

# WELCOMING SALMON TO OUR BACKYARDS: A GUIDE TO LANDSCAPING WITH NATIVE PLANTS ALONG STREAMS AND RIVERS

Photos, from top: Cle Elum River, Mid-Columbia Fisheries Enhancement Group; Chinook salmon, fotolia.com; Columbine, J. Hess; Dry creekbed, J. Hess; Planting along Coleman Creek, Mid-Columbia Fisheries Enhancement Group; Juvenile coho salmon, W. Meyer.



**Riparian buffers link the land and the water together.**

The Yakima River runs from the headwaters at Snoqualmie Pass down through lush forests, working agricultural land, and arid shrub-steppe areas. Along the way, hundreds of smaller rivers and streams contribute flow to the mainstem river.

As a streamside landowner, you play a part in determining the condition of the stream that runs through your property. Conscientious stewardship of your land will help to improve water quality and enhance habitat for fish and wildlife.

## THE FISH NEXT DOOR

The Yakima basin is home to Chinook and coho salmon, steelhead, cutthroat, rainbow and bull trout, and many other native fish species. If you live on the mainstem Yakima River, you are probably well aware of the presence of salmon in your backyard. Chinook salmon are mostly found in the mainstem river, and in larger tributaries such as the Cle Elum, Teanaway, and Naches Rivers. Homeowners on smaller streams, however, may be surprised to learn that they have salmon neighbors as well. Coho fry (young salmon) are found in many of the urban streams in Ellensburg and Yakima, while steelhead fry are found in many small forest streams. In addition to the species listed above, sockeye salmon are currently being reintroduced into the Lake Cle Elum system.

Salmon make wonderful neighbors. As adults returning to spawn, they bring nutrients from the ocean that help local plants and animals thrive. They attract wildlife, and are impressive to watch. Young salmon live in our local streams and rivers for up to a year before they swim out to the ocean, and they eat a lot of mosquito larvae while they're here!

## GOOD BUFFERS MAKE GOOD NEIGHBORS

One of the best ways to protect and enhance salmon habitat is to build and maintain a riparian buffer. Riparian buffers, or the plants along a stream or river, link the land and the water together. Whether you live on the Yakima River mainstem or on a smaller waterway, like Ellensburg's Mercer Creek, or Richland's Amon Creek, the water is affected by what happens on your home turf.



Photos by: Mid-Columbia Fisheries Enhancement Group

## LAWNS CAN HARM STREAMS

Residential neighborhoods can be major sources of pollution. Water flowing over roads, lawns, and yards picks up sediment, fertilizers, pesticides, herbicides, heavy metals, and other pollutants that harm the natural system. Maintaining a lawn right up to a stream's banks invites multiple problems.

**EROSION:** Cutting riverside vegetation destabilizes the shoreline and can lead to loss of land. Streambanks must stand up to scouring currents, fluctuating water levels, moving ice, flooding, and surface runoff from higher ground.

**FLOODING:** Land development creates impervious surfaces such as roofs, roads, sidewalks, and parking lots. Water runs off these surfaces in greater quantities, and more rapidly, than it would in a natural landscape. Rainwater can run off lawns twice as fast as from a bank planted with trees and shrubs. More water reaches the stream faster than it would naturally, causing flooding during heavy rains and snowmelt.

**WATER DAMAGE:** Building structures within the riparian area places them in harm's way. The power of a river in April can be a surprise when it was only a babbling brook in July, and can destroy obstacles in its path with ease.

**UNSIGHTLY ALGAE BLOOMS:** Fertilizers for lawns also feed algae and aquatic weeds. Algae can cover the top of the creek, reducing sunlight and, when it decays, absorbing oxygen essential to other aquatic plants and animals.

**DAMAGE TO FISHERIES:** Clearing trees exposes waters to more sunlight, raising water temperatures and stressing fish.

**LOSS OF HABITAT:** The river's edge is prime real estate for birds and other wildlife. Backyard bird feeders are no substitute for good plant cover and natural food.

**LOSS OF PRIVACY:** Shoreline vegetation screens homes from public view.

## THE BEAUTY OF BUFFERS

Native plants protect your property by slowing runoff and allowing it to soak into the ground, recharging wells and reducing flooding. Roots help hold the soil in place and control erosion. Trees cast their shade over the water to keep it cool for fish and frogs, and provide perching places for birds.

Buffer plants can provide seasonal blooms and autumn color to beautify your yard while attracting butterflies and birds. Vegetation along your streambank provides a "living filter" to protect streams and groundwater, while providing your home landscape with privacy and the pleasure of watchable wildlife.

The flood and erosion "insurance" provided by a riparian buffer is all the more important now that weather patterns are taking a turn. In the future, the Yakima basin is expected to see more of its precipitation delivered as rain. Sturdy plantings on your streambank are the best protection you can provide for your own property and your neighbors. It can take several years for a newly-planted riparian buffer to be fully effective, so if you can, start planting today.

# BUILDING A BACKYARD RIPARIAN BUFFER

As you begin to think about establishing a riparian buffer on your property, start by considering how you use your land. Do you play sports in your yard? Do you have small children or pets? Where are the best spots to sit and watch the river?

Creating a buffer does not mean giving up on the recreational and aesthetic uses of your yard. Backyard buffers should be designed to maintain views and invite people to play in your yard. You can frame your view of the river or stream with careful plant selection and pruning when necessary.

If foot access to the stream is important, lay out a curved path and plant around it. Grade the path if necessary to keep it from becoming a tiny stream channel during rainstorms. Slopes over 15% require constructing steps or stairs. Try to keep children and pets on this path to discourage them from trampling the rest of the riverbank.

Plants that are native to your area will create the most valuable buffers.

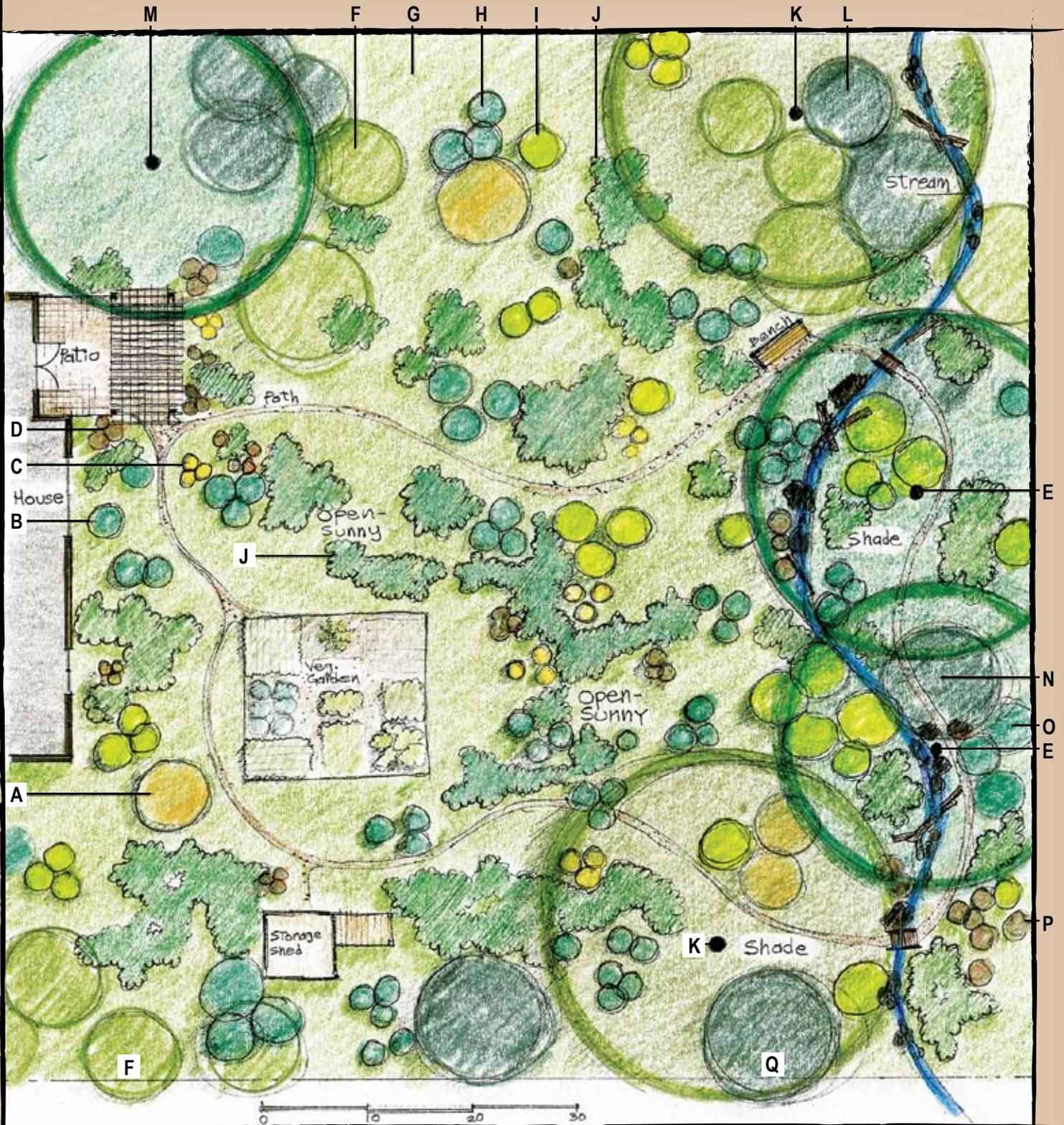
Native plants:

- are time proven—they have been around for thousands of years and are adapted to the climate.
- conserve water, which saves a precious resource, reduces costs, and helps to maintain the groundwater table.
- provide fish and wildlife habitat—food, shelter, shade and hiding cover.
- are disease and pest resistant.
- do not need chemicals for their growth or care.
- require little maintenance after establishment.
- provide buffers to streams.
- are beautiful and provide year-round interest.

Landscape architecture by: J. Hess



# A BACKYARD BUFFER FOR NORTHERN KITTITAS COUNTY



Landscape architecture by: J. Hess

## NATIVE PLANTS DRAWN IN THIS EXAMPLE:

- |                          |   |                                |                    |
|--------------------------|---|--------------------------------|--------------------|
| A Mockorange             | F Golden Currant                              | J Kinnikinnick, Blanket Flower | O Snowberry        |
| B Oregon Grape, Creeping | G Idaho Fescue,<br>Wild Strawberry, Columbine | K Quaking Aspen                | P Prairie Smoke    |
| C Columbine              | H Oregon Grape, Creeping                      | L Ocean Spray                  | Q Pacific Ninebark |
| D Lewis' Blue Flax       | I Snowberry                                   | M Ponderosa Pine               |                    |
| E Grand Fir              |   | N Vine Maple                   |                    |

A buffer of native plants can be a beautiful addition to any landscape. The planting plan shown here allows for easy access to the stream, good views, and minimal maintenance after the first few years. The trees, shrubs, grasses and groundcovers used in this plan could all be exchanged for plants from the chart below, according to personal preference and plant availability.

## PLANTING GUIDELINES

- Group plants by similar moisture and sun/shade requirements.
- Plant in layers by different heights: overstory trees, understory trees, shrubs, perennials/grasses.
- Plan on the mature size for plant location.
- Water plants for 2-3 summers until plants are well-established, then stop watering.
- Minimize lawn or use water conserving grass species.
- Choose native plants that provide wildlife habitat.

## CHOOSING YOUR NATIVE PLANTS:

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>SOIL</u> D=dry M=moist	<u>LIGHT</u> S=sun Sh=shade S/Sh=sun/shade	<u>HEIGHT</u>	<u>NOTES</u> E=evergreen D=deciduous
<b>TREES</b>					
Trees are critical to the effective function of a riparian buffer. They provide shade, nutrient input, and bank protection.					
Douglas Maple	Acer glabrum	M/D	S/Sh	20'	D, red-orange fall color, seeds for birds
Grand Fir	Abies grandis	D/M	S/Sh	160'	E, erect cones, wildlife cover
Mountain Alder	Alnus incana	M	S/Sh	25-35'	D, fast growing, attractive light-colored bark
Pacific Willow	Salix lasiandra	M	S	10-25'	D, sandbars or floodplains, yellow twigs
Paper Birch	Betula papyrifera	M	S	60'	D, peeling white bark, moist stream bank
Ponderosa Pine	Pinus ponderosa	D	S	180'	E, drought tolerant, wildlife cover
Quaking Aspen	Populus tremuloides	M	S	35'	D, sends out suckers, gold fall color
Vine Maple	Acer circinatum	M	S/Sh	6-10'	D, red-orange fall color, seeds for birds
Water Birch	Betula occidentalis	M	S/Sh	20-30'	D, seasonally flooded soil, yellow fall color

## SHRUBS

Shrubs help to hold on to streambanks, filter water, and provide wildlife habitat.

Coyote Willow	Salix exigua	M	S/Sh	10-15'	D, spreading by roots, wet areas
Golden Currant	Ribes aureum	M/D	S	6-8'	D, yellow flowers, gold fall color
Hazelnut	Corylus cornuta	D	S	12'	D, catkins, nuts in tubular husk
Mockorange	Philadelphus lewisii	D/M	S	8'	D, fragrant white flowers
Mountain Boxwood	Pachistima myrsinites	M/D	S/Sh	2-3'	E, dense shrub, small leaves
Oceanspray	Holidiscus discolor	D	S	10'	D, cream color cascading flower clusters

Blanket Flower by: J. Hess



Columbine by: J. Hess



Pacific Ninebark by: J. Hess



# CHOOSING YOUR NATIVE PLANTS (CONTINUED):

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>SOIL</u> D=dry M=moist	<u>LIGHT</u> S=sun Sh=shade S/Sh=sun/shade	<u>HEIGHT</u>	<u>NOTES</u> E=evergreen D=deciduous
<b>SHRUBS (CONT.)</b>					
Oregon Grape, Creeping	Mahonia repens	D/M	S/Sh	3'	E, yellow flowers, blue berries
Oregon Grape, Tall	Mahonia aquifolium	D/M	S/Sh	8'	E, yellow flowers, blue berries
Pacific Ninebark	Physocarpus capitatus	M	S/Sh	12'	D, shredding bark, white flower clusters
Red Elderberry	Sambucus racemosa	D	S	12'	D, red berries, birds
Red-osier Dogwood	Cornus sericea	M	S/Sh	6-12'	D, red stems, likes seasonally wet soil
Serviceberry	Amelanchier alnifolia	D	S	12'	D, white flowers, blue-black berries
Snowberry	Symphoricarpos albus	D/M	S/Sh	3-4'	D, white berries for quail, spreading by roots
Snowbrush	Ceanothus velutinus	D/M	S	4-7'	E, glossy leaves, white flowers

## GRASSES

Native grasses require no irrigation after establishment. Their deep roots stabilize riparian soils and streambanks.

Junegrass	Koeleria cristata	D/M	S/Sh	12-24"	D, bluish-green fine leaves in dense clumps
Idaho Fescue	Festuca idahoensis	D	S	18"-2'	D, fine leaves, dense bunchgrass clump

## PERENNIALS/SUCCULENTS/GROUND COVERS/VINES

These plants help to filter snowmelt and rainwater as it runs toward the stream. They provide forage for wildlife, and are attractive, fragrant components of a native plant landscape.

Anemone	Anemone varieties	M	S/Sh	4-12"	D, spring white, cream or pink flowers
Big-leaf Lupine	Lupinus polyphyllus	M/D	S/Sh	3'	D, purple-blue flowers
Bigflower Tellima	Tellima grandiflora	M	S/Sh	2'	D, small cream flowers, spreads
Blanket Flower	Gaillardia aristata	D	S	1-2'	D, yellow flowers, butterflies
Bleeding Heart	Dicentra formosa	M	Sh	18"	D, pink heart-shaped flowers
Columbine	Aquilegia formosa	M/D	S/Sh	1-3'	D, red and yellow flowers, hummingbirds
Cranesbill Geranium	Geranium richardsonii	M	S/Sh	18"	D, grows with aspen, white flowers
Foamflower	Tiarella trifoliata v. unifoliata	M	Sh	2'	D, small white flowers on long stalks
Goat's Beard	ArunCUS dioicus	D/M	Sh	4'	D, delicate-looking leaves, cream flowers
Honeysuckle Vine	Lonicera ciliosa	D	S	15'	D, vine, yellow fragrant flowers, hummingbirds
Kinnikinnick	Arctostaphylos uva-ursi	D	S/Sh	6"	E, groundcover, red berries, avoid foot traffic
Mule's Ears	Wyethia amplexicaulis	D/M	S	1-2'	D, bright yellow flowers early summer
Shooting Star	Dodecatheon hendersonii	M	S/Sh	12"	D, soil must be moist when plant is in bloom
Showy Fleabane	Erigeron speciosus	D	S	3'	D, purple w/ yellow center daisy-like flowers
Shrubby Penstemon	Penstemon fruiticosus	D	S	12-18"	D, blue-lavender flowers, good drainage
Slender Cinquefoil	Potentilla gracilis	D	S	15-30"	D, prolific yellow flowers
Twinflower	Linnea borealis	D	Sh	4-6"	D, twin small pink flowers, spreading
Wild Strawberry	Fragaria virginiana	D	S/Sh	6"	E, white flowers, small sweet fruit, spreading
Yarrow	Achillea millefolium	D	S	2'	D, white clustered flowers, spreading by seeds



Vine Maple by: J. Hess



Oregon Grape by: J. Hess



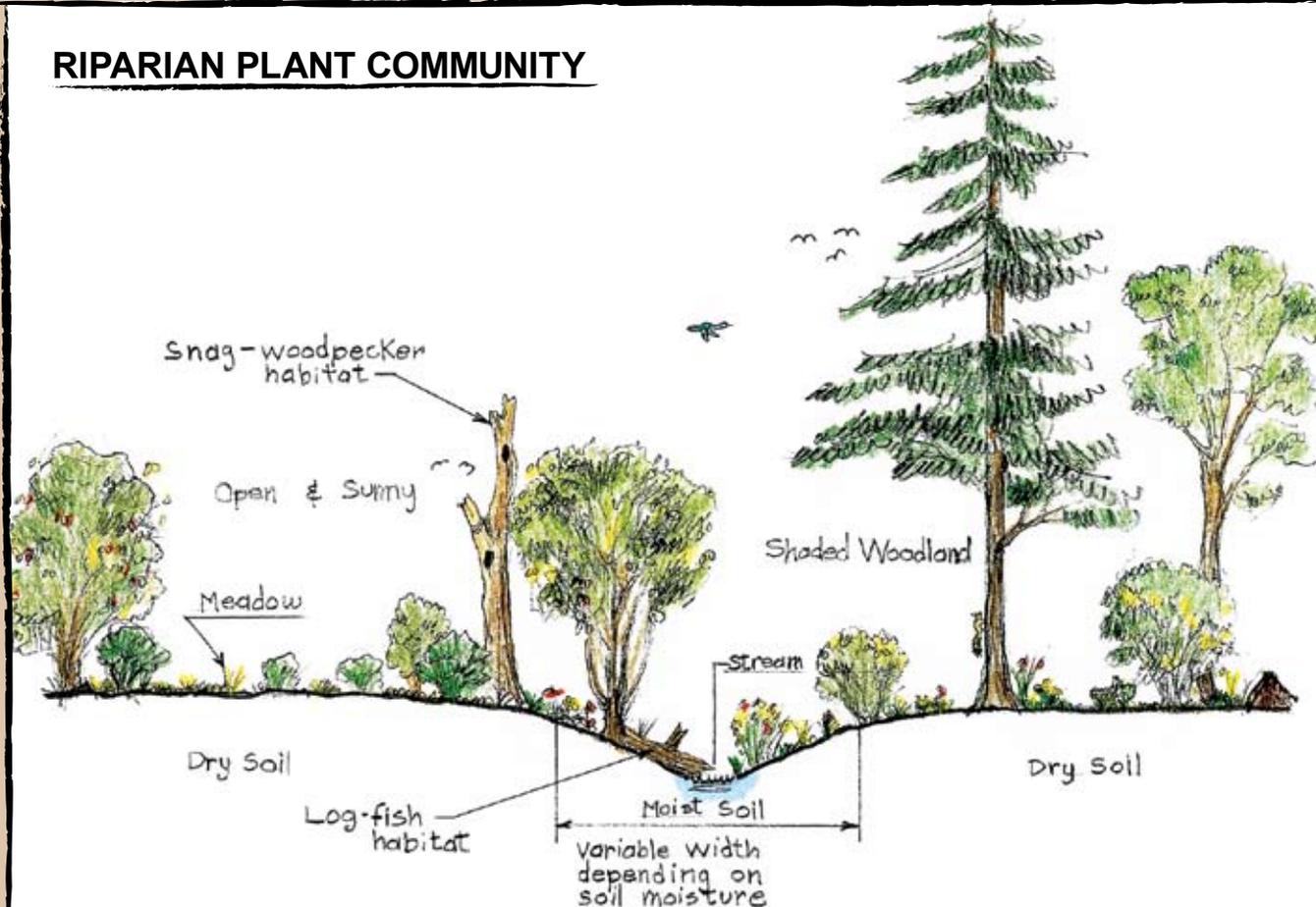
Red-osier Dogwood by: J. Hess

# CARING FOR YOUR BUFFER

The best care is the least care when it comes to a stream buffer. Resist the urge to tidy up. A natural forest floor, with its “litter” of fallen leaves and twigs, helps the buffer break down pollutants and soak up water. Mulch with pine needles or bark chips on high visibility areas if you wish; fresh wood chips should be composted for six months before use.

Fish appreciate in-stream wood because it provides hiding places and creates resting pools. Only remove woody debris that could form dams and cause inundation. If a large tree threatens to fall from a steep bank, you can cut the tree 10 feet above the ground surface, and leave the root system in place. The “snag” that remains on the stream bank will provide a great home for wildlife.

## RIPARIAN PLANT COMMUNITY



## OTHER RESOURCES

Links to other resources can be found at [www.midcolumbiarieg.com](http://www.midcolumbiarieg.com). Funding to assist landowners with the installation of backyard buffers in the Yakima Basin may be available. Please contact Mid-Columbia Fisheries Enhancement Group at [yakima@midcolumbiarieg.com](mailto:yakima@midcolumbiarieg.com), or by phone at (509)281-1311, for information.

## ACKNOWLEDGEMENTS

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## **WELCOMING SALMON TO OUR BACKYARDS: A GUIDE TO LANDSCAPING WITH NATIVE PLANTS ALONG STREAMS AND RIVERS**



Photo by: Mid-Columbia Fisheries Enhancement Group

Riparian buffers are the strips of grass, shrubs, and trees along the banks of rivers and streams. A backyard riparian buffer enhances fish and wildlife habitat, and is a beautiful addition to any landscape.

### Buffers:

- act as filters to trap pollutants that would otherwise wash into our streams.
- keep stream banks and streambeds stabilized, resulting in less flood damage.
- provide shade, keeping water cooler for salmon and trout.
- provide good homes and safe travel corridors for wildlife.

Many landowners are reluctant to install riparian buffers. Some are concerned that the buffer will block their view of the river, while others are worried that a riparian buffer will be difficult to maintain. This brochure includes a planting plan and native plant list that allow for easy access to the stream, good views, and minimal maintenance after the first few years.