



## Water Quality

### Clean Water...It Starts with You

#### Agriculture

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We depend on clean water. Not only does it provide a home for plants and animals, and drinking water for people, but it provides recreation, tourism and job opportunities. Many of us don't realize how our daily activities affect the water quality in our local marine and fresh water bodies.



#### *Did You Know?*

- **If you live in an area with storm drains...** when you wash your car, the soapy water and debris can run off your driveway into a storm drain that empties directly into local water bodies.
- **If you have an onsite sewage system such as a septic system...** that is not properly sized, constructed or maintained, the drainfield can become plugged which can cause partially treated wastewater to surface on your lawn or in ditches which lead to local water bodies.
- **If you live on a farm or ranch...** livestock manure, sediments and improperly applied pesticides and fertilizers can contaminate local water bodies.
- **If you are a boater...** the dumping of sewage, leaking fuel and oil and using toxic cleaning products can threaten water quality, especially near the shoreline.

These are just a few examples of nonpoint source pollution. It is different from point source pollution which comes from well defined sources, such as a sewage pipe or industry pipe. Nonpoint source

pollution comes from many places. It's not easy to identify or control, and all of us, often without knowing, contribute to it. Although progress has been made in reducing nonpoint and point source pollution, *nonpoint* source pollution remains a leading threat to water quality in BC.

### ***It All Adds Up***

Small amounts of nonpoint source pollution from each one of us may not seem to be a problem. But the combined effects of pollutants from almost four million British Columbians is threatening our clean water resources. Closed beaches, contaminated shellfish beds, fish kills and unsafe drinking water are just some of the environmental impacts.

We can reduce nonpoint source pollution. You can make a difference as an individual or by joining or forming a community stewardship group which cares for a local waterbody. BC Environment (now called Ministry of Water, Land and Air Protection) has produced five **CLEAN WATER** brochures: nonpoint source pollution, urban runoff, onsite sewage systems, agriculture and pleasure boating. All provide tips that people can follow to reduce or prevent nonpoint source pollution. This brochure focuses on **agriculture** and water quality.

## **Clean Water...It starts with you!**

### ***The Natural Flow of Water***

In the natural environment, rain and melted snow run over the land into surface waters or seep down through the soil to become ground water. As the water seeps down it is absorbed and cleansed by soil, plants and bacteria. Surface runoff and ground water feed our streams, rivers and lakes.

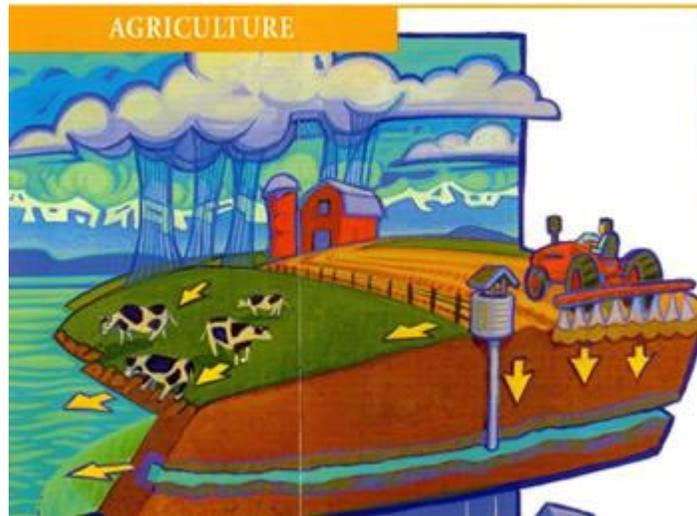
### ***Imagine the Effects...***

- Nutrients in manure and fertilizers which are carried by runoff into water bodies can cause an increase in the growth of algae and aquatic plants.
- Bacteria or parasites in manure, carried by runoff to nearby surface waters, can spread diseases among herds. They can also pose a health threat to humans by making water unsafe for drinking or swimming.
- Nitrates from fertilizer and manure can seep into ground water making well water unsafe to drink.
- Pesticides, gasoline and other hazardous chemicals accidentally spilled or improperly used or stored can seep down and pollute ground water or be carried by runoff into streams, rivers and lakes. Some of these chemicals can become concentrated to toxic levels in the fatty tissues of fish and other aquatic life and can move up the food chain.
- Livestock grazing and loitering on streambanks for long periods can damage vegetation, deposit manure and cause soil erosion along the banks. This can degrade water quality and destroy fish habitat.

### ***What Can You Do About It?***

The people on the cover are building a fence to keep livestock from the streambank. You too can do your part to keep water clean. Follow these tips to reduce nonpoint source pollution around your farm or ranch.

- Reduce the use of fertilizers, pesticides and herbicides by adopting integrated pest management techniques and nutrient management plans. These plans are designed to help you use your farm's manure more efficiently as a fertilizer. The plan includes an estimate of total manure nutrients produced on your farm in one year and makes recommendations on how to match this with your crop nutrient requirements. If you must use chemicals, follow instructions carefully and avoid applying them close to the edge of a waterbody.
- Plant cover crops and/or relay crops to use excess soil nutrients and hold soil in place over the winter.
- Practice conservation tillage, contour farming or strip cropping.
- Follow the Code of Agricultural Practice for Waste Management and have a Best Agricultural Waste Management Plan prepared for your farm. This type of plan outlines what actions are necessary to ensure your farm is in full compliance with the code. The plan includes manure storage calculations, a farm layout map and site specific recommendations.
- Locate confined animal facilities away from water bodies. Divert incoming and outgoing runoff from these facilities.
- Construct adequate manure storage facilities.
- Do not spread manure during wet weather (fall and winter), on frozen ground, in low-lying areas prone to flooding, within 3 m of ditches, 5 m of streams and 30 m of wells, or on land where runoff is likely to occur. In some situations, greater setbacks from water courses may be required.
- Install barrier fencing to prevent livestock from grazing on streambanks.
- If livestock must cross streams, provide graveled or hardened access points.
- Provide alternate watering systems, such as troughs, dugouts or nose pumps for livestock.
- Maintain or create a buffer zone of vegetation along a streambank, river or lakeshore and avoid planting crops right up to the edge of a waterbody.
- Protect and preserve natural wetlands in your area. Use natural swales and hollows as sediment traps.
- Do not alter natural water bodies or shorelines or build ponds or dams without proper guidance and authorization from your nearest regional office of Water, Land and Air Protection, Water Management.



***Our individual actions add up!***

***You Can Make a Difference!***

Protect clean water supplies by preventing nonpoint source pollution in the first place. It will take all of us working together cooperatively with neighbours, in our communities and with all levels of government to keep water clean.

***Clean Water...It starts with you!***