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SUPPORTING ACHIEVEMENT OF AICHI BIODIVERSITY TARGET 12 OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

Note by the Executive Secretary

1. The Executive Secretary is circulating herewith, for the information of participants in the twenty-second meeting of the Subsidiary Body on Scientific, Technical and Technological Advice and the second meeting of the Subsidiary Body on Implementation[1] an information document on supporting the achievement of Aichi Biodiversity Target 12 of the Strategic Plan for Biodiversity 2011-2020.

2. The document was prepared by the Species Survival Commission of the International Union for Conservation of Nature. It is presented in the form and language in which it was received by the Secretariat of the Convention on Biological Diversity. The views expressed in the document are those of the authors and do not necessarily reflect the views of the Secretariat of the Convention on Biological Diversity.

* CBD/SBSTTA/22/1.

[1] Under item 16 of the provisional agenda (CBD/SBI/2/1).

Supporting achievement of Aichi Biodiversity Target 12 of the Strategic Plan for Biodiversity 2011-2020

Summary

- Aichi Biodiversity Target 12 represents a significant and positive statement about the value placed by CBD Parties, and indeed society as whole, on species conservation.
- This paper highlights that when conservation action is undertaken, on the whole, it is successful. However more action is needed at all scales to achieve the Target. There are excellent examples of progress towards the target at national and global scales in terms of demonstrating impact action resulting in species recovery. These case studies help generate knowledge and inform decision-making on the strategic approaches that can fully deliver Target 12.
- Target 12 is ambitious in scope and schedule, which requires Parties to achieve positive changes in conservation outcomes (i.e. the conservation of species); in addition, success in Target 12 is dependent on the achievement of other Aichi targets that relate to species conservation. Externalities include consumer behaviour, public attitudes to biodiversity, genetic erosion, effectiveness of protected areas, and reducing unsustainable exploitation.
- The extinction risk of over 90,000 species has been assessed through The IUCN Red List of Threatened Species (The IUCN Red List). The percentage of threatened species ranges from 7% to 63% for different taxonomic groups. Large knowledge gaps remain, particularly for invertebrate, fungi and plant groups.
- The Red List Index serves as a fundamental indicator of progress towards Aichi Target 12, Sustainable Development Goal 15.5, and other commitments to species conservation. It reveals that over the last three decades, the aggregate extinction risk of species has increased, most rapidly in species groups such as corals, cycads, and amphibians.
- Threats to species are increasingly well documented. However, conservation efforts are not generally sufficient at present to address these threats. There is a pressing need to be more strategic in our collective responses.
- There is increasing evidence of conservation success (i.e. the improvement of species' status), as a result of conservation action, as novel approaches bring new insights into the impact of interventions. Nonetheless, it remains a challenge to measure the impact of conservation for species at a large scale.
- The starting point for species recovery is knowledge. The majority of assessments on The IUCN Red List contain a map and include information on threats and recommended conservation actions. The data is available in aggregate through the Integrated Biodiversity Assessment Tool, including through presentation in Country Profiles for all of the world's countries.
- Species recovery is most effective when guided by a species conservation action plan. IUCN provides technical assistance with species conservation action planning. Such plans should be developed in response to information in a Red List assessment and clearly state recovery objectives, information on how to mitigate threats to species that builds on documented best-practice, necessary actions to be implemented, as well as information on costs.
- Conservation finance is essential to achieve conservation results. Between 1992 and 2003 countries spent $14.4 billion on conservation and reduced expected declines in global biodiversity by 29% (Waldron et al., 2017). However, it is estimated that preventing human-driven extinction and improving the status of all globally known threatened species would cost on average US$ 4 billion annually, while the current global spending on species conservation is only around one-fifth of this figure (McCarthy et al., 2012).
- The results of an in-depth survey of IUCN Species Survival Commission members highlighted a series of actions to accelerate immediate gains for species conservation, and

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to inform longer-term strategic actions required to ensure greater success in achieving species conservation targets post-2020. These included: increasing knowledge of species conservation status and effective threat mitigation, the development and implementation of species conservation action plans, and the establishment and effective management of protected areas. These activities must be supported by sufficient funding, enabling policies with strict enforcement, which requires political will and greater value placed on nature by society, as well as increased species conservation capacity and engagement of the private sector.

- The 2030 Sustainable Development Agenda and the 17 Sustainable Development Goals (SDGs) acknowledge that sustainable development is underpinned by the conservation of biodiversity. Out of 169 targets in the 17 SDGs, 56 targets are directly relevant to the achievement of 20 Aichi Biodiversity Targets (CBD). It is critical that the SDGs are implemented in full.

Aichi Biodiversity Target 12

By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Mid-term review of progress towards Aichi Biodiversity Target 12

The Global Biodiversity Outlook 4 (GBO-4) - a midterm assessment of progress towards the implementation of the Strategic Plan for Biodiversity 2011-2020 - concluded that Target 12 is not on track to be achieved by 2020. There has been no significant progress towards the prevention of extinction of most known threatened species, although the extinction toll would have been much higher in the absence of ongoing conservation efforts; and the progress towards improving and sustaining the conservation status of those species most in decline is moving away from the target in many cases.

I. Current status of Target 12

1) The extinction risk of over 90,000 species has been assessed through The IUCN Red List of Threatened Species (The IUCN Red List). The percentage of threatened species ranges from 7% to 63% for different taxonomic groups. However, large knowledge gaps remain, particularly for some invertebrate, fungi and plant groups.

The IUCN Red List is the most comprehensive assessment of extinction risk. Of the 91,523 species assessed on the Red List, 935 (1%) are Extinct or Extinct in the Wild, 25,821 (28%) are threatened, 5,967 (7%) are Near Threatened, 44,148 (48%) are Least Concern and 14,433 (16%) are Data Deficient (IUCN, 2018). Most of the species assessed are animals (73%), followed by plants (26%). The Red List Index includes some species groups that have been assessed comprehensively for the IUCN Red List but for other groups, a randomised sample of species has been assessed, giving an indication of their relative extinction risk. Of groups assessed on the Red List Index, gastropods have the lowest percentage of threatened species with 6.5%, and cycads have the highest percentage with 62.5%. IUCN takes a precautionary approach to listing species as Extinct and does so only once there is no reasonable doubt that the last individual has died. Species may have gone extinct long before their IUCN category reflects this, so tracking extinctions over time is difficult (Butchart et al., 2006a). In addition to IUCN's global Red List, regional and national Red List assessments have also contributed substantially to our understanding of threats to biodiversity over recent decades, for example in plants where ca.90,000 taxa have been assessed in total (Mounce et al., 2017a).

2) The Red List Index serves as a fundamental indicator of progress towards Aichi Target 12, Sustainable Development Goal 15.5, and other commitments to species conservation. It reveals that over the last three decades, the aggregate extinction risk of

species has increased, most rapidly in species groups such as corals, cycads, and amphibians.

The Red List Index tracks genuine changes in aggregate extinction risk across entire species groups (i.e. it is based on only changes in extinction risk between Red List assessments due to actual improvements or deteriorations in extinction risk). It is used to generate 15 of the indicators used to track progress towards the Aichi Targets (UNEP/CBD/SBSTTA/20), mobilised through the Biodiversity Indicators Partnership and reported in the IPBES Regional Assessment Summaries for Policy-Makers for Africa (p15), the Americas (p17), Asia-Pacific (p13), and Europe & Central Asia (p13), as well as serving as the official UN Indicator 15.5.1 for Sustainable Development Goal 15.5 (Brooks et al. 2015).

3) Threats to species are increasingly well documented. However, conservation efforts are not generally sufficient at present to address these threats. There is a pressing need to be more strategic in our collective responses.

Red List assessments include documentation and evaluation of threats, which show that habitat loss due to habitat destruction and degradation (through conversion to agriculture, livestock husbandry, logging, development of settlements and infrastructure), over-exploitation and invasive species are the major threats to threatened species (Maxwell et al., 2016). Looking ahead, most species are likely to be further threatened by habitat loss through growing demands from an increasing human population, and the associated pressure on natural resources, as well as climate change (Tilman et al., 2017). As threats to species are often multi-factorial, conservation action thus requires dedicated and integrated approaches against the drivers of biodiversity loss to promote long-term progress. Investment in conservation is currently far below the levels necessary to reverse declines (McCarthy et al., 2012). There is a need, therefore, to implement a strategic approach to identifying and significantly increasing the implementation of interventions that will have the largest beneficial impact on species.

Several strategic conservation responses have been developed. The IUCN Guidelines for Species Conservation Planning (IUCN/SSC, 2017) provide a process for the development of global and national species strategies and action plans (see also UNEP/CBD/COP/13/INF/35: Supporting Implementation of Aichi Biodiversity Target 12). The developing IUCN Green List of Species (Akçakaya et al., 2018) and Green List of Protected and Conserved Areas (IUCN/WCPA 2017) are designed to document and incentivise conservation success. The IUCN Key Biodiversity Area standard (IUCN, 2016) sets out a framework for identification of sites critical to the global persistence of biodiversity. Further guidance has been produced on conservation translocations and reintroductions, and establishment of ex situ populations and their management. The negative externalities of species decline and extinction, and their contribution to functioning ecosystems, extend far beyond conservation into threats to health, food and water safety and security, storm damage mitigation, and other critical services (WHO-CBD 2015).

4) There is increasing evidence of conservation successes (i.e. the improvement of species' status) through conservation action. New analytical approaches bring insights into the impact of interventions. However, it remains a challenge to measure the value of conservation for species at a large scale.

Conservation actions are helping to prevent extinctions and stabilise or reverse declines. Many successful reintroductions of plants, invertebrates, and vertebrates have taken place (Soorae, 2018). Identification of important sites, including Key Biodiversity Areas, targeting of actions to mitigate known pressures and the use of new approaches to assess and understand conservation action have had an impact, as follows. The extinction of 16 bird species was prevented between 1994 – 2004, mainly due to habitat protection, invasive species management, and reintroductions (Butchart et al., 2006b), and 24 mammal species have seen improvements in conservation status between 1996 and 2008, mainly due to habitat protection, enforcement of legislation and

reintroductions (Hoffmann et al., 2011). For plants, the *Global Strategy for Plant Conservation* has helped to drive both in situ and ex situ conservation of plants. For example, at least 41% of threatened plant species are maintained ex situ, with many hundreds of plant species being the subject of reintroduction and restoration programmes (Mounce et al., 2017b). There were 68 improvements in the conservation status of 25,780 vertebrate species between 1988 and 2009 (Hoffmann et al. 2010). The use of a counterfactual approach has strongly suggested that habitat protection was a key factor in the conservation of a large proportion of the 148 of the world's 235 species of ungulate that would have deteriorated by at least one IUCN category without conservation action (Hoffmann et al. 2015). The eradication of invasive alien species from islands has benefitted 596 populations of 236 endemic species on 181 islands (Jones et al., 2016).

There is little doubt that conservation actions have prevented further declines in many species, though quantifying the extent is more difficult (Hoffmann et al., 2011). Improvements to the conservation status of a species are easier if action happens quickly, before too much gene diversity is lost and the species' internal resilience is compromised. The developing IUCN Green List of Species will track how conservation interventions have helped species recovery and which conservation actions have benefitted both targeted species and other species (Akçakaya et al., 2018).

Given the importance of site based conservation to support Target 12, BirdLife International, Conservation International, UN Environment World Conservation Monitoring Centre-(UNEP-WCMC) and IUCN provide a national reporting and conservation planning tool – Integrated Biodiversity Assessment Tools (IBAT) Country Profiles. These integrate nationally disaggregated information from three global datasets: The IUCN Red List of Threatened Species™; the World Database on Protected Areas® and the World Database on Key Biodiversity Areas.

5) Conservation finance is essential to achieve conservation results. Between 1992 and 2003 countries spent $14.4 billion on conservation and reduced expected declines in global biodiversity by 29% (Waldron et al., 2017). However, it is estimated that preventing human-driven extinction and improving the status of all globally known threatened species would cost on average US$ 4 billion annually, while the current global spending on species conservation is only around one-fifth of this figure (McCarthy et al., 2012).

Achieving and then sustaining conservation impact takes time, often many years and decades. It may be funding-dependant in the near- to mid-term. As such, increased long term availability and volume of funding for species conservation from multiple sources (Government and private sector) is urgently needed to accelerate progress towards Target 12, especially in the developing countries with rich but highly threatened biodiversity.

It is encouraging to see the establishment and operation of different granting schemes to provide new and additional funding for direct species conservation initiatives. These include IUCN's Save Our Species; The Mohamed bin Zayed Species Conservation Fund; The IUCN's Integrated Tiger Habitat Conservation Programme; and The National Geographic Society Species Recovery Fund). However, a substantial increase in the capital available is needed to enable more species conservation action on the ground.

II. How to accelerate the progress towards Target 12

- Results of a survey of IUCN's Species Survival Commission

With limited time left before 2020, and given the challenge highlighted by GBO-4 to achieve Target 12, it is necessary to understand the actions required to accelerate immediate gains for species conservation, and to inform longer-term strategic actions required to ensure greater success in

achieving the species conservation targets post-2020. In May 2018, a structured survey was sent to all members of the IUCN Species Survival Commission (SSC), which consists of ca. 6,750 species conservation experts, asking what more was needed to accelerate progress towards Target 12. Responses were received from 900 members across 134 countries, giving global insights and perspectives on actions required for enhanced achievement of Target 12. This information is presented here to support Parties' efforts to implement Target 12 (see also Annex 1).

The survey highlights several factors that influence the initiation and subsequent success of conservation action for species. These include a requirement for knowledge of species conservation status and effective threat mitigation, the development and implementation of species conservation action plans, and the establishment and effective management of protected areas. These activities must be supported by sufficient funding. This in turn requires political will and greater value placed on nature by society, as well as increased species conservation capacity and engagement of the private sector. Responses from species conservation experts highlight that the Aichi Biodiversity Targets must be achieved in totality - as an assemblage of complementary actions - in order to have the greatest impact for biodiversity conservation.

1) Existing species conservation action plans need to be implemented

As stated in GBO-4, the development and implementation of species action plans is necessary to achieve Target 12. 85% of survey respondents considered that there is a strong or extreme need for increased implementation of existing species plans (a conclusion that is echoed in the scientific literature; Mair et al. 2018). Around 75% of respondents indicated that there is a strong or extreme need for more and better planning for multiple species, and for more training in species conservation planning tools and processes. Evolving guidelines on action planning from IUCN/SSC (IUCN/SSC 2017) and the developing Green List of Species (Akçakaya et al. 2018) provide frameworks that can support national and transboundary action planning needs as well as support improved planning and implementation.

2) Protected area coverage of, and management for, threatened species needs to be improved

Protected areas can effectively conserve threatened species (Butchart et al. 2012), but >70% of respondents thought there was a strong or extreme need for protected areas to be established in key areas to improve their coverage of threatened species (which supports evidence presented in Butchart et al. 2015), and for greater consideration to be given to the needs of threatened species in protected area management plans. Achieving the qualitative aspects of Target 11 (e.g. areas of importance for biodiversity, effective management and ecological representation) are therefore essential for achieving species conservation and require more holistic consideration. The identification of Key Biodiversity Areas (IUCN 2016) can inform protected area designation and the IUCN Green List of Protected and Conserved Areas (IUCN/WCPA 2017) provides a Standard and programme to promote effective and equitable management performance.

3) Knowledge of how to mitigate threats to species needs to be increased

Planning for species conservation and protected areas requires a good knowledge base, and therefore Target 19 makes a significant contribution to achieving Target 12. Not only is increased knowledge of species conservation status needed in order to prioritise species for conservation activities (GBO-4) but 75% of species conservation experts identified that there is a strong or extreme need to increase understanding of how best to mitigate threats. The IUCN Red List provides information on species conservation status and threats and, despite the scale of the challenge, much progress has been made in improving the taxonomic and geographic coverage of the Red List (Stuart et al. 2010). Ensuring timely (<10 years) re-assessments of species, which is essential to deliver the Red List Index and thus track progress towards Aichi Target 12, SDG 15.5, and other commitments to safeguard species, is an equally important challenge (Rondinini et al. 2014), and will require total annual investment of ~$5.4m once the baseline of 160,000 species assessments has been reached (Juffe-Bignoli et al. 2016).

4) More government funding and greater transparency in decision-making about resource allocation for species conservation is needed

Conservation actions must be supported by appropriate resources. 90% of respondents considered that there is a strong or extreme need for increased governmental funding, while 85% considered greater efficiency in resource allocation and >75% considered greater transparency in decision-making about the allocation of available resources for species conservation to be a strong or extreme need. Target 20 is therefore of great importance for achieving Target 12, and survey responses indicate that both the quantity of funding and the distribution process should be improved to make greater gains for species. The survey also suggested that diversity in resources and funding is important, as 80% of respondents considered there to be a strong or extreme need for increased non-governmental organisation (NGO) funding, and >75% considered there to be a strong or extreme need to increase capacity, skills and expertise, and increase job opportunities within species conservation.

5) Policy, legislation and law enforcement must support species conservation

Conservation actions require institutional and legal support, and >80% of respondents considered there to be a strong or extreme need for stricter enforcement of existing legislation relevant to species conservation.

6) Increased engagement of communities, industry, and agriculture, forestry and fisheries is required

Target 7 recognises the importance of agriculture, aquaculture and forestry for biodiversity conservation, and >85% of survey respondents considered that there is a strong or extreme need for increased engagement of these sectors in species conservation. Similarly, >80% considered increased engagement of business and industry to be a strong or extreme need. The involvement and support of local communities is also important for conservation success, and around 85% of respondents considered increased engagement of local communities to be a strong or extreme need.

7) There is a strong need globally for a major social and political shift in attitudes towards species conservation

While respondents identified the need for practical and immediately implementable actions, their responses also indicated a need for a major social and political shift in attitudes towards species conservation. >85% of respondents considered that there is a strong or extreme need to increase the value placed on nature by society and to increase the understanding of the positive relationship between biodiversity conservation and human well-being by society, emphasising the over-arching importance of Target 1. >90% of respondents considered that there is a strong or extreme need for greater political will and leadership in species conservation, indicating that practitioners perceive government buy-in and commitment to be essential but currently inadequate for achieving Target 12.

Background notes

IUCN Species Survival Commission

The IUCN Species Survival Commission (SSC) is a science-based network of ca. 6,750 volunteer experts from almost every country of the world, all working together towards achieving the vision of, "*A just world that values and conserves nature through positive action to reduce the loss of diversity of life on earth*".

Members include researchers, government officials, wildlife veterinarians, zoo and botanical institute employees, marine biologists, protected area managers, and experts on plants, fungi, birds, mammals, fish, amphibians, reptiles, and invertebrates. Most members work in groups to address conservation issues related to particular groups of plants, fungi or animals while others focus on topical issues, such as reintroduction of species into former habitats or wildlife health.

IUCN SSC Post 2020 Biodiversity Targets Task Force

The aim of the SSC Post-2020 Biodiversity Targets Task Force is to increase the input of scientific information on species from SSC into global discussions on the post-2020 biodiversity agenda. The approach is for the Task Force to comprise a core team of individuals who have relevant technical or subject-specific knowledge and policy expertise, and who are willing to actively engage in the work of the group for the next three years. Relevant expertise includes, *inter alia*: species conservation planning; scientific research in species conservation and species assessment (including red lists); sustainable use; trade of species; alien invasive species; migratory species; and national and international policy processes.

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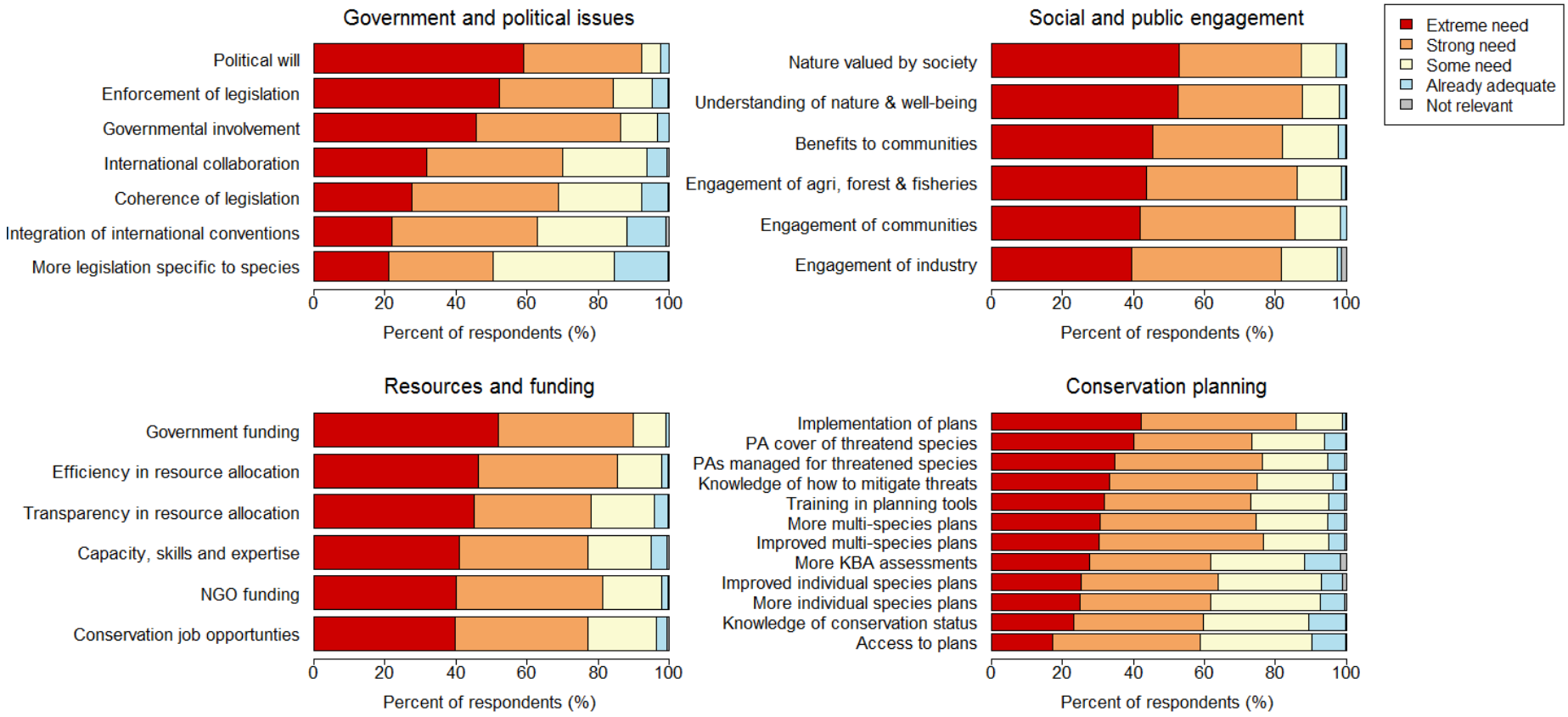
Annex 1. Responses to the survey of SSC members on what more is needed to accelerate progress towards Target 12.



Survey participants were asked how great the need in their country was for a series of action that could potentially accelerate the progress towards Target 12. The percentage of respondents who answered ‘Extreme need’ (red), ‘Strong need’ (orange), ‘Some need’ (yellow), ‘Already adequate’ (blue) or ‘Not relevant for species conservation’ (grey) to each statement is shown. Results are for all 900 respondents.