

# Terrestrial Invasive Species

## Knotweed

*Reynoutria japonica*



A tall dense shrub that grows rapidly to a height of up to 3 meters, about 9 feet.

It grows from deep rooted creeping rhizomes that allow it to form expansive patches that disperse during flood events.

## Invasive Blackberry

*Rubus armeniacus*



A woody shrub native to the western Europe. It can grow up to 4 meters, about 13 feet, with hooked prickles and dense thick stems. This plant grows rapidly displacing native herbaceous plants and shrubs spreading by seed or by shooting larger older canes in order to plant new roots several feet away. Rhizome mass can be two times greater below ground than the plants size

## Scotch Broom

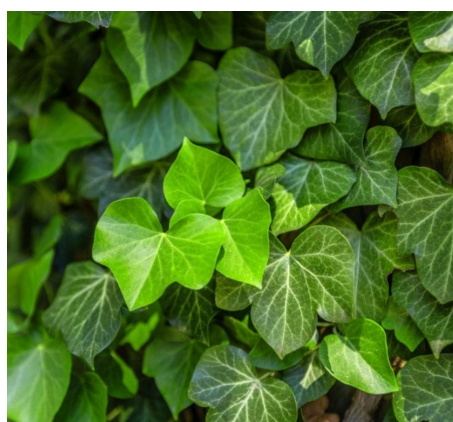
*Cytisus scoparius*



A perennial shrub of the pea family. Broom seeds have hard coats that allow it to survive being transported in rivers during flood events. These rapidly growing plants can take over and change whole ecosystems especially in clear cut forested areas.

## English Ivy

*Hedera helix*



An evergreen perennial vine that can grow up to 30 meters, 99 feet. Native to Europe, this aggressive invasive threatens most forest types in Oregon. English ivy kills large trees overtime by unevenly weighing trees branches and crowding out leaves for sunlight. It spreads by shooting out long stems that can root into the soil.

## Flowering Rush

*Butomus umbellatus*



A perennial aquatic plant that grows in water along riparian shorelines. Native to Europe and Western Asian, flowering rush grows deep roots allowing it to live submerged in water without needing to flower. They are able to reproduce rapidly with rhizomes as well as by seeds. This invasive can be challenging to identify when not flowering as it resembles many of the native rushes. Leaves are stiff, narrow, sword-shaped, triangular in cross section, & stands up to 3 feet above the waters surface.

## Water Primrose or Ludwigia

*Ludwigia hexapetala*



A perennial aquatic plant that grows in slow moving water. Water primrose is capable of producing large floating mats over the surface of the water. It can spread through seeds, roots, and plant fragmentation. This invasive causes rapid sedimentation and contributes to lower oxygen levels by slowing the flow of fast moving water over riffles. Dense floating mats also shade rivers negatively impacting native aquatic plants by preventing them from photosynthesizing.



# Impacts to the Riparian Zone

## Knotweed

*Reynoutria japonica*



**Habitat:** Knotweed can form dense canopies that block out tree seedlings which are important for fish habitat and survival. Knotweed dies back at the first frost, exposing stream banks to high winter and spring flows which can increase erosion and result in sedimentation.

**Food Web:** Knotweed can create monocultures that exclude native plants, which disrupts the aquatic food chain.

## Invasive Blackberry

*Rubus armeniacus*



**Habitat:** Himalayan blackberry can dominate the riparian area and significantly decrease native plant diversity.

**Water Quality:** Many native riparian plants help with sediment deposition as well as filtration of heavy metals and pollutants out of the water.

**Food Web:** Native plants provide shade, provide diversity, and support macroinvertebrates that juvenile salmon rely on.

## Scotch Broom

*Cytisus scoparius*



**Habitat:** Scotch Broom forms dense stands in the riparian area that crowds out native species. It can prevent conifer trees from seeding leading to total domination of land. The large root systems of conifer trees play a big role in stabilizing river banks. The loss of stable river banks leads to erosion which can wash away fish habitat including redds and the eggs salmon have laid.

## English Ivy

*Hedera helix*



**Habitat:** When English ivy takes over trees in a riparian area slowly killing native trees, river lose their shade and cover. More direct sunlight on rivers can cause an increase in water temperature, affecting fish habitat.

When ivy causes trees to die and fall, the loss of their root structure can lead to significant erosion affecting the riparian area from soaking and filtering rain and snow melt.

## Flowering Rush

*Butomus umbellatus*



**Habitat:** Flowering rush can create dense thick stands that can prevent many organism from moving through the river including salmon swimming and even humans in boats!

**Water Quality:** Invasive flowering rush negatively impacts water quality by increasing nutrient levels. This happens when the plant transfer nutrients found in the river's soil to the water. Decaying flowering rush plants utilize oxygen within the water, decreasing available oxygen for other aquatic species.

## Water Primrose or Ludwigia

*Ludwigia hexapetala*



**Habitat:** Dense thick mats of water primrose have been known to slow and even stop water in river and riparian areas leading to the loss of salmon habitat.

**Water Quality:** Water primrose has the ability to release chemical signals that kill native plants in the water around it. This is known as allelopathic activity. Water primrose harms a river's water quality by removing the native plants that help to filter the water leading to rivers becoming uninhabitable to salmon. Decaying water primrose plants utilize oxygen within the water, decreasing available oxygen for other aquatic species.