, Boyer and Keats.

The *Squamish-Lillooet Regional District (SLRD)* has a total population of 22,000, the majority being within four incorporated communities (Squamish, Whistler, Pemberton and Lillooet). The unincorporated community of Britannia Beach with 350 residents also falls within the District. The regional plan for the SLRD was incomplete when the Province cancelled regional planning powers in the early 1980s. Since then an OCP has been completed for the unincorporated areas in the Squamish-Whistler Corridor, and one is currently being prepared for the coastal lands between the District of Squamish and the Greater Vancouver Regional District. This "master plan" is to be completed in 1996 and will form part of an expanded Whistler South OCP.

The *Sunshine Coast Regional District (SCRD)* extends from Howe Sound's western shore to Jervis Inlet. The total population is approximately 22,000, and its growth rate of 4.6% per year is the fourth highest in the province. The report "Sunshine Coast 2020" is a step towards a Regional Growth Strategy.

The *Greater Vancouver Regional District (GVRD)* covers the regional interests of Canada's third largest urban community, with a metropolitan population in excess of 1.6 million. The recently adopted "Livable Region Strategy" includes only a limited portion of Howe Sound's south-eastern coastline, mostly designating it "Green Zone". The GVRD is also responsible for four shoreline subdivisions, with a total population of about 250.



The *Islands Trust* has planning authority over the Howe Sound Islands, even though they are within the general jurisdiction of the Sunshine Coast and Greater Vancouver Regional Districts. The Islands Trust, created by special legislation, is responsible for the islands within the Strait of Georgia, with both overall and local planning powers exercised by specific Trust Committees. One Committee is centred on Bowen Island and another covers Gambier and adjacent islands.

A significant specialized regional agency is the *Sea-to-Sky Economic Development Commission*, based in Squamish. It undertakes economic development for the area from just west of Lillooet to just south of Squamish.

### **2.2.3. Key Provincial and Federal Agencies Involved in the Sound**

The *British Columbia Ferry Corporation* is a Crown Corporation that operates ferry services from Horseshoe Bay to Langdale on the Sunshine Coast, Departure Bay on Vancouver Island, and to Snug Cove on Bowen Island. In addition it operates a passenger-only ferry from Langdale to Gambier Island, and Keats Island.

The *Ministry of Transportation and Highways* (MOTH) is responsible for the Sea-to-Sky (99) and Sunshine Coast (101) Highways. The Transportation Finance Authority is responsible for planning future highway capacity in the region. The Ministry also operates the Darrell Bay to Woodfibre ferry, and is responsible for subdivision approval in unincorporated territory and the Trust Islands.

The *Ministry of Municipal Affairs* is responsible for the enabling legislation for regional growth strategies and for settlement planning, Official Community Plan (OCP) and bylaw approvals in the Regional Districts' electoral areas and the Islands Trust, and for special programs such as the Georgia Basin Initiative.

The *Ministry of Environment, Lands and Parks* (MELP) grants tenure and issues development approvals on Crown lands, plans and manages provincial parks, and works with the Ministry of Forests and the Department of Fisheries and Oceans to protect the environment.

The *Ministry of Forests* (MOF) determines timber supply and oversees planning and regulation of forestry lands.

The *Department of Fisheries and Oceans* (DFO) is responsible for fisheries management and the protection of fisheries habitat, including the marine waters of the Sound and the streams and rivers that flow into the Sound. It must approve development proposals that potentially affect fish habitat.

*Environment Canada* is responsible for all matters over which Parliament has jurisdiction not otherwise assigned to other federal departments, boards and agencies relating to: preservation of the natural environment, including water, air and soil; renewable resources including migratory birds and other non-domestic flora and fauna; water; meteorology; boundary waters; and trans-boundary environmental issues.

The provincial *Ministry of Aboriginal Affairs* and the federal *Department of Indian and Northern Affairs* are responsible for provincial and federal government involvement in First Nations affairs. Their roles have been shifting and are expected to change further as treaty negotiations evolve.

### **2.2.4. First Nations**

The role of First Nations in Howe Sound is likely to change significantly as treaty negotiations proceed towards settlement.

The *Sechelt Band* is the first in Canada to achieve self-government and municipal status. It is the only band recognized in the Canadian Constitution. It administers the Sechelt Indian Government District on the Sunshine Coast.

The *Squamish Nation* includes Howe Sound in its traditional territories, and has seven reserves within the District Municipality of Squamish.

### 2.3. Current Reality: Pivotal Issues and Initiatives

Since the purpose of this report is not to provide a comprehensive data base on the Sound, but to inform and inspire action towards sustainability, an issue analysis approach was taken. Many issues<sup>6</sup> are described within the ten categories of Chapter 3. Here, the key issues, trends and initiatives in the Sound are outlined, especially as they cross over the ten categories.

#### 2.3.1. What are the Critical Issues of Growth and Sustainability in Howe Sound?

Growth is such a pervasive factor in Howe Sound today that virtually all aspects of governance, community life, economic development and the environment are affected by it. A selection of key issues and trends that are connected to growth and sustainability are listed here, in no particular order.

***Cross-boundary impacts of change between communities:*** Most issues cross jurisdictional boundaries in the Sound. What happens in one community, for example the Pemberton-Whistler-Squamish area, affects the others. Critical linkages are employment and housing relationships, upstream-downstream impacts on water, and varying demands and pressures on the transportation network.

***Fragmented governance:*** The various local and regional governments, provincial and federal government agencies, and First Nations are not in close enough communication to adequately manage cross-jurisdictional issues. As a result, coordination at the watershed level is difficult.

***Protection of the aquatic environment and the fisheries:*** The need to protect the waters of the fjord, and the riparian and estuarine ecosystems that surround it, is a growing concern. Stakeholders are not complacent about the collapse of the local fisheries and motivation is growing to improve the situation.

***Economic transitions:*** The transition from a primarily resource-based to a tourism-based economy is not smooth sailing. Quality of life for the residents of the Sound as well as the health of the environment are priorities that need careful stewardship in the face of the tourism onslaught. At the same time, the economic boost provided by growth in tourism is generally welcomed.

***Shortage of domestic water supplies:*** Potable water availability is often put forward as the factor ultimately limiting growth in Howe Sound. Several communities can see shortages looming in their futures if current trends continue. Increasing attention is being paid to caring for the watersheds that provide domestic water.

***Highway 99:*** This main access artery up the east side of the Sound is already over-loaded with traffic and no significant improvements or alternatives are on the horizon. In the face of limited capacity and growing demand, more consideration will have to be given to this issue.

***Use of the forests:*** Although the annual allowable cut has been significantly reduced, and forest habitat protection initiatives are being taken, debates over how much forest should be protected in

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<sup>6</sup> An issue is an unresolved problem, challenge, conflict or concern as perceived by one or more stakeholders.

parks or reserves are not over. Arguments continue to be put forward for revitalizing and reshaping the forest industry through measures such as value-added manufacturing and community forests.

**Threats to natural amenities:** Urbanization and increased visitor traffic in the Sound are threatening scarce ecosystems. They are also threatening to "kill the goose that laid the golden egg." Concerted efforts have been called for to ensure that the beauty and integrity of the outdoor environment that draws people to the Sound is not spoiled by over-use and abuse.

**Incomplete communities:** Several communities in the Sound are developing as "bedroom" communities or as tourism destinations that lack a balance between employment opportunities within the community and affordable accommodation. The effects of this imbalance include an over-dependence on automobile travel, an insufficient tax base for the provision of services, and social alienation. These problems are leading to the loss of community unity and pride.

**The Britannia Conundrum:** This is a complex puzzle which includes environmental, development, governance, and community sustainability issues at the centre of Howe Sound. Interrelated problems include toxic water drainage from the old mine workings and the creation of a new economic base for a community which has existed for almost 100 years. Although this issue centres on one community, it epitomizes some of the most persistent challenges to regional sustainability.

### **2.3.2. Where is the Current Path of Change Taking Howe Sound?**

The stakeholders interviewed for this report were asked to describe the directions that current issues are taking, to answer the key question, Where is Howe Sound headed if current trends continue? The projection of trends attempts to identify threats or constraints and opportunities that loom on the horizon.

Trends connected to specific issues are reported in Chapter 3. Key trends and more general projections are summarized here, from the perspectives of a few representative stakeholders. Keep in mind that these forecasts lay aside for the moment ways that the future of Howe Sound can be purposefully shaped in more desirable directions.<sup>7</sup>

- We are headed to a degraded quality of our natural systems and eventually that is going to lead to a diminished or destroyed economic base. We are spending our natural capital to finance economic growth. Every jurisdiction and several industries do not seem willing to sit down and work together on these issues and problems. (Lyle Fenton, Stop the Pipe)
- Each of the municipalities in Howe Sound will continue to grow, and in the end, each of us will compromise each other's community. If you have a strip mall development all along Highway 99, then nobody wins. (Mike Vance, Whistler)
- The economy will continue to diversify, from resource driven to other areas such as tourism and service industries. Local governments have learned the lesson of what happens to communities that are single industry based. (Bob McPherson, Squamish Lillooet Regional District)
- As population and recreational use increase, the quality of the experience will degrade. There will be no wilderness. So long as we do not have a leveling off of population, we can expect the quality of life, natural surroundings, resources, etc. to decline. It is simply a law of nature. If

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Note that these are not direct quotations. Also, while affiliations of contributors are noted, the individuals are not speaking for, nor are they assumed to represent, the organizations or governments listed following their names.

you change one side of nature's balance through increasing population and urban development, then you are going to see the other side change in return through declining wilderness areas. (Jeff Marliave, Vancouver Aquarium)

- The key trend in Howe Sound is continued growth demanded by a growing, relatively affluent population. The future is bright but it will be at continued economic costs, as each development project goes forward with little concern of other projects and consequent eventual controversy, blame finding, restoration, etc. (Les Lavkulich, UBC)
- There will be a lot more people and increases in conflicting demands on the landscape. There will be a shift from a resource based economy to a tourist and recreation based economy. The trend is of people becoming increasingly interested in the health of the landscape and becoming increasingly protective of it. Therefore, one day I predict that humpback whales will once again return to Howe Sound. (Bob Turner, Howe Sound Watershed Environmental Network)
- I know, as opposed to predict, that a lot more attention is and will be paid to the environmental aspects when considering development. There will be a greater role for public review and a lot of the types of activities that caused the problems in the past will not recur because we just do not do things like that anymore. (Steve Macfarlane, DFO)

On the whole, stakeholders are in agreement on where Howe Sound is headed if present trends continue, that is, if nothing were to be done to re-direct undesirable change. Where the differences in perspective lie is in the degree of optimism or pessimism that people hold as to whether appropriate initiatives will be taken to direct change towards a desirable and sustainable future. Current initiatives to respond to challenges and manage change are summarized below.

### ***2.3.3. What Initiatives are being Taken and What More is Needed to Address these Issues and Trends?***

Many initiatives - plans, programs, projects, etc. - are underway in the Howe Sound region, either as elements of regular planning processes, or as responses to particular issues or challenges. Some are far reaching and involve a wide range of players. The Howe Sound Round Table is one example of an initiative that attempts to address the Watershed as a whole, in economic, social and environmental terms. Other broad scale processes address one theme or another, such as species protection, the natural environment or economic development. Many, however, are short-term, piecemeal and reactive, addressing limited planning areas or site-specific issues.

While some Official Community Plans and regional district initiatives are explicitly addressing the topic of growth management, virtually all stakeholders and First Nations feel that there is a need for increased coordination among local governments and among municipalities, districts and senior government agencies. This could be addressed by a growth management strategy. The issue of budgetary and staff resource shortages must also be addressed.

To better address regional issues, including those associated with growth and sustainability, stakeholders call for better information exchange, more research to fill critical gaps, better inter-governmental coordination, and more pro-active and holistic approaches to planning and management. Some feel that a Howe Sound-wide regional government is required for the Sound to facilitate these initiatives, while others recommend improved processes rather than new structures.

TABLE 1 Community Population: 1991 Census

District of Squamish	11,709
Resort Municipality of Whistler	4,459
Village of Pemberton	502
SLRD Electoral Areas C & D	2,969
Squamish Nation on reserves	380
Town of Gibsons	3,138
District of Sechelt	6,123
Sechelt Native Government	703
SLRD Electoral Areas	10,819
Village of Lions Bay	1,328
District of West Vancouver	38,783

Source: Statistics Canada

TABLE 2 Regional Population: 1981-2021

	<u>1981</u>	<u>1991</u>	<u>2001</u>	<u>2011</u>	<u>2021</u>
SLRD	18,925	22,018	27,600	35,600	44,200
SCRD	15,505	20,055	23,700	28,800	34,000
VMA	1,396,410	1,751,140	2,210,000	2,600,000	2,966,000

Source: Statistics Canada & Greater Vancouver Regional District

Note: SLRD = Squamish-Lillooet Regional District

SCRD = Sunshine Coast Regional District

VMA = Vancouver Metropolitan Area (GVRD plus Mission and Abbotsford)

TABLE 3 Squamish/Whistler/Pemberton Building Permits: 1989-1994

	<u>SQUAMISH</u>	<u>WHISTLER</u>	<u>PEMBERTON</u>
<u>Residential</u>			
1994	\$20.35m	\$53.17m	\$2.43m
1993	\$16.97m	\$35.80m	\$3.65m
1992	\$10.96m	\$30.92m	\$2.73m
1991	\$26.52m	\$38.43m	\$0.51m
1990	\$15.39m	\$44.74m	\$2.27m
1989	\$11.50m	\$42.53m	\$3.19m
<u>Commercial &amp; Industrial</u>			
1994	\$3.47m	\$30.18m	\$0.76m
1993	\$2.56m	\$34.89m	\$0.28m
1992	\$3.06m	\$7.97m	\$0.77m
1991	\$4.43m	\$9.41m	\$0.15m
1990	\$5.88m	\$4.07m	\$0.11m
1989	\$3.37m	\$41.51m	\$0.75m

Source: Sea-to-Sky Economic Development Commission

### 3. TAKING STOCK: WHAT'S HAPPENING IN THE SOUND?

The detailed results of the research are reported in this chapter. The ten categories of issues into which the contents of the chapter are organized evolved from the research framework and from the research results. The categories are not meant to be all-encompassing, nor is it intended that the themes of the ten categories be covered comprehensively - the focus is on the priority issues and related initiatives that fall under each theme.

The discussion of each issue (within the categories) includes, as appropriate:

- a description of the *issue* itself - as a problem, a challenge, or an opportunity to be met;
- the *places* affected by or involved in the issue;
- apparent *trends* - the direction the issue seems to be headed;
- the *information base* available on the issue;
- the *initiatives* being taken to address the issue, including research, reporting, monitoring, planning, projects, policy development, etc.; and
- *suggestions* offered on what more needs to be done about the issue - "*What's needed.*"

It is important to keep in mind that the identification and explanation of issues is extremely value laden. The definition of an issue is very much based in the experience of the "beholder" of that issue. In this chapter, the analysis is therefore closely tied to the perceptions of the people who were interviewed.

#### 3.1. Population Growth and Urban Development

##### 3.1.1. The Rate of Growth

Population growth is perhaps the most significant challenge to the pursuit of sustainability. Yet our political culture, as well as the geography of the Sound mean that "pulling up the drawbridge" is not an option. This is the realization that leads to the necessity of *managing* growth and ultimately addressing limits to growth.

*What's driving growth?*

The forces driving growth in Howe Sound include:

- the increased popularity of the Watershed as a recreation haven;
- the widespread attraction of Whistler as a destination ski resort, spurred by aggressive international marketing;
- a demographic trend towards more retirees,
- a tendency for people to leave the city and move to mountain or coastal towns as a result of lifestyle preferences (e.g., summer cottages on the Sunshine Coast are being replaced by or converted into full time occupancy residences);
- less expensive housing in the Sound as compared to the Lower Mainland, supported by overcrowding in Vancouver and promotion of new Howe Sound residential properties by developers.

The last factor listed above is probably the most powerful, and one of the main trends is toward Squamish becoming a bedroom community to Vancouver (with a resulting strong net migration of new citizens). Similarly, growth in the Sunshine Coast Regional District is a spin off from growth in the Lower Mainland. The 1 1/2 hr. commute from Langdale and Gibsons to Vancouver is

competitive with commute times from the Fraser Valley suburbs. Growth in the Sound as a whole is often explained as spillover pressure from Vancouver and as a consequence of growth trends in the broader Georgia Basin.

In the future, developers are likely to be marketing Howe Sound to Vancouver residents more and more. A few examples of major land holders with interest in Howe Sound include Tanac Land Development, B.C. Rail Properties, Britannia Beach Holdings, Britannia Beach Historical Society (B.C. Museum of Mining), Copper Beach Estates and B.C. Lands (although B.C. Lands activity slowed down with the change in Provincial government 1991).

#### *Rate of construction/urbanization*

Increased urbanization poses a major threat to the character and health of the Howe Sound region and most stakeholders feel that it is important that we get these pressures under control. In Whistler, controlling the growth rate is one of the municipality's top three priorities.

As a sign of the high volume of construction in the Sound, record levels of building permits were granted in Pemberton in 1989, at \$3.4 million, with \$3.21 million in 1992. The total value of building permits in Whistler for spring/summer 1993 was close to \$100 million. Building permits for residential and commercial development are also up significantly in Squamish. This growth has continued right through the first half of 1995 in the Sea To Sky Corridor.

Whistler has a growth management section in its Official Community Plan (OCP), including a limit of 52,500 on the number of commercial and residential beds that can be provided. The number of beds has reached 40,000 already.

#### *Rate of population growth*

Most of the communities of the Sound are growing in population. For example, the Village of Pemberton exhibited a growth rate of 54% between 1986 and 1991. Whistler's was 122% for the same period. Almost 1 in 2 residents (40%) arrived in Pemberton within the previous census year. The Sunshine Coast experienced a 24% growth in population from 1987 to 1992. The Squamish-Lillooet Regional District (SLRD) was the fourth fastest growing region in the province in 1994.

This growth is expected to continue, though at a slower rate. Sechelt and the Squamish-Whistler corridor have been growing at a rate of 6% per year. Sechelt's growth is expected to decline to 3% and the corridor's to 4%. This is still rapid growth, with any growth over 3% being difficult to manage. The population of the Sound has been forecasted to increase by a third by the year 2004, and projections have been put forward for a doubling of Whistler's population and a quadrupling of Squamish's by early next century.

Population growth will result in increased vehicle and ferry traffic. It will add to pressure to extend services which may not be affordable. Increased human uses of the Sound of all types - economic, residential, recreational - will stress the natural environment. These issues are all explored in later sections of this chapter.

### **3.1.2. The shape of New Development**

#### *Location/direction of new development*

Growth pressures and potential vary around the Sound.

On the east side of Howe Sound, urbanization from Porteau Cove north, including Furry Creek, Britannia, and Squamish is a major trend. Substantial new development in this area is anticipated to have a significant impact on the whole Sound.

Unincorporated communities administered by the Greater Vancouver Regional District (GVRD) in Howe Sound East are among the few which are not under much growth pressure. The Region has targeted communities outside of the Watershed for growth because they are better serviced by transit, the GVRD does not want to take on the role of local government for the communities in its jurisdiction from Sunset Marina to Brunswick Beach, and it would like to protect this area from future development as part of the Green Zone. A zoning bylaw designates the small communities in this area as residential, with the surrounding area zoned "Extensive Rural and Recreational." This zoning allows resource use such as logging, and it limits subdivision to 20 acre parcels or larger.

In contrast to GVRD policy, the SLRD has designated three areas in Howe Sound East for development: Britannia Beach, Porteau Lands, and Deeks Creek Highlands Plateau. These developments are on hold, however, since it was concluded that before new settlements could proceed, more detailed study would be required. Steps are being taken to develop an OCP for the area. Furry Creek is a fourth area of new development in the SLRD, but its planning has already been completed and development is underway.

Despite concerns about growth in the Watershed, one of the arguments in favour of further residential development in Howe Sound East is that growth there is a logical alternative to continuing development in the Fraser Valley, where agricultural soils need to be preserved. It is questionable, however, given the topographical, geological and hydrological constraints of the region, whether development in the Sound would accommodate enough of the growth to make a difference.

Further up the Sound, Squamish is considered to have tremendous growth potential in the view of some stakeholders. Areas in Squamish that can accommodate more residential development are Valleycliff and Garibaldi Highlands.

Impacts of development on Bowen Island and the Sunshine Coast are more localized than in other parts of the Sound, except for Gibsons which is spreading out. One trend is that people are putting properties that have been in the family for generations up for sale as they see their land values rise. As it becomes more economically feasible to subdivide farms and build houses on smaller lots a transition from large acreages to smaller and smaller properties is occurring. There is a risk that recreational properties and public access to waterfront will be squeezed out by the subdivision trend.

Significant population increases are also expected in West Vancouver. Currently, there is a 93 acre parcel being developed in the Upper Levels near Ansel Place where 36 homes have already been approved for phase one of the subdivision.

#### *Sprawl, facilities, and "incomplete communities"*

A significant trend is towards the decentralizing of development in Howe Sound. In part, this is being driven by technology. People prefer to spend their time in Whistler and the Sunshine Coast and with telecommuting they are able to do this and still work in connection with Vancouver-based commerce. Other factors behind sprawl include the common desire for single family homes rather than higher density development, real estate prices that force people to live away from where they work (see section 3.2), and the lack of planning to clearly identify a growth centre in this region.

Sprawl impacts both the natural environment and the quality of life in settlements. Growth outside urban areas threatens the views and environment that draw both residents and tourists to the area.



Sprawl makes the provision of services problematic because servicing costs are closely related to the scale and compactness of the community. It is very expensive to supply hard and soft services<sup>8</sup> to a scattered, low-density development pattern. Britannia to Lions Bay is an example of this dispersed pattern. Another is in the Sechelt area, where housing development has concentrated outside the village core in neighbourhoods such as West Sechelt, Davis Bay and along both sides of Sechelt Inlet. Some stakeholders view Squamish as a sprawling community as well, as its linear development form follows the highway. (Others describe it as "nodal".)

The difficulty of providing services is exacerbated in areas like Porteau Cove and Britannia where residential populations lack an economic base beyond the revenue collected from residential taxes. These revenues are not generally enough to cover the cost of services.

Concern similarly surrounds the prospects of the three areas targeted for development by the SLRD, mentioned above, regarding the ability to supply both hard and soft services to these areas. These three nodes would accommodate 14,000 people. West Vancouver is expected to expand from 45,000 to 55,000. However, West Vancouver already has all of its services in place. Will these new communities have enough families to support a school, fire protection, etc.? If not, how will the residents get these services? Where will they work and how will they get there?

Small communities from Britannia to Lions Bay are referred to by some stakeholders as "incomplete" because they cannot provide a full range of services. Residents of these communities might easily meet their needs by visiting larger centres nearby, but sustainability priorities linked to a reduction in dependence on the car and to community cohesiveness may be compromised. Commuting, discussed in section 3.2.2, adds to this "incompleteness."

#### *Geographical constraints on development*

In terms of geography, there is not much choice regarding the direction of development in the Sound. Rugged terrain presents constraints to development which make it linear; e.g. the population of the Sunshine Coast is stretched along 96 km of the eastern shore of Georgia Strait, with the majority of development sited within 5 km of the ocean.

Physical factors mean the amount of developable land is very limited. Flat land is attractive to both the development of industrial facilities, such as rail lines and harbours, and the development of residential areas. This land can be important for wildlife habitat as well. Because of the shortage of flat places to build in the Watershed, all of these areas, such as Squamish and Britannia, will remain under pressure.

Because the flat, developable land is on the coast or in river valleys, the flood hazard is immediate. Most land in Squamish is in the flood plain, so existing development there is already at risk to this hazard. In Pemberton, some residents feel that flood plain designation should limit growth. Steep mountain slopes present various landslide, avalanche and rock fall hazards. Some question whether the communities along Howe Sound East are being built with adequate research into such hazards.

#### **3.1.3. What's Needed to Guide Growth and Development**

Stakeholders have made the suggestions listed below for guiding development in the Sound. Most of these can be more broadly interpreted as methods for managing growth.

*Provide more expertise at the local level:* Some of the smaller communities may lack the expertise or the knowledge required to regulate for environmentally sensitive development, for example, on

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<sup>8</sup> Hard services are physical assets provided by government such as sewers and fire halls. Soft services, also paid for by tax dollars, relate to people more than structures, and include cultural amenities and health care.

slopes. Municipalities sometimes need assistance from senior government in assessing the environmental impacts of development and explaining these to developers. This assistance is available through the referral process although it is often found to be confusing and cumbersome. The process could be improved through streamlining to provide "one stop shopping" for those who require information services. Even the preparation of Official Community Plans requires a significant level of expertise, and requires knowledge of government policies on matters such as road widths and wastewater treatment. Access to such expertise has to be provided, especially where full time planning and/or engineering staff are not available at the community level.

*Generally, manage development more carefully.* Especially in communities like Gibsons where growth pressures are not extreme, the opportunity is there to manage development well. Some changes to increase government's capacity to manage growth may be required elsewhere. For example, subdivision approval in unincorporated territory is now with the Ministry of Transportation and Highways - should it be with the regional districts? - could they afford the additional administrative expense?

*Change the design of development:* Encourage low-consumption building and landscaping. These could include: energy efficiency, use of alternative energy sources, on-site storm water retention, minimal impervious surfaces, grey water use, use of indigenous plants, composting toilets, water saving toilets and showers, and recycling and composting facilities.

*Use the Official Community Plan to guide development.* In order to be effective planning tools, Official Community Plans need to incorporate visioning processes that are based on a longer term than what is currently practiced. For example, both Whistler and Roberts Creek have Official Community Plans which explicitly address growth management.

*Put a ceiling on development.* Whistler's "build out" provision for the number of commercial and residential beds that can be provided is one way to put a cap on growth. The municipality has not approved rezoning for a major new development project in two years. All current construction is based on previously approved applications.

*Pay more attention to environmental and cultural impacts when considering development.* For example, the SCRCD looks at environmental capability when planning for rural areas. The Regional District tries to focus on local communities and immediately surrounding areas. Squamish welcomes growth so long as it is done with sensitivity to the environment. Geographical development constraints such as slope steepness can be mapped, as some communities have done for flood plains. Heritage resources located outside of municipalities and unorganized territory need special attention if they are to be protected.

*Develop at higher densities.* The environmental and economic benefits of higher density are clear. We need to establish how much demand there is for higher density development and how to make this form of development more appealing.

*Make infrastructure lead development:* Physical infrastructure such as sewers and water supply should be planned and installed before development takes place. Currently, some development "leads" the infrastructure, jumping the gun on infrastructure preparations, and not always paying for its costs.

*Limit development to certain areas.* Development could be focused on Squamish, Whistler and Pemberton, where problems are better known and are being dealt with, until the implications of service provision for the smaller, dispersed communities are better understood.

*Coordinate transportation planning with development planning.* Since transportation infrastructure and facilities have a pivotal role in shaping the direction and concentration of development, transportation and development planning should be undertaken hand in hand.

*Recognize the cumulative effects of smaller developments.* When a developer proposes a 30 unit subdivision, it may not seem significant. However, it is important to look at the bigger picture and the cumulative impacts of successive developments relative to the capacity of the environment and service infrastructure. To be sustainable, development has to be planned on a larger scale.

*Research natural hazards and plan with the hazard risk in mind.* Flood Hazard Management Plans are appropriate for all low lying communities. Slide and debris torrent hazards should also be assessed through studies such as was done for the Cheekye Fan Terrain Hazard Report for Squamish.

*Provide a role for the public.* The development process should provide a greater role for public participation. AWARE and other community groups such as Concerned Citizens for Squamish Downtown, Concerned Citizens for Squamish Waterfront, Britannia Beach Land and Community Housing Society, and Concerned Citizens for Brome Ridge are already trying to have an affect on the shape of development. A citizen's group called the Pemberton Valley Visioning Group is developing a joint process with SLRD to deal with the Regional District's settlement plan. They would like to serve as a growth advisory body.

*Re-examine the roles and responsibilities of developers:* Developers themselves could take the initiative to create sustainable forms of development, and to some extent, they need flexibility within regulatory constraints to practice this creativity. Developers do need direction from the community as to what objectives development should meet. They prefer explicit direction over uncertainty. Conversely, developers may make inaccurate assumptions about community preferences if they are not well informed - for example, that large houses are preferred. There are a number of ways to ensure that developers meet obligations. Environmental safeguards could be obtained by having municipalities get a letter of credit or maintenance bond from the developer in advance of their projects. For projects that require interjurisdictional approval, a FREMP (Fraser River Estuary Management Program) type "one stop shopping" process could be provided.

#### **3.1.4. The Information Base on Growth and Development**

Very little information on growth in the Sound has been collected on a systemic basis. The rate of change is so fast that by the time the Census comes out, it no longer provides an adequate picture of the area.

Monitoring of key indicators is seen by some stakeholders as critical to identifying the effects of growth and providing the basis for dealing with growth. Whistler has already set a high standard for monitoring towards growth management. Their system has, however, been criticized for over-emphasizing the impacts of growth in terms of what infrastructure is needed to accommodate increased tourism, to the neglect of broader sustainability issues.

The SCR D is currently striving to increase the sophistication of its statistical information base. Changes in the administration of building permits are enabling the District to ask more questions regarding the square footage of buildings, their intended use, etc., and this is improving the information base on existing commercial and housing stock.

TABLE 4 Squamish/Whistler/Pemberton Housing

	SQUAMISH	WHISTLER	PEMBERTON	B.C.
<u>By Type - 1991</u>				
Single Family	65%	34%	43%	59%
Attached	16%	49%	38%	13%
Apartments	10%	17%	3%	24%
Other	8%	1%	16%	4%
<u>By Ownership - 1991</u>				
Owned	72%	41%	68%	64%
Rented	27%	57%	32%	36%
<u>Average Sale Price - 1994</u>				
Single Family	\$186,194	\$378,792	\$143,893	
Apartments	\$126,855	\$193,215	n/a	

Source: Sea-to-Sky Economic Development Commission

TABLE 5 Squamish Residential Sales and Rentals: 1990-1994

<u>Average Sales Price</u>	<u>Single Family</u>	<u>Apartments</u>		
1994	\$186,194	\$126,855		
1993	\$155,898	\$91,444		
1992	\$140,575	\$81,428		
1991	\$116,791	\$88,159		
1990	\$112,054	\$88,000		
<u>Monthly Apartment Rent</u>				
	<u>Bachelor</u>	<u>1-Bedroom</u>	<u>2-Bedroom</u>	<u>3-Bedroom</u>
1994	\$373	\$459	\$553	\$598
1993	\$350	\$431	\$527	\$573
1992	\$347	\$413	\$520	\$557
1991	\$329	\$439	\$520	\$566
1990	\$310	\$367	\$455	\$590

Source: Sea-to-Sky Economic Development Commission

In section 3.9, initiatives to gain a better understanding of residents' preferences regarding the direction of development, such as *Sunshine Coast 2020*, are described.

## **3.2. Housing**

### **3.2.1. Availability of Housing**

The growth in tourism, increase in visitor traffic, and recent influx of new residents to the Howe Sound region are increasing the need for accommodation and housing. To some extent, this need is being met. Housing starts have been high over recent years, with Pemberton's growing by 650% from 1991 to 1992 (on a small base). Whistler has been experiencing rapid development growth in condo/timeshare and recreational real estate.

A growing social and economic concern in the Corridor is the shortage of rental accommodation, especially in Squamish and Whistler. The latter community is facing growing shortages of housing, especially as construction in the municipality is now underway year round, increasing the number of workers needing accommodation.

Pemberton has the highest rate of families living in their own homes. Sixty-eight percent of Pemberton residents own their homes while only 42% of Whistler residents do. On the Sunshine Coast, rental accommodation has traditionally been more available in the winter when summer residents lease their properties. However, as more people buy investment properties, and more multi-family development occurs, the rental market is showing a year-round increase.

Whistler has the highest transient residency, and its housing policies encourage non-market housing. Many of the people living in rental housing in Whistler are serving the tourism industry. They are living in homes owned by people whose primary residence is elsewhere. If Whistler restricts its growth via no new starts or controls resident housing so that only permanent residents are allowed to live there, then the rest of the housing stock will soar out of reach for most people. This will have a tremendous impact on Squamish and Pemberton, from which Whistler workers have to commute (see next section). Whistler needs to work with Squamish in ensuring the appropriate mix of housing is available for construction workers and other residents.

Britannia Beach provides a small pool of affordable rental housing but it is not in the area of highest demand, the structures are not in good shape, and the location is flood prone.

Throughout the Sound, as residential development continues it must be kept in mind that housing types and patterns will affect the character and livability of a community.

### **3.2.2. Commuting and Affordability**

Squamish is traditionally a forest industry town, but it is also now home to commuters to both Vancouver and Whistler who have been attracted by lower housing prices as well as lifestyle choices. Whistler's limited supply of affordable housing means some workers need to commute from Squamish or Pemberton, particularly lower income workers. This leads to large transient sectors in these communities, and an employment base reliant on transportation. Two large busses take commuters from Squamish to Whistler and back again each day. Some feel that these factors lead to "incomplete communities" and undermine the sustainability objective of people living and working in the same community.

Similar trends are occurring elsewhere in the Sound. Again because of the cost of housing, domestic workers, for example, need to commute to West Vancouver. In that municipality few

emergency services staff live in the community. This is a problem which could result in diminished services because the people with the skills are not easily accessible to the community in times of emergency and because the workers "burn out" from the commuting effort.

Several hundred Sunshine Coast residents commute to Vancouver to work. They choose to live on the Sunshine Coast both for lifestyle and affordability reasons. The question has been raised as to how many of these commuters and those in Howe Sound East would choose not to commute if jobs were available in the communities where they live.

Most agree that the rental housing base in the Sound has to increase, largely to meet the needs of lower income families. There is a need and a desire for multi-family dwellings to house young and elderly people. Increasing the supply of affordable housing for resident employees and controlling the price of such housing are Whistler's priorities, and, during the 1996 revision of the Squamish OCP, diversification of housing will be looked at.

*Sunshine Coast 2020* recommends that local governments coordinate to formulate a housing strategy to accommodate the projected growth and future housing needs of the Sunshine Coast, recognizing the desirability and future need for single family dwellings. It also recommends that senior levels of government provide low cost and/or subsidized housing.

### **3.3. Social Services and Facilities**

#### **3.3.1. Supply of Social Services**

Clearly, population growth and the form of development have major implications for the supply of services, as described above. Some stakeholders have pointed out that the demographics of the population within this growth pattern must be looked at more closely. Factors such as an increase in single parent families, lower incomes families, more youth and more elderly people all need to be taken into account. They influence not only the demand for services, but the means of providing them - both in terms of the tax base and the supply of volunteers for services such as fire departments. Already, recreational opportunities for youth are in short supply, and services related to a younger population such as schools and day care are not predicted to meet forecasted demand in some areas.

Expectations are important too. Will residents of new communities such as Furry Creek be satisfied with the services available there? Experience in some communities such as Bowen Island is that new residents create a demand for services that longer term residents have either done without or managed on an informal, neighbourly basis. Some feel that these demands are "false" because earlier residents have learned to forego certain privileges in return for the rural lifestyle they treasure. (See also section 3.9.2).

#### **3.3.2. Health and Safety**

People's *perceptions* of health risks in the Squamish-Whistler corridor according to a recent survey were: 1) substance abuse, 2) motor vehicle accidents, and 3) sexually transmitted diseases. The *actual* number one cause of hospitalization in the area is sports injuries, at 42%, followed by work injuries at 26%, and injuries occurring in the home at 16%.

There are 21 motor vehicle accidents per 1000 people in the Sea to Sky area. This is one-third higher than in the Lower Mainland (at 14 per 1000). Debris flow hazards are particularly acute in the Britannia area where questionable road building and logging practices carried out in the past combine with the potential for flooding from the creek and the old water delivery systems and mine

workings. This combination of factors also poses a threat to the residents of Britannia Beach and highway travellers.

Howe Sound has a higher than average rate of obstructive pulmonary disease (lung cancers) which may be due to a number of causes including: industrial air emissions, wood waste burning, and household fireplace burning. Smoking may be another factor. It has been noted that the smoking rate has dropped; in 1989, 30% of the population smoked while today it is only 25%. The Squamish Health Unit is proposing a no-smoking bylaw similar to that of Vancouver's for public buildings. More information on health is available from the Regional Health Board's *Regional Profile* which includes profiles of the Whistler corridor and the Sunshine Coast.

One safety concern that has been raised is that of the potential increased access to island communities via more frequent and late night ferry service. The fear is that the higher number of non-residents coming to the islands will result in more crime. On Bowen Island, the crime rate for petty thefts has increased over the last few years. Another safety concern is that highway accidents will increase as traffic and congestion continue to rise.

Hospital capacity is apparently not a problem in the Sound right now but it is uncertain how the regionalization of health care may affect the situation. A Regional Health and Management Plan done by the Health Board and a Community Health Plan to be prepared by the Sea to Sky Community Health Council help anticipate needs in health care. The latter plan identifies health issues in the Sound and then establishes priorities, goals and objectives.

### **3.3.3. Education**

Educational opportunities from kindergarten to college exist in the Sea To Sky country. Yet some question whether they have been sufficient to provide an increasingly skilled labour force. Representatives of the SLRD and the SCRDC identify either a current or a projected shortage of schools, despite recent additions to the system.

In Squamish, there is a new major addition to the Howe Sound Secondary School; and a new, \$6.6 million Brackendale Elementary School. Garibaldi Highlands Elementary School is also undergoing a major renovation. As well, a Community Skills Centre is being planned for the Squamish area to provide a local training and retraining facility for the whole community.

In Whistler a new secondary school is opening in 1996 to keep up with growing demand. Previously, families with school age children were moving away because there were no schools.

In Pemberton a new, \$8 million High School has just opened.

Post secondary education is available through Capilano College at the new \$1.5 million, 10,000 square foot Squamish Campus, and at other satellite campuses located in Mount Currie and Sechelt. (These are in addition to the main Lynnmore campus in North Vancouver.)

While the physical infrastructure for education in the form of schools is important, the provision of sufficient numbers of teachers and the messages being delivered by the educational system are also of concern to some. Efforts to get material on sustainability into the curriculum, for example, have not been successful. Other gaps identified in school programs relate to lifestyles, and social, environmental and economic aspects of the community. Outdoor schools on the Sunshine Coast and at Squamish offer an innovative supplement to the regular school system.

### **3.4. Domestic Water and Sewage**

#### **3.4.1. Trends in Capacity**

Water supply and treatment limitations have the potential to pose severe constraints on growth in the Sound. Sechelt and Squamish can both accommodate some growth in terms of existing capacity for sewage, water and groundwater supply; however, upgrades of systems will be required in the future, and the limits of supply will likely come into view.

The water supply system in the small GVRD communities in Howe Sound East is out of date and there is inadequate sewage treatment (septic). In Britannia, an upgrade of the sewage and water systems will be required but there is a good domestic water supply which serviced the mine operations for over 70 years.

More specific issues related to sewage and water supply are described in the following sections.

#### **3.4.2. Sewage Disposal Problems**

Growth and urbanization in the Sound are posing challenges to the treatment and disposal of human waste. Many small communities, such as those on the Sunshine Coast, have chosen septic rather than sewage systems, requiring careful consideration of the land's capacity for these systems. Most other communities in the Sound have sewage systems, leading to various other problems of disposal and pollution.

The main issue relates to Whistler's disposal of sewage. The municipality's sewage treatment facility on the Cheakamus River has been described as "state of the art." Nevertheless, treatment is not always adequate, especially during major events when the treatment capacity is exceeded. Downstream areas at the Skowishin Reserve and Squamish suffer the consequences.

Although the effluents are low in phosphates, they concentrate in the slow flowing Daisy Lake Reservoir; therefore, the outflow traveling through the pipe from the Daisy Lake Reservoir to Skowishin at mile 22 contaminates both the Squamish and the Mamquam rivers. Some stakeholders maintain that sewage disposal is already exceeding the Squamish River's capacity to absorb the wastes.

Combined sewage from Whistler and Squamish is causing a problem with coliform pollution in the Squamish Estuary. Squamish has primary sewage treatment, and is expanding one site to secondary. Whistler is currently trying to raise funding for upgrading its sewage treatment plant. Terrestrial disposal options may have to be considered. Some stakeholders assert that Whistler should find a way to deal with its own waste.

Another sewage problem has emerged at the new school in Pemberton. The sewerage system in Pemberton is already at capacity, and upgrades necessary to handle the school's sewage have not been built, resulting in negative impacts on the water (which does not flow towards Howe Sound). Neither the SLRD nor the Province has the budget to upgrade the sewerage system and they have turned to the courts to determine who should pay. New sewage treatment processes which produce good quality effluent should be reviewed by the Ministry of Health and the Ministry of Environment.



### 3.4.3. Domestic Water Supply

#### *Limited quantity and threats to quality*

The former B.C. Round Table on the Environment and the Economy's *Georgia Basin Initiative* report identifies the supply of potable water as a major issue of concern. Many stakeholders maintain that the limiting factor to growth in much of Howe Sound including the Sunshine Coast is not land area but water supply.

Factors affecting the supply and quality of domestic water include the following.

- The protection of watershed areas to ensure the quality and quantity of potable water available for community use is becoming a critical issue. There is limited ability to control the upland use of private land which may impact water sources. Resource development on Crown land and recreational use also pose problems.
- Global warming is feared to be leading to a lower water supply, in relation to low snow packs which feed the reservoirs as they melt through the summer months.
- Increasing population rates and high consumption in the Sound draw more water from the watersheds. Further development threatens to intensify this pressure. Some believe that the Squamish watershed cannot cope with the golf course and 3,000 unit development planned for Garibaldi Highlands, with the water supply already depleting.
- Lions Bay's Harvey Creek watershed faces pollution from recreational hikers and campers. For about five months of every year, there are about 100 hikers per day who use the trails in the watershed. The community is building a new water supply system drawing on Magnesia Creek to supplement supplies from Harvey Creek. Other communities, too are concerned with the impacts of recreationists on the quality of fresh water, to the extent that some feel recreationists should not be permitted in domestic watersheds.
- Grafton Lake, Snug Cove's water supply on Bowen Island, is surrounded by private property at risk for sub-division of land for homes with septic fields on the shoreline.
- Surface water from streams and rivers is not as good a source as lakes, because there can be a lot of turbidity in these water supplies which renders water treatment processes less effective. Most of Whistler's and Squamish's water comes from streams.
- Previous road building activities and the collapse of old roads (built for logging trucks) are causing increasing turbidity in water supplies from Squamish to Lions Bay and on the Sunshine Coast.
- The declaration of the Indian Arm Park may exacerbate problems in the Stawamus River area where Squamish gets 90% of its water supply as a result of increased recreational traffic going through the watershed to the park.
- The major water supply in the Sunshine Coast Regional District, Chapman Creek, is threatened by previous road development and land slides.

#### *The information base on water supply*

The quality of the information base on domestic water supply varies. Information on groundwater is lacking, but there is extensive information available on Chapman Creek, and the Base Line Water Quality and Quantity Study of Squamish and Cheakamus fills in gaps there. Several government agencies and stakeholders got together on this latter study because they recognized they needed information and no recent studies had been done. Participants included the Squamish Nation, DFO, Ministry of Environment, Squamish Lillooet Regional District, District Municipality of Squamish, Resort Municipality of Whistler, Upper Squamish Valley Residents Association, and Stop the Pipe.

More information is needed on pre-treated water quality. Monitoring the surface water being used prior to treating it would help assess what water treatment methods would be most effective. However, doing this kind of monitoring is expensive and there is no-one available with the necessary resources to do the work.

#### **3.4.4. Current Initiatives in Water Management and What's needed**

Some stakeholders are calling for more provincial legislation to assist with water management. A "Water Quality Act" was suggested, with the rationale that no other legislation makes water quality a primary concern. The Forest Practices Code addresses water quality, but it is not an effective tool to manage water quality on its own. The Ministry of Environment, Lands and Parks has been working towards groundwater management legislation for some time now. This is crucial to the Sound, particularly in the islands.

Community Watershed Plans<sup>9</sup> for the Mashiter and Stawamus in the Squamish area, and the Chapman Creek Integrated Watershed Management Plan, begin to address some of the issues covered in this section, but more remains to be done.

##### *What's needed to maintain water quality*

The economic costs of treating contaminated water need to be considered as well as the environmental costs of pollution. Ozone treatment, for example, is very costly. These costs may outweigh the costs of restricted development in watersheds, to the extent that development is causing water quality problems. A "carrying capacity" approach could be used to calculate how much development a watershed can sustain, or domestic watersheds could simply be kept "pristine." However, controls on the use of watersheds, such as preventing recreational access, will not solve all water quality problems, such as those caused by wildlife and natural landslides.

Alternative approaches to treating sewage should be investigated, with a view to placing a higher priority on biological treatment processes. Composting toilets and the use of marshlands, for example, could reduce the amount of chemical treatment needed.

##### *What's needed to protect water supplies*

Reduced use and conservation of fresh water would help address the supply issue. Water meters in houses could assist in this regard, as could constraints on lawn watering. Reduced use volume also leads to reduced waste water, in turn lessening the challenge of treating water so as to prevent pollution. Public education on water use will help in the longer term; in the meantime regulations may be required, for example, constraints on lawn watering.

### **3.5. Transportation**

The topography that constrains development in the Sound also leads to competing uses for roads and railways and limited room for the expansion of transportation networks. In the meantime, growth in Howe Sound communities has outpaced transportation in terms of roadways and ferry service. Transportation capacity competes with fresh water supply as one of the dominant constraints on growth in the Sound: conversely, improvements in transportation infrastructure can act to drive growth. Simply expanding highways to the point of free flowing traffic will only result in more and repeated congestion in even greater volumes in the future. Many stakeholders thus see transportation considerations as being central to any planning towards sustainability in the

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<sup>9</sup> Community Watershed Plans focus on watersheds from which communities obtain their fresh water supplies.

Watershed. The linkages between land use planning and transportation planning, which together affect the shape and character of life in Howe Sound, cannot be over-emphasized.

### **3.5.1. Ferries**

#### *Ferry capacity and growth*

The amount of ferry traffic increases every year, yet opinions on whether the capacity of the ferry service should be increased vary. While the congestion and waiting lines can be an inconvenience, some stakeholders see limited capacity as a reasonable control on the growth rate of the Sunshine Coast and the islands. On the other hand, without continued improvements to the flow of ferry traffic, B.C. Ferries maintains that its operating costs would increase because the ships would start running late and high overtime and other labour expenses would be incurred.

The impact on Horseshoe Bay from commuters and other traffic going to Bowen Island, the Sunshine Coast and Vancouver Island is a concern which is expected to heighten as ferry use increases. Local business welcomes the traffic on the commercial streets, but the residents would like more separation of ferry traffic from local traffic. Although B.C. Ferries has endeavoured to improve its community relations, some Horseshoe Bay stakeholders feel that B.C. Ferries has not put enough effort into working with the community on this problem. B.C. Ferries is modifying the Horseshoe Bay terminal.

Further up the Sound, it has been suggested that the potential for recreational access via ferry to the port near Squamish should be investigated. More broadly, increased dependence on water as opposed to road travel (e.g., a sea bus linking communities) is regarded as a logical shift of emphasis to consider in light of the geography of the Watershed.

#### *Current initiatives and what's needed to cope with ferry traffic*

Several options have been put forward to deal with the problems of limited ferry capacity and heavy traffic in Horseshoe Bay.

- As noted above, if nothing were done, natural constraints on growth might be imposed, but at a cost.
- More people could walk on the ferry as foot passengers, leaving their cars behind. Bus schedules could be coordinated with ferry schedules to encourage this. A more convenient drop off point might also help.
- Improvements could be made to the ferry service by increasing the frequency of sailings, instituting later sailings, and investigating a commuter only service.
- B.C. Ferries is looking at improved scheduling and adding different vessel types to the fleet, e.g. smaller, high speed ferries that depart more frequently, or larger vessels that hold more vehicles.

The Howe Sound/Sunshine Coast Advisory Committee is an initiative by B.C. Ferries to develop a 10 year strategic plan for the region. Stakeholders are expected to suggest initiatives for service plans which are then taken to the B.C. Ferries Commission management and Board of Directors.

Current B.C. Ferry plans for Horseshoe Bay include a new administration building, improved walk-on facilities for foot passengers, and improved holding (parking) facilities. Commitment to implementing these plans is not final at this point.

TABLE 6 Ferry Traffic: 1989-1994 & Projections

	<u>Horseshoe Bay - Langdale</u>		<u>Horseshoe Bay - Snug Cove</u>	
	Passengers	Vehicles	Passengers	Vehicles
2005	3.30m	1.44m	1.64m	0.70m
<u>2000</u>	<u>2.94m</u>	<u>1.27m</u>	<u>1.37m</u>	<u>0.58m</u>
1994	2.47m	1.04m	1.05m	0.43m
1993	2.41m	1.03m	0.99m	0.40m
1992	2.39m	1.03m	0.93m	0.37m
1991	2.28m	0.98m	0.85m	0.36m
1990	2.33m	1.03m	0.80m	0.34m
1989	2.16m	0.96m	0.75m	0.31m

Source: B.C. Ferry Corporation

TABLE 7 Highway 99 Annual Traffic Volumes: 1989-1994

	<u>1 km North of Horseshoe Bay</u>	<u>11 km North of Squamish</u>	<u>1.3 km South of Pemberton</u>
1994	4.48m	2.19m	0.45m
1993	4.13m	2.07m	0.44m
1992	3.84m	1.93m	0.39m
1991	3.53m	1.80m	0.26m
1990	3.42m	1.59m	0.28m
1989	3.50m	1.61m	0.23m

Source: Ministry of Transportation & Highways

### **3.5.2. Highway 101 Capacity Problems**

The impact of urban development on transportation is a concern on the Sunshine Coast. Highway 101 is a narrow road that is heavily used, and the narrow, twisting road networks of the Coast have been described as "1950s roads with 1990s traffic". Alternative routes are being studied; for example a joint (shared cost) study is underway involving the District Municipality of Sechelt, the Sechelt Indian Band, SCRCD, and the Ministry of Transportation and Highways (MOTH). The Sechelt Nation is participating in good faith, while the Treaty process raises some sensitive issues.

Improvements to public transportation, including evening and weekend service have been recommended.

It should be noted that Highway 101 is not the only focus of transportation planning on the Sunshine Coast. A *Regional Transportation Plan* for the Sunshine Coast is being sponsored by MOTH to look at the broader array of transportation issues.

### **3.5.3. Highway 99 Capacity Problems**

#### *Increasing traffic in a constrained space*

The shortage of capacity and increasing traffic on Highway 99 is a major problem in the view of most stakeholders in Howe Sound. The Sea To Sky Highway is the backbone to the settlement pattern. It is not up to standard and some claim that the transportation demands of a growing population are not being met. The consequences include more dangerous driving conditions, delays and inconveniences which are approaching "impossible congestion."

Safety is a continuing cause of concern. While accidents have decreased, the proportion of accidents that are fatal has increased. The community initiative, "99 Watch," is striving to change this pattern by discouraging speeding.

The trend towards a less pleasant drive into the SLRD from the Lower Mainland poses a threat to the tourism economy, and other forms of economic development are constrained by the poor access. Last but not least, the quality of life in the communities that the traffic passes through is negatively impacted.

Thirteen thousand (13,000) vehicles use Highway 99 on average each day. In engineering terms, Vancouver to Whistler traffic alone would fill the "capacity" of the highway. Traditionally there were two peaks: Friday evening heading up to Whistler and Sunday evening heading back to Vancouver. Now there are several peaks stemming from ferry traffic on Fridays, travel to and from Shannon Falls on Sundays, and skier travel to and from Whistler on winter weekends. The largest volume increases have occurred between Squamish and Vancouver and within Whistler, where the highway functions as a local road. Development of the Duffy Lake Road could be a contributing factor. A large number of access points to developments contributes to the congestion. Hazard control such as rock scaling to prevent slides also causes delays.

The permanent count station just north of Horseshoe Bay has recorded traffic increases at the rate of 8.7% in 1991-92 and 8.2% in 1992-93. At the Cheekye bridge counting station north of Squamish the increases were 11.9% in 1991-92, 5.3% in 1992-93, and 9.4% in 1993-94.

TABLE 8: Daily Traffic Volumes (*Traffic Volumes in British Columbia 1989-93*).

Place:	1989	1990	1991	1992	1993
Horseshoe Bay	11,311	11,629	11,446	12,438	13,454
South of Squamish	9,300	9,900	9,600	10,600	11,200
North of Squamish	4,892	5,614	5,886	6,589	6,964
Railroad crossing South of Whistler	n/a	5,400	6,000	6,200	6,700
Gondola Parking Lot at Whistler	10,310	10,987	11,124	11,985	13,348
South of "Entering Pemberton" Sign	1,800	1,700	2,000	2,500	3,000

Source: Ministry of Transportation & Highways

*The information base on Highway 99*

As the statistics above suggest, there is no shortage of information on traffic volume. The number of cars on Highway 99 is monitored daily at permanent counting stations.

There have been numerous studies about the Highway, including the following studies undertaken by MOTH: Traffic Volumes in British Columbia 1989-93; the Squamish-Whistler Highway 99 Intersection Review Supplemental Report, 1991; the Vancouver-Squamish Corridor Study; the Vancouver-Squamish Highway Planning and Pre-Design Engineering Study, 1989; and the Squamish-Whistler Highway Planning and Pre-Design Engineering Study, 1991.

*Current initiatives and what's needed to deal with Highway 99 issues*

The options described below are the ones put forward most often in response to the Highway 99 capacity problem. Some of these could be used in combination, although they are discussed separately.

*Do nothing to expand the capacity of Highway 99:* Some stakeholders regard the limited capacity of the highway as a positive constraint on growth and development in the Sound. They argue that the maintenance of the status quo would therefore support sustainability. Continuously adapting transportation systems to accommodate the automobile is seen as a counter-incentive to getting people out of their cars. Simply expanding the highway to the point of free flowing traffic will only result in more traffic and repeated congestion problems at even greater volumes in the future.

*Encourage transportation alternatives:* If environmental considerations are to be given as much or more weight than issues such as traffic flow, alternative forms of transportation have to be considered. While alternatives to the private vehicle exist and could be improved, some believe that railway, commuter rail, park and ride, or buses will not draw people out of their cars because these options are less convenient and more time consuming. For example, BC Rail did attempt to provide a commuter-type train for weekend visitors, but this alternative did not work out. Others feel strongly that the reduction of personal automobile use is essential to the pursuit of sustainability in the Watershed. They believe that full cost accounting that takes into account the impacts of various transportation alternatives might change the affordability of various options. Additional rail and ferry links are put forward as deserving further investigation as mass transit alternatives, along with awareness raising and possible cost subsidies to counteract the attitude described above. In other words, demand management has to go along with changes in the supply of transportation

alternatives. Creative new alternatives for local transportation also deserve more attention, such as Sechelt's consideration of an urban greenway.

*Expansion of the existing Sea to Sky route:* Some stakeholders would like to see the highway expanded to four lanes. Existing constraints on the Highway stemming from its original engineering and the rock formations along the route make this an expensive proposition that MOTH is not ready to consider. If it could be done, widening the highway would have several negative impacts: commercial activities along the highway could be negatively affected; air and water quality could be degraded; and land would be consumed.

*Construction of an alternate route:* An Indian Arm route has been proposed for a new highway. This would open up presently untouched forests above Whistler which have recently been designated as a provincial park and is therefore seen as unacceptable and contrary to sustainability by many stakeholders. Since the Lions Gate and Second Narrows Bridges do not have the capacity to accommodate more traffic at this time, MOTH envisions an alternate route starting at Highway 1 (at the Stormont interchange). This project would cost over 1 billion dollars. While this is the preferred choice of the Ministry, it maintains that the budget is not available for the foreseeable future, and a new highway for the region is not included in current provincial government transportation plans. Despite these environmental and budgetary constraints, MLA David Mitchell supports a new highway from Vancouver to Squamish up the east side of Indian Arm. He has produced a discussion paper with a rationale for this proposal, calling for the Government to shift its priorities in this direction. Any further pursuit of new transportation routes would require significant investments in economic, social and environmental impact studies.

*Continue to maintain and upgrade the existing highway:* MOTH will continue to do maintenance and upgrading on the existing Sea to Sky route, including safety upgrading when a new development is put in (e.g. new intersections must have four lanes). Maintenance is increasingly expensive, especially when the protection of fish habitat is given the priority that DFO regulations require.

*Reduce the number of access points along the highway:* Some people regard Highway 99 as a through road from the Lower Mainland to Whistler and beyond that should not be interrupted with a lot of access points. Others see it as an access route throughout the region, especially for tourists, that depends on drivers being able to get off the highway to spend money. In Squamish, Highway 99 is the major road through the municipality, and 15 minute lineups at peak periods are the result. The number of interchanges along the highway in Squamish could be reduced if other connecting roads were upgraded to accommodate the resulting increase in traffic (although options for other major arterials are limited by economic and physical constraints). Fewer interchanges along the entire length of the highway would also increase safety - another argument against a sprawling development pattern.

*Integrated transportation and land use planning:* Given the inability of the highway to meet existing demand, development activities in different communities can have a dramatic impact on one another. As a result, it has been suggested that the communities in the Whistler corridor should sign off on each other's plans. And because development and transportation improvements drive one another, land use and changes to the highway have to be considered together. Integrated land use and transportation planning at the regional level could support sustainable transportation measures, in both supply and demand areas. Locally, "complete communities" with mixed land use and a range of services could reduce reliance on the private car. The role of Highway 99 should be examined in this broader context. MOTH is currently working with municipalities on a major roads plan.

## 3.6. The Economy

### 3.6.1. Trend Towards Tourism and a Service-based Economy

#### *The economic transition*

The dominant economic trend in the Howe Sound at present is a move away from a resource based economy towards one based more on tourism and residential development for retirees and commuters from Vancouver - essentially a service-based economy. The 1991 census determined that 27.8% of the SLRD's labour force was primarily working in the services categories. Nevertheless, manufacturing, transportation, forestry, agriculture, and fisheries continue to make a critical contribution.

Squamish exemplifies the Howe Sound community in transition. Still forestry based, but with declining access to timber, the municipality is looking at tourism as a means of diversifying the economic base. The Squamish Chamber of Commerce reported that tourist inquiries rose 13.8% in 1994. Similarly, in Pemberton the service industry is the most rapidly increasing sector (in terms of the number of people employed in it) and now employs the most people, while primary industry has shown the greatest decrease, due largely to loss of employment in forestry.

Whistler began with a tourism based economy and its international fame is taking it from strength to strength. Whistler has been the skiers' favorite resort in North America for a few years now, and summer tourism is rapidly gaining on winter use (15% higher in 1995 than in the summer of 1994). Some consider it to be the primary golf destination resort in Canada. For 1995, including summer and winter, record visits to Whistler of almost one million are expected. Whistler's rapid growth provides employment, including jobs for contractors from Squamish.

On the Sunshine Coast as well, tourism is becoming a major driving force in the economy. People come for recreation, and, once arrived, they buy accommodation, food, and entertainment; they rent motor boats; and they hire guides. The logging industry is no longer "the only game in town."

Another trend in Howe Sound's economy is an increase in small businesses, stemming from an influx of highly skilled commuters who tire of the commute to Vancouver and start their own businesses in Squamish, Whistler and other communities. At the same time, home telecommuters and the small businesses that support them are taking on a larger role.

#### *Challenges and impacts*

Many residents of the Sound welcome the transition to a service and tourism based economy. The new economy provides opportunities for a stronger role for local government in economic activities, a more diversified economic base, and industries and employment opportunities which are sensitive to the environment (e.g. cottage industries). The transition is, however, accompanied by some negative impacts and several challenges.

Conflicts centred on Squamish epitomize the disruption that change and competing priorities can cause at this time of transition. Some perceive the community as being completely dependent on forestry, and therefore see the local economy as being seriously threatened by conservation measures that reduce the timber supply. Others view the increased attraction of the area to rock climbers, hikers and other outdoor recreationists as a significant economic opportunity that could balance reductions in forest industry activity.

A key element in smoothing the transition will be finding jobs for employees displaced from the traditional resource sector. Tourism employment requires a different skill set and typically pays lower salaries than resource sector employment (and often only seasonally), as well as demanding a



TABLE 9: "Sea to Sky" Economic Indicators: 1994

	Amount	Change from 1993
Total Shipments - Woodfibre	768,000	+34.7%
Outward Shipments - Weldwood	89,703	+18.2%
BC Rail Cargo to/from Squamish	11,579	+22.3%
SLRD Retail Sales - 1st quarter	\$41.8 million	+21.9%
SLRD Tourism Revenue	\$65.8 million	+26.4%
SLRD Incorporations	116	+7.4%
SLRD Bankruptcies (1993)	45	-4.3%
New Business Licenses:		
Squamish	244	+108.6%
Whistler	249	-11.4%
Pemberton	83	-4.6%
Building Permits:		
Squamish	\$37.4 million	+91.5%
Whistler	\$84.1 million	+18.2%
Pemberton	\$10.5 million	+167.1%
Residential Sales:		
Squamish	\$55.7 million	-20.1%
Whistler	\$184.6 million	+20.0%
Pemberton	\$9.5 million	+17.7%

Source: Sea-to-Sky Economic Development Commission

TABLE 10: Whistler Tourism

Skiers - Whistler/Blackcomb		
1993/1994	1,416,981	
1992/1993	1,302,112	
1991/1992	1,309,567	
1990/1991	1,323,391	
1989/1990	1,194,947	
	Summer 1994	Winter 1994/1995
Room Nights	253,014	350,859
Increase over previous season	+8.84%	+6.17%
Average Occupancy	54%	70%
Origin of Visitors:		
B.C.	57%	
Washington	9.8%	
Ontario	5.6%	
Eastern U.S.	4.1%	
California	3.6%	
Japan		20.9%
Lower Mainland		15.3%
Ontario		11.8%
Other B.C.		10.4%
Washington		8.8%

Source: Sea-to-Sky Economic Development Commission

huge shift in lifestyle. For example, the decline in allowable cut and the decline of the fishery at Pender Harbour are having cultural impacts because people can no longer rely on traditional ways of life which were resource dependent. Even if these problems can be overcome, will tourism and the service industry supply enough jobs for the displaced workers as well as for their children into the future?

An economic constraint discussed in section 3.1.2 connected with the transition is the potential inadequacy of the tax base drawn from predominantly residential development. Will tourism be enough to draw the necessary dollars in at the ground floor of the economy?

While tourism is appreciated for its diversifying effect on the resource based economy, there is a sense that it may be going too far. First, development associated with tourism is feared to be taking over resource lands, as in the District Municipality of Sechelt and the Pemberton area. Second, there is an apparently high risk of killing the goose that laid the golden egg. The fear is growing that excessive or unattractive development within and outside the urban areas may spoil the tourism commodity. A lack of facilities, such as washrooms or outhouses, and irresponsible behaviour on the part of tourists (e.g. not packing out their garbage, not cleaning up their dogs' feces, and letting their dogs run through the creeks disturbing fish during spawning season) are also contributing factors. The hot springs at Meager Creek have been closed recently due to a high coliform count. Third, inflation in land values caused by tourism can drive housing prices beyond the ability of longer term residents to pay. For these kinds of reasons more than half of the respondents to a small survey in Pemberton felt that tourism should not be the driving force for local economic development.

In short, tourism is generally welcomed for the employment (especially for youth) and income it brings to an area, sometimes reducing the need for commuting, and compensating for declining employment opportunities in the resource sector. But to be effective in the long term, tourism development must enhance community goals, respect the environment, and be compatible with other components of the economy. Attention to other sources of economic activity appears warranted to both stabilize the economy by providing year-round employment and diversity and to guard against cyclical downturns that could affect tourism.

### **3.6.2. Changes in the Natural Resource Sector**

#### *Trapping*

Fur trading and managing trap lines were the first form of commercial trade between the Squamish Nation and Europeans. Each Squamish Nation family had its own trap lines. Today there is no trapping, primarily as a result of displacement by the forest industry and subsequent changes in land use to include residential development.

#### *Fisheries*

The history of Howe Sound fisheries is generally one of progressive decline, with some recent signs of recovery. Fishing was integral to the way of life of the Squamish and Sechelt Nations and so this decline has had a particularly severe impact on these peoples.

The commercial salmon fishery in the Sound has been closed since 1963. Although dioxin and furan levels in shellfish and marine shorebirds are decreasing, a commercial shellfish closure established in 1988 remains partially in effect. A shrimp fishery (side stripe and pink) is operating. Currently there are recreational catch limits for salmon and rockfish. Escapement data suggest that stocks of all salmon species except chum have declined. Herring have not been reported to spawn in the region since 1969. Everywhere, the size of rockfish is shrinking and Department of Fisheries

and Oceans (DFO) scientists can no longer find bocaccio (the largest rockfish) in the Sound. In 1930s and 1940s, Howe Sound was a destination for bocaccio fishing. Long term residents recall when fish were more plentiful: "I'm 43 years old, and I grew up here. I remember herring boats coming into the Sound. As kids we used to jig them. We would just drop a line with 3 hooks on it and pull the fish out. We'd go home with half a bucket of fish in just a couple of hours fishing."

Reduction in stocks is very disconcerting for those involved in the food fishery, the commercial fishery and the sports fishery. The Squamish Nation can no longer draw on the marine resources that they depended on for centuries, with severe impacts on their way of life. At Pender Harbour, a traditional fishing community is at risk, and the recreational fishing industry on the Sunshine Coast is similarly threatened. Sport fishing charters have dropped 50%. Local resorts are having a tougher time keeping their market share, while they used to be able to compete with the best on the B.C. coast.

Theories vary on the causes in the decline of fish populations, with over-fishing being the primary explanation. The Cheakamus, which was once the fishing derby capital of B.C., had its fishery depleted by the Daisy Lake Reservoir construction decades ago. Pollution may be less of a factor than it was in the past, but it is still having a negative impact at least locally. Water runoff from paved streets carrying hydrocarbons is another source of stress on fish habitat, and although the pulp mills have upgraded their effluent output, recovery time for ground fish is slow. Small streams are often not well enough protected from development, and the role that they play in contributing to the viability of the fishery resource appears to be under-appreciated. Squamish is accused of drawing too much water from the Stawamus River to leave a high enough minimum flow for salmon, and the municipality is under pressure to find alternate water sources.

DFO scientists believe that there has been some improvement in fish habitat over the last couple of years. They are beginning to see fish in places where they have not been seen before. If pollution problems like the acid drainage at Britannia are resolved, and if new developments take into account the importance of maintaining fish habitat, the state of the resource could continue to improve. (See section 3.7.2 for more discussion of the marine environment.)

#### *Current initiatives in fisheries and what's needed*

Many stakeholders are not optimistic about what the future holds for the fishery. Continued development of land in the flood plain will likely clash with fisheries rehabilitation objectives. Federal funds tend to focus on the salmon resource, with less effort being invested in other species.

Guidelines for stream protection are not well enough enforced, and there is confusion in places as to who is the approving authority for development in key fish habitat areas - control is complex. DFO and the Ministry of Environment have been working on improvements to the referrals system and training sessions were recently offered on Stream Stewardship (to help implement the Land Development Guidelines). The Ministry of Environment's new Urban Salmon Habitat Program promises to support initiatives involving communities and municipal governments in caring for urban streams.

Non-government organizations are also taking initiatives to rehabilitate fisheries. A group of citizens is working towards getting the crab fishery back into a fishable state. The Vancouver Aquarium has proposed a conservation partnership with Canfor Corporation to stock selected islands in southern Howe Sound with cultured lingcod for the sports fishery.

#### *Agriculture*

Pemberton is the only significant agricultural area in the Howe Sound region at this point. Agriculture is the foundation of Pemberton's economy, with potatoes being the predominant cash

crop and beef cattle another important economic activity. Pemberton has the reputation of the "seed potato capital of North America" since it exports virus-free seed potatoes to Idaho. A current issue in this industry is a conflict between organic and non-organic potato farmers, as seed potato farmers fear the spread of disease from organic farms.

Indirectly, growth is having significant impacts on agriculture in Pemberton. As land prices increase in response to more people moving to the area, land appraisals increase and this translates to higher taxes. More service provision in response to the increasing population in the area results in increased taxes for everyone, including the farmers who are paying taxes for non-farm services.

On the positive side, if Pemberton and Whistler continue to grow, there may be opportunities for farmers to enter into a direct marketing situation in which they sell their produce directly to consumers in the immediate area through produce stores or farmers' markets. The climate and soils may not be suitable for a diversity of fruit and vegetable growing, but this is an opportunity worth investigating.

### *Forestry*

The timber supply for the forest industry is increasingly constrained on the Sunshine Coast and in Howe Sound East. Conflicting demands for the forest land base, coming from urban development, new provincial parks and recreation activities, are the main contributing factors. There is concern on the Sunshine Coast regarding habitat for marbled murrelet, and in Howe Sound East there is concern about water quality and slope stability. The annual allowable cut has gone down in recent years and has recently dropped further as a result of timber cutting reviews and other forestry measures stemming from the new Forest Practices Code. A reduction of 13% for the Soo timber supply area (affecting Squamish and Pemberton) was announced in October, 1995 - a drop twice as steep as the provincial average. Changing public attitudes towards the value of the forests lie behind many of these changes. At least one environmental group believes that the annual allowable cut in the Soo Timber Supply Area is still well above sustainable yield. Others counter that the reduction was too steep and took place over too short a time period.

The share of the SLRD labour force held by forestry and logging has dropped from 10% in 1981 to only 5.5% in 1991. Yet impacts of the decline in timber supply have the potential to go well beyond the people immediately employed in logging, as manufacturing and service industries dependent on the income from logging are sequentially affected. For example, pulp shipping by Squamish Terminals has provided a good tax base and employment opportunities for the Squamish area which would be missed if a shortage of supply were to restrict its operations.

The loss of forestry related jobs is not entirely attributable to the decline in timber supply. Increasing mechanization, meaning that fewer workers can maintain the same levels of production, is also a significant factor.

### *Current initiatives and what's needed in the forestry sector*

Several integrated forest planning processes are either underway or recently completed in the Howe Sound region. Stawamus Integrated Watershed Management Plan, a consensus-based plan involving DFO, Ministry of Environment, Ministry of Health, and the District Municipality of Squamish, is almost finished. Various forestry companies who are license holders are doing total resource plans (TRPs) in their primary operation areas. They are focusing on high priority valleys first which include: Port Douglas, Lillooet Gold Rush Trail (a heritage trail), Furry Creek TRP, Britannia Creek TRP, Mill and Woodfibre Creek, Meager Creek, Hexylmore and Spruce Creek, Callaghan Creek (near Whistler), and Railroad Creek. There is also the Soo Timber Supply Area Forest Management Strategy which was completed in August 1994. All smaller plans in the area

have to be consistent with this plan. In the future, this plan will be replaced by the Forest and Resource Management Plan which is similar to other land use plans in B.C.

The Forest Practices Code is forcing a more balanced approach to the management of the forest resource in general. Strategic plans and landscape unit plans are required by the Code. All the resources in the area have to be considered and more land has to be set aside in the interest of biodiversity. Yet some stakeholders feel that the new forestry regulations are still not adequate to protect biodiversity in the Sound.

To protect the forest industry resource base *and* forest ecosystems, Forest Reserves, which are similar to lands in the Agricultural Land Reserve, have been proposed. The Forest Reserves could be set aside for harvesting while remaining areas are managed for preservation and recreation. This is the intent of the Land and Resource Management Planning process.

Measures that have been suggested to strengthen the forest industry in the Sound include increased secondary wood manufacturing, elimination of exports of raw logs, higher value-added wood processing, intensive silviculture, selective harvesting, and finding ways to keep the benefits of forestry in the communities of the Sound. It is possible that new jobs will be found in silviculture and forest habitat renewal, via Forest Renewal BC programs.

Another option is the development of community forests, which utilize forest resources for the benefit of local communities. The Sunshine Coast Resources Council is establishing a Community Forest Project Steering Committee with representation from many agencies and interest groups to pursue the vision of community managed forests. This Community Forest management approach envisions a shift from timber production as a single focus to the management of forest ecosystems for the whole range of current and future values. A demonstration forest will be an integral part of the initiative, and will serve as a tourist attraction and educational facility.

### **3.6.3. The Role of Secondary Industry**

In some areas of the Sound growth is creating pressure to take land out of industrial use and put it into residential use, while in others, industrial land use is expanding. The loss of industries such as the two chemical companies in Squamish, although good for the environment, means a loss of jobs and a change in the character of the community. To help encourage continued employment in industry and to promote the continued use of its industrial lands, Canadian Occidental has completed a market analysis for Squamish regarding opportunities for job creation in the Squamish industrial parks. The largest manufacturing employers in the Sound are still in the Squamish area: Western Pulp's Woodfibre operation and Weldwood's sawmill. Outward bound shipments of lumber were up 18.2% in 1994, the highest level in 5 years.

On the Sunshine Coast, pressure on the environment is likely to increase from the expansion of industry, particularly in the vicinity of a major new industrial park just south of the Port Mellon pulp mill. Increased efforts to protect natural amenities and to ensure livability for residents of nearby areas have been recommended.

As land use changes from industrial to other urban uses such as residential along the Fraser River in the GVRD, and as the priority of protecting agricultural lands in the Fraser Valley is maintained, pressure may increase throughout the Howe Sound area to provide room for industrial development. Some stakeholders feel that the region has good potential for industry because it is relatively undeveloped, close to Vancouver, and has access to tidewater.

A regional strategy for guiding industry to the most appropriate locations based on community, environmental and industry needs is called for. Industry would welcome the clarification of

priorities that such a strategy would facilitate, in the hope that it would lead to more consistency in the granting of permits and approvals. One of the biggest stumbling blocks for economic viability, from industry stakeholder's perspectives, is frequent changes to standards and regulations ("moving goal posts").

#### **3.6.4. Growth in Commercial Development**

Commercial building development has boomed since 1987 on the Sunshine Coast, especially in the Gibsons to Sechelt corridor. New commercial development is also underway in Squamish, Whistler and Pemberton. Service industries that serve the Lower Mainland are locating in Squamish, a trend that is expected to continue into the future. New service businesses are developing in the Squamish-Whistler corridor not only in response to the growth in tourism, but to serve the growing number of home-based businesses and telecommuters. In Whistler, the number of business licenses issued has been doubling each year.

#### **3.6.5. Current Initiatives and What's Needed in Economic Development**

The diversification of the Howe Sound economy is, in part, the result of a conscious effort by regional and local governments, since they have learned the lesson of what happens to communities that are single industry based. For example, the SCRCD has been working with the Chamber of Commerce to do an Economic Development Plan. Similarly, the Sea To Sky Economic Development Commission, the Pemberton Chamber of Commerce, and the Howe Sound Community Futures Society have been involved in an initiative to produce a long term community economic strategy for the Pemberton Valley. This strategy will provide a framework for setting economic development priorities, allocating local resources for economic planning, and evaluating and redirecting economic successes and failures in the community. Squamish did an Economic Development Strategy in 1991, but this needs updating. A Tourism Plan currently is being developed.

The private sector is a major player in economic development initiatives in the Sound. Canadian Occidental, for example, is actively marketing the site of their former chemical plant in Squamish for use by new economic activities.

The economic opportunities that exist in the region need to be realistically identified so that communities can take advantage of them and local governments can act upon them. Economic indicators that take into account the depletion of natural capital would help guide development in the direction of sustainability.

### **3.7. Ecosystem Health**

Environmental issues in Howe Sound are generally viewed as a truly regional concern. Communities throughout the Sound, from First Nations who have been here the longest to recent newcomers, place the quality of the environment as one of their top concerns. The projection of current trends paints a dismal picture of cumulative impacts on the environment leading first to the spoiling of ecosystems, loss of biodiversity and endemic species, and later to the disappearance of a way of life. Speaking from experience, First Nations peoples caution that "Mother earth can't heal herself fast enough." A growing priority placed on the conservation of biodiversity and ecosystem planning at the broader societal level indicates that these concerns are now widely shared.

### **3.7.1. Air Quality**

Air quality is a growing concern in the Watershed. Howe Sound has a higher incidence of obstructive pulmonary diseases and lung cancers than the average for the province.

In the SCRDP the burning of land clearing debris is creating air quality problems. The District Municipality of Sechelt recently met with the Ministry of Environment, Lands and Parks to change its smoke control status from a rural to an urban designation. Urban designation would allow the restriction of burning to certain days.

Air quality has improved in the Squamish area as a result of improvements at the pulp mills. This trend is being helped along by the fact that the Vancouver Island Gas Pipeline goes through Squamish, and more people are converting to natural gas. Recently, however, there has been an air quality warning in the area as a result of a new source of pollution. Like the Fraser Valley, Squamish has been a victim of air pollution blown in from metropolitan Vancouver.

A need is recognized for more information on air quality. Although the two Howe Sound pulp mills operate their own industry-specific air quality monitoring programs (e.g. Howe Sound Pulp and Paper has monitoring stations at Langdale Elementary School and Gambier Island Store), there is only one site for obtaining ambient air quality readings for the whole Sound. This cannot reflect changes from one community to the next.

### **3.7.2. Aquatic Ecosystems**

#### *Pressures on the marine ecosystem*

Maintaining water quality is perhaps the biggest issue of concern in connection with the impacts of growth on Howe Sound. Newcomers to the area are coming to recognize what the Native Indians have always known: water quality does not just affect our quality of life, it affects the quality of life of all living creatures.

Estuaries, where rivers meet the sea, create a special environmental interface. Estuary habitat loss is a major concern because so much life in the Sound depends on the productivity of the estuary. Many stakeholders continue to draw attention to the need to protect the foreshore and intertidal environment. The Squamish Estuary makes up 95% of estuarine habitat in the Watershed, so its influence on the marine environment of the Sound is pivotal. Since the 1960s development has altered the flow of freshwater into the estuary, redistributed sediment deposition, and reduced estuarine habitat by almost 50%. Present development trends are seriously threatening the Squamish River, which will in turn adversely impact on the estuary and the marine environment, particularly in the upper Sound.

The geography of the Sound makes its marine environment special. Because Howe Sound is a deep fjord, it has different fauna from the rest of Georgia Strait. Some species, such as halibut, use the Sound as a nursery area, even though they do not appear to be present there as adults.

The condition of the fisheries of Howe Sound was described in section 3.6.2. While over-fishing contributes to the decline in the fisheries, degradation of the estuarine and marine habitat is also recognized as a significant factor. Sources of such degradation are summarized here.

*Pulp mill effluent* is one of the original and most significant sources of pollution, though mill effluents have been considerably improved in recent years.

*Sulfuric acid drainage* from the closed mine at Britannia poses the most serious point-source environmental problem in Howe Sound. It has been identified as "probably the worst point source pollution of any mine in the Province" by Robert McCandless in *B.C. Professional Engineer*,

# Population Trends for Chinook in the Ashlu, Squamish, and Mamquam

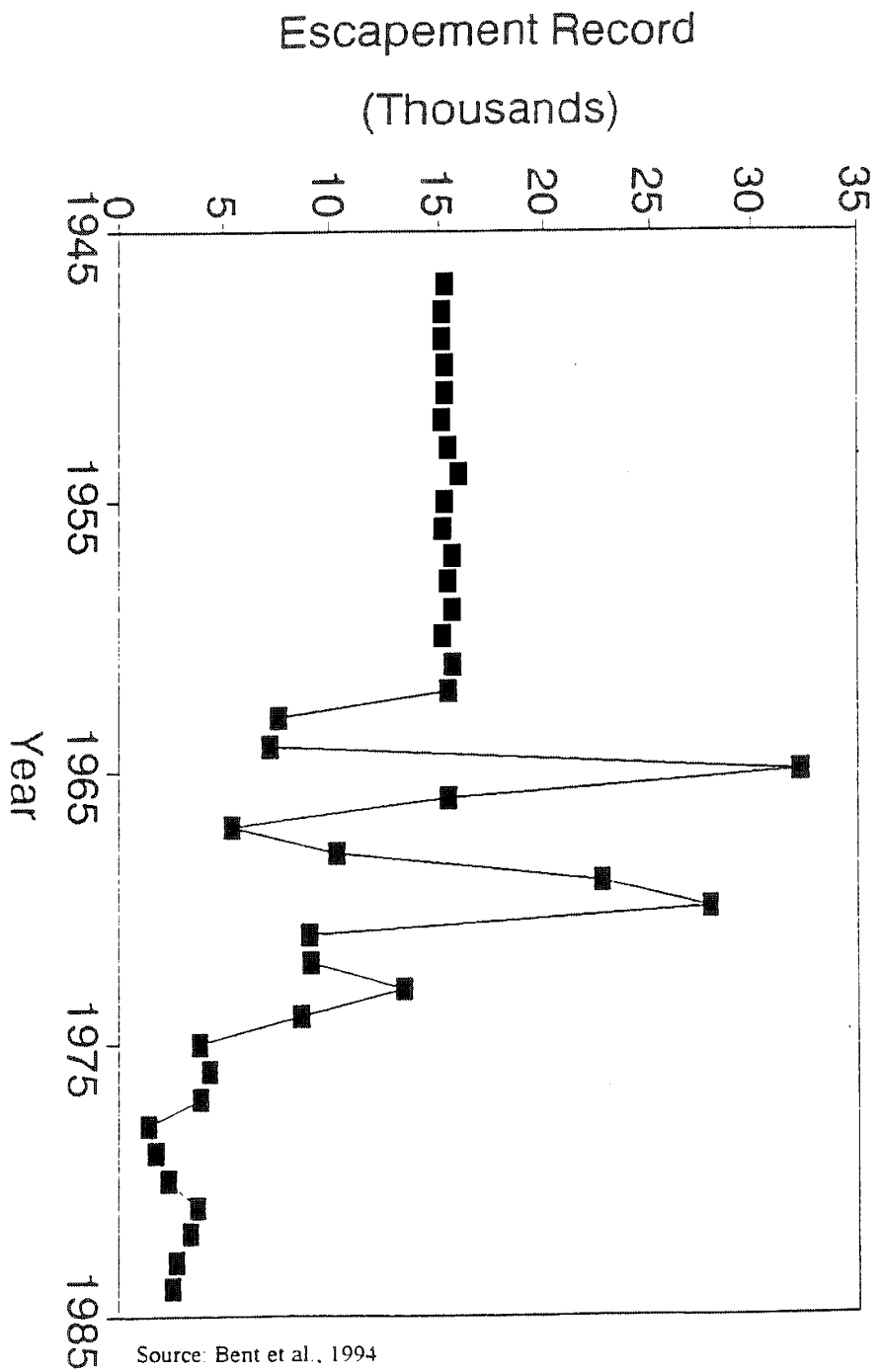
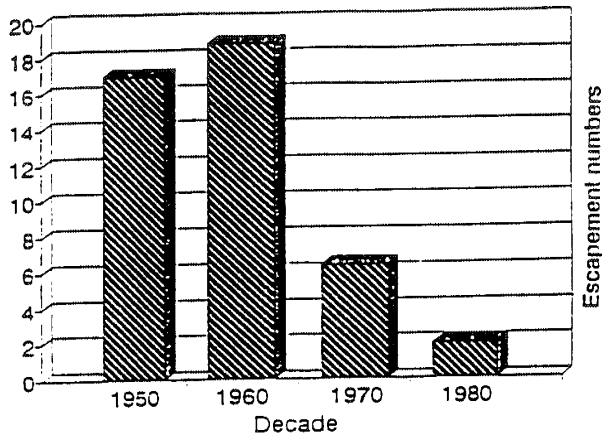


FIGURE 3: Chinook Escapement Record

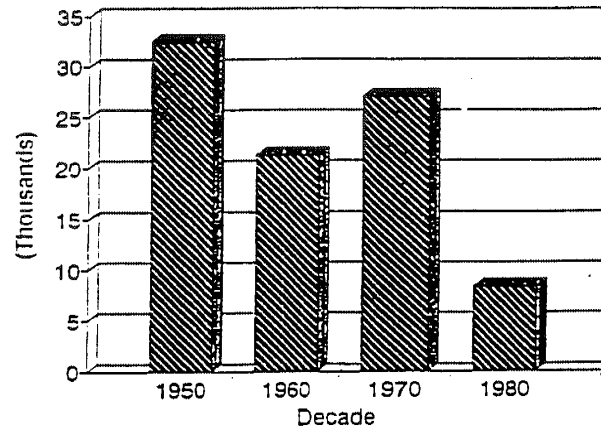


### Chinook Escapement from 1950-1985



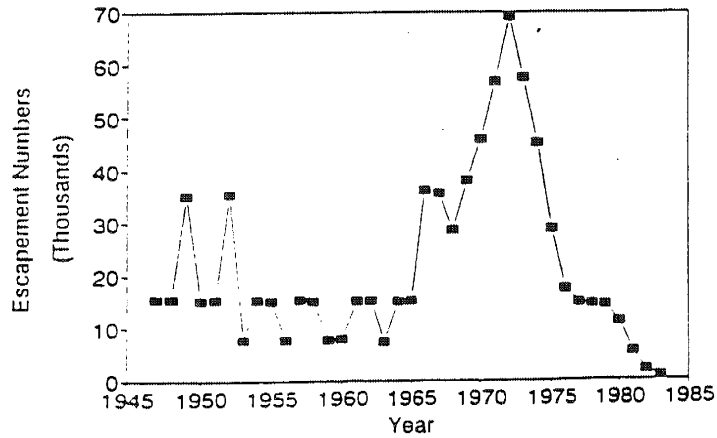
Squamish and tributaries

### Coho Escapement from 1950-1985



Squamish and tributaries

### Steelhead population trends in the Ashlu, Squamish, and Mamquam

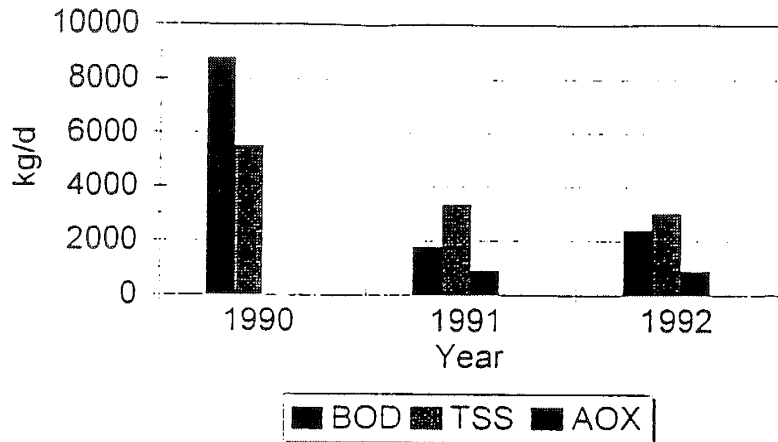


Source: Bent et al., 1994

FIGURE 4: Chinook, Coho and Steelhead Escapement Records

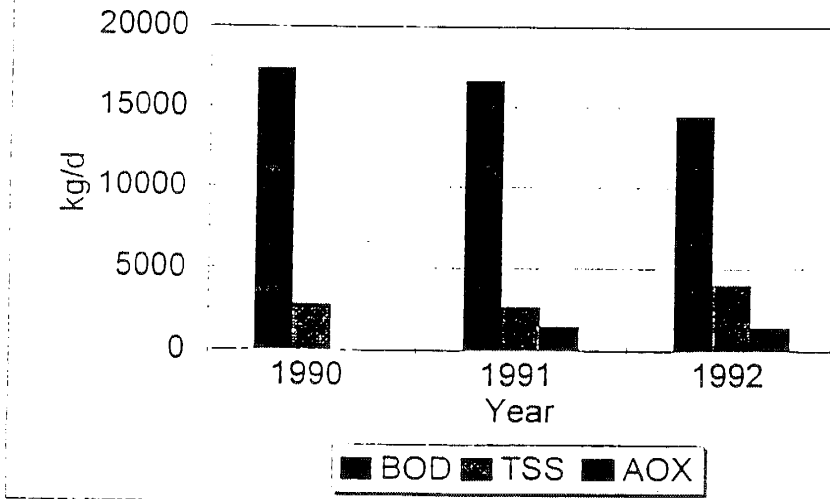
## Howe Sound Pulp and Paper

Mean annual discharges 1990 - 1992



## Western Pulp Partnership, Woodfibre

Mean annual discharges 1990 - 1992



Data provided by Environment Canada, Environmental Protection

Source: Bent et al., 1994

FIGURE 5: Mean Annual Discharges of Pulp Mill Effluents, Water Quality Measurements 1990 - 1992

1995, 46(3:4-7). Without progress towards industrial clean up of Britannia, continued degradation to the extent of the loss of local populations of fish is forecast. There is practically no aquatic life near Britannia and, given the physical nature of the Sound, it is reasonable to assume that this effect might spread out over time. Since Porteau Sill prevents deep water flushing, the potential for cumulative impact of the acid mine drainage coming from Britannia is enhanced. The responsibility for cleaning up the acid drainage has been the subject of dispute between the developer who bought the land and B.C. Environment. The Ministry of Environment has declared the site "orphaned," meaning the polluter has disappeared and can no longer be held accountable for the discharge or the site itself. Clean up costs of acid mine drainage are likely to exceed the potential revenue to be gained from developing the site. Although the federal Government has offered some funding support, shortage of provincial funds continues to delay action.

*Pressures from recreational users* are the subject of growing concern. Squamish wants to maintain water quality, but more recreational users in the watershed are putting the water quality at risk. The Stawamus logging road is the only access to the newly declared park at Indian Arm, suggesting the potential for even more recreational impacts on the watershed. (See also section 3.4.3.)

*Fish farms, pulp mills and sewage* are all perceived to be threats to marine habitat on the Sunshine Coast.

Certain *forestry practices* degrade water quality by adding to turbidity, but this is more of a problem in streams than in the marine environment. Log booming in marine and estuarine environments is also a concern.

The *cumulative ecological effects* of relatively small developments over time - or incremental effects - have to be taken into account as well as the larger scale impacts. Logging is one area of activity where this caution has been raised.

*Mercury contamination* is a problem in the sediments along the banks of the Stawamus Reserve area as a result of activities of Canadian Occidental. The company has since ceased operations at this site, but the contamination remains.

*BC Rail pesticide spraying* through the Stawamus reserve may negatively effect water quality.

There are *ocean dumping* sites in Howe Sound. Materials dumped could include excess rock fill and dredging materials. Dumping permits are handled by Environment Canada. The overall effects of this dumping are not known with certainty.

#### *The information base on aquatic ecosystems*

There are serious gaps in the information base on aquatic ecosystems in Howe Sound. Aside from very focused efforts on the part of DFO and the pulp companies, there is little research on the marine ecosystems of Howe Sound and no comprehensive studies have been undertaken. We do not know how the whole Sound functions as an ecosystem and as a result, we cannot fully understand potential impacts of human activities. Howe Sound is a very large, deep and complex fjord. There is a serious need for more information on the ecosystems of the Watershed and the estuary and how they function together.

We have very little knowledge about the marine environment of the Howe Sound fjord as compared to the rest of the Georgia Strait. For example, we lack an accurate picture of the water flow patterns in the Sound, which has very poor flushing action as opposed to the Georgia Strait which flushes every year. Nor do we know much about how fish use Howe Sound, e.g. their migratory activity. It is not clear how much spawning and rearing habitat has been damaged or

lost, or what factors are contributing to this decline. Unexplained anomalies in our understanding of the ecosystem persist; for example, while Port Mellon is said to be a relatively clean mill, the crabs there are the most polluted in the whole Georgia Strait.

A lack of funding reduces the number of studies DFO can do. There are some site specific studies on aquatic habitat that were done in the early 1980s, but they are not enough to give us a picture of life in the whole Sound. And even for smaller scale aquatic environments, the information base is incomplete. For example, there is very poor knowledge of the controlling factors for Chinook Salmon in the Squamish River, and even after 3 years of study of the Cheakamus, there remain more questions than answers about how that system works.

Overall, because of the general emphasis on salmon in B.C., and because of DFO's mandate, the marine environment tends to be emphasized over fresh water ecosystems and fish species.

*Current initiatives to fill gaps in the information base on aquatic ecosystems*

Today, DFO can ask development proponents to do biophysical surveys of the immediate areas in which they propose their development, which adds to the information base incrementally. Local studies are undertaken by municipalities as well, for example, Whistler's study for its Waste Water Management Plan, which looked at phosphorous and algae causes in the Cheakamus. The Vancouver Aquarium's Murray Newman Field Station on Popham Island is the base for continuous natural history studies which effectively constitute baseline monitoring.

An important initiative to improve the provision of information on the Howe Sound environment, including attention to aquatic ecosystems, is the quarterly newsletter, "Watershed News." The Howe Sound Watershed Environmental Network publishes the newsletter in partnership with the Geological Survey, Ministry of Environment, Environment Canada, and DFO. Each agency has an editor, and each takes a turn in printing the newsletter. It is mailed to universities, libraries, citizen groups, etc. The purpose of the newsletter is to promote communication to improve environmental literacy, and therefore, move towards sustainability in the region.

Two reports produced for the Howe Sound Round Table in 1994 also make a contribution: "An Overview of the State of the Aquatic Habitat and Water Resources in the Howe Sound Watershed," and "Planning and Managing Water Resources and Aquatic Habitat in the Howe Sound Watershed: A Review and Analysis of the Institutional Framework."

*Current initiatives to care for aquatic habitat*

It is well recognized in fisheries management that it is easier to preserve habitat than to rehabilitate it after it has been degraded, because of the expense and uncertain effectiveness of rehabilitation efforts. Yet the latter are still necessary. The total package of "what's needed" has been described as CPR: conservation, protection and restoration. A wide array of initiatives to better care for the aquatic habitat of Howe Sound are underway or recently completed.

The mills are cleaning up their operations dramatically. Port Mellon has made tremendous strides in decreasing the amount of pollution it generates. The mills are undertaking ongoing studies of their surrounding marine environment.

Here and there individuals are making a significant impact. For example, Ken Sneddon, who owns a log sorting operation at the mouth of Twin Creek, initiated a project to rehabilitate the creek from a scoured out stream to one suitable for salmon spawning. Working with an hydrologist who specializes in returning salmon streams to their natural state, and an expert in landscape architecture and site planning, Mr. Sneddon invested \$10,000 of his own money to have the stream

rehabilitated, and salmon have begun to enter the stream. There are restoration projects on Ouillet and Dakota creeks.

Non-government organizations have undertaken many initiatives. A small sampling includes the following groups and/or projects:

- the Squamish Estuary Conservation Society
- the Boy Scouts who have done restoration work on Coho Creek in Squamish
- the North Vancouver Outdoor School which manages the Tenderfoot Fish Hatchery near Squamish
- Stop the Pipe which has taken on Whistler sewage issues and successfully stopped a pipe from being built to transport effluent
- the Marine Life Sanctuary Society which is working for the dedication of marine protected areas throughout Howe Sound. (Other organizations such as the Vancouver Public aquarium, UBC's Westwater Research Centre and the Canadian Parks and Wilderness Society have also been involved.)
- the Sunshine Coast Salmon Enhancement Society
- the Squamish River Habitat Task Force - a joint project between the Squamish Nation, the Steelhead Society, Interfor and others
- habitat restoration work on Shovelnose Creek.
- projects to Adopt-A-Shoreline in the Squamish River system

Many other initiatives have been spearheaded by governments. A small sampling includes the following:

- Water Quality Objectives have been set for Howe Sound.
- Road deactivation and culvert upgrades are being funded by Forest Renewal BC.
- New sport fishing regulations for lingcod are in place.
- Squamish is working closely with DFO and the Ministry of Environment on environmental matters.
- Sechelt, in referring to government guidelines for stream protection, sometimes finds that they are not enough; therefore, the municipality is taking the initiative to require measures such as larger setbacks
- The Forest Practices Code may help reduce debris torrents<sup>10</sup> caused by poor forestry practices.
- The Fisheries-Hydro Technical Committee is looking at fish restoration from Hydro projects, e.g. in the Cheakamus.
- Mamquam Blind Channel is being studied as part of a proposal for a 90 unit development behind the Mountain Burger in Squamish. A sea wall will be built with dike capacity and bushes will be planted to help repair fish habitat.
- The new Urban Salmon Habitat Program will assist communities to restore habitat.
- Marine protected areas have been established at Whytecliffe Park and Porteau Cove. The designation of Whytecliffe Park as a marine sanctuary has resulted in the return of the yellowtail rockfish.

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<sup>10</sup> A debris torrent is a form of natural hazard in which logs, mud and rocks from upstream come rushing down the creek beds in a flash avalanche and/or flood.

Perhaps the most ambitious environmental management initiative has been the Squamish Estuary Management Plan. This has been directed by the Squamish Estuary Coordinating Committee, and DFO; Environment Canada; Ministry of Environment; BC Rail; and the Ministry of Small Business, Tourism and Culture have all been involved. The plan is to set long term boundaries of areas to be designated for conservation and commercial uses. It also aims to identify the impacts of industrial development and attempts to develop a compensation plan. There are strategies to phase out log handling, clean up the dredge spoil piles, and install culverts to allow fish access through the causeway which separates the estuary marshlands from the river. Developing the Plan has taken about 15 years, and it has yet to be implemented because it is awaiting endorsement from senior officials of the various government agencies.

The Squamish Nation did not endorse the Squamish Estuary report because they are in the Treaty process and they have grievances with BC Rail. A proposed land swap between BC Rail and the province (Crown Lands) is of great concern to the Squamish Nation. The rationale for this swap is to allow BC Rail to build a deep sea port on the east side and to allow the Province to preserve the west side as natural habitat. Discussions are ongoing about these issues. If adopted, the plan would be administered by the District Municipality of Squamish.

The discussion in this section has reflected the general focus of attention on marine rather than freshwater aquatic ecosystems in Howe Sound. Care needs to be taken not to neglect freshwater ecosystems. These provide important riparian habitat for vertebrate and invertebrate species alike. Section 3.4 of this report on domestic water and sewage touched on several issues related to fresh water.

### **3.7.3. Terrestrial Habitat**

#### *Pressures on wildlife and its habitat*

On the terrestrial side, pressures on the environment focus on low elevation forests, because this is the most accessible and commercially valuable timber to harvest. Loss of low elevation old growth is a concern to many stakeholders. Most of the Squamish River Valley bottom forests and tributaries have been logged. The most valuable terrestrial habitat that now remains intact is critical habitat for wildlife corridors and wintering habitat - productive ecosystems which are essential to long-term sustainability.

The west side of the Squamish Estuary is one of the few areas that has not been logged, because there is no bridge over the lower part of the Squamish River by which to access it. Negotiations have occurred between BC Rail and the Federal Government to protect this area from development encroachment, as described above.

Loss of wildlife habitat due to land being converted to urban development is a major issue. If trends continue there will be loss of the important wildlife corridor along the river and loss of moose and deer winter habitat. Recreation in the back country is also affecting wildlife negatively.

Specific areas that environmental groups have targeted for protection include the following:

- The Federation for B.C. Naturalists have identified the South West corner of Bowen Island as an ecologically important area. It is owned by a private land owner who maintains the right to subdivide it, and who could divide the 600 acre area into 60 ten acre lots.
- AWARE, the Western Canada Wilderness Committee, the Howe Sound Watershed Environmental Network and others are currently working to protect the Randy Stoltman Wilderness, an area near the Elaho which is a tributary to the Squamish River. The area is also referred to as the Clenndenning-Elaho-Lillooet Wilderness.

- Various groups are also proposing for protection the base of the Tantalus Range which is on the west side of the Squamish River, under the Protected Areas Strategy. This area is referred to as the Tantalus Range-Brackendale Eagle Reserve.
- The Tetrahedron Alliance on the Sunshine Coast has recently achieved success in its campaign to preserve the Tetrahedron area for the protection of its watershed and wilderness attributes.

*The information base on the terrestrial environment*

As in the marine environment, we are far from having a comprehensive understanding of terrestrial ecosystems in Howe Sound. For example, we know very little about the soils in the region, their hydrologic characteristics, their susceptibility and capability to support forest practices, their relation to climatic (weather) events, their absorptive capacities for waste assimilation, etc.

Forestry maps produced by the Ministry of Forests contain much information, but they naturally focus on forest ecosystems. A 13% target for park designations is sometimes referred to, but there has not been enough research to ascertain whether 13% is sufficient to protect species and maintain biodiversity. A comprehensive land mapping process is called for, to inventory features like fish habitat and vegetation that we have never inventoried before, and to pull together data that has been gathered on other themes. The B.C. Federation of Naturalists "Land for Nature Initiative" supports such a land inventory.

Provincial agencies have undertaken a Wildlife Habitat Study and a Green Corridors Study for Wildlife. DFO has been providing satellite mapping for creeks. The Ministry of Environment has completed a study on Environmental Improvement Scenarios for Howe Sound and is in the second phase of its Visual Impacts Study. In 1979, this agency produced the Howe Sound Overview which is a series of maps that identifies natural hazards, avalanche areas, terrain settlement suitability, road access, zoning and jurisdictions, and recreation areas.

The Squamish Nation Conservation Society has completed some environmental studies.

Whistler has established an ongoing environmental monitoring system, and has implemented a GIS (Geographical Information System) mapping system. The monitoring report is done every August and the maps are also produced annually so that the municipality can compare how things are changing as development occurs.

More and more, the detailed information about different areas in the Sound is coming from the developers who are required to undertake environmental assessments.

The Howe Sound Environmental Science Network evolved from a 1991 workshop with the goal to promote environmental science research and study within the Howe Sound watershed that will lead to, or support, the implementation of sustainable development strategies and practices. It maintains an inventory of information sources on the natural science of the Sound and publishes a newsletter called "The Watershed News" (described in section 3.7.2).

The Bowen Island Forest and Water Management Society Mapping Project uses volunteers to collect and put forest and water resource information on GIS, for application to land use planning and Bowen Island's OCP review. The GIS program has been very successful and there are several data sets well underway, including deep well locations, registered and non-registered water intakes, weather stations, cadastral, topographic and road data, and stream locations. The Society has the longer term goal to obtain a work station for public use so that the island's resources and associated values can be readily seen and queried in a GIS system. As well, a water quality

sampling scheme is underway and an information package about the forests of Bowen Island has been produced.

#### *Current initiatives to protect terrestrial habitats*

To protect low elevation forest ecosystems, some selective logging initiatives are being undertaken, and the Ministry of Forests' (MOF) Watershed Restoration Program looks at habitat rehabilitation for forested areas. Under the latter program, restoration potential in the Squamish and Lillooet watersheds is being assessed, and Little Stawamus and Mashiter Creek Community Watershed Restoration Projects are underway. In the future, the Ministry of Environment hopes to expand this project from dealing with just forestry to dealing with all resource activities. Efforts are made to gather all current resource management plans for these areas and assess the ecosystems involved. From this assessment future options are examined. The aim is to come up with a comprehensive Squamish Watershed Management Plan.

The Dakota Creek Watershed Restoration Project (south of Port Mellon) is a joint initiative of the SCRd, DFO and Canadian Forest Products. It has mainly been assisted by a grant from Forest Renewal BC. The goals are to rehabilitate the upper watershed, deactivate dams built for logging purposes, and rehabilitate fish habitat in the lower watershed.

Other provincial initiatives to protect terrestrial habitat include MOF's Spotted Owl Management Plan and Deer Management Plan, and the Protected Area Strategy spearheaded by the Ministry of Environment. BC Parks is currently initiating a master planning process for the newly designated Tetrahedron Provincial Park on the Sunshine Coast.

At the local level, Whistler's mapping system has resulted in the identification of environmentally sensitive areas where development would need special attention or be of concern. The District of Sechelt has completed a concept study for an urban greenway. Such "green corridors" can connect natural areas and parks across urban areas and provide both a commuting network in themselves and a feeder system to other forms of transportation. They also provide a step towards the creation of wildlife corridors beyond human settlements. The Federation of B.C. Naturalists' Land For Nature initiative strongly supports the establishment of such greenways.

#### **3.7.4. Attitudes Toward the Environment**

For some stakeholders, the attitudes of the residents of Howe Sound, reflected in their behaviour and lifestyles, is the primary source of concern regarding the sustainability of the region - in the words of one stakeholder, "It is all about how softly we live on the land."

The public seems to have a misconception that human impacts on the marine environment are dispersed and generalized, whereas industrial pollution in particular tends to be very localized. Worse, many users seem to assume that there are no impacts from certain activities. Over-fishing of rockfish by recreational fishers is one example - some tend to blame the decline in number and size of rockfish on factors other than their own influence.

On islands including Gambier and Anvil, actions by private landowners such as logging can have dramatic effects on the landscape. To some extent, property taxes encourage the logging of private land. Apart from institutional changes to remove this type of incentive, awareness-raising or education is the most practical means of urging landowners to use their property rights in an environmentally friendly way.

Education is required to alleviate the environmental pressures of other individual behaviours as well, such as recreational fishing. Whether out in boats, or on neighbouring properties that border riparian areas, users of the Sound need to educate each other, because government agencies do not



have the staff to enforce environmental protection rules without this support. At a broader scale, education on the links between lifestyle choices and sustainability might benefit the environment of the Sound. (See also section 3.9.1 on attitudes and lifestyles.)

Educational opportunities can be combined with recreation. For example, the Squamish Estuary Conservation Society organizes the Eagle Festival which started as an annual eagle count. The count still happens, while the Festival has grown into a major tourist event.

A comprehensive environmental education initiative is the Howe Sound Watershed Stewardship Project which is being undertaken by the Bowen Island Forest and Water Management Society under the sponsorship of the Canadian Wildlife Service, with a grant from Environment Canada's Eco-Action Program. Additional partnership and support has been received from the Bowen Island Nature Club, the Howe Sound Round Table, the Sea to Sky Outdoor School, the Islands Trust, and the GVRD. The goals of this initiative are to increase public awareness and understanding, and to stimulate positive action concerning stewardship and sustainable use of water and other resources of the Howe Sound Basin. The project aims to increase citizen knowledge about the Watershed so that they and their communities can participate more effectively in planning and decision-making.

### **3.8. Open Space, Parks and Recreation**

#### **3.8.1. "Super Natural" Howe Sound**

The natural beauty of Howe Sound is treasured by residents and recreationists, and is a pivotal factor behind the tourism economy. For many, the landscape of the Sound epitomizes "Super Natural B.C." Accordingly, anything impacting the natural amenity of the area is an issue. Sources of concern in this connection include highway congestion, urban sprawl, smoke from burning of wood wastes and the impacts on views from forest practices. Some stakeholders also believe the development of the industrial park located south of Port Mellon is degrading the amenities of the area by encroaching on green space. The impacts of tourists and recreationists can also have a negative impact on the very resource that draws them to the area.

Providing recreational services such as outhouses and generally being prepared to keep pace with growth can help in minimizing the impacts of tourists. Whistler has developed successfully to provide visitor services while Bowen and the other islands are not as well prepared for the large numbers of visitors using the islands for recreation and leisure purposes.

Views in the Sound can be protected through the careful planning of logging areas. And in urban areas, green spaces can be identified where no development should occur.

#### **3.8.2. Recreational Resources**

The recreational facilities of Howe Sound are among the most impressive in Western Canada, from picturesque provincial parks, recreational schools, community centres and marinas, to world-class golf courses and ski resorts. The residents of the Sound are active recreationists. In the small community of Pemberton, for example, there are at least a dozen recreational clubs, half of which have 100 or more members. In some areas like the Sunshine Coast there is, nevertheless, a shortage of recreational facilities, especially to accommodate the needs of youth.

All parts of the Sound have for many years provided a significant recreational amenity for residents of the Lower Mainland and other parts of the province, and interest in outdoor pursuits such as hiking and kayaking continues to grow. In some communities, volunteers are helping to accommodate the increased traffic by building and maintaining trail networks.

Provincial parks initiatives, such as the Protected Areas Strategy, include the provision of recreational opportunities as a high priority. In October, 1995, the Government announced the protection of 600 hectares in a new provincial park centering on the Stawamus Chief near Squamish. Recreational values for rock climbing and hiking were cited as primary motivations for the creation of this new park.

GVRD's Parks Plan includes Howe Sound right up to Whistler. The GVRD's study identifies the capacity for recreation demand both now and in the future.

Over recent years, the Howe Sound region has attracted recreationists from further afield, including other countries. While international attention focuses on Whistler as a ski resort, other locations in the Sound are acquiring reputations for a range of attractions. Eagle watching near Squamish is a prime example.

The challenges and impacts associated with tourism, described in section 3.6.1, also apply to the recreation resource - particularly in terms of threats to the resource base caused by the activity itself. Observers of the annual eagle migration at Squamish, for example, may be detracting from the natural habitat and its desirability to the eagles.

### **3.9. Attitudes, Values and Community Identity**

#### **3.9.1. Attitudes and Lifestyles**

Some Howe Sound residents feel that consumptive lifestyles are the root cause of most negative impacts on the environment. Compounding this problem is our society's lack of connectedness to the natural environment and our lack of awareness of the impacts our lifestyle choices are having on it. The "general public" may not be conversant with the issues of the Watershed, let alone with the individual's role in working towards sustainability. Therefore, communication, education and awareness-raising are frequently put forward as remedies to this situation. (For more discussion of the role of attitudes towards the environment, see section 3.7.4).

#### **3.9.2. Commonalities and Distinctions in Community Identities**

Each community in Howe Sound is unique; their interests and values are as mixed as those of communities in the rest of the province. "Howe Sound Recollections" in Chapter 1 demonstrate the wide ranging histories of a few settlements, and recent circumstances have not led to significant convergence. As a result, the cultural roots of Whistler residents are generally quite distinct from those of Squamish, for example, and the traditional culture of the First Nations provides an even stronger contrast. Yet, despite these differences, all communities share one thing in common: the residents' sense of identity is closely tied to their quality of life.

For the Squamish Nation, the depth of their cultural heritage in the Sound is of a different order of magnitude than the non-native culture. For example, an archeological dig at Stawamus unearthed artifacts dating from 4000 years ago. Courtesy and respect from white settlers towards their people is a major issue for members of the Nation, who feel they have shared their resources for decades only to the detriment of their land and traditional way of life.

A much younger community, by First Nation's standards, is the Village of Lions Bay which turns 25 in 1996 (although it has a much longer history as an unincorporated area). Initiatives there, rather than focusing on growth, are aimed at building community spirit, deepening roots and developing a sense of cultural heritage.

The most striking "in situ" evidence of the Sound's non-Native history is Britannia, and the B.C. Museum of Mining, which is a National Historic Site.

Finally, some of the newer communities in the Sound such as Furry Creek have the opportunity to develop their own uniqueness and identity while complementing those of their neighbours. Comprehensive planning at the development stage can meet the challenges of designing a "complete" community in the future.

Together, the communities of the Sound can be likened to gems or pearls on a necklace, with the linkage being highways 99 and 101. Some stakeholders feel there is a real common cultural identity within the Watershed, despite the distinctions described above, while others are skeptical. The prospects for a regional perspective on growth and sustainability in the Sound depend on the deepening of a shared identity, if indeed one is present. Increasing recognition of the geographical and economic features that are undeniably experienced in common may lead attitudes and values in this direction.

### **3.9.3. Impact of Growth on Community Identity**

A major force behind population growth in Howe Sound is the influx of people seeking a lifestyle change. Images that these migrants hold of Howe Sound communities obviously compare favourably with their experience of the larger urban areas they are leaving. However, their arrival puts pressure on the social fabric of the community they are joining. When a community grows rapidly, its ability to absorb new residents into its social setting is limited. A certain degree of alienation takes place and the community spirit that exists becomes fragmented.

One of the problems driving this phenomenon is that newcomers' attitudes towards their new home may not be consistent with that of longer term residents, who tend to get "left behind in the dust." Typically, for example, the environmental priorities of ex-commuters who have started new businesses in Squamish differ widely from those of long-term residents who traditionally have worked in the resource sectors and would like to continue this lifestyle. First Nations peoples feel not only left behind by changes in the Sound, but marginalized and exploited by them.

Circumstances related by stakeholders representing three communities illustrate some of the effects of growth on Howe Sound communities.

*Pemberton:* Many farming families in the Pemberton area have been there for over 50 years, and they have tremendous ties to their land. They feel little in common with the influx of young transients<sup>11</sup> who work and socialize in Whistler and who do not really contribute to the community at large. The "suburban refugees" who are fleeing from Whistler to Pemberton, on the other hand, expect the same level of services they received in Whistler when they arrive. This places pressure on local governments to redirect public funds towards projects that traditionally were not seen as important to longer term residents.

*Bowen Island:* On Bowen Island, amenities and services such as day care and community theater have traditionally been provided on a volunteer basis. With the current high rate of growth, the volunteers who run these programs can no longer keep up with the demands that population growth places on the community. As a result, the self-sufficiency of the islanders and their communities is deteriorating and traditions are beginning to break down. An example is the annual Bowfest event consisting of a parade and a celebration in the park, with home cooking and local entertainment. Now that this event is advertised in the Lower Mainland, it is attended by more people, vendors are

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<sup>11</sup> "Transients" is used in this context to refer to people who stay in a community in a short-term or part-time basis and is not meant to be a derogative label.

trying to cash in on the large crowds, and admission is charged at the gates. Today, many residents feel the festival has very little to do with the community.

*Britannia Beach:* Britannia has been marginalized and left behind because of its unincorporated status and the problems of finding economic stability in the face of the costly acid mine drainage problem which is devaluing the land base. Nevertheless, Britannia Beach includes 1,500 acres of developable land which may help to secure a more optimistic future for the community. A second opportunity appears to lie in its past - in the potential for stabilizing and restoring the National Historic Site around the Museum of Mining.

The need to protect Howe Sound communities' unique identities while dealing with growth and regional issues is thus regarded as a major challenge. Some stakeholders feel that the increasingly widespread recognition of this challenge is itself a grounds for optimism. Concern for maintaining livability leads to awareness of the need to manage growth, and raises support for strategies that address growth issues. An example is the support shown on the Sunshine Coast for the Sunshine Coast 2020 planning initiative, which was undertaken in 1990 to identify the problems and concerns of the public and create a vision and policies to set the direction for the future.

#### **3.9.4. The information Base on Community Values and Concerns**

Various studies and processes have been conducted by municipalities in the Sound to gain a better understanding of the values and priorities of community members. Lions Bay recently completed a community questionnaire, and Whistler holds an annual town meeting to discuss topics including growth issues. Whistler also carries out a Resident Satisfaction Survey which maps people's experiences of the quality of the environment, community life, etc., and helps identify priorities. The SCRCD has sponsored a study looking at the wants and needs of the community regarding the growth rate, and what will be needed in the future (the "Perc Study").

### **3.10. Governance**

The governance system for Howe Sound is complicated, with several layers of government and various jurisdictions within each layer. A shortage of resources, lack of coordination, a cumbersome referrals process, and unresolved Treaty negotiations make the governance picture even more problematic.

#### **3.10.1. Government Resources and "Downloading"**

Most local and regional governments in the Sound are struggling with minimal resources to stay on top of growth and its challenges. Squamish has a small planning staff working hard to keep up with rapid growth and day-to-day expectations. Whistler has relatively good planning resources but even these are stretched. The SLRD has only one planner and few other staff available to manage and plan for a vast land area. Gibsons has one planner on staff. Consultants may be used by any of these governments for specific projects, if the budget permits.

Federal and provincial agencies, faced with cutbacks, are similarly short of human and financial resources required to fulfill their mandates. There is a common perception that provincial agencies are constrained in their ability to care for the Sound more because of lack of funds for implementing plans than by any shortage of information or strategies.

Senior government agency resource shortages meet local government shortages when responsibilities are passed down to the local level. For example, if regional districts take over the management of subdivision approval from the Ministry of Transportation and Highways, they will

have even more on their plate of responsibilities. This phenomenon is termed "down-loading;" it occurs when the responsibilities are passed down without the provision of adequate funding and human resources to go with them.

One stakeholder proposed that a way of coping with these increased responsibilities is to establish clear guidelines and to give local governments the authority to make their own decisions on how to apply those guidelines. Otherwise, the municipalities run the risk of being sued by a provincial agency for not carrying out their new obligations satisfactorily.

### **3.10.2. Inter-governmental Coordination**

#### *Lack of coordination between governments and government agencies*

While virtually all growth and sustainability issues cross jurisdictional boundaries, jurisdictions are often fragmented, overlapping, narrowly defined and sector-based. Therefore, their coordination is essential to effective planning and management in Howe Sound.

The range of interests involved in planning for the Squamish Estuary epitomizes the complexity of the situation. In that limited area, the DFO, Environment Canada, Municipality of Squamish, BC Rail, the Ministry of Environment and the Squamish Nation all have vital roles to play, with varying priorities.

Despite the obvious need for coordination, governments do not have the time or resources to step back and identify what is going on in the Watershed and determine where coordination is most critical - everyone is focused on "their own neck of the woods." There have been few strong mechanisms for regional planning since 1983. No government agency has the responsibility of looking at the entire Watershed, meaning that questions of regional carrying capacity and long-term sustainability, complex in their own right, are made even more difficult to answer. Where coordination is essential, the different players can find themselves at cross purposes. For example, the SCRDC requires tertiary treatment of sewage while the Ministry of Environment allows ocean outfalls; the MOF allows logging in the water supply area and the SCRDC has fought this with legal actions. Staff shortages in the senior agencies mean that face-to-face communications to avoid conflicts, or to coordinate the regulation of developments, are difficult to schedule. As a result of these factors, authority for governance often comes across as fractured.

Sometimes municipal and regional governments are blamed for resisting coordination due to their perception of encroachments on their jurisdictional authority and because of parochial attitudes on the part of local politicians. However, stakeholders recognize that, in part because of the down-sizing of senior governments, local and regional governments and non-government organizations are potentially the most important players in the future of the Sound. Some stakeholders see local agencies as being most in touch with what the people in the immediate area want and most knowledgeable regarding physically limiting factors of the land and resources. Because they are the closest to the issues, they are expected to have the best ideas on how to solve them.

#### *What's needed to enhance coordination*

Options for improving intergovernmental coordination in the Sound range from improvement in ongoing communication amongst the different actors, to strategies for regional and bioregional planning, to the establishment of a single regional government agency.

*Improvements in communication:* With or without more formalized coordination among governments and government agencies, improvements in the exchange of information would go a long way towards supporting regional perspectives in managing the Sound. If information systems could be coordinated so that information is more accessible, governments would have a better

chance of understanding what is going on beyond their own boundaries. For example, under current circumstances provincial agencies rarely find the opportunity to share the valuable information they collect with local governments.

Enhanced communications between all players and the First Nations governments is a need that is growing more critical with the progress of treaty negotiations, and as First Nations take on increased responsibilities in fisheries management.<sup>12</sup> Significant efforts need to be applied by all governments to this end. These efforts will have to pay close attention to improved understanding of cultural differences and their implications for interactive processes.

Stakeholders who argue for improvements in communication with accompanying structural changes to the existing planning and governance system reflect a widespread feeling that management, regulation and enforcement should be at the local level. They call for improved mechanisms for conflict resolution between local governments and provincial agencies, and more signing off of each others' plans.

*Strategies for regional planning:* Others feel that stronger measures are needed to promote coordination and they recommend a regional strategy. Senior governments and local and regional governments in the Sound would have to be involved. In order to "get a handle" on population and urban development it has been suggested that the strategy would have to be developed in cooperation with the GVRD's Livable Region Strategy. Regional planning could also support local control, by dispensing with the standard "top down edict" from Victoria or Ottawa. Some see a Regional Growth Management Strategy as providing an appropriate tool for regional planning because it has to be done in close contact with the municipalities. (See sections 4.5 and 4.6 for further discussion of regional planning.)

*The establishment of a single regional government agency:* The third suggestion that often comes forward to improve inter-government coordination is the establishment of coordinating levels of government. The Islands Trust is a model to which some stakeholders refer, believing that a mandate similar to that of the Trust - to preserve and protect the natural resources and amenities of the area - would also be appropriate to Howe Sound.

*Re-definition of regional districts based on watershed boundaries:* A final proposal, put forward less often, is the re-design of regional district boundaries to more accurately reflect the geography of the Watershed.

#### *Current initiatives to improve coordination*

An array of wide-ranging initiatives indicate that actions are already being taken in the Sound to improve intergovernmental coordination. Some samples include:

- In the future, health issues will be addressed by the Sea to Sky Community Health Council (which is just getting up and running now). This Council will govern health care and health care delivery in the area.
- Municipal planners in the Watershed have initiated the Howe Sound Planners Group. This is an informal structure where the planners work together to understand the planning issues as they relate to the whole Sound and their implications for each individual community.

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<sup>12</sup> There is no specific initiative for increasing First Nations responsibilities for fisheries management that is of immediate relevance to Howe Sound, but at other coastal locations new arrangements that increase First Nations roles in this context are taking shape.

- The Squamish Estuary Management Plan is an example of a government initiative that has brought together various stakeholders to coordinate management efforts and develop plans for the estuary.
- SLRD's Howe Sound East is looking at coordination in a large section of the Sound.
- Several governments voluntarily stay in touch on planning issues.
- Provincial government agencies communicate on a regular basis and produce joint ministry plans, with the process being chaired by whichever ministry has the largest stake in the area. MOF shows MELP their plans and MELP approves them based on their own criteria. MOF is striving to move towards a more comprehensive planning process, covering larger sections of the Sound on particular themes. For example, there is a new plan for spotted owl management from Chilliwack to Squamish.

### **3.10.3. The Referral Process**

Much ongoing intra- and inter-agency communication and cooperation largely takes place through the referral process. The Ministry of Transportation and Highways, for example, is required by legislation to approve municipal plans via the referral process. Currently, however, there is much dissatisfaction with this process.

#### *Frustration with the process*

In the experience of local governments and developers, the government referral process is slow and cumbersome. The provincial agencies that have to consider referrals do not appear to be knowledgeable enough about local circumstances, and downsizing means that fewer staff will be less and less informed about the areas they are dealing with. They will also be increasingly overburdened with referrals to consider. Squamish representatives forecast that slowing down of development will be the result if nothing changes. Squamish will not issue development permits until MELP has approved the development proposal. If it takes MELP six months to get back to the municipality, then the development process gets slowed down six months.

In cases where developers are half way through a project before they get notified of a potential problem through the referrals process, they are predictably annoyed. Other costs can also be incurred by developers and industry due to delays in the process. Howe Sound Pulp and Paper in Port Mellon paid \$15,000 for a water permit that was not necessary in the end, because by the time the permit was approved, the rains had come and the water permit was no longer needed. The same company is currently facing costly delays in receiving a permit to remove gravel from behind the dam for the pulp mill. Although the provincial and federal agency field staff concerned have granted their approval to the project, months have passed with no permit being issued. Shortage of storage capacity in the reservoir this winter resulting from this delay may cause costly shutdowns.

#### *What's needed and current initiatives to improve the referrals process*

When issues calling for a permit cross jurisdictional boundaries a permit application may go through as many as ten referrals, causing the kind of delays described above. If the referral process could be coordinated or otherwise streamlined, these delays could be reduced. One suggestion is that senior agencies' administration of regulations should simply be more decisive, providing an earlier, clearer, 'yes' or 'no,' so that applicants know where they stand. Another suggestion addresses the shortage of agency staff to study potential site impacts. It would require environmental monitors hired by the developer to submit expert reports to the referral agencies. A screening process or "one stop shopping" for referrals would also help, as the Fraser River Management Program provides in the Lower Mainland area. This message also came through

clearly during the Howe Sound Round Table's Shared Stewardship for Sustainability (S3) Project. Yet another suggestion was to use the SMART framework. SMART is an acronym for Specific, Measureable, Achievable, Realistic, and Timely.

DFO and MELP have been working together to improve the coordination and management of referrals among various ministry branches that relate to riparian areas. The District of Squamish meets with DFO quarterly to review what is happening with development in the area. MELP also sits in.

#### **3.10.4. Treaty Negotiations**

The Treaty negotiation process will no doubt change the role of First Nations significantly in the future, and it has already begun to lay the foundation for meaningful government to government consultation. The Squamish Nation, which has seven reserves within the Squamish municipal boundary, is active in the negotiation process. This is currently causing sensitivities in the coordination of land use development in the Squamish area, given the often divergent goals of the Nation and the municipality.

The Squamish Nation is also concerned with the opening up of forestry roads to the public for tourism within Crown Lands that are subject to Treaty negotiations. Squamish Nation involvement in decisions relating to those lands is crucial, and this involvement must be meaningful, that is, it must involve direct communication between First Nation Governments and Federal and Provincial Governments and the information from those communications must be utilized.

Overall, First Nations peoples are concerned with the impacts that current land uses and trends will have on the eventual settlement of their land claims. Will certain uses or management arrangements jeopardize their negotiating strength? Will they preclude opportunities for future use to which First Nations may wish to put the land?

The Treaty negotiation process is complex and pivotal to the future of Howe Sound. Insufficient information has been gathered for this report to explain its implications.

#### **3.10.5. Public Participation**

While many Howe Sound residents feel that they have reasonable access to decision making at the community level through public consultative processes, few feel that local governments and senior agencies have embraced citizen participation in actual decision making.

To enhance public involvement in government decision making a public education process is needed. Citizens require a better awareness and understanding of the processes that are available to communicate to government the views of the community.

At the same time, public servants need mandates and job descriptions that allow them to dedicate more time to participating in community initiatives and to building partnerships with community organizations.

Further, access to and the communication and dissemination of information is seen as critical to the public involvement process. Community organizations maintain that a coordinated system of information sharing is required in order for individuals and organizations to participate meaningfully in the issues that affect their communities.

For government-initiated public involvement processes to maintain their credibility, the use that is made of public input - its effect or lack of effect on decisions - must be clearly explained and communicated back to participants.



#### 4. NEXT STEPS: OPTIONS FOR ACTION

This report is the culmination of input from many individuals representative of the communities, governments, agencies and organizations of Howe Sound. In addition to the 48 interviews which were conducted with key individuals and the numerous submissions received during the research phase, the Howe Sound 20/20 conference convened by the Howe Sound Round Table, the Ministry of Municipal Affairs - Georgia Basin Initiative, and the Whistler Centre for Business and the Arts in October 1995, provided additional opportunity for individuals throughout the Watershed and adjoining areas to make comments and provide feedback for the report. Eighty-five people attended the conference, representing a wide spectrum of interests and experience in the Sound. The purpose of the report is to provide a starting point for a general understanding and discussion surrounding the issues related to growth in Howe Sound. It was generally recognized at the conference that a more detailed analysis of issues is required. Some topics and issues, either missing or inadequately profiled in the report, are identified in Appendix 3.

Throughout the Howe Sound 20/20 process, three critical issues emerged. These issues are shaping current development in the Watershed and if left unaddressed will determine Howe Sound's future, creating undesirable outcomes.

**Growth:** The issue of most critical importance is growth, the rate of growth and the pressures it brings. The large number of people migrating to the Sound is creating pressures on existing transportation infrastructure; on potable water supplies; on aquatic environments and fisheries; on wilderness and wildlife; on the quality of natural amenities such as views, recreational opportunities and wilderness experiences; and on the very social fabric and identity of communities themselves.

**Economic Transition:** A second critical issue for certain communities is the economic transition from a primarily resource based economy to an increasingly tourism oriented economy. Declines in the level of family income and the influx of new residents are placing increasing pressures on existing social services, primarily in the areas of housing, education and health care.

**Lack of Inter-Governmental Coordination:** A third critical issue stems from lack of coordination among local governments and agencies to address the problems cited above in a cooperative and integrated framework. Communities for the most part continue to act as independent units although their plans and activities are increasingly having direct impacts on each other and the region as a whole. A coordinated approach to address the pressures being evidenced by growth is not only needed between local governments, but between local and senior governments as well.

Opportunities for sustainable development exist only if these problematic issues are addressed. If present trends continue, forecasts for the Sound predict the loss of many of the attributes that current residents cherish. Therefore it is imperative that action be taken. While many conference participants maintained that remedial action must come through government leadership, all participants agreed that the issues confronting Howe Sound provide the opportunity for everyone to get involved. We are all responsible for pushing the sustainability agenda forward, and at some point the various elements of the Howe Sound Community need to come together. Linkages between issues need to be established and partnerships need to be developed between individuals; community organizations; and governments, including those of First Nations.

This report provides a jumping-off point for future work on the critical issues which challenge the future of the Sound. Conference participants and other contributors to the report recommended a number of future directions to encourage discussion and animate action. These are outlined below.

#### **4.1. Gather More Stories of the Past**

The personal stories that open this report were of great interest to many readers. This small selection could be expanded into a set of stories that would more comprehensively illustrate the history and character of Howe Sound and its communities. It was also recommended that more historical data be compiled and distributed.

To really understand current circumstances and build a shared sense of regional identity, reflecting on the past is critical. Stories of the region help clarify connections between historical events and the issues and challenges of today. They contribute to the establishment of a "time series" that helps identify trends, as well as features of the region that should be reinforced, maintained, or avoided in the future. Understanding the past is the foundation for moving forward.

#### **4.2. Focus on Local Innovation and Success Stories**

This document does not adequately cover the many initiatives that are already underway to address some of the critical issues that have been identified. A closer examination and documentation of such initiatives, including those sponsored by government and non-government agencies was recommended.

While not comprehensive, the following list provides examples of some of the success stories that are currently underway or have been completed in the Watershed. Although these examples focus primarily on environmental initiatives, there are also many social and economic initiatives taking place in the Sound:

- The Howe Sound Round Table was formed in response to recommendations from the Howe Sound Community Conference in April 1992. It is made up of citizens representative of the diversity of interests, perspectives, and geographic areas of Howe Sound. Through a collaborative, consensus based process, the Round Table focuses on policy and planning, programs and initiatives, creating partnerships, complementing existing jurisdictions, and building linkages among issues. The Round Table cuts across politically established boundaries and addresses sustainability issues in the region as a whole.
- The Howe Sound Environmental Science Network is an organization which supports environmental science research and study within Howe Sound for the purpose of supporting sustainable development. In addition to the creation and maintenance of an inventory of information sources on natural science of the Sound, the Network publishes "The Watershed News" newsletter.
- The Howe Sound Watershed Stewardship Project was initiated by the Bowen Island Forest and Water Management Society to increase public awareness and stimulate positive action concerning stewardship and sustainable use of water and other resources.
- The Bowen Island Forest and Water Management Society Mapping Project, which started as an advisory group to the Crown Lands Committee of Islands Trust, has initiated a mapping project using volunteers to collect forest and water resource information for entry on ARC

View/GIS. This information will be applied to land use planning and will contribute to Bowen Island's Official Community Plan review.

- The Twin Creek Restoration Project is a project to rehabilitate Twin Creek from a scoured-out stream to one suitable for salmon spawning. This project was initiated by Ken Sneddon who owns a log sorting operation at the mouth of the creek. He invested \$10,000 of his own money to have the stream rehabilitated. Salmon have begun entering the stream.
- The Dakota Creek Watershed Restoration Project is an initiative to rehabilitate the upper part of the creek's watershed. This includes deactivation of the dams that were built for logging purposes and rehabilitation of fish habitat in the lower watershed.
- The Squamish River Watershed Project is a project which originated from the public process held as part of the Whistler Liquid Waste Management Plan. Participants decided to stay together as a group to address larger environmental issues within the river's watershed. The organization is currently working towards developing a "state of the environment" inventory and an assessment of the Squamish river and drainage basin.
- The Whytecliff Park Marine Protected Area Initiative was originally established to promote the designation of Whytecliff Park as a marine protected area. It now provides for the ongoing stewardship of the marine park.

#### **4.3. Project Trends and Monitor Change**

Conference participants felt that we need to "think through" the steps of where the region would be headed if current trends were to continue. An exercise to determine which trends move towards sustainability in specific areas and which are diverging from a sustainable path would be useful. Projections based on a variety of assumptions could lead to the development of a range of scenarios and options for future planning. Anticipating the outcomes of particular trends can greatly assist stakeholders in setting priorities and in making decisions about present options and their trade-offs. This report contains numerous perspectives on where current trends are taking the future of the Sound and could provide a basis for the production of alternative scenarios.

Systematic monitoring of changing factors in the Sound would provide a clearer picture of progress towards sustainability. Key factors could be selected, based on further research, to be used as indicators of sustainability. Particular interest has been expressed in monitoring impacts on the marine environment of development, recreation and industry. Community groups could be involved in monitoring projects. Government programs such as the Department of Fisheries and Ocean's Habitat Action Plan might be able to provide support for such projects. Monitoring and the identification of indicators could be supplemented by an examination of environmental carrying capacity of the Sound.

At a more detailed level it has been suggested that the impact of all proposed major projects on sustainability should be assessed prior to the granting of approvals for those projects.

#### **4.4. Create a Vision and "Back-cast"**

All stakeholders agreed that a visioning and/or goal-setting process was an important next step. Knowing where we want to go is critical to assessing what we need to change and do now to get there. A vision for 25 years from now could replace "fear map" thinking and allow a "big picture" rather than an incremental approach to action-taking. Visioning exercises would be an effective

tool for community empowerment, leading to actions that support sustainability at the local level. They can also act as catalysts for clarifying community identity and values, which is key to setting priorities for guiding growth and development and for making difficult choices around transportation and other issues.

Most individuals expressed a vision for the region, or for their communities, that included the following descriptors: affordable, clean, complete and compact, safe and healthy neighbourhood character, strong sense of community spirit and citizenship, transit alternatives, and strong economy.

Design charrettes can be an effective tool for creating a vision. A design charrette gathers people of different backgrounds together to work on specific images of the future or approaches to current community challenges. It is done with the help of planners and designers, and at the end of the day the result is a visual expression of issues, concerns and their solutions. The visioning work achieved by a design charrette can be tied in with a bioregional mapping process.<sup>13</sup> Both the mapping and the charrette draw out and display in an understandable and powerful way the knowledge of the people who participated. This can add significantly to the information base which is normally supplied by government agencies and various "experts."

Once a vision of the future is established for a particular year, "back-casting" can be undertaken to identify the steps that must be undertaken and the time frames necessary to make the vision a reality. Back-casting enhances visioning by adding an action-oriented focus.

#### **4.5. Engage in Coordinated, Comprehensive Planning**

Most stakeholders recommended a more holistic form of planning that takes into account the many ways that different initiatives impact upon each other. Too many planning objectives and management initiatives are compartmentalized, isolated from one another, and undertaken in a reactive mode. Only purposeful, forward-looking, long-term planning can counteract the otherwise natural tendency towards "creeping incrementalism." The Howe Sound watershed is clearly an appropriate region in which to apply such a comprehensive planning approach.

#### **4.6. Develop Strategies for Managing Growth**

The ideas put forward for guiding new development in section 3.1.3 provide an initial selection of tools for managing growth, from simply managing development more carefully, to encouraging higher density development, to putting a ceiling on population growth in an area. The new *Growth Strategies Amendment Act* provides a framework within which the suitability and options for implementation of such tools can be considered through a cooperative process. The planning framework provided by the Act facilitates forward thinking and linking of communities over issues of regional growth. It also allows for a new relationship to be developed between communities and the Province in which the Ministry of Municipal Affairs provides support for the planning process and provincial commitment is guaranteed. The Minister can require regions experiencing high growth to develop a growth strategy; therefore, engaging in this process may not be optional for most parts of the Sound in the longer term. It is imperative that the regional districts involved in this area embark on preparations for growth management strategies through local public consultation.

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<sup>13</sup> An example of bioregional mapping has been set by the Barefoot Cartographers, for "Salmonopolis." See *Giving the Land a Voice* (under Harrington in Appendix 2) for a guide to bioregional mapping.

While questions remain as to whether and how the different regional governments of Howe Sound could work together on a growth strategy, many conference participants agreed that priority should be given to a Watershed-wide strategy which draws together the various municipalities and regional districts. Transportation planning for the Sea-to-Sky corridor is one of the key regional planning concerns that could be encompassed by a growth strategy of this scale. Caution has been called for, however, to ensure that regional planning accommodates the diverse characteristics of communities within the region.

#### **4.7. Base Decision-making on Full Cost Accounting**

Many conference participants voiced the opinion that all of the social, environmental, and economic costs associated with the impacts of policy and planning decisions should be taken into account. In the context of environmental protection, this kind of accounting could help ensure that the people who gain economic benefits from development absorb their fair share of the costs required to minimize the environmental impacts of that development. Full cost accounting would also encourage careful assessment of the social costs associated with rapid development to ensure that it does not negatively impact upon the social fabric of communities.

A related proposal is that of "user pay." For example, the question has been raised as to whether tourism industry development at Whistler could subsidize the costs of improving and maintaining Highway 99.

#### **4.8. Organize Information, Communicate it, and Apply it**

All conference participants agreed that fundamental to sustainability planning is the organization and coordination of information. Many stakeholders maintain that lack of information on Howe Sound is not a problem. However, there is no vehicle to turn this information into meaningful change.

The problem is that its coordination and application to planning and decision making is not fully utilized. Better communication and sharing of existing information among the different levels of government and between government and non-government organizations is required.

Recommendations to address this problem include consolidation of all relevant reports in a central library, formation of a clearing house for information, use of electronic communication systems such as internet and specifically the World Wide Web, participation in formal and informal networking sessions, and making better use of community media and local newsletters. Once accessed, the information needs to be synthesized, shared, and then acted upon in a coordinated manner.

#### **4.9. Other Conference Recommendations for New or Expanded Initiatives Include the Following:**

- Develop an inventory of initiatives and organizations in the Watershed, both government and non-government, including all the "key players."

- Facilitate funding to local groups for stewardship projects by developing an inventory of funding programs, their mandates and criteria.<sup>14</sup>
- Develop an inventory of important private and public open spaces. Develop a process to identify methods for retaining this open space and encouraging private land stewardship.
- Develop a program that profiles local individuals and organizations that are making positive efforts to support sustainability.
- Encourage demonstration projects like community forests or fish hatcheries.
- Promote partnerships among senior government agencies, municipalities, industry and community organizations and residents in stewardship projects and in creative approaches to solving local problems.
- Develop the “Annual Howe Sound 100 Awards” by assembling 100 success stories of personal or public initiatives undertaken by government, industry, organizations and individuals that are pushing forward the sustainability agenda.
- Encourage high profile personalities to champion sustainability initiatives.
- Encourage community projects that build awareness about the linkages between issues.
- Encourage projects that share knowledge about the communities of Howe Sound - their character and identities.
- Encourage the involvement of students and educational institutions in local initiatives.
- Celebrate the many volunteers that give their expertise and energies to their communities.
- Celebrate the major successes that have been achieved and the little successes that are being achieved every day.

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<sup>14</sup> See the B.C. Environment Network’s directory of funding sources and the appendix in *Community Stewardship* (under Fraser Basin Management Program in Appendix 2) for a recent listing of funding agencies and their priorities.

## APPENDIX 1: RESEARCH INTERVIEWS

### Interviewees

	Position	Name	Date
<b>FIRST NATIONS GOVT.</b>			
Squamish Nation	Councillor	Gilbert Jacob	Aug. 8, '95
Squamish Nation	Councillor	Ann Whonnock	Aug. 8, '95
Squamish Nation	Councillor	Randy Lewis	Aug. 8, '95
Sechelt Indian Band	Councillor	Calvin Craigen	Re-directed to Squamish Nation
<b>REGIONAL GOVT.</b>			
Greater Vancouver Reg. Dist.	Land Use Consultant	Jim Gilmour	Aug 10, '95
Squamish Lillooet Reg. Dist.	Chair	Dan Cumming	Sept 4, '95
Squamish Lillooet Reg. Dist.	Regional Planner	Bob McPherson	Aug 11, '95
Sunshine Coast Reg. Dist.	Councillor	Brett McGilivray	Aug 29, '95
Sunshine Coast Reg. Dist.	Parks	Steve Alexander	Aug 29, '95
Sunshine Coast Reg. Dist.	Regional Planner	Steve Olmstead	Aug 11, '95
Sunshine Coast Reg. Dist.	Economic Development	Bill Moore	Sept 7, '95
Islands Trust, Bowen Island	Trustee	Graeme Dinsdale	Aug 14, '95
<b>MUNICIPAL GOVT.</b>			
District Municipality of West Vancouver	Municipal Planner	Steve Nicholls	July 28, '95
Previously with Dist. Municipality of West Van.	Municipal Planner	Graham Stallard	Aug 18, '95
Village of Lions Bay	Mayor	Brenda Broughton	Aug 28, '95
District Municipality of Squamish	Municipal Planner	Margaret Thornton	Aug 14, '95
Squamish Health Unit	Environmental Health Officer	Len Clarkson	Aug 31, '95
Resort Municipality of Whistler	Municipal Planner	Mike Vance	Aug 11, '95
Town of Gibsons	Municipal Planner	(not available)	
Gibsons Health Unit	Medical Health Officer	Paul Martiquet	Aug 31, '95
District Municipality of Sechelt	Municipal Planner	Karen Mellor	Aug 25, '95
<b>PROVINCIAL AGENCIES</b>			
MELP, Fish & Wildlife, Lower Mainland	Manager, Planning and Assessment	Brian Clark	Aug 18, '95
MOF, Squamish Forest District	Planner	Mike Fidgeon	Aug 18, '95
Min. of Food, Agriculture and Fisheries, South Coast Region	Manager, Agricultural Program	Ron Charles	Aug 30, '95
Ministry of Small Business, Tourism & Culture	Manager, Inventory and Resource Planning Unit	Peter Becker	Re-directed to Sea to Sky Economic Development Commission
MOTH, Howe Sound District	Highways Manager	Maria Szalay	Sept 1, '95

**FEDERAL AGENCIES**

DFO, West Vancouver Lab	Head of Coastal and Marine Habitat, Marine and Habitat Science Div.	Colin Levings	Aug 23, '95
DFO, Fraser River Division	Head of Water Use Conservation Officer	Steve Macfarlane	Aug 25, '95
Environment Canada, Conservation, Sunshine Coast		Doug Pierce	Aug 21, '95
Environment Canada, Pacific and Yukon Region	Manager of the Pacific Wildlife Research Centre	Chris Pharo	Aug 28, '95

**UNIVERSITIES, COLLEGES, INSTITUTIONS**

Westwater Research Centre, UBC	Professor	Richard Paisley	Aug 8, '95
Resource Mgt. & Environmental Studies, UBC, Capilano College	Professor	Les Lavkulich	Received fax
Vancouver Aquarium	Director of Conservation and Research	Jeff Marliave	Aug 28, '95

**INDUSTRY**

B.C. Ferries	Horseshoe Bay Terminal Manager	David Elliott	Sept 8, '95
Western Pulp (Woodfibre)	Manager	Bill Remple	Received fax
Howe Sound Pulp and Paper (Port Mellon)	Property Supervisor	David Chance	Aug 24, '95
Canadian Occidental Chemicals	Consultant	Jane Flemming	Sept 5, '95

**COMMUNITY ORGANIZATIONS**

Horseshoe Bay Business & Community Association	Co-Chair	Richard Alexander	Aug 21, '95
Sea to Sky Economic Development Commission	Chair	Robert Fine	Aug 23, '95
Stop the Pipe		Lyle Fenton	Aug 25, '95
Howe Sound Watershed Environmental Network	Co-editor, Watershed News	Bob Turner	Aug 23, '95
AWARE	President	Ken Melamed	Sept 6, '95
Bowen Island Forest and Water Management Society	Member	D.G. Blair Whitehead	Sept 10, '95

**LONG-TERM RESIDENTS**

Horseshoe Bay	Residents	Tommy Sewell & Joe Troll	Sept 6, '95
Britannia Beach	Resident	Joan Ehler	Aug 21, '95
Woodfibre	Resident	Beth Fitzpatrick	Aug 14, '95
Sechelt (Reserve)	Resident	Gilbert Joe	Aug 21, '95



## APPENDIX 2: Reports and Other Documents

B.C. Round Table on the Environment and the Economy, 1993, *Georgia Basin Initiative: Creating a Sustainable Future*.

Bent, Harold, Carrol Grupe and Deanna Lee, Environmental Science Program, Capilano College, March 31, 1994, *An Overview of the State of Aquatic Habitat and Water Resources in the Howe Sound Watershed*, Submitted to the Howe Sound Round Table.

Citizen's Advisory Committee, Howe Sound Community Futures Society, December 1994, *Tourism Development Plan for the District of Squamish*.

Fraser Basin Management Program, Georgia Basin Initiative/Ministry of Municipal Affairs, Ministry of Small Business, Tourism and Culture, Province of B.C. Urban Salmon Habitat Program and The Real Estate Foundation, 1995, *Navigating for Sustainability: A Guide for Local Government Decision Makers*.

Fraser Basin Management Program, Canadian Wildlife Service, Department of Fisheries and Oceans Canada and Forest Renewal BC's Watershed Restoration Program, 1995, *Community Stewardship: A Guide to Establishing Your Own Group* (principle authors: Dovetail Consulting).

Harrington, Sheila, editor, with contributing authors Doug Aberley, Michael Dunn and Malcolm Penn, 1993 (estimated date), *Giving the Land a Voice - Mapping Our Home Places*, Salt Spring Island Community Services, Environment Canada, B.C. Environment, Wildlife Habitat Canada.

Howe Sound Round Table, Shared Stewardship for Sustainability, March 1995, *Stage III Report: Recommendations and Management Framework for Stage IV: Towards New forms of Water Resources and Aquatic Habitat Management*.

Lacombe, Gabriel, Kati Martini, Robert Penrose, Greg Tamblyn, and Marielou Verge, School of Resource and Environmental Management, Simon Fraser University, March 1994, *Planning and Managing Water Resources and Aquatic Habitat in the Howe Sound Watershed: A Review and Analysis of the Institutional Framework*, Submitted to Howe Sound Round Table.

Lauga & Associates Consulting Ltd., no date, *Squamish Economic Development Strategy Plan*, Submitted to District of Squamish.

McCandless, Robert G., April 1995, "The Britannia Mine - Historic Landmark or Environmental Liability," *The B.C. Professional Engineer*.

Mick Collins and Associates, May 1988, *An Economic Development Strategy for the Howe Sound Corridor*, prepared for the Howe Sound Community Futures Society.

Mitchell, David, MLA, West Vancouver-Garibaldi, October 1995, *A Strategy for Growth: Putting the future of the Sea-to-Sky region into the hands of the people who live here*.

Resort Municipality of Whistler, October 1994, *Community and Resort Monitoring System: First Annual Report*.

Roseland, Mark, 1992, *Toward Sustainable Communities*, National Round Table on the Environment and the Economy.

*Sea To Sky Corridor Facts and Figures: A Statistical Profile of Sea to Sky Country*, Summer 1995, Vol. 1, No. 2, Sea To Sky Economic Development Commission.

Sea To Sky Corridor Facts and Figures on the Internet: <http://www.mountain-inter.net/~ssedc>

SCRD Home Page on the Internet: <http://www.sunshine.net>

*Squamish Estuary Management Plan*, October 1992.

Stallard, Graham, "*Beyond Horseshoe Bay*" *PIBC News*, December 1994, Vol. 36, No. 5, Planning Institute of British Columbia.

Stephen, Robertson and Kirsten, November 1991, *Evaluation of ARD from Britannia Mine and the Options for Long Term Remediation of the Impact on Howe Sound*. Prepared for Energy, Mines and Petroleum Resources B.C. Acid Mine Task Force.

Sunshine Coast Economic Development Commission, 1992. *Sunshine Coast Economic Profile*.

Sunshine Coast Regional District, 1990, *Sunshine Coast 2020: Planning for Our Future*.

Wackemagel, Mathis and William Rees, 1996, *Our Ecological Footprint: Reducing Human Impact on the Earth*, The New Catalyst Bioregional Series.

## APPENDIX 3: IDEAS FOR FUTURE RESEARCH

Conference participants suggested that the following issues were either not mentioned or inadequately addressed in this report. They are identified here for the purpose of future research.

### *General*

- detail information regarding islands in the Sound
- detail information regarding the interests, role and concerns of First Nations peoples
- provide more coverage of the role and perspective of industry
- detail and clarify the roles and responsibilities of different levels of government and government agencies in the Watershed (a pamphlet produced by the Fraser Basin Management Program provides a good starting point)
- discuss land tenure in the Sound and provide a map to illustrate
- detail information regarding the options and trade-offs in terms of decision-making
- look more closely at the impact of the trend towards people working out of their homes

### *Housing [3.2]*

- detail information regarding housing requirements
- explain "affordable" housing

### *Health and Safety [3.3.2]*

- research statistics about crime and other safety issues to illustrate how safe the communities of the Watershed are compared to others in B.C.
- provide more data on social problems, from the perspective of social services providers
- provide better definition of health issues

### *Watershed Planning [3.4.4]*

- provide fuller discussion of the role of watershed planning and the function of watershed plans

### *Transportation [3.5]*

- provide more detail on current transportation plans and alternatives for the Sunshine Coast, including and going beyond Highway 101
- analyze the role and potential of rail transportation - BC Rail
- describe the impact of Duffy Lake Road improvements

### *Economy [3.6]*

- gather more information on the economic base of unincorporated areas
- address the issue of changing standards and regulations
- analyze realistic economic opportunities
- recognize environmental accounting as a factor in economic development
- identify economic indicators that take into account the depletion of natural capital

#### *Ecosystem Health [3.7]*

- identify the various sub-basins or watersheds in the Sound, and their ecological characteristics
- address fresh water ecosystems and non-salmonid fish species

#### *Open Space, Parks and Recreation [3.8]*

- pay specific attention to open space on the waterfront, including the foreshore, and ways of protecting it
- provide fuller coverage of parks (e.g. Tetrahedron) and recreation topics
- identify the recreational services available in the Sound
- provide a clear picture of the environmental impacts of recreation, in relation to different types of recreation and different places

#### *Community Identity [3.9]*

- detail the qualities that contribute to the identity and uniqueness of the various Howe Sound communities.

#### *Governance [3.10]*

- describe the major non-government organizations of the Sound and their roles, e.g. Howe Sound Round Table, naturalists groups, community organizations
- provide more investigation of opportunities for public involvement

#### *Treaty Negotiations [3.10.4]*

- develop further the implications of treaty negotiations for the people and lands of the Watershed

#### *Reports and Other Documents [Appendix 2]*

- provide a list of communications vehicles available to the public in the Sound, e.g. the Seagull and other newsletters and newspapers.

## APPENDIX 4: Members of the Howe Sound Round Table

Please note that all the members of the Howe Sound Round Table sit as individuals rather than as representatives for any particular group or organization.

**Elspeth Armstrong - Gambier Island:** has been a cottage owner on Gambier Island since 1968 and is past president of the Gambier Island Community Association. Elspeth has also served as an elected member of the Islands Trust and a Councillor with the BC Energy Council.

**Derek Ashford - North Vancouver:** is a Professional Engineer and Consultant who has worked extensively throughout the Howe Sound area. He is a former Municipal Engineer and brings a development and engineering perspective to the HSRT. Derek is an enthusiastic participant of professional and community associations.

**Beth Fitzpatrick - Brackendale:**(R.N., Ms.N., C.N.M.) has over 30 years of experience in the health care field. Her work includes community, hospital, educational systems and private practice. Beth was born and raised in Woodfibre when it was still an active community in the Howe Sound area. Beth is an enthusiastic participant in many community and professional events in the Squamish and Brackendale area.

**Grace Gordon-Collins - Anvil Island:** (M. Arch) is a cottage owner on Anvil Island and has an extensive history of community involvement in the Howe Sound area. Her knowledge of the area and background in planning is an asset to the HSRT. Grace also has a strong personal commitment to the arts community.

**Joy Hodgins - Bowen Island:** Joy has spent 19 of her 23 years as a resident of Bowen Island. She attended the Bowen Island Community School before going to West Vancouver High and is presently in her fourth year at UBC doing a double major in Political Science and History. Joy is an active rider and a keen hiker and has a general interest in the well-being of the Howe Sound area.

**Paul Hundal - West Vancouver:** has a long history of environmental involvement in the Howe Sound area. He is Executive Director of SPEC and has served on a number of watershed logging committees. Paul is also a director of the SPCA which is currently expanding their activities into wildlife.

**Will Husby - Bowen Island:** is a naturalist, and has worked with Alberta Parks and the Stanley Park Board. He is Co-project Manager for the Howe Sound Watershed Project, Co-author of the Bowen Island Green Zone Report, Chair of the Bowen Island OCP Forestry Task Force, President of the Bowen Island Alliance, Board member of the Bowen Island Nature Club and a member of the BC Forest and Water Management Society.

**Joan Lemmers - Lions Bay:** has lived in Howe Sound all her life and fished commercially in Howe Sound in the 50's and 60's. Joan is a Commissioner on the Pacific Salmon Treaty Commission. She is a founding member of the Save Howe Sound Society, a director of the Pacific Trollers Association, a member of the River Defence coalition and the B.C. Salmon Marketing Council.

**Eva Lyman-Vacek - West Vancouver:** is a 17 year resident of the Howe Sound area. She has an extensive planning background as a Senior Planner with Parks Canada, Planner and Senior Planner with other municipal and provincial agencies across Canada and as a private practice planner. She is a recreationalist and currently serves on the Board of Directors of Earthlife and the Environment Committee of the Quaker Group.

**Jan Michalski - Whistler:** is an environmental consultant specializing in water quality and habitat enhancement. He is on the Advisory Parks and Recreation Commission for the Resort Municipality of Whistler (RMOW), and was a member of the RMOW Heritage Planning Group. Jan was a recent recipient of the Rotary Youth Leadership Award.

**Peter Moonen - Vancouver:** (B.Sc. Marine Biology & Zoology, Forestry) is a long term resident of the Howe Sound area. He is currently Communications Specialist for Canadian Forest Products Ltd. He brings a diverse background in industry, science and communication and an understanding of the issues in the Howe Sound area.

**Ashton Mullan - West Vancouver:** (B.Sc., P.Eng.) is a professional engineer and exploration geologist and geophysicist. Ash is well known and respected by the mining community and has a solid understanding of issues in the Howe Sound area.

**Marilyn Mullan - Britannia Beach:** is Executive Director of the B.C. Museum of Mining at Britannia Beach. She joined the museum as curator in 1977. Marilyn has a good understanding of the issues in the Howe Sound area through her involvement with the museum. She advocates building strong communities through building relationships and preserving the cultural, environmental and economic integrity of the area.

**Victoria Troup - West Vancouver:** (M.Sc., Zoology) is the Coordinator of the Environmental Science Post-baccalaureate Program at Capilano College, a program that she helped to found. She also teaches Biology in Capilano's university transfer program and has been conducting a natural history survey of the Whistler area.

**Tim Turner - Sunshine Coast:** (B.A., B. Ed.) is a resident of Gibsons. He taught at St. George's school, where he was responsible for Earth Science, Geography and Outdoor/Environmental Education programs. He has offered a variety of adult field classes through Antioch University in Seattle, Washington. In 1991-92 he designed and delivered a public education program about and for the Howe Sound region. Since 1992 he has been involved in sustainability education with the Sea to Sky Outdoor School.

**Pat Tyson - Gibsons:** has worked in the mining and pulp and paper industry for thirty years. He is an employee of Howe Sound Pulp and Paper and a representative of the CEP Union on the Provincial Trade Advisory Committee. Pat has been involved as a volunteer in the development of several Howe Sound recreational facilities.

**Gary Watson - Whistler:** has degrees in Science and Law and practiced law in Vancouver from 1958 to 1976 and lectured at the UBC Law School. Between 1961 and 1990 he served on the Advisory Planning Commission of the SLRD, the Garibaldi Olympic Development Committee (Director and Chair), and the Council of the Resort Municipality of Whistler. He was a Director of the Whistler Village Land Co., and Executive Director of the Whistler Valley Housing Society. As well, he was Corporation Counsel for BC Place Development from 1980 to 1988 and currently practising as a consultant to the development industry.

**Derek Weatherbee - Squamish:** is a construction management consultant with extensive experience in resource development and recent involvement in the construction of the Secondary Treatment Plant at Western Pulp. Derek brings to the Round Table an understanding of associated governing regulatory agencies and a desire to be part of a process which is seeking workable solutions to sustainability problems.

**Ken Wolder - Lion's Bay:** has resided on Howe Sound for over 30 years and is the owner/operator of Lion's Bay Marine. Ken's business brings him in contact with a broad cross-section of the public, including international boating visitors. Ken is aware of the changes taking place in Howe Sound and is concerned about the effects population growth will continue to have on this area.

**Past Members:**

**Stan Dixon:** is a Sunshine Coast resident. He is a councillor for the District of Sechelt. He is a member of the Sechelt Band and a three year member of the Provincial Round Table. He is a former Chief of the Sechelt Indian Band.

**Robert Fine:** is a Squamish resident and currently works with the Sea to Sky Economic Development Commission, whose mandate is to facilitate diversification of the regional economy. He also writes, produces and preforms the weekly "Sea to Sky Business Report."

**Dale Harry:** a Squamish resident, has worked with the Squamish Nation band members in developing a First Nations' owned and operated "Youth Retreat Camp" and dealing with issues and concerns at the local, national, and international levels.

**Shirley Carter:** was a resident in the Howe Sound area for thirty-five years. She is a recreationalist, environmentalist, biologist, educator, and consultant to the aboriginal community.

**Anders Ourom:** is the former executive director for the Federation of Mountain Clubs of B.C. He is an active recreationalist in the Howe Sound region and formerly practiced law in Squamish.

**Don Shaw:** works for Terminal Forest Products where he has been Manger of Forestry/Logging since 1986. He has worked with the forest industry for almost thirty years.

