Are we going to the dogs? The pet waste problem.

Darcy McNamara and Bob Simmons, WSU Extension. Jacob Melby, Clallam County Environmental Health.

Looking for a place to go to the dogs...

As dogs become more popular in urban areas, pet waste has emerged as a significant public health and environmental concern. Pet waste is a major source of bacteria and parasites that can contaminate waterways and soil, posing risks to human health. Pet owners have a responsibility to take measures to prevent the spread of disease and pollution.

Stepping In A Pile of Trouble

- Clallam County has an estimated 16,750 dogs.
- They produce about 3 tons of waste every day (over 2.19 million pounds a year).
- Dog waste has a variety of well-studied impacts on human health and water quality.

Impacts are due to the presence of parasites and bacteria. High bacterial concentrations are possible, especially in the winter months, when bacteria from pet waste can be more prevalent in urban areas. Outdoor air samples taken during the winter can pose a threat to public health.

Human Health Risks

- Most human illnesses from pet waste are caused by tiny amounts of fecal matter that enters the body through the mouth. This can happen through improper hand washing, children putting their hands in their mouths, or ingesting waste-contaminated water or shellfish.
- A dog doesn't necessarily need to look or act sick to carry harmful bacteria or parasites.
- Salmonella bacteria or Giardia parasite cysts found in fresh pet waste can be immediately infectious to people. While not all strains of Giardia are infectious to humans, the protozoa are widespread in dogs. Studies have shown that more than 20% of dogs may be infected with the pathogen. (Schueller, 2000)
- Old, dried-out stools can also cause disease and are more likely to contain infectious parasite eggs, such as those from hookworms or roundworms. These eggs are not infectious until they age in the soil over days or weeks. (Jasen, 2011)

Bag It

- Biodegradable bags are not required if waste is going to the landfill.
- Put It in the Trash – Composting is not recommended because of the difficulty in killing harmful organisms in home compost. Never flush waste or bags if you are septic. Flush waste, but not bags, if you are on sewer.

Recommended Actions

If disposed of properly, dog waste poses little threat to human health or water quality. A three-step process is the best way to reduce risk.

- Scoop It – Immediately scooping is the best practice to avoid soil contamination and parasitic infections.
- Bag It – Biodegradable bags are not required if waste is going to the landfill.
- Put It in the Trash – Composting is not recommended because of the difficulty in killing harmful organisms in home compost. Never flush waste or bags if you are septic. Flush waste, but not bags, if you are on sewer.

Emerging Issues

- Contaminated beach sediment – Sands and sediments provide habitat for fecal bacterial populations in coastal zones. Fecal indicator bacteria are common in beach sands, both dry and submerged, as well as the water that comes in contact with it. While monitoring water is common, monitoring beach sediment is not.
- Resistant bacteria – There is increased evidence that pets and their feces may harbor antibiotic-resistant bacteria, posing new threats to public health. More study is underway. (Bowers, et al., 2011)
- Air Pollution – Bacteria from dog feces was present in US urban area, outdoor air samples taken during the winter. In winter months, bacteria from dog feces appears to be more prevalent than other types of bacteria. More study is underway. (Bowers, et al., 2011)
- Norovirus – Dogs may be capable of becoming infected with human norovirus. According to the researchers, “the finding raises the possibility of human-to-dog transmission of the virus, and may add norovirus to the list of known zoonotic illnesses, or diseases transmitted from animals to humans.” (Caddly, et al., 2014)
- Old, dried-out stools can also cause disease and are more likely to contain infectious parasite eggs, such as those from hookworms or roundworms. These eggs are not infectious until they age in the soil over days or weeks. (Jasen, 2011)

Cited Works


Don't expect 100% compliance. Some dog owners will not pick up pet waste. A study in Colorado found that while most visitors were aware of “leave no trace” concepts, 60% of the dog owners did not pick up dog waste (resulting in 30 tons of left behind dog faeces). However, when a “pick up after your dog” campaign was instituted, there was a 2/3 decrease in the amount of waste left. (Jones, Lowry 2004)

Cool, moist conditions (rainy season or snowmelt) are the most conducive for nutrient from upland areas to nearby streams, rivers, lakes, and coastal waters through storm drains, culverts, and roadside ditches. Fecal matter contains nutrients such as nitrogen and phosphorus, which can act as fertilizer for algae and other aquatic plants. Overgrowth depletes oxygen, impacting fish and other aquatic life. Bacteria and other pathogens can contaminate shellfish, which feed by filtering the water. This can harm shellfish, as well as humans who eat shellfish harvested from areas affected by dog waste.

Water Quality Risks

When it rains, stormwater runoff transports pet waste pathogens, bacteria, and nutrients from upland areas to nearby streams, rivers, lakes, and coastal waters through storm drains, culverts, and roadside ditches. Fecal matter contains nutrients such as nitrogen and phosphorus, which can act as fertilizer for algae and other aquatic plants. Overgrowth depletes oxygen, impacting fish and other aquatic life. Bacteria and other pathogens can contaminate shellfish, which feed by filtering the water. This can harm shellfish, as well as humans who eat shellfish harvested from areas affected by dog waste.

Don't expect 100% compliance. Some dog owners will not pick up pet waste. A study in Colorado found that while most visitors were aware of “leave no trace” concepts, 60% of the dog owners did not pick up dog waste (resulting in 30 tons of left behind dog faeces). However, when a “pick up after your dog” campaign was instituted, there was a 2/3 decrease in the amount of waste left. (Jones, Lowry 2004)