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REVIEW OF THE BIODIVERSITY REQUIREMENTS OF STANDARDS AND CERTIFICATION SCHEMES

A snapshot of current practice

Convention on Biological Diversity

UNEP   WCMC

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Biological Diversity

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FOREWORD

The Conference of Parties (COP 10) held in October 2010 in Nagoya, Japan saw a number of significant achievements in moving the Convention on Biological Diversity forward. Not least of these, was the decision taken by Parties to engage more formally with the private sector (*Decision X/21*). This decision will both encourage businesses to mainstream good biodiversity and sustainability practices into their daily activities and it will encourage companies to share their experiences and help to create more positive outcomes through dialogue with other businesses, governments and other stakeholders.

One of the most significant aspects of this is the creation and propagation of various tools and mechanisms that can help industry comply with the goals of the Convention. Standards are of fundamental importance in this endeavour. Without having standards, it is virtually impossible to measure and assess the success, or failure, of a business' efforts. However, given the increasing level of interest in this field, we have seen a plethora of standards being developed. For many governments, businesses (particularly SMEs) and other stakeholders, this ecosystem of standards can be extremely daunting and can, in some cases, actually deter industry from undertaking necessary efforts.

This study by UNEP-WCMC takes an initial snapshot at what is out there, what the various standards contain, and how they address the various issues surrounding biodiversity protection. Through this work, it is our hope that we can begin to understand what needs to be strengthened in the various standards, and this will perhaps help companies determine which standard(s) are best suited to their needs.

Companies must play a key role in protecting biodiversity both through their own efforts and in collaboration with governments and other stakeholders. Anything that we, as international organizations dedicated to the conservation of biological diversity, can do to make this task easier will surely have immense benefits in the future.

Ahmed Djoghlaf
Executive Secretary
Secretariat of the Convention on Biological Diversity

EXECUTIVE SUMMARY

Standards, including those in certification schemes, are widely used to influence environmental performance. Amongst other things, they create performance requirements related to the access to finance, internal business processes, membership of trade bodies, certification of products and services, and access to markets.

We reviewed the biodiversity requirements of 36 environmental standards sampled from eight business sectors[1] with the aims of gaining an understanding of the treatment of biodiversity across sectors, to highlight commonalities and differences, and to help businesses and funding agencies to improve their internal processes. It is also hoped that this review will stimulate the development of best practice guidelines and ultimately result in more effective and harmonised standards.

This study looked at the way standards treat; the components of biodiversity[2]; threats to biodiversity (including appropriate responses)[3]; and references to multilateral environmental agreements. This study looked at which of these three elements were included in each standard, how they were defined, and what requirements were stipulated for their management. It was beyond the scope of this study to consider the degree to which individual standards actually influence biodiversity conservation, but this is prime territory for future work.

Findings

The review found some general trends with respect to the way in which biodiversity is treated in standards and certification schemes, as well as the requirements that are proposed to protect biodiversity, limit threats to biodiversity and promote biodiversity enhancement. Some of the main findings of this review are:

- Even where standards include similar biodiversity components, there are large differences with respect to the measures adopted to safeguard them. Differences are also evident in the depth in which issues are covered. These differences are compounded by disparities in the language used and the use of internationally recognised definitions.
- All standards mention the protection of **habitats,** with 94% also giving consideration to habitat loss and/ or restoration. In this regard, 44% of standards set high requirements, including that habitat should not be converted, with specific habitats (notably forests) frequently singled out for special consideration. None of the 12 agriculture standards explicitly seek to prevent habitat loss, rather they include lesser requirements to limit and mitigate loss. Few standards refer specifically to modified habitats and even fewer promote the enhancement or restoration of habitats.
- Most of the reviewed standards (86%) recognise **protected areas** and a few provide detailed guidance on how to operate near or inside protected areas. A small number (eight) prohibit operating within protected areas, but most rely on legislation or *in situ* management processes to define appropriate responses. Requirements relating to protected areas all focus on formal or legal protected areas, while none refer to Indigenous and Community Conserved Areas.
- Protection measures for **species** are included in 94% of standards sampled. Measures to protect or manage threatened species are included in 86% of standards. There are references to both sustainable use (of species) and to invasive species in the majority of standards, with the exception of agriculture standards.
- Despite several well established definitions and prioritisations of important biodiversity outside protected areas, the concept of **priority conservation areas** is incorporated in fewer than half of the standards. The High Conservation Value (HCV) approach, which is particularly common in forestry standards, is the principal vehicle for priority conservation areas.

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1 The eight business sectors reviewed are agriculture, biotrade, carbon offset, finance, fisheries, forestry, mining, and tourism.
2 Components of biodiversity were considered to be habitats and species. Mechanisms to protect these, such as protected areas and priority conservation areas, were also included in the analysis.
3 Threats and responses were considered to be habitat loss and restoration, invasive species, over-exploitation, no net loss and mitigation hierarchy (based on the key themes of the Convention on Biological Diversity).

- Few standards refer to a **mitigation hierarchy** or requirements mandating its use. Similarly, concepts such as '**no net loss**' and '**net positive impact**' are infrequently included in standards, despite these concepts being linked to the objectives and decisions of the Convention on Biological Diversity.
- While measures to safeguard biodiversity are designed to manage sector-specific impacts, significant gaps in biodiversity criteria both within and across sector standards suggest there is scope for cross-fertilization of practices among the standards reviewed.

Recommendations

- **Adopt internationally recognized definitions:** The use of non-standardised terms in the establishment of criteria for species or habitats makes compliance very difficult. For example, while many standards refer to threatened or endangered species, few refer explicitly to the IUCN Red List of Threatened Species, or they do so in a way that could be misinterpreted. The adoption of accepted published definitions for the different components of biodiversity would be a major step forward.
- **Avoid the displacement of threats**: The disproportionate amount of attention paid to forest ecosystems within many standards is understandable given that forestry standards are well established and have influenced other, more recent standards. However, the emphasis on forests creates a paradox in that equally important ecosystems are often provided with less attention due to this focus on forests. There is significant scope to improve this situation.
- **Include modified habitats:** Few standards refer to modified habitats or restoration potential. Instead they focus on 'natural' habitats. Given that many standards may be applied after habitats have been modified, standards should contribute more to the conservation of biodiversity in modified habitats.
- **Provide guidance on operation inside protected areas:** Although most standards recognise the importance of protected areas and legal compliance with them, few provide guidance for operations within specific categories of protected areas. Therefore, it is advisable that standards are linked to the published and accepted IUCN protected area categories.
- **Recognise Indigenous and Community Conserved Areas:** Operating in Indigenous and Community Conserved Areas (ICCAs) presents reputational risks to development activities, both in terms of biodiversity and human rights. As ICCAs are receiving increasing international attention, they should be considered within standards, especially, but not exclusively, those associated with certification schemes.
- **Safeguard priority conservation areas:** Most standards do not consider important biodiversity areas beyond protected areas. The inclusion of such areas might help to address some shortfalls in the approach taken to protect species and habitats, while also addressing concerns of the international conservation community.
- **Adopt the mitigation hierarchy and 'no net loss' approaches:** Adoption of the mitigation hierarchy and 'no net loss' approaches by standards bodies would support, and further mainstream, these concepts, providing greater safeguards for biodiversity. The mitigation hierarchy promotes the avoidance of negative impacts and, where this is not possible, examines mitigation alternatives in a logical sequence. The 'no net loss' approach seeks to enforce the creation of positive outcomes for biodiversity through offsets and other mechanisms.

Conclusions

We conducted a thorough review of biodiversity in 36 standards and certification schemes across eight industrial sectors. Based on our results, we determined seven key recommendations for improving biodiversity criteria in future standards and certification schemes. Our key findings indicate the importance of standardising language and terminology. We also identify some areas of biodiversity importance that are currently under-represented and could be strengthened and developed in future, as well as best-practice that could be adopted by standard setting organisations to further safeguard biodiversity.

1. INTRODUCTION

Standards are established, explicit sets of requirements for a process or practices, that are widely used to influence business practices. Most economic sectors have adopted a range of standards, often associated with finance or certification schemes, to mitigate their impact on the environment. Amongst other things, standards establish requirements related to access to finance, internal business processes, membership of trade bodies and the certification of products and services. Such is the prevalence and importance of standards that it is useful to have an understanding of the way they consider and include biodiversity, highlighting commonalities as well as differences. We hope that this study will provide information to reduce confusion and contradiction for companies hoping to comply with standards, provide a basis for the development of best practice guidelines which might in turn lead to the evolution of more effective and harmonised standards, and help development banks to engage in joint funding of projects more easily.

This report presents findings on specific biodiversity requirements contained within 36 environmental standards sampled from eight business sectors. It does not assess the effectiveness of individual standards at protecting biodiversity, as this is reliant on various factors ranging from availability of relevant scientific information to implementation and auditing processes. Rather, the objective of this study is to provide a snap-shot analysis of how biodiversity is considered and what requirements are in place for its protection across these standards. In doing this, potential gaps were highlighted which could contribute to environmental standard setting processes in general. Finally, this review recognises that standards normally cover a range of issues, of which biodiversity is only one element. Standard setting organisations must strike a delicate balance between going into sufficient depth on each of the range of issues they cover, and producing excessively complicated schemes which themselves create barriers to compliance.

1.1 Methodology

For the purposes of this review, a standard was considered to be a set of global (or at least regional) requirements with which those undertaking economic and development activities are required (by the body setting the standard) to comply and against which they can be audited. While adopting a standard, or set of standards, may be a voluntary process, we only reviewed standards that oblige an organisation to adhere to mandatory requirements for which, in return, they gain some perceived benefit, and where non-compliance has consequences (e.g. the withdrawal of the benefit). The benefit in question might include access to a market through certification, membership of an industry body or access to finance.

The list of relevant sectors and standards considered in this review was drawn up after a rigorous review and consultation process. We included standards within certification schemes for particular sectors or products, as well as those set by multilateral and bilateral financial institutions which influence the performance of the range of business activities that they finance. In this way, the review covered a significant sample of some of the most widely used and adopted standards applied regionally and globally. The requirements of different standards relating to biodiversity were then examined and analysed within and across all sectors. The standards included are as follows (complete list of standards in Appendix A):

- Agriculture (AGR) – 12 standards
- Biotrade (BIO) – 2 standards
- Carbon Offset (CAR) – 3 standards
- Finance (FIN) – 5 standards
- Fisheries and Aquaculture (FIS) – 5 standards
- Forestry (FOR) – 4 standards
- Mining (MIN) – 2 standards
- Tourism (TOU) – 3 standards

The assessment criteria adopted for this review were informed by: (i) reviewing the objectives and decisions[4] and the goals of the 2010 subsidiary targets[5] of the Convention on Biological Diversity (CBD) to short-list important components of biodiversity and measures recommended to protect them, (ii) an initial screening of the sampled standards to identify the biodiversity components they include and the biodiversity-related Multilateral Environmental Agreements (MEAs) to which they commonly make reference, and (iii) by expert input from a panel of advisors. The final assessment criteria are as follows (full details on criteria used in Appendix B):

- Inclusion of different **biodiversity components**
- Treatment of **threats to biodiversity and responses** to mitigate impacts on biodiversity
- Alignment with **biodiversity-related MEAs**

For each assessment criterion, we posed three questions:

1. Is the criterion *identified* — does the standard mention this criterion?
2. Is it specifically *defined* — does the standard use an established definition from a published source, or provide a definition within the text?
3. Is it *managed* — what requirements are placed on specific criteria as a means of managing impacts and providing conservation benefits?

Our analyses were conducted by scanning each standard document for the answers to the aforementioned three questions. In each case, the presence/absence of each assessment criterion was recorded and detailed notes on how it was handled if present were recorded. In this way, we completed a standardised factsheet to summarise all pertinent information about biodiversity references within the standard. Completed factsheets were then sent to the relevant standard setting bodies for feedback and adjustments were made according to their responses. These factsheets are included as a separate appendix to this report. Based on the finalised factsheets, the manner by which a standard incorporates and safeguards biodiversity (hereafter termed biodiversity 'coverage') was derived and used for the final analysis

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4   COP 7 Decision VII/30 Strategic Plan: future evaluation of progress (Annex II identifies a provisional framework for goals and targets on which the assessment criteria for this study were based). http://www.cbd.int/decision/cop/?id=7767
5   Secretariat of the Convention on Biological Diversity (2010) *Global Biodiversity Outlook 3*. Montréal, 94 pages.

2. RESULTS AND DISCUSSION

2.1 Overview

The analysis shows that while there is variation in the way biodiversity is included in each standard, the coverage of different biodiversity criteria is similar across sectors. The total coverage for each criterion as a percentage of all standards included in this review is shown in Figure 1[6].
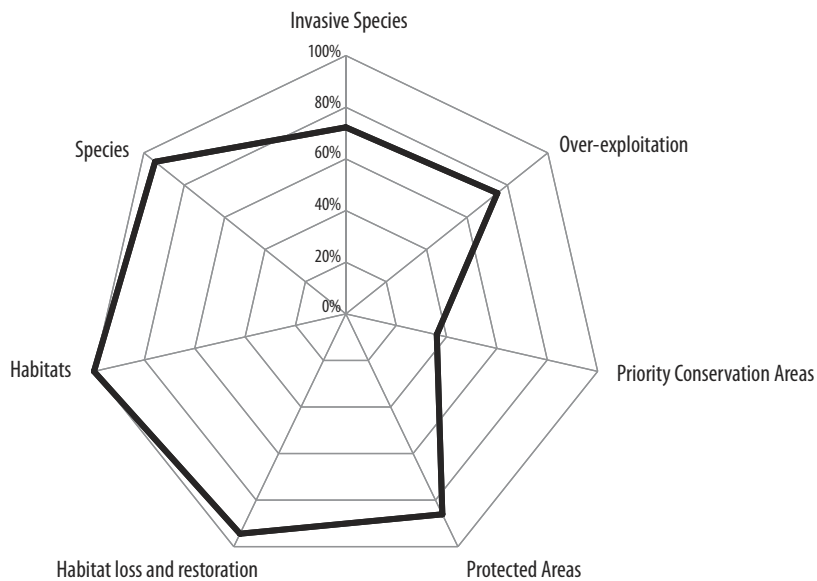
FIGURE 1: Mean percentage coverage of the biodiversity components, and threats and responses across the sample of 36 standards

- All of the 36 standards include some form of protection for **habitats** and 94% (34) mention **habitat loss** and/or **restoration**. Nonetheless, some standards prioritize specific types of habitats, and measures to prevent habitat loss do not always refer equally to all habitats in all standards.
- Some form of protection measures for **species** are included in 94% of standards sampled, most specifically relating to the management or protection of *threatened* species (86% of standards).
- **Priority conservation areas**[7] were mentioned in just 42% of standards. This is in contrast to **Protected Areas**[8] (including both nationally designated and internationally recognised areas), which are included in 86% of the standards examined.
- **Over-exploitation** is mentioned by 75% of standards, however the topic is usually considered in general terms and often in conjunction with non-biodiversity resources.
- **Invasive species** are addressed by 72% of standards, with the treatment of the subject having the most obvious variation across the standards.

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6   Additional criteria considered in this study are not included in this figure. Findings for the full list of assessment criteria are discussed in more detail within each section below.

7   Priority conservation areas refer to areas of biodiversity importance that have been identified by NGOs and academics as part of prioritisation schemes, based on a set of standardised criteria.

8   Protected Areas are a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN definition; Dudley, N. (Editor), 2008. Guidelines for Applying Protected Area Management Categories. Gland, Switzerland).

An assessment of the criteria by sector (Figure 2) shows that, while there are some distinct differences, overall there is limited variation among the sectors.

- **Habitat** protection is covered by every standard in each of the eight sectors. However, one of the three tourism standards does not specifically address protection against habitat loss, and neither does one of the twelve agriculture standards.
- **Species** protection is included in 94% of standards sampled, and is only absent from one mining and one carbon standard. Measures to protect or manage threatened species are included in 86% of standards. There are strong references to both sustainable use (of species) and to invasive species in the majority of standards from each sector, the principal exception being agriculture.
- **Priority conservation areas** are receiving a great deal of attention from conservation organisations and there are now a number of well established approaches to the definition and prioritisation of biodiversity outside protected areas. The concept of priority conservation areas is absent from most of the sectors and, overall, is incorporated in less than half of the standards. When mentioned, priority conservation areas tended to be linked to the definition of habitat types. The Higher Conservation Value HCV approach, which is particularly common in forestry standards, is the principal vehicle for priority conservation areas.
- Forest sector standards have the most complete coverage of the biodiversity components, followed by the finance sector, while mining standards have the least coverage.

Agriculture N=12

Fisheries N=5

Finance N=5

Forestry N=4

Tourism N=3

Carbon N=3

Biotrade N=2
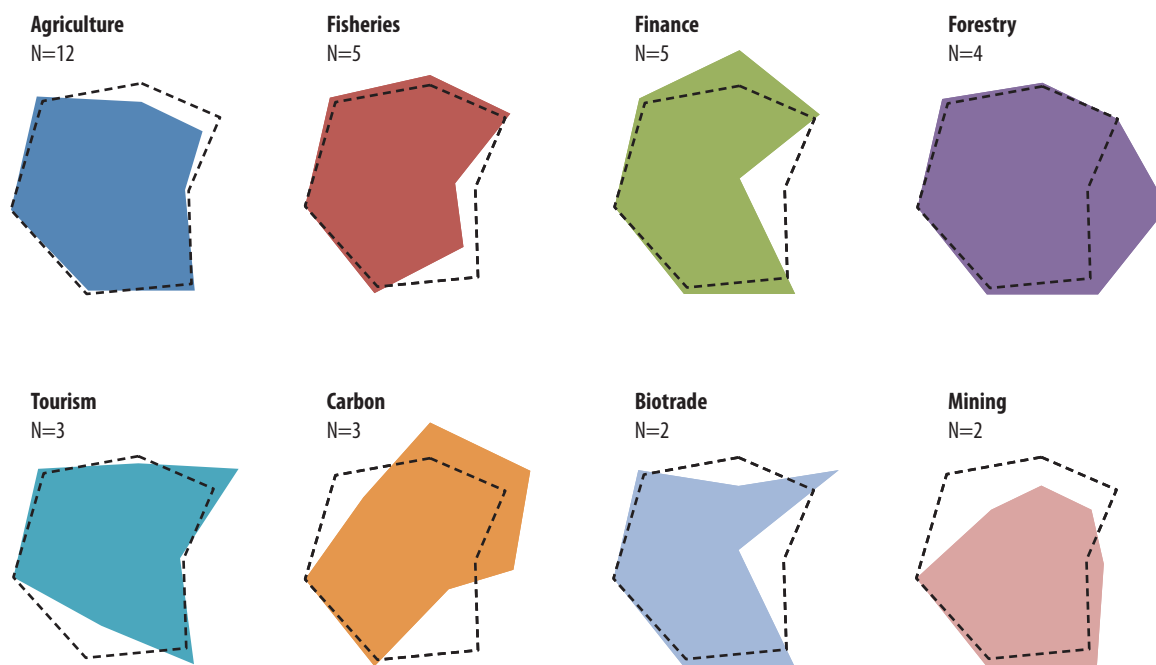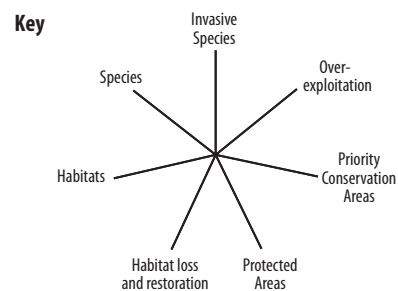
Mining N=2

FIGURE 2: Illustration of comparative coverage of biodiversity components within standards by sector.

They are ordered around the same axes as in Figure 1. The grey dotted line shows the mean percentage coverage for all 36 standards.

Key

Invasive Species

Over-exploitation

Species

Priority Conservation Areas

Habitats

Habitat loss and restoration

Protected Areas

2.2 Biodiversity Components

2.2.1 Species

The accurate identification of species under threat is important in order to recommend appropriate measures to protect them. In reviewing the standards we looked for references to any internationally or nationally recognised system of classification (for example the IUCN Red List). In addition to threatened species, reference to some other important characteristics such as endemism, or assemblages of migratory and congregatory species was also examined. These species characteristics form the basis of many conservation prioritisation approaches including Key Biodiversity Areas and the relevant criteria of the High Conservation Value approach.

TABLE 1: Identification of threatened species within each sector[9]

	AGR	FIS	FIN	FOR	TOU	CAR	BIO	MIN	TOTAL
Number of standards	12	5	5	4	3	3	2	2	36
Internationally Recognised[9]	42%	80%	80%	75%	67%	67%	100%	50%	64%
Reference to the IUCN Red List	42%	80%	80%	50%	67%	67%	50%	50%	58%
Nationally Recognised[9]	42%	60%	40%	50%	33%	33%	100%	–	44%
Other Definitions[9]	50%	80%	20%	100%	100%	67%	100%	50%	64%

Threatened species are mentioned in 30 (83%) of the standards. Reference to nationally threatened species is less common (44%) across all the sectors than those that are internationally recognised (64%) (Table 1). Most of the standards that include internationally recognised threatened species make reference to the IUCN Red List. The IUCN Red List is recognised as an authoritative guide on the status of species (at least for the taxa so far assessed) and provides globally adopted categories and associated criteria for species that are threatened at the global level. Those classified as Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) are considered to be 'threatened'. Thirteen (26%) of the standards refer to specific IUCN Red List categories, with the most commonly cited categories being CR and EN (see Figure 3). Ten standards also make specific reference to VU and four refer to NT even though the IUCN itself does not include these species within its threatened category. These results imply that species conservation priorities in standards could benefit from being more closely aligned with accepted species risk categories.

Standards include a number of other references to species, including endemic, keystone, migratory, congregatory, rare, protected and unique assemblages. Endemic and migratory/congregatory species are referred to in 16 (44%) of the standards. The reasons these components are frequently mentioned together within standards is most likely because they are associated with the first value of the High Conservation Value (HCV) concept developed and promoted by the HCV Network.

Criteria relating to unique assemblages of species rarely appear in standards outside the finance sector, although they are also mentioned in one standard scheme within the forestry sector. Reference to keystone or key conservation value species are equally uncommon. Specific species are only mentioned within two agricultural standards.

For a user of standards to ascertain whether they are adequately dealing with species that are rare, keystone, migratory and so on presupposes that appropriate definitions are included within those standards. Unfortunately this is rarely the case.

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9   Note that the categories for definition of threatened species are not mutually exclusive.
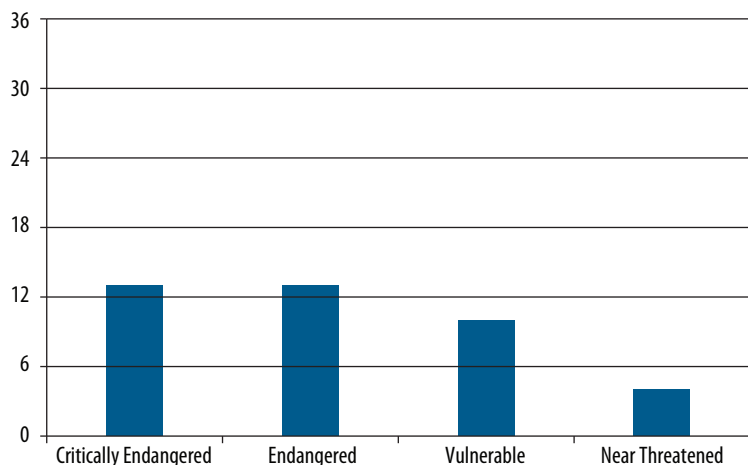
FIGURE 3: Inclusion of IUCN Red List categories within 36 standards

Management options employed for threatened species are varied and include the need to protect the species and their habitats, as well as to control their use and management. The specific measures most commonly found in relation to threatened species are shown in Figure 4, with protection of threatened species' habitats being the most widely required management activity across sectors.
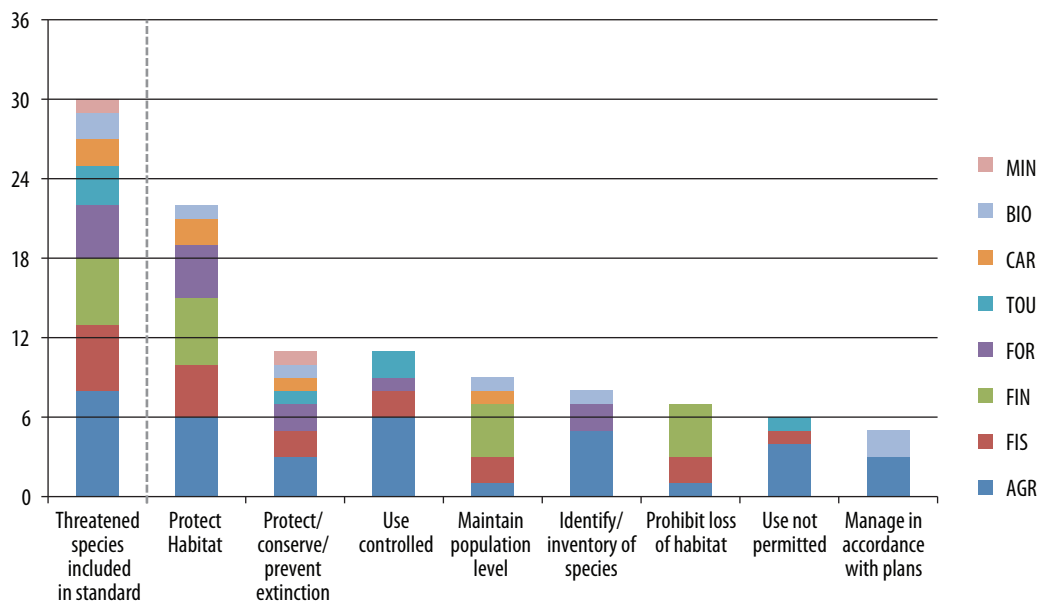
FIGURE 4: Management measures included in requirements for threatened species by sector across the sample

2.2.2   Habitat

A key challenge for biodiversity conservation is to identify and conserve areas of natural habitat that contain unique and diverse biological assemblages. This challenge was generally acknowledged and in some way addressed in all of the standards that were reviewed.

TABLE 2: Inclusion of generic habitat types within each sector

	AGR	FIS	FIN	FOR	TOU	CAR	BIO	MIN	TOTAL
Number of standards	12	5	5	4	3	3	2	2	36
"Natural or Native Habitat"	75%	80%	100%	50%	100%	67%	100%	100%	87%
"Modified Habitat"	25%	–	60%	50%	–	–	100%	–	28%
"Critical, Key or Priority Habitat"	75%	100%	100%	50%	33%	–	100%	–	67%

Every standard assessed (36) included criteria requiring some form of protection of habitats; with 31 referring to "natural" habitats (Table 2). However, only 11 provided a definition of "natural". Overall, 17 (47%) of the standards, predominantly those within the agriculture, finance and biotrade sectors, require plans for habitat management. In common with the other biodiversity components, the language referring to habitat protection is often generic. For example, four of the standards include a requirement to "maintain or enhance" habitats but do not provide a clear framework to do so. Similarly, out of the 31 standards mentioning "natural habitat", the majority (22) rely on general requirements that this be protected, without providing explicit instructions. On the other hand, all the finance standards place requirements on development activities within natural habitats including mitigation measures, and four finance standards specifically require that there be "no significant degradation" to these habitats.

Standards typically identify four specific types of natural habitat for additional protection: 1. forest, 2. aquatic habitats, 3. grassland, savannah and scrubland, and 4. peatlands. Forests are specifically referred to in 26 (72%) of the standards, the majority of which require that forests be managed and protected, and/or prohibit deforestation. The forestry sector provides the highest protection to forest habitats, followed by agriculture standards, of which 58% prohibit deforestation. Some standards simply use the term "forest" while others specify types of forest. Overall, the standards included 25 different forest types, some of which are internationally accepted terms (such as "primary forest"[10]) whereas others are more general and indistinct (such as "native forest" or "woodlands").

Reference is made to aquatic habitats in 23 (64%) of the standards through terms such as marine, riparian, coastal and freshwater ecosystems, but also through reference to more specific habitats such as:

- Wetlands (11 standards)
- Mangroves (6 standards)
- Marshes (2 standards)
- Seagrass beds (2 standards)
- Coral reefs (1 standard)

The agriculture and finance sectors make the most references, and offer the most protection, to aquatic habitats. The agriculture standards particularly focus on the concept of buffer zones to conserve riparian habitats. Despite being specifically concerned with aquatic environments, only two of the five fishery standards include measures explicitly designed to safeguard aquatic ecosystems.

Grasslands, inclusive of savannah and scrublands, are referenced within five (14%) of the standards and these are all in the agricultural and financial sectors. Similar to forest habitats, there are often requirements obliging organisations to adopt certain management approaches or provide outright protection for these habitats. The Sustainable Agriculture Standard recognises the importance of grasslands by requiring that 30% of farm area be dedicated to the conservation or recovery of these habitats (providing the natural vegetation was not forest) as well as the conservation of high value grasslands.

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10 For example, RSPO refers to "primary forest" and uses the FAO definition. FAO (2002) S*econd expert meeting on harmonizing forest-related definitions for use by various stakeholders.* Rome.

Peatlands are addressed in five standards (14%), all of which are from the agriculture sector, and all of which require that these be generally protected, without providing specific management approaches or guidance.

BOX 1: Habitats in standards

Habitat in standards

Standards in this review treated measures to conserve habitats in two distinct ways. These centre on the way in which different habitats are prioritised, either based on shared characteristics, or on a specifically defined type of habitat. Several sectors contain standards using both approaches, and in several cases, these divergent approaches are used in tandem, providing protection for specific habitats, while also protecting shared characteristics.

Habitat characteristics:

In some standards, habitats are defined based on shared characteristics. This typically results in habitats being classified using terminology such as "natural", "native", and "modified". Within "natural" habitats, there was further subdivision to "critical" or "priority" habitats. This approach prioritises habitats which share characteristics (such as supporting threatened species) and allows the standard to set criteria which are targeted at protecting certain biodiversity values, regardless of the type of habitat in which they occur. A possible weakness of this approach is that the definition of "natural", "modified" or "critical" may be subjective and difficult to identify consistently at a global scale without the provision of explicit thresholds.

Sectors using this approach: Finance, Biotrade, Mining, Agriculture, Forestry, Tourism

Specified habitat types:

Many standards specify certain types of habitat within their criteria. There is a significant emphasis on forests, but several standards also specify protection for other habitat types, including aquatic habitats, grassland and peatlands. This approach prioritises a specific type of habitat and allows the standard to set criteria targeted at, and appropriate for, managing and conserving that habitat type. A possible weakness of this approach is that it may neglect some habitat types not specifically referred to by the standard.

Sectors using this approach: Agriculture, Fisheries, Carbon offset, Forestry

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In addition to 'natural' habitats, some standards refer to 'high priority', 'key' or 'critical' habitats. Certain activities are commonly prohibited within critical, key or priority habitats (17 of the 24 standards that identify these).

Only ten standards refer specifically to 'modified habitats', these are mainly within the agriculture, finance and fisheries sectors, with half of those that do, promoting the enhancement of these habitats where possible and appropriate.

In addition to these habitat definitions, some recent frameworks are adopted within standards (such as the criteria for High Conservation Value (HCV) areas). However, many standards, notably from the finance sector, use language which is similar to these concepts and terms, such as 'biodiversity values', 'conservation values', 'exceptional conservation values' and 'high value ecosystems', among others when defining habitat. This use of similar, but not identical terminology may compound ambiguities related to the lack of definitions or clear use of language.

2.2.3 Protected Areas

Protected areas are a cornerstone of national, regional and international conservation strategies. They are areas designated for a number of biological, cultural or economic reasons and their recognition and protection can contribute to biodiversity conservation. In particular, they act as a key tool in protecting biodiversity in the face of major threats such as the conversion of land for agriculture and other production activities. Most recently, the importance of protecting Indigenous and Community Conserved Areas (ICCA's) has been gaining greater prominence as a means to conserve both cultural and ecological values.
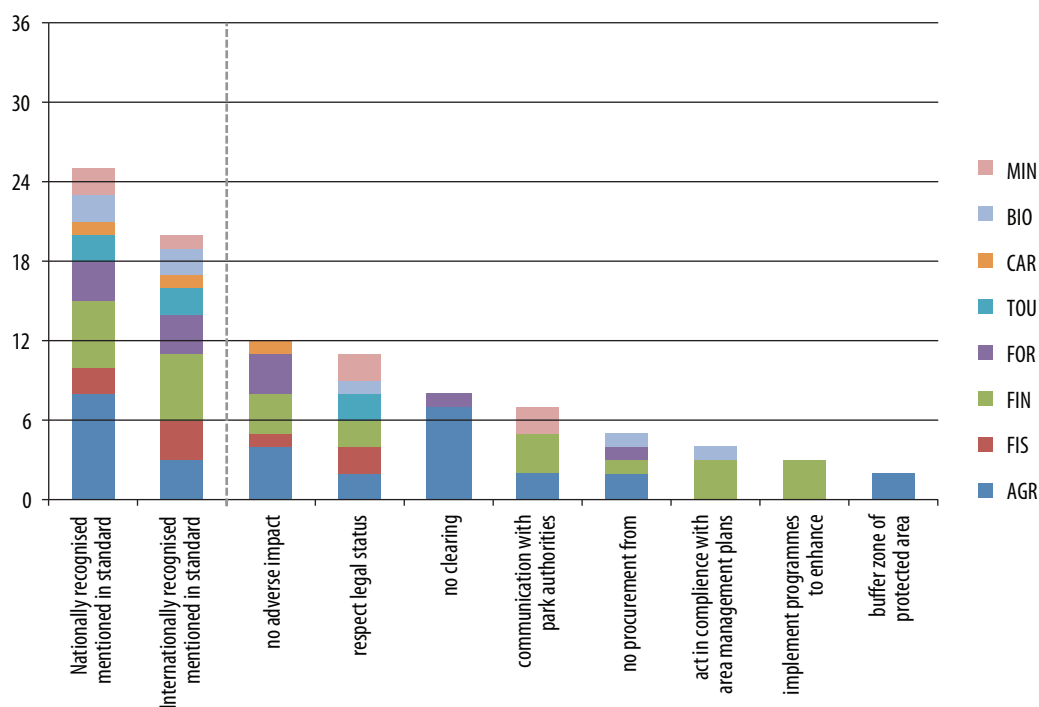
Figure 5: Management measures for protected areas by sector across the sample

Protected areas are explicitly mentioned in 31 (86%) of the standards reviewed, of which 69% specifically refer to nationally designated protected areas and 56% to internationally recognised protected areas (those recognised under international laws and conventions). The remainder may mention the term 'protected area(s)', but do not define what that means, while others only refer to protected areas indirectly, for example by including the HCV criteria. Five standards from the agriculture (1), finance (3) and forestry (1) sectors also consider areas that are 'officially proposed' for protection to be of equivalent status as protected areas.

Nine standards refer to IUCN Protected Area Management Categories, and three require management approaches that are dependent on these categories. Of the 31 standards mentioning protected areas, only nine include a type of protected area in which certain activities are prohibited, these are:

- IUCN Categories I-II (1 standard)
- IUCN Categories I-IV (2 standards)
- Wetlands of International Importance — Ramsar sites (3 standards)
- Natural World Heritage sites (3 standards)

Some standards refer in general terms to the need for development activities to observe "all legal requirements" or to conduct activities in "a manner consistent with defined protected area management plans". Given that national legislation exists to specify the activities that can take place in, or impact upon, the majority of protected areas, it is often national law rather than the requirements of a global system of standards that dictates the level of protection afforded.

The concept of Indigenous and Community Conserved Areas[11] (ICCAs) is relatively recent, so it is not surprising that it does not appear in any of the 36 standards that were reviewed. However, in some cases ICCAs may be considered to have *de facto* protection arising from specific measures relating to indigenous people and their protection under the UN declaration of Indigenous Rights, which protects the land and resources of indigenous groups. Such

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11 ICCAs are defined by the IUCN as " natural and/or modified ecosystems containing significant biodiversity values, ecological services and cultural values, voluntarily conserved by indigenous peoples and local communities, both sedentary and mobile, through customary laws or other effective means".

measures are present in 47% of the standards, including all of those in the tourism, biotrade and mining sectors. In eight other cases ICCA's may be introduced through the HCV concept (e.g. Value 6).

Aligned with the concept of ICCA is the need for organisations to engage with communities. The requirement for engagement to conform to the doctrine of Free, Prior and Informed Consent (FPIC) is enshrined within the UN Declaration on the Rights of Indigenous Peoples, adopted in 2007[12]. A large number of standards do include some variation of the general principles of stakeholder engagement principles within their criteria. However, in general, the findings suggest that few standards (31%) place strong emphasis on FPIC in the way it is intended in the UN declaration.

2.2.4 Priority Conservation Areas

Priority conservation areas are sites of particular biodiversity importance that have been identified by NGOs, and academics, based on different criteria. Governments, communities and financial institutions/investors are frequently also involved in the prioritisation process. While these areas sometimes overlap with protected areas, and therefore have a management regime in place, the remainder are often unprotected and unmanaged. Despite this fact, priority conservation areas have gained significant importance as an approach to conserve areas beyond/ outside protected areas and to guide conservation investment decisions. The priority conservation areas and the standards which include them are presented in Table 3.

TABLE 3: Identification and protection of priority conservation areas in each sector

	AGR	FIS	FIN	FOR	TOU	CAR	BIO	MIN	TOTAL
Number of standards	12	5	5	4	3	3	2	2	36
Key Biodiversity Areas[13]	8%	–	–	25%	33%	–	–	50%	11%
Alliance for Zero Extinction	8%	–	–	25%	–	–	–	–	6%
Important Bird Areas	8%	–	–	–	33%	–	–	–	6%
High Conservation Value Areas	33%	20%	–	75%	–	66%	–	–	28%

Overall, priority conservation areas, such as Key Biodiversity Areas (KBA) and High Conservation Value (HCV) areas, are only referenced, directly or indirectly, in 13 (36%) of the standards. Key Biodiversity Areas (which are inclusive of Alliance for Zero Extinction sites (AZE) and Important Bird Areas (IBAs)), are explicitly mentioned in 4 standards. HCV areas are included in 10 standards. The HCV concept includes some criteria that are remarkably close to those of KBAs, such that there is significant synergy between the two. It was originally developed by the Forest Stewardship Council to define forests of outstanding and critical importance; hence references to HCV are most common within the forestry standards (75%).

None of the finance standards specifically refer to priority conservation areas (Table 3). However, they do include language that might result in the inclusion of some priority conservation areas. As noted in section 2.2.2, several finance standards refer to areas of "high biodiversity value" and one refers to "high conservation value" but none explicitly make links to any of the existing schemes that define HCV or formally define the terms themselves.

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12 http://www.un.org/esa/socdev/unpfii/en/declaration.html.

13 In some instances, "Key Biodiversity Areas" were specifically included, in others one of the constituent designations was included (e.g. AZE or IBA). Hence the references to AZEs and IBAs do not necessarily add up to equal the references to KBAs.

2.3   Threat and Response Measures

In addition to looking at how the components of biodiversity are treated by standards (see section 2.2 above), this study looked at the way major threats to biodiversity and responses to mitigate these threats are considered. The threats and responses were identified with reference to the decisions and the goals set by the 2010 subsidiary targets of the CBD. Only those that specifically relate to biodiversity were included, as opposed to those that deal more generally with threats to the environment (ie pollution). The inclusion of these threats and responses across standards is shown in Figure 6.
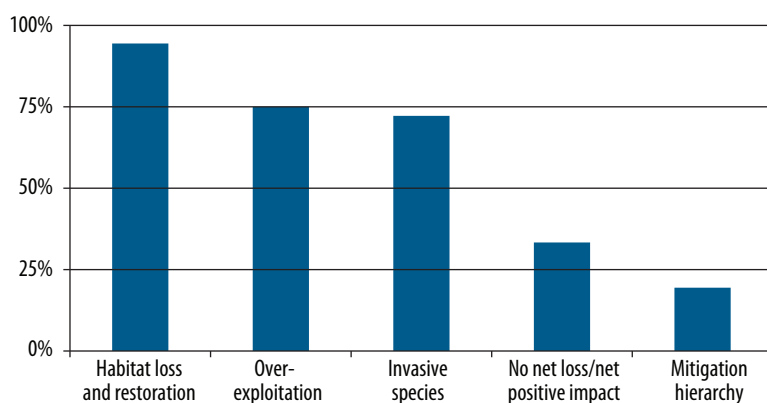
FIGURE 6: Inclusion of threats to biodiversity and response measures across the sample

2.3.1   Habitat Loss and Restoration

Habitat loss and degradation are amongst the biggest pressures on biodiversity worldwide. Over 80% of globally threatened birds, mammals, and amphibians are affected wholly or in part by habitat loss[14]. A sharp decline in populations of a number of important species has taken place due to conversion of their habitats for a wide range of activities, including agriculture, unsustainable forest management or infrastructure development.
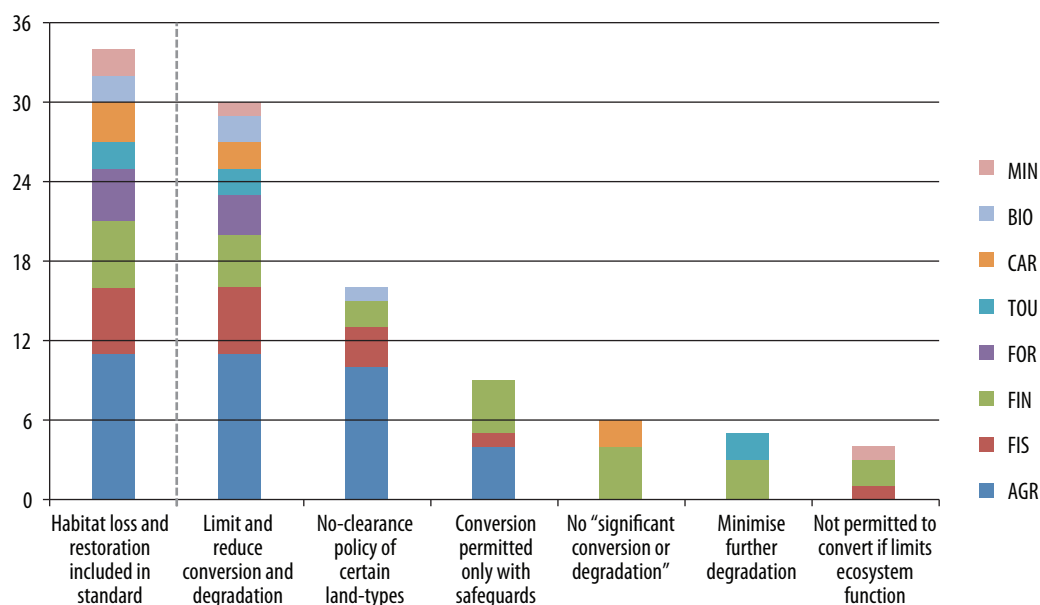
FIGURE 7: Management measures to prevent habitat loss by sector across the sample

14 Vié, J.-C., Hilton-Taylor, C. and Stuart, S.N. (eds.) (2009). *Wildlife in a Changing World — An Analysis of the 2008 IUCN Red List of Threatened Species*. Gland, Switzerland: IUCN. 180 pp.

A total of 34 standards (94%) make reference to habitat loss and restoration. Of these, 31 include a general requirement to limit conversion and degradation (Figure 7). However, each standard covering habitat loss in the Finance, Carbon, Tourism and Mining sectors also includes additional requirements for action. On top of this, four standards in the agriculture sector and two in the fisheries sector include requirements beyond the simple limitation of damage. Finance standards include the greatest level of detail and number of additional requirements by placing specific thresholds on what constitutes "significant" loss and requiring that safeguards be put in place.

The restoration of habitats is required by 25 standards, most simply requiring that restoration take place after operations cease, but three specifically require restoration to begin from the outset of operations. The three Carbon standards include restoration as a means of achieving greenhouse gas emissions reduction.

Sixteen of the standards include a no loss or habitat conversion policy — usually covering a number of different types of habitat rather than a general provision. Land types where habitat loss/conversion is prohibited by standards include:

- Forest areas
  - tropical moist forests
  - old-growth forests
  - natural forests
  - primary forests
  - secondary forests
  - virgin forests
  - native forest

- Aquatic ecosystems
  - wetlands
  - mangroves,
  - sea-grass beds

- Conservation areas
  - internationally or nationally legally protected areas
  - High Conservation Value areas (1–4)
  - land with high biodiversity value
  - areas that are identified by standards as being of global, regional or local conservation value

- Others:
  - high carbon stock areas
  - peatlands
  - buffer zones around water bodies and watershed recharge areas
  - primary ecosystems
  - permafrost zones

Where ecosystems are considered very sensitive, they are often declared off-limits by standards. However, an explicit definition of ecosystem sensitivity is rarely provided which makes compliance difficult. As a result, the use of a standardised ecosystem taxonomy may prove useful — for instance that described in section 2.2.2 in which habitats are classified as "critical, "threatened", "key", or "priority" (Box 1).

2.3.2 Over-exploitation of Biodiversity Resources

The over-exploitation of biodiversity resources, which occurs when harvesting exceeds the capacity for wild plant and animal numbers to be replenished, is a significant threat to biodiversity both locally and globally. The concept of 'sustainable use' is often applied in relation to over-exploitation and the promotion of sustainable harvesting

practices is recommended by the CBD[15]. To this end, CITES[16] has the mandate to ensure that international trade does not lead to over-exploitation.

Within the standards examined in this study, over-exploitation is usually considered in general terms and often in conjunction with non-biodiversity resources, such as the use of energy. Some standards go further by stipulating specific requirements associated with the management of harvesting (Figure 8). Only one standard in the finance sector and one in the fisheries sector include explicit consideration of the cumulative impacts of multiple parties by requiring a sustainable holistic approach to multi-user ecosystems. Within the carbon sector, references to over-exploitation are generally restricted to the sustainable management of forest plantations.

Many of the standards examined (19) deal with over-exploitation indirectly, for example through mention of by-catch, wild-derived feed for aquaculture and the effect of business operations on hunting activities .
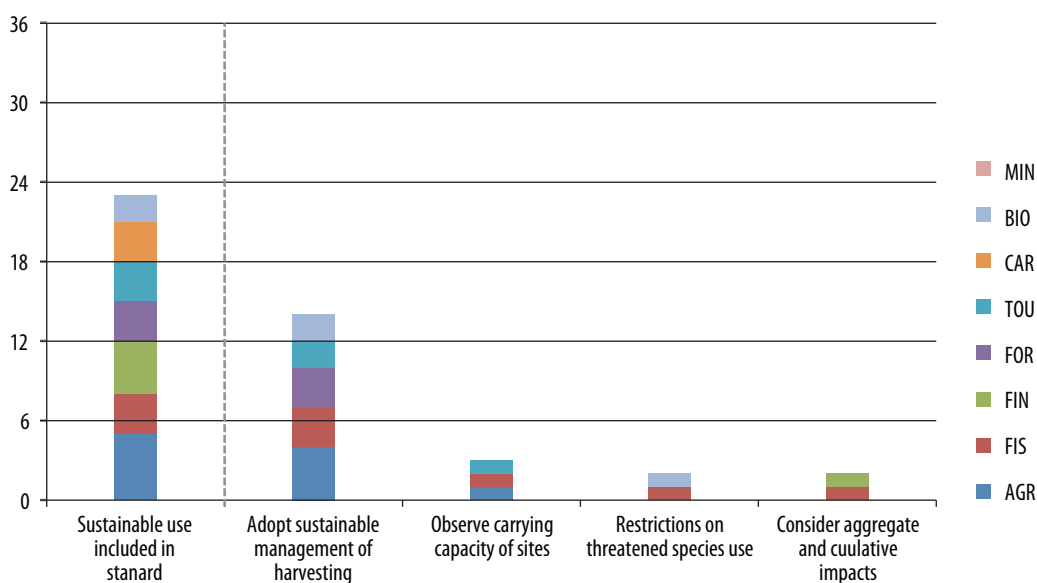
FIGURE 8: Management measures included in requirements designed to achieve the sustainable use of resources by sector across the sample

2.3.3 Invasive Alien Species

Invasive alien species are a significant threat to many ecosystems and species, and in some cases they are the biggest pressure on biodiversity. According to the CBD[17], there are no signs of a significant reduction of this pressure on biodiversity, indeed there are some indications that it is increasing. Although interventions to control invasive species have been successful in some cases, this has been outweighed by the threat to biodiversity from new invasions.

Invasive species are identified as an issue of concern in 26 (72%) standards. Two further standards state a preference for the use of native species, without mentioning invasive or alien species.

Of all the assessment criteria in this study, the treatment of invasive species has the most significant variation across the standards. Most standards favour multiple approaches. Agriculture standards are most thorough, stipulating eight requirements to counter invasive species, closely followed by forestry and fishery standards. The focus on invasives in these sectors is probably because the introduction of species is a normal part of their operations. Looking across sectors, 11 standards include three or more invasive species related requirements while a further

15 Secretariat of the Convention on Biological Diversity (2010) *Global Biodiversity Outlook 3*. Montréal, 94 pages.
16 The Convention on International Trade in Endangered Species of Wild Fauna and Flora.
17 Secretariat of the Convention on Biological Diversity (2010) *Global Biodiversity Outlook 3*. Montréal, 94 pages.

nine include at least two. There are a wide variety of management strategies contained within these requirements ranging from measures to contain invasive species to their outright prohibition (Figure 9). The variation, in particular the degree to which invasive species is embedded in the different sectors' standards, can be simply explained by the specific context of each standard. For example, some fishery standards require use of farmed species which are genetically similar to wild populations as a means of limiting the impact of escapes on wild populations. In contrast, forestry standards generally have requirements relating to the management of species used in bio-control.
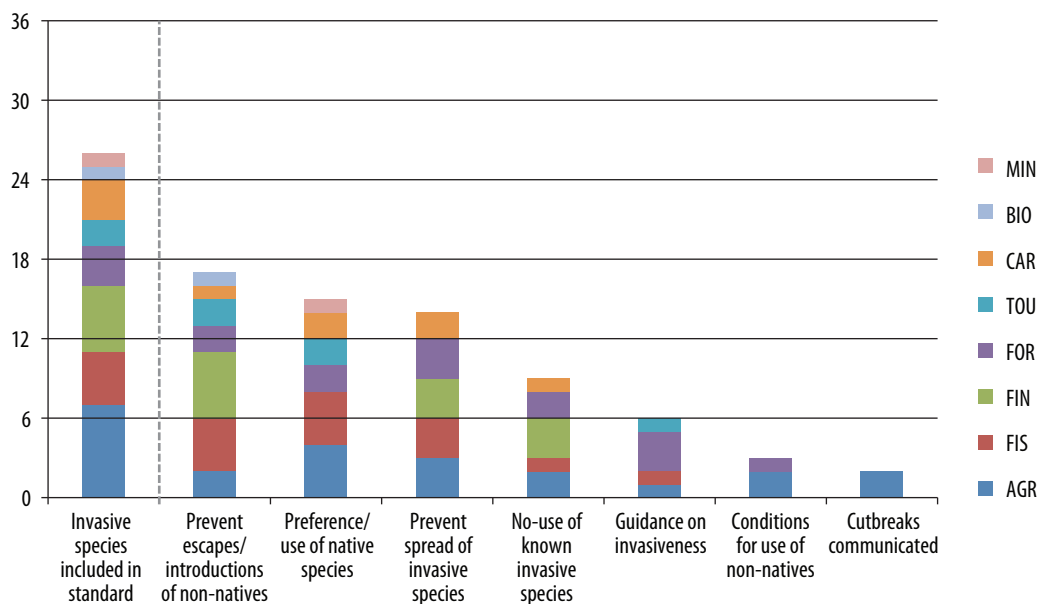

FIGURE 9: Management measures included in requirements for invasive species by sector across the sample

2.3.5   *Mitigation Hierarchy*

The mitigation hierarchy promotes the avoidance of impact, but where this is not possible it examines mitigation alternatives in a logical sequence. Developers are asked to minimise and reduce impacts and then repair or restore adverse effects. Under some mitigation hierarchies, any significant residual effects after these steps have been taken can be addressed via a 'biodiversity offset' and 'additional conservation actions' in order to achieve 'no net loss' or 'net gain' on biodiversity. If an offset is not possible, some other form of compensation may be implemented. This approach is at the cutting edge of efforts to mainstream biodiversity conservation into key economic sectors and is an example of a best practice approach to manage impacts on biodiversity.

Biodiversity offsets are considered to be controversial by some organisations, and the lack of support among members has impeded widespread adoption and implementation by standard setting organisations. However, decisions IX/26 and X/21 of the CBD on promoting business engagement, calls for collaboration between companies and conservationists through relevant organisations (ie Business and Biodiversity Offsets Program, BBOP) to develop guidelines for the development and implementation of biodiversity offsets.[18] BBOP has developed practical guidelines for offset design and implementation, including ten fundamental principles, one of which is that biodiversity offsets must adhere to the mitigation hierarchy.[19]

Reference to the mitigation hierarchy is most common in the finance sector standards, although two of the 12 agriculture sector standards also refer to the concept. However, not all of these standards explicitly apply the entire

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18 BBOP (2010) Biodiversity Offsets: Within the Mitigation Hierarchy. Business and Biodiversity Offset Program (BBOP). Accessed online: http://bbop.forest-trends.org/offsets.php.

19 CBD (2010) Ad Hoc Open-Ended Working Group on Review of Implementation of the Convention – Engagement of Business. UNEP/CBD/WG-RI/3/2/Add.2. Decision X/21.

mitigation hierarchy. For instance, the agriculture sector standards mainly deal with compensation, and many of the finance sector standards refer only to a few components of the hierarchy and they often do not provide guidelines on how to address them. The European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy guidelines on mitigation hierarchy (Box 2), are a good example of a standard providing specific information on a mitigation hierarchy and how to achieve it.

BOX 2: Example of a mitigation hierarchy

EBRD's Biodiversity Mitigation Hierarchy

Action	Response
1. Avoid	The client will seek to avoid adverse impacts on biodiversity.
2. Minimise	Where significant impacts on biodiversity cannot be avoided, the client should identify ways in which project can be modified to minimise impacts on biodiversity.
3. Mitigate	Where significant impacts on biodiversity can neither be avoided nor minimised, the client should identify measures to mitigate those impacts.
4. Offset	Where significant residual impacts on biodiversity remain, in spite of all reasonable attempts to avoid, minimise and mitigate those impacts the client will identify actions or projects to offset those impacts. Any offset projects must be structured and agreed with EBRD.

In addition to the mitigation hierarchy, some standards adopt a specific precautionary approach. For example, the Inter-American Development Bank (IDB) guidelines only support investments once appropriate measures have been put in place. In contrast, carbon offset standards do not mention a mitigation hierarchy explicitly, but provide implicit consideration of it through the requirements for land-based offsets that involve reforestation, agroforestry or reduced deforestation. Overall, the findings suggest that there has been a relatively limited uptake of the mitigation hierarchy and biodiversity offsets at this point. Furthermore, many of those which do refer to mitigation hierarchy and biodiversity offsets explicitly may not be using them to their maximum potential to reduce pressures on biodiversity.

2.3.4   No Net Loss and Net Positive Impact

The concepts of 'no net loss' or 'net positive impact' are described in the CBD Decision VIII/28 entitled "Voluntary guidelines on biodiversity-inclusive impact assessment". The background document states that 'no net loss' is a principle suitable for inclusion in impact assessments. More recently, Decisions IX/26 and X/21 of the CBD, concerned with promoting business engagement, called for guidelines on biodiversity offsets to be developed in collaboration with relevant organisations such as BBOP. One of the fundamental principles developed by BBOP is "to achieve no net loss or a net gain on biodiversity". The concept is clearly relevant to the new CBD strategic plan (COP 10[20]) which seeks to halt biodiversity loss.

Commitments towards a 'positive impact' are found across the majority of standards, whereas explicit reference to the principle of 'no net loss' is much rarer. For example, the three carbon standards require positive impacts rather than the more typical limitation of negative impacts. Clear reference to 'no net loss' appears in only six (17%) of the 36 standards, while more general references to the balancing of negative and positive impacts appear in 11 (31%). The findings of this study suggest that the use of these concepts in standards is still limited but growing as witnessed by its inclusion in the newly revised International Finance Corporation (IFC) performance standard[21].

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20 CBD (2010) Ad Hoc Open-Ended Working Group on Review of Implementation of the Convention – Engagement of Business. UNEP/
    CBD/WG-RI/3/2/Add.2. Decision X/2.
21 International Finance Corporation (2012) *Policy on Environmental and Social Sustainability.*

2.4 Biodiversity-Related Multilateral Environmental Agreements

More than half of the sampled standards (20 out of 36) make reference to the Convention of Biological Diversity (CBD) (Table 4), although this is usually to provide a definition of biodiversity rather than the requirements that flow from it. Some standards and schemes refer to the 'alignment' of their objectives with those of the CBD but do not elaborate or make links to specific CBD decisions. Over 66% of the biotrade, forestry, tourism, finance and fisheries standards refer to the CBD. However, in the forestry sector, reference to the CBD is mainly in the context of requirements for forest management to respect all international treaties and agreements to which the country is a signatory.

The Convention on Wetlands of International Importance (the Ramsar Convention) is referenced in fourteen of the sampled standards, predominantly those in the fishery and finance standards. In the case of fisheries, a strong emphasis is placed on the conservation and sustainable use of wetlands.

The UNESCO World Heritage Convention and the Convention on International Trade in Endangered Species (CITES) were both mentioned in 25% of the standards reviewed. However, in the case of the former there are several references to 'World Heritage Sites' with no specific reference the convention itself. CITES was referred to in all the biotrade and half of the forestry standards reviewed.

References to the Convention on Migratory Species (CMS) were found in only two standards and both were from the finance sector. While not relevant to biodiversity, it is noteworthy that 26 (72%) of the standards refer to various individual articles of the International Labour Organisation (ILO) Conventions, despite the fact that the ILO conventions are more numerous and complex than the CBD and other current conventions relating to biodiversity. It may be that an examination of the ILO and its influence on standards can inform the further development of biodiversity standards.

TABLE 4: References to biodiversity-related Multilateral Environmental Agreements within each sector

	AGR	FIS	FIN	FOR	TOU	CAR	BIO	MIN	TOTAL
Number of standards	12	5	5	4	3	3	2	2	36
Convention on Biological Diversity	50%	60%	60%	75%	67%	33%	100%	–	56%
RAMSAR	25%	80%	80%	25%	33%	33%	–	–	39%
UNESCO WH	17%	20%	40%	25%	33%	33%	–	50%	25%
CITES	8%	40%	40%	50%	–	–	100%	–	25%
Convention on Migratory species	–	–	40%	–	–	–	–	–	6%

3.   CONCLUSIONS AND RECOMMENDATIONS

The review found some general trends with respect to the way in which biodiversity is treated in standards and certification schemes, as well as the requirements that are proposed to protect biodiversity, limit threats to biodiversity and promote biodiversity enhancement. Some of the main findings of this review are:

- Even where standards include similar biodiversity components, there are large differences with respect to the measures adopted to safeguard them. Differences are also evident in the depth in which issues are covered. These differences are compounded by disparities in the language used and the use of internationally recognised definitions.
- All standards mention the protection of **habitats,** with 94% also giving consideration to habitat loss and/ or restoration. In this regard, 44% of standards set high requirements, including that habitat should not be converted, with specific habitats (notably forests) frequently singled out for special consideration. None of the 12 agriculture standards explicitly seek to prevent habitat loss, rather they include lesser requirements to limit and mitigate loss. Few standards refer specifically to modified habitats and even fewer promote the enhancement or restoration of habitats.
- Most of the reviewed standards (86%) recognise **protected areas** and a few provide detailed guidance on how to operate near or inside protected areas. A small number (eight) prohibit operating within protected areas, but most rely on legislation or *in situ* management processes to define appropriate responses. Requirements relating to protected areas all focus on formal or legal protected areas, while none refer to Indigenous and Community Conserved Areas.
- Protection measures for **species** are included in 94% of standards sampled. Measures to protect or manage threatened species are included in 86% of standards. There are references to both sustainable use (of species) and to invasive species in the majority of standards, with the exception of agriculture standards.
- Despite several well established definitions and prioritisations of important biodiversity outside protected areas, the concept of **priority conservation areas** is incorporated in fewer than half of the standards. The High Conservation Value (HCV) approach, which is particularly common in forestry standards, is the principal vehicle for priority conservation areas.
- Few standards refer to a **mitigation hierarchy** or requirements mandating its use. Similarly, concepts such as '**no net loss'** and '**net positive impact**' are infrequently included in standards, despite these concepts being linked to the objectives and decisions of the Convention on Biological Diversity.
- While measures to safeguard biodiversity are designed to manage sector-specific impacts, significant gaps in biodiversity criteria both within and across sector standards suggest there is scope for cross-fertilization of practices among the standards reviewed.

Recommendations

- **Adopt internationally recognized definitions:** The use of non-standardised terms in the establishment of criteria for species or habitats makes compliance very difficult. For example, while many standards refer to threatened or endangered species, few refer explicitly to the IUCN Red List of Threatened Species, or they do so in a way that could be misinterpreted. The adoption of accepted published definitions for the different components of biodiversity would be a major step forward.
- **Avoid the displacement of threats**: The disproportionate amount of attention paid to forest ecosystems within many standards is understandable given that forestry standards are well established and have influenced other, more recent standards. However, the emphasis on forests creates a paradox in that equally important ecosystems are often provided with less attention due to this focus on forests. There is significant scope to improve this situation.
- **Include modified habitats:** Few standards refer to modified habitats or restoration potential. Instead they focus on 'natural' habitats. Given that many standards may be applied after habitats have been modified, standards should contribute more to the conservation of biodiversity in modified habitats.

- **Provide guidance on operation inside protected areas:** Although most standards recognise the importance of protected areas and legal compliance with them, few provide guidance for operations within specific categories of protected areas. Therefore, it is advisable that standards are linked to the published and accepted IUCN protected area categories.
- **Recognise Indigenous and Community Conserved Areas:** Operating in Indigenous and Community Conserved Areas (ICCAs) presents reputational riska to development activities, both in terms of biodiversity and human rights. As ICCAs are receiving increasing international attention, they should be considered within standards, especially, but not exclusively, those associated with certification schemes.
- **Safeguard priority conservation areas:** Most standards do not consider important biodiversity areas beyond protected areas. The inclusion of such areas might help to address some shortfalls in the approach taken to protect species and habitats, while also addressing concerns of the international conservation community.
- **Adopt the mitigation hierarchy and 'no net loss' approaches:** Adoption of the mitigation hierarchy and 'no net loss' approaches by standards bodies would support, and further mainstream, these concepts, providing greater safeguards for biodiversity. The mitigation hierarchy promotes the avoidance of negative impacts and, where this is not possible, examines mitigation alternatives in a logical sequence. The 'no net loss' approach seeks to enforce the creation of positive outcomes for biodiversity through offsets and other mechanisms.

Conclusions

We conducted a thorough review of biodiversity in 36 standards and certification schemes across eight industrial sectors. Based on our results, we determined seven key recommendations for improving biodiversity criteria in future standards and certification schemes. Our key findings indicate the importance of standardising language and terminology. We also identify some areas of biodiversity importance that are currently under-represented and could be strengthened and developed in future, as well as best-practice that could be adopted by standard setting organisations to further safeguard biodiversity.

APPENDIX A: STANDARDS CONSIDERED IN THIS REVIEW

Organisation	Year of Reviewed Standard	Standard/Scheme
Agriculture		
Sustainable Agriculture Network (SAN)	2010	Sustainable Agriculture Standard
International Federation for the Organic Agricultural Movement (IFOAM)	2005	The IFOAM Norms
Roundtable on Sustainable Palm Oil (RSPO)	2007	RSPO Principles and Criteria for Sustainable Palm Oil Production
Roundtable on Sustainable Biofuels (RSB)	2009	RSB Principles and Criteria for Sustainable Biofuel Production
Bonsucro	2010	Better Sugar Cane Initiative Production Standard
The Round Table on Responsible Soy (RTRS) Association	2010	RTRS Standard for Responsible Soy Production
4C Association	2009	The 4C Code of Conduct
Fairtrade Labelling Organizations International	2009	Generic Fairtrade Standards
UTZ CERTIFIED	2009/2010	UTZ CERTIFIED Code of Conduct
The Better Cotton Initiative (BCI)	2009	BCI Production Principles and Criteria
Smithsonian Migratory Bird Center (SMBC)	2002	SMBC Bird Friendly® Criteria
GLOBAL Good Agricultural Practices (GLOBALG.A.P.)	2007	GLOBALG.A.P. Control Points and Compliance Criteria
Finance		
International Finance Corporation (IFC)	2006	International Finance Corporation's Performance Standards on Social & Environmental Sustainability
Asian Development Bank (ADB)	2009	Safeguard policy
Inter-American Development Bank (IDB)	2006	Environment and Safeguards Compliance Policy
European Bank for Reconstruction and Development (EBRD)	2008	Environmental and Social Policy
European Investment Bank (EIB)	2009	The EIB Statement of Environmental and Social Principles and Standards
Forestry		
Sustainable Forestry Initiative (SFI)	2010	SFI 2010-2014 Standard
Forest Stewardship Council (FSC)	2002	FSC Principles and Criteria for Forest Stewardship
International Tropical Timber Organisation (ITTO)	2009	ITTO/IUCN guidelines for the conservation and sustainable use of biodiversity in tropical timber production forests
Global Forest Alliance	2006	Forest Certification Assessment Guide (FCAG)

Organisation	Year of Reviewed Standard	Standard/Scheme
Carbon offset		
The Climate, Community and Biodiversity Alliance (CCBA)	2008	Climate, Community & Biodiversity Standards
Plan Vivo	2008	Plan Vivo Standard
CarbonFix	2010	CarbonFix Standard
Mining		
Responsible Jewellery Council (RJC)	2009	Principles and Code of Practices
Alliance for Responsible Mining (ARM)	2009	Standard Zero
Biotrade		
Union for Ethical BioTrade (UEBT)	2007	BioTrade Verification Framework for Native Natural Ingredients
FairWild Foundation	2010	FairWild Standard
Fisheries and aquaculture		
Marine Stewardship Council (MSC)	2010	MSC Fishery Standard Principles and Criteria for Sustainable Fishing and MSC Fisheries Assessment Methodology and Guidance to Certification bodies
Marine Aquarium Council (MAC)	2001 (I, ii & iii) 2008 (iv)	International Performance Standards for the Marine Aquarium Trade on i) Core Collection, Fishing and Holding; ii) Core Ecosystem and Fishery Management; iii) Core Handling, Husbandry and Transport and ; iv) Mariculture and Aquaculture Management
Global Aquaculture Alliance	2009 (i, ii, iii, iv) 2008 (v)	Best Aquaculture Practices Standards on: i) Shrimp farms; ii) Shrimp hatcheries; iii) Tilapia; iv) Channel catfish and v) Seafood processing plants
Aquaculture Dialogue	2010 (i, ii) 2009 (iii, iv)	Aquaculture Dialogue Standards on i) Bivalve; ii) Pangasius; iii) Trout and iv) Tilapia
GLOBAL Good Aquaculture Practices (GLOBALG.A.P.)	2009	GLOBALG.A.P. Control Points and Compliance Criteria
Tourism		
Global Sustainable Tourism Council (GSTC)	2008	Global Sustainable Tourism Criteria
World Tourism Organization (UNWTO)	2010	Global Code of Ethics for Tourism
ECO-DESTINET	2009	The European Ecotourism Labelling Standard (EETLS)

APPENDIX B: ASSESSMENT CRITERIA IN STANDARDS BY SECTOR

B1   Components of Biodiversity

Biodiversity components	Justification	List of terms/concept/approaches
Species	The accurate identification of species under different threat categories or of areas of high diversity is essential if appropriate measures are to be selected to protect them.	Reference to any of the following ways of classifying species: • Threatened species according to IUCN Red List • National Red Lists • Any other definition of rare/threatened/endangered • Migratory or Congregatory • Endemic • Unique assemblages • Keystone or key scientific value
Habitats (often referred to in full as ecosystems, habitats and biomes by CBD)	Habitat loss as a result of direct and indirect land-use changes is one of the major threats to biodiversity. A central challenge for biodiversity conservation is to identify and conserve the most important habitats for biodiversity.	Reference to habitat categories: • Natural • Modified • Critical Reference to specific habitat types: • Grassland/savannah/shrubland • Peatlands • Forest • Aquatic
Protected areas	Protected areas are the cornerstone of national, regional and international conservation strategies. These areas are created for a number of biological, cultural or economic reasons and their recognition and management is critical to biodiversity conservation.	Reference to specific protected areas: • Nationally recognised (IUCN Category) Protected Areas including marine and terrestrial • Internationally recognised (e.g. World Heritage Ramsar sites) • Indigenous and Community Conserved Areas • Others
Priority conservation areas	Priority conservation areas, which have been promoted by conservation organisations and researchers, have increasingly become important to overcome the limitations of focussing only on protected areas in conserving biodiversity can help in decisions about where to invest in conservation.	Identification and reference to globally recognised priority areas such as: • Key Biodiversity Areas (KBA) including, Alliance for Zero Extinction (AZE) sites, Important Bird Areas (IBA), Important Plant Areas (IPA) • High Conservation Value (HCV) areas • Others

B2   Threats and Response

Threats and response	Key considerations	Measures
Habitat loss and restoration	Habitat loss is a major threat to biodiversity with over 80% of globally threatened birds, mammals, and amphibians affected either wholly or in part by habitats loss.[23]	Specific reference to measures to: Limit and reduce conversion and degradation Restoration of habitats during and/or after operations
Over-exploitation	Threats from over-exploitation of natural resources pose a key threat to biodiversity conservation.[24]	Measures to promote: Sustainable use Limit indirect over-exploitation
Invasive species	Invasive alien species represent one of the primary threats to biodiversity, especially in geographically and evolutionary isolated ecosystems.[25]	Measures to address problem of invasive species in different sectors
Mitigation hierarchy	Mitigation hierarchy has gained recognition as an important approach for business to reduce its impact on biodiversity. CBD encourages business to avoid, minimize, restore and offset its negative impacts on biodiversity, and promote good practices that could be models for wider use.[26]	Mention of mitigation hierarchy or its components.
No-net-loss and/or net-positive impact	The concept of 'no net loss' of biodiversity and 'net-positive impact', as articulated by the Business and Biodiversity Offsets Programme, is a recognized practical framework for assessing efforts to implement the CBD provisions by business.	Definition and measures to achieve no-net-loss and/or net-positive impact.

B3   Biodiversity-Related MEAs

International conventions	Justification	List of conventions
Convention of Biological Diversity (CBD)	The Convention on Biological Diversity (CBD) is the principle international legal framework concerning the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the utilization of genetic resources	Reference to CBD or alignment with provision of CBD.
Convention on International Trade in Endangered Species (CITES), Convention on Wetlands of International Importance (Ramsar Convention), UNESCO World Heritage Convention, Convention on Migratory Species (CMS)	These conventions were shortlisted from an initial screening of sampled standards. They were included in the assessment criteria based on their wider applicability across standards either for habitat or species conservation.	Reference to identified international conventions

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22 IUCN 2008 Wildlife in a Changing World: An analysis of the 2008 IUCN Red List of Threatened Species.

23 CBD (2010) Ensuring biodiversity in a sustainable future: lessons from evaluations. http://www.cbd.int/doc/meetings/cop/cop-10/information/cop-10-inf-39-en.pdf.

24 COP 6 Decision VI/23: Alien species that threaten ecosystems, habitats or species. http://www.cbd.int/decision/cop/?id=7197.

25 CBD (2010) Ad Hoc Open-Ended Working Group on Review of Implementation of the Convention – Engagement of Business. UNEP/CBD/WG-RI/3/2/Add.2. Decision X/21.