



**To:** Parks, Recreation and Cultural Services  
Committee **Date:** April 7, 2003

**From:** Suzanne Bycraft **File:** -  
Manager, Emergency & Environmental  
Programs

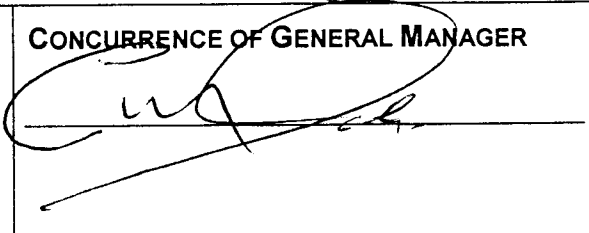
**Re:** Fraser Basin Council: State of the Fraser Basin Report

**Staff Recommendation**

That, as per the attached report dated April 7th 2003:

- Council send a letter to the Fraser Basin Council (FBC) to:
  - commend them on their report entitled, "A Snapshot on Sustainability: State of the Fraser Basin report, January 2003 "
  - convey Richmond's continued support for the Fraser Basin Council's work on the comprehensive reporting of the health the Fraser Basin;
  - provide input to strengthen future State of the Basin reporting.
- Staff continue to explore and report back to Council on strategies for advancing sustainability (i.e., long-term economic, social and environmental well-being) in Richmond.
- Staff incorporate relevant findings of the report into the City's Environmental Management Strategy and other relevant strategic initiatives (e.g., Flood Management Strategy, State of Environment (SOE), Economic Development Strategy, Waterfront Development Strategy, Trails Strategy, etc.).

  
 Suzanne Bycraft  
 Manager, Emergency & Environmental Programs

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ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Engineering .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Parks .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Public Works.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Policy Planning .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

## Staff Report

### Origin

At the January 28<sup>th</sup>, 2003 meeting, Parks, Recreation and Cultural Services Committee requested that the State of the Fraser Basin report "A Snapshot on Sustainability" prepared by the Fraser Basin Council (FBC) dated January 2003, be referred to senior staff and the Advisory Committee on the Environment (ACE) for their comment. The State of the Fraser Basin report was reviewed by staff in Environmental Programs, Policy and Planning, Parks, Engineering and Public Works. This report summarizes the comments made by staff and includes a perspective prepared by ACE.

### Background

#### 1. About the State of the Fraser Basin Report

The State of the Fraser Basin report provides a comprehensive assessment of the overall well-being of the Fraser Basin. The report provides information on trends for a wide range of indicators, each reflective of one of the three major cornerstones of sustainability - economic, social and environmental health. Indicators are presented for 16 topic areas: population, health, education, housing, community engagement, aboriginal and non-aboriginal relationships, water quality, air quality, fish and wildlife, income and employment, economic diversification, corporate social responsibility, forests and forestry, agriculture, energy and Fraser River flooding. For each topic area, information is provided describing current conditions and trends. Trends are identified as either "Getting Better", "Getting Worse" or as "Uncertain" in cases where limited data exists. In addition to analyzing and reporting trends, the State of the Fraser Basin report also provides suggestions on how individuals can get involved and make a difference, and provides a comprehensive list of resources.

The report was prepared by the Fraser Basin Council – a not-for-profit organization managed by a 36 member Board of Directors representing all levels of government and non-government interests. The purpose of the Basin is to advance sustainability in the Fraser Basin, which, as defined by the Council, means "living and managing activities in a way that balances social, economic, environmental and institutional considerations to meet our needs and those of future generations".

It is the Fraser Basin Council's intent that the State of the Fraser Basin report will help to:

- Increase public awareness and understanding about sustainability issues;
- Identify critical issues and influence the development of policies or programs to address sustainability issues; and
- Identify information gaps and research priorities to develop improved knowledge about sustainability over time.

## 2. Report Summary - Key Findings

A synthesis of the major trends for each topic area is provided in Table 1. For many topic areas, there are indications of both improvement and decline. A more detailed description of the trends is provided in Appendix A. Key findings are highlighted below.

### *Positive Trends*

The report demonstrates a number of positive trends, including:

- Improved growth management initiatives by municipalities
- Number of deaths from cancer, the leading cause of death, has decreased
- Education levels have risen
- Average household incomes almost doubled between 1981 and 1996
- Numbers of people employed increased by 50% between 1981 and 1996
- BC's real GDP increased by 55% between 1981 and 2001
- BC's Economic Index increased by 65% between 1981 and 2001
- Virtually every major BC forest company has achieved or is pursuing Sustainable Forest Management (SFM) certification
- Number of certified organic producers and processors almost tripled between 1992 and 2001 (from 154 to 430)
- Net farm income increased by 184% between 1986 and 1996.

### *Concerning Trends*

Overall, the report states that the general health of the Basin is doing pretty well at this time. However, the report also identifies a number of concerning trends that it states must be addressed to ensure a healthy Basin in the future. Key trends of concern highlighted in the report include:

- Population in the Basin is expected to increase by 47% by 2031 and is expected to concentrate in urban cities while declining in rural areas
- Rate of deaths from respiratory disease (the 2<sup>nd</sup> leading cause of death) increased by almost 50% from 1995-1999; this trend coincides with trends in air quality
- There was a 65% increase in "at risk" individuals (i.e., those living in situations that do not meet basic health and safety standards, do not have tenure security and/or are not affordable)
- Significant disparities exist between Aboriginal and non-Aboriginal people
- Number of boil water advisories issued per year has more than doubled since 1995
- There was a 9% reduction in productive farm area in Lower Fraser region from 1986 to 1996
- Total greenhouse gas emissions in BC have increased by 25 % between 1990 and 2000
- In any given year, there is 1 in 3 chance of experiencing a Fraser River flood of record in the next 60 years
- There has been a 168% increase in the number of people living within the floodplain of the lower Fraser River between 1981 and 2001.
- Fewer people are voting in federal and provincial elections and the number of volunteers in BC is declining.

Table 1: Summary of Trends in Sustainability Indicators - State of the Fraser Basin Report

Sustainability Indicator	Trends		
	Getting Better (✓)	Getting Worse (X)	Uncertain (?)
<b>Population</b> Growth Management Population	✓	X	
<b>Health</b> Life Expectancy Leading Cause of Death – Cancer Leading Cause of Death – Respiratory Disease	✓ ✓	X	
<b>Education</b> Educational Levels	✓		
<b>Housing</b> Core Housing Needs		X	
<b>Community Engagement</b> Volunteerism Voter Turnout		X X	
<b>Aboriginal/ Non-Aboriginal Relations</b>			?
<b>Water Quality</b> Ambient Water Quality Boil Water Advisories	✓	X	
<b>Fish &amp; Wildlife</b> Protected Areas & Resource Management Fraser River Salmon Stocks Species at Risk	✓ ✓	X	?
<b>Economic Diversification</b> Average Household Income Employment Proportion of Low-Income Families Diverse Employment Distribution	✓	X	?
<b>Corporate Social Responsibility</b> Forest Sector Other Sector	✓		?
<b>Forests and Forestry</b> Sustainable Forest Management Forest Cover	✓		?
<b>Agriculture</b> Forest Economies Area in Agricultural Production	✓		?
<b>Energy</b> Energy Consumption Greenhouse Gas Emissions		X X	
<b>Fraser River Flooding</b> Flood Management Population Vulnerable	✓	X X	

## Analysis

### 1. Overall Assessment of the Report and Value for Richmond

#### *Benefits of the Report*

The “State of the Fraser Basin” report provides the first sustainability report card or “medical check-up” for the Fraser Basin region. Recognizing that the City of Richmond is ultimately dependent on the surrounding area for its prosperity and well-being, the Fraser Basin report provides valuable insight on how we are doing collectively as a region. A key strength of the report is that it provides a comprehensive assessment of health, one which incorporates the three major elements of sustainability. This comprehensive assessment helps raise awareness of the interconnections of the various aspects associated with societal well-being (i.e., environment, social and economic health) and the value and need for holistic and integrated decision-making.

Another key strength of the report is that it is organized in a manner that links people to place - to an ecosystem. This ecosystem approach helps reinforce interconnections and the fact that we are ultimately all part of a complex and interwoven system. This ecosystem orientation is also more likely to strengthen the community’s sensitivity and willingness to take action. As it transcends political boundaries, it is unlikely that, without the efforts of the Fraser Basin Council, that a “State of the Fraser Basin” report would have been produced. Ultimately, the report provides the City of Richmond with an effective tool for increasing our corporate and community understanding of the current condition of our collective region and identifying areas requiring priority action.

#### *Suggested Areas for Future Improvement*

While recognizing the report’s strength and overall value, staff have also identified a number of areas where the report could be strengthened. Suggestions include:

- clarifying how this initiative on the Fraser Basin fits into work being done on the entire Georgia Basin
- the development of composite indicators, which enable an evaluation of the overall health of the Fraser Basin in its entirety both with respect to its current condition and overall trend (i.e., do we presently grade as excellent, good or fair and is our overall trend heading in a positive direction?)
- the development of targets and benchmarks for improving our understanding of where we are and where we are trying to get to
- the incorporation of indicators to provide a better understanding of our reliance and impact on the region beyond the Fraser Basin
- the incorporation of indicators to provide a better understanding of community sustainability, including the condition of the built environment (e.g., infrastructure condition, transportation management, etc.), efforts being made towards sustainable lifestyles (e.g., live:work ratios, resource consumption, waste generation and recycling rates, etc.), conditions of community safety, efficacy of governance (e.g., resources provided to municipalities, etc.) and community engagement (e.g., voting turnout in municipal elections, etc.)

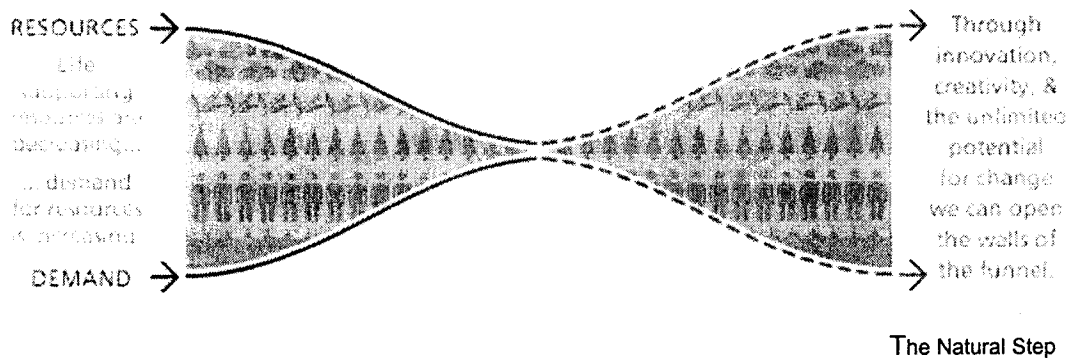
- the consideration of additional indicators including use of hazardous materials, soil quality, groundwater quality and measures of biodiversity.

## 2. Implications of Fraser Basin Report for Richmond

### *Highlights Importance of Sustainable Communities*

The Fraser Basin Council reports reinforces the need for pursuing a path of sustainability – one that recognizes interdependencies and strives for ensuring social, economic and environmental well-being collectively. Projected population increases in the report indicate that existing resources (i.e., social, environmental and economic) will be under increasing pressure. According to the Fraser Basin report, high growth communities are likely to face adverse impacts such as traffic congestion, loss of agricultural land and overstretched community services.

Professionals working in the field of sustainability illustrate the current situation as a funnel, where the walls are nearing intersection and there is diminishing room to manoeuvre.



Reported population trends where the projected growth is expected to concentrate in urban centres further emphasizes the critical role municipalities will play in working towards sustainable communities.

### *Reinforces the Importance and Value of City of Richmond Initiatives*

Trends highlighted in the Fraser Basin Report reinforce the importance and value of the action that the City of Richmond is taking to support long-term community well-being. The City’s vision “To be the most appealing, liveable, and well managed community in Canada,” strongly reflects the notion of sustainability. With regard to policies, the City’s primary document supporting sustainability is the Official Community Plan (OCP). The City’s OCP Regional Context Statement demonstrates how the City’s community planning reinforces the GVRD’s Livable Region Strategic Plan. The OCP also promotes a growth management strategy based on community input that supports a desire to “*Balance development and the environment*”, “*Balance jobs and housing*”, and “*Balance urban and rural*”. Richmond’s OCP aims to direct

60% of Richmond's population growth to the City Centre Area in order to help preserve farmland, reduce urban sprawl and support the development of complete and compact communities. Trends identified in the Fraser Basin report also reinforce the importance of the City's commitment to rapid transit and the value of numerous City's strategic initiatives, such as the:

- **corporate strategic teams** aimed at exploring opportunities for advancing integrated decision-making and advancing community well-being over the long-term
- **Partners for Climate Protection program** which aims to improve energy efficiency and reduce corporate and local community greenhouse gas emissions
- **Affordable Housing Strategy** which guides the City in the development of affordable housing options
- **Homeless Strategy** which provides a framework for City and community response to address local homelessness issues
- **Agricultural Viability Strategy** which identifies strategic action for improving the viability of Richmond's agricultural sector
- **Flood Management Strategy** to reduce Richmond's vulnerability from major flooding and improve the community's ability to respond should an event occur
- **Environmental Management Strategy** to identify a guiding vision, synthesize current initiatives (e.g., State of Environment reporting, Environmental Sensitive Areas management, etc.) and set strategic action
- **Partners for Beautification Program** to foster community engagement and involvement (e.g. adoption and stewardship activities)
- **Urban Forest Management Strategy** to retain, expand and maintain Richmond's urban forest
- **2010 Richmond Trail Strategy** aimed at improving community livability and provide transportation alternatives
- **review of the delivery of social services** with the RCSAC to ensure the meeting of broad and diverse community needs
- **planning for incorporation of LEED's (green-building) standards** in new firehall construction.
- **Energy management initiatives** resulting in Richmond becoming the first BC Hydro Power Smart Certified municipality in BC.

#### *Recommends Areas for Priority Action*

While Richmond's list of accomplishments is impressive, the results of the Fraser Basin report also indicate that there is still much to be done to ensure community well-being over the long-term. Accordingly, the report also emphasizes the need for continual improvement and the dedication of sustained energies towards seeking innovative strategies for achieving community well-being for today and tomorrow. Among the indicators measures, findings from the Fraser Basin report suggest that areas for priority City action should continue to include: growth management, housing, community engagement, air quality and climate change, energy management, agriculture, economic diversification and flood management. The report also highlights the need and value of comprehensive reporting – one which incorporates indicators reflective of social, environmental and economic well-being.

### 3. ACE Perspective

ACE comments on the Fraser Basin report are included as Attachment 2. Key messages include:

- the “Snapshot on Sustainability” is beneficial due its public education value, its role in raising awareness of the Fraser Basin, and its ability to act as a catalyst for discussion and debate
- the macro-planning context of the Fraser Basin is a more meaningful context report by which Richmond to evaluate its progress in achieving community well-being over the long-term
- it would be valuable to integrate the Fraser Basin’s work with indicator work done by other organizations such as the provincial government, FREMP, Georgia Basin and the City of Richmond
- there are concerns that for some indicators, trend designations (i.e., Getting Better, Getting Worse, Uncertain) are not sufficiently supported
- the report fails to incorporate sustainability indicators relating to transportation, resource consumption, waste generation, crime and governance
- further work is also needed to identify what strategic action should be done to make improvements.

### 4. City Action

To facilitate the incorporation of report findings in City strategic planning initiatives, such as the Environmental Management Strategy, staff have arranged for representatives from the Fraser Basin Council to present key findings from their report at the next Sustainability Speaker’s session on April 24<sup>th</sup>, 2003. The report has also been circulated throughout various City departments. Staff are also currently developing a State of Richmond report card using existing information sources such as the City’s recently updated State of Environment Report, the Annual Report and the Community Needs Assessment survey. The results of this work will be presented at the next Sustainability Speaker session and provided to Council. Staff also intend to issue a news release to help raise awareness of Fraser Basin Council report within the Richmond community.

In order to communicate the City’s overall support for the initiative, staff also recommend that the City send a letter of endorsement to the Fraser Basin Council to convey the City’s support for the initiative, communicate what the City is doing to support sustainability and offer the City’s suggestions (staff and ACE) for strengthening the State of the Basin reporting in the future. Staff also recommend that through the City’s Strategic Teams, staff continue to explore and report back to Council on strategies for further advancing sustainability (i.e., long-term community well-being) in Richmond.



## Financial Impact

There is no direct financial impact associated with the State of the Fraser Basin report. However, as discussed in the report, results of the State of the Basin report indicate that the City is likely to face adverse impacts in the future as community resources (i.e., social, economic and environmental) come under increasing pressure. Costs associated with seeking innovative strategies and addressing future challenges may result in financial impacts and should be incorporated into the City's long-term financial strategy.

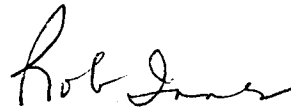
## Conclusion

The Fraser Basin report "A Snapshot of Sustainability" provides a comprehensive assessment of the health (i.e., social, environmental and economic) of the Fraser Basin. Although reporting that the overall state of the Basin is pretty good, the report identifies a number of concerning trends and highlights the need for pursuing sustainability within the broader Fraser Basin region and in particular within our urban centres.

Issues identified in the Fraser Basin report reinforce the importance of many of the initiatives that the City of Richmond is already pursuing and serves as further encouragement for the City to continually seek new and innovative ways for pursuing community well-being over the long-term.



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(4130)



Rob Innes  
Planner  
(4193)

MD:md

**Appendix A: Detailed Summary of State of Fraser Basin Report**

<b>Sustainability Indicator</b>	<b>Trend</b>	<b>Key Findings</b>
<b>Population</b> Population: Growth Management:	Uncertain Getting Better	<ul style="list-style-type: none"> <li>• By 2031, Basin population is expected to &gt; by 47%, reaching 4 million residents.</li> <li>• Population is expected to concentrate in urban cities and decline in rural area</li> <li>• Seniors older than 65 are expected to experience the highest population growth over the next 30 years and represent 22% population</li> <li>• Retiring baby boom generation may result in labour shortages and significant rise in demand for health and social services</li> </ul>
<b>Health</b> Life Expectancy Leading Causing of Death	Getting Better Mixed	<ul style="list-style-type: none"> <li>• Life expectancy has increased</li> <li>• Cancer is the leading cause of death.</li> <li>• &gt;45% of British Columbians are overweight</li> <li>• The rate of deaths from respiratory disease increase by almost 50% from 1995-1999. This coincides with air quality trends</li> <li>• Diabetes is also a cause for concern – it is estimated that by the end of 2010, 7% of the BC population will have diabetes, an increase of 87% in 10 years</li> <li>• Fewer babies are being born with lower birth weights</li> <li>• Greater number of residents reported themselves as being less healthy in 2001 than in 1994.</li> </ul>
<b>Education</b> Education Levels	Getting Better	<ul style="list-style-type: none"> <li>• Educational levels have risen steadily (1981-1996).</li> <li>• Recently, there have been more students per teacher</li> </ul>
<b>Housing</b> Core Housing Need	Getting Worse	<ul style="list-style-type: none"> <li>• There was a 65% increase in “at risk” individuals (i.e., those living in situations that do not meet basic health and safety standards, do not have tenure security and/or are not affordable).</li> </ul>
<b>Community Engagement</b> Volunteers Voter Turnout	Getting Worse Getting Worse	<ul style="list-style-type: none"> <li>• Proportion of population who volunteered has decreased between 1997 and 2000.</li> <li>• Voter turnout (federal and provincial) has steadily been decreasing since 1988. There is no central voter turnout for municipal elections from which to assess trends for BC of the Basin.</li> </ul>

<b>Sustainability Indicator</b>	<b>Trend</b>	<b>Key Findings</b>
<b>Aboriginal and Non-Aboriginal Relationships</b>	Uncertain	<ul style="list-style-type: none"> <li>• Significant disparities exist between Aboriginal and non-Aboriginal people (e.g., life expectancy, mortality, graduation, housing quality, drinking water quality, community services).</li> <li>• Aboriginal people represent about 3% of the Basin's total population.</li> </ul>
<b>Water Quality</b> Ambient Water Quality Trends Boil Water Advisories	Getting Better  Getting Worse	<ul style="list-style-type: none"> <li>• Among 35 waterbodies monitored, most reported no change or improvement from 1985-2000; 14% of the sites, all outside of the GVRD, reported deteriorating water quality.</li> <li>• Number of boil water advisories issued per year has more than doubled since 1995</li> </ul>
<b>Air Quality</b>	Mixed	<ul style="list-style-type: none"> <li>• Levels of particulate matter (identified as the most serious form of air pollution with respect to having direct health impacts) have generally improved since 1994 but remain a concern in many communities</li> <li>• Smog and other air pollutants are getting worse</li> </ul>
<b>Fish and Wildlife</b> Fraser River Salmon Stocks Species at Risk Protected Areas and Resource Management	Getting Worse Getting Better  Uncertain  Getting Better	<ul style="list-style-type: none"> <li>• About 3% of salmon stocks assessed in the Fraser River are at high risk of extinction</li> <li>• @ 20% of the species living in the Fraser River are threatened</li> <li>• There were significant increases in land area protected in the Basin between 1991-2002</li> </ul>
<b>Income and Employment</b> Average Household Income Employment and Unemployment Proportion of Low-Income Families	Getting Better  Getting Better  Getting Worse	<ul style="list-style-type: none"> <li>• Average household incomes almost doubled between 1981 and 1996</li> <li>• The numbers of people employed increased by 50% between 1981 and 1996</li> <li>• There was a marginal increase in the proportion of low-income families between 1986 and 1996</li> </ul>
<b>Economic Diversification</b> Diverse Employment Distribution	Uncertain	<ul style="list-style-type: none"> <li>• BC's real GDP increased by 55% between 1981 and 2001</li> <li>• BC's Economic Index increased by 65% between 1981 and 2001</li> <li>• Basin's economy was less diversified in 1996 than 1981</li> </ul>

<b>Sustainability Indicator</b>	<b>Trend</b>	<b>Key Findings</b>
<p><b>Corporate Responsibility</b></p> <p>Forest Sector Other Sectors</p>	<p>Getting Better Uncertain</p>	<ul style="list-style-type: none"> <li>• There is a growing awareness and support for business of all types to be more socially and environmentally responsible</li> <li>• 80% of survey respondents stated that they try to buy from companies that are good corporate citizens</li> <li>• Many companies have found that there are benefits of CSR, including reducing costs, becoming more efficient, developing positive working relationships with employees and shareholders, and achieving a competitive advantage</li> </ul>
<p><b>Forest and Forestry</b></p> <p>Forest Cover Sustainable Forest Management</p>	<p>Uncertain Getting Better</p>	<ul style="list-style-type: none"> <li>• Of 23 million ha of land in the Basin, 74% is covered with forest</li> <li>• Virtually every major BC forest company has achieved or is pursuing Sustainable Forest Management (SFM) certification</li> <li>• Mountain Pine Beetle epidemic poses potentially devastating impacts – in 2001/2002, there were over 800,00 ha loss due to bark beetle species</li> </ul>
<p><b>Agriculture</b></p> <p>Area in Agricultural Production Farm Economics</p>	<p>Uncertain Getting Better</p>	<ul style="list-style-type: none"> <li>• Area of land in agricultural production in Fraser Basin increased by 15% between 1986 and 1996; however, there was a 9% reduction in productive farm area in Lower Fraser region</li> <li>• On average, 53% of farms reported in Farm Environmental Management Survey were implementing best management practices</li> <li>• The number of certified organic producers and processors almost triples between 1992 and 2001 (from 154 to 430)</li> <li>• Net farm income increased by 184% between 1986 and 1996; however, agriculture within the Upper Fraser and Cariboo regions generally operate at a loss</li> </ul>
<p><b>Energy</b></p> <p>Energy Consumption Greenhouse Gas Emissions</p>	<p>Getting Worse Getting Worse</p>	<ul style="list-style-type: none"> <li>• British Columbians consumed 28% more energy in 1999 than in 1981 – population growth had a strong influence in the increase</li> <li>• Total greenhouse gas emissions in BC have increased by 25 % between 1990 and 2000</li> <li>• In 2000, over 80% of emissions resulted from energy production and use. Transportation is a major energy consumer.</li> <li>• Average sea levels along most of the coast are 4-12 cm higher now than a century ago</li> </ul>

Sustainability Indicator	Trend	Key Findings
<p><b>Fraser River Flood</b></p> <p>Population Vulnerable</p> <p>Flood Management</p>	<p>Getting Worse</p> <p>Mixed</p>	<ul style="list-style-type: none"> <li>• Scientists predict that there is a 1/3 chance of experience a Fraser River flood of record in the next 60 years.</li> <li>• There has been a 168% increase in the number of people living within the floodplain of the lower Fraser River between 1981 and 2001 (@ 130, 000 more people)</li> <li>• The 1948 flood resulted in recovery and rehabilitation costs of @ \$142 million.</li> </ul>

1. Comments provided by ACE member Ms. Evelyn Feller

**Dear Rob:**

**I volunteered to write a critique of the FBC's 'Snapshot on Sustainability'. Here are my thoughts. I would also be willing to get together with staff and others to produce a Richmond response.**

**In my critique I didn't cover all the indicators but rather focused mainly on the environmental indicators.**

**Firstly I think efforts like the 'Snapshot on Sustainability' are good to do because of their public education value, their value in being a catalyst for discussion and debate, and because they keep the Fraser Basin on the public agenda. As a teacher I have found this a useful resource for my colleagues and students particularly with the compendium of related web-sites at the end.**

**Before I discuss specific indicators I would like to mention a limitation in the references of the publication. There are many groups, the provincial government, FREMP, and the Georgia Basin that have developed environmental indicators. It would have been good in the reference section to mention such publications. The ones used by the FBC are broad and interested readers would be able to research more detailed efforts. Many communities like Richmond have published their State of the Environment Reports which use their own indicators. Again references to these reports would help give information about local communities along the river. Another criticism of this report is that it just produces a snapshot of what is happening along the river. What should also be included is a discussion of what the priority issues are that the FBC will be working on to produce improvements over the next two years.**

#### **Water Quality**

- **Given the threats to aquifers it would have been good to have an icon that visually indicated that there are significant problems with ground water.**
1. **Using monitoring data from only two water bodies in the Greater Vancouver area seems very inadequate. This is where many of the pollution problems exist. Federal Fisheries produced a publication documenting the disappearing fish streams of the Lower Mainland and the extent of streams**

where water quality was compromised was shocking. It is difficult to believe that these streams have recovered.

- I endorse the need for on-going comprehensive monitoring of water quality given government reductions in programs. We do need continuing research similar to that under taken by FRAP (Fraser River Action Plan). However we also need action on the basis of existing research particularly on way to control non-point pollution. Some of this research indicated that river health was related negatively to increases in impervious surfaces. There are obvious action implications here.

### Air Quality

- Small picky point but the colours used in the pie -charts on page 11 should be consistent. Green and orange represent different things on the graphs.
- It was interesting to read of the initiative in the Cariboo to replace old wood stoves. This was a good case of local initiatives contributing to air quality improvements.

### Fish and Wild-life

- Given that the improvement in salmon spawning numbers was occurring in only half the streams surveyed and declining in the more vulnerable Lower Fraser streams , describing the situation as improving doesn't seem warranted. Separating the icons into Upper and Lower Fraser might seem better to show the relative situations.
- The icon indicating that things are getting better with respect to wild life doesn't seem warranted when increasing numbers of species are red listed and blue listed. While there might be more areas designated protected areas which is good there is less government support for programs to protect wild life.

### Forestry

- This section has not been well done. One doesn't get a picture of the trends in forest age classes and type over the last twenty years. Government publications in the early 1980's pointed to the fall-down effect-a massive decline in old-growth forests and available wood supply- over the next 20 years. I doubt the problem has gone away. Various districts had to reduce their allowable annual cut. This section doesn't give a sound summary of the state of the forests in the Fraser Basin.

### Agriculture

- These needs to be some follow up about the information on noxious weeds. Some information on what needs to be done or is head-way being made should be included.
- Clearly something that can be done here is to target education programs on best practices to the farmers who are not familiar with BMP's.

### Energy

- Under the What Can be Done section one could include business and skill development in the alternative technology technologies. On the odd time that my very satisfactory solar hot water service has had to be repaired, we have had considerable problems locating service people who were familiar with the technology. There was a burst of skill development in the 1980s but when energy fell off the agenda businesses and skills declined.

### Education

- Reporting on improvements in drop-out rates and first nations graduation improvements would be worthy of mention here. These are still issues of concern.

*Evelyn.*



2. Comments provided by ACE member Dr. Amador Remigio

What are the planning and management implications of the Fraser Basin Council's The "State of the Fraser Basin Report: A Snapshot on Sustainability" for the City of Richmond?

The report provides a check-up on the state of social, environmental and economic sustainability of the Basin through the use of sustainability indicators. These indicators cover 16 topic areas such as population, health, education, housing, community engagement, aboriginal and non-aboriginal relationships, water quality, air quality, fish and wildlife, income and employment, economic diversification, corporate social responsibility, forests and forestry, agriculture, energy and Fraser River flooding.

The report includes an analysis and discussion of trends for the social, economic and environmental components of sustainability that can hopefully serve as a baseline for tracking significant trends and facilitate future reporting on the sustainability of the Basin over time.

As a preliminary effort to diagnose and appraise the state of sustainability of the Basin, the report does provide a good starting point for informed and broad based dialogue amongst stakeholders, as well as for the identification of key gaps in our knowledge and the undertaking of appropriate and constructive actions that can further improve sustainability in the Basin. Moreover, the Fraser Basin Council's intent is to actively use the report to inform and/ or influence the development of policies or programs to address various sustainability issues, including knowledge about sustainability over time.

Analogically, the report provides a macro-planning context that is greater and broader in geographic scope and reach than what the GVRD has typically produced in terms of its various regional planning documents (such as the Livable Region Strategic Plan). This is quite understandable as the Council uses the Fraser river Basin as its organizing ecosystem concept with the GVRD delimiting its covered area to the 21 Municipalities and one electoral area in the lower Fraser Valley that altogether comprises the Greater Vancouver Regional District. Thus, its utility to Richmond's planners derives from the report providing a broad backdrop of the overall trends and patterns prevailing and developing in the entire river basin area against which Richmond's track record in these topic areas can be more comparatively and meaningfully viewed and analyzed. It is in this particular

macro-planning context that Richmond's aspiration to become the most livable community can be more soberly evaluated.

Methodologically, the report seems to have sidestepped or ignored sustainability indicators relating to transportation, resource consumption and waste generation as well as public governance dimensions that do have a bearing on social sustainability concerns such as crime and the pursuit of illegal activities (such as the proliferation of grow-ops).