

Knotweed: State Prohibited Weed

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This Landcare Note describes Japanese knotweed Fallopia japonica, giant knotweed Fallopia sachalinensis and Japanese knotweed hybrid Fallopia x bohemica, State Prohibited Weeds in Victoria.

Common names

Japanese knotweed

Giant knotweed

Japanese knotweed hybrid

Scientific names

Fallopia japonica (Houtt.) Ronse Decr.

Fallopia sachalinensis (Schmidt) Ronse Decr.

Fallopia x bohemica (Chrtek & Chrtkova) J.Bailey

Family Polygonaceae (dock family)

F. japonica = *Reynoutria japonica* Houtt., *Polygonum cuspidatum* Sieb. & Zucc.; *F. sachalinensis* = *Reynoutria sachalinensis* (Schmidt) Nakai; *F. x bohemica* = *F. japonica* x *F. sachalinensis*.

Status

These knotweeds are proclaimed as State Prohibited Weeds in Victoria. This is the highest category to which a noxious weed can be allocated and means that these *Fallopia* taxa are to be eradicated if possible from the State. Not proclaimed in any other Australian State or Territory.

No knotweed species are native to Australia.

Fallopia infestations occur at Narbethong, Foster, Mirboo and Falls Creek in Victoria. The sites are generally on private land adjoining public land and the infestations are being eradicated as part of the rapid response plan for new and emerging weeds. Another occurrence in a private garden in metropolitan Melbourne has been removed and is being monitored.

Knotweeds were introduced to the UK in the early 1800s and the USA in the late 1800s as ornamentals and are now considered weeds in Europe, Asia, North America, Canada and New Zealand.

Origin

Japanese Knotweed: Japan (Hokkaido, Honshu, Kyushu, Shikoku), Korea, Taiwan and China.

Giant Knotweed: Japan (Hokkaido & Honshu) and Russian Federation (Kurile Islands & Sakhalin Peninsula)

In its native habitats in Japan and eastern Asia *F. japonica* occurs on hillsides and mountain slopes in open, sunny sites and is generally a successional species. It is most common and vigorous in open moist sites and occurs along riverbanks, disturbed coastal habitats, wetlands, roadsides and in a variety of disturbed areas. Although it can colonise open forested sites, it generally does not thrive in the shade of forest canopy.



Figure 1. Fallopia sachalinensis plant showing general growth form of knotweeds.

Description

Knotweeds are fast-growing, semi-woody perennials that form dense leafy thickets, flowering in summer with most of the foliage dying back over autumn (Figures 1&7).

Knotweeds appear to readily hybridise resulting in a range of forms. *F. japonica* grows to heights ranging from 1-2m whilst *F. sachalinensis* grows to 2-4m high. The knotweeds known in Victoria vary in appearance but all have the following distinctive characteristics.

Stems – hollow, bamboo-like, becoming tough and woody with age; arising at intervals from the rhizomes. New growth may be purplish-red, older growth is often speckled (Figure 2).



Figure 2. Knotweed stems showing typical segmented "bamboo-like" appearance.

Leaves – knotweed leaves vary in shape and size (Figure 3). Japanese knotweed leaves measure up to 12 cm long and 10 cm wide, often with a truncate base and acuminate (pointed) apex. Giant knotweed leaves can measure 15-40 cm long and 10-25 cm wide, often with a more rounded cordate base and less acuminate apex. Hybrid leaves vary in shape and size.

The stems (petioles) of Japanese knotweed leaves have a distinctive nectary pit at their base, whilst giant knotweed petioles have three nectary pits. Conspicuous papery sheaths (ochreae) form tubes around the bases of the young knotweed petioles but soon disintegrate (Figure 4).

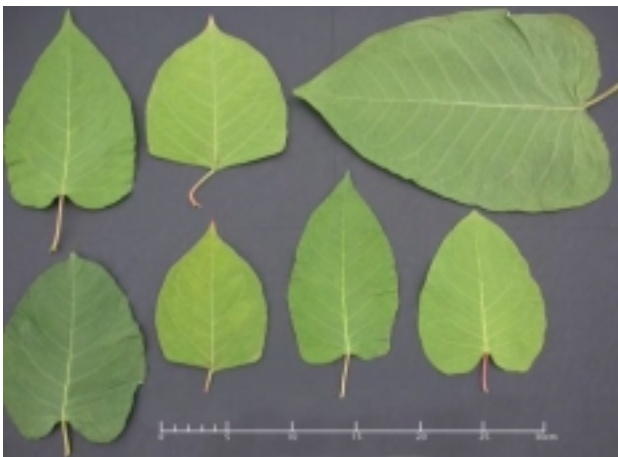


Figure 3. Leaves from three different knotweed plants showing variation in size and shape (scale in centimetres).



Figure 4. Young Knotweed stems with stem-sheathing ochreae attached.

Flowers – knotweeds flower from December to February. The species are very similar with Japanese knotweed having small, white flowers on slender branched spikes whilst giant knotweed has more clustered branches of greenish yellow flowers. Hybrid plants exhibit inflorescences similar to those of either of the parents. Florets are 1-2.5 mm long and functionally unisexual but with each male or female flower possessing the complementary but vestigial, organs of the other sex. Each floret has 5 petals and 8 stamens (Figure 5).



Figure 5. Typical knotweed inflorescence

Roots – coarse spreading perennial rhizomes (underground stems) that can reach lengths of up to 20 m and depths of over 1m.

Fruit – a three-angled papery sheath (10-15 mm long) covers a shiny black - brown 2-3 mm long seed (Figure 6).



Figure 6. Knotweed seeds fruit (scale in centimetres)

Properties

Knotweeds rapidly invade riverbanks and sites subject to disturbance, displacing all other vegetation by shading and root competition. They die back over winter, leaving bare soils open to erosion. The long lived rhizomes are able to penetrate to depths of 6 m and 20 m laterally, and are able to regrow from small cuttings, making mature infestations extremely difficult to remove.

The vigorous potential of knotweeds is reflected by the ability of Japanese knotweed to regenerate from rhizomes buried up to 1 metre deep and to penetrate asphalt 5 cm thick. Young shoots grow as rapidly as 8 cm a day. The plant's deep root system and spreading rhizomes provide a competitive advantage in acquiring water and nutrients compared with other less vigorous plants.

Management

The Department of Primary Industries is responsible for the control of State Prohibited Weeds. Please provide details of any occurrences of *Fallopia* spp. to a Catchment Management Officer at a local office of the Department. Control measures will either be chemical control of larger infestations or physical removal of roots and tubers of smaller infestations.

The main problem with the spread of these species is that once they become firmly established in an area, they are difficult to eradicate. If small clumps are discovered, they can be carefully dug up, ensuring that all sections of the rhizomes are removed. Large clumps can be controlled through repetitive cutting of the stems near the soil surface and immediate application of herbicide. Several cuttings and herbicide applications will be needed during a single season.

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Figure 7. Infestation of *F. sachalinensis* at Narbethong, Victoria.

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