Scientific name	*Fallopia japonica*
Common name	Japanese knotweed
Broad group	Plant
Risk Assessment Method	GB NNRA
Links	https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=239
1. Description (Taxonomy, invasion history, distribution range (native and introduced), geographic scope, socio-economic benefits)	Socio-economic benefits: *Fallopia japonica* has been intentionally introduced used for ornamental purposes (Pyšek *et al.*, 2012), possible use as a source of resveratrol (Vrchotová *et al.*, 2007) for honeybees, biomass fuel and possible remediation of soil (Honzik *et al.*, 1999).
6. Can broadly assess environmental impact with respect to ecosystem services	No available information.
8. Includes status (threatened or protected) of species or habitat under threat	It occurs frequently in natural areas (Pyšek *et al.*, 2013) where it is recognized as a problematic plant.
9. Includes possible effects of climate change in the foreseeable future	Widespread distribution across Europe. The plant has mechanisms for adaptation to adverse conditions and the use of competition strategies to monopolize resources; a warmer wetter climate will suit it even more. This species is a pioneer colonist; it withstands drought, heat, cold, sulphurous soil, being buried and even salt spray by sea lochs. The future climate change scenario shows *F. japonica* expanding into the higher elevations of the central European mountains and increasing its northward extent considerably in western Norway as well as in Sweden and Finland and increasing its growth, as it prefers warmer wetter conditions in summer.

	The eastern distributional limit of *F. japonica* is also predicted to shift markedly eastward and is predicted to lie between the Baltic and the Urals. Parts of Iceland are also likely to become potentially available to the species. These changes represent to a large extent the limitations imposed upon the species by winter temperatures and the amplified temperature increases simulated by GCMs at high latitudes in the winter months. The species' present northern limit is in Fennoscandia, however, this is in part determined by its minimum GDD5 requirement and thus its simulated northward expansion in part reflects the year-round warming predicted at these latitudes. The species' retreat from much of central northern Europe and from southern and southwestern parts of its present range apparently is primarily a reflection of decreased moisture availability in the 2 × CO_2 scenario (Beerling *et al.*, 1995). Mean annual temperatures and the risk of summer droughts are likely to increase in Europe. Hence, it is predicted that seed rotting will be boosted because of higher winter temperatures and any seedlings present will suffer from summer droughts rather than late frosts. In contrast, as a late summer flowerer seed production should be favoured by the diminished risk of early frost owing to warmer temperatures as mentioned by Bailey et al. (2009). Sexual reproduction by the hybrid would increase its ability to spread and to adapt to new environmental conditions because of higher genetic variability, which causes further problems (Funkenberg *et al.*, 2012).
11. Documents information sources	**Beerling DJ, Huntley B, Bailey JP. 1995.** Climate and the distribution of *Fallopia japonica*: use of an introduced species to test the predictive capacity of response surfaces. *Journal of Vegetation Science* **6:** 269-282. **Funkenberg T, Roderus D, Buhk C. 2012.** Effects of climatic factors on *Fallopia japonica* sl seedling establishment: evidence from laboratory experiments. *Plant Species Biology* **27:** 218-225. **Honzik R, Vana J, Ustak S. 1999.** Heavy metal decontamination of soil by means of plants. Pflanzenbelastung auf kontaminierten Standorten: plant impact at contaminated sites. Internationaler Workshop am 1. und 2. Dezember 1997 am Fraunhofer-Institut für Umweltchemie und Ökotoxikologie, Schmallenberg.: Erich Schmidt Verlag GmbH & Co (Berlin), 183-190. **Pyšek P, Danihelka D, Sádlo J, Jr. C, Chyrtý M, Jarošík V, Kaplan Z, Hrahulec F, Moravcová L, Perg J, Štajerová K, Tichý L. 2012.** Catalogue of alien plants of the Czech Republic (2nd edition):

	checklist update, taxonomic diversity and invasion patterns. *Preslia* **84:** 155-255. **Pyšek P, Genovesi P, Pergl J, Monaco A, Wild J. 2013.** Plant Invasions of Protected Areas in Europe: An Old Continent Facing New Problems *Plant Invasions in Protected Areas*: Springer. 209-240. **Vrchotová N, Sera B, Triska J. 2007.** The stilbene and catechin content of the spring sprouts of Reynoutria species. *Acta Chromatographica* **19:** 21.
Main experts	Kelly Martinou - Jan Pergl
Notes	Taxonomy of the *Fallopia* is complex and not generally adhered to by field workers and there is significant difference in risk of the group of taxons *F. japonica* vs *F. sachalinensis* and their hybrid *F. bohemica*. *Fallopia sachalinensis* does not pose such a high risk (lower regeneration, growth, overall invasive potential, distribution) in comparison to *F. japonica* or the hybrid *F. bohemica*. If the species are taken separately, then it is possible to consider *F. japonica* and *F. bohemica* posing high risk. *Fallopia sachalinensis* can be considered of lower risk. Furthermore there are a high number of hybrids which backcross, so it is recommended to ensure that all possible taxa are considered.
Outcome	Compliant