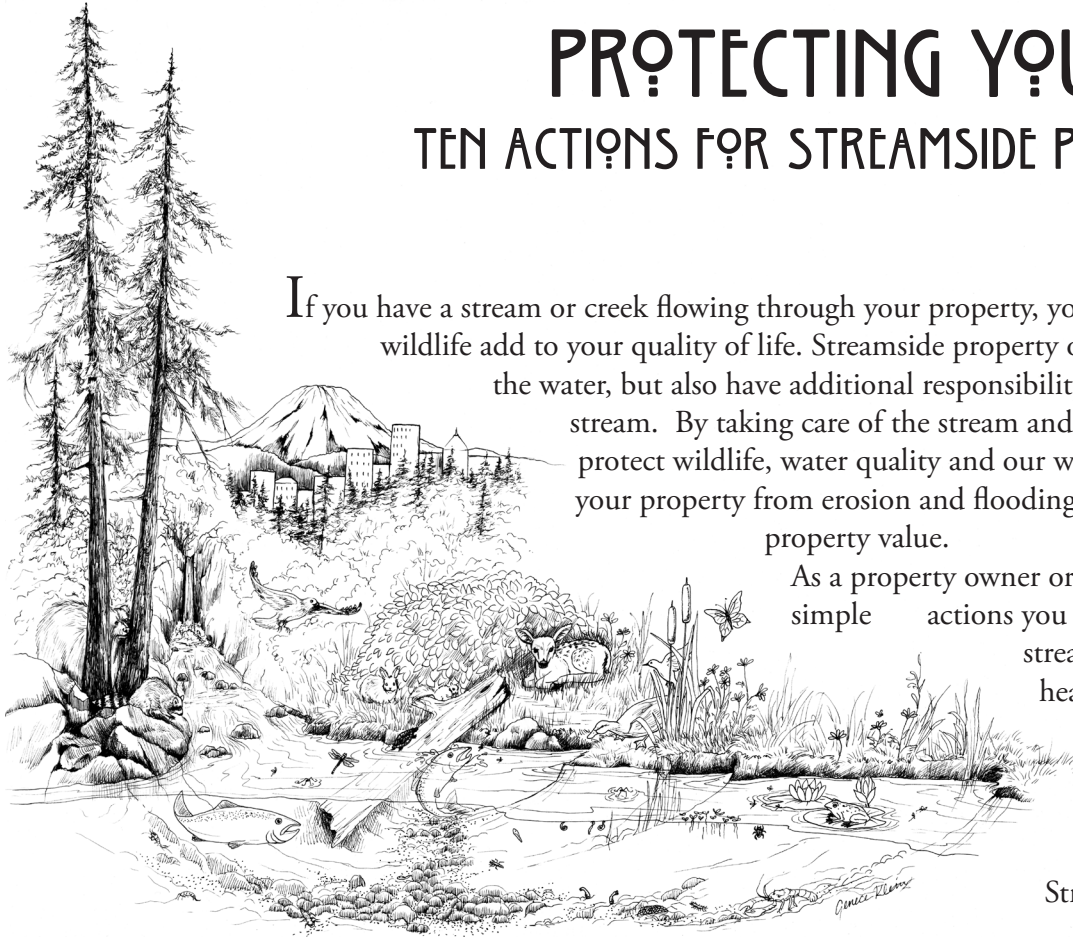


PROTECTING YOUR STREAM

TEN ACTIONS FOR STREAMSIDE PROPERTY OWNERS



If you have a stream or creek flowing through your property, you know the water and wildlife add to your quality of life. Streamside property owners enjoy the benefits of the water, but also have additional responsibility to protect the health of the stream. By taking care of the stream and area next to it, you not only protect wildlife, water quality and our watershed, but also protect your property from erosion and flooding, thus enhancing your property value.

As a property owner or caretaker, there are ten simple actions you can take to protect the stream and make our watershed healthy for all living things.

1. Prevent Erosion on Slopes

Stream banks form

important habitats for insects, birds and wildlife, keep streams cool, and

prevent sediments and pollutants from flowing straight into the water. The more plants and structures next to your stream, the more difficult it is for water to flow faster and erode the soil. Prevent erosion through a few easy practices:

- 1) Cover or plant bare soil. Rain falling on bare soil can quickly erode away the soil. Cover bare soil with straw or a commercial cover for a temporary fix.
- 2) Install plants (preferably native). Plants stabilize the soil through their root systems, while their leaves protect the soil from direct rainfall and wind erosion.
- 3) Leave woody debris and rocks. Logs, stumps, and rocks occurring naturally on stream banks help slow down runoff, while providing habitat and microclimates necessary for establishing plants.

2. Plant with Native Species

Native plants around the stream or in the garden produce many benefits. Native plants are adapted for the local climate and water conditions, so planting natives, such as native dogwood, will ensure healthy and successful plants. Native plants require less fertilizing, are less susceptible to pests and disease, and require less watering. In addition to ferns and evergreens, there are many native annuals and perennials for ground cover, shrubs, and trees.



Red Osier Dogwood
Illinois Native Plant Guide



See the resources section on the last page for more information and websites to help you find the right plant for your streamside.

3. *Reduce use of fertilizers and pesticides*

Fertilizers, pesticides, and herbicides have immediate impact on streams. Fertilizers may encourage algae growth in the water that quickly multiplies in standing water and use up oxygen necessary for aquatic wildlife. Before you use any fertilizer, test your soil to determine the amount of fertilizer actually required. Soil test recommendations determine the correct amendments and amounts needed. Use only the recommended amount; more fertilizer does not mean better growth!

Some commercial products can be replaced by amending soil with compost. Clark Conservation District has resources for free or low cost sources of composted manure products. Using natural amendments such as “green manure” or compost enriches your soil, builds soil structure and makes your yard and garden safe for pets and family.

Instead of using pesticides and herbicides, try using integrated pest management (IPM) principles. IPM encourages using natural predators to control detrimental insects and plants. Reducing the amount of chemicals you use in your garden makes your yard safer for your family and pets, and keeps streams healthy. Check the resources section on the back page for tips on IPM or natural gardening.

4. *Prevent Animal Waste in Streams*

Letting livestock roam free in a stream causes damage to stream beds, stream banks, and water quality. Fencing streams prevents animals from damaging stream banks and depositing nutrients into the water. If your animals need access to the water, limit the amount of area they access to minimize damage to the stream. Possibilities include fenced alleyways that allow animals to reach the stream, but limit the area where they travel, and “nose pumps” that provide drinking water, but keep the animals out of the stream.



Animal and pet waste is a major problem in Clark County waters. Dog and cat wastes can add up to a lot of contamination seeping into streams. The residue from animal waste persists in the water and is harmful to wildlife and our own water quality. An Australian study found that a single gram of dog feces can contain 23 million fecal coliform bacteria containing several bacteria subgroups (such as *Escherichia coli*)



Definitions

Riparian - Area bordering a water body, extending from the waters edge along the bank.

Integrated Pest Management (IPM) - Coordinated use of pest and environmental information along with pest control methods including cultural, biological, genetic and chemical methods to prevent and control damage by unwanted pests

Low impact development (LID) - Techniques to minimize stormwater at the site using natural and engineered controls.

Buffer zone - Area of land parallel to the stream that provides vegetated area between development and the stream or river

STEWARDS

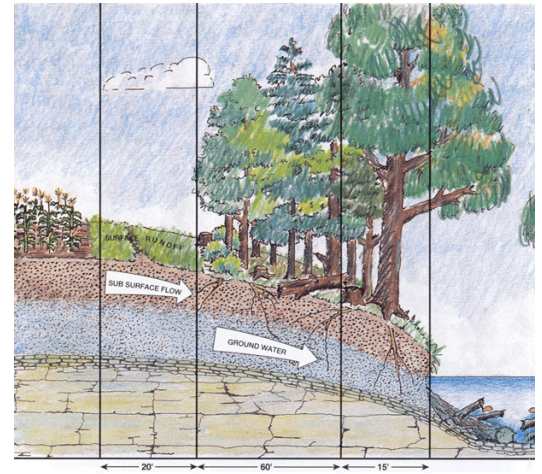
or disease-causing pathogens. Both livestock manure and dog and cat waste contribute to poor water quality when they enter streams.

Protect our health and streams by picking up pet waste and keeping it away from streams. Locate livestock waste piles away from streams and cover to prevent rain from leaching nutrients into local waters. WSU Extension has many ideas to help you manage your manure pile.

5. Plant a Buffer

Creating a stream buffer is one of the most effective ways to protect your stream. A buffer is the area of land alongside the stream that creates a natural swath of land for habitat and native plants. Buffer areas should be measured from the Ordinary High Water Mark of the stream to assure adequate area in all water heights and at all times of year. The following table describes Clark County’s regulations for stream buffer widths depending on the classification of your stream.

Stream characteristics	Buffer width
Streams baring threatened or endangered species	150 feet
Streams used by resident fish, intermittent streams with year-round pools and perennial streams	100 feet
Intermittent streams not used by fish	50 feet
Clark County Code 40.440.010(C)	



Source: USDA “Forest Riparian Buffers”

6. Remove Invasive Weeds

Invasive plants crowd out our native plants and take over the watershed. Clark County has dozens of listed invasive species, many of which use our streams to spread and establish elsewhere. A few species common to streamsides include knotweed (Japanese, giant and Himalyan) (*Polygonum* sp), garlic mustard (*Alliaria petiolata*), and reed canarygrass (*Phalaris arundinacea*). These species quickly crowd out native species in riparian areas. Clark County Weed Management assists land owners with weed control and recommends techniques for weed species on the noxious weed list.

7. Leave Large Debris

Erosion destabilizes stream banks and deposits sediments into the stream. Large volumes of water running off impervious surfaces increase the force of water flowing in streams which erodes channel banks and scours out sand and rocks from the streambed which fish use as habitat. Logs, rocks, and other large debris in streams help slow water and reduce its force, thus preventing stream bank erosion. Logs and rocks also create pools of still water, providing habitat for insects and other wildlife. So leave those logs and rocks in your stream and along the stream bank.



8. Manage pests

Landowners often complain about damage caused by beavers or nutria. These animals damage plant life, down trees, and cause flooding. While difficult to control, there are several methods to deter these animals from harming plant life and causing flooding. Check with the resources section for more information on management techniques or contact your local Department of Fish and Wildlife.

9. Prevent Dumping

Dumping yard waste in your riparian area might seem like a good idea, but grass clippings, raked leaves, or other organic material release nutrients which cause algae growth and deplete oxygen in the water, killing aquatic organisms. Keep organic wastes in a compost pile away from the stream's edge and use it on your garden.

Keep non-organic litter out of streams too. Cigarette butts, plastic bags, and other litter clogs up streams and harm fish and wildlife. Pick up trash before it flows downstream.

10. Retrofit your property

Low impact development, or LID, techniques minimize and slow stormwater runoff and keep more water on your property, usually through enhancing stormwater infiltration. Reducing runoff curbs erosion and reduces the amount of water that flows in streams, while recharging groundwater to which increases year-round stream flows. LID strategies for homeowners include rainwater collection systems like rain barrels, rain gardens, permeable pavers, and vegetated roofs. Replacing impervious surfaces with permeable surfaces is an excellent way to reduce the amount of runoff from your property and recharge the groundwater.

We all live downstream

By taking these 10 actions, you protect your downstream neighbors and the wildlife that use our local waters. These actions make managing your property easier, attract wildlife, and improve your property value. With your help, we can protect Clark County water quality and enhance our natural environment for future generations.

Do I need a permit?

If you are planning to work within the riparian zone of a stream, you may need a permit. Activities requiring permits include:

- Grading, clearing or excavating
- Building any type of structure
- Modifying the stream or river

Contact Community Development for more information



Resources

Native Plants

WSU Clark County Extension Native Plants
<http://clark.wsu.edu/volunteer/ws/native-plants.pdf>

*WSU Clark County Extension Master Gardeners
Answer Clinic: 360-397-6060*

Clark County Native Plant Society
<http://www.wnps.org>

Portland Native Plant Finder
<http://cleanwaterservices.org/EducationAndOutreach/NativePlantFinder/default.aspx>

King County Native Plant Guide
<http://dnr.metrokc.gov/wlr/pi/go-native/>

Invasive Species

Clark County Weed Management
(360) 397-6140
<http://www.clark.wa.gov/weed/>

Washington State Noxious Weed Control Board
<http://www.nwcb.wa.gov/>

Integrated Pest Management
<http://www.ipm.ucdavis.edu/>

Clark County Technical Assistance

Soil and Land Management

Clark Conservation District
<http://www.clarkcd.org/> or 360-883-1987

WSU Extension Small Acreage Program
<http://clark.wsu.edu/horticulture/smallAcreageProgram.html> or 360-397-6060

Clean Water Program technical assistance
Cary Armstrong (360) 397-6118 ext. 4392
cary.armstrong@clark.wa.gov

Beaver Management

Snohomish County Beaver Management Program
http://www1.co.snohomish.wa.us/Departments/Public_Works/Divisions/SWM/Work_Areas/Outreach/Stewardship/Beavers/

Natural Gardening

Naturally Beautiful Backyards
<http://www.naturallybeautifulbackyards.org/>

Erosion Control

<http://www.clark.wa.gov/commdev/engineering/erosioncontrolN.html>

Watershed and Restoration Information

Watershed Stewards - 360-397-6060 x 7703
<http://clark.wsu.edu/volunteer/ws/>

Clark County Phone Numbers

Erosion Control - Clark County Community Development (360) 397-2375

Community Development - (360) 397-2375

Critical Areas - Environmental Permitting: (360) 397-6118

Public Health (drinking water and septic systems) - (360) 397-8000



STEWARDS

10 Actions for Streamside Property Owners



References:

Clark County Clean Water Program

<http://www.co.clark.wa.us/water-resources/index.html>

Clean Water Services - *The Stream Care Guide, a primer for streamside property owners*

<http://www.cleanwaterservices.org/content/documents/Watershed%20Info/Streamside%20Care%20Guide.pdf>

Mid-America Regional Council - *What is Sediment Pollution?*

<http://www.marc.org/Environment/Water>

Thurston County Storm and Surface Water Program

http://www.co.thurston.wa.us/stormwater/Water_Resources/Stream%20Team/stream/streamsidefirstpage.htm

Stream Corridor Restoration: Principles, Processes, and Practices. Federal Interagency Stream Restoration Working Group (FISRWG). GOP Item No. 0120-A; http://www.usda.gov/stream_restoration

United States Department of Agriculture, US Forest Service, Northeastern Area State & Private Forestry. "Riparian Forest Buffers" http://www.na.fs.fed.us/spfo/pubs/n_resource/riparianforests/index.htm

Stormwater Center. "Pollution Prevention Fact Sheet: Animal Waste Collection."

http://www.stormwatercenter.net/Pollution_Prevention_Factsheets/AnimalWasteCollection.htm

Natural Resources Conservation Service. Illinois Native Plant Guide.

<http://www.il.nrcs.usda.gov/technical/plants/npg/index.html>

By Jenifer Naas (November, 2008)

For more information and classes, check out Watershed Stewards program

<http://clark.wsu.edu/volunteer/ws/>

or contact Watershed.Stewards@clark.wa.gov

Watershed Stewards is sponsored in partnership by
WSU Extension Clark County and the
Clark County Clean Water Program.



Extension programs are available to all without discrimination.
Report evidence of noncompliance to your local Extension office.

10 Actions for Streamside Property Owners

