

**Pollutants from cars and trucks wash into storm drains that empty into local salmon streams.**



Hundreds of stormdrain outfalls lead directly into sensitive salmon streams like this one in North Vancouver.

## Stormdrains add to toxic load

Stormwater is laced with sediment, grease and toxins from cars, trucks and illegal dumping

Many people think that the stormdrains they see on most streets just carry off small amounts of harmless rain. In fact, discharges from stormwater outfalls are roughly the same volume as sewage outfalls and contain many of the same dangerous toxins found in sewage.

### STORMDRAIN RUNOFF HARMFUL TO FISH

Although the concentrations of toxins are not as acute as those in the sewage system, the first hour of runoff after a heavy rain can contain seriously harmful levels of oil, grease, nitrogen, phosphorus, hydrocarbons, metals and suspended solids. A large proportion of these outfalls flow directly into freshwater stream systems, many of them salmon-bearing. Every year there are reports of thousands of salmon fry, often the hard work of voluntary salmon enhancement programs, killed by toxins poured down stormdrains by individuals or industry.

Oil, antifreeze and other compounds leak from cars and trucks, staining parking stalls in every parking lot. All this eventually runs into the stormdrain system. Car and truck exhausts emit PAHs and other toxins that settle on our roadways only to wash into the storm sewer during the next rain. These chemicals are linked to liver lesions and cancer in fish and are known to biomagnify through the food chain.

Leftover hazardous wastes are inadvertently or purposely dumped down stormdrains. Car washing detergents and pesticides in gardens and lawns often end up in the system. Stormwater is not treated and enters our waterways with all the toxins intact.

### SEDIMENT CAN BE DEADLY

Sediment from washing cars, road work or from construction sites makes its way through the stormdrain system to the nearest salmon stream. Sediment can smother salmon eggs and damage the gills of juvenile salmon.



**FACT** There is about the same volume of stormwater effluent as sewage effluent and it contains many of the same toxins.

**MYTH** Many people think stormwater goes to the sewage treatment plant. In fact, most stormwater is untreated and often goes directly into salmon streams.

# Combined sewage outfalls

Raw sewage is dumped from dozens of outfalls when the system backs up during a heavy rain.

Although most of our sewage goes to treatment plants, raw sewage frequently backs up into the stormwater system dumping 36 billion litres of untreated effluent from outfalls in Vancouver, Burnaby and New Westminster each year.

That's enough to fill B.C. Place stadium more than 28 times.

## SEWAGE AND STORMWATER IN ONE PIPE

The reason is that older parts of the sewage and stormwater system use one pipe that carries both sewage and stormwater combined. On dry days, all of it goes to the sewage treatment plant.

But during heavy rainfalls, the stormwater – including runoff from streets, highways and parking lots – overloads the system, backing up and discharging from 42 combined sewer outfalls.

The outfalls are underwater, so the public never sees the raw sewage. But it is harmful to marine life all around the outfalls and regularly contributes to swimming closures at local beaches.

## CLARK DRIVE OUTFALL WORST

The worst outfall empties into Burrard Inlet at the north end of Clark Drive. Because it is an industrial zone in the Port of Vancouver, most people are unaware of the huge volumes of raw sewage discharging regularly from this site, often on a continuous basis. A large area of the ocean floor is smothered by human feces, condoms, tampons and toilet paper. The plume from the outfall reaches as far as New Brighton Park.

There are also outfalls at Brockton Point in Stanley Park, Coal Harbour, English Bay, Kitsilano and five in False Creek. More than a dozen outfalls go directly into the Fraser River, where billions of juvenile salmon spend months acclimatizing to the saltwater environment.

The Greater Vancouver Regional District has set a fifty year timeline for eliminating these raw sewage discharges even though Fisheries and Oceans Canada considers them a violation of the Fisheries Act.

Disease-carrying raw sewage laced with toxins is regularly dumped into False Creek.



This sign at New Brighton Park warns that shellfish is contaminated: a nearby combined sewage outfall is to blame.

**FACT** The volume of raw sewage and stormwater discharged from Greater Vancouver combined sewage outfalls would fill B.C. Place 28 times each year.