

The problem fecal coliform bacteria

Unacceptable levels of fecal coliform bacteria are to blame for the shellfish harvesting closures in the Nisqually Reach and Henderson Inlet.

“Nonpoint pollution” is the source of the fecal coliform bacteria in these areas. Unlike “point” pollution – which refers to a single identifiable source like a pipe – nonpoint pollution is caused by one or many activities that take place across the landscape. These activities include human habits and lifestyles, and natural events.

Here in the northwest, heavy rainfalls compound the problem by washing pollutants into our streams, lakes and inlets.

In essence, shellfish are like sieves, filtering particles from the tidewater that washes over them. Shellfish capture fecal coliform bacteria along with other particles they use for food.



Why Do Shellfish Need Clean Water?

Shellfish do not need clean water to grow, BUT shellfish *must have* clean water to be safely eaten. That is because clams, oysters, mussels and scallops are *filter feeders* – they get their food by pumping and filtering massive amounts of water through their bodies each day. [A pacific oyster pumps 65 gallons of water through its body every day!]

So what's the big fuss about fecal coliform?

The pollution causing the shellfish harvesting closures is fecal coliform – not just the variety of E-coli that causes serious illness from undercooked contaminated meat. (Although the two contaminants are cousins, so to speak.)

You may have heard reports about how the presence of coliform in water tests caused people to boil their drinking water. Actually, most fecal coliforms are ordinarily harmless to humans. It's the company they keep – pathogenic bacteria and viruses – that can cause illness and disease.

Fecal coliform occurs naturally in the gut of warm-blooded animals – such as cows, birds, people and raccoons – and usually isn't a concern until it shows up in our water or food. It gets there from contaminated stormwater runoff, poor farm management, waste from pets and wildlife, leaking sewers, and failing septic systems.

As water passes through the shellfish, they filter out particles for food. But shellfish are not choosy. They filter out all particles – including any chemicals, biotoxins (red tide), and bacteria and viruses. And you can't tell by looking at them what they've been filtering. If the water contains human sewage, animal wastes, disease-producing organisms, or chemicals, then these contaminants concentrate in shellfish tissue as well. The accumulated contaminants can make people sick.

So that is why commercial shellfish growing areas are classified and routinely monitored to determine how clean the water is – and it must be very clean. This helps

- ensure that shellfish reaching seafood markets, restaurants, and our kitchens are
- safe to eat.

Nonpoint pollution compounds

- Nonpoint pollution never goes away; it constantly changes as we change our
- activities on the land. The best we can do is manage the problem, and we must
- do so continuously to ensure clean water in the future.
- For example, extensive work can clean up identified pollution sources along a
- particular stream or shoreline, while problems in other areas go uncorrected.
- Water quality problems often reoccur in the same area as time passes and
- owners change. New property owners are sometimes unaware of the need for
- ongoing septic maintenance and use of best farm-management practices. Farm
- operations also change over time. Livestock numbers can increase overnight, so
- farm plans and practices must keep pace to make sure the additional animal
- waste does not pollute the water. Managing nonpoint pollution is a big challenge
- for us all.