

# Japanese Knotweed Invasion Along Pacific Northwest River Corridors

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## Why Study Japanese Knotweed?

Japanese knotweeds (*Polygonum cuspidatum*, *P. sachalinense*, *P. x bohemicum*) are giant (~15 feet) herbs with bamboo-like stems and heart-shaped leaves. Native to Southeast Asia, knotweeds have become problem weeds along rivers, roadsides and human disturbed areas throughout North America and Europe. These species spread rapidly from underground stems (called rhizomes) and appear to displace other plant species. Once knotweeds take over they are extremely difficult to remove because any remaining rhizome fragments will grow into a new plant.

Knotweed invasion is suspected to prevent the growth and survival of native herbs, shrubs and juvenile trees along river corridors. The loss of native vegetation, especially trees, is a conservation concern because these plants provide critical food and wildlife habitat to forests and adjacent rivers or streams.

## Study Objectives:

- Gain an understanding of knotweed's effect on tree regeneration along river corridors
- Test whether knotweed removal alone is an effective restoration strategy to support native forest recovery

## Methods:

1. Setup 25 plots in knotweed invaded forest along the Dickey River, NW Olympic Pen.
2. Remove knotweed from 1/2 of each plot
3. Plant tree seed and seedlings in areas with vs. without knotweed and compare tree germination, growth and survival
4. Compare plant nutrients, soil organisms, and light availability in areas with vs. without knotweed
5. Measure natural understory herb, shrub, and tree regeneration one year before and two years after knotweed removal

## Preliminary Results:

- Knotweed reduced seedling growth and survival of all three planted tree species (alder, spruce, and hemlock)
- Native herbs, shrubs, and trees recruited within experimental plots < 1 year after knotweed removal suggesting knotweed control is an effective means of promoting forest recovery

## Recommendations:

- Knotweed invasion displaces native herbs, shrubs and juvenile trees along river corridors and its removal should be included among the primary goals of both forest and river habitat restoration initiatives.

