Information about GB Non-native Species Risk Assessments

The Convention on Biological Diversity (CBD) emphasises the need for a precautionary approach towards non-native species where there is often a lack of firm scientific evidence. It also strongly promotes the use of good quality risk assessment to help underpin this approach. The GB risk analysis mechanism has been developed to help facilitate such an approach in Great Britain. It complies with the CBD and reflects standards used by other schemes such as the Intergovernmental Panel on Climate Change, European Plant Protection Organisation and European Food Safety Authority to ensure good practice.

Risk assessments, along with other information, are used to help support decision making in Great Britain. They do not in themselves determine government policy.

The Non-native Species Secretariat (NNSS) manages the risk analysis process on behalf of the GB Programme Board for Non-native Species. Risk assessments are carried out by independent experts from a range of organisations. As part of the risk analysis process risk assessments are:

- Completed using a consistent risk assessment template to ensure that the full range of issues recognised in international standards are addressed.
- Drafted by an independent expert on the species and peer reviewed by a different expert.
- Approved by an independent risk analysis panel (known as the Non-native Species Risk Analysis Panel or NNRAP) only when they are satisfied the assessment is fit-for-purpose.
- Approved for publication by the GB Programme Board for Non-native Species.
- Placed on the GB Non-native Species Secretariat (NNSS) website for a three month period of public comment.
- Finalised by the risk assessor to the satisfaction of the NNRAP.

To find out more about the risk analysis mechanism go to: www.nonnativespecies.org

Common misconceptions about risk assessments

To address a number of common misconceptions about non-native species risk assessments, the following points should be noted:

- Risk assessments consider only the risks posed by a species. They do not consider the practicalities, impacts or other issues relating to the management of the species. They therefore cannot on their own be used to determine what, if any, management response should be undertaken.
- Risk assessments are about negative impacts and are not meant to consider positive impacts that may also occur. The positive impacts would be considered as part of an overall policy decision.
- Risk assessments are advisory and therefore part of the suite of information on which policy decisions are based.
- Completed risk assessments are not final and absolute. Substantive new scientific evidence may prompt a re-evaluation of the risks and/or a change of policy.

Period for comment

Draft risk assessments are available for a period of three months from the date of posting on the NNSS website*. During this time stakeholders are invited to comment on the scientific evidence which underpins the assessments or provide information on other relevant evidence or research that may be available. Relevant comments are collated by the NNSS and sent to the risk assessor. The assessor reviews the comments and, if necessary, amends the risk assessment. The final risk assessment is then checked and approved by the NNRAP.

*risk assessments are posted online at:
https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?sectionid=51
comments should be emailed to nnss@fera.gsi.gov.uk

GB NON-NATIVE ORGANISM RISK ASSESSMENT SCHEME

For more information visit: www.nonnativespecies.org

	Name of Organism:	***Eriocheir sinensis* - Chinese Mitten Crab (H. Milne Edwards, 1853)**
	Objectives:	Assess the risks associated with this species in GB
	Version:	FINAL 23/03/11

N	QUESTION	RESPONSE	COMMENT
1	What is the reason for performing the Risk Assessment?		
2	What is the Risk Assessment area?	GB	
3	Does a relevant earlier Risk Assessment exist?	NO OR UNKNOWN (Go to 5)	
4	If there is an earlier Risk Assessment is it still entirely	PARTLY VALID OR NOT VALID (Go to 5)	
A	**Stage 2: Organism Risk Assessment SECTION A: Organism Screening**		
5	Identify the Organism. Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?	YES (Give the full name & Go to 7)	*Eriocheir sinensi* s (H. Milne Edwards, 1853)
6	If not a single taxonomic entity, can it be redefined?	YES (Go to 7)	
7	Is the organism in its present range known to be invasive, i.e. to threaten species, habitats or ecosystems?	YES (Go to 9)	See reference in 1. The sudden increase in the Thames catchment mitten crab population is a matter of concern. Schellenberg (1928) states that juvenile mitten crabs can migrate ~ 1000 km while growing to adult size. Furthermore, Adema (1991) notes that *Eriocheir sinensis* has been found 1500 km inland in China, and that in the River Elbe, Germany, crabs have been found 700—780 km upstream as far as Prague in the Czech Republic. This indicates that the whole of the Thames river system is accessible to invasion by the Chinese mitten crab and dispersal via canal systems (Petit, 1960) linking catchments is a reality. Moreover, the crab is also capable of crossing dry land to enter new river systems. Further population expansion could eventually threaten freshwater habitats and communities including those currently occupied by the native crayfish *Austropotamobius pallipes* (Lereboullet, 1858) which is already under considerable threat from four species of foreign crayfish introduced into British rivers. Two of these, the Turkish crayfish *Astacus leptodactylus* Eschscoltz, 1823 and the European crayfish *A. astacus* (Linnaeus, 1758) have been introduced from Europe, and the other two, the signal crayfish *Pacifastacus leniusculus* (Dana, 1852) and the red swamp crayfish *Procambarus clarkii* (Girard, 1852) from America. Andrews *et al.* (1982) documented the macrofauna of the Thames estuary and components of this too could be threatened by the annual migration of mitten crabs. A further concern is that *E. sinensis* is also a burrower (Panning, 1939) and a mass invasion of all tributaries east of Staines could result in significant river bank erosion. Burrowing could threaten unprotected engineering earthworks - this concern was one of the contributing factors which resulted in the banning of live mitten crab imports (see Horwath, 1989) into California in 1987 and subsequently the whole of the United States in 1989.
8	Does the organism have intrinsic attributes that indicate that it could be invasive, i.e. threaten species, habitats or ecosystems?		
9	Does the organism occur outside effective containment in the Risk Assessment area?	YES (Go to 10)	The Chinese mitten crab, *Eriocheir sinensis* H. Milne Edwards, 1854, originates from the Far East, with a native distribution from the Province of Fukien, China, ~ 26º N northwards to the Korean Peninsula ~ 40º N. *Eriocheir sinensis* was introduced into Germany in 1912 (Panning, 1939) from ships' ballast water and has spread subsequently throughout northern Europe. Its present estimated distribution ranges from Finland (Haahtela, 1963) in the north, through Sweden, Russia, Poland, Germany, the Czech Republic (Prague), Netherlands, Belgium and England to France. The southernmost Atlantic coast record is the Golfe de Gascogne (Vigneux *et al.* , 1993), France, but the crab has extended its range via the Garonne canal system to Sigean (Petit, 1960), Languedoc-Roussillon, to a Mediterranean district of southern France. The crab has also been reported from North America with records from the Detroit River at Windsor Ontario and Lake Erie, Canada (Nepszy & Leach, 1973), the Mississippi Delta, (Horwath, 1989) and San Francisco Bay (Cohen & Carlton, 1997), United States. They have also been recently introduced into Iran and Iraq.
10	Is the organism widely distributed in the Risk Assessment area?	YES & Future conditions/management procedures/policies are being considered (Go to 19)	The Chinese mitten crab (*Eriocheir sinensis*) is an invasive species with a large population in the River Thames. Mitten crabs have also been reported from the Medway, Humber and Tyne, and three lakes in Norfolk. The recent capture of an ovigerous mitten crab from the west coast of England - Duddon Estuary, Cumberland, is of concern. At present, there is no control solution for the increasing population of mitten crabs in British waters. The mitten crab could easily spread to Scotland and Wales and since the Duddon Estuary record the east coast of Ireland must be considered threaten.
11	Does at least one species (for herbivores, predators and parasites) or suitable habitat vital for the survival, development and multiplication of the organism occur in the Risk Assessment area, in the open, in protected conditions or both?		
12	Does the organism require another species for critical stages in its life cycle such as growth (e.g. root symbionts), reproduction (e.g. pollinators; egg incubators), spread (e.g. seed dispersers) and transmission, (e.g. vectors)?		

13	Is the other critical species identified in question 12 (or a similar species that may provide a similar function) present in the Risk Assessment area or likely to be introduced? If in doubt, then a separate assessment of the probability of introduction of this species may be needed.		
14	Does the known geographical distribution of the organism include ecoclimatic zones comparable with those of the Risk Assessment area or sufficiently similar for the organism to survive and thrive?		
15	Could the organism establish under protected conditions (e.g. glasshouses, aquaculture facilities, terraria, zoological gardens) in the Risk Assessment area?		
16	Has the organism entered and established viable (reproducing) populations in new areas outside its original range, either as a direct or indirect result of man's activities?		
17	Can the organism spread rapidly by natural means or by human assistance?		
18	Could the organism as such, or acting as a vector, cause economic, environmental or social harm in the Risk Assessment area?		
19	This organism could present a risk to the Risk Assessment area and a detailed risk assessment is appropriate.	Detailed Risk Assessment Appropriate GO TO SECTION B	
20	This organism is not likely to be a harmful non-native organism in the Risk Assessment area and the assessment can stop.		

B	SECTION B: Detailed assessment of an organism's probability of entry, establishment and spread and the magnitude of the economic, environmental and social consequences			
	Probability of Entry	**RESPONSE**	**UNCERTAINTY**	**COMMENT**
1.1	List the pathways that the organism could be carried on. How many relevant pathways can the organism be carried on?	many - 3	LOW - 0	The main vector for the introduction of *Eriocheir* into UK is via ships' ballast water and populations in Europe were probably established by planktonic stages transported therein. Prevention is the best method of controlling the invasion of exotic species into new regions and this requires international co-operation. This is already under discussion within the International Maritime Organization. In USA the live imports of mitten crab were banned in the mid-1980s, however no such ban has been introduced in the UK. Further the law regarding live food in restaurants may require revision to enforce the killing of unwanted live products and their safe disposal to prevent return to the environment. Once mitten crabs are egg bearing their value decreases considerably and there is a great temptation to release them rather than killing the female. Another source of introduction could be through the scrapping of old ships. This has been suggested as the source of the mitten crab in the Dudden Estuary. Safe disposal of ballast water while dismantling old ship could be an issue and requires investigation.
1.2	Choose one pathway from the list of pathways selected in 1.1 to begin the pathway assessments.	Ballast water		Larvae in ballast water is probably the main pathway for the introduction of mitten crabs into the Thames (see Cohen and Carlton 1997). Another issue is the intentional release of mitten crabs into our environment from female mitten crabs held in ethnic restaurants or stores that become ovigerous (egg bearing). According to Hoestlandt (1959) a female can spawn up to one million eggs. Once the females become ovigerous they are no longer of commercial value, but pose a threat if deliberately released into the environment instead of being killed. These crabs should not be released back into the environment alive with their eggs; they should be destroyed and suitably disposed off. This is an area that requires further legislation and control. A slowing in the flow rate of the River Thames by water abstraction may have been a contributory factor in allowing the mitten crab population to enter the estuary and migrate westwards (Andrews *et al.* 1982; Ingle 1986; Attrill and Thomas 1996a, b; Hansen and Sytsma 2007). It would be interesting to record whether the mitten crab population would maintain itself if Thames water flows returned to normal as suggested by Attrill and Thomas (1996b). An additional possible source of introductions is from the scraping of ships. The treatment of old ballast water and sediment in tanks (see Figure 91) is imperative if possible introductions are to be avoided.
1.3	How likely is the organism to be associated with the pathway at origin?	moderately likely - 2	MEDIUM -1	Not all ships will visit ports/areas/countries contaminated with mitten crabs.
1.4	Is the concentration of the organism on the pathway at origin likely to be high?	very likely - 4	MEDIUM -1	It depends on the season and if the larvae are in the plankton.
1.5	How likely is the organism to survive existing cultivation or commercial practices?	very likely - 4	MEDIUM -1	
1.6	How likely is the organism to survive or remain undetected by existing measures?	moderately likely - 2	LOW - 0	It depends if biological surveys are being under taken in the area and the level (numbers) of invasion by the crab. Also the ability of biologists to identify the species.
1.7	How likely is the organism to survive during transport /storage?	very likely - 4	HIGH -2	The mitten crab has now invaded a number of countries so transportation through ballast water appears to be extremely successful.
1.8	How likely is the organism to multiply/increase in prevalence during transport /storage?	very likely - 4	MEDIUM -1	This depends, the ballast water could contain an ovigerous (carrying eggs) female that hatches into the tanks. In this instance a large proportion of larvae could survive to crab stage. In comparison the larvae could be sucked into the ballast water and still develop during transportation.
1.9	What is the volume of movement along the pathway?	major - 3	LOW - 0	Ballast water of shipping is a major vector for the transoceanic transportation of species around the world (see Cohen and Carlton 1997).
1.10	How frequent is movement along the pathway?	occasionally - 2	MEDIUM -1	It depends on the season and if the larvae are in the plankton.
1.11	How widely could the organism be distributed throughout the Risk Assessment area?	very widely - 4	LOW - 0	All of the rivers in the UK could be vulnerable. The most northerly distribution to date is the River Tyne. It is unknown whether northern Scotland would be too cold.
1.12	How likely is the organism to arrive during the months of the year most appropriate for establishment ?	moderately likely - 2	MEDIUM -1	
1.13	How likely is the intended use of the commodity (e.g. processing, consumption, planting, disposal of waste, by-products) or other material with which the organism is associated to aid transfer to a suitable habitat?	very likely - 4	LOW - 0	Ballast water is part of the process of keeping a ship trimmed. Therefore a ship is always taking on and discharging ballast water.
1.14	How likely is the organism to be able to transfer from the pathway to a suitable habitat?	very likely - 4	LOW - 0	

	Probability of Establishment	RESPONSE	UNCERTAINTY	COMMENT
1.15	How similar are the climatic conditions that would affect establishment in the Risk Assessment area and in the area of current distribution?	very similar - 4	LOW - 0	The mitten crab population in the Thames is now well established including its typical migration behaviour. The crab spends 3-5 years in freshwater and during the autumn migrates downstream to mate in salinities of *c* . 20%. During this migration the crabs become sexually mature. Once the females have spawned their eggs they move further downstream to over winter in the estuary. During the spring the females return to salinities of *c.* 20% and the females hatch off the eggs as zoeas. During June and July these mature crabs die off. After about six weeks from the first hatching of zoeas, the megalops appear and these settle out onto the riverbed before moulting to first crab stage. These juvenile crabs then make their way back upstream to freshwater thereby completing the full life cycle of the species.
1.16	How similar are other abiotic factors that would affect establishment in the Risk Assessment area and in the area of present distribution?	very similar - 4	LOW - 0	See above.
1.17	How many species (for herbivores, predators and parasites) or suitable habitats vital for the survival, development and multiplication of the organism species are present in the Risk Assessment area? Specify the species or habitats and indicate the number.	very many - 4	LOW - 0	The mitten crab is thriving in many rivers of the east coast of England.
1.18	How widespread are the species (for herbivores, predators and parasites) or suitable habitats vital for the survival, development and multiplication of the organism in the Risk Assessment area?	widespread - 4	LOW - 0	See distribution above.
1.19	If the organism requires another species for critical stages in its life cycle then how likely is the organism to become associated with such species in the risk assessment area?	N/A	LOW - 0	
1.20	How likely is it that establishment will not be prevented by competition from existing species in the Risk Assessment area?	very unlikely - 0	LOW - 0	In UK the only large fresh water Decapoda is the crayfish. These are unlikely to be a competitor. There are no known freshwater Brachyura in the UK therefore the mitten crab has been introduced into a vacant niche.
1.21	How likely is it that establishment will not be prevented by natural enemies already present in the Risk Assessment area?	very unlikely - 0	LOW - 0	There are no known natural enemies of mitten crab in the UK. Birds may be able to eat small (juvenile) crabs but not in the quantities required to reduce the population. They are also vulnerable just after moulting when the exoskeleton is soft.
1.22	If there are differences in man's management of the environment/habitat in the Risk Assessment area from that in the area of present distribution, are they likely to aid establishment? (specify)	N/A	LOW - 0	
1.23	How likely is it that existing control or husbandry measures will fail to prevent establishment of the organism?	very likely - 4	LOW - 0	There are no controls at present.
1.24	How often has the organism been recorded in protected conditions, e.g. glasshouses, elsewhere?	N/A		
1.25	How likely is the reproductive strategy of the organism and duration of its life cycle to aid establishment?	very likely - 4	LOW - 0	The species is already in UK and established so that the breeding conditions must be suitable.
1.26	How likely is it that the organism's capacity to spread will aid establishment?	very likely - 4	LOW - 0	The species is already spreading.
1.27	How adaptable is the organism?	very adaptable - 4	LOW - 0	See worldwide distribution above.
1.28	How likely is it that low genetic diversity in the founder population of the organism will not prevent establishment?	very likely - 4	LOW - 0	
1.29	How often has the organism entered and established in new areas outside its original range as a result of man's activities?	very many - 4	LOW - 0	See worldwide distribution above.
1.30	How likely is it that the organism could survive eradication campaigns in the Risk Assessment area?	very likely - 4	LOW - 0	I think the total eradication of this species from a GB river is an impossibility.
1.31	Even if permanent establishment of the organism is unlikely, how likely is it that transient populations will be maintained in the Risk Assessment area through natural migration or entry through man's activities (including intentional release into the outdoor environment)?	N/A	LOW - 0	Mitten crabs are already established in the GB.

	Spread	RESPONSE	UNCERTAINTY	COMMENT
2.1	How rapidly is the organism liable to spread in the Risk Assessment area by natural means?	intermediate - 2	LOW - 0	This is extremely difficult to assess. For example since the NHM survey of November 1999 the most westerly sighting along the Thames is now Boveney Lock (just upstream of Windsor) (13 October 2007) with a record of a mitten crab caught by David Heller whilst fishing.
2.2	How rapidly is the organism liable to spread in the Risk Assessment area by human assistance?	very rapid - 4	LOW - 0	This too is extremely difficult to assess. For example the most westerly Thames record during the NHM survey of November 1999 was Staines. The crabs were in the dumped spoil of dredgings from the Hampton Court area. Further as with the introduction of non-native crayfish, these were deliberately spread around England by human assistance. Mitten crabs too could be physical transported and deliberately introduced into other watersheds.
2.3	How difficult would it be to contain the organism within the Risk Assessment area?	very difficult - 4	LOW - 0	In the Thames for example this invasive species continues to spread westwards.
2.4	Based on the answers to questions on the potential for establishment and spread define the area endangered by the organism.			Possibly all catchments in England especially those with slow flowing rivers; Scotland, although none have been record north of the border to date and Eire; a single male record from collected from Waterford Harbour on the Suir Estuary at Bellview on 21 January 2006 (Minchin, 2006).
	Impacts	**RESPONSE**	**UNCERTAINTY**	**COMMENT**
2.5	How important is economic loss caused by the organism within its existing geographic range?	minor - 1	HIGH -2	The crab burrows into unprotected mud banks and these are known to collapse (see Panning, 1939). There appears to be evidence of mitten crab burrows along some unprotected riverbanks of the Thames especially on Chiswick Eyot and along the banks of Syon Park, Middlesex. The *Phragmites* sp. bed on Chiswick Eyot has been particularly eroded away in recent years by the probable burrowing behavior of crabs. According to Chris Dutton, Environment Agency (pers. comm.) the bank at Chiswick Eyot has receded *c*. 6 metres. The burrows along the banks of Syon Park were studied by Zucco (1999). The cost of such damage is dependant upon the value of the land and the significance of the property to the community. It is impossible to predict in terms of economic loss.
2.6	Considering the ecological conditions in the Risk Assessment area, how serious is the direct negative economic effect of the organism, e.g. on crop yield and/or quality, livestock health and production, likely to be? (describe) in the Risk Assessment area, how serious is the direct negative economic effect of the organism, e.g. on crop yield and/or quality, likely to be?	minimal - 0	LOW - 0	The crab burrows into unprotected mud banks and these are known to collapse.
2.7	How great a loss in producer profits is the organism likely to cause due to changes in production costs, yields, etc., in the Risk Assessment area?	minimal - 0	LOW - 0	At present, there is no control solution for the increasing population of mitten crabs in British waters. *Eriocheir* has few natural enemies except when small then birds may feed on them. Mitten crabs are considered to be a delicacy in many Far Eastern countries including China, Japan, Korea, Taiwan and Singapore. A single crab at the right time of year can cost $40 in restaurants. The resident Chinese community also imports the crab into the UK under the vernacular name of “moon crabs”. Consequently there appears to be a possible market for Thames mitten crabs and commercial exploitation may provide an opportunity as an effective method of controlling population size, while providing financial benefits to local fishermen. The possible marketing of the crabs for the culinary trade might offer some salvation. There is considerable potential for commercial exploitation because of the high regard of mitten crabs as a gastronomic delicacy in the Far East. Restaurants in Hong Kong and Japan charge a high price for them. Mitten crabs flown in from the Far East may fetch up to £5.55 per pound in London when in season. Further commercial exploitation could also be used as a control solution to reduce the threat to native habitats and communities, and reduce the damage caused to riverbanks, which could lead to collapse. The Natural History Museum has started a project that is investigating the population structure and density of the species in the River Thames, to determine whether commercial exploitation of the mitten crab population is feasible, and also conduct a heavy metal analysis to assess the suitability of the crab for human consumption.
2.8	How great a reduction in consumer demand is the organism likely to cause in the Risk Assessment area?	minimal - 0	LOW - 0	See paragraph concerning possible commercial exploitation.
2.9	How likely is the presence of the organism in the Risk Assessment area to cause losses in export markets?	very unlikely - 0	LOW - 0	See paragraph concerning possible commercial exploitation.

2.10	How important would other economic costs resulting from introduction be? (specify)	minimal - 0	LOW - 0	Not at present but a crab fishery could be established in the future. Although there appears to be evidence of mitten crab burrows along some unprotected river banks of the Thames at Chiswick Eyot and along the flood meadow at Syon Park, it is extremely difficult to put a potential cost on this behavioural activity at present. This cost may become substantial.
2.11	How important is environmental harm caused by the organism within its existing geographic range?	major - 3	LOW - 0	See burrowing comments.
2.12	How important is environmental harm likely to be in the Risk Assessment area?	major - 3	LOW - 0	See burrowing comments.
2.13	How important is social and other harm caused by the organism within its existing geographic range?	moderate - 2	LOW - 0	
2.14	How important is the social harm likely to be in the Risk Assessment area?	moderate - 2	LOW - 0	
2.15	How likely is it that genetic traits can be carried to native species, modifying their genetic nature and making their economic, environmental or social effects more serious?	very unlikely - 0	LOW - 0	There are no other grapsid crabs in GB waters.
2.16	How probable is it that natural enemies, already present in the Risk Assessment area, will have no affect on populations of the organism if introduced?	very unlikely - 0	LOW - 0	
2.17	How easily can the organism be controlled?	with some difficulty - 2	LOW - 0	The Natural History Museum, London is already undertaking a project to investigate the population structure and density of the species in the River Thames, to determine whether commercial exploitation of the mitten crab population is feasible.
2.18	How likely are control measures to disrupt existing biological or integrated systems for control of other organisms?	likely - 3	LOW - 0	According to Aprahamian and Firth (2004) the trend of glass eel (*Anguilla anguilla*) numbers entering European rivers since 1980 is downward, with lowest level of recruitment recorded in 2001. They state that a number of factors have been suggested for this decline including change in ocean climate, habitat loss, predation, turbine mortality, over-exploitation, parasites and pollution. This species is under serious threat.The pollution in the Thames and its subsequent recovery have been well documented (see Harrison and Grant 1972 for example). During this pollution period Thames eel numbers declined but they have increased subsequently with the clean up of the river, but are not back to pre-pollution levels. Today there are about 3-4 fishermen commercially exploiting eels in the Thames estuary. During its feasibility study the Natural History Museum found that fyke nets used for eel fishing were the most effective traps to capture mitten crabs. However an increase in fishermen using fyke nets in the in the lower reaches of the Thames to trap mitten crabs may be detrimental to the eel population because this species would be a considerable part of the by-catch. The eel population in the Thames could be affected (reduced) while fishing for mitten crabs. Consequently mitten crab fishing would have to be strictly controlled and probably licensed including possible monitoring of increased eel captures.
2.19	How likely is the organism to act as food, a host, a symbiont or a vector for other damaging organisms?	moderately likely - 2	LOW - 0	In the Far East *E. sinensis* is the second intermediate host of the oriental lung fluke, *Paragonimus westermanii* (Kerbert, 1878), and if the crab is eaten uncooked the parasite can infect humans, causing the disease paragonimiasis. However, establishment of this lung disease in Britain is thought unlikely because *P. westermanii* is specific to a primary intermediate host of aquatic snails assigned to the Thiaridae, and the climate in Britain is too cold for members of this gastropod family. Work already untaken by CEFAS at Weymouth suggests that this parasite is not present in the Thames population.
2.20	Highlight those parts of the endangered area where economic, environmental and social impacts are most likely to occur		LOW - 0	This is a difficult call, as we do not wish to be perceived as scaremongering. Erosion of unprotected riverbanks, as described above, may become an issue in the future and could be a localised problem. But damage caused by mitten crabs burrowing in large enough densities may have an unpredictable cost attached with respect to the engineering work required to prevent the infested bank from collapsing.
	Summarise Entry	very likely - 4	LOW - 0	*Eriocheir* is already here in large numbers.
	Summarise Establishment	very likely - 4	LOW - 0	*Eriocheir* is already here in large numbers.
	Summarise Spread	rapid - 3	LOW - 0	*Eriocheir* is already here in large numbers.
	Summarise Impacts	major - 3	LOW - 0	*Eriocheir* is already here in large numbers.
	Conclusion of the risk assessment	HIGH -2	LOW - 0	
	Conclusions on Uncertainty		LOW - 0	

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