

HAYDEN LAKE HOMEOWNERS' GUIDE



Preserving the Quality of Hayden Lake for Future Generations
through Education and Action

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INTRODUCTION

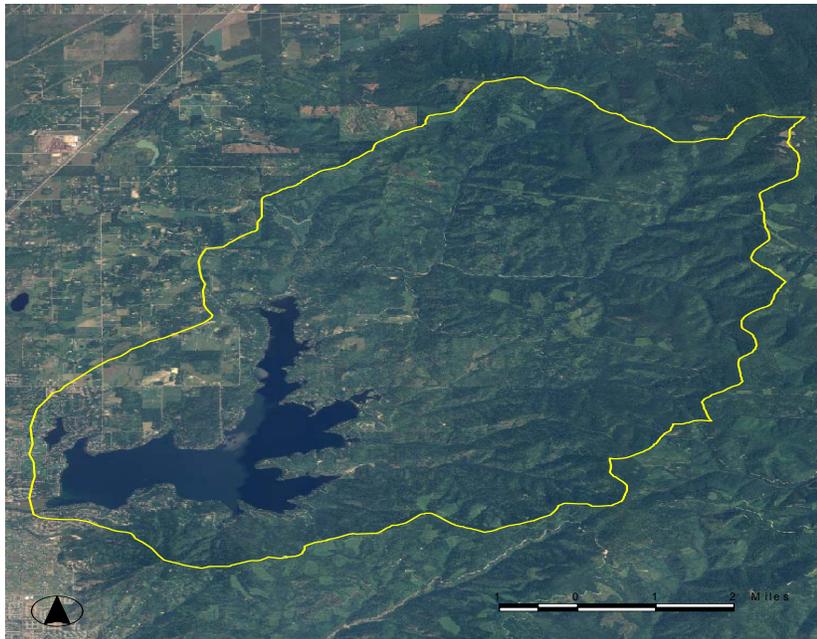
Each chapter of this guide includes specific suggestions about what you can do to improve the habits in your home, your neighbor hood, the lake and creeks to protect the watersheds environment.

Those of us living and working in the watershed area are putting a lot of pressure on its ecosystems. If your life is tied to the watershed's ecosystems, then its problems become yours. We are part of this process every time we wash our hands, do the laundry, water our lawns or wash our cars. During each of these activities, we add our waste materials to the water flowing into the streams and lake. Heavy sediment loads are now a major form of pollution that threatens the aquatic environment and our enjoyment of the lake for swimming, and other water recreations. Fertilizers and storm runoff add nutrients that enhance the growth of algae, which can cause oxygen depletion as the plant matter decays.

This publication is to assist those people who live in the Hayden Lake watershed, whether they live here for short periods, or year around.

This document is intended for use in selecting home sites, improving property or just a daily guide for the homeowner.

MAP OF THE HAYDEN LAKE WATERSHED



You can help by being informed about solutions to problems within the watershed in which you live. Remember, solutions to environmental problems are far more effective when they take into account the complex connections between ALL PARTS OF THE ECOSYSTEM.

Hayden Lake Watershed

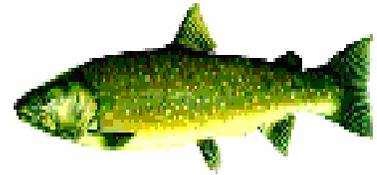
WATER

Water is one of the most remarkable compounds in nature. It shapes our physical environment and all life depends upon it. The physical properties of water allow it to slowly cut away hillsides and form fertile valleys through the processes of weathering erosion and sedimentation. Human activities in the watershed have greatly accelerated the natural processes of erosion and sedimentation resulting in a degradation of water quality in the streams of the watershed and in the lake.

It is time we stopped taking the natural watershed for granted.

THE RIVERS AND STREAMS

These waterways have served Native Americans, early miners, loggers and settlers as transportation corridors. Many early Europeans gave little thought to the effects of their activities. Today our fish are still dependent on these waterways for spawning.



Hayden Lake

The historic activities of farming, grazing, mining, and timber harvest have coexisted with a growing tourist industry that attracts an estimated 800,000 people each year. Over 400,000 residents of northern Idaho and eastern Washington depend upon the Rathdrum Prairie Aquifer for drinking water, which Hayden Lake and its watershed area contributes to recharge the aquifer.

Hayden Lake is showing excessive quantities of nutrients. These nutrients are coming from farmers fields, residential areas, new developments, logging operations, and inadequate septic systems

Hayden Lake shoreline is becoming suburbanized, characterized by acres of hard surfaces such as roads, rooftops, and parking areas. Studies have shown that developed areas can experience nine times more runoff than wooded areas, causing flooding, topsoil and stream bank erosion, and choked waterways.

The future of Hayden Lake depends upon all our neighbors accepting their part of the action to maintain this beautiful lake and its watershed

Movement of water, over and through the ground, is important to those who have experienced flooded basements and yards, or loss of septic systems. Surface runoff from roofs and driveways can erode yards and destroy valuable plant cover. Much of the oil, fertilizers, and herbicides washed from barren lots or lawns is carried into local streams and eventually reaches Hayden Lake. Nitrogen, phosphorus, and other nutrients present in fertilizers and decaying leaves can cause excessive algae growth once they reach the lake. When algae dies and decays, it uses oxygen needed by aquatic life. Control of runoff is important since it may contain pesticides, oil, antifreeze, and other materials toxic to life in the lake.

WATERSHED

What you and your neighbors do on your land directly affects the quality of the streams and lake within the Hayden Lake watershed, by changing the volume, velocity and timing of the surface runoff.

You can increase the chance of surface erosion, adding toxic chemicals and more nutrients to the lake.

Removing natural vegetation allows water to move faster. Faster moving water causes erosion. Control of runoff is important since it may contain pesticides, oil, antifreeze, and other materials toxic to life in the lake.

Pollution also occurs when the soil is too wet to filter sewage outflow. Effluents can seep into the groundwater without proper filtration, or it can rise to the surface and be carried into streams and drainage ways.

It is time we stopped taking the natural watershed for granted!

EROSION

Erosion is the “forces (wind, air and water) wearing away the surface of the ground”

STREAMBANK EROSION

The lake is fed by creeks, which form an intricate network of waterways throughout the watershed. How you manage the land around your home determines the quality of fresh water flowing into Hayden Lake. The following five questions will help determine whether the stream needs immediate attention:

1. Is there a build up of silt in the stream?
2. Is the stream receiving unfiltered runoff from lawns, agriculture fields, industrial sites or parking lots?
3. Are the banks unstable?
4. Are the septic systems polluting the stream?
- 5.- Are there unnatural obstructions in the stream?

Sediment from eroding stream banks can smother aquatic life, clog fish gills, and cut off needed sun light to underwater plants.

Erosion is more typical in rural and suburban areas where pavement, rooftops, compacted soil, and other impenetrable surfaces prevent rain from filtering into the soil. As a result, greater volumes of water enter local creeks causing the stream banks to erode.



STREAM BANK EROSION CONTROL

Make sure stream is surrounded by plenty of trees. Trees are important for the stability of the bank and the health of the stream.

Retain native trees and shrubbery intact. Roots are nature's purifying system that remove nutrients and trap sediments harmful to the stream and lake. They provide shade, keeping the water cool for fish and other aquatic animals.

- Incorporate only natural vegetation in or around streams. (See plant list in plant section).
- Place erosion barriers at bottom of disturbed soil areas. (See plant list in the plant section)
- Stabilize steep slopes with deep-rooted ground cover. (See plant list section)
- Avoid heavy loads near banks or shorelines.
- Build steps or a ramp between the top of bank of stream or lake for access.

LAKESHORE EROSION

Certain parts of the lake shoreline are subject to high rates of erosion due to boating, clearing shore front areas, and altering marshes, and building too near the lake edge. Building structural retainers can be expensive and may not work. Structural retainers can also cause erosions to occur in other parts of the lake. Adding vegetation is less expensive and can be more effective. Vegetation, however, may not provide protection during severe weather and requires more maintenance and protection from people and animals.

GREENBELT EROSION CONTROL:

Greenbelts are a 50-foot strip of vegetation between a body of water and a driveway, cultivated area (yards/gardens) or buildings. A landscape plan should be developed before planting each shrub. A roll of netting can be used as a temporary ground cover

SURFACE EROSION

A low lying area that receives runoff from a large land area and has insufficient infiltration capacity. Surface erosion occurs when:

1. The topsoil is less than two feet deep to a seasonally high water table
2. The soil has a high clay content
3. A hard pan layer is below the surface

Rainwater runs down hill---- some filters through the soil and some runs directly into nearby streams. You can help prevent erosion by encouraging rain water to move slowly across the ground so that most of it soaks into the lower soil layers.

Standing water near your house may indicate the ground has settled and will require fill dirt be added to the area and replanted.

A berm may be required to keep storm water away from septic systems. A drainage pipe can also be properly installed to carry water away from area. When wet spots cannot be avoided, you may be able to move it to an area around shrubs or trees by installing a swale to carry water across the yard.

The installation of infiltration devices can increase the amount of surface water that can soak into the ground, even on sites with well-drained soils. Keep in mind that surface runoff cannot penetrate soils that are at or past their saturation point or where there is a clay hard pan. You can increase infiltration, by slowly spreading runoff in a series of terraces or runoff spreaders.

NOTE

Infiltration devices will lose their effectiveness over time when they become clogged with silt, clay or fine sand particles. Sediment traps, watersheds, or grassy sediment areas may be required before runoff water reaches infiltration devices.



WHAT YOU CAN DO

By following these few simple guidelines, you can make your home more attractive and help prevent erosion:

- **Landscape your yard to minimize runoff.**
- **- Preserve the established trees in your neighborhood which can help minimize the damage caused by surface runoff.**
- **Establish a greenbelt.**
- **Choose the appropriate plants, shrubs, and trees for the soil in your yard; don't select plants that need lots of watering (which increases surface runoff).**
- **Call your local University of Idaho Extension Office or nursery for advice about plants, shrubs, and trees for landscaping your yard.**

There are many ways you can improve drainage in your yard and reduce the potential for erosion. Most of these suggestions are inexpensive, and easy to implement. You can reduce surface runoff by:

1. Installing gravel trenches along driveways or patios to collect water
2. Restoring bare patches as soon as possible to avoid erosion
3. Grade all areas away from your house at a slope of 1.5%
4. Installing grass swales to move water from one area to another
5. Planting trees and/or shrubs to promote infiltration (See landscaping chapter)
6. Using low ridges or berms to direct water into swales

SEPTIC SYSTEMS

Septic systems consist of two parts----a septic tank and a leach field (soil absorption system). Septic tanks are made of steel, concrete, fiberglass, or polyethylene and must be large enough to hold a volume equivalent to a two-day flow of wastewater from your home. The solids settle to the bottom of the first partition of the tank, while the liquids and lighter particles float to the surface overflowing to the second half of the tank where they are digested by introduced bacteria. The treated wastewater is then piped to perforated piping called a leach field.

DRAINFIELDS

The drain field, or absorption system, is critical to how well your septic system functions. Perforated pipe must be laid in suitable soil, away from tree roots and man made structures. The drain field must be large enough area to absorb your home's daily wastewater.

SYSTEM FAILURES

Design, construction, or maintenance problems are usually responsible for septic failures. Effluents rising to the surface of the ground indicate failures, drains become plugged easily, or toilets fail to flush or are sluggish.

ONE WAY TO VERIFY THAT AN AREA CAN SUPPORT A LEACH FIELD IS BY HAVING A 'PERC' (PERCOLATION) TEST DONE TO DETERMINE HOW FAST THE SOIL ABSORBS WATER.

When designing a system, check the water table below the surface. The table should be a minimum of four feet below the septic drain field. Other problems and failures include perforated pipe laid on improper grades, incorrect joints and alignments between the system's components, and perforated pipes broken or crushed during construction.

SPECIAL HEALTH CONCERNS

The threat of disease is a key problem in treating human wastewater. The epidemics that killed millions of people in the Middle Ages were attributed to the mixing of human waste with drinking water supplies. Domestic wastewater can cause both health and nuisance problems if allowed to reach surface or groundwater supplies. Nitrogen created by the septic system can be a significant threat to your health. Nitrogen absorbed into your blood stream decreases the blood ability to carry oxygen to your vital organs. Nitrogen carried in septic tank wastewater is usually in the form of ammonia, which is readily transformed into nitrate. These nitrates become part of the surface water supplies. Nitrates fuel the growth of algae in our lakes and are responsible for the subsequent loss of oxygen to aquatic life when the algae die and decompose.

SEPTIC SYSTEM MAINTENANCE

The following is a list of things you as a homeowner can do to extend the life of your septic system:

- 1. Have your septic tank pumped at least once every five years or sooner as needed**
- 2. Fix leaking faucets and toilets quickly to prevent drain field saturation**
- 3. Plant gardens away from drain fields to prevent field saturation**
- 4. Plant grass or shallow rooted plants over drain fields**

DRYWELLS are underground tanks with slotted sides or holes drilled into the ground and filled with aggregate that gather storm water. The water percolates out of the tank into the surrounding soils.

PRIVATE ROADS AND DRIVEWAYS

Heavy rain and melting snow can carry sediment and nutrients into our lakes and streams. The following must be considered when designing private roads and driveways for maximum erosion control:

Slow down surface runoff

Reduce the volume of surface runoff

Disperse the water before it becomes concentrated

Disturb roadside vegetation as little as possible

Include the planting of erosion-resistant grasses and deep rooted native shrubs on areas subject to erosion, such as ditch edges, road cuts and fills, and exposed banks

Private roads and driveways are often constructed in steep areas where the potential for erosion is greatest. In areas where traffic is light and speeds are slow, roads can be out sloped. This allows the water to run directly off the pavement. When out sloping is impractical, rolling dips are alternatives for diverting water off the road. A rolling dip should be two car lengths long. The steeper the road, the deeper the dips need to be to handle the rapid run-off. Water from paved surfaces and rooftops can degrade nearby water bodies. Choose paving surfaces that allow rainwater to soak into the ground, this will reduce rainwater runoff and help prevent erosion. Footpaths made of gravel, brick crushed stone, or wood, rather than asphalt or concrete increases penetration of rainwater.

Consult with a Road Engineer or a Hydrologist before attempting to size or place a culvert across a roadway/driveway.

THE COUNTY IS NOT RESPONSIBLE FOR PRIVATE ROADS

During road and driveway construction use weed free straw mulch. Place (2-4 tons per acre) to trap sediments and keep soils from washing into streams and lake. Re-plant the area as soon as possible. Ditches should be “U” shaped rather than “V” shaped and should contain “Waddles”, made from straw and placed according to the County Engineer to slow the water, and prevent further erosion. In some areas, roads are often muddy and difficult to maintain. One approach to stabilizing this type of road is to lay down a filter fabric or geotextile over the road bed and cover with a 6 to 8 inch layer of rocks (4” to 6”) and cover with ½ inch of crushed gravel.

When building private roads/driveways, decks and patios:

- **Use bricks, or interlocking stones for driveways, sidewalks and patios**
- **Use wood and pavers for patios**
- **Divert rain from paved surfaces onto grass to permit gradual absorption**
- **Maintain the natural vegetation wherever possible**
- **Modular paving materials come in many styles and materials. Some allow turf growth on or between the pavers, it can also allow a slow water infiltration.**

CHOOSING APPROPRIATE PLANTS

All plants have different soil, nutrient, and light requirements to flourish. Each landscaping has a set of growing conditions, including soil properties, air temperature, moisture, and exposure to the sun. The most common mistake people make when landscaping their yards is to buy plants that need more or less moisture than the soil can provide. Plants that need a lot of water will not grow well on dry sites unless you supply the water they need, and those with high nutrient requirements will only grow in poor soils if you apply fertilizer. Plants susceptible to insect and disease problems will flourish only when these pests are controlled by some biological, chemical, or by mechanical means. By choosing plants appropriate to your yard, you help reduce these potential problems and guarantee potential success. Fortunately, nature has given us a partial solution to the problem of plant selection. Over time, plants native to a particular locale have adapted to whatever growing conditions they encounter. Plants growing near the lakeshore have adapted themselves to the air and/or soil moisture characteristics through a variety of physiological mechanisms. Plants growing naturally in the forests of the region is often bothered less by common disease and insect problems than are plants introduced from other areas. Ask a nursery professional to help you select plants appropriate to your landscaping needs

PURPLE LOOSE TRIFE WARNING:

Purple loose strife is a non-native plant that has become a threat to wetlands of the Pacific Northwest. It spreads very quickly, choking out cattails and other native species. In Washington, it has invaded thousands of acres of wetlands and restricted waterways. Patches have been treated in the chain lakes, Coeur d'Alene Lake, and Hauser Lake. It has purple to magenta flowers on stocks often reaching ten feet high and is in full bloom from early July through late September. The mature plant has a dense, fibrous root system that is hard to pull. Early detection is critical for successful control. If you see this plant, contact the Kootenai County Noxious Weed Department (208) 446-1290.

Note: Purple Loosetrife can be confused with fireweed, blue vervain, or spirea.



NATIVE PLANTS OF THE HAYDEN AREA THAT ARE GOOD CHOICES FOR LANDSCAPING

Perennials

Anaphalis margaritaces
Pearly Everlasting
Arnica cordifolia
Heartleaf Arnica
Aster sp.
Wild Aster
Balsamorhiza sagittata
Balsameroot
Campanula rotundifolia
Scotch Bluebell, Harebell
Castilleja spp.
Indian Paintbrush
Delphinium spp.
Larkspur
Dodecatheon conjugens
Shooting Star
Erythronium grandiflorum
Fawn Lilly
Fritillaria pudica
Yellowbells
Gilia aggregate
Scarlet Gila
Lupinus sericeus
Blue Lupine
Mertensia Longiflora
Blue Bells
Phlox speciosa
Pink Phlox
Rudbeckia hirta
Black Eyed Susan
Sisyrinchium inflatum
Purple-eyed Grass, Grass Widow
Wyethia amplexicaulis
Mule'Ear

Shrubs

Amelanchier alnifolia
Serviceberry
Ceanothus sanguineus
Buckbrush
Holodiscus discolor
Ocean Spray
Mahonia aquifolium
Oregon Grape
Philadelphus lewisii
Mock Orange, Syringa
Physocarpus malvaceus
Nine Bark
Rubus parviflorus
Thimbleberry
Rosa sp.
Wild Rose
Salix sp.
Willow
Sorbus acuparia
Mountain Ash
Spiraea betulifolia
White Spirea
Spiraea douglassi
Pink Spirea
Symphoricarpos albus
Snowberry

Ground Covers

Arctostaphylos uva-Ursi
Bearberry, Kinnikinnick
Linnaea borealis
Twin Flower
Mohonia repens
Oregon Grape

Trees

Abies grandis
Grand Fir
Acer glabrum
Rocky Mountain Maple
Alnus incana
Alder
Larix occidentalis
Tamarack, Western Larch
Pinus contorta
Lodgepole Pine
Pinus monticola
Western White Pine
Pinus ponderosa
Ponderosa Pine
Populus tremuloides
Quaking Aspen
Populus trichocarpa
Black Cottonwood
Pseudotsuga menziesii
Douglas Fir
Thuja placata
Western Red Cedar
Tsuga heterophylla
Hemlock

Erosion Control

Acer circinatum
Vine Maple
Alnus sinuate
Sitka Alder
Arctostaphylos urva-Ursi
Kinnikinnick
Cornus stolonifera
Red Osier Dogwood
Shepherdia canadensis
Buffaloberry
Symphoricarpos albus
Snowberry

The Finch Arboretum in Spokane, Washington, is an excellent place to see many of these native plants.

CONTROLLING PESTS AROUND YOUR HOME AND GARDEN



Your home, lawn and garden are often under attack by a variety of pests. When this happens, you must decide what the problem is and determine the best method of control. To many homeowners, pest control is synonymous with chemicals and quick eradication is the goal. With proper planning and a little time spent in preventing pest invasions, you probably will not have to resort to chemicals. Most pests can be controlled by biological, mechanical, or less toxic chemical means. Remember any method of control must not be a threat to desirable native plants and animals or to the streams, rivers, and lakes of the watershed. The following is a description of these methods to control pests around your home.

NOTE

Pesticides first became an environmental issue for many people with the publication of Rachel Carson's book *Silent Spring* in 1962. Since then, the regulatory approach to pesticides has been changed by Congress, which amended the 1947 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in 1972. FIFRA gave the Environmental Protection Agency the job of re-registering all pesticides then on the market. The re-registration process includes a detailed examination of data on safety as well as both short-term and long-term (chronic) health effects. To date, about 200 of the 600 principal active chemical ingredients in commercially available pesticides have been re-registered. Therefore, it is not correct to assume that because a product is available in your local hardware or garden store, it has undergone rigorous environmental and health evaluation procedures. Some pesticides that were once widely used have now been banned or severely restricted. These include DDT, Chordane, aldrin, heptachlor, diedrin, lindane, silvex, tribytlin, and 2, 4, 5-T.

PEST CONTROL MANAGEMENT

Currently there are two opposing philosophies of pest control practices in landscape management. One common approach depends upon synthetic chemical pesticides, even to the point of applying them on a regular basis as a prevention measure. A newer concept, called Integrated Pest Management (IPM) analyzes the environmental situation and incorporates biological or mechanical solutions to pest problems, which may reduce or eliminate the need to use pesticides.

ALTERNATIVES TO PESTICIDES

Check this chart on Integrated Pest Management for nontoxic alternatives to pesticides. For example, to deter termites, remove wood piles near your home. Your University of Idaho Cooperative Extension system educators can provide advice on the best strategy for controlling pests in and around your home.

BIOLOGICAL	MECHANICAL	CHEMICAL
<p>Biological methods of pest control are based upon individual plant and animal characteristics. You can incorporate these into your pest management plan. Some examples are:</p> <ul style="list-style-type: none"> ◆ Planting borders to repel insects. ◆ Rotating crops so the same or related species do not occupy the same area each year. ◆ Time plantings to avoid peak insect infestation. Keep records of previous insect problems for future use. ◆ Encourage predatory insects such as ladybug larvae, praying mantis, and others that eat garden pests. ◆ Use bacterial sprays. Strains of BT (<i>Bacillus thuringiensis</i>) are particularly affective against leaf eating caterpillars, mosquito larvae and some beetles. 	<p>Most mechanical means of pest control are often more time consuming than others. However, they are often more successful and do less damage to the desirable plantings around your home. Mechanical methods can target specific problem areas. Some common practices are:</p> <ul style="list-style-type: none"> ◆ Hand weeding to eliminate competition for space and nutrients. ◆ Keep your garden clean. Put old sacks, baskets, decaying plant matter, and other insect harboring materials outside your garden area. ◆ Dislodge insect pests like aphids, mealybugs, and red spider mites with a spray of water. ◆ Construct barriers, i.e. screens placed over plants or foil placed around plant stems for cutworms. ◆ Hand pick egg clusters and caterpillars early each morning. 	<p>A variety of chemicals are available for pest control. Some work to prevent pest problems while others work to control infestations.</p> <p>Prevention Chemicals: The following two chemical types are less toxic to the environment than other products, when used according to label instructions.</p> <ul style="list-style-type: none"> ◆ Dormant oil spray-These can be used at any time of the year to control scale insects, red spider mites, mealy bugs, and white fly larvae. They can be used on all types of woody plants such as fruit and shade trees, roses or other ornamentals. ◆ Insecticide Soaps-These destroy insect membranes. They work on aphids, mealy bugs, white flies, scales, earwigs, rose slugs, crickets, spittle bugs, and many others.



WHAT IS INTEGRATED PEST MANAGEMENT?

Integrated Pest Management emphasizes frequent monitoring to assess pest population buildup, and the evaluation of all facts including the environmental effects of treatments. Some tactics include:

- ◆ **Using Natural Predators:** Introducing the types of animals that will naturally gobble up pests. Ladybugs, lacewings, praying mantis, garter snakes, and toads are all examples of natural predators that eat insect pests.
- ◆ **Habitat Changes:** Changing the habitat to physically control many pest species. For example, by getting rid of all the old tires in your neighborhood you can cut down on the number of mosquitoes breeding in your area. (The tire fills with rainwater, making perfect breeding sites for mosquitoes).
- ◆ **Timing;** Regulating planting and harvesting to avoid those times when insects are most abundant and damaging
- ◆ **Mechanical;** Removing eggs, larvae, cocoons, and adults from plants by hand.
- ◆ **Resistant Plants:** Always requesting plants that are relatively free of major pests and diseases when buying new ones for the garden.

HANDLING PESTICIDES:

Designed to kill “pests,” the big family of chemicals can also be dangerous to human health and the environment. There is considerable controversy about the potential risks associated with pesticides. Some toxicologists believe that pesticides can trigger allergic reactions or cause chronic health problems.

To minimize the potential hazards of pesticides, follow these guidelines:

- ◆ Read the label carefully.
- ◆ Buy only the quantity you need.
- ◆ Wear any protective clothing specified on the label.
- ◆ Wash your hands immediately after applying the pesticide.
- ◆ Apply only the amount specified on the label and only to the plants and areas listed in the instructions.
- ◆ Make sure people and pets are out of the area during application and until the spray has dried.
- ◆ Cover or remove exposed foods, fish tanks, pet food and water dishes during and after application.
- ◆ Never apply near wells, marshes, rivers, or lakes unless the instructions specifically allow for such use.
- ◆ Don't apply if rain is forecast unless otherwise specified on the label.
- ◆ **Choose the least toxic pesticide (those with the signal word “caution” on the label are considered least toxic whereas the signal word “warning” indicates moderate toxicity).**

PEST CONTROL COMPANIES

Pests inside the home such as termites, cockroaches, insects, and mice often mean trouble. A pest control operator should be willing to give you a copy of the pesticide label, explain why a particular pesticide has been chosen for the job, describe what techniques will be used, and list the precautions you may need to take after the operator leaves.

A professional pest control service company is required by state law to be registered.

Before you sign a contract, insist on seeing their registration and what pesticides they plan to use.

LEFTOVERS

Pesticides should never be buried in your yard, burned, or poured into your toilet. Some pesticides and their containers release toxic fumes when burned or wetted, and sewage treatment plants do not employ the kinds of microbes that would neutralize the pesticide's harmful effect. Septic systems can be harmed by pesticides as well. The best method for safely disposing of pesticides is to buy only as much as you plan to use within a two-year period, and to use them up according to label instructions. Leftovers can also be disposed of at the County HAZMAT (Hazard Material) Collection Center.

STORAGE

Unused pesticides **MUST** be stored properly to prevent poisonings and environmental contamination. They should be kept in an area well away from living areas of your house. The place you choose should have a cement floor, be well lit and well ventilated, out of direct sunlight, insulated from temperature extremes, and out of a child's reach. A locked metal cabinet in your garage is usually a good storage place for pesticides. Always keep pest control products in their original containers with labels intact. Many pesticides have a short life span, so only purchase what you need.

SPILLS

It can be difficult to completely decontaminate a pesticide spill area. For this reason, you never want to store these products in the kitchen or other living areas. If a pesticide leaks or is spilled in the garage, on the driveway, or other outdoor areas, do not hose down the spill. This will cause further contamination and may carry the pesticide to water sources. The best way to clean a small spill is to: **Surround the contaminated area with dirt**; or

- ◆ **Sprinkle sawdust, kitty litter, vermiculite, or some other absorbent material over the spill.**
- ◆ **Shovel or sweep the absorbent material into a sturdy plastic bag and take it to the local recycling center**
- ◆ **Wear rubber gloves, long pants, and rubber boots while cleaning up**
- ◆ **Keep pets and other people away**
- ◆ **Wash down the area (if a garage floor or other hard surface) with a solution of water and bleach, ammonia, or a strong detergent.**

If pesticides spill directly into water, contact the Idaho Department of Environmental Quality **(208) 769-1422**. Keep people and pets away from the spill. In small streams, it may be possible for you to prevent contamination by building a soil dike downstream from the spill

WATCH YOUR GARDEN GROW

Many of us enjoy growing our own vegetables, fruits, flowers, and herbs. By using the right gardening techniques, you, too, can produce plants to be proud of while preserving the soil and its fertility, enhancing the absorption of rainfall, and protecting local streams from sediments and chemicals. To get the most out of your garden, it's important to:

- Pick the right spot for gardening,
- Choose a bright and sunny location with good drainage,
- Plant your garden on a fairly level site,
- Avoid sloping areas and drainage channels, which lets topsoil wash away during a heavy rain.

Gardens should not be planted over the septic disposal system or uphill from it as the water, above that is needed for plant growth, could drain into the disposal field and cause failure due to saturation.

IRRIGATION

It is important to use an irrigation method that allows the water to seep in slowly. Any runoff can carry sediments and/or nutrients into the lake. The following can help avoid runoff:

- Use drip irrigation on a timer. This method allows water to seep slowly into the ground where it is needed.
- Use a sprinkler system. This can be automatically or manually controlled.
- Water infrequently, deep, and slowly to encourage deep root growth. Use a timer to stop watering before runoff occurs.
- Irrigate with soaker hoses and apply water slowly.

FERTILIZER

Fertilizers are designed to supplement the nutrients already present in your soil. Know how much fertilizer your soil requires **before you apply**. Too much fertilizer can damage roots, and the excess can reach your local Stream or the lake, and lead to water pollution problems. Avoid applying fertilizer on windy days, or prior to a heavy rain. For the best results, always apply commercial fertilizers according to the directions on the bag.

ENHANCING FERTILITY:

There are many ways to make a garden more productive, but meeting the nutrient needs of the plants in your particular plot is the most important. Many garden soils can benefit from the addition of organic matter and other nutrients. Composted leaves, weeds, remains of garden plants, small branches, sawdust and bark, are excellent sources of both. Kitchen scraps other than meat should go into your compost pile, less will go into your garbage. Mulching can also add nutrients, make the soil more workable, aid rainwater penetration, and improve the moisture retaining capacity of the soil near plant roots. Be sure to keep compost materials out of drainage ways.

BUILDING A COMPOST PILE

Composting your Own

Clippings, leaves, aquatic plants, and other unwanted plant parts can provide you with a quality mulching material. Install a simple enclosure in an easily accessible spot on your land to make compost. This enclosure can be made of mesh wire or other material that has holes in the sides to allow air to circulate. It should be between three and six feet in diameter, which will allow you to dump materials into the top opening. You need to add a small amount of a complete fertilizer with each load of garden waste or other plant material. The compost needs to be moist to work well, so add a little water occasionally. Turn the pile every week or so to mix and aerate the materials. Your compost should be ready to use in two to six months depending up on the temperature, moisture, and size of materials in the pile

HOW TO USE COMPOST:

Dig into garden soils as a soil amendment

- ◆ Use as mulch for flower, shrub and vegetable beds
- ◆ Use in planter boxes
- ◆ Use as a seed-starting mix (after screening compost)
- ◆ Use as a vegetation top dressing
- ◆ Use as a seed-starting mix (after screening compost)



PROTECTING YOUR GARDEN SOILS

You can mulch to minimize bare, exposed soil in your garden. Unprotected ground loses nutrients and needed topsoil much more quickly than planted soil. In addition to mulching consider closer planting of different, but compatible plant species to make the most of your working area. Winter cover crops are highly recommended for vegetable plots. Rye, barley, and wheat are suitable for fall planting (two to three pounds of seed per 1,000 square feet of ground). The cover crop holds the soil during the winter and adds organic matter to the soil when it is turned under the following spring. You can also plant shrubs or small trees as windbreaks around the garden to control wind erosion in sandy areas and to further protect bare soil from exposure to the elements.

WEED CONTROL

The best way to stop weeds is to prevent them from germinating in the first place. Preventing weed germination can be accomplished by:

- ◆ **Mulching 3” to 4” deep in gardens and flowerbeds with compost, chips, bark or grass clippings**
- ◆ **Using ground cover plantings**
- ◆ **Planting annuals or vegetables close together to crowd out and shade weeds**

Weeds and other vegetation should be disposed of away from the lake. **Do not put yard debris on the lake ice in winter for “disposal” into the lake when the ice melts.** The vegetation adds excessive nutrients to the lake. If you feel that you must use a herbicide, do it with caution. Try spot applications, applying it to individual weeds rather than area wide spraying. Each herbicide label will have restrictions to its use pertaining to wind velocity and temperature. Follow these guidelines carefully. Only certain herbicides may be used by certified personnel in or near water.

DEALING WITH SLOPES

If your garden is located on a slope, you can use the same techniques that farmers use on hilly fields to ensure good crops. Plant crops across the slope, not up and down the hill. This way, each row acts like a ridge (what farmers call contour plowing) to trap rainfall. Contour planting prevents soil and plant nutrients from washing downhill. On long slopes, it’s a good idea to leave strips of grass that also runs perpendicular to the slopes. This helps keep the soil where it belongs by forcing runoff to slow down and soak in. These grass strips should be wide enough to allow easy access to your plants and vegetables.

Flowerbeds can be planted on steep slopes to beautify the landscape and stabilize the soil. Since the beds are usually permanent, you may want to construct retaining walls to hold the hillside in place and add to the appearance of your home. On longer slopes, the hillside can be stepped, or terraced, with a garden strip planted on each level area. Whether a series of retaining walls is used or not depends upon the steepness of your slope. On moderate slopes, the area between each level terrace should be a short, relatively steep slope. Such terraces or slopes must be densely planted with grass or other plants to stabilize the soil to hold the hillside in and add to the appearance of your home. On longer slopes, the hillside can be stepped, or terraced, with a garden strip planted on each level area. Whether a series of retaining walls is used or not depends upon the steepness of your slope.



HOME MAINTENANCE PRODUCTS and DISPOSAL

Home repair and maintenance products are among the most toxic household substances. These include paints, preservatives, strippers, brush cleaners, and solvents. Some contain chemicals thought to cause cancer. To reduce disposal problems, buy only what you need.

CAR CARE

Motor oil, battery acid, gasoline, car wax, engine cleaners, antifreeze, degreasers, radiator flushes, and rust preventatives are AUTOMOTIVE PRODUCTS **which** CONTAIN TOXIC CHEMICALS. Twenty-five percent of all car owners change their own oil and dispose of it in the trash.

Remember: one quart of oil can contaminate up to two million gallons of drinking water and one quart of oil can produce an eight-acre oil slick

WHAT YOU CAN DO:

- ◆ **Filter and reuse dirty turpentine or brush cleaner**
- ◆ **Stuff newspaper into paint cans and other containers and allow it to dry before placing in the trash**
- ◆ **Put your used oil or antifreeze in a sturdy container and take it to your neighborhood recycling center or hazardous waste disposal site**
- ◆ **Hobby supplies, such as photographic chemicals are hazardous and should be taken to the nearest recycling center**

Some products found in American homes have chemical ingredients that are potentially harmful. Look under the kitchen sink, in the bathroom, the garage, and the basement for examples. There you'll find oven cleaners, paint removers, bug killers, solvents, drain cleaners and more. These products are potentially harmful to people, pets and the environment.

Growing public concerns about the use and disposal of hazardous chemicals caused Congress to pass the Resource Conservation and Recovery Act (RCRA) in 1976. It set up regulatory procedures governing generation, storage, transport, treatment and disposal of hazardous materials. This was followed in 1980 by the passage of the Superfund Act, which provides money to clean up hazardous waste sites, such as the one at Kellogg. Disposal of household hazardous wastes, however, must be done by the individual homeowner. This section describes the different categories of products used in the home, and the approximate disposal methods for each.

The household toxins, described in this book, should not be disposed of "down the drain" or washed into the ground. Most of the homes around the lake have home septic systems which are not designed to remove toxic chemical from wastewater. Washing these materials into the ground will guarantee that they end up in a local stream or the lake.



HOUSEHOLD CLEANERS

Many products used in the home are meant to be washed down the drain. Phosphate free soaps and detergents are examples of biodegradable products and, when properly treated, they pose a small problem to the environment. However, there are products commonly found on kitchen shelves that are toxic to people and the environment. Oven cleaners, floor wax, furniture polish, drain cleaners and spot removers are examples. Check the labels for the following toxic materials: phenols, lye, petroleum distillates, or tri-chlorobenzene. Products containing these chemicals, if improperly used or disposed of pose a threat to human health and to the environment.

It is often possible to use less toxic methods to clean or to polish. As an example, putting table salt on spills and then scrubbing with a solution of soda and water can clean ovens. A combination of lemon oil and linseed oil makes a good furniture polish. Clogged drains can often be cleaned with a metal “snake” instead of toxic cleaners.

When it is necessary to use a product containing toxic chemicals, some caution should be observed. As with pesticides, a rule of thumb is to read the label and use the product only as directed. Some products are even more dangerous when mixed with others; for example, cleaners such as chlorine bleach when mixed with ammonia can produce a harmful gas. Protective clothing, rubber gloves, and good ventilation may be necessary.

Petroleum based household chemicals may be toxic and are seldom biodegradable, so take unwanted products to the local hazardous waste recycling center or transfer station.

A WORD ABOUT DETERGENTS

The most often used home cleaning products are detergents. Many of these are formulated for automatic washing machines or dishwashers and contain phosphorus which has been shown to cause problems in streams, rivers, and lakes. Industry has responded to this concern by developing products containing little or no phosphate. As an example, **all liquid detergents are phosphorus free**. Phosphates range from 0 up to 13 percent in some automatic dishwashing detergents. If you have a choice, buy the product having the lowest phosphorus content.



RECYCLING

KOOTENAI COUNTY'S RECYCLING PROGRAM:

County residents have access to a state-of-the-art disposal and recycling station. It is located at 3650 Ramsey Road. It is open from 8 am to 5 pm, seven days a week, except for holidays.

It will accept garbage and the following Recyclable Materials:

Used motor oil (limit 5 gallons/day), newspapers, pop bottles, milk jugs, phone books, auto batteries, magazines, steel cans, aluminum cans, corrugated cardboard, glass, household batteries, and multiple listing books. The following metals are also accepted daily: aluminum, copper, and steel, metal roofing, bicycles, household appliances, lawnmowers, and car body parts. **Kootenai County Solid Waste—phone number is (208) 446-1430.**

WHAT YOU CAN DO



Hazardous Waste Materials:

Collection hours for the Ramsey Road Station are 8 am to 4 pm. **Wednesdays and Saturdays only.** Acceptable materials from homeowners include: paint, solvents, adhesives/glues, stains, pesticides/herbicides, rodent poison, garden dusts, tree sprays, weed & feed, gasoline, diesel, antifreeze, contaminated oil (oil mixed with water or antifreeze), and carburetor cleaners.

NOTE: The Fighting Creek Landfill is not designed to handle or accept garbage from the general public.

School Drop Box Recycling Program:

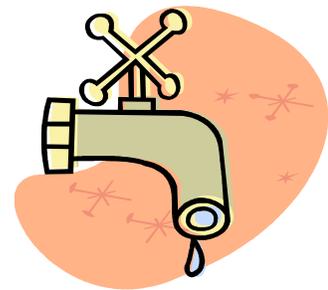
In 1992, the County developed a School Drop Box program in an effort to meet the Federal Government's goal of reducing the annual amount of landfill materials by 25%. Each school in the county has bins to collect newspapers, telephone books, and aluminum cans. The schools netted \$94,174 in 1994.

Curbside Pick-Up: The city of Coeur d'Alene has voluntary curbside recycling.

Guidelines to save water and money:

- Add food coloring to your toilet tank. After 30 minutes, if color appears, you have a leak.
- Turn your hot water heater off when going on a trip.
- Run your dishwasher only when you have a full load. Use the cycle with the least number of wash and rinse periods.
- Don't run water continuously when washing dishes in the sink.
- Add garbage to a compost pile or trash instead of using the garbage disposal. Disposals add solids to your overloaded septic system.
- Wash clothes when you have a full load. Permanent press cycles use 10-20 gallons more water than other cycles.
- Install low water use flush toilets.
- Take short showers instead of baths. Baths = 30-50 gallons
- Do not let water run while shaving, brushing your teeth, or washing hands.
- Wash one part of a car at a time and rinse quickly.
- Water lawns only when needed. Do it during the coolest part of the day.
- Wash one part of a car at a time and rinse quickly.

IN THE HOME



Learn to conserve water inside, too! These typical consumption rates are surprising:

One leaky faucet=20 gallons a day

One 20 minutes shower=140-200 gallons

One full bathtub=50 gallons

RECREATION

Some of our recreational pursuits, while providing short term fun, have long term consequences to the environment that we need to consider.

BOATING



BOATING ON LAKES AND RIVERS:

Recreational boating provides relaxation and enjoyment for many area residents. However, boating also contributes to the lake's environmental problems. All of us, especially boaters, have a lot to lose if the river and lake waters deteriorate. As a boat owner, you can play a major part in protecting water quality in the lake.

When you use your boat in other lakes, be sure to clean every particle of weed from the propeller, boat, and particularly, the trailer, to prevent the spreading of non-native plants, such as milfoil. A good idea is to stop by a carwash when transporting your boat from one body of water to another.

BOATS CAUSE EROSION:

The extent of shoreline erosion caused by boat wakes depends upon the wake's energy. This energy is related to four factors:

1. Distance from shore
2. Hull size
3. Boat speed
4. Water depth.

To minimize shoreline erosion, **boats should not produce wakes within 100 feet of the shore.** Contact the County Sheriff Department's Marine Division for current boating information and regulations relating to wakes, speed safety, and buoy placement.

MAINTAINING YOUR BOAT

Boats are normally hauled in once a year for repairs, painting and general maintenance. Many of the chemicals used for cleaning, dissolving, painting and maintenance are toxic to aquatic life. A few simple precautions can prevent these chemicals from unduly harming the lake.

Copper and tributyltin (TBT) bottom paints used to prevent fouling, cause particular environmental damage. In fact, the use of tributyltin is now greatly restricted by federal legislation. Bottom paints are a necessary evil, but their impact can be lessened if you control the amount that enters the lake. When scraping the boat bottom, catch the scrapings with a drop cloth. Throw the cloth away when you're finished. If you don't have a drop cloth, sweep up the scrapings and throw them in the trash.

Boat and bilge cleaners are very concentrated pollutants, so clean the oil from the bilge's of your boat when it is out of the water. Resort owners and operators can participate in the lake protection effort by installing and maintaining a used oil drum so it is easier for boaters to recycle their boat's oil.

CHEMICALS ON BOARD

The phosphates in soap that you use to wash your boat contribute to excessive algae growth in the lake. If you rinse and scrub your boat with a brush after each use instead of using soap, you will be helping the lake. If your boat is stained, use phosphate-free soap or laundry detergent to get it clean. When possible avoid products designed specifically to remove stains and make your boat shine since they are often extremely toxic. Products with warning on the label can kill aquatic life if washed overboard.

AREAS OF CONCERN WHILE BOATING

- Preservation of eroding shorelines due to water traffic
- Preservation of fish and wildlife habitat along shorelines, in marshy areas, and in the lake.
- Spillage of fuel from boat tanks.
- Using the lake for a toilet or dumping 'grey' water directly into lake.
- Dumping trash from your boat.

All of the above cause harm to the lake by adding harmful chemicals to the waters we all want to enjoy.

WOULD YOU SWIM IN YOUR TOILET
OR IN THE LOCAL GARBAGE DUMP??



WHAT CAN YOU DO TO HELP KEEP OUR LAKE PRISTINE?

TRASH

Trash is the most visible kind of lake pollution. You should designate a storage area on your boat specifically for things such as aluminum cans and tabs, Styrofoam cups, plastic bags, and other trash. This type of debris doesn't disintegrate; instead, it remains in the lake for years and can trap, injure and kill aquatic life. A good practice is to take home what you brought with you.

By observing the precautions outlined in this section, you will be helping to preserve the lake for the enjoyment of many more generations.



PUMP OUT STATIONS:

Use the Hayden Lake or other county pump out stations for all wastes from boats, trailers or motor homes. For information on locations call Solid Waste at 446-1430.

HOT TUBS AND SWIMMING POOLS:

Many of us enjoy the pleasures of the backyard spa. These require substantial quantities of chemicals, especially chlorine, to keep the water bacteria-free. Chlorinated water is highly toxic, not only to fish but also to any other organisms in the water. If you have to drain your Hot Tub or Pool, take care to prevent the chlorine from contaminating nearby streams, or from running into rivers and lakes. Since chlorine dissipates rapidly, you should allow the water to sit for a few days before draining. Wherever possible, drain your water onto an expanse of vegetation to take full advantage of the filtering capacity of the soil.

SWIMMING IN THE WILD:

Swimming in a lake or river is quite different from the pool at home. However, safe swimming can be enjoyed at the public beach on Hayden Lake. When planning an outing with family and friends, look for an area where there is little boat or Jet Ski traffic and where you will be away from any boat launch ramp. Be sure to visit the nearest restroom before going swimming to reduce the need for eliminating wastes as the body quickly cools down upon entering the water. You should also be aware of those inviting beach areas within the Watershed that have posted health warnings. As with any form of recreation, awareness and planning promotes enjoyment.

FISHING:

Fishing provides many hours of pleasure, and the “catch” is great for a healthy meal. However, there are a few guidelines to follow in order to keep the streams, rivers, and lakes clean. It is important to **clean your fish away from the water**. The rivers and lakes already have an abundant supply of nutrients for both plant and animal life. Keep a refuse container in your fishing boat or on the shore for disposing of your left-over bait or lunch.

OFF-HIGHWAY VEHICLES:

Nutrients and sediments are carried into streams, rivers, and lakes, causing degradation of water quality. The greatest amount of damage to hillsides and unpaved roads road occurs during the wet season. When you drive over muddy hillsides, your vehicle's tires cut through the protective vegetative cover, exposing the underlying soil to erosion. If at all possible, you should wait to go into these areas until they dry out. Check with the Chamber of Commerce, United States Forest Service (765-7223), Bureau of Land Management (769-5000), Idaho Department of Lands (769-1525) to find authorized areas for enjoyment of these vehicles. If you are the owner of any type of an off-highway vehicle, be sure to ride only in authorized areas and be sure to obtain permission from landowners when using their property.

Off road vehicles may provide exciting recreational activity, but they often leave ruts in the hillside terrain. When rains come or snows melt, the runoff will follow these ruts, ultimately resulting in damage to the land.

CLEAN UP:

Spring and fall clean-up means raking leaves from the beach. The best way to handle the raked leaves is to haul them away from the water and compost them. Burning on the beach is not recommended, but if you must burn, burn away from the lakeshore in a lined pit and put the cold ashes in your garbage or compost pile. If ashes are left on the beach, the rain or snowmelt will carry the concentrated nutrients (phosphorus) into the lake. Summer cleanup for many of us means keeping the aquatic weeds away from our swimming area. The best way to accomplish this is by manual methods. Permits are required from the Idaho Department of Lands. Contact the **Kootenai County Noxious Weed Control** (446-1290) for removal and recommendations.



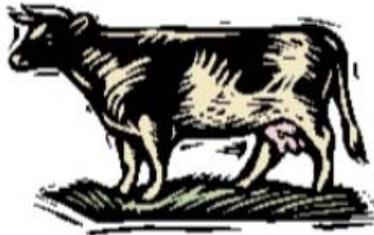
PROTECTING THE LAKE

*The water that eventually finds its way into the lake drains from countless parcels of property like yours. To reduce pollution and protect the lake, everyone—governments, communities, and individuals must work together. **The commitments made by state and local governments are a direct response to public concern about cleaning up the lake. This public partnership will make the difference in protecting the entire watershed for future generations.***

The Hayden Lake Management Plan outlines and recommends priorities for protecting and improving the water quality of the area's streams, rivers, and lakes. Various groups around the lake have organized activities and projects designed to protect water quality.

PETS AND LIVESTOCK:

Many of us like to have animals around for companionship, protection, and/or recreational enjoyment. Others have them on their property to make a living. Whatever the reason, you must plan your facilities properly so that animal manure and sediment do not enter the local waterways. Pastures in good condition provide adequate protection from erosion by wind or water. Utilizing Best Management Practices, grazing strategies, and improving pasture areas are not only beneficial to water quality, fish, and wildlife, but may increase the value of your property in the following ways



Using best management practices often calls for fencing of the edge of a buffer strip of grass or other vegetation between your pasture and waterways or lakes, constructing a water trough in each section of your pasture land, and/or building a structure to feed your livestock. Herds of livestock should be maintained only where pasture rotation can be done and the herd numbers kept at or below the carrying capacity of those pastures (a practice called ‘Planned Grazing Systems’). Contact your local University of Idaho Cooperative Extension Office (466-1680) or the nearest Natural Resource Conservation Service Office (769-1525) to obtain help in determining Best Management Practices for your property.

FINANCIAL ASSISTANCE PROGRAMS:

Cost sharing programs are available to help the small rancher accomplish needed resource conservation work. Idaho’s Home Assistance Program provides the private landowner a means of assessing their property to determine needed resource work for improving pasture lands and riparian areas (Fact Sheet #12). A new program, entitled Environmental Quality Incentives Program (EQIP), is designed for persons engaged in livestock or agricultural production. The NRCS may pay up to 75% of the conservation practices costs for activities such as installing grassed waterways, filter strips, manure management facilities, and other practices important to improving and maintaining the health of natural resources in the area. Incentive payments may be provided for up to three years to encourage producers to carry out beneficial management practices they could not otherwise incorporate into their operation.

WHAT YOU CAN DO

Use Best Management Practices to:

Prevent Erosion:

- ◆ Build fences along streams and lakes to keep animals from breaking down the banks and shoreline.
- ◆ Install watering troughs on dry ground away from wet or marshy areas to prevent erosion.
- ◆ Rehabilitate any areas where erosion has started to cut gullies in the pasture.

Build Sediment Filters:

- ◆ Construct catchment watersheds at the lowest part of any pasture near streams or lakes
- ◆ Maintain a strip of grass between the pasture and water bodies to filter out sediment and manure.

Develop Planned Grazing Systems:

- ◆ Rotate livestock between pastures to protect the native ground cover.
- ◆ Remove manure buildup on a regular basis to prevent runoff into waterways
- ◆ Move livestock into new pastures when the plant cover on the occupied pasture is 3” – 4” high. Do not graze again until the grasses are at least 6” high.
- ◆ Horses only need a few hours of grazing on good pasture each day. Corral animals for a period each day to prevent overgrazing of plants and extend use of available forage. period each day to prevent overgrazing of plants and extend use of available forage.

Conservation and Wetlands Reserve Programs (CRP & WQP) programs help private landowners remove highly erodent croplands from production.

For general information or more specifics about these and other programs, contact the Idaho Department of Lands, Natural Resource Conservation Service or the University of Idaho Cooperative Extension Office or call 800-432-4648.

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For general information or more specifics about these and other programs, contact the Idaho Department of Lands, Natural Resource Conservation Service or the University of Idaho Cooperative Extension Office or call 800-432-4648.

TIMBER MANGEMENT OF PRIVATE LANDS

The Idaho Forest Practices Act and Fire Hazard Reduction Law govern activities on Idaho's public and private woodlands. They describe the Best Management Practices for road design and construction harvest methods, residual stocking and reforestation, use of chemicals, slash management, and use of prescribed burns. A copy may be obtained from your nearest Idaho Department of Lands Office (769-1525). Interpreting various parts of these laws often requires the expertise of a Natural Resource Professional.

FORESTRY ASSISTANCE INFORMATION:

Forestry assistance programs are available from a variety of sources including those sponsored by government agencies while others are private. Consulting foresters charge a fee. Additional information may be obtained from associations made up of private forest landowners, Christmas tree growers, or citizens interested in conservation of specific habitats or wildlife species. Public Agencies include:

- University of Idaho Cooperative Private Forestry groups:
- The Association of Consulting Foresters,
- The Society of American Foresters,
- Idaho Forest Owners' Association, National
- Woodland Owners' Association, Idaho Tree Farm Committee,
- Northwest Tree Association,
- Inland Empire Christmas Tree Association—provides brochures and/or videos.

FINANCIAL INCENTIVES PROGRAMS

Landowners may participate in cost sharing programs once they have an approved Forest Stewardship Plan. These programs include **Stewardship Incentive Program** available at the Extension Office, Idaho Department of Lands, Idaho Soil and Water Conservation Service, USDA Natural Resource Conservation Service, Resource Conservation and Development Councils, and USDA Farm Service Agency.

Owners of non-industrial private forests need to develop a management plan, conduct forest improvement and reforestation, improvement of soil, water, riparian, and wetlands, enhance wildlife and fisheries habitat, and develop outdoor recreation activity sites

Forestry Incentives Programs (FTP) is available where increased forest production is a goal and wood products a major industry

COUNTY GOVERNMENT

KOOTENAI COUNTY NOXIOUS WEED CONTROL (208) 446-1290

Spraying of noxious weeds, recreation sites

KOOTENAI PARKS & RECREATIONAL WATERWAY FACILITIES (208) 446-1275

Water craft safety, no wake zones, maps/pump-out stations, recreation sites.

KOOTENAI COUNTY BUILDING DEPARTMENT (208) 469-1040

Permits for grading, erosion control, storm water management, and land use site disturbance.

KOOTENAI COUNTY SHERIFF'S OFFICE MARINE DIVISION (208) 446-1300

Enforces no wake zone discharge of pollutants, boat safety regulations, boat pump-out stations.

KOOTENAI COUNTY SOLID WASTE DEPT. (208) 446-1430

Solid waste disposal, recycling, household hazardous waste, and wood waste disposal.

KOOTENAI/SHOSHONE SOIL AND WATER CONSERVATION DIST. (208) 762-4939**UNIVERSITY OF IDAHO COOPERATIVE EXTENSION OFFICE (208) 446-1680**

STATE GOVERNMENT

IDAHO DEPT OF AGRICULTURE (208) 666-6779/(208) 334-850

Pesticide use/disposal & applicators' license, agrichemicals in water.

IDAHO DEPT OF ENVIRONMENTAL QUALITY (208) 769-1422

Hazardous material spills, surface water quality, public drinking water supplies, air quality, groundwater protection, multiple-user wastewater treatment and conveyance underground storage tanks.

IDAHO DEPT OF LANDS (208) 769-1525

Lake encroachment permits, dock installations, shoreline alterations water supply lines, boat launches, forest practices, forest fires/burn permits, forest stewardship program.

IDAHO DEPT OF WATER RESOURCES (IDWR) (208) 769-1450

Water rights, stream channel alterations, dam safety, dry wells, injection wells, water wells. **Note:** IDL, IDWR, and US Army Corps of Engineers have a joint permit application.

IDAHO DEPT OF PARKS AND RECREATION (IDPR) (208) 769-1511**IDAHO DEPT OF FISH AND GAME (208) 769-1414****IDAHO SOIL CONSERVATION COMMISSION (208) 762-4939****PANHANDLE HEALTH DIST (208) 446-5200**

Septic tanks/drain fields, subdivision sanitary restrictions, non-community drinking water systems, septic tank pumpers (licensed), model storm water design, marinas and public docks.

FEDERAL GOVERNMENT

US ARMY CORPS OF ENGINEERS (ACOE) (208) 762-5915

Wetlands permits, navigable lakes/rivers, pilings/dredging.

NOTE: IDL, IDWR, and US ARMY CORPS OF ENGINEERS HAVE A JOINT PERMIT APPLICATION.

USDA FOREST SERVICE – COEUR D ALENE RIVER DIST – FERNAN (208) 664-2318**IDAHO NATIONAL PANHANDLE FOREST (208) 765-7223****USDA NATURAL RESOURCE CONSERVATION SERVICE – COEUR D’ALENE OFFICE (208) 762-4939****USDI BUREAU OF LAND MANAGEMENT – NO. IDAHO DISTRICT (208) 769-5000****USDA FISH AND WILDLIFE SERVICE – NO. IDAHO FIELD OFFICE (509) 891-6839****US ENVIRONMENTAL PROTECTION AGENCY (EPA) (208) 378-5746 NPDES –**

National Pollutant Discharge Elimination System/construction storm water discharges/ industrial wastewater/sewage/animal feedlots/oil pollution prevention/toxic substance control/PCBs



OTHER SOURCES OF INFORMATION

KOOTENAI ENVIRONMENTAL ALLIANCE (208) 667-9093

IDAHO CONSERVATION LEAGUE (ICL)

LAKE COEUR D ALENE HOMEOWNERS' ASSOCIATION (208) 667-6044

SAVE OUR RIVER ENVIRONMENTL (SORE) (208) 682-2077

SPOKANE RIVER PROPERTY OWNERS' ASSOCIATION (SRPOA) (208) 773-5249

SAVE HAYDEN LAKE (208) 772-7851

NOTE: This listing is not for regulatory guidance. It is only to provide information sources.

HAYDEN LAKE RECREATIONAL WATER AND SEWER DISTRICT (208) 772-4379

PURPOSE

This guide is designed to help homeowners understand how their actions affect the water quality within the Hayden Lake Watershed. If we truly understand we can make wise choices which will preserve the watershed's natural resources into the future for our grandchildren and their children.

PRODUCTION: Coeur d'Alene Watershed Restoration Project,
2110 Ironwood Parkway, Coeur d'Alene, Idaho.

LAYOUT: Brian Miller, Coeur d'Alene Watershed Project

TEXT: Original text compiled by the authors of "The Lake Book."
Additional sections written by Tom Whitten and Brian Miller.
Edited by Brian Miller.

THANKS; This Guide adapted from "Lake Book – A Homeowners' Guide for Lake
Preservation," by the Newman Lake Watershed Committee of Newman
Lake, Washington.

A very special thanks to Tom Whitten who gathered the information for a draft guide and passed
away before the project was completed.

REVISION: August, 2005
Hayden Lake Watershed Association
PO Box 3583, Hayden, ID 83835

