



Strasbourg, 24 April 2024



T-PVS/PA(2024)06

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

*Ad hoc Working Group on Reporting*

**5<sup>th</sup> meeting**

30 April 2024 (10.00 – 15.00 CEST)

*(online meeting)*

**Exploring options for a list of IAS of Union concern beyond  
the borders of the EU**

*Document prepared by Riccardo Scalera  
and the Secretariat of the Bern Convention*

Exploring options for a list of IAS of Union concern beyond the borders of the EU

Scoping paper by Riccardo Scalera

To be presented at the 5<sup>th</sup> meeting of the *Ad hoc* Working Group on Reporting

Contents

Rationale and scope ..... - 4 -  
    Overview of main alien species lists ..... - 4 -  
    The Bern convention metalist of IAS..... - 6 -  
    The EU list of IAS of Union concern..... - 6 -  
        Horizon scanning ..... - 7 -  
Options for listing IAS ..... - 8 -  
    Option 1 - No specific list ..... - 8 -  
        Pros ..... - 8 -  
        Cons ..... - 8 -  
    Option 2 - Union list (mandatory), complemented with voluntary list ..... - 8 -  
        Pros ..... - 9 -  
        Cons ..... - 9 -  
    Option 3 - Union list amended (mandatory), complemented with voluntary list..... - 9 -  
        Pros ..... - 9 -  
        Cons ..... - 10 -  
    Option 4 – *Ad hoc* Bern convention list of selected IAS (mandatory), complemented with voluntary list ... -  
    10 -  
        Pros ..... - 10 -  
        Cons ..... - 10 -  
Methodological approaches..... - 10 -  
    Options 1 and 2 ..... - 10 -  
    Options 3 and 4 ..... - 11 -  
Recommendations ..... - 12 -  
References ..... - 12 -

## Rationale and scope

Invasive alien species (IAS) are one of the main threats to biodiversity, as recently confirmed within the landmark assessment on IAS and their impact (IPBES, 2023). IAS can therefore affect the conservation status of the species and habitats protected by the Bern convention.

The Bern Convention is preparing the second reporting on the conservation status of species and habitats (Resolution No. 8 (2012)) for non-EU Contracting Parties. It will mirror the reporting under the EU “Nature Directives”, and specifically Article 12 of the Birds Directive<sup>1</sup> and Article 17 of the Habitats Directive<sup>2</sup> carried out by EU Contracting Parties.

The new reporting formats of the above EU “Nature Directives” refer to the list of IAS of Union concern, also known as Union list, which is the core element of the EU Regulation 1143/2014<sup>3</sup> (hereafter referred to as EU Regulation on IAS). This is in line with the many interactions existing between the IAS Regulation and the Nature Directives (Scalera et al. 2020).

With regard to the reporting obligations on the conservation status of species and habitats protected by the Bern convention, a request was made by the *Ad hoc* Working Group on Reporting to assess the extent to which the Union list would be relevant for all non-EU Contracting Parties, or whether the list should be complemented with additional features, in order to reflect the situation of IAS beyond the borders of the EU.

Based on such request, the purpose of this study is to explore the caveats and opportunities to consistently cover the topic of IAS in the reporting process of the Bern convention, in line to what is required within the reporting formats of the EU “Nature Directives”, specifically in relation to the main pressures/threats to protected species.

For this purpose, four different options are presented and discussed for cross-checking the relevance of the Union list beyond the borders of the EU and, if appropriate, amend the list, or propose a brand new one (bearing in mind that there is no aspiration to design a list of IAS for other purposes than the reporting on the conservation status of species and habitats protected by the Bern Convention). The listing approaches of the IAS Regulation and the Bern Convention previously discussed by Trouwborst (2015), are also taken into account.

The present document also provides recommendations for non-EU Contracting Parties and the Bern Convention Secretariat, including some insights on possible methodologies and indications on the most straightforward options.

## Overview of main alien species lists

Different lists of alien species exist. They are designed for a variety of purposes and different geographic or taxonomic scopes. Alien species lists are mostly aimed at regulating the keeping, trade and introduction in the wild of those species considered as the most harmful, but also at monitoring and reporting, prioritising prevention efforts, raising awareness, etc. The characterisation and prioritisation of alien species that are

---

<sup>1</sup> Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, as amended  
[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3A128046#:~:text=Directive%201979%20and%20its%20amending,Member%20State%20\(except%20Greenland\).&text=Council%20Directive%2079%2F409%2FEEC,birds%20%5BSee%20amending%20act%5D](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3A128046#:~:text=Directive%201979%20and%20its%20amending,Member%20State%20(except%20Greenland).&text=Council%20Directive%2079%2F409%2FEEC,birds%20%5BSee%20amending%20act%5D)

<sup>2</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora  
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01992L0043-20130701>

<sup>3</sup> Regulation (EU) 1143/2014 on the prevention and management of the introduction and spread of invasive alien species  
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014R1143>

already or are likely to become invasive is a fundamental step toward the planning and implementation of a rapid, targeted response action to mitigate the impact of IAS on native biodiversity.

The most common types of lists are black lists and white lists (respectively known also as “negative lists” and “positive lists”). A “black list” is a list of alien species that have shown to have an impact on the environment, the economy or the human health and well-being. The use of black lists to regulate species introductions is one of the most familiar and politically acceptable tools to put in practice the precautionary approach required to manage IAS. As opposite, a “positive list” is a tool aimed at listing species that are considered to pose a low risk, and that could be allowed to be kept and/or traded without harm to the biodiversity, the environment, etc. The use of a “grey list” is less popular. In principle this tool should cover species not already included in a black or white list, or that are data-deficient. Usually, the finding of harm/threat is a necessary precondition for listing, hence the development of a black list (as well as white and grey lists) should be made only on the basis of the results of specific risk assessment (possibly associated to relevant risk management and risk communication evaluations, that altogether are part of a risk analysis).

The Union list is a typical black list, as it includes species that qualified to be listed following a detailed risk assessment (Tollington et al. 2015), hence based on their actual or potential risk of introduction, establishment, spread and impact within the risk assessment area (which are the EU Member States, outermost regions and overseas territories excluded). The EU Regulation on IAS also foresees the establishment of lists of regional concern and of Member State concern. There are not yet examples of lists of regional concern, while some EU countries are currently developing their lists of Member State concern. More details on the Union list are provided below.

The Bern Convention made a first attempt to develop a list for IAS in Europe (Genovesi and Scalera 2007). This was not a proper black list because it was not based on risk assessments, however it was a first example of what a regulated list could look like, by putting together the information from other lists of IAS available at the time (which is why it was considered a “metalist”, see more details below).

Robust risk assessment protocols and schemes exist which help characterise species and assist to the prioritisation and targeting of resources for prevention, eradication, containment, control and monitoring (see Roy et al. 2018). They may vary in terms of resources and level of detail needed to inform the assessment. Because the risk of introduction/establishment/spread/impact is highly context dependent, the risk assessments have to focus on a specific area/region, that needs to be explicitly defined prior to any assessment, and which the relevant lists must refer to.

Other relevant types of lists are watch lists and alert lists (or “alarm lists”). The development of such lists does not require a full risk assessment, but some kind of quick screening, for example through dedicated horizon scanning exercises (see Roy et al. 2019) or similar prioritisation exercises (Carboneras et al. 2017). “Watch lists”, for instance, include alien species not yet present in a territory - or present only in a limited range - that are considered to potentially pose risks to the invaded area and for which it is recommended to monitor arrival, spread and impacts, and/or application of prevention measures. Such lists are similar to alarm lists (or alert lists) which include species not yet present in a territory or present only in a very limited range, that may pose risks to the invaded area, and for which it is recommended to apply particular surveillance and monitoring efforts, in order to enhance prompt response in the case of arrival/expansion (see details in Genovesi and Shine 2004, Genovesi et al. 2010).

The listing of species should be based on the best available scientific data and knowledge, as well as on the existing experience and relative lessons learned from countries and regions which have already adopted similar lists. Current IAS datasets are key tools for informing the listing of priority species. Examples, which are particularly relevant for the European region and beyond, are the EASIN Catalogue of Alien Species<sup>4</sup> managed by the EC/JRC (Katsanevakis et al. 2015), as well as the Global Invasive Species Database<sup>5</sup> (GISD) and the Global Register of Introduced and Invasive Species<sup>6</sup> (GRIIS) managed by the Invasive Species Specialist

---

<sup>4</sup> <https://easin.jrc.ec.europa.eu/easin/Catalogue>

<sup>5</sup> <https://www.iucngisd.org/gisd/>

<sup>6</sup> <https://griis.org/>

Group (ISSG) of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN) (Pagad et al. 2015). Other relevant tools also available, such as the CABI Invasive Species Compendium<sup>7</sup> and the Global Biodiversity Information Facility (GBIF)<sup>8</sup>, which by the way are often interconnected.

#### The Bern Convention metalist of IAS

A provisional list of IAS in Europe was compiled by the Bern Convention as part of the document T-PVS/Inf (2007)<sup>9</sup> “Towards a black list of Invasive Alien Species entering Europe through trade, and proposed responses” (Genovesi and Scalera, 2007). This document was aimed at providing an overview of the existing lists of known IAS for Europe, and a preliminary assessment of the role of trade in the introduction of the species included in such a “metalist”. This list was based on a number of separate lists of IAS causing impacts to biological diversity, economic activities, and health, e.g. those produced by EPPO, EEA/SEBI 2010, NOBANIS, DAISIE and the EU Wildlife Trade Regulations (WTR) (for detail, see Genovesi and Scalera, 2007). It was a first attempt to produce a European black list based on the assumption that the best predictor of a species invasiveness in a new area was whether the species had shown invasive patterns in other areas.

Even though the combined list was not meant to be neither comprehensive nor exhaustive, it was considered as a provisional metalist of IAS in Europe, as it presented the most comprehensive inventory of known IAS for Europe and identified priority species to be regulated.

The IAS metalist was formally approved by the Standing Committee of the Bern Convention through Recommendation No. 125 (2007) on trade in invasive and potentially invasive alien species in Europe<sup>9</sup>. However, it was clear that for this metalist to turn into an actual black list, there was a need to improve the criteria for inclusion (so to ensure that any trade regulations would be properly justified also with regard to the free trade agreements, such as the EU treaty, the WTO SPS, etc.). Furthermore, information on the current distribution range and a detailed description of the overall status of the species would need to be better incorporated and evaluated (i.e. species with widespread distribution, species native in some European countries and invasive in others, etc). Identification and categorisation of risks should also allow for changes in the invasiveness (impact) of species over time, particularly in response to changes in factors, such as climate change and global trade patterns.

#### The EU list of IAS of Union concern

IAS are one of the major threats to biodiversity. To manage this threat, the EU has developed a specific legislation: the EU Regulation on IAS, which entered into force in 2015. At the core of this legislation is a list of IAS of Union concern, which currently includes 88 species (as of April 2024). The list is established through other regulations discussed and approved regularly by the European Commission (EC) over the years<sup>10</sup>, and new updates are foreseen. The development of the Union list is based on robust risk assessments that are developed for any species proposed for listing, having regard to the elements in Articles 4 and 5 of the EU Regulation on IAS, further specified in the relevant delegated act<sup>11</sup>. For this purpose, a specific template was also developed, with the aim to facilitate the full compliance of the risk assessments with the current legislation. All relevant documentation is usually accessible through the relevant EC webpage<sup>12</sup>.

---

<sup>7</sup> <https://www.cabi.org/invasivespecies/tools/>

<sup>8</sup> <https://www.gbif.org/>

<sup>9</sup> [https://search.coe.int/bern-convention/Pages/result\\_details.aspx?ObjectId=09000016807464a8](https://search.coe.int/bern-convention/Pages/result_details.aspx?ObjectId=09000016807464a8)

<sup>10</sup> The Union list was established by Commission implementing Regulation (EU) 2016/1141, updated by Commission implementing Regulations (EU) 2017/1263, (EU) 2019/1262 and (EU) 2022/1203.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R1141>

[https://eur-lex.europa.eu/eli/reg\\_impl/2017/1263/oj](https://eur-lex.europa.eu/eli/reg_impl/2017/1263/oj)

[https://eur-lex.europa.eu/eli/reg\\_impl/2019/1262/oj](https://eur-lex.europa.eu/eli/reg_impl/2019/1262/oj)

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R1203>

<sup>11</sup> Commission Delegated Regulation (EU) 2018/968

[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2018.174.01.0005.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.174.01.0005.01.ENG)

<sup>12</sup> [https://environment.ec.europa.eu/topics/nature-and-biodiversity/invasive-alien-species\\_en](https://environment.ec.europa.eu/topics/nature-and-biodiversity/invasive-alien-species_en)

After the preparation and the submission of a risk assessment by the EC or a Member State, the procedure foresees that the Scientific Forum (established according to Art. 28 of the EU Regulation on IAS) reviews the submitted risk assessments and checks whether the documents are fit-for-purpose and in compliance with the requirements laid down in the delegated act. Simultaneously stakeholders are invited to provide additional evidence on the species impacts and benefits or any other relevant information. This usually leads to some degree of revision of the proposed risk assessments. After their formal re-submission, the Scientific Forum provides a not-binding opinion on the species to be retained for listing to the Committee (established according to Art. 27 of the EU Regulation on IAS), which is composed of Member State representatives. The final decision about the listing of the species is taken by the EC, which proposes the species, and the Committee, which votes according to the relevant EU rules.

The utility and suitability to supplement the IAS Regulation in non-EU Contracting Parties, specifically in relation to the Union list, is discussed by Trouwborst (2015) who remarked the complexity of the issue, which does not have a straightforward solution. Trouwborst (2015) also discussed the main caveats of the different available options to develop a Bern convention IAS list, aligned with the Union list. However, the aim of having such a list was going beyond the mere reporting purposes, therefore the discussed options are not directly applicable to the present task. However, as a follow up of this document, the Bern Convention Standing Committee adopted the Recommendation No. 179 (2015) on action to promote and complement the implementation of EU Regulation 1143/2014 on invasive alien species<sup>13</sup>. The recommendation explicitly recognized the important contributions that could be made through technical work, including the development of guidance, in coordination with the EC and other relevant bodies, regarding several aspects, among which the assistance on development of risk assessments. This led the Bern Convention to provide a concrete contribution to the process of informing the Union list, by supporting the development of risk assessments for a couple of species, namely *Callosciurus finlaysonii* and *Sylvilagus floridanus* (Bertolino 2015).

#### Horizon scanning

To facilitate the development of the Union list, a dedicated horizon scanning study was made by the EC (Roy et al. 2019). This work aimed at the development of a methodology to identify priority species to be risk assessed, with a view to evaluate whether they would qualify for the Union list (e.g. species with the potential of being highly invasive in the EU and that should be addressed through the EU Regulation on IAS). Priority was given to species in an early invasion stage, or not yet present in the EU, for which there are preliminary indications that they can seriously threaten biodiversity or the related ecosystem services. Species already present in (parts of) the EU, but with indications that could be eradicated or managed cost-effectively, were also prioritised. Clear guidance was designed and pre-defined criteria were identified to ensure that the horizon scanning process was implemented in a standardised way for all taxonomic groups. As a result, an initial annotated list was developed, including hundreds of potential IAS that were the most likely to arrive, establish, spread and have a significant adverse impact on biodiversity or the related ecosystem services across the EU in the coming years, i.e. based on available data from the local/national/regional/global IAS databases, as well as lists and catalogues of exotic species in trade with the potential of being released into the wild, outside their native range, and become invasive (complemented through additional literature searches and expert opinion). These could include species that were present in countries close/next to EU Member States, those that were present in areas climatically matching the EU or those that were found to be present in trade or travel routes to the EU, all of which could be invasive elsewhere and have negative impacts on native biodiversity. Species were then scored and ranked in relation to their likelihood of arrival, establishment and spread in the EU (potentially complemented by simple climate matching), as well as to their potential negative impacts on native biodiversity and ecosystem services. This information was complemented by attributing a level of confidence (e.g. high, medium, low) to each of the scores provided. To finalise the list in a quick and effective way a consensus building process was undertaken. For this purpose, an elicitation workshop was organised to peer review and adjust the species rankings across all taxonomic groups, first in dedicated taxonomic break-out groups and then in a plenary session. This approach led to consensus on the final list of species to be prioritised (for details on the procedure for the horizon scanning process, see Roy et al. 2019). Eventually, based on the priority species identified through this work but not limited to these, the EC ordered specific studies to prepare risk assessments.

---

<sup>13</sup> <https://rm.coe.int/168074687c>

## Options for listing IAS

The need of all Bern Convention Contracting Parties (hereafter simply referred to as “Parties”) to consider the inclusion of IAS in their reporting process, i.e. among the “main pressures and threats” to the species and habitats protected by this Convention, justifies the need for a list of IAS to be used as a reference. As mentioned above, Parties that are also EU Member States already abide to the reporting obligations, by reporting IAS threats as part of the reporting under the EU Nature Directives, while Parties that are not EU Member States (non-EU Parties) do not have any such reporting scheme at present.

The reporting obligations related to the EU Nature Directives foresee the assessment of two types of data, specifically in relation to the “characterisation of pressures”, which can be associated to two main datasets:

- 1) Invasive alien species of Union concern (mandatory)
- 2) Other invasive alien species (optional, it concerns species other than those of Union concern, to be selected from the EASIN database)

Basically, the approach undertaken for reporting within the EU Nature Directives represents a valuable starting point to assess the possible options and approaches that could be considered for reporting under the Bern Convention obligations, and whether any specific list of IAS needs to be developed for non-EU Parties.

Based on the considerations above, four (4) potential options for future work are discussed below, specifically designed for non-EU Parties:

- 1) No specific list
- 2) Union list (mandatory), complemented with voluntary list
- 3) Union list amended (mandatory), complemented with voluntary list
- 4) Ad hoc Bern convention list of selected IAS (mandatory), complemented with voluntary list

### Option 1 - No specific list

This approach would not oblige Parties to consider any specific IAS list. Non-EU Parties would be required to provide relevant inputs on IAS acting as a threat to species and habitats protected by the Bern Convention, but only on a voluntary basis.

No specific list is required for this purpose. To align with the reporting by Parties that are also EU Member States, non-EU Parties may use as a reference for their voluntary reporting on threats and pressures from IAS, both the list of species of Union concern and the EASIN catalogue. Non-EU Parties that have a national list of IAS developed, may use this tool as a reference.

Alternatively, it is suggested to use the GRIIS as a reference, as it includes data from all world countries.

#### Pros

This approach is the less demanding in terms of resources needed from both the national authorities of non-EU Parties (whose reporting obligations would be lighter) and the Bern convention Secretariat, as there would be no need to allocate time and money to the design and discussion of any specific list of IAS.

#### Cons

The lack of a standard reference would lead to an uncoordinated effort by non-EU Parties in terms of reporting, with the consequence of getting different levels of detail and accuracy in their outputs. Additionally, the actual threat by IAS may be neglected or underestimated, and this would represent a lost opportunity to retrieve data on what is considered a key threat for biodiversity globally.

### Option 2 - Union list (mandatory), complemented with voluntary list

This option mirrors the same reporting requirements of the EU Nature Directives discussed above. Similarly to what is done by Parties that are also EU Member States, two main datasets may be considered:

- 1) In practice, non-EU Parties would be required to mandatorily report any IAS of Union concern that represent a threat for the species and habitats protected by the Bern Convention.



- 2) The IAS other than those of the Union list to be reported on a voluntary basis, can be selected from the EASIN database (like Parties that are also EU Member States are required to do), but also from the GRIIS. Also in this case, non-EU Parties that have a national list of IAS developed, may use this tool as a reference for reporting on IAS other than those of the Union list.

#### Pros

This approach is not particularly demanding for non-EU Parties authorities and the Bern Convention Secretariat, as the reporting obligations would be the same as those already mandatory for all Parties that are also EU Member States. Also in this case, there is no need to develop any specific list of IAS for reporting purposes, as the reference list – the Union list - is already available. Therefore, there is no need to allocate time and resources to the development of any list. All Parties would have the same reporting obligations, regardless of their EU status, which would ensure a greater harmonisation of results and outcomes from the reporting process. Also, IAS would be given the required attention.

#### Cons

The IAS of Union concern are listed because of their potential or actual impact, and the likelihood to be established (including in current and future climate scenario) within the EU, hence may not necessarily be occurring into any of the non-EU Parties at present. On the other hand, some species may be native in some non-EU Parties, which would lead to unnecessary inconsistencies and confusion (and possibly unnecessary work) with regard to the reporting obligations. Therefore, the main shortcoming of this approach is that non-EU Parties would be required to use a list which may not reflect their priorities. With the notable exception of the UK, which was a former EU Member State, none of the other non-EU Parties had the possibility to play any role in the development of the Union list, which may thus be seen negatively as a top-down approach where non-EU Parties are excluded from the underlying decisional process.

#### Option 3 - Union list amended (mandatory), complemented with voluntary list

This approach may seem similar to what is proposed in Option 2. A fundamental difference is that the list of species of Union concern is amended to reflect the priorities of non-EU Parties. However, also in this case two main datasets may be considered:

- 1) The list to be used as a basis for the mandatory reporting is the one of Union concern (as of the EU Regulation of IAS) but a selection of species may be added, and others removed, to better reflect the priorities of non-EU Parties. Such priorities would take into account the actual or potential risk of the species of Union concern to get introduced, established and spread into the targetted non-EU Parties (including in relation to relevant pathways), as well as their impact on the species and habitats protected by the Bern Convention that are present in such non-EU Parties. Species from national lists of IAS may be used for amending the Union list. Details on the possible methodologies for the selection of species to be removed/added (which would be similar to that designed for Option 4) are provided below.
- 2) Similarly to the other 3 options, non-EU Parties could be requested to voluntarily report also on species other than those of the amended Union list (to be selected from the EASIN database or the GRIIS). Species from national lists of IAS that were not included in the amended Union list, may be considered as well.

#### Pros

This approach, although based on an existing list (the Union list), would allow non-EU Parties to have a list for the mandatory reporting, which would be well tailored according to their actual priorities, with all virtues of a bottom-up approach. Species that are not relevant because of no risk of entry/establishment/spread/impact would be removed from the Union list, while those that are clearly missing may be added.

Through this option, non-EU Parties would be given the possibility to include in their mandatory reporting also species other than those of Union concern.

Note that such species may be considered for reporting - voluntary - also by Parties that are EU Member States. The added value of this approach is that the same set of IAS would be covered, so that the reporting process would be harmonised across all Parties.

## Cons

The amendments to the list would require some work and a minimum amount of resources to be invested by the non-EU Parties authorities (particularly in terms of time and expertise for the selection of the target species) and the Bern Convention Secretariat (for the coordination work needed to amend the list).

### Option 4 – *Ad hoc* Bern convention list of selected IAS (mandatory), complemented with voluntary list

This approach is the most ambitious, as it would ensure the implementation of a coherent process for the development of the new list (this is a main difference with Option 3, despite other evident overlaps). Also in this case two main datasets may be considered:

- 1) An ideal solution would be the development of an *ad hoc* list of IAS developed by non-EU Parties under the coordination of the Bern Convention Secretariat, specifically tailored for the reporting requirements. This approach is the most complete, as it aims at developing a new *ad hoc* list of IAS (it could be named “the Bern Convention list of selected IAS”) specifically made for the mandatory reporting for non-EU Parties. Species from national lists of IAS may be used for informing the Bern Convention list of selected IAS. Details on the possible methodologies for the selection of species to be removed/added (which would be similar to that designed for Option 3) are provided below.
- 2) Like all other options, the Bern Convention list of selected IAS could be complemented by a list - to be considered optionally - of species other than those from the Bern Convention list (to be selected from the EASIN database or the GRIIS). Species from national lists of IAS that were not included in the Bern Convention list of selected IAS, may be considered as well.

## Pros

The benefit of this approach is that non-EU Parties would have a comprehensive, updated, fit-for-purpose list of IAS for the mandatory reporting, perfectly tailored according to their actual priorities (in terms of risk of entry/establishment/spread/impact). This option would optimize reporting efforts, assessment of results, and overall outcomes from the reporting requirement. The proposed approach would also ensure that non-EU Parties would feel full ownership of the list, which may further enhance the quality of reporting, showing the full benefits of a bottom-up approach.

This list (similarly to what is suggested in case of Option 3 with the selection of species added to the Union list), may be considered for voluntarily reporting also by Parties that are EU Member States. This would allow all IAS of concern across the full range of Bern Convention Parties to be fully covered and the relevant reporting streamlined across all Parties.

## Cons

The development of a brand new list would require some work and a certain amount of resources to be invested by the non-EU Parties authorities (particularly in terms of time and expertise for the selection of the target species) and the Bern Convention Secretariat (for the coordination work needed to amend the list).

## Methodological approaches

While no preparatory work is needed in case of Options 1 and 2, there are activities that have to be undertaken for implementing Options 3 and 4.

### Options 1 and 2

The reference lists used for Option 1 and Option 2 are already available, and can be used as they are now, without any amendment. For the list on voluntary reporting in Option 2, the only decision to be made is about which list to take into account, particularly as a basis for the species taxonomy. Such lists, can be either the EASIN or the GRIIS, or both, or any other IAS inventory available. Non-EU Parties that have a national list of IAS developed, may use this tool as a reference for reporting.

Species not currently included in any list may also be added, so in some respect, there is not even a need to consider any defined list as a reference, although the use of reference lists would help harmonise approaches, streamline processes, prevent taxonomic inconsistencies, etc.

#### Options 3 and 4

In case of Option 3 and Option 4, whereas lists would need to be amended or developed from scratch, a specific methodology needs to be designed, depending on the availability of resources (in terms of budget and staff) and the time required for undertaking and finalising the task.

As described above, the development of a black list is usually based on a detailed risk assessment, which may require extensive resources (which is in the order of some thousands of euro per species listed, in the case of the Union list) and a long time and complex decision process to be finalised. However, the purpose of a black list (as in the case of the list of IAS of Union concern), which needs to be backed up by a robust process (as it entails the possible regulation of trade etc.) goes well beyond the mere reporting requirements for the Bern Convention. Also a full horizon scanning exercise, although usually lighter in terms of resources needed, can be still relatively demanding, not only in terms of resources, but also in terms of time and overall workload, which may be not justified by the purpose of reporting only. Therefore, the best option would be the circulation of a questionnaire, to be disseminated among national authorities of non-EU Parties and/or experts of different taxonomic groups, including from the wider scientific community, for example to the IAS Group of Experts of the Bern Convention.

Ideally, in both cases (Option 3 and Option 4) this process may require a two stages approach: a first one for informing the list and proposing species (suggesting additional ones or removing some of them in case of Option 3), and another one stage for selecting/approving the definitive list. However, in case of major resources/time constraints, the workflow could be reduced to one stage only. For example, together with the circulation of the questionnaire (including the request to add/remove species), non-EU Parties may be requested to agree on the procedure to ensure the finalisation of the list. For example, an agreement could be reached that a binding decision is taken for any species that is proposed (for inclusion or for removal) by a defined number of Parties. This number could be two Parties for the inclusion of an IAS and one for the removal of an IAS (in case of Option 3). But it could be any other number of Parties considered sufficiently representative.

In both Option 3 and Option 4, the use of pre-compiled list of IAS should be taken into account. Such a list could be based on what has been compiled at the occasion of a past horizon scanning exercise made at the EU level, or any other similar works that could be readily available (see Carboneras et al. 2017), including any national list of IAS developed by non-EU Parties. The benefit of using such lists, is that they may include some kind of information on risk of introduction/establishment/spread/impact, particularly in the case of lists derived from horizon scanning exercises, which are made to quickly screen species that may qualify for future risk assessments (but this needs to be double checked). Those lists made within the EU may still be applicable also to the wider European region and beyond, although they may be less consistent for those non-EU Parties in Africa and Asia.

Because the aim of the list for Option 3 and Option 4 would be limited to the reporting obligations, it would be sufficient to include only those IAS known to occur in the target region and to have an impact on biodiversity, the economy and human health. Species not yet widespread in Europe, and which have the potential to get invasive may be included too. Specifically, because the list would be not used to regulating trade on alien species, it does not need to include potential IAS not yet known to occur in the target region. Species considered for inclusion need to be not native in any of the Bern Convention Parties.

The use of the questionnaire for a first selection of species (and their removal, in case of Option 3) may be associated to an elicitation workshop to be organised online, with the participation of national authorities and/or experts (of different taxonomic groups). The contribution of participants from the Group of Expert on IAS may be seen as an advantage to promote the discussion.

## Recommendations

The following recommendations are aimed at providing the necessary information background for deciding on the work to be done, to be examined first by the *Ad hoc* Working Group on Reporting and subsequently supported by the Standing Committee.

It is recommended to select the best option depending on the resources available for the task. The methodological approaches shortly described above may be of help in the identification of the best option.

Alternatively, it is possible to select one of the four options described above, or - if deemed necessary – to consider one of them, provided some changes are introduced to better suit the needs of the Secretariat of the Bern Convention, or the involved non-EU Parties.

However, as a first step it is advisable to liaise with non-EU Parties in order to assess the interest in undertaking any task that goes beyond the use of the available lists of Options 1 and 2. This could be done directly at the next meeting of the *Ad hoc* Working Group on Reporting. Non-EU Parties may be requested to select one of the four options. They may also propose alternative options or propose amendments to any of the preferred option.

It may be also useful to investigate on the actual availability of national lists of IAS occurring on their respective territories, or any other lists that may be considered relevant (e.g. horizon scanning lists, or similar).

In any case, the most challenging part of the task would be aggregating the data received, cleaning it up, (comparing it with the list of the EU and highlighting the differences, but also assessing the differences against the criteria considered by the EC and looking into the consequences for the EU Contracting Parties, particularly in case of Option 3), etc. The main difficulties that could be anticipated would be about the actual species distribution and status, as this would largely depend on the level of detail of the information provided by the non-EU Parties and relevant experts to inform the listing process, as well as the work that can be undertaken by the Secretariat. Because the scope of the work depends on several factors, and mostly on the availability of resources, the full methodology and the general workplan can be defined only once the desired option is selected.

## References

Bertolino (2015) Draft report on the methods to carry out risk assessments for mammals: An application with *Callosciurus finlaysonii* and *Sylvilagus floridanus*. Convention on the conservation of European wildlife and natural habitats. Standing Committee, 35th meeting, Strasbourg, 1-4 December 2015. T-PVS/Inf(2015) 27

Carboneras C, Genovesi P, Vila M, Blackburn T, Carrete M, Clavero M, D'hondt B, Orueta J, Gallardo B, Gerales P, González-Moreno P, Gregory RD, Nentwig W, Paquet J-Y, Pysek P, Rabitsch W, Ramírez I, Scalera R, Tella J, Walton P, Wynde R (2017) A prioritised list of invasive alien species to assist the effective implementation of EU legislation. *J Appl Ecol.* 00:1–9.

Genovesi P, Shine C (2004) European strategy on invasive alien species. *Nature and environment*, n. 137. Council of Europe publishing, Strasbourg (67)

Genovesi P, Scalera R, 2007. Toward a black list of invasive alien species entering Europe through trade, and proposed responses. 40 Pp. Convention on the conservation of European wildlife and natural habitats. Standing Committee 27th meeting, Strasbourg, 26-29 November 2007. T-PVS/Inf (2007) 9.

Genovesi P, Scalera R, S. Brunel, Solarz W, Roy D, 2010. Towards an early warning and information system for invasive alien species (IAS) threatening biodiversity in Europe. European Environment Agency, Tech. report 5/2010. 52 pp.

IPBES (2023). Summary for Policymakers of the Thematic Assessment of Invasive Alien Species and their Control of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Roy, H.E., Pauchard, A., Stoett, P., Renard Truong, T., Bacher, S., Galil, B.S., Hulme, P.E., Ikeda, T., Kavileveetil, S., McGeoch, M.A., Meyerson, L.A., Nuñez, M.A., Ordonez, A., Rahlao, S.J., Schwindt, E., Seebens, H., Sheppard, A.W., Vandvik, V. (eds.). IPBES secretariat, Bonn, Germany. <https://doi.org/10.5281/zenodo.7430692>

Pagad S, Genovesi P, Carnevali L, Scalera R, Clout M (2015) IUCN SSC Invasive Species Specialist Group: invasive alien species information management supporting practitioners, policy makers and decision takers. *Management of Biological Invasions*, 6:127-135.

Roy HE, Adriaens T, Aldridge DC, Bacher S, Bishop JDD, Blackburn TM, Branquart E, Brodie J, Carboneras C, Cook EJ, Copp GH, Dean HJ, Eilenberg J, Essl F, Gallardo B, Garcia M, García-Berthou E, Genovesi P, Hulme PE, Kenis M, Kerckhof F, Kettunen M, Minchin D, Nentwig W, Nieto A, Pergl J, Pescott O, Peyton J, Preda C, Rabitsch W, Roques A, Rorke S, Scalera R, Schindler S, Schönrogge K, Sewell J, Solarz W, Stewart A, Tricarico E, Vanderhoeven S, van der Velde G, Vilà M, Wood CA, Zenetos A (2015) Invasive Alien Species - Prioritising prevention efforts through horizon scanning. ENV.B.2/ETU/2014/0016. European Commission.

Roy HE, Rabitsch W, Scalera R, Stewart A, Gallardo B, Genovesi P, Essl F, Adriaens T, Bacher S, Booy O, Branquart E, Brunel S, Copp GH, Dean H, D'hondt B, Josefsson M, Kenis M, Kettunen M, Linnamagi M, Lucy F, Martinou A, Moore N, Nentwig W, Nieto A, Pergl J, Peyton J, Roques A, Schindler S, Schönrogge K, Solarz W, Stebbing PD, Trichkova T, Vanderhoeven S, van Valkenburg J, Zenetos A (2018) Developing a framework of minimum standards for the risk assessment of alien species. *Journal of Applied Ecology*, 55:526–538  
doi:10.1111/1365-2664.13025

Roy HE, Bacher S, Essl F, Adriaens T, Aldridge DC, Bishop JDD, Blackburn TM, Branquart E, Brodie J, Carboneras C, Cottier-Cook EJ, Copp GH, Dean HJ, Eilenberg J, Gallardo B, Garcia M, García-Berthou E, Genovesi P, Hulme PE, Kenis M, Kerckhof F, Kettunen M, Minchin D, Nentwig W, Nieto A, Pergl J, Pescott OL, M Peyton J, Preda C, Roques A, Rorke SL, Scalera R, Schindler S, Schönrogge K, Sewell J, Solarz W, Stewart AJA, Tricarico E, Vanderhoeven S, van der Velde G, Vilà M, Wood CA, Zenetos A, Rabitsch W (2019) Developing a list of invasive alien species likely to threaten biodiversity and ecosystems in the European Union. *Global Change Biology*. 25(3):1032-1048.

Scalera R, Rabitsch W, Underwood E (2020) FAQs on how the Invasive Alien Species Regulation interacts with the EU Nature Directives. European Commission, Brussels. 64 pp.

Tollington S, Turbé A, Rabitsch W, Groombridge J, Scalera R, Essl F, Roy H, Shwartz A (2015) Making the EU legislation on invasive species a conservation success. *Conservation Letters*. Accepted DOI: 10.1111/conl.12214

Katsanevakis S, Deriu I, D'Amico F, Nunes AL, Pelaez Sanchez S, Crocetta F, Arianoutsou M, Bazos I, Christopoulou A, Curto G, Delipetrou P, Kokkoris Y, Panov V, Rabitsch W, Roques A, Scalera R, Shirley SM, Tricarico E, Vannini A, Zenetos A, Zervou S, Zikos A, Cardoso AC (2015) European Alien Species Information Network (EASIN): supporting European policies and scientific research. *Management of Biological Invasions*, 6:147-157.

Trouwborst, A (2015) The Bern Convention and EU Regulation 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species. Standing Committee, 35th meeting, Strasbourg, 1-4 December 2015. T-PVS/Inf (2015) 14