Taxon: Ligustrum ovalifolium Hassk. **Family:** Oleaceae

Common Name(s): California privet
garden privet

Synonym(s): Ligustrum medium Franch. & Sav.

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 12 Sep 2017

WRA Score: 9.5 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Ornamental Shrub, Temperate, Environmental Weed, Toxic, Bird-Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	Low
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	n
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	y
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed		
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	y
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n
405	Toxic to animals	y=1, n=0	y
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	y
408	Creates a fire hazard in natural ecosystems		
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	y
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant		
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides	y=-1, n=1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	**Is the species highly domesticated?**	**n**
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Three varieties within Ligustrum ovalifolium were recognized by Noshiro (1985), each restricted in native range to Japan. Var. hisauchii (Makino) S. Noshiro has leaves sparsely hairy along the abaxial midvein; var. pacificum (Nakai) Mizushima is an insular entity with slightly larger leaves and shorter corolla tubes." [No evidence of domestication]

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. 2017. Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. 2017. Personal Communication	NA

201	**Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"**	**Low**
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 8 Sep 2017]	"Native: Asia-Temperate Eastern Asia: Japan - Honshu, - Kyushu, - Shikoku; Korea, South"

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 8 Sep 2017]	

203	**Broad climate suitability (environmental versatility)**	**y**
	Source(s)	**Notes**
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"USDA hardiness 4-8" [Able to grow in 5 hardiness zones]

204	**Native or naturalized in regions with tropical or subtropical climates**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Sep 2017]	"Native: Asia-Temperate Eastern Asia: Japan - Honshu, - Kyushu, - Shikoku; Korea, South"

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Fencerows, thickets, roadsides, disturbed sites; 100–600 m; Ala., Fla., Ga., Ky., Md., Mich., Mo., N.J., N.C., Ohio, Pa., Tenn., W.Va., Va.; native to Japan and Korea; introduced also in West Indies (Puerto Rico), Europe, Africa, Australia, Pacific Islands (New Zealand). The PLANTS Database also records the presence of L. ovalifolium in Ont., Calif., Conn., Del., D.C., Mass., and Tex."
	Imada, C.T., Staples, G.W. & Herbst, D.R. 2005. Annotated Checklist of Cultivated Plants of Hawai'i. http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/. [Accessed 11 Sep 2017]	Ligustrum ovalifolium Hasskarl (Confirmed) Common Names: California privet First Collected: 1943 Locations: Foster Botanical Garden

301	Naturalized beyond native range	y
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Flowering (Dec)Apr–Jul. Fencerows, thickets, roadsides, disturbed sites; 100–600 m; Ala., Fla., Ga., Ky., Md., Mich., Mo., N.J., N.C., Ohio, Pa., Tenn., W.Va., Va.; native to Japan and Korea; introduced also in West Indies (Puerto Rico), Europe, Africa, Australia, Pacific Islands (New Zealand). The PLANTS Database also records the presence of L. ovalifolium in Ont., Calif., Conn., Del., D.C., Mass., and Tex. The record for Ontario is from a plant apparently persisting from cultivation (fide Luc Brouillet, 2009). I have not seen a voucher from Texas and its occurrence there outside of cultivation is unlikely."
	Webb, C. J., Sykes, W. R., & Garnock-Jones, P. J. 1988. Flora of New Zealand Volume IV. Botany Division, DSIR, Christchurch, New Zealand	"N.: Auckland, Wellington; S.: Westland (near Jacksons), Invercargill, Bluff (Ocean Beach). " ... "Forest remnant margins, roadside banks, and waste places."

302	Garden/amenity/disturbance weed	y
	Source(s)	**Notes**
	Swearingen, J., C. Bargeron. 2016. Invasive Plant Atlas of the United States. University of Georgia Center for Invasive Species and Ecosystem Health. http://www.invasiveplantatlas.org/. [Accessed 8 Sep 2017]	"Ligustrum ovalifolium may invade roadsides, in old fields and in other disturbed habitats. It can also invade natural areas such as floodplain forests and woodlands. It may displace shrubs in regenerating communities and remain persistent in these areas. Ligustrum ovalifolium can form dense thickets that outcompete many kinds of native vegetation. It has been found in California, Canada, the Eastern U.S. States West to Texas and in Puerto Rico."

Qsn #	Question	Answer
	Tassin, J., Triolo, J., & Lavergne, C. 2007. Ornamental plant invasions in mountain forests of Réunion (Mascarene Archipelago): a status review and management directions. African Journal of Ecology, 45(3): 444-447	"Table 1 List of the ornamental species threatening mountain forests on Reunion. Invasiveness status is evaluated as highly invasive (+++), invasive (++) or potentially invasive but detected only in gardens (+). Some of these species have been detected and eliminated when recorded in mountain forests where they were not present before" [Ligustrum ovalifolium = invasive (++)]

303	Agricultural/forestry/horticultural weed	n
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

304	Environmental weed	
	Source(s)	**Notes**
	Waikato Regional Council. 2017. Privet. https://www.waikatoregion.govt.nz/. [Accessed 11 Sep 2017]	"Privet is also an environmental pest, rapidly invading bush margins and waste areas. Tree privet is capable of crowding out canopy trees in native forests, may impede native seedling germination and can eventually dominate an area of forest. Chinese privet can displace shrubs on the margins of native forests." [Impacts of Californian privet (Ligustrum ovalifolium) not specified]
	Invasive Species South Africa. 2017. Californian privet - Ligustrum ovalifolium. http://www.invasives.org.za/. [Accessed 11 Sep 2017]	[Potential environmental weed] "Why is it a problem? Competes with and has the potential to replace indigenous species. Poisonous. Birds might neglect the dispersal of indigenous plants as a consequence of their preference for the fruits of this alien species."

305	Congeneric weed	y
	Source(s)	**Notes**
	Swearingen, J.B., Slattery, B., Reshetiloff, K. & Zwicker, S. (2010). Plant Invaders of Mid-Atlantic Natural Areas, 4th ed. National Park Service and U.S. Fish and Wildlife Service, Washington, DC.	"Border privet - Ligustrum obtusifolium Sieb. & Zucc. California privet - L. ovalifolium Hassk. Chinese privet - L. sinense Lour. European privet - L. vulgare L." ... All four privet species featured here have been reported to be invasive in the mid-Atlantic region; some are recognized as invasive elsewhere in the eastern U.S. and nationwide. They thrive in floodplains, fields, disturbed forests and forest edges."
	Swarbrick, J. T., Timmins, S. M., & Bullen, K. M. (1999). The biology of Australian weeds. 36. Ligustrum lucidum Aiton and Ligustrum sinense Lour. Plant Protection Quarterly, 14 (4), 122-130	"they (L. lucidum and L. sinense) are more or less serious environmental weeds."

Qsn #	Question	Answer
401	**Produces spines, thorns or burrs**	**n**
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	[No evidence] "Shrubs 2–5 m. Branchlets glabrous-shiny, rarely hirtellous in lines. Leaves half evergreen to evergreen; blades ovate to elliptic-ovate, broadly elliptic, or elliptic, 2.5–5(–6.5) cm x 15–33 mm, glabrous, primary lateral veins (2–)3–6 pairs, apex acute to abruptly acuminate, margins glabrous."

402	**Allelopathic**	
	Source(s)	**Notes**
	WRA Specialist. 2017. Personal Communication	Unknown. No evidence found

403	**Parasitic**	**n**
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Shrubs 2–5 m. Branchlets glabrous-shiny, rarely hirtellous in lines." [Oleaceae. No evidence]

404	**Unpalatable to grazing animals**	**n**
	Source(s)	**Notes**
	Barta, T., Majzinger, I., & Gundel, J. 2012. The feed composition of Roe deer (Capreolus capreolus) on plain habitats. Review on Agriculture and Rural Development 1 (2): 556-562	[Palatable to deer] "The young sprouts of woody trees are important feed sources on all the examined territories. Extremely important are black elderberry (Sambucus nigra), the black locust (Robinia pseudoacacia), the dewberry (Rubus caesius). Also preferred are the sprouts and the crop of silver berry (Elaeagnus angustifolia), the privet hedge (Ligustrum ovalifolium), the common hackberry (Celtis occidentalis), the field maple (Acer campestre), the manna ash (Fraxinus ornus) the English oak (Quercus robur) and the sessile oak (Quercus petraea)."

Qsn #	Question	Answer
405	**Toxic to animals**	**y**
	Source(s)	**Notes**
	Invasive Species South Africa. 2017. Californian privet - Ligustrum ovalifolium. http://www.invasives.org.za/. [Accessed 11 Sep 2017]	"The leaves and fruit are poisonous to humans and certain animals."
	Fuller, T.C. & McClintock, E.M. 1986. Poisonous plants of California: Issue 53 of California natural history guides. University of California Press, Berkeley and Los Angeles, CA	"Toxic part: Berries, leaves, and perhaps other parts. Toxin: Uncertain; syringin (ligustrin), an irritant glycoside, has been identified. Symptoms: In humans, severe gastric irritation, nausea, and vomiting develop shortly after ingestion of large quantities of berries; watery yellowish diarrhea, weak pulse, lowered body temperature, muscular twitching, and convulsions follow. May be fatal. One patient became restless, collapsed, and died a few hours after eating the fruit. Deaths of horses and cows following ingestion of the foliage are recorded, especially from New Zealand and England. Despite their toxicity, birds readily eat the berries and regurgitate or pass the toxic seeds. Clippings of any privet should be kept away from children and livestock."

406	**Host for recognized pests and pathogens**	
	Source(s)	**Notes**
	Swearingen, J.B., Slattery, B., Reshetiloff, K. & Zwicker, S. (2010). Plant Invaders of Mid-Atlantic Natural Areas, 4th ed. National Park Service and U.S. Fish and Wildlife Service, Washington, DC.	"Known pests that affect privets include a foliage-feeding insect native to Europe (Macrophya punctumalbum), a fungal leaf spot (Pseudocercospora ligustri) and a common root crown bacteria (Agrobacterium tume-faciens)."
	Missouri Botanical Garden. 2017. Ligustrum ovalifolium. http://www.missouribotanicalgarden.org/. [Accessed 11 Sep 2017]	"No serious insect or disease problems. Some susceptibility to a number of potential disease problems, including anthracnose, crown gall, twig blight, leaf spots, powdery mildew, cankers and root rots. Aphids, leaf miners, scale, thrips, mealybugs, whitefly, nematodes, Japanese beetles, weevils and mites may appear."

407	**Causes allergies or is otherwise toxic to humans**	**y**
	Source(s)	**Notes**
	Pollen Library. 2017. California Privet (Ligustrum ovalifolium). http://www.pollenlibrary.com/Specie/Ligustrum+ovalifolium/. [Accessed 11 Sep 2017]	"Allergenicity: California Privet (Ligustrum ovalifolium) is a severe allergen."
	Invasive Species South Africa. 2017. Californian privet - Ligustrum ovalifolium. http://www.invasives.org.za/. [Accessed 11 Sep 2017]	"The leaves and fruit are poisonous to humans and certain animals."

Qsn #	Question	Answer
	Fuller, T.C. & McClintock, E.M. 1986. Poisonous plants of California: Issue 53 of California natural history guides. University of California Press, Berkeley and Los Angeles, CA	"Toxic part: Berries, leaves, and perhaps other parts. Toxin: Uncertain; syringin (ligustrin), an irritant glycoside, has been identified. Symptoms: In humans, severe gastric irritation, nausea, and vomiting develop shortly after ingestion of large quantities of berries; watery yellowish diarrhea, weak pulse, lowered body temperature, muscular twitching, and convulsions follow. May be fatal. One patient became restless, collapsed, and died a few hours after eating the fruit. Deaths of horses and cows following ingestion of the foliage are recorded, especially from New Zealand and England. Despite their toxicity, birds readily eat the berries and regurgitate or pass the toxic seeds. Clippings of any privet should be kept away from children and livestock."

408	Creates a fire hazard in natural ecosystems	
	Source(s)	**Notes**
	Swearingen, J., C. Bargeron. 2016. Invasive Plant Atlas of the United States. University of Georgia Center for Invasive Species and Ecosystem Health. http://www.invasiveplantatlas.org/. [Accessed 11 Sep 2017]	"Ligustrum ovalifolium can form dense thickets that outcompete many kinds of native vegetation. It has been found in California, Canada, the Eastern U.S. States West to Texas and in Puerto Rico." [Unknown. Thickets may increase fuel load and fire risk in fire-prone habitats]

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	**Notes**
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"Succeeds in dark corners or places starved by tree roots[11, 182]. Shade tolerant, established plants also tolerate drought[200]."
	Missouri Botanical Garden. 2017. Ligustrum ovalifolium. http://www.missouribotanicalgarden.org/. [Accessed 11 Sep 2017]	"Sun: Full sun to part shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"A very tolerant and easily grown plant, it succeeds in any soil that is not impoverished[11]. Dislikes very alkaline soils[202]. Grows well in heavy clay soils."

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Shrubs 2–5 m. Branchlets glabrous-shiny, rarely hirtellous in lines."

412	Forms dense thickets	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Swearingen, J., C. Bargeron. 2016. Invasive Plant Atlas of the United States. University of Georgia Center for Invasive Species and Ecosystem Health. http://www.invasiveplantatlas.org/. [Accessed 8 Sep 2017]	"Ligustrum ovalifolium can form dense thickets that outcompete many kinds of native vegetation. It has been found in California, Canada, the Eastern U.S. States West to Texas and in Puerto Rico."
	Missouri Botanical Garden. 2017. Ligustrum ovalifolium. http://www.missouribotanicalgarden.org/. [Accessed 11 Sep 2017]	"Plants will naturalize by self-seeding in optimum growing conditions, and may form thickets in areas where growth is not controlled."

501	Aquatic	n
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	[Terrestrial] "Shrubs 2–5 m. Branchlets glabrous-shiny, rarely hirtellous in lines." ... "Fencerows, thickets, roadsides, disturbed sites; 100–600 m"

502	Grass	n
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Sep 2017]	Family: Oleaceae Tribe: Oleeae

503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Sep 2017]	Family: Oleaceae Tribe: Oleeae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Shrubs 2–5 m. Branchlets glabrous-shiny, rarely hirtellous in lines. Leaves half evergreen to evergreen; blades ovate to elliptic-ovate, broadly elliptic, or elliptic, 2.5–5(–6.5) cm x 15–33 mm, glabrous, primary lateral veins (2–)3–6 pairs, apex acute to abruptly acuminate, margins glabrous."

Qsn #	Question	Answer
601	**Evidence of substantial reproductive failure in native habitat**	**n**
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 11 Sep 2017]	"Native: Asia-Temperate Eastern Asia: Japan - Honshu, - Kyushu, - Shikoku; Korea, South" [No evidence of reproductive failure found]

602	Produces viable seed	y
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Drupes ovoid, 6–8 mm; seeds 1(–2), endocarp stony, not channeled."
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"The seed does not require any pre-treatment and can be sown in the spring in a cold frame[113]. When they are large enough to handle, prick the seedlings out into individual pots and grow them on in the greenhouse for at least their first winter."

603	Hybridizes naturally	
	Source(s)	**Notes**
	Johnson, S. B. (2009). Privet species–are we sitting on species time bombs?. In Proceedings of the 15th Biennial NSW Weeds Conference, Narrabri	[Able to form hybrids, but unknown if they are naturally occurring] "Hybrids between the various species of Ligustrum have not been reported (Swarbrick et al. 1999), with one possible exception between L. ovalifolium and L. sinense (Goulding 1973)."

604	Self-compatible or apomictic	y
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Inflorescence subcylindric to narrowly to broadly pyramidal, 4–7 cm. Flowers short-pedicellate, pedicels 0.5–1 mm, glabrous; calyx glabrous; corolla tube 2–3 times longer than lobes."
	Yamada, T., Kodama, K., & Maki, M. (2014). Floral morphology and pollinator fauna characteristics of island and mainland populations of Ligustrum ovalifolium (Oleaceae). Botanical Journal of the Linnean Society, 174 (3), 489-501	"Plant species, including L. ovalifolium, may have maintained reproductive success on southern islands that have fewer pollinator fauna by evolving an increased ability for autogamy. Similar morphological characteristics have been confirmed in other self-compatible island endemic plants (Inoue, 1993; Anderson et al., 2000; McMullen, 2009, 2011). In general, selfing plants tend to reduce the cost of sexual reproduction and have smaller flowers than do outcrossing congeners (Schoen, 1982; Randle, Slyder & Kalisz, 2009). Although there is no molecular information supporting higher selfing rates of L. ovalifolium on the southern islands at present, such information would help to test this hypothesis."
	Missouri Botanical Garden. 2017. Ligustrum ovalifolium. http://www.missouribotanicalgarden.org/. [Accessed 11 Sep 2017]	"Plants will naturalize by self-seeding in optimum growing conditions, and may form thickets in areas where growth is not controlled."

Qsn #	Question	Answer
605	**Requires specialist pollinators**	**n**
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Inflorescence subcylindric to narrowly to broadly pyramidal, 4–7 cm. Flowers short-pedicellate, pedicels 0.5–1 mm, glabrous; calyx glabrous; corolla tube 2–3 times longer than lobes."
	Yamada, T., Kodama, K., & Maki, M. (2014). Floral morphology and pollinator fauna characteristics of island and mainland populations of Ligustrum ovalifolium (Oleaceae). Botanical Journal of the Linnean Society, 174 (3), 489-501	"One hundred and eighteen insect species were observed visiting L. ovalifolium flowers." ... "We found that, with a few exceptions, the pollinator fauna of L. ovalifolium was composed of a combination of the following three insect categories, distinguished by their distributions. (i) Universal pollinators were observed across the entire L. ovalifolium distribution range. Almost all functional pollinator groups had at least one insect species belonging to this category. For example, carpenter bees (Xylocopa appendiculata circumvolans, large bees), Halictus sp. (small bees), Episyrphus balteatus (hoverflies), Eucetonia pilifera (beetles), Graphium sarpedon nipponum (butterflies) and Cystidia truncangulata (moths). (ii) Regional pollinators were observed only on Honshu or the Izu Islands. This category includes bumblebees (Bombus ardens ardens) and Campsomeris prismatica, which were observed almost exclusively on Honshu or the Izu Islands, respectively. (iii) Specific pollinators were observed in one or only a few populations."

606	**Reproduction by vegetative fragmentation**	**y**
	Source(s)	**Notes**
	Dave's Garden. 2017. California Privet - Ligustrum ovalifolium. http://davesgarden.com/guides/pf/go/1725/. [Accessed 11 Sep 2017]	"On Jun 12, 2003, GloryRaptor from Rocklin, CA (Zone 9a) wrote: These plants seem to have a never-ending supply of suckers, which constantly spring up all over the yard. Granted, I don't know a thing about gardening and haven't done anything to prevent them, but I thought it worth mentioning since no one more knowledgeable had."

607	**Minimum generative time (years)**	
	Source(s)	**Notes**
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"A moderately fast-growing plant[202], though it is also very greedy, robbing the surrounding soil of more nutrients and moisture than most hedging plants[200]."
	Missouri Botanical Garden. 2017. Ligustrum ovalifolium. http://www.missouribotanicalgarden.org/. [Accessed 11 Sep 2017]	"It is a dense, fast-growing, deciduous (evergreen/semi-evergreen in warm winter areas) shrub that typically grows 10-15' tall."
	Johnson, S. B. (2009). Privet species–are we sitting on species time bombs?. In Proceedings of the 15th Biennial NSW Weeds Conference, Narrabri	"Ligustrum species appear to have a long juvenile period before reaching reproductive maturity, for example four years in L. lucidum (Blood 2001). There is no information on the juvenile period of other Ligustrum species."

701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	

Qsn #	Question	Answer
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Animals, Flyers, Vehicles, Escapee" [Possibly, although lacks means of external attachment]
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Drupes ovoid, 6–8 mm; seeds 1(–2), endocarp stony, not channeled." [No means of external attachment]
	Swearingen, J., C. Bargeron. 2016. Invasive Plant Atlas of the United States. University of Georgia Center for Invasive Species and Ecosystem Health. http://www.invasiveplantatlas.org/. [Accessed 8 Sep 2017]	"Ligustrum ovalifolium may invade roadsides, in old fields and in other disturbed habitats." [Occurs along roadsides but lacks means of external attachment]

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Fencerows, thickets, roadsides, disturbed sites; 100–600 m; Ala., Fla., Ga., Ky., Md., Mich., Mo., N.J., N.C., Ohio, Pa., Tenn., W.Va., Va.; native to Japan and Korea; introduced also in West Indies (Puerto Rico), Europe, Africa, Australia, Pacific Islands (New Zealand). The PLANTS Database also records the presence of L. ovalifolium in Ont., Calif., Conn., Del., D.C., Mass., and Tex."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[Possibly, although seeds are relatively large] "Major Pathway/s: Contaminant, Herbal, Ornamental Dispersed by: Humans, Animals, Flyers, Vehicles, Escapee"

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Drupes ovoid, 6–8 mm; seeds 1(–2), endocarp stony, not channeled."

705	Propagules water dispersed	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Liendo, D., Biurrun, I., Campos, J. A., Herrera, M., Loidi, J., & García-Mijangos, I. (2013). Invasion patterns in riparian habitats: The role of anthropogenic pressure in temperate streams. Plant Biosystems, 149(2), 289-297	[Invades riparian areas, suggesting possible movement by water] "The riparian flora and the level of invasion in the rivers of the Cantabric watershed in Spain were studied in relation to the ecological status and the anthropogenic pressure. The level of invasion was also analyzed in different riparian habitats: forests, river bars and man-made slopes. For this purpose, 18 sites were sampled and a list of native and alien plant species was made along a 100-m strip at each site. The habitat/s where alien species were found and their abundance per habitat and in the total area were also indicated. Out of 112 alien taxa found, 51 were classified as invasive. Exotic plants native to America were the most common (35%). The level of invasion was significantly higher in the sampling sites subject to high levels of hydrological and morphological disturbances, proxies of the anthropogenic pressure. River bars and man-made slopes supported similar number of alien plant species, higher than forests. We suggest that disturbance in river banks should be minimized as much as possible in order to diminish the risk of invasion." ... "Asian species, such as Buddleja davidii, Fallopia japonica and Ligustrum ovalifolium, were quite common as well (19 species), representing 17% of the total"

706	Propagules bird dispersed	y
	Source(s)	**Notes**
	Fuller, T.C. & McClintock, E.M. 1986. Poisonous plants of California: Issue 53 of California natural history guides. University of California Press, Berkeley and Los Angeles, CA	"Despite their toxicity, birds readily eat the berries and regurgitate or pass the toxic seeds."
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Drupes ovoid, 6–8 mm; seeds 1(–2), endocarp stony, not channeled."
	Debussche, M., & Isenmann, P. (1990). Introduced and cultivated fleshy-fruited plants: consequences of a mutualistic Mediterranean plant-bird system. Biological invasions in Europe and the Mediterranean Basin. Kluwer Academic Publishers, Dordrecht, Netherlands, 399-416.	"The Montpellier region (Mediterranean France) offers 65 native taxa with fleshy fruits whose seeds are dispersed mainly by bird species. Birds also remove the fleshy fruits of non-native plant species, cultivated ones (e.g. Vitis vinifera ssp. vinifera), weeds (e.g. Phytolacca americana), garden shrubs (e.g. Pyracantha coccinea, Ligustrum ovalifolium)." ... "Pyracantha coccinea, and subsidiarily other garden shrubs (e.g. Cotoneaster sp. pl., Ligustrum ovalifolium) attract small passerines, predominantly Blackcaps (Sylvia atricapilla), during winter and at the beginning of spring."

Qsn #	Question	Answer
707	**Propagules dispersed by other animals (externally)**	**n**
	Source(s)	**Notes**
	Fuller, T.C. & McClintock, E.M. 1986. Poisonous plants of California: Issue 53 of California natural history guides. University of California Press, Berkeley and Los Angeles, CA	"Despite their toxicity, birds readily eat the berries and regurgitate or pass the toxic seeds."
	Nesom, G. L. (2009). Taxonomic overview of Ligustrum (Oleaceae) naturalized in North America north of Mexico. Phytologia, 91(3), 467-482	"Drupes ovoid, 6–8 mm; seeds 1(–2), endocarp stony, not channeled." [No means of external attachment]

708	**Propagules survive passage through the gut**	**y**
	Source(s)	**Notes**
	Fuller, T.C. & McClintock, E.M. 1986. Poisonous plants of California: Issue 53 of California natural history guides. University of California Press, Berkeley and Los Angeles, CA	"Despite their toxicity, birds readily eat the berries and regurgitate or pass the toxic seeds."

801	**Prolific seed production (>1000/m2)**	**n**
	Source(s)	**Notes**
	Johnson, S. B. (2009). Privet species–are we sitting on species time bombs?. In Proceedings of the 15th Biennial NSW Weeds Conference, Narrabri	[Limited fruit production in New Zealand] "L. ovalifolium has occasionally naturalised in forest remnant margins, roadside banks and waste places on both islands of New Zealand (Webb et al. 1988, Swarbrick et al. 1999). Infrequent fruit production of the species is thought to have limited further New Zealand naturalisations (Webb et al. 1988)."

802	**Evidence that a persistent propagule bank is formed (>1 yr)**	
	Source(s)	**Notes**
	Munger, G. T. 2003. Ligustrum spp. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. http://www.fs.fed.us/database/feis. [Accessed]	"Seed banking: Chinese privet and European privet do not form seed banks. Nearly all germination occurs during the 1st growing season following dispersal" [Related taxa do not form persistent seed banks]
	Johnson, S. B. (2009). Privet species–are we sitting on species time bombs?. In Proceedings of the 15th Biennial NSW Weeds Conference, Narrabri	[Unknown. Some species have seeds which persist in the soil for >1 year] "Ligustrum lucidum seed will remain viable for up to two years either inside or outside of fruit if stored at low temperatures (Burrows and Kohen 1983), but similarly stored L. sinense seeds lost viability after only one year (van Aalst 1992, in Swarbrick et al 1999). Seed is killed during composting when temperatures are around 60oC for several weeks (Mowatt and Smith 2004)."

803	**Well controlled by herbicides**	**y**
	Source(s)	**Notes**

Qsn #	Question	Answer
	Swearingen, J.B., Slattery, B., Reshetiloff, K. & Zwicker, S. (2010). Plant Invaders of Mid-Atlantic Natural Areas, 4th ed. National Park Service and U.S. Fish and Wildlife Service, Washington, DC.	"Larger plants can be cut repeatedly or treated with a systemic herbicide. Herbicide can be sprayed on foliage or applied to bark or cut stems and stumps"
	Waikato Regional Council. 2017. Privet. https://www.waikatoregion.govt.nz/. [Accessed 11 Sep 2017]	"Triclopyr plus penetrant Frilling, cut and inject, cut stump treatment, spray application. Triclopyr/picloram mix plus penetrant Frilling, cut and inject, cut stump treatment, spray application. Metsulfuron plus penetrant Frilling, cut and inject, cut stump treatment, spray application Glyphosate plus penetrant Frilling, cut and inject, cut stump treatment, spray application. X-Tree Basal® Basal treatment of trunk. Glyphosate gel Cut stump treatment. Picloram gel Cut stump treatment."

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**y**
	Source(s)	**Notes**
	Maddox, V., Byrd Jr, J., & Serviss, B. (2010). Identification and control of invasive privets (Ligustrum spp.) in the middle southern United States. Invasive Plant Science and Management, 3(4), 482-488	"Once established, privets can produce sprouts from roots that are underground or near the surface, or from stumps. This is particularly true for Chinese privet, but it also has been reported in glossy and Japanese privet (Miller 2003). It can be difficult to control an established stand of privet."
	Plants for a Future. 2017. Ligustrum ovalifolium. http://www.pfaf.org/user/plant.aspx?latinname=Ligustrum+ovalifolium. [Accessed 11 Sep 2017]	"They can be cut back to the ground in very severe winters but usually resprout from the base [200]."

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. 2017. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits
• Grows in 5 hardiness zones in temperate climates, demonstrating environmental versatility
• Naturalized in the continental United States & New Zealand (but no evidence in Hawaiian Islands to date)
• A disturbance-adapted weed on the mainland US
• Other Ligustrum species are invasive
• Toxic to animals and people
• Shade tolerant
• Tolerates many soil types
• Forms dense stands, excluding other vegetation
• Reproduces by seeds & vegetatively by suckering
• Self-compatible
• Seeds dispersed by birds, other frugivorous animals & intentionally by people
• Able to resprout from cut stumps

Low Risk Traits
• Unarmed (no spines, thorns, or burrs)
• Browsed by deer (palatable despite reports of toxicity)
• Ornamental
• Herbicides may provide effective control