



## shade our streams

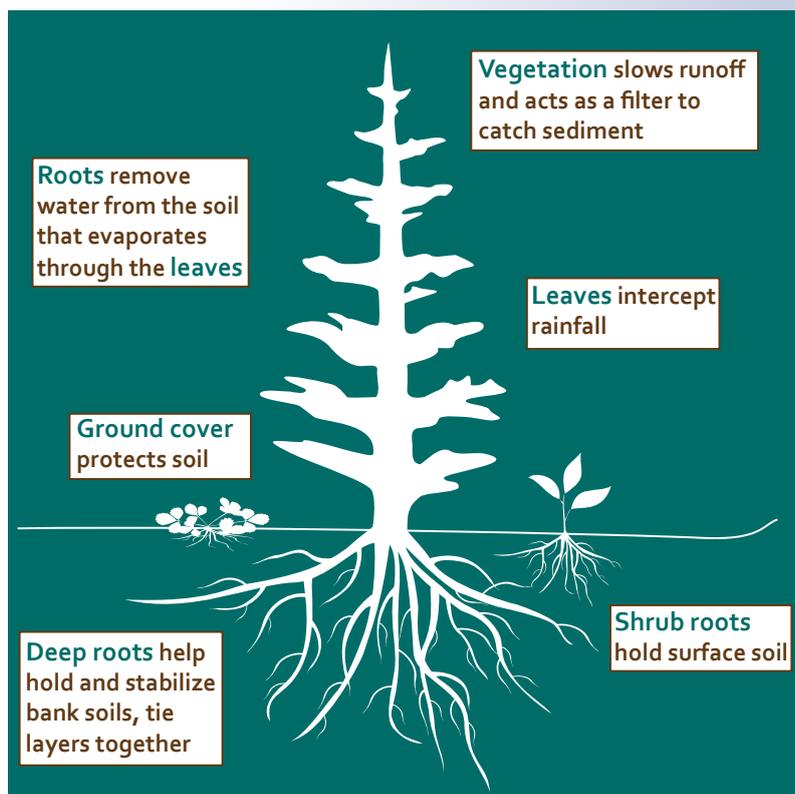
A CLACKAMAS RIVER BASIN COUNCIL PROJECT

### Stop Erosion Before it Starts

Are you worried about streambank erosion? By participating in Shade Our Streams you are already taking a great step towards long term bank stabilization.

Vegetated streambanks reduce erosion in a number of ways:

- **Rain Interception** Leaves and branches intercept rainfall before it hits the ground, limiting its impact and providing a surface for absorption and evaporation.
- **Moisture Balance** Evergreen trees and shrubs continue growing throughout the winter, removing excess moisture from the ground, binding soils, and reducing the rate of landslides year-round.
- **Soil Strength** Even during the winter when deciduous plants are dormant, their root systems continue to stabilize the bank, increasing soil strength and soil binding during rain and flood events.
- **Slower Stream Flow** Vegetation breaks up the water currents created by flooding and surface runoff during storm events, slowing the speed of flow and reducing the damage it causes.
- **Long Term Stability** Man-made erosion control structures are strongest upon installation and break down over time. In contrast, plants continue to grow bigger and stronger over time.



### Not All Plants Are Created Equal

Not all plants provide effective erosion control. Common invasive species such as English ivy, Himalayan blackberry, and Japanese knotweed, can actually reduce soil strength. They discourage other vegetation from becoming established, leaving behind a **monoculture** (area colonized by a single organism) of shallow roots that do little to hold the streambank together. A diversity of native trees and shrubs provides the bank with varying root depths, binding soils at multiple levels underground. In the case of Japanese knotweed and reed canary grass, the plants completely die back in the winter, failing to hold in even the surface soils.

## My Role as a Landowner: Leave the Leaves

Think of your property as an ecosystem. The forest feeds and sustains itself, and your planting area can too. The leaves that die and fall off trees provide many benefits to your new plantings and the streamside ecosystem that gave them their start.

- When the leaves first fall to the ground, the blanket they create **insulates** the plants against sudden changes in temperature and protects exposed soil from heavy rains.
- As they break down, they release nutrients into the soil, **fertilizing** it and improving drainage and soil structure.
- Although they originate on land, the leaves that fall in the creek occupy a necessary place in the aquatic **food web**. They provide food for aquatic bugs, which in turn are food for fish, **nourishing** all members of the ecosystem while adding valuable nutrients to the water.

Keep up the good work leaves!



Aquatic bugs feed on leaves, the basis of the aquatic food web.

## Contact us

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Clackamas River  
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Leaves providing insulation for a young streamside cedar through the cold winter months.

## What Happens Next? Low Maintenance Landscaping

Because the trees and shrubs planted by the Shade Our Streams program are all native to the region, they are **adapted** to our unique climate. This means that while they may be young, they can handle Oregon's winter frosts, heavy downpours, and summer droughts. They require no fertilizers, pruning, or watering to survive, so you can enjoy your low-maintenance planting area from the comfort of your home this winter. As far as the weeds go, our restoration crews will return during the spring and summer months to continue treating them as the native plants get established.