



## 5.1 NATURAL RESOURCES

*The State of the Environment (SOE) Report, first endorsed by City Council in March 1998, identifies Richmond's general environmental priorities, and provides a report card on our overall environmental health.*

### ISSUE:

Maintaining the high quality of the City's natural environment is a complex task. Factors affecting natural resources are broad in scope and overlapping, and responsibility for those factors is divided among several levels of government. Therefore, the City has to first identify and then implement those environmental actions which are effective and within its mandate, while working in a coordinated manner with senior governments and other environmental agencies.

### Air Quality and Climate Change

As automobile emissions produce about 80% of all air pollutants, and contribute almost half of the province's greenhouse gases, measures for reducing car dependence will play a key role in improving air quality and minimizing global warming. (These are addressed in Section 4.0 Transportation.) Non-transportation factors affecting both air pollution and climate change include: energy use, industrial emissions, and heating and cooling systems. Richmond air quality is also affected by outdoor burning and soil displacement.

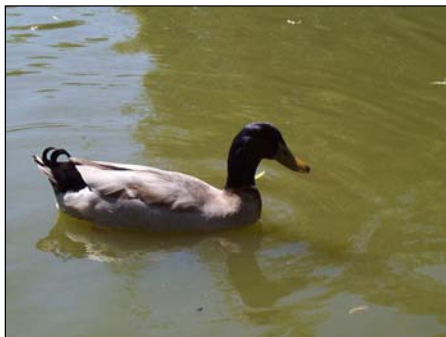
Local efforts to address these issues need to consider:

- Their complex nature;
- Their broad geographical scope, combined with a lack of direct City jurisdiction in many key policy areas, such as emissions control;
- The need to find solutions which do not reduce economic prosperity.

### Water Quality

Richmond is surrounded by the Fraser River, and benefits from inland water resources, such as Bath Slough and Finn Slough. Water quality in these bodies is affected by local and regional utilities, as well as by adjacent land uses. Natural vegetation on shorelines can also help water quality by filtering contaminants from runoff into water bodies. However, where retaining natural vegetation along water bodies conflicts with flood protection practices to provide for public safety, these flood-proofing practices take precedence.

Policies affecting these factors and local water resources are made by senior and local governments, resulting in the need to coordinate multi-agency actions. As Richmond's drinking water is provided from a regional source outside City boundaries, it is discussed under Section 7.0 City Infrastructure.



*Water quality is important*



*ESAs include natural environmental features and their associated lands, such as:*

- *Woodlots;*
- *Waterways;*
- *Riparian vegetation;*
- *Mudflats;*
- *Marshes;*
- *Fallow fields;*
- *Grasslands;*
- *Etc.*

### **Environmentally Sensitive Areas**

Environmentally Sensitive Areas (ESAs) in Richmond include valuable habitat for birds, fish, reptiles, amphibians, and other wildlife. Attachment 3 maps ESAs in the City, some of which are designated as Conservation Areas on the Land Use Map (Attachments 1 and 2). Conservation Areas have a higher degree of protection (secured through legal means, or by a long-term policy commitment by a senior level of government). All ESAs are protected by requiring development permits prior to commencement of development activity.

Securing further protection for ESAs not designated as Conservation Areas on the Land Use Map requires a strategic management approach which results in most public benefit at least cost, and takes into account private property owners' interests.

### **Contaminated Soils**

Some lands in Richmond have been subject to chemical contamination resulting from previous heavy industrial uses of the land or an adjacent site. Provincial legislation requires mitigation of potential environmental and health-related hazards associated with the development of such lands.

*Bylaw 7794  
2004/11/23*

### **OBJECTIVE 1:**

**Work in partnership with senior governments and businesses to continue improving local and regional air quality, and to manage greenhouse gases.**

### **POLICIES:**

- a) Establish "best practices" for City operations which impact air quality, including a strategy for reducing the negative air quality impacts of those operations;
- b) Continue to regulate outdoor burning in residential areas;
- c) Encourage local industry to investigate and adopt new technologies to reduce air pollutant and greenhouse gas emissions;
- d) Minimize airborne dust and fine particles from construction by raising awareness in the development community and by encouraging the use of "best practices", e.g. placing fencing or hoarding around construction sites, stabilizing temporary soil deposits.



*Richmond and FREMP have an Area Designation Agreement to manage shoreline development along the Fraser River.*



*The south shore of the Fraser River*

## **OBJECTIVE 2:**

**Work in partnership with senior governments to maintain and enhance water quality and aquatic habitat in the Fraser River.**

### **POLICIES:**

- a) Continue to partner with other government agencies in the Fraser River Estuary Management Program (FREMP) in monitoring and regulating shoreline development along the Fraser River;
- b) Support GVRD initiatives to ensure effluent from sewage treatment plants meets regional water quality objectives;
- c) Reduce the impact of industrial effluent on local water bodies by requiring environmental impact assessments for commercial and industrial development adjacent to watercourses that could result in harmful discharge into receiving waters;
- d) Establish “best management practices” for City maintenance of drainage and flood protection infrastructure to allow for vegetation and aquatic habitat along watercourses that do not conflict with flood safety objectives.

## **OBJECTIVE 3:**

**Use a strategic management approach to secure long-term protection for Environmentally Sensitive Areas (ESAs).**

### **POLICIES:**

- a) Consolidate ESA mapping and regulations into Schedule 1 of this Bylaw;
- b) Continue to provide protection for ESAs by requiring development permits for proposed development activity in ESAs, and by requiring environmental impact assessments in cases where development applications are likely to negatively impact the ESA;



*By the west dyke*

*Bylaw 7794  
2004/11/23*

- c) Achieve additional protection for ESAs by:
  - Encouraging community groups and other levels of government to acquire or secure key ESAs;
  - Integrating ESA management into the City's Parks and Open Space strategy so that ESAs with the potential for multiple benefits such as linkages to the trails system can be acquired through various methods. An annual report to Council on the status of Richmond ESAs should identify acquisition priorities;
  - Securing permanent protection of ESAs through development negotiations;
- d) Encourage the restoration and re-creation of natural habitat to enhance ESAs, particularly those which are under City control.

#### **OBJECTIVE 4:**

**Mitigate the public health or environmental hazards resulting from the use and development of contaminated sites.**

#### **POLICIES:**

- a) Assist the provincial ministry of the environment in administering provincial contaminated sites legislation in Richmond through the development process;
- b) Work with senior governments to help raise public awareness of the environmental and health impacts of discharging toxic substances into air, land, and water.

#### **OBJECTIVE 5:**

**Continue to monitor environmental trends and adjust City policies and programs as required.**

#### **POLICIES:**

- a) Update the City's State of the Environment (SOE) Report every three years, and use results to adjust and enhance environmental policies and programs as required;
- b) Improve our understanding of air quality and climate change in particular, and other environmental issues in general, through collaborative research efforts and participation in senior government monitoring initiatives.