Risk Assessment of *Asclepias syriaca*

Name of Organism:	*Asclepias syriaca* L. – common milkweed
Objective:	Assess the risks associated with this species in EU
Version:	NAPRA EU amendment Final 30/11/2015
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Notes: Confidence is rated as low, medium, high or very high.
Likelihood is rated as very unlikely, unlikely, moderately likely, likely or very likely.
The percentage categories are 0% - 10%, 11% - 33%, 34% - 67%, 68% - 90% or 91% - 100%.
N/A = not applicable.

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EU CHAPPEAU	
QUESTION	**RESPONSE**
1. In how many EU member states has this species been recorded? List them.	17: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Lithuania, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden Sanz-Elorza et al. 2001; Essl and Rabitsch 2002, 2004; Tokarska-Guzik 2005; Verloove 2006; Bagi 2008; Boršić et al. 2008; Jogan et al. 2012; Medvecká et al. 2012; Pyšek et al. 2012; Petrova et al. 2013; Mitić 2013; DAISIE 2015; FCD 2015; NOBANIS 2015; Q-bank 2015; http://svenskbotanik.se; Zimmermann et al. 2015
2. In how many EU member states has this species currently established populations? List them.	13: Austria, Bulgaria, Croatia, Czech Republic, Denmark, France, Hungary, Italy, Lithuania, Netherlands, Poland, Romania, Slovakia CABI 2011, DAISIE 2015; NOBANIS 2015;
3. In how many EU member states has this species shown signs of invasiveness? List them.	11: Austria, Bulgaria, Croatia, Czech Republic, Hungary, Italy, Lithuania, Netherlands, Poland, Romania, Slovakia CABI 2011, DAISIE 2015; NOBANIS 2015;
4. In which EU Biogeographic areas could this species establish?	Continental, Mediterranean, Pannonian (Biogeographic Areas in Europe, 2011. European Environment Agency see: http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-1) (Tokarska-Guzik et al. 2015)
5. In how many EU Member States could this species establish in the future [given current climate] (including those where it is already established)? List them.	18: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden CABI 2011, DAISIE 2015; NOBANIS 2015;
6. In how many EU member states could this species become invasive in the future [given current climate] (where it is not already established)?	17: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden The species is most common in warm and dry regions. CABI 2011,. DAISIE 2015; NOBANIS 2015;

Stage 1 - Organism Information *The aim of this section is to gather basic information about the organism.*			
N	**QUESTION**	**RESPONSE**	**COMMENT**
1	Identify the organism. Is it clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?	YES	Synonyms: *A. cornuti* Decne., *A. intermedia* Vail, *A. syriaca* var. *kansana* (Vail) E. J. Palmer & Steyerm, *A. kansana* Vail Family: Apocynaceae Order: Rubiales (Gentianales) Class: Magnoliophyta – Angiospermae The most commonly used English names: common milkweed (prefered) others: broadleaf milkweed; butterfly flower; cotton weed; silkweed; silky milkweed; silky swallow-wort; Virginia silkweed milkweed; wild cotton
2	If not a single taxonomic entity, can it be redefined? (if necessary use the response box to re-define the organism and carry on)	N\A	
3	Describe the organism.		Common milkweed is a perennial herb opposite-leaved, with white latex (sticky milky sap), growing up to 1.5 m tall. The thick roots growing laterally, about 10-40 cm below the soil surface, may penetrate soil to the depth of 1-1.20(-3.8) meter (Bagi 2008). The broad lanceolate leaves are quite big (10-20(25) cm long, 5-11 cm broad), with short, white trichomes on the undersides. 10-120 of the fragrant, nectariferous flowers are gathered in umbellate cymes, situated terminally and/or under the leaves. Individual white through pinkish to red and aromatic flowers are each with five cornate hoods and five pollinia. The seeds, each with long, white flossy hairs, occur in large follicles (after Markgraf 1972; Bagi 2008; Petrova et al. 2013; Tokarska-Guzik et al. 2015). It can propagate also vegetatively through rhizomatic roots.
4	Does a relevant earlier risk assessment exist? (give details of any previous risk assessment)	YES	Two preliminary risk assessments were previously carried out for Poland. The first study (Tokarska-Guzik et al. 2012) designated *Asclepias syriaca* as a "potentially invasive" plant, especially for the dry grasslands (habitat type 6210) and the latter assessment (Tokarska-Guzik B. et al. 2015) confirmed its potential invasiveness in Poland and showed that the species ranks in southern Europe among the invasive species (Konstantinović 2008; Jarić 2011; Petrova et al. 2013), a.o. also for the Pannonic sand steppes (habitat type 6260). Moreover, *Asclepias syriaca* was assessed under GABLIS and included in the Grey List-Watch List (Nehring 2013). Recently a new risk classification has been carried out for the Netherlands (Matthews et al. 2015). According to this study, the species is characterized by a high risk of potential dispersion, high risk of colonization of high value conservation habitats, medium risk of adverse impacts on native species and medium risk of alteration of ecosystem functions. For the Netherlands the risk classification according to the BFIS list sytem qualifies the species to a watch list (B2). In Spain, *A. syriaca* is classified as a noxious species whose introduction and spread must be controlled (Maillet, Zaragoza, 2002). In Australia, the species was classified as prohibited noxious weed (Pheloung et al., 1999). *A. syriaca* was classified as a

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			high risk species in Switzerland (Weber, Gut 2004) and added to the EPPO list of invasive alien plants as a result of an assessment carried out in Serbia (Nikolic, Popov 2013).). In the Czech Republic it is listed in the Black list in a species group BL2 - with moderate to massive environmental impact, but minimal socio-economic impact (Pergl et al. 2016).
5	If there is an earlier risk assessment is it still entirely valid, or only partly valid?	YES	All the assessments have been recently conducted (refer to Question 4).
6	Where is the organism native?		The natural range of *Asclepias syriaca* includes central, northern and north-eastern regions of the United States (in 40 states) and the adjacent areas of Canada (in 6 provinces) (CABI 2011). The range is placed between northern latitudes 35-50^{o}, and western longitudes 60-103 ^{o}, including moist and dry (cold and warm) temperature zone forests (Bagi 2008). In North America, *Asclepias syriaca* achieves optimum conditions for development in the warmest month – July, at an average temperature of 18˚C in the northern part of its range and 32 °C in the south, with approx. 30% sunshine, appropriate level of rainfall in the summer months (too high adversely affects the development) and with appropriate sunlight (approx. 30%). The species prefers dry and lighter soil; it is quite tolerant of soil pH. It can grow on both alkaline and acidic soils (Q-BANK 2014). It achieves high degree of tolerance to salinity, even up to 2.500 ppm (Cramer and Burnide 1982). Within its natural range, the common milkweed was recorded on the prairies, alluvia, meadows, developed agricultural areas (corn fields, soybean fields, pastures, old fields, and land set aside from farming), as well as ruderal habitats, such as roadsides, railway embankments and wasteland (Bhowmik and Bandeen 1976; Baskin and Baskin 1977; Hartzler and Buhler 2000; CABI 2011; Pleasants and Oberhauser 2013).
7	What is the current global distribution of the organism?		The current distribution includes North America (Canada and Unitet States) where the species is native and southern, central and eastern Europe where it has been introduced. Moreover it is possible to find details about the secondary range of the species in some Asian countries, namely Japan and Iraq (Sárkány et al. 2008; CABI 2015). Within its secondary range, the common milkweed occurs in habitats, such as grasslands, dunes, river valleys and peripheries of water bodies, forest margins, even wetlands, but more often in habitats modified by humans, such as roadsides, railway areas, wastelands, abandoned orchards, vineyards, abandoned arable land, with a wide range of soil conditions – damp or dry, sandy, well drained soil (Valachovič 1987; Kojić et al. 2004; Stanković-Kalezić 2008; Petrova et al. 2013; Puchałka et al. 2013; Matthews et al. 2015).
8	What is the current distribution of the organism in Europe?		The most wide secondary range of *A. syriaca* is known from Europe. The common

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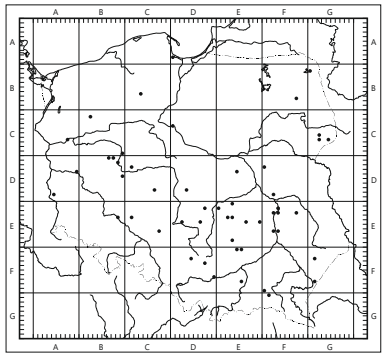
			milkweed have been recorded here until now in 23 countries (among others in countries of the European Union), where, in most cases, is recognised as naturalised/established species, namely Austria, Bosnia and Herzegovnia, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Lithuania, Moldova, Montenegro, Netherlands, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden and Ukraine (Bagi 2008, Puchałka et al. 2013; Tokarska-Guzik et al. 2015; CABI 2015; see also Question 1). However the status of the non-established / not naturalized species it has in Belgium, Switzerland and in the European part of Russia (Markgraf 1972; Protopopova et al. 2002; DAISIE 2013; CABI 2015). The species is the most spread in warmer areas of southern Europe, where is being categorised as invasive (e.g. Bagi 2008, Konstantinovic 2008; Jarić 2011). In Poland, the common milkweed occurs in scattered sites in the whole country, among others, in Gdańsk Lakeland, Toruń, Lublin Upland, Małopolska Upland and Kraków-Częstochowa Upland (Tokarska-Guzik 2005; Tokarska-Guzik et al. 2012; Puchałka et al. 2013). Individual sites are also found in the vicinity of Suwałki (unpbl. data of Wigierski National Park) and the region of Brzeg Dolny in Lower Silesia and Wrocław (Magdalena Podlaska – unpbl. data, 2014). It occurred a.o. in wastelands, oat cultivations. This species is a thermophilic plant, so sometimes it is found in urban centres, which are regarded as "heat islands". Latest data are indicating on more distant proliferation of the species (Rutkowski et al. 2015 and unpublished data).  Distribution of *A. syriaca* L. in Poland (source: Tokarska-Guzik 2005)

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			In the Netherlands *A. syriaca* has been naturalised since 1860 in different dune habitats (2130 and 2160 habitat types), including in a Natura 2000 site. After the year 2000, the number of recorded stands has gradually increased. Currently it has a limited distribution with a few additional isolated populations. Many new stands are located in or near urban areas (Matthews et al. 2015). In Hungary the spread of milkweed was significantly accelerated by its intensive cultivation between 1870 and 1950. Nowadays previously established stands have been abandoned and have started to spread quickly via root suckers and seeds (Csiszár, Korda 2015). In Slovakia the first occurrence of *A. syriaca* was recorded in 1917. The most common habitats are hot and dry sites in southern Slovakia, namely habitats along railways, ditches, roads and agroecosystems (Pauková et al. 2013).
9	Is the organism known to be invasive anywhere in the world?	YES	Southern Europe (e.g. Bagi 2008; Konstantinović et al. 2008; Jarić 2011; Petrova et al. 2013).
10	Describe any known socio-economic benefits of the organism in the risk assessment area.		Common milkweed has many applications. It was cultivated in Europe as a melliferous and fibre plant, as well as an ornamental plant. The fibre in sprouts was used for making paper. The hair in seeds that are waterproof were used, among others, to fill packaging, and fibre in sprouts was used to make ropes. During the Second World War they were also used to fill lifejackets. Although its milk is poisonous, common milkweed was also used as food (among others, as cooked roots) and for therapeutic purposes (folk medicine) (Q-BANK 2014). Its intensive cultivation was launched in the 1870s-1880s, but was soon discontinued due to econolmical reason, until the middle of the 20th century. In some regions it is important in honey-production (Bagi 2008). Recently, it is indicated that the plant can be used in various areas of life – "a multiuse plant species of the future", with an emphasis on getting fibres, oil, rubber and pharmaceuticals. The species is also considered as a potential source of biofuel, using both shoots and seeds (Matthews et al. 2015). At the same time, there are studies conducted on its cultivation (Roşu et al. 2011).

Stage 2 - Detailed assessment: Section A - Entry

This section evaluates the probability of entry of an organism into EU. For organisms which are already present, only complete the entry section for currently active pathways of entry and potential future pathways. The entry section need not be completed for pathways which have allowed an organism to enter in the past but are no longer active.

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
1.01	How many active/future pathways are relevant to the potential entry of this organism (n/a, very few, few, moderate number, many or very many)?	MODERATE NUMBER	VERY HIGH	Numerous functional advantages contributed to an interest in this plant species in the past and recently. In the future it is likely that as "a multiuse plant species of the future" it may enter with different pathways.
1.02	List significant pathways through which the organism could enter. Where possible give detail about the specific origins and end points of the pathways.	1. Beekeeping 2. Agriculture and horticulture 3. Road and railway infrastructure		*Asclepias syriaca* is present on the market especially as a honey plant. It can also spread from the current locations in the cultivated land (meadows, field edges, etc.). It used to be planted also in gardens. However now it's not more common to plant this species. *Asclepias syriaca* can also spread along roads and railways.

Pathway 1 - Beekeeping

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
1.03	Is entry along this pathway intentional (e.g. the organism is imported for trade) or accidental (e.g. the organism is a contaminant of imported goods)?	INTENTIONAL	VERY HIGH	*Asclepias syriaca* is deliberately traded and cultivated for beekeeping. It is sold by small retailers and private persons ia. via Internet. There is also much information available online on cultivation and melliferous value of common milkweed (called there often "golden of beekeepers"). This way of entry should be also analysed. Additionally it can be transported with soil containing seeds and rhizomes from the cultivation sites to new localities.
1.04	How likely is it that large numbers of the organism will travel along this pathway from the point(s) of origin over the course of one year?	VERY LIKELY	VERY HIGH	*Asclepias syriaca* is deliberately traded and cultivated for beekeeping by private garden owners as well as by small honey producers.
1.05	How likely is the organism to enter EU undetected or without the knowledge of relevant competent authorities?	VERY LIKELY	HIGH	Awareness by the relevant competent authorities at points of entry to recognise and identify this species is limited or non-existent at present.
1.06	How likely is the organism to survive during passage along the pathway?	VERY LIKELY	VERY HIGH	As the organism is distributed deliberately *via* trade, survival is considered very likely.
1.07	How likely is the organism to arrive during the months of the year appropriate for establishment?	VERY LIKELY	VERY HIGH	Trade imports and purchases may occur throughout the year. The material is viable, so after planting in the growing season it can become invasive.

Pathway 1 - Beekeeping				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
1.08	How likely is the organism to be able to transfer from the pathway to a suitable habitat or host?	LIKELY	HIGH	The habitats such as species rich dry grasslands can be situated next to patches of cultivated *Asclepias syriaca* or to its localities in the wild. Within its secondary range, the common milkweed occurs in semi-natural habitats, such as river valleys, dunes and peripheries of water bodies, but more often in habitats modified by humans, such as roadsides, railway areas, wastelands, abandoned orchards, vineyards, abandoned arable land, especially in sunny sandy places (Valachovič 1987; Kojić et al. 2004; Stanković-Kalezić 2008, Matthews et al. 2015). The plant reproduces generatively, and thanks to entomophily it retains the right genetic structure of the population. The flowers of this species produce nectar both during the day and at night, so their pollinator group is large. Only 4–6 flowers of the inflorescence convert into bags, each with 150–425 seeds (CABI 2011). The seeds are dispersed by wind; the plant produces such a large number of seeds that they can spread to considerable distances and take over different types of habitats (Csontos et al. 2009). Moreover, as a clonal plant, it has a high capacity for vegetative propagation (Anderson 1999; Nowiński and Latowski 2003; Podbielkowski and Sudnik-Wójcikowska 2003; Borders and Lee-Mäder 2014), which is important for spreading. The stands of milk weed in a wild or cultivation increase the likelihood of it transferring from this pathway to a suitable habitat either by natural spread or from the disposal of vegetative material into the wild.
1.09	Estimate the overall likelihood of entry into EU based on this pathway?	VERY LIKELY	VERY HIGH	It is already deliberately cultivated. An interest in this species as a honey-producing plant seems to continue.
1.10	Do other pathways need to be considered?	YES		

Pathway 2 – Agriculture and horticulture				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
1.03	Is entry along this pathway intentional (e.g. the organism is imported for trade) or accidental (e.g. the organism is a contaminant of imported goods)?	INTENTIONAL	HIGH	The species can be used for ornamental (garden plant) or for production purposes (fibres, oil, rubber, pharmaceuticals, biofuel, etc.) (Tokarska-Guzik et al. 2015). Additionally it can be transported with soil containing seeds and rhizomes from the cultivation sites to new localities.

Pathway 2 – Agriculture and horticulture				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
1.04	How likely is it that large numbers of the organism will travel along this pathway from the point(s) of origin over the course of one year?	MODERATELY LIKELY	HIGH	The use for horiculture and agriculture purposes has been already moderately high. That's why although nowadays it's not of a high interest it can be potentially in the future.
1.05	How likely is the organism to enter EU undetected or without the knowledge of relevant competent authorities?	VERY LIKELY	VERY HIGH	Awareness by the relevant competent authorities at points of entry to recognise and identify this species is limited or non-existent at present.
1.06	How likely is the organism to survive during passage along the pathway?	LIKELY	HIGH	As the organism is distributed deliberately via trade, survival is considered very likely.
1.07	How likely is the organism to arrive during the months of the year appropriate for establishment?	LIKELY	HIGH	Trade imports and purchases may occur throughout the year. The material is viable, so after planting in the growing season it can become invasive.
1.08	How likely is the organism to be able to transfer from the pathway to a suitable habitat or host?	MODERATELY LIKELY	HIGH	Refer to Pathway 1 Question 1.08
1.09	Estimate the overall likelihood of entry into EU based on this pathway?	MODERATELY LIKELY	HIGH	This pathway depends on the interest and demand of the industry on milkweed products.
1.10	Do other pathways need to be considered?	YES		Internet sales should be taken into account.

Pathway 3 – Road and railway infrastructure				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
1.03	Is entry along this pathway intentional (e.g. the organism is imported for trade) or accidental (e.g. the organism is a contaminant of imported goods)?	ACCIDENTAL	HIGH	The movement of seeds along the road and railway infrastructure is unintentional.

Pathway 3 – Road and railway infrastructure				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
1.04	How likely is it that large numbers of the organism will travel along this pathway from the point(s) of origin over the course of one year?	LIKELY	HIGH	It has been already observed that the common milkweed occurs often in habitats modified by humans, such as roadsides, railway areas, wastelands, abandoned orchards, vineyards, abandoned arable land, especially in sunny sandy places (Valachovič 1987; Kojić et al. 2004; Bagi 2008; Stanković-Kalezić 2008). From these sites seeds can be transported with the wind and by vehicles and inhabit new localities.
1.05	How likely is the organism to enter EU undetected or without the knowledge of relevant competent authorities?	LIKELY	HIGH	Awareness by the relevant competent authorities at points of entry to recognise and identify this species is limited or non-existent at present. There is no ongoing monioring of the roads and railways sides. However the green area along them is periodically managed (by mowing or using herbicides).
1.06	How likely is the organism to survive during passage along the pathway?	MODERATELY LIKELY	HIGH	The plant is adjusted to spread along roads and railways (Tokarska-Guzik et al. 2015, Nehring et al. 2013), especially as it prefers dry habitats.
1.07	How likely is the organism to arrive during the months of the year appropriate for establishment?	LIKELY	HIGH	Transport along infrastructure may occur throughout the year. The seeds are viable, so they can establish during the growing season.
1.08	How likely is the organism to be able to transfer from the pathway to a suitable habitat or host?	LIKELY	HIGH	The habitats such as species rich grasslands can be situated next to *Asclepias syriaca* localities along roads or railways. In such cases it is likely that they will be transferred to a suitable habitat by natural spread (refer to Pathway 1 Question 1.08).
1.09	Estimate the overall likelihood of entry into EU based on this pathway?	LIKELY	HIGH	This pathway depends on the interest and demand of the industry on milkweed products.
1.10	Do other pathways need to be considered?	NO		

Overall likelihood				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**

1.11	Estimate the overall likelihood of entry into EU based on all pathways (comment on the key issues that lead to this conclusion).	LIKELY	VERY HIGH	The primary pathway of entry into most European countries is through deliberate trade *via* the beekeeping sector (also *via* botanical gardens). The cultivation of the milkwed for other purposes is also moderately likely (ornamental plant, biofuel, etc.). Movement of seeds and rhizomes along roads and railways or with soil transfer may also facilitate entry.

Stage 2 - Detailed assessment: Section B – Establishment

This section evaluates the probability of establishment of an organism within EU.

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
2.01	Is the organism well established in EU (if there is any uncertainty answer 'unsure')	YES	HIGH	The species is well established in most of listed Europaean countries. Only in few has a status of the non-established / not naturalized species (see Stage 1 Question 8). On the example of Poland it can be stated that the localities are scattered and the plant hasn't yet occupied much territory of Poland (refer to Stage 1 Question 8). However, there are adequate conditions for the development of the common milkweed population both in Poland and in the EU countries (Tokarska-Guzik 2005; Tokarska-Guzik et al. 2015).
2.02	How likely is it that the organism will be able to establish in EU based on the similarity between local climatic conditions and the organism's current global distribution?	VERY LIKELY	HIGH	Based on its present scattered occurrence in the whole territory of Poland, climatic conditions are not thought to be limiting. However Rutkowski et al. (2015) suppose that invasion of the common milkweed in central-northern and north-eastern Europe may be limited by suboptimal climate conditions. Above mentioned authors, in reference to results of other researchers, think that it is possible that low temperature may negatively affect the development of late-autumn ripening seeds. Nevertheless, studies of the viability of *A. syriaca* seeds from botanical gardens in different regions of Europe do not provide evidence of such correlations (Rutkowski et al. 2015). Invasion was probably limited by high requirements of this species for temperature and light availability (Puchałka et al. 2013; Rutkowski et al. 2015). It has been more than 100 years since the first report of the species in the country, and reports on new sites of this species in recent years suggest that it has adapted itself and enters a phase of expansion. One can expect the invasion in both current and foreseeable conditions. Given the situation in other European countries, it must be noted that there is a risk of invasion in Poland, especially in the face of projected climate change. However, at this stage of the spread, this species can still be completely removed from the existing sites (Tokarska-Guzik et al. 2015).
2.03	How likely is it that the organism will be able to establish in EU based on the	VERY LIKELY	HIGH	Based on its present occurrence in Poland, it is likely there are no overriding abiotic factors to limit its further establishment in habitat types

Stage 2 - Detailed assessment: Section B – Establishment *This section evaluates the probability of establishment of an organism within EU.*				
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	similarity between other local abiotic conditions and the organism's current global distribution?			which are similar to those it occupies throughout its global range. Milkweed has a wide tolerance both for soil pH and humidity (Puchałka et al. 2013) but appears mostly on less heavy soils, especially on sand or sandy loess (Bagi 2008). As it is pointed by Bagi (2008) *A. syriaca* adopts to different habitat types primarily by the high degree of flexibility of its clone structure.
2.04	How likely is the organism to encounter habitats necessary for the survival, development and multiplication of the organism in EU?	VERY LIKELY	VERY HIGH	Poland has a high density and abundance of dry habitats (such as meadows, xerothermic grasslands, wasteland, etc.) susceptible to colonisation by *Asclepias syriaca* which can facilitate its subsequent survival, development and multiplication. Observations show that the species will colonize mainly warmer, well insolated habitats, as confirmed by recent studies (Puchałka et al. 2013).
2.05	How likely is it that establishment will occur despite competition from existing species in EU?	VERY LIKELY	VERY HIGH	Experience to date demonstrates that *Asclepias syriaca* can establish populations which can be competetive to native plant species (Puchałka et al. 2013, Nehring et al. 2013).
2.06	How likely is it that establishment will occur despite predators, parasites or pathogens already present in EU?	VERY LIKELY	HIGH	There is no evidence on presence of natural predators, parasites or pathogens of this species in many EU countries, including Poland, that will have an adverse effect on its establishment. According to information given by Bagi (2008) its root system is damaged by nematodes and wireworms i.e. the larvae of click beetles; its stems are the main food for a number of insects. Evidences from Hungary confirm that its young shoots are eaten almost bare by the weevil *Peritelus familiaris*, which is strongly polyphagous; foliage is consumed by the adults of the alleculid beetle *Omophlus proteus*, adults and larvae of the dwarf bush-cricket *Phaneroptera nana*. Common milkweed is also attaced by a variety of aphid species (observed also in Poland). In Hungary expansion of *A. syriaca* is limited by the hemipteran *Lygaeus equestris* which sucks sap from flower buds, young fruits, leaf blade and leaf veins (Bagi 2008). The insect occurs in Poland; host plant is *Vincetoxicum hirundinaria* from the same family Apocynaceae. Bagi (2008) reports that “common milkweed is hardly eaten by livestock due to its bitter-tasting milky sap and toxiticy, although sheep flocks that have been trained so may graze on it in Hungarian sandy areas, if nothing else is provided”.
2.07	How likely is it that establishment will occur despite existing management practices?	MODERATELY LIKELY	HIGH	The species displays character of a weed. According to Petrova et al. (2013) mechanical control is achieved by cutting the aerial and underground parts into small pieces, removing them from the location. This procedure should be repeated several times, otherwise, the

Stage 2 - Detailed assessment: Section B – Establishment *This section evaluates the probability of establishment of an organism within EU.*				
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				vegetative propagation of the species is facilitated and the occupied area enlarges. Mowing at least three times a year also leads to reduction and gradual destruction of the subpopulations. In cultivated areas crop rotation and growing of winter crops can be applied. Ploughing of land is effective only 2–3 weeks after seedling-emergence, when the roots are still underdeveloped and the formation of underground regenerative buds has not started yet. Herbicides, e.g. 2,4-D and glyphosate, can be successfully used for control of common milkweed; treatments should be carried out before seed-ripening. Due to its deep rooting system, both mechanical and chemical control is problematic (herbicides cannot translocate into roots which are deep in soil) (Botta-Dukát Z. unpbl). On a base of the Hungarian experience, non-chemical eradication is practically impossible, even with years of persistent mowing, grazing and hand-pulling. All kinds of disturbances and mechanical injuries typically result in intensive resprouting and growth of stands. the species can be eradicated within 1-3 years by spraying and wiping stands with glyphosate-based herbicides. When planning herbicide treatment it must be considered thet bees like to gather nectar from its flowers (Csiszár, Korda 2015).
2.08	How likely is it that management practices in EU will facilitate the establishment of the organism?	UNLIKELY	HIGH	Refer to Question 2.07.
2.09	How likely is it that the biological characteristics of the organism would allow it to survive eradication campaigns in EU?	LIKELY	MEDIUM	Bagi (2008) reports that milkweed disappears from vegetation with closed herb layer and/or high conopy coverage. He gives the example confirms that the species can disappear from alfalfa fields in three years, while adequate managed and cut. See Question 2.07
2.10	How likely is it that the biological characteristics of the organism will facilitate its establishment?	VERY LIKELY	VERY HIGH	The plant reproduces sexually and vegetatively. The ability of *Asclepias syriaca* to produce numerous seeds and to build vegetative reproductive fragments (rhizomatic roots) can facilitate its establishment of the population. It blooms from June to July, fruiting from July to August. The flowers of this species produce nectar both during the day and at night, so their pollinator group is large (especially in the native range). Flowers are pollinated by insects, mainly bees, bumble bees, wasps, butterflies, but the effectiveness of pollination is very low (<5%) (Bagi 2008). Only 4–6 flowers of the inflorescence convert into bags, each with 150–425 seeds (CABI 2011). The seeds are dispersed by wind; the plant produces such a large number of seeds that they can spread to considerable

Stage 2 - Detailed assessment: Section B – Establishment *This section evaluates the probability of establishment of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				distances and take over different types of habitats (Csontos et al. 2009). Under optimal, conditioned circumstances – at 27^{o}C, after cold treatment lasting at least 15 days at 5 ^{o}C – the success rate of germination can be as high as 99%. Buried seeds sustain their germination ability even after five years and under suitable conditions they germinate very fast, reaching its perennial status after three weeks (Bagi 2008). Moreover, as a clonal plant, it has a high capacity for vegetative propagation (Anderson 1999; Nowiński and Latowski 2003; Podbielkowski and Sudnik-Wójcikowska 2003; Borders and Lee-Mäder 2014), which is important for spreading. The plant is able to regenerate shoots from a root system, owning to the induction of new buds in the upper one-third of the main root (Bagi 2008). In Poland the species probably reproduces only vegetatively (Puchałka et al. 2013). However, there are adequate conditions for the development of the common milkweed wild population both in Poland and in the EU countries.
2.11	How likely is it that the organism's capacity to spread will facilitate its establishment?	VERY LIKELY	VERY HIGH	Refer to Question 2.10.
2.12	How likely is it that the organism's adaptability will facilitate its establishment?	VERY LIKELY	VERY HIGH	It has been more than 100 years since the first report in our country, and reports on new sites of this species in recent years suggest that the species has adapted itself and enters a phase of expansion (Tokarska-Guzik et al. 2015).
2.13	How likely is it that the organism could establish despite low genetic diversity in the founder population?	VERY LIKELY	VERY HIGH	The plant reproduces generatively, and thanks to entomophily it retains the right genetic structure of the population.
2.14	Based on the history of invasion by this organism elsewhere in the world, how likely is it to establish in EU? If possible, specify the instances of invasion elsewhere in the justification box	LIKELY	HIGH	Presumably, it was brought to Europe in the 18th century (Balogh 2001), however based on other sources it is possible to consider, that earlier, namely in 1629 (Bagi 2008). First spontaneous sites were reported in Hungary in 1855 (Balogh 2001), while according to Bagi (2008) more than 100 years earlier (1736-37). The establishment of *A. syriaca* in a wild was assisted by the fact that it was cultivated – intensively in the second half of 19th century. Populations survived from cultivation continued to serve as sources of invasion (Bagi 2008). Until 1970s the species was recorded in Hungary only sporadically (Balogh 2001). According to Nation-wide Weed Survey in 1988, about 16 thousand hectars of agricultural lands were infested, meaning a ranking of 113 in the list of weeds (Bagi 2008).Since 1997 a widespread invasion of milkweed has been observed in Hungary (Balogh 2001) after the weed survey it was ranked as 76th (Bagi 2008). It spread from cultivation land to

Stage 2 - Detailed assessment: Section B – Establishment *This section evaluates the probability of establishment of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				the surroundings. In Poland, the species occurs in scattered sites. It was recognized as ephemerophyte (non-established species, casual species) already in the 19th century (Tokarska-Guzik 2005). In the last 20–30 years, it has been reported on new sites (Puchałka et al. 2013). The range is therefore noticeably extending.
2.15	If the organism does not establish, then how likely is it that transient populations will continue to occur?	N/A		
2.16	Estimate the overall likelihood of establishment. Mention any key issues in the comments box	LIKELY	HIGH	Refer to Questions 2.10 and 2.14.

N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
3.01	What area (given in % or 10km squares) in Poland could the organism establish (0% - 10%, 11% - 33%, 34% - 67%, 68% - 90% or 91% - 100%)?	0% - 10% (of 10 km squares)	HIGH	*Asclepias syriaca* can establish in habitats, such as grasslands (6210 and 6260 Natura 2000 habitat types), dunes (2130 and 2160 Natura 2000 habitat types), river valleys and peripheries of water bodies, forests but more often in habitats modified by humans, such as roadsides, railway areas, wastelands, abandoned orchards, vineyards, abandoned arable land, especially in sunny sandy places (Valachovič 1987; Kojić et al. 2004; Stanković-Kalezić 2008, Matthews et al. 2015). It was found in some European countries as a weed in crops (Petrova et al. 2013).
3.02	How important is the expected spread of this organism in EU by natural means (minimal, minor, moderate, major or massive)?	MODERATE	HIGH	Refer to Question 2.10. Effectiveness of the proliferation via seeds (including the germination of seeds in the wild and ability of seedlings survival) were not the subject of the research until now in Poland. It is known that in more favourable habitats it forms thicker ramet structures more of a phalanx type, whereas in less suitable habitats it explores and invades the area by sending out rhizomatic roots, following a guerrilla-type behaviour (Bagi 2008). The same author informs that the radius of root system expansion can reach as much as 3 m within one year.
3.03	How important is the expected spread of this organism in EU by human assistance (minimal, minor, moderate, major or massive)?	MODERATE	HIGH	Anthropogenic-mediated transfer is the principal pathway to facilitate the establishment of the plant from colonised to uncolonised sites. The milkweed can spread mainly from honey plant plantations or other kinds of cultivations. Spread through road and railway transport can facilitate the process. Its appearance is generally related with the disturbance of the upper soil

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
				layers or with the accumulation of nutrients (Bagi 2008). Bagi (2008) states that because the extent of degraded areas grows rapidly *A. syriaca* occupying these expands with similar intensity.
3.04	Within EU, how difficult would it be to contain the organism (minimal, minor, moderate, major or massive)?	MINOR	HIGH	The milkweed is currently not widespread (except of Hungary), so it is still cost-effective to eradicate it (Refer to Question 8).
3.05	What proportion (%) of the area in Poland suitable for establishment, if any, has already been colonised by the organism?	0% - 10%	HIGH	Refer to Question 8.
3.06	What proportion of the area in Poland suitable for establishment, if any, do you expect to have been invaded by the organism five years from now (including any current presence)?	0% - 10%	LOW	It is likely that the spread of *Asclepias syriaca* from sites where it currently exists will continue. Due to the fact that the plant prefers dry and sunny sites, the invaded area will be restricted to specific habitats.
3.07	What other timeframe would be appropriate to estimate any significant further spread of the organism (10, 20, 40, 80 or 160 years)? Please comment on why this timeframe is chosen.	20 years	LOW	The climate change can trigger its spread, that's why milkweed locations should be monitored more frequently.
3.08	In this timeframe, what proportion of the endangered area (including any currently occupied areas) is likely to have been invaded by this organism?	11% - 33%	LOW	Refer to Questions 3.06 and 3.07.
3.09	Based on the answers to questions on the potential for establishment and spread in EU, define the area endangered by the organism. Be as specific as possible. If available, provide a map showing the area most likely to be endangered.	-	MEDIUM	Refer to Question 3.01.
3.10	Estimate the overall potential for future spread for this organism in EU (very slowly, slowly, moderately, rapidly or very rapidly). Use the justification box to	MODERATELY	MEDIUM	Where *Asclepias syriaca* is already present within a system, further internal spread on suitable habitats will be likely. The rate of further range extensions to uncolonised systems will likely be reduced as the principal mechanism of spread is human-mediated (plant used for beekeeping).

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
	indicate any key issues .			Study by Mojzes and Kalapos (2015) “demonstrate smoke-enhanced germination for common milkweed, which mechanism may help this species to successfully colonize new habitats after fire. As fire frequency is expected to increase in Europe with recent climate change, these results might contribute to a more efficient control of *A. syriaca* in areas threatened by its invasion”. Refer also to Question 3.02.

Stage 2 - Detailed assessment: Section D - Impact

This section evaluates the probability of impact of an organism within EU.

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
4.01	How great is the economic loss caused by the organism within its global distribution, including the cost of any current management?	MODERATE	MEDIUM	It is a significant weed a.o. in arable land, vine- and fruit- yards young forestrations, which reduces the yield of crops (Bhowmik 1994; Bagi 2008; Nehring et al. 2013; Pauková et al. 2013). In the 1970s and 1980s, milkweed infestation in agricultural fields was viewed to be on the increase with 10.5 million ha infested in the north-central states of United States. Herbicides have been increasingly used to control weeds in row crops. Many of these herbicides produce only moderate control of milkweed, but glyphosate, often referred to as Roundup_ (Monsanto, St.Louis, MO, USA), is more effective. However, it also has a detrimental effect on crop plants, so until the development of genetically modified (GM) glyphosate-tolerant (Roundup Ready_,Monsanto) crop plants, herbicides other than glyphosate were used to control weeds (Pleasants and Oberhauser 2013 and literature cited therein). It can detract bees from pollinating sunflower, therefore it causes crop loss (Bagi 2008; Petrova et al. 2013). It contains glycosides, which are

Stage 2 - Detailed assessment: Section D - Impact *This section evaluates the probability of impact of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				toxic to sheep, cattle and horses (Anderson 1999). All parts of the plant contain substances that are potentially toxic to poultry. In addition, this species has allergic and allelopathic effects (Konstantinovič 2009; CABI 2011). Direct contact with the plant can cause skin irritation, due to the poisonous glycosides in the milky sap, and it may cause poisoning if consumed (Petrova et al. 2013). Its removal from railway line sides is very costly (Bagi 2008).
4.02	How great has the economic cost of the organism been in EU from the time of introduction to the present? Exclude any costs associated with managing the organism from your answer.	MINIMAL	HIGH	Milkweed is not yet widespread in Europe (except of Hungary), so the economic cost is still insignificant (refer to Question 8).
4.03	How great is the economic cost of the organism likely to be in the future in EU? Exclude any costs associated with managing the organism from your answer.	MODERATE	MEDIUM	This is difficult to quantify (see Question 4.01 for an overview of economic impacts likely to occur should *Asclepias syriaca* spread further). Significant control costs may be incurred if the plant evolves to be a noxious weed in agriculture and a threat for protected habitats.
4.04	How great have the economic costs of managing this organism been in EU from the time of introduction to the present?	MINIMAL	HIGH	Milkweed is not yet widespread in Europe (except of Hungary), so the economic cost of managing is still insignificant (refer to Question 8).
4.05	How great is the economic cost of managing this organism likely to be in the future in EU?	MAJOR	MEDIUM	This is difficult to quantify and depends on range expansions of the plant and future levels of infestation of agriculture land and protected habitats.
4.06	How important is environmental harm caused by the organism within its global distribution?	MAJOR	HIGH	Through massive occurrence, the common milkweed threatens native species diversity, penetrating into natural and semi-natural habitats and occurring, among others, in river valleys (Botta-Dukát 2008; Petrova et al. 2013). It counts among the invasive species that can threaten natural habitats of Natura 2000, e.g. Pannonic sand steppes – code 6260, primarily in Hungary (Šefferová and Stanová 2008). It is more competitive on sandy and loess soils (Petrova et al. 2013). In natural sites it can inhibit the regeneration of near-natural plant communities (Bagi 2008). According to mentioned author, its invasion is significant in plant communities that have been degraded due to some anthropogenic effects. Although some author report that *A. syriaca* has a neutral effect on the species richness and the cover of natural grassland species in particular conditions, recent results detected a negative effect on the cover of grassland species. The negative effect of common milkweed was most pronounced on the cover of species with low SLA, low seedmass and low

Stage 2 - Detailed assessment: Section D - Impact *This section evaluates the probability of impact of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				clonal spreading ability (Kelemen et al. 2016). Milkweed is poisonous for animals and can act as a vector of fungal and virus plant diseases (Bagi 2008, Matthews et al. 2015). Micro-organisms can accumulate in its nectar.
4.07	How important has the impact of the organism on biodiversity* been in EU from the time of introduction to the present? *e.g. decline in native species, changes in community structure, hybridisation	MINIMAL	HIGH	Milkweed is not yet widespread in Europe (except of Hungary), so the impact on biodiversity is still insignificant (refer to Question 4.08).
4.08	How important is the impact of the organism on biodiversity likely to be in the future?	MODERATE	MEDIUM	If *Asclepias syriaca* establishes dense populations in as yet uncolonised grasslands, dune areas and river valleys, detrimental impacts on biodiversity, as outlined in answer to Question 4.06, are probable. There may also be implications for the classification of conservation status of certain habitats under the EU Habitats Directive. In Hungary native, late successional sandy grasslands invaded by common milkweed can form undesirable novel ecosystems because of significant negative impacts on the cover of native grassland species (Kelemen et al. 2016). In the Netherlands, there are stands of common milkweed in dune habitats in Natura 2000 sites. It shows that the species is capable of establishing in high value conservation habitats (Matthews et al. 2015). In Slovakia expansively spreading plants of common milkweed represent a great threat to the agricultural land, espescially near cultivated land. It was demonstrated that the values of several reproductive traits of the studied populations exceeded the values reported for the native populations. It forecasts that this species could become an invasive plant in Slovakia. Its sporadic occurences recognized to date, most probably, do not correspond to the final range of its distribution in Slovakia (Pauková et al. 2013).
4.09	How important is alteration of ecosystem function (e.g. habitat change, nutrient cycling, trophic interactions), including losses to ecosystem services, caused by the organism in EU from the time of introduction to the present?	MODERATE	MEDIUM	Milkweed is not yet widespread in Poland, so the impact on ecosystem functions is still insignificant (refer to Question 4.08). The small-scale study by Gallé et al. (2015) has shown that the effect of the invasion of *A. syriaca* on the ground-dwelling spiders, ants and diplopods was detectable even in the case of, emphasising that the invasion of *A. syriaca* severely affects the distributional pattern of ground-

Stage 2 - Detailed assessment: Section D - Impact *This section evaluates the probability of impact of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				dwelling arthropods, hence threatens their diversity and alters the interactions between species (e.g. competition and trophic interactions), resulting in a novel ecosystem with lower conservation value.
4.10	How important is alteration of ecosystem function (e.g. habitat change, nutrient cycling, trophic interactions), including losses to ecosystem services, caused by the organism likely to be in EU in the future?	MODERATE	MEDIUM	Milkweed can change the vegetation structure (Nehring et al. 2013). *A. syriaca* is not highly competitive, particularly for light and soil resources (Nikolic, Popov 2013). Roots penetrate the soil by up to 3,8 m and the species may develop large, dense, persistent populations (Matthews et al. 2015).
4.11	How important has decline in conservation status* caused by the organism been in EU from the time of introduction to the present? *e.g. sites of nature conservation value, WFD classification, etc.	MINIMAL	HIGH	There has been no decline in conservation status caused by *Asclepias syriaca* to date.
4.12	How important is decline in conservation status caused by the organism likely to be in the future in EU?	MODERATE	MEDIUM	See Question 4.06.
4.13	How important is social or human health harm (not directly included in economic and environmental categories) caused by the organism within its global distribution?	MINOR	MEDIUM	The species has allergic effects and the milky sap causes contact dermatitis to sensitive individuals. The plant is also poisonous to humans (Konstantinovič et al. 2009; Nehring et al. 2013; CABI 2015, Matthews et al. 2015).
4.14	How important is social or human health harm (not directly included in economic and environmental categories) caused by the organism within EU?	MINOR	MEDIUM	Milkweed is not yet widespread in Europe (except of Hungary), so the impact on social or human health harm is still insignificant (refer to Question 8).
4.15	How important is it that genetic traits of the organism could be carried to other organisms / species, modifying their genetic nature and making their economic, environmental or social effects more serious?	MINIMAL	VERY HIGH	Highly unlikely (Nehring et al. 2013). There are no native species from the *Asclepias* genus in Europe.
4.16	How important is the impact of the organism as food, a host, a symbiont or a vector for other damaging organisms (e.g. diseases)?	MODERATE	HIGH	It was recorded that the species was host for the cucumber mosaic virus (CMV) (Bagi 2008; Nehring et al. 2013). According to information given by Bagi (2008) milkweed also hosts the Californian western flower thrips *Frankliniella occidentalis*, Thysanoptera,

Stage 2 - Detailed assessment: Section D - Impact *This section evaluates the probability of impact of an organism within EU.*				
N	**QUESTION**	**RESPONSE**	**CONFIDENCE**	**JUSTIFICATION**
				one of the most dangerous virus vector, thus it can indirectly assist infection by tomato spotted wilt virus (TSWV) in weed-infested vegetable-producing areas. Apart from that a variety of fungal plant diseases can appear on milkweed, which at the same time are not suitable for being used in biological control (Bagi 2008).
4.17	How important might other impacts not already covered by previous questions be resulting from introduction of the organism? Specify in the justification box.	MINIMAL	HIGH	
4.18	How important are the expected impacts of the organism despite any natural control by other organisms, such as predators, parasites or pathogens that may already be present in EU?	MODERATE	MEDIUM	There is no known evidence that *Asclepias syriaca* is or could be naturally controlled by any predator, parasite or pathogen.
4.19	Indicate any parts of EU where economic, environmental and social impacts are particularly likely to occur. Provide as much detail as possible, where possible include a map showing vulnerable areas.		MEDIUM	Significant impacts may be caused if the plant evolves to be a notourius weed in agriculture and a threat for protected Natura 2000 habitats, especially in southern part of Europe and in central Europe - taking into account the climate change (See Questions 3.01, 4.01).
4.20	Estimate the overall potential impact of this organism in EU. Use the justification box to indicate any key issues.	MODERATE	MEDIUM	Given the situation in other European countries (such as Hungary), it must be noted that there is a risk of invasion in Poland and other EU countries, especially in the face of projected climate change. The reports on new sites of this species in recent years suggest that the species has adapted itself and enters a phase of expansion (Pauková et al. 2013, Tokarska-Guzik et al. 2015). It can have mainly a severe impact on protected habitats and agriculture.

Stage 2 - Detailed assessment: Section E – Conclusion

This section requires the assessor to provide a score for the overall risk posed by an organism, taking into account previous answers to entry, establishment, spread and impact questions.

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
5.01	Estimate the overall risk of this organism in EU (noting answers given in 1.11, 2.16, 3.10 & 4.20).	MAJOR	MEDIUM	This non-native species can have a major risk to native biodiversity and ecosystems as well as having the potential to cause negative socio-economic impacts especially in agriculture due to its capacity to spread rapidly and establish dense infestations.

Stage 2 - Detailed assessment: Section F – Additional questions

This section is used to gather information about the potential effects of climate change on the risk posed by an organism. It is also an opportunity for the risk assessor to highlight high priority research that could help improve the risk assessment.

N	QUESTION	RESPONSE	CONFIDENCE	JUSTIFICATION
6.01	What aspects of climate change, if any, are most likely to affect the risk assessment for this organism?		MEDIUM	The results of climate scenarios that can influence the distribution of *Aslepias syriaca* analysis show: • temperature increasing trend across the country; temperature rise is properly reflected by all climatic factors based on this variable, for example, there is a certain trend of extending the growing season (its start is earlier noted), the number of days with minimum temperature less than 0 °C is decreased and there is more days with maximum temperature higher than 25 °C - it can support the seed germination (the germination taking place at temperature above 15^{o}C) and cause the rise of participation of the sexual reproduction in milkweed spread. • temperature characteristics such as the number of days, reflect upward trend in temperature changes. The characteristics of precipitation shows the extended periods without rainfall, increased number of maximum rainfalls and shortening the period of snow cover. It is worthwhile emphasizing that milkweed is immune to the drought (Bagi 2008). Observations show that the species will colonize mainly warmer, well insolated habitats, as confirmed by recent studies (Puchałka et al. 2013). One can expect the invasion in both current and foreseeable conditions. Especially given the situation in other European countries, it must be noted that there is a risk of invasion in Poland and other countries, in the face of projected climate change (Nehring et al. 2013; Tokarska-Guzik et al. 2015).
6.02	What is the likely timeframe for such changes (5, 10, 15 , 20, 50 or 100 years)?	50 YEARS	MEDIUM	

6.03	What aspects of the risk assessment are most likely to change as a result of climate change		MEDIUM	The impact on biodiversity, ecosystem functions, health and socio-economy surely would be stronger than nowadays in Poland and other EU countries. The change in some parts of the countries as regards the milkweed population and its impact might be similar to the current situation in Hungary.
6.04	If there is any research that would significantly strengthen confidence in the risk assessment, please note this here. If more than one research area is provided, please list in order of priority.	N/A		

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