

Why should we protect our lakes?

We all benefit from our local lakes, whether we use them for recreation or enjoy them for their natural beauty. We also depend on lakes for flood protection, power generation, and as sources of drinking water. Lakes and their shorelines provide habitat for a diversity of plant and animal life. Lakes are also important features of our environment that act as "sinks," to which all the water from a given area drains. Water flowing into lakes from streams and surface water run-off carries sediment, nutrients, and debris that slowly fill in the lake over time. This natural aging process, known as eutrophication, occurs gradually over a period of hundreds or thousands of years. Where lakes are influenced by human activity, this aging process can happen much more quickly - sometimes within a single lifetime. Because lakes are a product of their watershed, they reflect symptoms of underlying problems that are commonly found in urbanized and developing areas. Some of the common lake problems include increased algae blooms, dense mats of native and non-native aquatic plants, low dissolved oxygen, high turbidity, disappearing fisheries, poor drinking water, sedimentation, and closed swimming beaches due to high bacterial counts.

This close relationship between lakes and their watersheds highlights the fact that any activity in the watershed can have an effect on the lake. Activities such as construction, development, logging, and farming can affect water quality and quantity. When urbanization occurs, the quantity, quality, and timing of water flowing through a

watershed is altered. Stormwater run-off from the surrounding landscape is usually the major source of water, sediments, nutrients, and other materials that impact the lake ecosystem. Other pollutants entering the lake can also come from the atmosphere, groundwater, or wastewater and industrial discharges. This not only limits our use of lakes but can also be harmful to the health of the people and wildlife that depend on the lake ecosystem. A healthy lake benefits the whole community - lakeshore and non-lakeshore residents alike.

In summary, we are all watershed residents and every action we take has the potential to impact our lakes for the good or bad. The problems we commonly see in lakes such as algae blooms, dense mats of aquatic plants, fish kills and closed beaches usually are a result of changes we have made to the surrounding landscape. By being conscious of how we go about our daily activities around the house, around the neighborhood, and around the community we can protect and enjoy our lakes.

Inside this brochure, we highlight several of the more common sources of problems associated with lakes, and provide some tips on how to lessen their impact.



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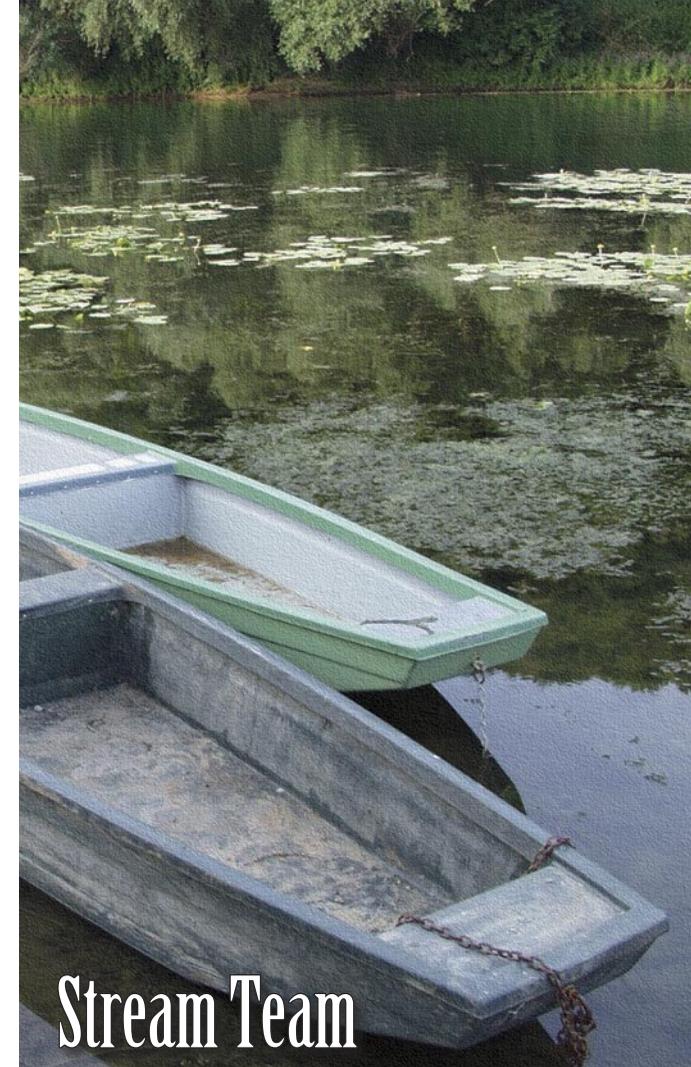
Our Lakes

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 Stream Team is a program within the:
Pierce Conservation District
Conservation • Development • Self Government

Stream Team

*Improving
the quality of
streams for the
benefit of fish,
wildlife, and
people.*

How can we protect our lakes?

“We all benefit from our local lakes, whether we use them for recreation or enjoy them for their natural beauty.”

Aquatic Plants, Algae, and Nutrients

Plants and algae, the base of the aquatic food chain, are important components of the lake ecosystem. Not only do aquatic plants provide habitat and food for fish, waterfowl, and aquatic insects, but they also protect the shoreline from erosion by dampening the effects of wave action, stabilizing the soils, and are the major producers of oxygen in the aquatic environment. The problem with aquatic plants and algae comes when there are excessive amounts of nutrients entering the lake. High levels of nutrients lead to an over-abundance of aquatic plants and algae blooms that limit swimming, boating, and other recreational activities. Retaining natural buffers around lakes can help to absorb nutrients before they enter the lake.

Invasive, non-native plants are another common problem for our lakes. Some of these non-native species arrived in our area through the aquarium and backyard pond industry. Occasionally, exotic plants and animals are dumped into lakes from an aquarium or are released from a pond. While in a contained environment, these plants and animals pose no threat; however, once they are released into a lake they can grow aggressively and seriously impact the lake's ecosystem.



Non-native aquatic plants are often unknowingly spread from lake to lake on boats and trailers. For this reason it is important for boaters to carefully check their boats and trailers after each use. With proper identification, lake residents can learn to control and eradicate noxious weeds such as Eurasian milfoil, Brazilian elodea, fragrant water lily, purple loosestrife, and yellow flag iris. Educational signs identifying non-native plants and animals can be posted

at public boat ramps to inform and alert lake users.

Household Activities and Low Impact Living

Everyday activities in and around the home such as cleaning and maintenance, car washing, and handling pet waste can negatively impact lakes. Good stewardship practices can go a long way toward protecting our lakes. Improper storage, use and disposal of household cleaners, pesticides, paints, solvents, and automotive fluids can cause problems. It is best to store chemicals in safe containers, use them sparingly and dispose of them properly. There are many non-toxic versions of these chemicals that are now available on the market. For more information on environmentally friendly, non-toxic products go to the Washington Toxics Coalition's website at <http://watoxics.org>. Wash your car at a car wash and avoid washing pollutants and oil into your yard. Check cars for fluid leaks and repair if necessary. Clean up your pet's waste and dispose of it in the garbage. Don't ever dump anything down the storm drains, because they



provide a direct route to the nearest waterbody. Improperly functioning septic systems can be a significant source of nutrients to lakes. Ensure your septic system is checked routinely to make sure it functions correctly. Sweep up debris from sidewalks and lawns and dispose of properly rather than using water to hose it off into the yard.

Wildlife and Bacterial Contamination

One of the benefits of preserving a natural shoreline is to provide important habitat for wildlife that live near and depend on the lake for survival. Not only is wildlife fun to observe, but the number and diversity of wildlife present is indicative of the health of the lake. There can, however, be too much of a good thing. Geese and other waterfowl love to feed on the succulent grasses of well-kept lawns and other landscaped areas. Although many people enjoy watching and feeding these birds, waterfowl have become a nuisance for many lakeside residents. Large flocks overgraze lawns and litter yards and docks with molted feathers and droppings. Excessive droppings can lead to an influx of a large amount of nutrients to the lake. Additionally, bacterial contamination and swimmers itch become a concern when animal feces accumulate in a lake.

Several strategies to discourage waterfowl from lawns include shrinking the size of your lawn, using native ground covers, or maintaining grass height at ten inches rather than two inches. Geese prefer to rest

and feed on open, grassy areas that allow them easy access to the water with clear sight lines to spot approaching predators. They prefer not to walk through tall grass, and this vegetative buffer has the additional water quality advantage of filtering run-off before it enters the water.

There are several good reasons to not feed the ducks and geese. Human food doesn't contain the necessary nutrients and minerals waterfowl require. It interferes with nature by increasing their populations unnaturally, and encouraging over-wintering, leading to an undesirable accumulation of droppings. The increased nutrients from the droppings lead to an increase in algae and aquatic weed growth that can restrict use of the lake in addition to an increase in occurrence of bacterial contamination and swimmers itch.

Landscaping and Erosion

Development around lakes typically involves replacing the natural vegetation along the shoreline with open landscaped areas such as lawns. Leaving a natural buffer in place will help to reduce the amount of pollution entering the lake from run-off, stabilize the shorelines, reduce erosion, and provide wildlife habitat for turtles, amphibians, emergent insects and fish. Using native plants in your landscaping is recommended because they are adapted to our climate, and require less maintenance, water, and fertilizer than non-native plants. Compost and manure are preferable to chemical fertilizers. However, if you do use fertilizers, use them sparingly on your lawn and garden. Better yet, use phosphorus-free fertilizers.

