

## Water Quality: Point Source and Nonpoint Source Pollution

Water quality is the most important factor in Watershed health and the biological food web it supports. Small changes in water quality that seem insignificant can have long lasting effects on plants and animals that live within the watershed. Negative effects on one organism will cause negative effects on other organisms that feed on them, or rely on their presence. Each organism fulfills a particular function and if that function is stopped, part of the system collapses.

### Point Source Pollution

Visualizing water pollution typically brings up a picture of sludge pouring out of a pipe into a river, or an oil well spewing oil into the ocean. These are accurate visualizations of one type of water pollution called *point source*. They are called point sources because they issue from a single point. Point source pollution can be traced, contained, stopped, and cleanup can begin. The effects can usually be fixed in a short period of time depending on the amount and type of toxic material entering the stream, river, lake or ocean.

### Nonpoint Source Pollution

Nonpoint source pollution is a much bigger problem for water quality. This type of pollution comes from many different, repeated sources and is difficult to trace. The effects of nonpoint source pollution are cumulative, they add up over time.

One example of nonpoint source pollution is the over-use of fertilizers for lawns and landscaping. Rain carries the excess fertilizer to streams and rivers where the fertilizer increases the pH (alkalinity) levels of the water. This is harmful to plants and animals that live in or near the water. A single over-application does not create a problem, but many people over-fertilizing lawns, landscaping, or fields on a regular basis causes extensive damage to water quality.

More examples of nonpoint source pollution happen continually and add up over time. Tiny particles of iron, steel, graphite and copper from automobile brake-pads are carried to streams in runoff from rain. Dust and small surface particles stick to oils, hydraulic fluids, and heavy metals. These are also carried into our streams and rivers in runoff.

Animal waste is a primary source of fecal coliform (e-coli) in streams. One pile of dog poop doesn't cause a problem. Thousands of piles *will*. If 70% of the estimated 9,000 dog owners in Corvallis regularly walk their dogs, and 60% of those owners clean up their dog's poop, that leaves over 2,500 piles of poop that are washed into the Willamette River or absorbed by natural areas. Daily.

<https://www.livescience.com/44732-eliminating-pet-poop-pollution.html>

### What you can do...

Our waters should be clean enough to fish, swim, and drink. Non-point source pollution is a major threat to that standard. Here are a few things you can do:

- Use less fertilizer on lawns and landscaping.
- Drive a little less, make your trips more efficient.
- Pick up more of those 2,500 piles of dog droppings.



Figure 1 Point Source Water Pollution

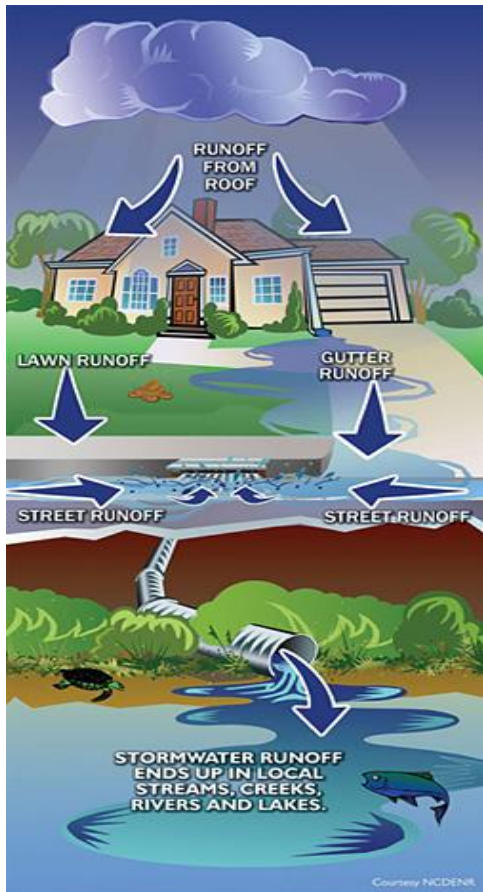


Figure 2 Nonpoint Source Water Pollution