# Knotweeds

*Fallopia japonica, Fallopia sachalinensis,*

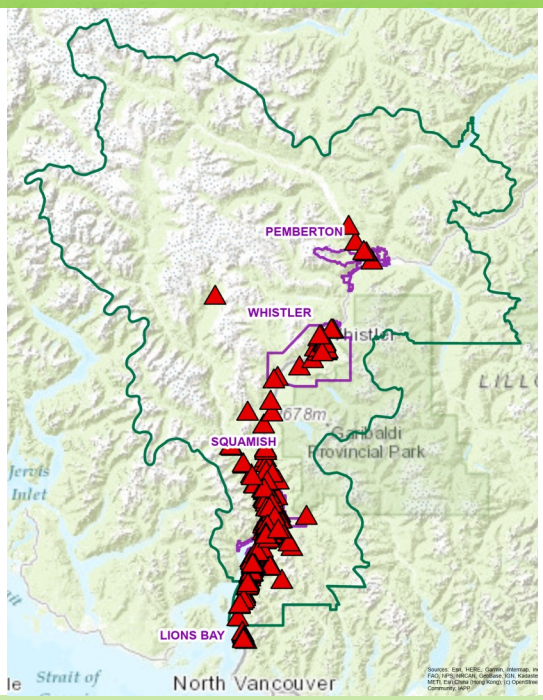
*F. x bohemicum, Persicaria wallichii*

FACT SHEET

**Japanese, Bohemian, Giant and Himalayan knotweeds are very similar in their growth characteristics and overall stem appearance.**

**All four are perennial species, with the above-ground vegetation dying off in winter, while the below-ground vegetation lies dormant. The species can be distinguished by their leaf shape and size.**

## DISTRIBUTION




May To June

July To Sept

Oct To Nov

## REGIONAL PRIORITY

| | Japanese Knotweed | Bohemian Knotweed | Himalayan Knotweed | Giant Knotweed |
|---|---|---|---|---|
| Squamish | Contain | Contain | Eradicate | Prevent |
| Whistler | Eradicate | Prevent | Eradicate | Prevent |
| Pemberton | Eradicate | Prevent | Prevent | Prevent |

## GENERAL INFO


Japanese Knotweed (*Fallopia japonica* )

**Origin:** Knotweeds originate from Asia; they were introduced to BC as garden ornamentals in the 1900s.

**Habitat:** In their native range of eastern Asia, knotweeds live on harsh volcanic slopes, where they play an important role as a colonizing species. In coastal BC, knotweeds thrive due to a lack of predators and diseases that usually control their population, coupled with their incredible reproductive capabilities. From moist soil to river cobble, and from full to partial sunlight, they can dominate rivers, creeks, roadside ditches, and beaches. Knotweeds' preference for moist, freshly-disturbed soil also makes areas prone to seasonal high water or flooding particularly susceptible.

**Propagation:** Knotweeds spread rapidly through root systems that may extend from a parent plant up to 20 m laterally and up to 3 m deep. They reproduce vegetatively, meaning that new plants sprout from small pieces (as little as 0.7 grams) of stem or root tissue. The rate of spread is exponential and the size of infestations will likely double every 5 years.

**Updated June 2023**

**Vectors of Spread:** Knotweeds can spread when fragments of the roots and stems are moved by waterways or human activities. These activities include moving soil containing knotweed plant material, mowing or cutting knotweeds, or dumping yard waste that contains knotweeds. In river corridors, the plant can reproduce from fragments that travel downstream during high-water events. Stem or root material can produce a new plant in as little as 6 days and as a result, one patch can be the source of many downstream infestations.

### WHAT CAN I DO?

**Knotweeds have been found throughout the Sea to Sky, but are not well established north of Squamish, so PREVENTION of further spread is key:**

- Do not plant knotweeds in a garden.
- Do not use or transport soil or gravel that is contaminated with knotweeds.
- Do not mow or weed-whack knotweeds, since fragments can spread the plant. Frequent mowing may also accelerate shoot development, leading plants to spread laterally from the parent plant.

**Knotweed control:**

Knotweeds are difficult to control and require a dedicated, multi-year approach.

- **Chemical Control:** A site-specific, multi-year treatment plan, using herbicide, is the most effective method for knotweeds infestations. Targeted application methods, such as foliar spray or stem injection, attack both above-ground vegetation and root systems. Herbicide application should be done by person holding a valid BC Pesticide Applicator Certificate who has experience treating knotweeds, such as SSISC's Field Crew. Before selecting and applying herbicides, you must review and follow herbicide labels and application rates; municipal, regional, provincial and federal laws and regulations; species-specific treatment recommendations, and site-specific goals and objectives.
- **Mechanical Control:** It is NOT recommended to use mechanical treatments on knotweeds, due to limited efficacy of such treatments. If absolutely necessary, smaller patches may be managed by cutting stems to at most 15 cm tall every 2 weeks and monitoring up to 10 m away from removal location for new sprouts. This should eventually deplete the energy reserves of the rhizome, but can take decades. Any cut material should be bagged and deeply buried in a landfill. Take extra precautions to keep from spreading fragments to new sites during transport.
- **Biological Control:** There are no biocontrol agents currently available in Canada for knotweed control, however the sap sucker psyllid, *Aphalara itadori,* is currently being assessed by Agriculture and Agri-Food Canada.

For more detail about knotweed identification and control, please go to **ssisc.ca/knotweeds.**

**If you suspect you have found Knotweeds anywhere in the Sea to Sky region:**

**Contact** the Sea to Sky Invasive Species Council to report and for the most recent, up-to-date control methods. All reports will be kept confidential.

**References:** Capital Region Invasive Species Program, Centre for Invasive Species and Ecosystem Health, Eflora BC, Fraser Valley Invasive Species Society, Government of BC, Invasive Species Council of BC, King County Noxious Weed Control Board, Metro Vancouver.

## IMPACTS

**Ecological: Disrupts food chains and threatens biodiversity by shading out other plant species, reducing available habitat, and increasing soil erosion along stream banks.**

**Economic: Knotweeds cause damage to infrastructure when they grow through concrete; reduce sight lines along roads, fences, and other rights-of-way; and impede access to waterbodies.**

Bohemian Knotweed (*Fallopia x. bohemica*)

Himalayan Knotweed (*Persicaria wallichii*) B. Brett

Giant Knotweed (*Fallopia sachalinensis*)

## REPORT SIGHTINGS

**Visit ssisc.ca/report**

## IDENTIFICATION

| | Japanese Knotweed (*Fallopia japonica*) | Bohemian Knotweed (*Fallopia x bohemicum*) | Giant Knotweed (*Fallopia sachalinensis*) | Himalayan Knotweed (*Persicaria wallichii*) |
|---|---|---|---|---|
| |  |   |   |   |
| **Flowers** | All four knotweed species have showy, plume-like, branched flower clusters and bloom in late summer. | | | |
| | Whitish or greenish-white | White or greenish-white to pink | Pale green or greenish-white | White |
| **Stems** | All four knotweed species have hollow, upright green, segmented stems with reddish-brown speckles, which resemble bamboo. | | | |
| | 1 - 3 m tall | 1.5 - 2.5 m tall | 2 - 4 m tall | 1 - 2 m tall |
| **Leaves** | Egg-shaped leaves, with a flat leaf base. Thick and leathery.<br>3 - 10 cm long, 2/3 as wide<br>The veins on the underside of the leaves have blunt knobs. | Egg or heart-shaped leaves, of varied size along stems.<br>5 - 30 cm long, 2/3 as wide<br>The undersides have short, stiff hairs. | Heart-shaped leaves, deeply indented at the base. Thin and flexible.<br>20 - 40 cm long, 2/3 as wide<br>The undersides have long hairs. | Narrow, lance-shaped leaves<br>Up to 20 cm long<br>The underside of the leaves is coated with stiff hairs. |
| **Roots** | Knotweeds have an underground network of rhizomes. Each rhizome is up to 7.5 cm in diameter, and penetrates the soil 2 - 3 m and up to 20 m wide. The rhizomes have ring-like structures at about 2 - 4 cm intervals; when fresh, they are yellow or orange inside.<br>Knotweeds' extensive root system lacks the well-developed root hairs necessary to bind and hold in place stream bank soil, especially during peak winter rains. | | | |
| **Fruits and seeds** | Dry seed pods are 3-angled, black, smooth and shiny<br>2.5—3 mm long<br>Can cross-pollinate with Giant Knotweed to form Bohemian Knotweed | Dry seed pods are 3-angled, black, smooth and shiny<br>2.5—3 mm long | Dry seed pods are 3-angled, black, smooth and shiny<br>2.5—3 mm long<br>Can cross-pollinate with Japanese Knotweed to form Bohemian Knotweed | Dry seed pods are small, smooth, 3-sided and have old sepals attached to them<br>Can reproduce by seed |