Major group mammals	Scientific name Alopex lagopus	C common name	Risk category	Invasion Stage - England	Current trend in records or o	Mode of Dispersal in England Nat	Species Impact - predation/herbivory	Species Impact - competition likely	Species Impact - introgression likely unlikely	Ecosystem Impact - nutrient cycling	Ecosystem Impact - succession 1 Ecosystem Impact - physical 1	Ecosystem Impact - foodwebs	Pathway of introduction	Pathway details Potential escape/release from captivity	Control methods	Comments	Key References Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Castor canadensis	American beaver	А	0.5	0	Nat	3	likely	likely unlikely	y 2	3 3	unlikely E	e,r P	Potential escape/release from captivity	D		Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Felis bengalensis	leopard cat	А	0.5	0	Nat	3	,	likely unlikely	,	1 1			Potential escape/release from captivity	D		Baker 1990
mammals	Hydrochoerus hydrochoaeris	capybara		0.5	0	Nat	2		likely unlikely		3 2		-	Potential escape/release from captivity	D	Descieve establishment in wild, and interfal	Baker 1990, Baker, S.J. & Hills, D. 2008
mammals mammals	Myocastor coypus	coypu raccoon dog		0.5 0.5	0	Nat Nat	3	likely 3	likely unlikely 3 unlikely	<i>,</i>	3 2			Potential escape/release from captivity Potential escape/release from captivity		Previous establishment in wild - eradictated Removed from Dangerous Wild Animals Act in 2007	Baker 1990, Long 2003 Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Nyctereutes procyonoides Ondatra zibethicus	muskrat		0.5	0	Nat	3	likely	likely unlikely	<i>,</i>	3 3	• 7	,	Potential escape/release from captivity	_		Baker 1990, Long 2003
mammals	Procyon lotor	raccoon		0.5	0	Nat	3		likely unlikely		1 1		-	Potential escape/release from captivity	D		Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Glis glis	edible dormouse	В	2	inc	Nat, Trans	3	3	likely unlikely	y 1	2 1		,	Dispersal/translocation from localised pops.		Established but not yet invasive	Baker 1990, Long 2003
mammals	Hydropotes inermis	chinese water deer	B	2	inc	Nat	2		likely unlikely		2 2	-		Dispersal from localised populations		Established but not yet invasive	Baker 1990, Long 2003
mammals mammals	Aony x cinerea Cynomys Iudovicianus	short-clawed otter black-tailed prairie dog		0.5 0.5	0	Nat Nat	2		DD unlikely	<i>,</i>				Potential escape/release from captivity Potential escape/release from captivity		Previous establishment in wild, breeding. Previous establishment in wild, breeding.	Baker 1990 Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Mephitis mephitis	striped skunk		0.5	0	Nat	2		likely unlikely	·	1 1		-	Potential escape/release from captivity	D	· · · · · · · · · · · · · · · · · · ·	Long 2003
mammals	Nasua nasua	coatimundi	В	0.5	0	Nat	2	likely	DD unlikel	y 1	1 1			Potential escape/release from captivity	D	Removed from Dangerous Wild Animals Act in 2007	Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Tamias sibiricus	Siberian chipmunk		0.5	0	Nat	3		likely unlikely	/	1 1	,	-	Potential escape/release from captivity	D		Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Tamias striatus	Eastern chipmunk		0.5	0	Nat	3		likely unlikely	-			-	Potential escape/release from captivity	D		Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals mammals	Callithrix spp Cebus spp	marmoset capuchin		0.5 0.5	0	Nat Nat	2	likely likely	DD unlikely	·		,	-	Potential escape/release from captivity Potential escape/release from captivity	D D		Long 2003 Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Chinchilla spp	chinchilla		0.5	0	Nat	1	_1	DD unlikel		1 1			Potential escape/release from captivity	D		Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals	Eliomys quercinus	garden dormouse		0.5	0	Nat	2	likely	likely unlikel	y 1	1 1			Potential escape/release from captivity	D		Nowak, R.M. & Paradiso, J.L. 1983
mammals	Hystrix brachyura	Himalayan porcupine		0.5	0	Nat	2		likely unlikely	<i>,</i>	2 1		,	Potential escape/release from captivity		Previous establishment in wild, breeding - recaptured	Long 2003
mammals	Hystrix cristata	crested porcupine		0.5	0	Nat Nat	2		likely unlikely	-	2 1		· ·	Potential escape/release from captivity Potential escape/release from captivity		Previous establishment in wild - recaptured. Previously numerous small transient colonies.	Baker 1990, Long 2003, Baker, S.J. & Hills, D. 2008
mammals mammals	Mesocricetus auratus Petaurus breviceps	golden hamster sugar glider		0.5 0.5	0	Nat	1		likely unlikely		1 1		-	Potential escape/release from captivity	D		Long 2003 Nowak, R.M. & Paradiso, J.L. 1983
mammals	Atelerix albiventris	African pygmy hedgehog		0.5	0	Nat	3	likely	DD unlikel		1 1			Potential escape/release from captivity	D		Nowak, R.M. & Paradiso, J.L. 1983
birds	Alopochen aegyptiacus	Egyptian goose	А	2	Inc	Nat	1	3	DD 1	2	2 1			Dispersal; escape/release from waterfowl collections.	D		Long 1981; Ogilvie et al. 2004; Blair 1999
birds	Bubo bubo	eagle owl	A	1	Stab	Nat	3	2 u	unlikely 1	1	1 1	,		Dispersal; escape/release from aviary collections.		European SPEC 3.	Ogilvie et al. 2004
birds birds	Acridotheres tristis Threskionis aethiopicus	common mynah sacred ibis		0.5 0.5	0	Nat Nat	3	3	2 1 likely 1	1		Ů	,	Potential dispersal from French colonies	D	Present in the pet trade	Long 1981 Blair 1999; Banks <i>et al</i> . 2008
birds	Corvus splendens	Indian House Crow		0.0	0	Nat	3		likely 1	1	1 1	3 1		Ship-assisted transfer from Netherlands or other		Increasing breeding population in the Netherlands	Long 1981; Ottens & Ryall 2003
birds	Branta leucopsis	barnacle goose	В	2	Inc	Nat	2	1	DD 2	2	1 2	1 D,	, ,	Dispersal; escape/release from waterfowl collections.	D	UK amber listed species. Potential to emulate Canada goose pop. growth.	Blair 1999; Banks et al. 2008
birds	Anser caerulescens	snow goose	В	1	Stab	Nat	1	2	DD 1	1	1 1	+ +	_,	Dispersal; escape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al.</i> 2008
birds	Anser indicus	bar-headed goose	B	1	Inc Stab	Nat Nat	1	2	DD 2	1		· ;	,∟,	Dispersa; escape/release from waterfowl collections. Dispersal; escape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al.</i> 2008
birds birds	Bubulcus ibis Cairina moschata	cattle egret Muscovy duck	B	1	Stab	Nat	2	2	DD 1 DD 1	1		,	, ,	Dispersal; escape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al.</i> 2008 Blair 1999; Banks <i>et al.</i> 2008
birds	Cygnus atratus	black swan	B	1	Inc	Nat	2	2	DD 1	1	1 1		, ,	Dispersal; escape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al</i> . 2008
birds	Netta rufina	red-crested pochard	В	1	Inc	Nat	1	1	DD 2	1	1 1	,	, ,	Dispersal; escape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al</i> . 2008
birds	Tadorna ferruginea	ruddy shelduck	B	1	Stab	Nat Nat	1	2	likely 2	1	1 1	,		Dispersal; escape/release from waterfowl collections. Potential escape/release from collections.	D	Descent in the net trade	Blair 1999; Banks <i>et al</i> . 2008
birds birds	Acridotheres cristatellus Acridotheres ginginianus	crested mynah bank mynah	B	0.5 0.5	0	Nat	2	3	2 1	1				Potential escape/release from collections.		Present in the pet trade Present in the pet trade	Long 1981
birds	Chloephaga picta	upland goose	B	0.5	Stab	Nat	1	2	DD 1	1	2 1		-	scape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al</i> . 2008
birds	Nycticorax nycticorax	night heron	В	0.5	Dec	Nat	1	1	DD 1	1	2 1	1 D,	D,E,R E	scape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al</i> . 2008
birds	Molothrus spp	cowbirds	В	0	0	Nat	1	3	DD 1	1	1 1	-		lot known to be present in pet trade; unlikely to enter.	D		http://www.issg.org/database/species/ecology.asp?si=310&fr=1&sts=sss
birds	Aix galericulata	Mandarin duck	С С	1	Inc Inc	Nat Nat	1		unlikely 1	1				Dispersal; escape/release from waterfowl collections. Dispersal; escape/release from aviary collections.	D D		Long 1981; Ogilvie et al. 2004; Blair 1999 Long 1981; www.hertsbirdclub.org.uk/monkparakeets.html
birds birds	Myiopsitta monachus Aratinga acuticaudata	monk parakeet blue-crowned parakeet	c	0.5	Stab	Nat	2		likely 1 likely 1	1		4		scape/release from aviary collections.		Previous occurrences and breeding in the wild	Butler <i>et al.</i> 2002; Ogilvie <i>et al.</i> 2005
birds	Branta sandvicensis	Hawaiian goose	С	0.5	0	Nat	1	1	DD 1	1	1 1	1 E	E,R E	scape/release from waterfowl collections.	D		Blair 1999; Banks <i>et al</i> . 2008
birds	Psittacula eupatria	Alexandrine parakeet	С	0.5	Stab	Nat	2	2	likely 1	1	1 1		,	scape/release from aviary collections.		Previous occurrences and breeding in the wild	Butler et al. 2002; Ogilvie et al. 2004
birds	Pycnonotus cafer	red-vented bulbul	C	0.5	0	Nat	1	likely	DD 1	1	1 1			scape/release from aviary collections.		Present in the pet trade	Long 1981
birds amphibian	Passer hispaniolensis Pelophylax ridibundus	Spanish sparrow marsh frog	A	U 2	0 Inc.	Nat Nat	1	likely 3	DD 1 3 3	1	1 1			scape/release from aviary collections. Dispersal; Escape/release from captivity	D D		Long 1981 Froglife 1997; www.iucnredlist.org
amphibian	Rana catesbeiana	North American bullfrog	A	1	Dec.	Nat	3	3	3 1	1		,	, ,	Dispersal; Escape/release from captivity		EC import ban 1997	Froglife 1997; www.iseg.org
amphibian	Xenopus laevis	African clawed toad	А	1	inc	Nat	3	3	3 1	1	1 1	€ 2,	, _ ,	Dispersal; Escape/release from captivity	D		Froglife 1997; www.iucnredlist.org
amphibian	Alytes obstetricans	midwife toad	В	1	inc	Nat	2	likely	3 1	1	1 1	,	, ,	Dispersal; Escape/release from captivity	D		Froglife 1997; www.iucnredlist.org
amphibian amphibian	Rana esculenta Triturus carniflex	edible frog Italian crested newt	B	1	inc inc	Nat Nat	2	likely 3	3 3 1 2	1		,	, ,	Dispersal; Escape/release from captivity Dispersal; Escape/release from captivity	D D		Froglife 1997 Froglife 1997
amphibian	Triturus alpestris	Alpine newt	B	1	inc	Nat	2	likely	3 1	1	1 1	,	, ,	Dispersal; Escape/release from captivity	D		Froglife 1997
amphibian	Bombina spp	fire-bellied toads	С	1	inc	Nat	2	likely	1 1	1	1 1	,	, ,	Dispersal; Escape/release from captivity	D		Froglife 1997
amphibian	Hyla arborea		С	1	DD	Nat	2	likely	1 1	1	1 1			Dispersal; Escape/release from captivity	D		Froglife 1997
amphibian	Bufo marinus	cane toad		0.5	0	Nat Nat	3	3 likolu	3 1 3 1	1			,	Potential escape/release from captivity Potential escape/release from captivity		Climate would inhibit establishment Climate would inhibit establishment	Kearney <i>et al</i> . 2008; www.issg.org www.iucnredlist.org; www.issg.org
amphibian amphibian	Eleutherodactylus coqui Osteopilus septentrionalis	Carribean tree-frog Cuban tree frog		0.5 0.5	0	Nat	2	likely 3	3 1 1 1	1			,	Potential escape/release from collections.		Climate would inhibit establishment Climate would inhibit establishment	www.iucnrealist.org; www.issg.org www.iucnredlist.org
reptile	Chelydra serpentina	snapping turtle	A	1	Stab	Nat	3	3	21	1	1 1	3 D,	, E,R ^D	Dispersal; Escape/release from captivity		Very long-lived	www.britishcheloniagroup.org.uk
reptile	Trachemys scripta	red-eared terrapin (slider)	А	1	Stab	Nat	3	3	2 1	1	1 1	,	, ,	Dispersal; Escape/release from captivity		Viable eggs have been discovered	www.issg.org
reptile	Chrysemys picya	painted turtle	B	1	Stab	Nat	2	2	2 1	1			, ,	Dispersal; Escape/release from captivity Dispersal; Escape/release from captivity	D		Froglife 1997; www.issg.org
reptile	Emys orbicularis Mauremys caspica	European pond terrapin stripe-necked terrapin	B	1	Stab Stab	Nat Nat	2	2	2 1	1		, ,	, ,	Dispersal; Escape/release from captivity Dispersal; Escape/release from captivity	D D		<u> </u>
reptile	Elaphe spp	rat snakes	В	0.5	0	Nat	2	2	2 1	1	1 1			Potential escape/release from captivity		Commonest pet snake species	http://nationalzoo.si.edu/Animals/ReptilesAmphibians/Facts/FactSheets/Cornsnake.cfm
reptile	Lampropeltis spp	king/milk snakes	В	0.5	0	Nat	2	2	2 1	1	1 1	likely E	E,R P	Potential escape/release from captivity	D	Commonest pet snake species	http://nationalzoo.si.edu/Animals/ReptilesAmphibians/Facts/FactSheets/Commonkingsnake.cfm
reptile	Thamnophis spp	garter snakes		0.5	0	Nat	2	2	2 1	1	1 1		,	Potential escape/release from captivity	D		
reptile reptile	Elaphe longissima Lacerta viridis		C C	1	Stab Stab	Nat Nat	2	1	2 1	1		,	, ,	Dispersal; Escape/release from captivity Dispersal; Escape/release from captivity	D D	Breeding population in North Wales	
reptile	Podarcis muralis	wall lizard	c	1	Stab	Nat	1	2	2 1	1			, ,	Dispersal; Escape/release from captivity	D		
reptile	Boa constrictor imperator	common boa	А	0.5	0	Nat	3	2	2 1	1	1 1	3 E	E,R P	Potential escape/release from captivity	D	Climate would inhibit establishment	
	Python molurus bivittatus	Burmese python		0.5	0	Nat	3	3	2 1	1	1 1		,	Potential escape/release from captivity		Climate would inhibit establishment	Snow, R. 2007
reptile	,		0	~ -		Not	2	2	2 1	1	1 1	unlikely E	E,R P	Potential escape/release from captivity		Climate would inhibit establishment	
reptile reptile	Agamidae	dragons		0.5	0	Nat	2					- I		Otential escane/release from continuity		Climata would inhibit actabliabe ant	
reptile reptile reptile	Agamidae Chamaeleonidae	chamaeleons		0.5	0 0 0	Nat	2	2	2 1 2 1	1	1 1 1 1		_,	Potential escape/release from captivity Potential escape/release from captivity		Climate would inhibit establishment Climate would inhibit establishment	
reptile reptile	Agamidae		C C		0 0 0 0	Nat	2 2 2 2 2 2	2 2 2 2	2 1 2 1 2 1 2 1	1 1 1	1 1 1 1 1 1	unlikely E	E,R P		D	Climate would inhibit establishment Climate would inhibit establishment Climate would inhibit establishment	
reptile reptile reptile reptile	Agamidae Chamaeleonidae Gekkonidae	chamaeleons geckos	C C	0.5 0.5	0 0 0 0 0	Nat Nat	2 2 2 2 2 2	2 2 2 2 3	2 1 2 1 2 1 1 1	1 1 1 1	1 1 1 1 1 1 1 1	unlikely E unlikely E	E,R P E,R P	Potential escape/release from captivity	D D D,C	Climate would inhibit establishment	

Fish	Proterorhinus marmoratus	Tubenose goby	A 0	0	Nat	2	3	likely	1	1	1	1	likely	T,D	Hull fouling		Arrival in England only likely as a hull foulant of ships coming from Rotterdam area,	
Fish	Ameiurus melas/lctalurus	Ictalurid catfishes	B 1	Stab	Nat. Tran	ns 2	1	2	1		1	1	likelv	T.R	Releases from aquaculture/aquaria/garden ponds		where species is now present. Temperature may be a limiting factor to populations expansion and dispersal but	Wheeler et al. (2004)
	punctatus												-				climate change may increase risk of introduction.	······································
Fish	Gambusia holbrooki	Eastern mosquitofish	В 0	0	Nat, Tran	ns 1	2	likely	1	1	1	1	likely	T,R	Human-assisted transfer and introduction		Unlikely to arrive in the UK except by illegal introduction and release by anglers or aquarists.	
Fish	Acipenser ruthenus	Sterlet	C 1		Nat, Tran		1	2	1	1	1	1					Increasingly present in UK waters due to releases.	Britton & Davies (2006); Copp et al. (2006a)
Fish Fish	Aristichthys nobilis Catostomus commersoni	Bighead carp White sucker	C 1 C 1	Inc	Nat, Tran Nat	ns 2 1	likely likely	likely 2	1	1	likely 1	1 1	-				Temperature and absence of long, large rivers a limiting factor to reproduction. Species may be established upstream of stream stretch where previously found, but	Britton & Davies (2007) Copp et al. (2006b)
Fich	Ctopophon maadon idalla	Cross sorp		Inc	Nat, Tran	2 2	likoly	likoly	1	1	likoly	1	likoly	тр	Poloogoo from oguquulturo/oguqrio/gordon pondo		this remains to be confirmed.	Stott (1077)
Fish Fish	Ctenopharyngodon idella Hypophthalmichthys molitrix	Grass carp Silver carp	C 1		Nat, Tran Nat, Tran			likely likely	1		likely likely	1	-				Temperature and absence of long, large rivers a limiting factor to reproduction. Not yet found in the wild. Temperature and absence of long, large rivers a limiting	Stott (1977) Britton & Davies (2007)
5 .4	N/	Marcalla - Patrice		0	Ture			Plata					and Phase a	TD			factor to reproduction.	M//
Fish	Misgurnus fossilis/anguillicaudatus	Weatherfishes	C 1	Stab	Trans	1	unlikely	ікеіу	1	1	2	2	uniikeiy	I,K	Releases from aquaculture/aquaria/garden ponds	D,C	Species may be more widely distributed than known due to very cryptic style of live.	Wheeler et al. 2004
Fish	Pimephales promelas	Fathead minnow	C 1		Nat, Tran	-		2	1	1	1	1	/				change may increase risk of introduction.	Maitland (2004)
Fish freshwater invertebrate	Cyprinella lutrensis Eriocheir sinensis	Red shiner Chinese Mitten Crab	C 0.5 A 1		Nat, Tran Nat, Tran		likely 2	2	2	2 2	1 3	1 3		E,T,D	Natural spread of current pop. Maratime transportation		change may increase risk of introduction. Omnivorous, highly fecund represents a great threat to lower river stretches.	Gilby <i>et al</i> (2008)
freshwater invertebrate	Mutilancia laucophaceta	False Dark Muscle	A 1	Stob	Not Trop	ns 2	2	1	1	3	2	2	2 0		through balast water release. Human-assisted transfer and introduction. First UK		Like the zebra mussel (<i>Dreissena</i>) M.leucophaeta has a planktonic veliger larva	Freshwater Bivalves of Britain and Ireland (2004)
	Iniyulopsis leucophaeata	Faise Dark Muscle		Slab	Indi, ITdi	15 2	2		I	3	3	2	3 K		record 1998 (Hoo Peninsula, Kent). Species believed to have been transported in ballast waters.		and a byssus for attachment onto hard substrates. This species has the potential to spread and become a commercially significant fouling pest of water pipes and culverts. Halo tolerant.	
freshwater invertebrate	Orchonectes limosus	Spiny Cheeked Crayfish	A 1	Inc	Nat, Tran	ns 3	3	3	1	3	3	2	3 F		Releases from aquaria/garden ponds, human-assisted transfer and introduction	0	Omnivorous, highly fecund represents a great threat to native FW biodiversity.	Pockl <i>et al</i> , (2006)
freshwater invertebrate	Procambarus sp.	Marbled Crayfish	A 0.5	Stab	Trans	2	2	3	1	2	2	2	2		Releases from aquaria/garden ponds, human-assisted transfer and introduction	0	Parthenogenic, highly fecund- represents a great threat to native FW biodiversity.	Pockl et al, (2006), Jones et al, (2008), Vogt et al, (2004)
freshwater invertebrate	Astacus leptodactylus	Turkish Narrow-Clawed Crayfish	B 1	Inc	Nat, Tran	ns 0	2	3	1	2	2	2	2 F		Releases from aquaria/garden ponds, human-assisted	0	Presence of plague-bearing signal crayfish may limit population expansion.	Pockl <i>et al</i> , (2006)
for the second se					Not T									D	transfer and introduction			
freshwater invertebrate freshwater invertebrate	Corbicula fluminea Procambarus clarkii	Asian Clam Red Swamp Crayfish	B 1 B 1		Nat, Tran Nat, Tran		2 2	1 3	1 1	2 2	2	2		R,E,T,	Human-assisted transfer and introduction Releases from aquaria/garden ponds, human-assisted	0	Bio-fowling agent. Despite being a warmwater species it can survive in waterbodies that freeze during	Belanger <i>et al</i> (1985) Pockl <i>et al</i> , (2006)
														D	transfer and introduction		the winter months. Omnivorous, highly fecund represents a great threat to native FW biodiversity.	
freshwater invertebrate	Achtheres percarum	Parasitic Copepod	C 1	Stab	Nat, Tran	ns O	0	1	1	0	1	0	1 F		Natural spread + Human-assisted transfer and introduction	0	Distribution unclear	Piasecki (2004), Piasecki & Kuzminska (2007)
freshwater invertebrate	Branchiura sowerbyi	Oligochaete Worm	C 1	Stab	Trans	1	1	1	1	1	1	1	1 F		Releases from aquculture/aquaria/garden ponds	0	Distribution unclear. Possibly small isolated populations. Native of tropical and	Grabowski & Jablonska (2009); Paunovic <i>et al</i> (2005b); Mann (1958); GBIF Information Facility (2009); NBN
														D			subtropical Asia. Thought to have been imported to Europe with plants around 1900.	Gateway (2009)
	Corophium curvispinum	Freshwater Malacostracan	C 1	Inc			2	0	1	0	1	0		-	Human-assisted transfer and introduction		A limited, but increasing number of reports of occurrences in the UK since 1970s (e.g. Thames). Only Brink et al. (1993) have reported impacts, but from a highly altered river system.	Moon (1970), Bratten (1982), Brink <i>et al</i> (1993)
freshwater invertebrate	Craspedacusta sowerbyi	Amazonian Jellyfish	C 1	Inc	Nat, Tran	ns 1	1	1	1	1	0	0			Releases from aquaria/garden ponds, human-assisted transfer and introduction	0	Impact unknown.	Smith <i>et al</i> (2008)
freshwater invertebrate	Ergasilus sieboldi	Parasitic Copepod	C 1	Inc	Nat, Tran	ns 1	1	1	1	1	1	1	2		Stocking of infected fish is most common means of dissemination, free living stages may be transferred in	0	EA Category 2 parasite. Damages fish gills. Wide UK distribution. Weakens fish populations/causes mortalities under conditions of low dissolved oxygen. All fish	National Fisheries Laboratory- Category 2 Parasite Guide (1999)
															water, on equipment or by aquatic animals.		species can act as final hosts, tench (<i>Tinca tinca</i>), bream (<i>Abramis brama</i>) and pike (<i>Esox luci</i>).	
freshwater invertebrate	Ergasilus briani	Parasitic Copepod	C 1	Inc	Nat, Tran	ns 1	1	1	1	1	1	1	2		Stocking of infected fish is most common means of dissemination, free living stages may be transferred in water, on equipment or by aquatic animals.		EA Category 2 parasite. Damages fish gills. Wide UK distribution. Weakens fish populations. Preferentially infects smaller fish often leading to mortality. All fish species can act as final hosts, tench (<i>Tinca tinca</i>) and bream (<i>Abramis brama</i>) are most vulnerable.	National Fisheries Laboratory- Category 2 Parasite Guide (1999)
freshwater invertebrate	Ferissia wautieri	Wautier's Limpet	C 1	Stab	Nat, Tran	ns 1	1	1	1	1	1	1	1 F		Releases from aquaria/garden ponds, human-assisted transfer and introduction	0	Very little information available.	NBN Gateway (2009)
freshwater invertebrate	Masculinium traversum	Long fingernail clam, Oblong orb mussel	C 1	Dec	Nat, Tran	ns 1	1	1	1	1	1	1	1 1		Unknown innoculation pathway. Introduced 1856 predominantly inhabiting canal basins of the industrial	0	Present day records show a show a dramatic decline such that this is now a rare species.	Freshwater Bivalves of Britain and Ireland (2004)
		inussei													north-west.		species.	
freshwater invertebrate	Marstoniopsis scholtzi	Taylor's Spire Shell	C 1	Dec	Nat, Tran	ns 1	1	1	1	1	1	1	1 F	R,E,T, D	Releases from aquculture/aquaria/garden ponds	0	Very little information available. Minute freshwater gastropod. Only found in lentic habitats. IUCN Red listed: Rare in native country.	NBN Gateway (2009), IUCN Red List (2009).
freshwater invertebrate	Menetus dilatatus	Trumpet Ramshorn	C 1	Inc	Nat, Tran	ns O	0	1	1	1	1	1	0 R	,E,T,D	Human-assisted transfer and introduction	0	Naturalised. Does not present obvious problems.	Conchological Society of Great Britain & Irland
freshwater invertebrate	Neoergasilus japonicus	Parasitic Copepod	C 1	Inc	Nat, Tran	ns 1	0	1	1	1	1	1	1		Stocking of infected fish is most common means of dissemination, free living stages may be transferred in water, on equipment or by aquatic animals.		Previous EA Category 2 parasite. Small + easy to miss in field surveys. Presents threat to a large range of coarse and salmonid fish species.	Hayden and Rogers (1998); Hudson and Bowen (2002); Baud et al. 2004; National Fisheries Laboratory- Category 2 Parasite Guide (1999)
freshwater invertebrate	Physella acuta	Tadpole snail	C 1	Stab	Nat, Tran	ns 2	2	0	1	1	1	1	1 F		Releases from aquculture/aquaria/garden ponds			Anderson (2003)
														D			as to whether this is a North American species introduced into Europe or a European species which has become dispersed around the world.	
freshwater invertebrate	Physella gyrina	Pouch snail	C 1		Nat, Tran		2	0	1	1	1	1			Releases from aquculture/aquaria/garden ponds	0	Small isolated populations in England	Anderson (1996)
freshwater invertebrate	Physella heterostopha	Pond snail	C 1	Stab	Nat, Tran	ns 2	2	0	1	1	1	1	1 F	R,E,T, D	Releases from aquaria/garden ponds		Reduced to synonomy with <i>P. acuta</i> by Anderson (2003). There is debate as to whether this is a North American species introduced into Europe or a European species which has become dispersed around the world.	Anderson (2003)
	Tracheliastes polycolpus	Parasitic Copepod	C 1		Nat, Tran		1	1	1	1	1	1		D	Stocking of infected fish is most common means of dissemination, free living stages may be transferred in water, on equipment or by aquatic animals.		Distribution unclear. Ectoparasite of fish fins.Causes loss of fin surface area and impacts swimming ability.	Loot et al (2004)
freshwater invertebrate	Astacus astacus	Noble Crayfish	C 0.5	Stab	Nat, Tran	ns 2	0	1	1	0	0	0	0 F		Releases from aquaria/garden ponds, human-assisted transfer and introduction		Presence of plague-bearing signal crayfish is likely to limit population expansion as species is equally susceptible as white-clawed crayfish	Pockl <i>et al,</i> (2006), Renai&Gherardi (2004)
freshwater invertebrate	Asellus communis	Freshwater Malacostracan	C 0.5	Stab	Trans	1	0	1	0	0	1	0	0 F		Human-assisted transfer and introduction		Population contained in a single Northumbrian Lake. Unlikely to have a signigicant impact.	
freshwater invertebrate	Dugesia tigrina	Freshwater triclad	C 0.5	Stab	Trans	1	0	0	1	0	1	0	1 F		Releases from aquaria/garden ponds, human-assisted transfer and introduction		Relatively little information available on this species, which is spreading across Europe, but appears to be relatively benign.	CABI (2005) Inventory of alien species in Switzerland
freshwater invertebrate	Planaria torva	Freshwater triclad	C 0.5	Stab	Trans	1	0	0	1	0	1	0	1 R	,E,T,D	Releases from aquaria/garden ponds, human-assisted transfer and introduction			NBN Gateway (2009), Reynoldson, T.B., Sefton, A.D. (2006). The food of Planaria torva (Müller) (Turbellaria- Tricladida), a laboratory and field study. Freshwater Biology. Volume, Pages 383 - 393 Preceedings of
freshwater invertebrate	Limpodrilus contéx	Oligochaete Worm	C 0	Aba	Trans		0	1	1		1	0	0		Potential for releases from aquculture/aquaria/garden	0	Distribution unclear. Nearest population to England appears to be in Belgium and	Glasgow Natural Histroy Soc 150th Anniversay GBIF Information Facility (2009)
		Oligochaete Worm					U	'	Ĩ		ı	U			ponds		the Netherlands. No clear evidence of detrimental impact on FW ecosystems.	
freshwater invertebrate	Phagocata woodworthi	Freshwater triclad- American freshwater flatworm	C 0	Abs	Trans	1	0	0	1	0	1	0	1 F		Accidental releases from poorly dissinfected survey equipment (human-assisted transfer and introduction)		Little information available on this species. Currently confined to Loch Ness in GB - Introduced on survey equipment brought by "monster hunters" !	Young, (1992), Preceedings of Glasgow Natural Histroy Soc 150th Anniversay Conference 2001.
Marine Invertebrate	Didemnum vexillum	Colonial ascidian	A 1	Inc	,	ns 3	3	DD	1	1	2	2	2		Hull fouling, ballast water and with aquaculture transfers	E	Not tolerant of immersion in fresh water	Lambert, 2001
Marine Invertebrate	Paralithodes camtschaticus	Red king crab	A 0	0	Nat	3	3	1	1	1	2	1	2		Natural dispersal from stocks introduced for commercial exploitation		Dispersal to England across the North Sea may be restricted by depth and insufficiently low temperature.	Joergensen et al., 2007
Marine Invertebrate Marine Invertebrate	Watersipora subtorquata Marsupenaeus (Penaeus)	Bryozoan Japanese tiger prawn	B 1 B 0	Inc 0	Nat, Tran Nat	ns 2 2	2 2	DD 3	1 2	1 1	2	1 1	Ť		Hull fouling Potential for escape from aquaculture facilities.	0 D	Temperature may be a limiting factor to self-sustaining populations but climate	
	japonicus																change may increase risk of introduction.	

Marine Invertebrate	Rapana venosa	Veined (Asian) rapa whelk	В	0	0	Nat, Tran	s 1	2	1		1 1	2	1	2	Тг	א ר	latural dispersal of adults from nearby areas. Veliger	D		Kerckhof et al., 2006
		Veineu (Asian) Tapa wheik		0	Ŭ	Inal, Hall	5 1		' '			2	'	2	', '		arvae from ballast waters. Egg cases attached to			
																	quaculture animals or products.			
Marina Invertabrata	Ammathaa bilgandarfi	Can aridar		4	Stab	Nat, Trans	\$ 1	1		D	1 1	1	1	1	+		hipping (carried on hulls or through ballast water).	0		Bamber, 1985
Marine Invertebrate	Ammothea hilgendorfi Lymantria dispar	Sea spider gypsy moth	C	2		Nat, Tran		1	1		1 1	1	1	1	' D/T		latural dispersal / transported with plants or plant		Outbreaks around Aylesbury and London	Anon. (2008).
invertebrate	Lymannia diopar	gypsy mour		2		Hat, Hah						2			0,1		haterial or inert materials such as car tyres	0, 0		1 Hol. (2000).
Invertebrate	Agrilus planipennis	emerald ash borer	A	0		Nat, Tran		1	1		1 1	3	1	1	Т	Т	ransported with plants or plant material		Present around Moscow	Anon(2005), Baranchikov etal (2008); CABI (2009) & Evans (2004)
Invertebrate	Anoplophora chinensis	citrus longhorn beetle	A	0	0	Nat, Tran	s 3	1	1		1 1	2	1	1	Т	Т	ransported with plants or plant material	D	Has been intercepte in mail order plants from China	CABI (2009); Lingafelter & Hoebeke (2002); van der Gaag et al. (2009)
Invertebrate	Anoplophora glabripennis	Asian longhorn beetle	A	0	0	Nat, Trans	-	1	1		1 1	2	1	1	Т	Т	ransported with plants or plant material	D	Found in wood packaging	CABI (2009)
Invertebrate	Bursaphelenchus xylophilus	pinewood nematode	A	0	0	Nat, Trans		unlik	ely 1		1 2	3	1	1	Т	Т	ransported with plants or plant material		Large outbreaks in Potugal	Dwinell (1997) & Eppo PM 7/4(1)
Invertebrate	Thaumetopoea processionea	oak processionary moth	В	1	Stab.	Nat, Tran	s 2	DI	D unlik	kely un	likely 1	1	1	1	D/T	ΓN	latural dispersal / transported with plants or plant		Outbreak in London under eradication	Forest Research advisory info
Invertebrate	Dryocosmus kuriphilus	oriental chestnut gall wasp	В	0	0	Nat, Trans	-	1	1		1 1	2	1	1	Т	Т	ransported with plants or plant material	D,C	Would be very difficult to contain once found	CABI (2009); Melika (2006)
Invertebrate	lps typographus	eight-toothed bark beetle	В	0	0	Nat, Tran	s 2	1	1		1 1	3	1	1	Т	Т	ransported with plants for planting / timber	D		CABI/EPPO (2007); Forest pests.org; FC; Wermelinger (2004); CABI (2009)
Invertebrate	Lissorhoptrus oryzophilus	American water weevil	В	0	0	Nat, Tran	s Likely	/ 1	1		1 1	Likely	1	1	Т	Т	ransported with plants or plant material	C, E		CABI (2009) Chen et al. (2005); MacLeod (2001)
Invertebrate	Monochamus sartor	sawyer beetle	В	0	0	Nat, Tran	s 1	1	like	əly	1 1	2	1	1	Т	Т	ransported with plants for planting / timber	D	Doubts exist on potential as a nematode vector	Anderson (2008) Canadian food inspection agency (2007)
Invertebrate	Popillia japonica	Japanese beetle	В	0	0	Nat, Tran	s Likely	/ 1	1		1 1	likely	1	1	Т	Т	ransported with plants or plant material	С, В	Major problem in USA	Gvelshen & Hodges (2005)
Invertebrate	Selonochlamys ysbryda	ghost slug	В	0	DD	Nat, Trans	s Likely	/ Like	ely unlik	ely unli	ikely likely	unlikely	unlikely	y unlikel	ly T/D	ΣТ	ransported with plants or plant material / natural	C, B, D	Newly discovered species	Rowson, B. & Symondson, W.O.C. (2008)
Invertebrate	Leptoglossus occidentalis	western conifer seedbug	С	2	Inc.	Nat	1	1	1		1 1	1	2	1	D/T	ΓN	latural dispersal / transported with plants or plant	С		CABI (2009); Het News: 12: 7-9
Invertebrate	Diaphania perspectalis	a pyralid moth	С	1	Inc.	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	T/D	ΣТ	ransported with plants or plant material / natural	C,D		http://www.eppo.org/QUARANTINE/Alert_List/insects/diaphania_perspectalis.htm
Invertebrate	Dasineura oxycoccana	blueberry gall midge	С	1	DD	Nat, Tran	s Likely	/ 1	1		1 1	likely	1	1	T/D	ΣТ	ransported with plants or plant material / natural	C, D		http://extension.oregonstate.edu/catalog/html/em/em8889/
Invertebrate	Nysius huttoni	green chinch bug	С	1	Inc.	Nat, Tran	s Likely	/ unlik	ely 1		1 1	1	1	1	D/T	ΓN	latural dispersal / transported with plants or plant	С		Baker & Cannon (2006)*
Invertebrate	Tinocallis takachihoensis	aphid feeding on Ulmus sp.	С	1	DD	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	T/D	р Т	ransported with plants or plant material / natural	С		MacLeod (2002)*
Invertebrate	Callidiellum rufipenne	cedar longhorned beetle	С	0	0	Nat, Tran	s 1	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	D		CABI (2004)
Invertebrate	Ceresa alta	buffalo treehopper	С	0	0	Nat, Tran	s 2	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	С		
Invertebrate	Corythucha arcuata	oak lace bug	С	0	0	Nat, Tran	s 2	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	С		Anderson (2007)*
Invertebrate	Diaspidiotus perniciosus	San Jose scale	С	0	0	Nat, Trans	s 2	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	D, C		CABI (1999)
Invertebrate	Enapholodes rufulus	red oak borer	С	0	0	Nat, Tran	s dd	1	1		1 1	DD	1	1	Т	Т	ransported with plants or plant material	D		http://www.forestpests.org/southern/redoakborer.html;
Invertebrate	Liriomyza chinensis	onion leafminer	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	D,C		iomyza_chinensis.htm
Invertebrate	Listrodes difficilis	vegetable weevil	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	С		MacLeod (2002)*
Invertebrate	Matsucoccus feytaudi	maritime pine scale	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	2	1	1	Т	Т	ransported with plants or plant material	D, C		CABI (2004)
Invertebrate	Megastigmus nigrovariegatus	American rose seed chalcid	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	D, C		CABI (2009)
Invertebrate	Metcalfa pruinosa	frosted moth-bug	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	С		CABI (1999)
Invertebrate	Mogulones geographicus	a weevil	С	0	0	Nat, Tran	s Likely	/ 1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	DD		CABI (2009); http://www.csiro.au/resources/ps29o.html
Invertebrate	Monochamus alternatus	Japanese pine sawyer	С	0	0	Nat, Trans	s 1	1	3	3	1 1	2	1	1	Т	Т	ransported with plants or plant material	D		CABI (2004)
Invertebrate	Monochamus sutor	small white-marmorated longicorn	С	0	0	Nat, Trans	s 1	1	2	2	1 1	1	1	1	Т	Т	ransported with plants or plant material	D		CABI (2004)
Invertebrate	Monema flavescens	oriental moth		0	0	Nat, Tran	s 2	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	С		service.
Invertebrate	Naupactus leucoloma	white-fringed weevil	С	0	0	Nat, Tran	s 3	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	C, B, E		CABI (1999)
Invertebrate	Pseudaulacaspis pentagona	white peach scale	С	0	0	Nat, Tran	s 3	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	D,C		MacLeod (2007)*
Invertebrate	Sitona discoideus	a weevil	с	0	0	Nat, Tran	s 2	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	B, E		CABI (1999)
Invertebrate	Stephanitis oberti	blackberry lacebug	c	0		Nat, Tran	_	1	1		1 1	1	1	1	Т	Т	ransported with plants or plant material	C		2000. 9: 2, 385-386.
Invertebrate	Linepithema humile	Argentine Ant	А	0.5	Inc	Trans	3	3	1		1 2	2	2	3	Т	A	ir and sea tranport of goods, especially potted plants	С		Holway, D.A. (1999);
																				http://www.landcareresearch.co.nz/research/biocons/invertebrates/Ants/infosheets/linhum_info.asp
						1										+				
						1	1							1		+				
	Species inform	nation sheet prepared					+						1	+		+				
			┞─┼─				+						1	+	+	+				
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		Black List		2 1	High Di	k - Drocon						1	1	+	-	+				
		Alert List A 0.5, 0 High Risk - Absent or Enclosed Watch List B 2, 1, 0.5, 0 Medium Risk - Present, Absent or Enclosed														+				
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	ļ	Climate List	А, В	0.0, 0	i ligit ul	weuluitti Ki	isk - Ause		CIUSEU DI		te wanning requ	med perol	e establis	simeni po	USSINIE			I		