



Lake*A*Syst

HOMEOWNER'S GUIDE TO PROTECTING BIG PAYETTE LAKE

FACTSHEET 2: LAWN AND GARDEN

If you have the joy of living or recreating in the Big Payette Lake watershed you also have a special opportunity and responsibility to prevent pollutants from entering streams, groundwater and the lake. Payette Lake is the sole drinking water source for the city of McCall as well as for many homes around the lake. Currently the water quality is acceptable, but in recent years increasing human activities around the lake have contributed to deteriorating water quality. Recent conditions have alerted us to the urgent need for protecting our lake and preserving its many uses. It's time to take action.

Guidelines for taking action on your own property or as you are enjoying the lake have been created by the Lake Assessment System program (Lake*A*Syst) so that you too can be a steward of our lake. The program asks you to consider potential risks to water quality that could result from your activities. The sets cover these topics:

<p>Factsheet 1: Preventing Contamination of Drinking Water</p> <p>Factsheet 2: Lawn and Garden</p>	<p>Factsheet 3: Roads and Driveways</p> <p>Factsheet 4: Landscape and Construction</p> <p>Factsheet 5: Stormwater Runoff</p>
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After you read the factsheet, you can digitally access a Homeowner Risk Assessment Sheet as well as an Action Checklist. These resources will help you identify any potential environmental risks related to Payette Lake and your drinking water, and guide you in taking appropriate action. You will find these resources and more at the Big Payette Lake Water Quality Council website: www.bigpayettelake.org

FOR ADDITIONAL INFORMATION:

Valley Soil and Water Conservation District, P.O. Box 580, Cascade 83611; (208)-382-3317

Central District Health Department, 703 N. 1st Street, McCall, 83638; (208)-634-7194

www.cdhd.idaho.gov.

Sponsored by: *Big Payette Lake Water Quality Council, the Idaho Department of Environmental Quality, and the **Idaho Association of Soil Conservation Districts***

PREVENTING LAKE CONTAMINATION FROM LAWNS AND GARDENS

How Lawns and Gardens Can Affect Payette Lake

Homeowners commonly over-apply fertilizer, adding much more nitrogen and phosphorus to lawns and gardens than can actually be absorbed by plants and soil. Many residential lawns along Payette Lake go right up to the lake shore with no natural vegetation or beach space to serve as a buffer. Over-watering acts in tandem with over-fertilizing to add excess nutrients to the lake. Pesticides, herbicides and other chemicals on lawns and gardens can also leach into the lake by traveling through the soil and into the shallow water table along the shore. All of these actions can threaten recreational and drinking water uses in the lake.

Lawns and gardens near Payette Lake or any of its tributaries must be carefully planned and maintained to prevent contamination of surface water and groundwater. Native vegetation should always be considered as a quality alternative to cultivated lawns and gardens.

IMPROVING LAWN AND GARDEN MANAGEMENT

Before starting any landscaping activity, stop and think about potential risks to water quality in Payette Lake and its tributaries. Please stay aware of potential problems caused by pollution from lawn and garden chemicals and soil erosion. The conditions described below make it more likely that pollution is entering the lake from your property. When the following conditions are present, you need to take extra care.

If there are areas of exposed soil on your property, soil erosion is a risk. Coarse-textured soils such as sand or sandy loam increase erosion risk; areas of your property that slope toward surface water also increase that risk. Impermeable surfaces such as sidewalks and driveways may increase stormwater runoff to the lake. Lawns and gardens near the shore are more likely to contribute pollutants directly to the lake.

Risks from Pesticide and Herbicide Use on Lawns and Gardens

Pesticides and herbicides can harm or kill beneficial insects and earthworms in your lawn and garden. Humans, pets, and wildlife coming into contact with treated plants and soils can also be harmed. Pest resistance to applied chemicals increases over time, making pest control much more difficult in the future. Runoff from areas treated with herbicides or pesticides, during rainfall or from over-watering, can damage aquatic ecosystems and residential drinking water sources. Pesticides and herbicides can cause chronic health problems in humans.

TAKE ACTION

- Minimize use of pesticides and herbicides; follow label directions and instructions for use.
- Consider natural alternatives to pesticide/herbicide use; call the Valley County University of Idaho Extension for information (208-372-7190; uidaho.edu/valley).

- Identify whether the problem in the lawn or garden is being caused by an insect, fungus, disease, or other source.
- Determine whether the problem causes environmental harm or plant damage or is merely aesthetic.
- Have a diversity of plants in your gardens for a balanced ecosystem and natural pest control. (Mix up the flowers and vegetables, for example.)
- Rotate garden crops each year to reduce pest damage and minimize disease.
- Maximize conditions for healthy plant growth by choosing climate-appropriate plants with pest and disease resistance.
- Protect and attract beneficial insects by providing diverse garden habitat and by recognizing their larvae and eggs in order to not harm them.
- Use nontoxic biodegradable pesticides or herbicides.
- Do not apply chemical treatment in windy conditions or prior to irrigation or predicted rain.
- Do not pour surplus chemicals down a drain, on ground or in surface waters. Instead, hold toxic and hazardous materials for disposal during the Valley County hazardous material collection program each year, typically in August. Refer to <https://www.co.valley.id.us/> or call 208-634-7712 for current information.

Risks from Fertilizer Use on Lawns and Gardens

Nitrates and phosphorus, the two main ingredients in most fertilizers, can contaminate surface water and groundwater when overapplied or when your landscape is overwatered. Nitrates and phosphorus can leach into groundwater wells used for drinking water (even concentrations of 10 parts per million are hazardous to pregnant women and can be fatal to infants.) Over-application of fertilizers can cause disease in lawns and can also promote weed growth. Nitrates and phosphorus that enter the lake from lawns and gardens cause excessive aquatic weed growth, which is particularly harmful to the lake's ecosystem and to water quality.

TAKE ACTION

- Landscape with native plants which do not require applications of fertilizer.
- Have your soil tested to determine how much fertilizer is needed. Use alternative forms of fertilizer, such as grass cuttings, compost, or composted manure.
- If chemical fertilizer is used, select slow-release (water insoluble) forms.
- Apply fertilizer according to label instructions and follow precautions; purchase only as much as needed and dispose of containers properly.
- Water your lawn and garden lightly after fertilizing, but do not allow excess water to run off.

Do not apply greater than 3 pounds of actual nitrogen per 1,000 square feet of lawn per year; make several applications over the growing season rather than one single application.

Never apply *any* fertilizer within 100 feet of Payette Lake or its tributaries.

Risks from Irrigating Lawns and Gardens

Use water wisely on lawns. Over-watering may cause pesticides, fertilizers and sediment to either runoff into surface waters or leach into groundwater, potentially contaminating drinking water sources.

TAKE ACTION

- Retaining native vegetation on your property is the recommended strategy; this will greatly reduce the need for irrigation.
- Plant lawns with drought-tolerant grass varieties; an excellent mixture for around Payette Lake is bluegrass, creeping red fescue, and perennial rye.
- Don't over-water. Over-watering can significantly contribute to the transport of unwanted nutrients and sediments into Payette Lake.
- Consider that established lawns only need 1-2 inches of water per week.
- Leaving grass clippings on the lawn provides natural fertilizer as well as shading the soil surface and retaining moisture, thus reducing the amount of watering needed.
- If your runoff from irrigation crosses impermeable surfaces and is not controlled, sediment and road chemicals may be transported into surface water.

Risks from Erosion

Surface waters can be contaminated by soil particles that are washed or blown into the water. In addition to pollution from sediment, phosphorus and other chemicals washed off of roadways, driveways, and lawns can be carried by soil particles into the lake and its tributaries.

TAKE ACTION

- Again, maintaining a vigorously growing riparian zone bordering any surface water of primarily native grasses, trees, and shrubs creates the best buffer for prevention of erosion
- Minimize areas of exposed soil by maintaining native vegetation or dense turf.
- Minimize impermeable surfaces such as roads, driveways, roofs and parking lots.

Construct a swale or an earth berm (a small mound of earth) near the lake shore to minimize the possibility of runoff entering the lake. The berm should run parallel to the shore in order to block runoff effectively, and it should be solidly compacted so that it does not disintegrate during rainfall, snowmelt or irrigation. In winter, preserve ice ridges to serve

the same function.

ADDITIONAL STRATEGIES FOR HOMEOWNERS TO PROTECT PAYETTE LAKE

The most efficient strategy for protecting surface water from contamination due to lawn and garden activities is to create or enhance a buffer zone of native trees, shrubs and grasses between the lake and your lawn. The most effective buffer zone is 50-100 feet wide. This single action will help preserve water quality by filtering rain, snow, and irrigation runoff, as well as by absorbing nutrients from shallow groundwater.

TAKE ACTION

- Rake dead leaves and brush away from the water; compost vegetation in a sturdy structure away from the shoreline. Avoid leaf blower use near the shoreline to keep debris from entering the lake.
- Never dump leaves or vegetative debris into the lake or any stream. Dumping organic material into the water releases nutrients and organic acids that use up valuable oxygen needed by fish.
- Avoid burning on the beach or near the shore because the remaining ash is highly alkaline and contains soluble nutrients. If it washes or blows into the lake, it can change the pH of the water and promote growth of undesirable plants and algae.
- Never use pesticides, herbicides, insecticides or fertilizers within 100 feet of the lake or its tributaries.