

# Classification of aquatic alien species according to their level of impact

Species on the high impact list are used within WFD Classification process. This version contains the species to be used in classification during cycle 3.

**Working Paper Version:** 8 (29/01/2021)

**WFD Requirement:** Review role of alien species

**Status:** Status: Public Working Draft Review: April 08, July 08 (to include Appendix A), June 09, January 13, November 13 (to include Waiting List), July 15

The changes made to the table are set in context in the UKTAG paper entitled *Aquatic alien species and the WFD: proposed amendments to the impact classification in the UKTAG alien species guidance* which documents the principles to be adopted by agencies responsible for implementing the Water Framework Directive (WFD) in the UK.

<b>Contents</b>	<b>Page</b>
GB High Impact Species	2 - 3
GB Moderate Impact Species	4
GB Low Impact Species	5 - 6
GB Unknown Impact Species	6 - 8
Ecoregion 17 High Impact Species	9

### Classification of aquatic alien species found in the UK in terms of their impact on native habitats and biota.

Habitat classification: F, Freshwater; R, Riparian; B, Brackish; M, Marine

	Common name	Species	Plant/ Animal/Fish	Habitat	Species with GB Risk Assessments
<b>HIGH IMPACT</b>	Freshwater mollusc - Asiatic clam	<i>Corbicula fluminea</i>	A	F	Yes
	Freshwater amphipod	<i>Dikerogammarus haemobaphes</i>	A	F	Yes
	Freshwater amphipod	<i>Dikerogammarus villosus</i>	A	F	Yes
	Zebra mussel	<i>Dreissena polymorpha</i>	A	F	Yes
	Quagga mussel	<i>Dreissena rostriformis bugensis</i>	A	F	Yes
	Mysid crustacean	<i>Hemimysis anomala</i>	A	F	No
	Virile crayfish	<i>Orconectes virilis</i>	A	F	Yes
	North American signal crayfish	<i>Pacifastacus leniusculus</i>	A	F	Yes
	Red swamp crayfish	<i>Procambarus clarkii</i>	A	F	Yes
	Goldfish	<i>Carassius auratus</i>	F	F	No
	Common Carp	<i>Cyprinus carpio</i>	F	F	Pending
	Topmouth gudgeon	<i>Pseudorasbora parva</i>	F	F	Yes
	Water Fern	<i>Azolla caroliniana</i>	P	F	Yes
	Water fern	<i>Azolla filiculoides</i>	P	F	Yes
	Australian swamp stonecrop	<i>Crassula helmsii</i>	P	F	Yes
	Nuttall's pondweed	<i>Elodea nuttallii</i>	P	F	Yes
	Floating pennywort	<i>Hydrocotyle ranunculoides</i>	P	F	Yes
	Curly water-thyme	<i>Lagarosiphon major</i>	P	F	Yes
	Water primrose	<i>Ludwigia grandiflora</i>	P	F	Yes
	Floating primrose willow	<i>Ludwigia peploides</i>	P	F	Yes
American skunk-cabbage	<i>Lysichiton americanus</i>	P	F	Yes	
Parrot's feather	<i>Myriophyllum aquaticum</i>	P	F	Yes	

	Common name	Species	Plant/ Animal/Fish	Habitat	Species with GB Risk Assessments
<b>HIGH IMPACT</b>	Two-leaf water-milfoil	<i>Myriophyllum heterophyllum</i>	P	F	Pending
	Japanese knotweed	<i>Fallopia japonica</i>	P	R	Yes
	Giant knotweed	<i>Fallopia sachalinensis</i>	P	R	Yes
	Japanese knotweed/ Giant knotweed hybrid	<i>Fallopia x bohemica</i>	P	R	No
	Giant Rhubarbs/ Gunnera	<i>Gunnera</i> spp. ( <i>G. manicata</i> and <i>G. tinctoria</i> )	P	R	Yes
	Giant hogweed	<i>Heracleum mantegazzianum</i>	P	R	Pending
	Himalayan balsam	<i>Impatiens glandulifera</i>	P	R	Pending
	Himalayan knotweed	<i>Persicaria wallichii</i>	P	R	Yes
	Rhododendron	<i>Rhododendron ponticum</i> (+ hybrids)	P	R	Yes
	Chinese mitten crab	<i>Eriocheir sinensis</i>	A	F/B	Yes
	Gulf wedge clam	<i>Rangia cuneata</i>	A	F/B	Yes
	Marine tubeworm	<i>Ficopomatus enigmaticus</i>	A	B	No
	Slipper limpet	<i>Crepidula fornicata</i>	A	M	Yes
	Colonial tunicate	<i>Didemnum</i> spp. (Non-native)	A	M	Yes
	Asian shore crab	<i>Hemigrapsus sanguineus</i>	A	M	Yes
	Asian shore crab	<i>Hemigrapsus takanoi</i>	A	M	Yes
	American lobster	<i>Homarus americanus</i>	A	M	Yes
	Leathery sea squirt	<i>Styela clava</i>	A	M	No
	American oyster drill	<i>Urosalpinx cinerea</i>	A	M	Pending
	Common cord-grass, Townsend's grass or rice grass	<i>Spartina anglica</i>	P	M	Pending
Japanese kelp	<i>Undaria pinnatifida</i>	P	M	Pending	

	Common name	Species	Plant/ Animal/Fish	Habitat	Species with GB Risk Assessments
<b>MODERATE IMPACT</b>	Spiny cheeked crayfish	<i>Orconectes limosus</i>	A	F	Yes
	Jenkins' spire shell	<i>Potamopyrgus antipodarum</i>	A	F	Yes
	White river crayfish	<i>Procambarus acutus</i>	A	F	Yes
	Marbled crayfish	<i>Procambarus spp.</i>	A	F	Yes
	Pumpkinseed	<i>Lepomis gibbosus</i>	A	F	Yes
	Pikeperch (zander)	<i>Sander lucioperca</i>	F	F	Pending
	Carolina water-shield	<i>Cabomba caroliniana</i>	P	F	Yes
	Large-flowered water-thyme	<i>Egeria densa</i>	P	F	Yes
	Canadian pondweed	<i>Elodea canadensis</i>	P	F	Yes
	Least duckweed	<i>Lemna minuta (minuscula)</i>	P	F	Pending
	Monkey-flower	<i>Mimulus cupreus, M. guttatus</i> and hybrids	P	R	Yes
	Japanese skeleton shrimp	<i>Caprella mutica</i>	A	M	Yes
	Pacific oyster	<i>Crassostrea gigas</i>	A	M	Yes
	Red seaweeds	<i>Bonnemaisonia hamifera</i>	P	M	Pending
Marine alga	<i>Gracilaria vermiculophylla</i>	P	M	Yes	

	Common name	Species	Plant/ Animal/Fish	Habitat	Species with GB Risk Assessments
LOW IMPACT	Noble crayfish	<i>Astacus astacus</i>	A	F	Yes
	Narrow-clawed (Turkish) crayfish	<i>Astacus leptodactylus</i>	A	F	Yes
	Freshwater amphipod	<i>Crangonyx pseudogracilis</i>	A	F	Yes
	Grass carp	<i>Ctenopharyngodon idella</i>	F	F	No
	Orfe	<i>Leuciscus idus</i>	F	F	No
	Rainbow trout	<i>Oncorhynchus mykiss</i>	F	F	No
	European (wels) catfish	<i>Silurus glanis</i>	F	F	Pending
	Sweetflag	<i>Acorus calamus</i>	P	F	No
	Cape pondweed	<i>Aponogeton distachyos</i>	P	F	Pending
	Water hyacinth	<i>Eichhornia crassipes</i>	P	F	Yes
	South American waterweed	<i>Elodea callitrichoides/Hydrocharis callitrichoides</i>	P	F	Pending
	Montbretia	<i>Crocasmia x crocosmiiflora</i>	P	R	Pending
	Orange balsam	<i>Impatiens capensis</i>	P	R	No
	Lupin	<i>Lupinus nootkatensis</i>	P	R	No
	Pink purslane	<i>Montia sibirica</i>	P	R	No
	Giant butterbur	<i>Petasites japonicus</i>	P	R	Pending
	Marine copepod	<i>Acartia tonsa</i>	A	M	Pending
	Magellan mussel	<i>Aulacomya ater</i>	A	M	No
	Bamboo worm	<i>Clymenella torquata</i>	A	M	No
	Marine amphipod	<i>Corophium sextonae</i>	A	M	No
	Barnacle species	<i>Elminius modestus</i>	A	M	No
	Marine polychaete	<i>Goniadella gracilis</i>	A	M	Pending
	Marine hydrozoan	<i>Gonionemus vertens</i>	A	M	Pending
	Marine polychaete	<i>Marenzelleria viridis</i>	A	M	No
	American hard-shell clam	<i>Mercenaria mercenaria</i>	A	M	No
	American piddock	<i>Petricola pholadiformis</i>	A	M	Pending

Common name		Species	Plant/ Animal/Fish	Habitat	Species with GB Risk Assessments
LOW IMPACT	Zuiderzee or dwarf crab	<i>Rhithropanopeus harrisii</i>	A	M	Pending
	Manilla Clam	<i>Ruditapes philippinarum</i>	A	M	Yes
	New Zealand flat oyster	<i>Tiostrea lutaria</i>	A	M	No
	Red seaweeds	<i>Agardhiella subulata</i>	P	M	Pending
	Captain pike's weed	<i>Pikea californica</i>	P	M	No
	Japanese weed	<i>Sargassum muticum</i>	P	M	Yes
	Tapegrass	<i>Vallisneria spiralis</i>	P	M	No

Common name		Species	Plant/ Animal	Habitat	Species with GB Risk Assessments
UNKNOWN IMPACT	Freshwater copepods	<i>Achtheres percarum</i>	A	F	No
	Other freshwater malacostracans	<i>Asellus communis</i>	A	F	No
	Freshwater oligochaetes	<i>Branchiura sowerbyi</i>	A	F	No
	Freshwater cnidarian	<i>Cordylophora caspia</i>	A	F	No
	Freshwater coelenterate	<i>Craspedacusta sowerbyi</i>	A	F	No
	Freshwater triclads	<i>Dugesia tigrina</i>	A	F	No
	Freshwater amphipod	<i>Echinogammarus ischnus</i>	A	F	No
	Freshwater amphipod	<i>Echinogammarus trichiatus</i>	A	F	No
	Freshwater copepods	<i>Ergasilus briani</i>	A	F	No
	Freshwater copepods	<i>Ergasilus sieboldi</i>	A	F	No
	Freshwater molluscs	<i>Ferissia wautieri</i>	A	F	No
	Freshwater oligochaetes	<i>Limnodrilus cervix</i>	A	F	No
	Freshwater molluscs	<i>Marstoniopsis scholtzi</i>	A	F	No
	Freshwater molluscs	<i>Menetus dilatatus</i>	A	F	No

	Common name	Species	Plant/ Animal	Habitat	Species with GB Risk Assessments
UNKNOWN IMPACT	Freshwater molluscs	<i>Musculium transversum</i>	A	F	No
	Freshwater copepods	<i>Neoergasilus japonicus</i>	A	F	No
	Freshwater triclads	<i>Phagocata woodworthi</i>	A	F	No
	Freshwater molluscs	<i>Physa acuta</i>	A	F	No
	Freshwater molluscs	<i>Physa gyrina</i>	A	F	No
	Freshwater molluscs	<i>Physa heterostropha</i>	A	F	No
	Freshwater triclads	<i>Planaria torva</i>	A	F	No
	Freshwater copepods	<i>Tracheliastes polycolpus</i>	A	F	No
	Sunbleak	<i>Leucaspis delineatus</i>	F	F	Pending
	Bitterling	<i>Rhodeus amarus</i>	F	F	No
	Brook charr	<i>Salvelinus fontinalis</i>	F	F	No
	Other non-native Myriophyllum species	<i>Myriophyllum</i> spp.	P	F	Pending
	Swordleaf rush	<i>Juncus ensifolius</i>	P	R	No
	Other freshwater malacostracans	<i>Corophium curvispinum</i>	A	F/B	No
	Polychaete	<i>Hypania invalida</i>	A	F/B	No
	Sterlet/Sturgeons	<i>Acipenser</i> spp. (not <i>A. sturio</i> , which is protected on Schedule 5 of the Wildlife & Countryside Act)	A	F/M	Pending
	Sea spider	<i>Ammothea hilgendorfi</i>	A	M	No
	Barnacle	<i>Balanus amphitrite</i>	A	M	No
	Marine hydroid	<i>Clavopsella navis</i>	A	M	No
	Oyster thief	<i>Colpomenia peregrina</i>	A	M	No
	American jack knife clam	<i>Ensis americanus</i>	A	M	No
	Marine copepod	<i>Eusarsiella zostericola</i>	A	M	No
	Orange-striped sea anemone	<i>Haliplanella lineata</i>	A	M	No
	Marine tubeworms	<i>Hydroides dianthus</i>	A	M	No
	Marine tubeworms	<i>Hydroides ezoensis</i>	A	M	No
	Marine tubeworms	<i>Janua brasiliensis</i>	A	M	No
Kuruma prawn	<i>Marsupenaeus japonicus</i>	A	M	No	

	Common name	Species	Plant/ Animal	Habitat	Species with GB Risk Assessments
UNKNOWN IMPACT	Soft-shelled clam	<i>Mya arenaria</i>	A	M	No
	Dark false mussel	<i>Mytilopsis leucophaeata</i>	A	M	No
	Marine tubeworms	<i>Pileolaria berkeleyana</i>	A	M	No
	Marine mollusc	<i>Pinctada imbricata radiata</i>	A	M	No
	Red seaweeds	<i>Antithamnionella spirographidis</i>	P	M	No
	Red seaweeds	<i>Antithamnionella ternifolia</i>	P	M	No
	Red seaweeds	<i>Asparagopsis armata</i>	P	M	No
	Wright's Golden Membrane Weed	<i>Chrysomenia wrightii</i>	P	M	No
	Green seaweeds	<i>Codium fragile</i> subsp. <i>atlanticum</i> and <i>tomentosoides</i>	P	M	No
	Diatoms	<i>Coscinodiscus wailesii</i>	P	M	No
	Red seaweeds	<i>Grateloupia doryphora</i>	P	M	No
	Red seaweeds	<i>Grateloupia filicina</i> var. <i>luxurians</i>	P	M	No
	Diatoms	<i>Odontella sinensis</i>	P	M	No
	Diatoms	<i>Pleurosigma simonsensii</i>	P	M	No
	Red seaweeds	<i>Polysiphonia harveyi</i>	P	M	No
	Red seaweeds	<i>Solieria chordalis</i>	P	M	No
	Diatoms	<i>Thalassiosira punctigera</i>	P	M	No
Diatoms	<i>Thalassiosira tealata</i>	P	M	No	



### Ecoregion 17 High Impact list

	Common Name	Species	Plant/ Animal	Habitat	Species with updated ER17 Risk Assessments
<b>Ecoregion 17 HIGH IMPACT</b>	Water Fern	<i>Azolla filiculoides</i>	P	F	Yes + Expert Judgment
	Asian clam	<i>Corbicula fluminea</i>	A	F/B	Yes
	Pacific Oyster	<i>Crassostrea gigas</i>	A	M	Yes
	Australian Swamp Stonecrop	<i>Crassula helmsii</i>	P	F	Yes
	Slipper Limpet	<i>Crepidula fornicata</i>	A	M	Yes
	Common Carp	<i>Cyprinus carpio</i>	F	F	Yes
	Ascidian species	<i>Didemnum vexillum</i>	A	M	Yes
	Zebra Mussel	<i>Dreissena polymorpha</i>	A	F	Yes
	Brazilian waterweed	<i>Egeria densa</i>	P	F	Yes
	Nuttall's Pondweed	<i>Elodea nuttallii</i>	P	F	Yes
	Japanese Knotweed,	<i>Fallopia japonica and hybrids</i>	P	R	Yes
	Giant Knotweed	<i>Fallopia sachalinensis and hybrids</i>	P	R	Yes
	Giant Rhubarbs/ Gunnera	<i>Gunnera spp. (G. manicata and G. tinctoria)</i>	P	R	Yes + Expert Judgement
	Bloody red shrimp	<i>Hemimysis anomala</i>	A	F	Yes
	Giant Hogweed	<i>Heracleum mantegazzianum</i>	P	R	Yes
	Floating Pennywort	<i>Hydrocotyle ranunculoides</i>	P	F	Yes
	Himalayan balsam	<i>Impatiens glandulifera</i>	P	R	Yes
	Curly Waterweed	<i>Lagarosiphon major</i>	P	F	Yes
	Dace	<i>Leuciscus leuciscus</i>	F	F	Yes + Expert Judgement
	Parrot Feather	<i>Myriophyllum aquaticum</i>	P	F	Yes
	Fringed Water-Lily	<i>Nymphoides peltata</i>	P	F	Yes
	Himalayan knotweed	<i>Persicaria wallichii</i>	P	R	Yes + Expert Judgement
	Roach	<i>Rutilus rutilus</i>	F	F	Yes + Expert Judgement
	Wire Weed	<i>Sargassum muticum</i>	P	M	Yes
	Common Cord-Grass	<i>Spartina anglica</i>	P	M	Yes
	Leathery Sea-squirt	<i>Styela clava</i>	A	M	Yes
Japanese kelp	<i>Undaria pinnatifida</i>	P	M	Yes + Expert Judgement	

Note: Yes + Expert Judgment = Risk assessment produced a score less than the 18 used to define High Impact Alien Species, and expert judgment was used to determine placement on the ER17 High Impact Alien Species List