Appendix A

Harmonia^{+PL} – procedure for negative impact risk assessment for invasive alien species and potentially invasive alien species in Poland

QUESTIONNAIRE

A0 | Context

Questions from this module identify the assessor and the biological, geographical & social context of the assessment.

a01. Name(s) of the assessor(s):

first name and family name

1. Mikołaj Kaczmarski – external expert
2. Krzysztof Kolenda
3. Karolina Mazurska

acomm01. Comments:

	degree	affiliation	assessment date
(1)	mgr inż.	Institute of Zoology, Poznań University of Life Sciences, Poznań, Poland	27-02-2018
(2)	mgr	Department of Evolutionary Biology and Conservation of Vertebrates, Institute of Environmental Biology, University of Wrocław	27-02-2018
(3)	mgr	Institute of Nature Conservation, Polish Academy of Sciences in Cracow	30-04-2018

a02. Name(s) of ***the species*** under assessment:

Polish name: Traszka japońska

Latin name: ***Cynops pyrrhogaster*** (Boie, 1826)

English name: Japanese fire-bellied newt

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acomm02.	Comments:

Polish name (synonym I) –	Polish name (synonym II) –
Latin name (synonym I) –	Latin name (synonym II) –
English name (synonym I) Japanese fire belly newt	English name (synonym II) –

a03. **Area** under assessment:

Poland

acomm03.	Comments: –

a04. **Status** of *the species* in Poland. *The species* is:

	native to Poland
	alien, absent from Poland
X	alien, present in Poland only in cultivation or captivity
	alien, present in Poland in the environment, not established
	alien, present in Poland in the environment, established

aconf01.	Answer provided with a	low	medium	high **X**	level of confidence

acomm04.	Comments: Currently, the Japanese fire-bellied newt occurs in Poland only in amateur breeding in terrariums (Kaneko and Matsui 2004 – I, Kaczmarski and Kolenda 2014 – P, Kaczmarski and Kolenda 2018 – N) and it is kept in one zoological garden – in Wrocław; until 2017 this species was also kept in the zoological garden in Opole (Kaczmarski 2017, Topola 2017 – P).

a05. The impact of *the species* on major domains. *The species* may have an impact on:

X	the environmental domain
	the cultivated plants domain
X	the domesticated animals domain
X	the human domain
	the other domains

acomm05.	Comments: Three domains are affected negatively by the Japanese fire-bellied newt: the natural environment, animal husbandry and humans. The impact on the natural environment is manifested by predation, likely competition with native amphibian species and transmission of the fungus *Batrachochytrium salamandrivorans* which causes chytridiomycosis, a disease fatal, e.g. for the fire salamander *Salamandra salamandra* (Martel et al. 2014 – P). The Japanese fire-bellied newt affects animal husbandry by the transmission of the abovementioned pathogen (Pereira 2015 – I). The impact on humans is negligible; however, the toxins of this species secreted by its dermal glands may cause minor irritation during a long-lasting contact.

A1 | Introduction

Questions from this module assess the risk for *the species* to overcome geographical barriers and – if applicable – subsequent barriers of captivity or cultivation. This leads to *introduction*, defined as the entry of *the organism* to within the limits of *the area* and subsequently into the wild.

a06. The probability for ***the species*** to expand into Poland's natural environments, **as a result of self-propelled expansion** after its earlier introduction outside of the Polish territory is:

	low
X	medium
	high

aconf02.	Answer provided with a	low	medium	high **X**	level of confidence

acomm06. Comments:

Among countries neighbouring Poland, the Japanese fire belly newt occurs only in Germany, however, there is no detailed data on population numbers and size (CABI 2018 – B). So far, this species has not been identified as invasive anywhere in the world, and its invasive potential in Europe is considered low, so migration from Germany towards Poland is rather not to be expected (Kaneko and Matsui 2004 – I, Kopecky et al. 2016 – P).

a07. The probability for *the species* to be introduced into Poland's natural environments by **unintentional human actions** is:

X	low
	medium
	high

aconf03.	Answer provided with a	low	medium	high **X**	level of confidence

acomm07. Comments:

Considering the low popularity of the species in amateur breeding or zoological gardens (Kaczmarski and Kolenda 2014, Pasmans et al. 2014, Kaczmarski 2017 – P), the probability of unintentional introduction into the environment (e.g. as a result of accidental transport as a "stowaway") is definitely low.

a08. The probability for *the species* to be introduced into Poland's natural environments by **intentional human actions** is:

	low
X	medium
	high

aconf04.	Answer provided with a	low	medium	high **X**	level of confidence

acomm08. Comments:

The species is not very popular among hobbyists (Pasmans et al. 2014 – P), rarely bred in captivity, due to which the probability of introducing it into the environment as a result of intentional actions is relatively low, also due to the relatively high breeding and commercial value of the individuals (Kaczmarski and Kolenda 2014 – P, Kaczmarski and Kolenda 2018 – N). However, in the case of animals kept as pets there is always a risk of escaping from the terrarium, which is why it has been concluded that the probability of introducing the species into the natural environment due to intended human action is average, i.e. more than 1, but no more than 10 of such cases are possible per decade.

A2 | Establishment

Questions from this module assess the likelihood for *the species* to overcome survival and reproduction barriers. This leads to *establishment*, defined as the growth of a population to sufficient levels such that natural extinction within *the area* becomes highly unlikely.

a09. Poland provides **climate** that is:

X	non-optimal
	sub-optimal
	optimal for establishment of *the species*

aconf05.	Answer provided with a	low	medium **X**	high	level of confidence

acomm09. Comments:

Climatic similarity in Poland compared to the area of Japan where the Japanese fire-bellied newt is a native species (according to Fig. 1 in the *Harmonia*$^{+PL}$ document – the procedure for evaluating the risk of a negative impact of invasive and potentially invasive alien species in Poland) is low. This similarity falls within a range of 0-45%, which means that climatic requirements for the species are not fulfilled in Poland. Information about the presence of the species in Germany is of general nature (no precise information about the place or region of occurrence), which is why it is hard to determine whether it involves regions with a climate similar to Polish, or a milder marine climate (CABI 2018 – B). However, it should be emphasised that the species withstands temperature drops to about zero degrees during the winter season, lasting for up to several weeks – the data originates from breeders (Pasmans et al. 2014, Raffaëlli 2014 – P).

a10. Poland provides **habitat** that is

	non-optimal
X	sub-optimal
	optimal for establishment of *the species*

aconf06.	Answer provided with a	low	medium	high **X**	level of confidence

acomm10. Comments:

In Poland there are moderately preferable habitat conditions for the species. It prefers moist meadow and forest areas, where it lives mainly near small lakes, ponds and streams, however, its optimal habitats are primarily paddy fields (Matsui et al. 2003 – P, Kaneko and Matsui 2004 – I, Sparreboom 2014 – P, AmphibiaWeb 2018 – I).

A3 | Spread

Questions from this module assess the risk of *the species* to overcoming dispersal barriers and (new) environmental barriers within Poland. This would lead to spread, in which vacant patches of suitable habitat become increasingly occupied from (an) already-established population(s) within Poland.

Note that spread is considered to be different from range expansions that stem from new introductions (covered by the Introduction module).

a11. The capacity of *the species* to disperse within Poland by natural means, **with no human assistance**, is:

	very low
X	low
	medium
	high
	very high

aconf07.	Answer provided with a	low	medium **X**	high	level of confidence

acomm11.	Comments: Estimation (Data type: C) There is no available data on the dispersive abilities of the species under natural conditions. Considering its small size and thin skin, as well as its association with waterbodies (AmphibiaWeb 2018 – I), it can be assumed that individuals of this species do not move within optimal habitats for a distance longer than up to several dozen, at most several hundred metres per year.

a12. The frequency of the dispersal of *the species* within Poland by **human actions** is:

	low
X	medium
	high

aconf08.	Answer provided with a	low	medium X	high	level of confidence

acomm12.	Comments: Spreading of the species with human participation is possible; the frequency of actions of this type is estimated as average (more than 1 case, but no more than 10 cases are expected per decade). Undoubtedly, records originating from Spain and Germany have the nature of incidental releases or deliberate introductions (CABI 2018 – B). Assuming that the species occurs all around Poland, one may assume the possibility of picking up and relocating the species to backyard ponds or home vivaria and/or releasing into the environment.

A4a | Impact on the environmental domain

Questions from this module qualify the consequences of *the species* on wild animals and plants, habitats and ecosystems.

Impacts are linked to the conservation concern of targets. Native species that are of conservation concern refer to keystone species, protected and/or threatened species. See, for example, Red Lists, protected species lists, or Annex II of the 92/43/EWG Directive. Ecosystems that are of conservation concern refer to natural systems that are the habitat of many threatened species. These include natural forests, dry grasslands, natural rock outcrops, sand dunes, heathlands, peat bogs, marshes, rivers & ponds that have natural banks, and estuaries (Annex I of the 92/43/EWG Directive).

Native species population declines are considered at a local scale: limited decline is considered as a (mere) drop in numbers; severe decline is considered as (near) extinction. Similarly, limited ecosystem change is considered as transient and easily reversible; severe change is considered as persistent and hardly reversible.

a13. The effect of *the species* on native species, through **predation, parasitism or herbivory is**:

	inapplicable
X	low
	medium
	high

aconf09.	Answer provided with a	low	medium	high X	level of confidence

acomm13.	Comments: The Japanese fire-bellied newt reaches a small body size, due to which it only eats small victims which are commonly present in the environment (invertebrates: from springtails to earthworms) (Matsui et al. 2003, Sparreboom 2014 – P). Due to the above, this species may at most cause small drops in the numbers of native species which do not belong to special care species.

a14. The effect of *the species* on native species, through **competition** is:

	low
X	medium
	high

aconf10.	Answer provided with a	low	medium **X**	high	level of confidence

acomm14. Comments:

The Japanese fire-bellied newt is similar in size to domestic species of newts of the genera *Lissotriton*, *Ichthyosaura*, *Triturus* (AmphibiaWeb 2018 – I), belonging to special care species, which is why it may potentially compete with them for both food and optimal land and aquatic habitats, most likely causing no more than slight drops in their numbers. However, there is no literature data on potential interactions and competition.

a15. The effect of *the species* on native species, through **interbreeding** is:

X	no / very low
	low
	medium
	high
	very high

aconf11.	Answer provided with a	low	medium	high **X**	level of confidence

acomm15. Comments:

The species is evolutionarily distant from native species of newts – therefore, there is no possibility of interbreeding between the Japanese fire-bellied newt and the native species of newts (Pyron and Wiens 2011 – P).

a16. The effect of *the species* on native species by **hosting pathogens or parasites** that are harmful to them is:

	very low
	low
	medium
	high
X	very high

aconf12.	Answer provided with a	low	medium	high **X**	level of confidence

acomm16. Comments:

The Japanese fire-bellied newt serves the function of a parasitic vector for the fungus *Batrachochytrium salamandrivorans*, which is particularly dangerous, deadly for native salamanders (Martel et al. 2014 – P). This fungus has been recorded both in the natural environment and in cultivation in several European countries, including Germany which neighbours Poland (Sabino-Pinto et al. 2015, Spitzen-van der Sljus et al. 2016 – P). So far, it has not been recorded in the Czech Republic (Balaz et al. 2018 – P) or in Poland itself (Kolenda et al. 2018 – N). This pathogen is on the list of the World Organisation for Animal Health (OIE) and it is subject to compulsory notification.

a17. The effect of *the species* on ecosystem integrity, by **affecting its abiotic properties** is:

X	low
	medium
	high

aconf13.	Answer provided with a	low	medium	high **X**	level of confidence

acomm17. Comments:

The knowledge presented in scientific papers so far does not indicate any disruptions of the abiotic factors of ecosystems caused by the Japanese fire-bellied newt.

a18. The effect of *the species* on ecosystem integrity, by **affecting its biotic properties** is:

	low
	medium
X	high

aconf14.	Answer provided with a	low	medium **X**	high	level of confidence

acomm18. Comments:

There is no data on the disruption of ecosystem integrity by the distortion of biotic factors, nonetheless, this species may compete with other small predators, transfer dangerous pathogens or affect species which are its food (mainly small invertebrates), which is why it has been concluded that in the worst case the species may cause difficult to reverse changes involving processes occurring in special care habitats (e.g. 9130 Beech forests *Asperulo-Fagetum* – within the extent of occurrence of the fire salamander).

A4b | Impact on the cultivated plants domain

Questions from this module qualify the consequences of *the species* for cultivated plants (e.g. crops, pastures, horticultural stock).

For the questions from this module, consequence is considered 'low' when presence of *the species* in (or on) a population of target plants is sporadic and/or causes little damage. Harm is considered 'medium' when *the organism's* development causes local yield (or plant) losses below 20%, and 'high' when losses range >20%.

a19. The effect of *the species* on cultivated plant targets through **herbivory or parasitism** is:

X	inapplicable
	very low
	low
	medium
	high
	very high

aconf15.	Answer provided with a	low	medium	high	level of confidence

acomm19. Comments:

The species is an animal which is exclusively carnivorous.

a20. The effect of *the species* on cultivated plant targets through **competition** is:

X	inapplicable
	very low
	low
	medium
	high
	very high

aconf16.	Answer provided with a	low	medium	high	level of confidence

acomm20.	Comments: The species is not a plant.

a21. The effect of *the species* on cultivated plant targets through **interbreeding** with related species, including the plants themselves is:

X	inapplicable
	no / very low
	low
	medium
	high
	very high

aconf17.	Answer provided with a	low	medium	high	level of confidence

acomm21.	Comments: The species is not a plant.

a22. The effect of *the species* on cultivated plant targets by **affecting the cultivation system's integrity** is:

X	very low
	low
	medium
	high
	very high

aconf18.	Answer provided with a	low	medium	high **X**	level of confidence

acomm22.	Comments: There is no data on the possibility of disrupting crop integrity, nor are there any indications for such disruptions to be expected in the future.

a23. The effect of *the species* on cultivated plant targets by hosting **pathogens or parasites** that are harmful to them is:

X	very low
	low
	medium
	high
	very high

aconf19.	Answer provided with a	low	medium	high **X**	level of confidence

acomm23.	Comments: There is no data confirming the impact of the species on the cultivation of crops by the transmission of pathogens and parasites harmful to these plants, nor are there any indications that such disruptions could be described/discovered in the future.

A4c | Impact on the domesticated animals domain

Questions from this module qualify the consequences of *the organism* on domesticated animals (e.g. production animals, companion animals). It deals with both the well-being of individual animals and the productivity of animal populations.

a24. The effect of *the species* on individual animal health or animal production, through **predation or parasitism** is:

	inapplicable
X	very low
	low
	medium
	high
	very high

aconf20.	Answer provided with a	low	medium **X**	high	level of confidence

acomm24. Comments:

There is no possible impact of the Japanese fire-bellied newt on livestock due to its small size (Sparreboom 2014 – P). No preying of the species on roe or fry has been observed either – all species of newts are highly prone to the predation pressure of fish, which is why they avoid waterbodies inhabited by fish.

a25. The effect of *the species* on individual animal health or animal production, by having properties that are hazardous upon **contact**, is:

X	very low
	low
	medium
	high
	very high

aconf21.	Answer provided with a	low	medium **X**	high	level of confidence

acomm25. Comments:

If farm animals or pets attempt to eat individuals of the Japanese fire-bellied newt, an allergic reaction may occur – this is a reaction to toxins present in the amphibian's skin; such a possibility involves all amphibians, including native – mild poisoning symptoms which are fully curable may occur upon contact with the amphibian's skin (a minor effect). The probability of such events is low – less than one case of direct contact annually per 100 000 farm animals or pets.

a26. The effect of *the species* on individual animal health or animal production, by hosting **pathogens or parasites** that are harmful to them, is:

	inapplicable
	very low
	low
	medium
	high
X	very high

aconf22.	Answer provided with a	low	medium	high **X**	level of confidence

acomm26. Comments:

The fungus *Batrachochytrium salamandrivorans* transmitted by the Japanese fire-bellied newt is a real, mortal threat to amphibians from the family Salamandridae (Cunningham et al. 2015, Sabino-Pinto et al. 2015 – P), bred as pets. This pathogen is on the list of the World Organisation for Animal Health (OIE) and it is subject to compulsory notification. According to the current knowledge, there are no described threats from pathogens/parasites transmitted by the Japanese fire-bellied newt for other species of pets/farm animals.

A4d | Impact on the human domain

Questions from this module qualify the consequences of *the organism* on humans. It deals with human health, being defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (definition adopted from the World Health Organization).

a27. The effect of *the species* on human health through **parasitism** is:

X	inapplicable
	very low
	low
	medium
	high
	vert high

aconf23.	Answer provided with a	low	medium	high	level of confidence

acomm27. Comments:

The species is not a parasite.

a28. The effect of *the species* on human health, by having properties that are hazardous upon **contact**, is:

X	very low
	low
	medium
	high
	very high

aconf24.	Answer provided with a	low	medium	high **X**	level of confidence

acomm28. Comments:

Skin secretions of the Japanese fire-bellied newt may hypothetically cause an allergic reaction in the case of their contact with mucous membranes (eating the newt) or open wounds – no danger in case of catching by hand. The probability of such events is low: less than one case annually per 100 000 people, and the effect is minor: medical consultations are rare, the disease does not cause absence from work, there are no permanent impairments, low stress level.

a29. The effect of *the species* on human health, by hosting **pathogens or parasites** that are harmful to humans, is:

	inapplicable
X	very low
	low
	medium
	high
	very high

aconf25.	Answer provided with a	low	medium	high **X**	level of confidence

acomm29. Comments:

The are no known pathogens/parasites which are common for the Japanese fire-bellied newt and humans.

A4e | Impact on other domains

Questions from this module qualify the consequences of *the species* on targets not considered in modules A4a-d.

a30. The effect of *the species* on causing damage to **infrastructure** is:

X	very low
	low
	medium
	high
	very high

aconf26.	Answer provided with a	low	medium	high **X**	level of confidence

acomm30. Comments:

So far, there have been no indications (there is no data on this subject in the literature) that the species could adversely affect the infrastructure.

A5a | Impact on ecosystem services

Questions from this module qualify the consequences of *the organism* on ecosystem services. Ecosystem services are classified according to the Common International Classification of Ecosystem Services, which also includes many examples (CICES Version 4.3). Note that the answers to these questions are not used in the calculation of the overall risk score (which deals with ecosystems in a different way), but can be considered when decisions are made about management of *the species*.

a31. The effect of *the species* on **provisioning services** is:

	significantly negative
X	moderately negative
	neutral
	moderately positive
	significantly positive

aconf27.	Answer provided with a	low	medium **X**	high	level of confidence

acomm31. Comments:

There is no literature data which would indicate that this species could affect supply services, i.e. the provision of food, water, materials and energy; however, due to the possibility of infection by the fungus *Batrachochytrium salamandrivorans*, the Japanese fire-bellied newt may constitute a threat for other species of tailed amphibians kept as pets, which has been concluded in question a26.

a32. The effect of *the species* on **regulation and maintenance services** is:

	significantly negative
X	moderately negative
	neutral
	moderately positive
	significantly positive

aconf28.	Answer provided with a	low	medium	high **X**	level of confidence

acomm32.	Comments: The impact of the Japanese fire-bellied newt on regulation services (biological regulation) is moderately negative, due to the possibility of transmitting disease-inflicting pathogens (Cunningham et al. 2015, Sabino-Pinto et al. 2015 – P).

a33. The effect of *the species* on **cultural services** is:

	significantly negative
X	moderately negative
	neutral
	moderately positive
	significantly positive

aconf29.	Answer provided with a	low	medium	high **X**	level of confidence

acomm33.	Comments: Leading to a local disappearance of the populations of native tailed amphibian species as a result of the transmission of pathogens by the Japanese fire-bellied newt may moderately negatively affect cultural services – the society's negative perception of the loss of native elements of ecosystems (Hocking and Babbitt 2014 – P).

A5b | Effect of climate change on the risk assessment of the negative impact of *the species*

Below, each of the *Harmonia*$^{+PL}$ modules is revisited under the premise of the future climate. The proposed time horizon is the mid-21st century. We suggest taking into account the reports of the Intergovernmental Panel on Climate Change. Specifically, the expected changes in atmospheric variables listed in its 2013 report on the physical science basis may be used for this purpose. The global temperature is expected to rise by 1 to 2°C by 2046-2065.

Note that the answers to these questions are not used in the calculation of the overall risk score but can be but can be considered when decisions are made about management of *the species*.

a34. INTRODUCTION – Due to climate change, the probability for *the species* to overcome geographical barriers and – if applicable – subsequent barriers of captivity or cultivation in Poland will:

	decrease significantly
	decrease moderately
X	not change
	increase moderately
	increase significantly

aconf30.	Answer provided with a	low	medium **X**	high	level of confidence

acomm34.	Comments: There is no information on the impact of climate changes on the species; therefore, there are no predictions that climate warming would affect increasing its range of occurrence and overcoming geographical barriers (climate changes will not change the dispersive abilities of the species and its biological properties – the attachment to water and moist habitats).

a35. ESTABLISHMENT – Due to climate change, the probability for *the species* to overcome barriers that have prevented its survival and reproduction in Poland will:

	decrease significantly
	decrease moderately
	not change

X	increase moderately
	increase significantly

aconf31.	Answer provided with a	low	medium	high **X**	level of confidence

acomm35. Comments:

There is a low probability that in the case of the occurrence of mild winters resulting from climate warming (with no long-lasting frost), the species may successfully spend the winter under Central European conditions (Raffaëlli 2014 – P), which may hypothetically affect the possibility of its survival and reproduction in Poland.

a36. SPREAD – Due to climate change, the probability for *the species* to overcome barriers that have prevented its spread in Poland will:

	decrease significantly
	decrease moderately
	not change
X	increase moderately
	increase significantly

aconf32.	Answer provided with a	low	medium **X**	high	level of confidence

acomm36. Comments:

There is no data allowing an evaluation of the change in the probability of the species' distribution caused by climate warming; nonetheless, it seems that the establishment of the Japanese fire-bellied newt may affect its ability to spread in Poland.

a37. IMPACT ON THE ENVIRONMENTAL DOMAIN – Due to climate change, the consequences of *the species* on wild animals and plants, habitats and ecosystems in Poland will:

	decrease significantly
	decrease moderately
	not change
X	increase moderately
	increase significantly

aconf33.	Answer provided with a	low	medium	high **X**	level of confidence

acomm37. Comments:

Climate warming may increase the chance of the species' winter survival under domestic conditions and may thus affect the distribution of the fungus *Batrachochytrium salamandrivorans*, which in turn may negatively affect tailed amphibians, and as a consequence it may disrupt the functioning of native animal species, natural habitats and ecosystems.

a38. IMPACT ON THE CULTIVATED PLANTS DOMAIN – Due to climate change, the consequences of *the species* on cultivated plants and plant domain in Poland will:

	decrease significantly
	decrease moderately
X	not change
	increase moderately
	increase significantly

aconf34.	Answer provided with a	low	medium	high **X**	level of confidence

acomm38.	Comments: The species does not affect plant cultivation and climate warming will have no impact on the change of this situation.

a39. IMPACT ON THE DOMESTICATED ANIMALS DOMAIN – Due to climate change, the consequences of *the species* on domesticated animals and animal production in Poland will:

	decrease significantly
	decrease moderately
	not change
X	increase moderately
	increase significantly

aconf35.	Answer provided with a	low	medium	high **X**	level of confidence

acomm39.	Comments: Climate warming may increase the chance of the species' winter survival under domestic conditions and may thus affect the distribution of the fungus *Batrachochytrium salamandrivorans*, which in turn may negatively affect amphibians bred as pets. However, it should be emphasised that not every newt has to be a carrier of the pathogen; therefore, it has been concluded that the probability of affecting animal husbandry will increase moderately.

a40. IMPACT ON THE HUMAN DOMAIN – Due to climate change, the consequences of *the species* on human in Poland will:

	decrease significantly
	decrease moderately
	not change
X	increase moderately
	increase significantly

aconf36.	Answer provided with a	low	medium	high **X**	level of confidence

acomm40.	Comments: Climate warming may increase the chance of the species' winter survival under domestic conditions and may thus affect an increase in population numbers; therefore, more frequent interactions between the Japanese fire-bellied newt and humans will be possible, which may result, e.g. in an increased number of children's allergic reactions.

a41. IMPACT ON OTHER DOMAINS – Due to climate change, the consequences of *the species* on other domains in Poland will:

	decrease significantly
	decrease moderately
X	not change
	increase moderately
	increase significantly

aconf37.	Answer provided with a	low	medium	high **X**	level of confidence

acomm41.	Comments: The species does not affect other objects and climate warming will have no impact on the change of this situation.

Summary

Module	Score	Confidence
Introduction (questions: a06-a08)	0.33	1.00
Establishment (questions: a09-a10)	0.25	0.75
Spread (questions: a11-a12)	0.38	0.50
Environmental impact (questions: a13-a18)	0.42	0.83
Cultivated plants impact (questions: a19-a23)	0.00	1.00
Domesticated animals impact (questions: a24-a26)	0.33	0.67
Human impact (questions: a27-a29)	0.00	1.00
Other impact (questions: a30)	0.00	1.00
Invasion (questions: a06-a12)	0.32	0.75
Impact (questions: a13-a30)	0.42	0.90
Overall risk score	0.13	
Category of invasiveness	potentially invasive alien species	

A6 | Comments

This assessment is based on information available at the time of its completion. It has to be taken into account. However, that biological invasions are, by definition, very dynamic and unpredictable. This unpredictability includes assessing the consequences of introductions of new alien species and detecting their negative impact. As a result, the assessment of the species may change in time. For this reason it is recommended that it regularly repeated.

acomm42. Comments:
–

Data sources

1. Published results of scientific research (P)

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