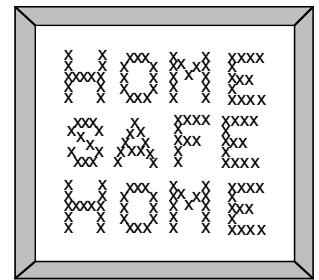


Alternatives

A Washington Toxics Coalition Fact Sheet



Household Guide to Protecting Clean Water

by Philip Dickey

In 1999, the federal government listed native Puget Sound Chinook salmon and bull trout as threatened. In 2005 they listed the Orca whale as endangered. The salmon and Orcas are indicators that something is seriously wrong in our environment. The reasons are complex, but population growth and chemical pollution have led to loss of habitat and declining water quality. The solution will require changes on the part of everyone: business, government, and individuals.



Water Quality

Water quality means the purity of water, both our drinking water, which comes from groundwater or from Cascade Mountain runoff, and the water in our streams, lakes, and Puget Sound. Water contaminants include visible pollutants such as silt that make the water cloudy or algae that can color it green or red. Chemical pollutants such as pesticides can become attached to silt particles. Water contaminants also include those that are invisible, such as bacteria and chemical pollution.

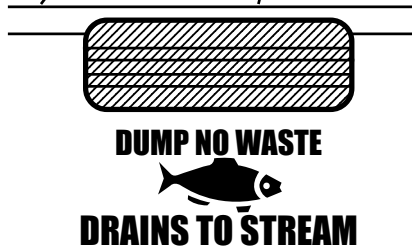
Chemical pollution of water is especially difficult to prevent because it comes from so many sources. For every large, localized source such as a factory, there are thousands of homes and small businesses, whose pollution adds up to a big problem. Chemical pollution from homes includes automotive products like motor oil and antifreeze, pesticides such as insecticides and weed killers, fertilizers, and cleaning products used outdoors on automobiles or decks.

We All Live on the Waterfront

Before we built cities, the land absorbed most rainfall: only about 15% would run off into streams. In a city, more like 55-70% of rainfall runs off of paved surfaces and compacted soil. This stormwater flow carries with it oil, pesticides, fertilizers, and other chemicals into the nearest stream, lake, or the Sound. The large number of households within a watershed multiplies each person's pollution. Even if you live far from a lake or stream, chances are you are close to a storm drain or drainage ditch. Act as if you live on a lakefront or have a stream running through your property ... because, in effect, you do.

It's always important to read and follow label directions, but sometimes just using products carefully can't prevent pollution. In California, researchers found that even when used exactly as directed and in smaller amounts than the maximum allowed, the insecticide diazinon still caused runoff that was toxic to aquatic life. When diazinon was banned by EPA, levels of replacement chemicals rose and now threaten aquatic life. This example shows why choosing a less-toxic or non-chemical alternative is important.

Indoor chemical products that go down the drain can also impact water quality if they are not compatible with sewage treatment. Sewage treatment plants and septic systems are designed to break down or remove detergents, human sewage, and food waste but not oils, solvents, fuels, pesticides, or other hazardous chemicals. Some of these chemicals pass through treatment systems without breaking down. They can even damage septic systems or treatment plants and should not be disposed of down the drain.



Pesticides

Recent tests of small streams in the Puget Sound Basin found 23 different pesticides in the water, some at levels that could harm fish and other aquatic species. One stream contained 18 pesticides. Many of these chemicals are ones that consumers use in the largest amounts, especially those used on their lawns. Several weed killers also turned up in every stream tested. Scientists point out that the chemicals are likely to be more toxic in combination than they would be alone.

Pesticide use on lawns for crane flies and for weeds probably contribute a major share of pesticide pollution because lawns cover the largest area in most landscapes.

Pesticides are not needed to maintain a home lawn. The steps in the sidebar (at right) will help ensure that your lawn is healthy without chemicals that can pollute water. For more information, see our fact sheets on lawn care and weed management.

Fertilizers

Fertilizers are useful sources of plant nutrients, but they are not good for lakes, streams, or drinking water. Nitrates from fertilizers that leach into groundwater can poison people, especially babies, who drink the water. Phosphates that run off into lakes overfeed algae and other plants, blocking light and depleting oxygen from the water as they break down.

Use slow-release fertilizers and never use more than is recommended on the product label. If you apply more fertilizer than your plants can use, the excess can cause water pollution. Many plants, including native species, may not need fertilizer at all. Get a soil test to find out if your soil is lacking important nutrients.

Some fertilizers contain only water-soluble nutrients that plants can use directly. Others have more insoluble nutrients that are less likely to pollute water because they remain in place until they are transformed into soluble form by soil bacteria. Since this process occurs gradually, the plants can use all the nutrients as they become available, leaving less to pollute streams. Choose fertilizers with labels that show nutrients are in slow-release or insoluble form.

If you leave the grass clippings on the lawn, they can supply up to one-third of the nitrogen your lawn will need ... for free! Modern mulching lawnmowers chop the clippings finely and blow them down onto the soil, where they won't stick to your shoes and end up in the house. Older mowers or push mowers are less efficient but still work, especially if you mow often so that the clippings are small.

For more information on fertilizers, see our companion fact sheet.

Cleaning Products

Cleaning products used outdoors threaten water quality because, unlike indoor cleaning products, they aren't subject to wastewater treatment. If suds from washing your car are allowed to run into the street or a storm drain, they will end up in the nearest lake or stream. All soaps and detergents are toxic to fish. If you are doing any cleaning outdoors, the most important thing is to keep your cleaning products out of the water. Choose "biodegradable" and "least-toxic" cleaners, of course, but how you use them is even more important. For more information on selecting safer cleaning products, please refer to our companion fact sheet on that topic.

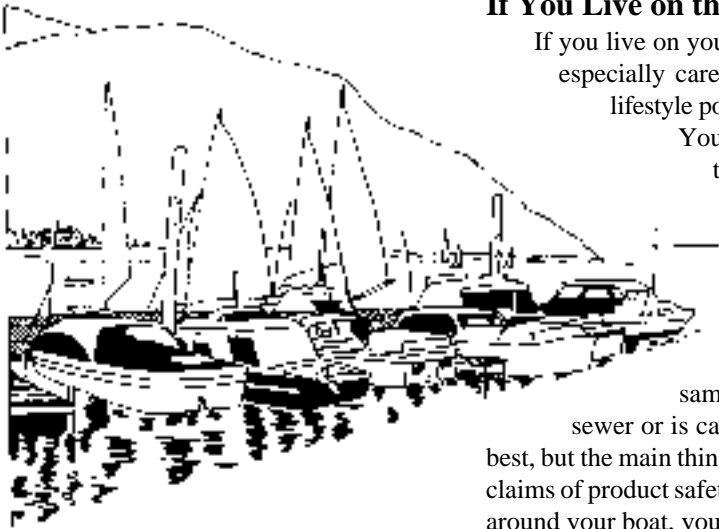
Reducing Pesticide Use

- ❖ Rethink your lawn. Replace lawn in shady and sloped areas with more appropriate plantings.
- ❖ Mow high and often. Set mowing height up to about 2" for most lawns. Be sure blade is sharp and set to remove only 1/3 of grass length.
- ❖ Leave the clippings.
- ❖ Choose slow-release fertilizers.
- ❖ Water deeply but infrequently. Overwatering promotes lawn disease, leaches nutrients from the soil, and wastes water. Aerate and dethatch the lawn if water isn't penetrating easily.
- ❖ Accept a few "weeds" in your lawn. Remove the weeds by digging when the soil is moist. Don't let weeds go to seed.
- ❖ If necessary, spot spray weeds rather than treating the entire lawn. Avoid weed and feed products.
- ❖ Never treat for crane flies without first determining population levels. Healthy lawns can usually outgrow damage from 50 crane flies per square foot (500,000 in a 10,000 sq. ft. lawn!). Avoid applying insecticides in fall, when they are ineffective or unnecessary. See our fact sheet on crane flies for more information.

Tips for Car Washing

- ❖ Take your car to a commercial car wash. They collect or recycle their water and keep it from entering the environment.
- ❖ Wash your car over a permeable surface, such as grass or gravel. Don't wash it in the street or paved driveway.
- ❖ Use less soap. You don't need a four-inch head of suds in the bucket.
- ❖ After washing your car, pour the leftover bucket of dirty water on the grass or take it inside and flush it down the toilet.





If You Live on the Water

If you live on your boat (even part of the time) or on a houseboat, you should be especially careful not to pollute the water under you. Your unique home and lifestyle pose extra challenges.

You may not have a yard, but many houseboat dwellers have container gardens. These pots and planters are open underneath, and some of whatever you put in comes out the bottom. Don't use any pesticides, period. If you use fertilizer, be sure that there is a saucer under the pot to catch excess water and nutrients. Let it evaporate or dispose of this water on shore or in a toilet connected to a sewer.

For dishwashing or other cleaning inside the boat, use the same products as you would on land if the wastewater goes to the sewer or is captured for pumpout. Biodegradable and least-toxic cleaners are best, but the main thing is not to let any cleaning products go overboard. Don't let label claims of product safety fool you into being careless. If excessive soap suds can be seen around your boat, you can be cited for a pollution violation.

Outside, use plain water to clean whenever possible. When soap or detergent is needed, use an absorbent sponge, rag, or mop rather than a brush to capture suds. Keep your scrubbing tool as dry as you can to prevent cleaning solutions from running off. A good way is to lightly spray the sponge or the surface first, scrub carefully, then wipe the excess and squeeze it into a pail of clean water. When finished, pour this water down the toilet or sink (houseboat) or carry it ashore to the restrooms.

Products used for home and boat maintenance can be especially toxic to fish. Ask at your marina or boat-supply store for alternative solvents and lubricants based on soy, citrus oils, or seed oils, such as canola. Bio-diesel is a new kind of diesel fuel based on vegetable or seed oil, with lower toxicity, less flammability, and lower air emissions than petroleum-based diesel fuel.

Nothing should go overboard. Fortunately that doesn't mean you have to haul out every time you need to work on the boat. Here are a few tips from the Puget Soundkeeper Alliance:

- ❖ Limit slip-side maintenance to projects involving less than one quarter of the boat's above-water surface.
- ❖ Have oil absorbent pads, diapers, or rags on hand in case of a spill.
- ❖ Suspend a tarp between the boat and the pier to catch any paint spills or sanding debris.
- ❖ Mix paints on shore or over a tarp large enough to catch the largest spill possible.
- ❖ Work with small cans of paint or varnish. Never have more than one gallon open at a time.
- ❖ Turn the boat around to paint the far side.

Fueling Tips (Courtesy of the National Clean Boating Campaign)

- ❖ Know your fuel tank size prior to filling.
- ❖ Keep your hand on the nozzle at all times and don't "top off."
- ❖ Check your engine, fuel filters, and fuel tanks for leaks. Keep the engine in top repair and make sure bolts are tight.
- ❖ Place absorbent pads and pillows in the bilge and under fuel tanks. Place a pan under the engine to catch fluid leaks before they are allowed to enter the bilge.
- ❖ Dispose of used oil absorption pads by wrapping in newspaper, double wrapping in plastic, then placing in a garbage container on shore.
- ❖ In case of a spill, STOP THE SOURCE, CONTAIN THE SPILL, then call the National Response Center Hotline: 800-OILS-911.

Tips for Cleaning Decks

- ❖ For removing moss, use a moss-killing soap like the one made by Safer.™ A moss-killing soap is especially formulated to kill and remove moss, but it also cleans at the same time, so you won't need a separate cleaner. Use a scraper or wire brush to remove as much moss buildup as possible before using the chemical.
- ❖ Channel any runoff water onto grass, gravel, or other permeable surfaces. Soaps are toxic to fish but break down quickly in the environment. Don't let soap or rinsewater run into a storm drain.

Wood Preservatives

Many houseboats have wooden decks. Most pressure-treated wood contains copper, which is highly toxic to aquatic life and leaches from treated wood when it rains or if the wood is in contact with water. Wood that contains copper includes the popular CCA (chromated copper arsenate), as well as “alternative” arsenic-free wood such as ACQ (alkaline copper quaternary). CCA is being phased out for home use, but most existing treated wood structures are made of this material. If you already have treated wood, you can reduce the leaching of toxic chemicals by keeping wood coated with a paint or sealer. For new projects, consider using naturally rot-resistant woods such as sustainably harvested cedar and redwood for decking, planting containers, deck furniture, or other outdoor items not in continuous water contact. Products made from recycled plastic are also good choices, and plastic is now being used to make pilings as well as decking materials, furniture, and other items. If treated wood is needed, never cut it directly on the deck or let sawdust fall overboard. Use a tarp to capture all sawdust and dispose of in accordance with local laws.

Untreated wood is sometimes coated with wood preservatives after installation. Paint, stain, or a clear sealer may be an acceptable and less-toxic substitute for some applications. Whatever surface treatment is chosen, assume it is toxic to fish and follow the painting suggestions listed on the previous page.

For more information about wood preservatives, see our fact sheet on paints and wood preservatives.

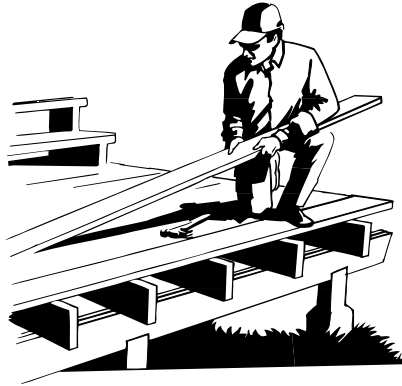
For More Information

For answers to questions not covered in this chapter, contact the office (800-844-SAFE) or visit our Internet website at www.watoxics.org. Phone for a publications list or view it on the Internet.

For more information on boating and water quality, contact the Puget Soundkeeper Alliance (206-297-7002) for a copy of their booklet *Sound Information: A Boater's Guide* or other materials. ■

The Washington Toxics Coalition is a non-profit organization dedicated to protecting public health and the environment by preventing pollution. Please write or phone for information: WTC, 4649 Sunnyside Ave N, Suite 540, Seattle, WA 98103. Phone: 206-632-1545. Visit our Internet Web site at www.watoxics.org.

The Washington Toxics Coalition assumes no responsibility for any injury or damage resulting from the use or effect of any product or information specified in this publication. Mention of particular products by name does not constitute an official endorsement.



Product Disposal

1. Never let any product run into a storm drain.
2. Never pour solvent-based products down the drain. These include fuels, lubricating oils, oil-based paints or thinners, antifreeze, furniture or metal polishes.
3. Never dispose of pesticides in the trash or down the drain. Unwanted pesticides should be taken to a household hazardous waste disposal site.

Hazardous waste collection programs serve every county in Washington. They will usually accept paints, motor oil and antifreeze, corrosive cleaning products, pesticides, and other hazardous materials. If you're unsure about an item, call first to make certain it will be accepted. Telephone numbers for collection programs in the Puget Sound area are:

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| Island | 360-679-7386 |
| Jefferson | 360-379-6911 |
| King | 206-296-4692 |
| Pierce | 800-287-6429 |
| San Juan | 360-378-3421 |
| Skagit | 360-336-9400 |
| Snohomish | 425-388-3425 |
| Thurston | 360-754-4348 |
| Whatcom | 360-380-4640 |

Statewide, in Washington, you can also call 800-RECYCLE for more information about programs in other counties.