# Stream Care

- Why should we take care of our streams?
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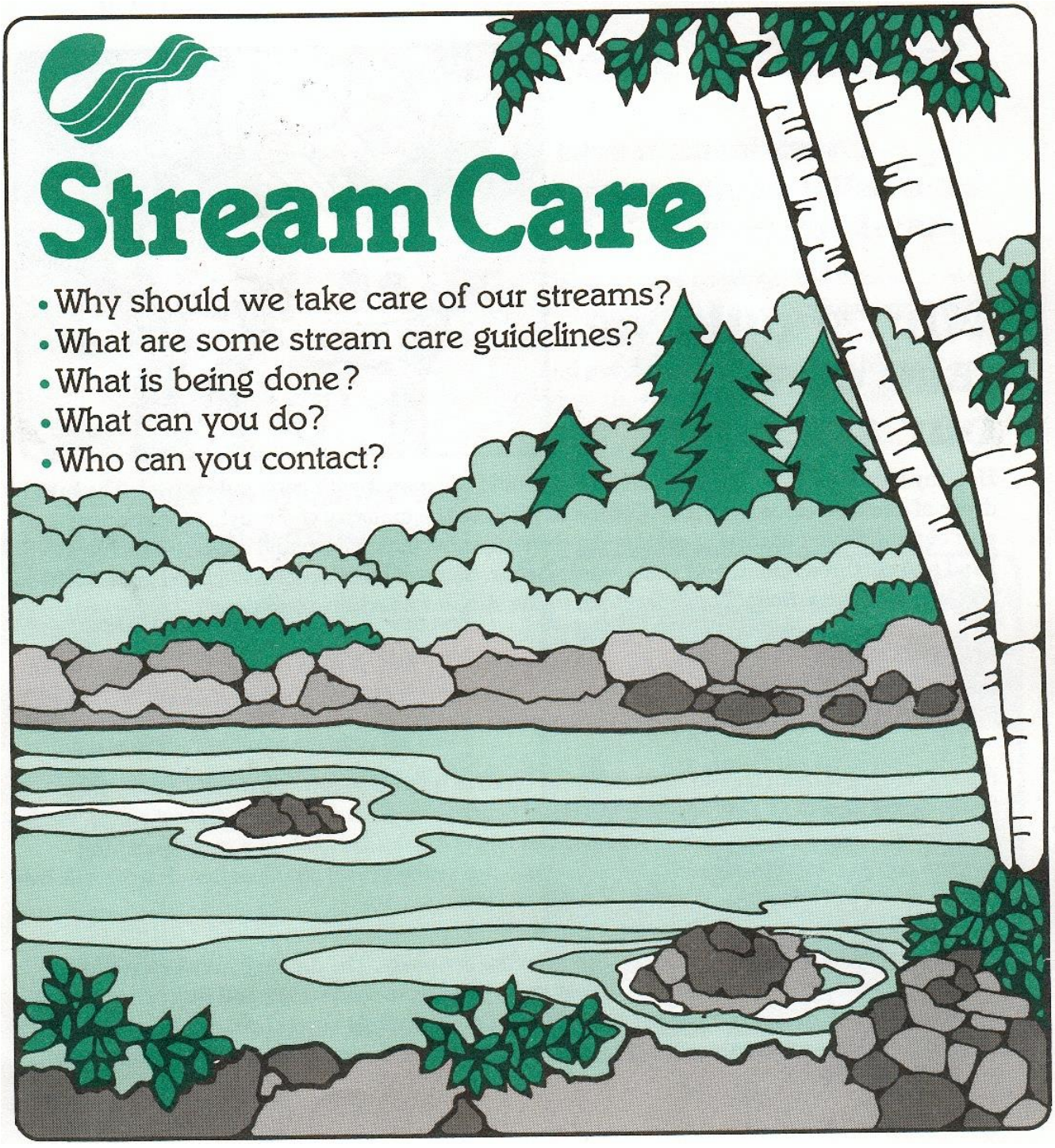


# Why should we take care of our streams?

Healthy streams are important to fish and should be treated with care and respect. The hundreds of small streams in British Columbia produce the majority of our fish. Our streams support eight different species of salmonids: chinook, coho, pink, chum and sockeye salmon; steel-head and cutthroat trout; and Dolly Varden char. Some of these species feed and grow (rear) in streams for long periods. They all return to the streams as adults to **spawn**.

Streams provide living, feeding and spawning areas for fish. A good stream for salmonids has many different characteristics. Although young fish may not have the same needs as spawning fish, all salmonids need an adequate flow of clean, cool **water**.

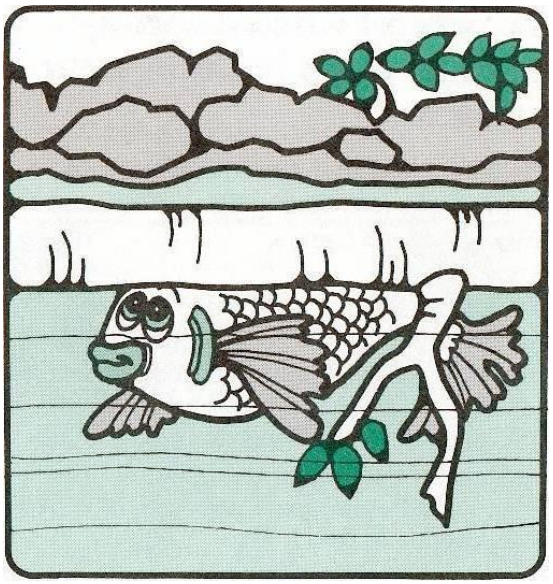
A good rearing stream should have different types of habitat to provide cover for fish (pools, forest debris, boulders, overhanging trees and brush), a constant and even flow of water, moderate summer **temperatures**, few **predators**, and lots of **insects** for food. In a good spawning stream, adult salmonids should be able to reach spawning **gravel** that has free-flowing, silt-free water.

Unfortunately, it is easy to damage streams, often seriously. The damage may be caused by carelessness in **logging** or **mining** practices, or by poorly-planned **urban** and **industrial** growth and the pollution that accompanies it. These factors are mainly beyond your control. But there are also stream care guidelines which you can follow to help save and **preserve** our streams.

# What are some stream care guidelines?

## Leave natural streamside vegetation alone.

Trees and shrubs **shade** the stream, keeping the water temperature **cool** for fish. Insects fall off the vegetation and into the water, providing **food** for the fish.



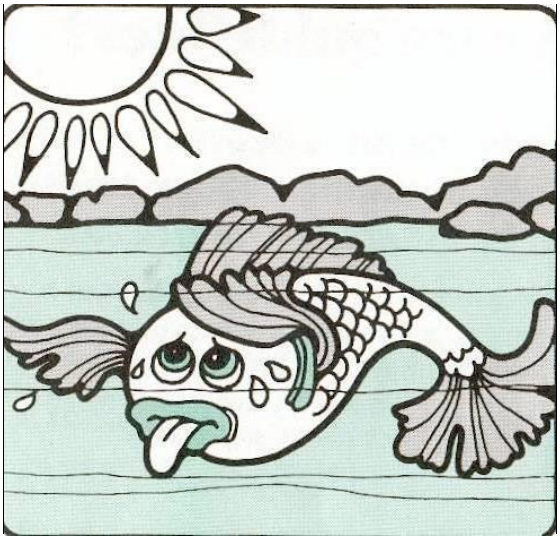
## Leave natural debris, such as stumps, fallen trees or boulders, in the stream.

Fish use these as part of their **habitat**, as a source of **food** and as **cover** from predators (including larger fish, birds, small animals and people). Trees should only be removed when they **block** the passage of fish**.**

## Plant vegetation on the sides of a stream to stabilize its banks.

Any plants that have **roots** that spread and knit the soil help strengthen the banks and prevent them from being **washed away** during floods. Blackberry bushes, alder trees and willows provide good root systems for this purpose, and can be **planted** on the banks.

# Be careful when clearing land or when building near streams

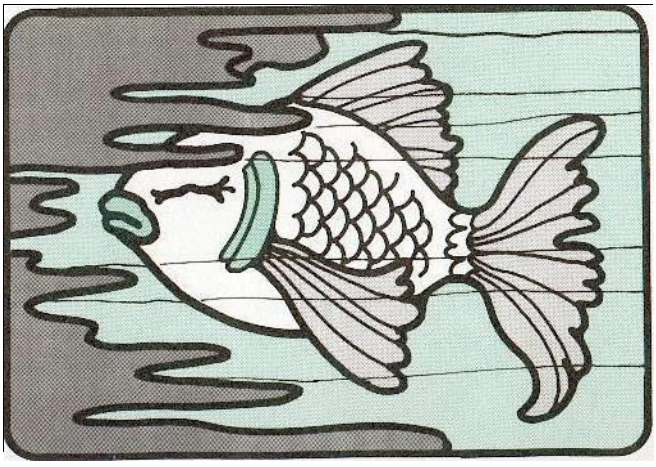


Heavy **equipment** in the stream can ruin spawning **gravel**, destroy fish **habitat**, and damage stream **banks**.

**Vegetation** which has been damaged or destroyed by construction should be replaced as soon as possible because fish depend on it for food and shelter. When the cover is stripped from the sides of streams, shade is removed and the water temperature **rises**. Warm water can cause **stress**, poor **health** or even **disease** in fish.

# Keep muddy runoff water from construction sites out of streams.

Water which is brown with **sediment** can smother fish eggs which are incubating in the gravel. Without **oxygen**, which is dissolved in the water, the eggs will **die**. Also, fish food organisms will be buried and then fish may go hungry.

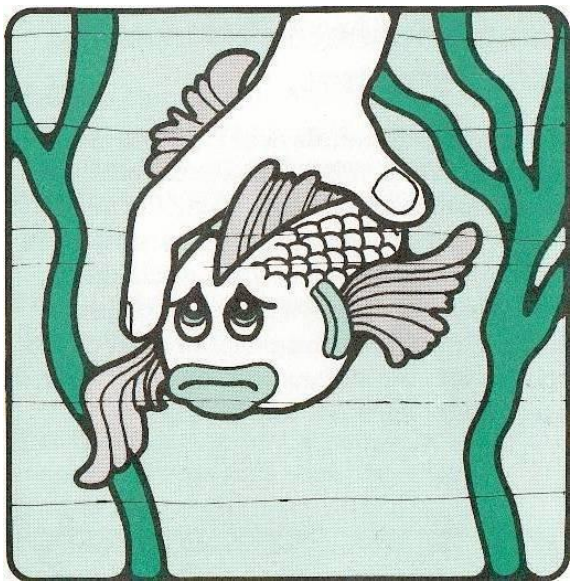


# Leave soils that could <u>erode</u> (wash away) alone during the wet, rainy season.

Stream banks can be easily damaged during the rainy season. Heavy rainfall can soften and wash down stream banks, sending mud and soil into the stream where it buries **eggs**, **spawning** gravel and **food** sources.

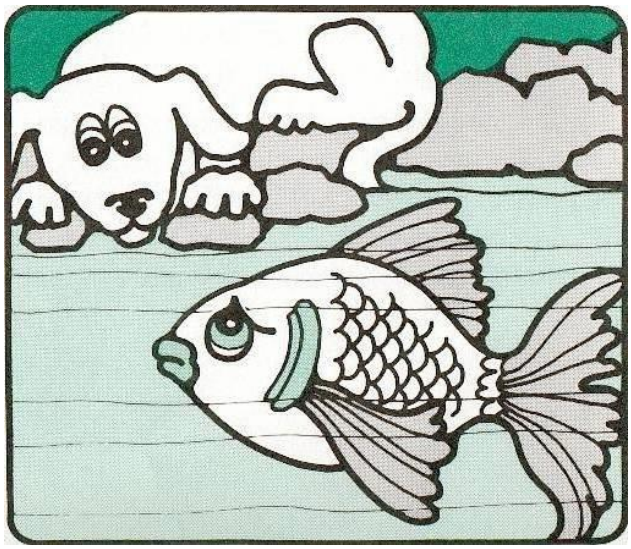
# Do not catch small fish and move them to another stream or pond, or take them home.

If fish are moved, they may spread **diseases** from stream to stream. If they are removed from a stream or pond, there may not be enough fish **left** to continue the **species**. For these reasons, it is **illegal** to catch fish and move them to another stream.



# Leave the stream alone; don't dig holes or try to redirect the flow of the stream.

Digging in a stream can **destroy** spawning or fish-producing areas. Fish may be **stranded** if the flow of the stream is changed.



# Keep pets and livestock away from streams.

Livestock should not be allowed to **graze** on stream banks because they **trample** on and **destroy** vegetation or **walk** on and **ruin** spawning gravel. Dogs should be controlled when they are near streams — sometimes they **chase** spawning fish and they can stir up mud and **silt** in the stream.

## Use garden and lawn chemicals sparingly and with care. Follow disposal instructions exactly.

Do not spray streamside vegetation. Some **chemicals** (bug and weed killers) are **toxic**. They harm people and fish as well as animals that may **drink** from the stream. Other chemicals (fertilizers) can make **algae** and **weeds** grow too fast in streams and lakes. This can **disturb** the fish's food supply and may use up the oxygen supply in the water.

## Remove garbage from the stream area.

**Litter** in the stream can ruin the water, and may be toxic to fish and wildlife that use it. The beauty of a stream is spoiled by **garbage** in the water or on the banks.

## Keep household chemicals out of streams.

**Never** dump **chemicals** near a stream bank or into a ditch or storm drain. Stream banks are porous and chemicals soon **leach** into the water. Ditches and storm drains are intended to carry rainwater away. They discharge it, **untreated**, into nearby **streams**. If soapsuds, waste oil, gasoline, anti-freeze or other chemicals get into the streams with the rainwater, they **pollute** the water and **kill** fish.

# What is being done about stream care?

It is important to tell **people** about our streams and ways to protect them. As well, laws and rules **protect** streams and natural habitat from willful or negligent damage and destruction.

The most important laws are contained in the Fisheries Act of Canada and in the Water Act of British Columbia.

The **Fisheries** Act requires a review of any proposed activity which may harm or destroy fish habitat, such as altering the streambed or landscaping the banks.

Under provincial laws, a **licence** or **approval** must be obtained **before** any work can be done on a stream.

Some municipal bylaws restrict changes to streams and watercourses.

The Storm Drain Marking Program, operated by volunteers, paints a **yellow** fish near storm drains to remind people that chemicals must **not** go down these drains.

Many volunteer projects, under the supervision of Fisheries and Oceans, clean up streams and plant vegetation. Others monitor streams for siltation or pollution.

Some volunteers have lobbied local, provincial or federal agencies to get pollution problems identified and corrected.

# What can you do?

**Be informed.**
**Be observant.**

If you see anyone **damaging** a stream, please call the nearest office of Fisheries and Oceans Canada or the Fish and Wildlife Branch, Province of British Columbia.

**Be careful.**

Think about your own **impact** on creeks and steams in your neighbourhood; make it **positive**.

**Be active.**

You can become directly involved with stream care by developing or participating in a stream enhancement project. These projects are supervised and in some cases funded by the Salmonid Enhancement Program (SEP), Fisheries and Oceans Canada, through local community advisors. These projects may **repair** streambeds, **clear unwanted** debris from streams, **plant** vegetation or **take** part in the Storm Drain Marking Program.

Project applications are available from your local community advisor, Fisheries office or provincial Fish and Wildlife office. Remember: government **approvals** must be obtained **before** work can be started on any stream.