



Environmental & Social Management System (ESMS)

Standard on Biodiversity Conservation and Sustainable Use of Natural Resources

Version 2.0 – May 2016

Code Version Control and History

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Purpose	To establish risk assessment and management requirements for IUCN projects to avoid negative impacts on biodiversity, maintain the benefits from ecosystem services and assure that any use of natural resources is sustainable.
Is part of	IUCN Environmental and Social Management System (ESMS)
Conforms to	Internationally accepted environmental and social standards and safeguards; in particular with the GEF Policy on Agency Minimum Environmental and Social Standards and the Green Climate Fund's Environmental and Social Safeguards
Related Documents	ESMS Manual, IUCN ESMS Standards on Involuntary Resettlement and Access Restrictions, on Indigenous Peoples and on Cultural Heritage
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Document History

Version	Release date	Summary of changes
Version 1.0	Released in May 2014	
Version 1.1	Released in March 2015	Small adjustments
Version 2.0	Released in May 2016	The scope of the Standard has been extended, the narrow focus on natural habitats has been replaced by a wider consideration of negative impacts on biodiversity, including ecosystems and the services they provide, and on natural resources in general. The revised version also presents a more targeted reflection of the type of risks IUCN projects face; as a result, title, purpose, scope and requirements were modified.

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Environmental and Social Management System Policy Framework

The Environmental and Social Management System (ESMS) is an intrinsic part of IUCN's project cycle. It provides systematic steps and operational tools for managing the environmental and social performance of projects implemented or supported by IUCN. The system allows IUCN to identify potential negative environmental or social impacts and develop suitable measures to avoid, minimise, or compensate for these impacts. It also ensures that the implementation and effectiveness of mitigation measures are monitored and that any impacts arising during execution of the project are addressed.

The ESMS is guided by eight overarching principles and four standards which reflect key environmental and social areas and issues that are at the heart of IUCN's conservation approach.

Principles

- Principle on Taking a Rights-Based Approach
- Principle on Protecting the Needs of Vulnerable Groups
- Principle on Gender Equality and Women Empowerment
- Principle on Stakeholder Engagement
- Principle on Free, Prior and Informed Consent
- Principle on Accountability
- Principle on the Precautionary Principle
- Principle on Precedence of the Most Stringent Standards

Standards

- Standard on Involuntary Resettlement and Access Restrictions
- Standard on Indigenous Peoples
- Standard on Biodiversity Conservation and Sustainable Use of Natural Resources**
- Standard on Cultural Heritage

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A. Introduction

1. The **Standard on Biodiversity Conservation and Sustainable Use of Natural Resources** is a component of IUCN's Environmental and Social Management System (ESMS).
2. As a conservation organisation, it is IUCN's overall objective "to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable."¹
3. Within this mission, IUCN's Programme and projects are designed to:
 - i. protect and conserve biodiversity at all scales, including genetic, species, ecosystem and landscape scale biodiversity in marine, freshwater and terrestrial biomes;
 - ii. maintain or restore ecosystems and their multiple functions, services and benefits; and
 - iii. ensure any use of natural resources is sustainable,

through policies and management practices that integrate social, environmental and economic considerations.

4. Given these overall objectives, it is evident that IUCN should not intentionally undertake or support projects that are expected to directly or indirectly cause negative impacts on biodiversity, including ecosystems and the services they provide, or on natural resources in general. However, IUCN recognises that because competition is increasing for natural resources, such as water, land and biodiversity, IUCN projects often address a complex array of multiple needs for natural resources, where some needs might have to be given priority over others with the risk of causing negative impacts on some elements of biodiversity.

B. Purpose of the standard

5. The purpose of this standard is to add an extra safety step to the IUCN project design process allowing for a systematic check to ascertain that IUCN projects:
 - I. do not adversely impact biodiversity, ecosystem services and natural resources or, if avoidance is not possible, that impacts are minimised to a negligible or acceptable level;²
 - II. adopt an integrated approach that considers the entire ecosystem with its multiple functions, goods and services and the complex interactions between humans and the living and non-living environment;
 - III. ensure the integration of the rights of people, different societal visions and choices in nature conservation strategies; and
 - IV. sustain ecosystem services to maintain their benefits to communities who depend on them for their livelihoods.

¹ IUCN Mission Statement, available <http://www.iucn.org/about/>

² Acceptable level as established by scientific knowledge and communities who depend on the resources.

C. Conformity and relationships with other frameworks

6. The guidance given for the this standard is in compliance with internationally accepted norms and standards related to the protection of biodiversity, ecosystems and natural resources, notably Performance Standard 6 of the International Finance Corporation.³ In fact the objectives and requirements in this ESMS standard are more rigorous than those of other safeguard systems.
7. This ESMS standard reflects the objectives and principles of the *Convention on Biological Diversity* (CBD), guidance documents developed by the CBD and other supplementary agreements and protocols that have been adopted under the CBD including the Cartagena Protocol and the Nagoya Protocol on *Access and Benefit Sharing*.⁴
8. This standard meets the Global Environment Facility's Policy on *Agency Minimum Environmental and Social Standards*,⁵ most notably the *Minimum Standard on Protection of Natural Habitats*. For this standard, protection of natural habitats is understood as supporting the maintenance of the ecosystems and ecosystem processes which yield ecosystem functions. The protection of natural habitats, including critical natural habitat, is therefore fully encompassed by this standard. .

D. Scope of application

9. The standard applies to projects that may have the potential to cause adverse impacts on biodiversity at all scales from genes to landscapes and on ecosystem functions and services in all types of biomes including marine and freshwater ecosystems, forests, drylands and wetlands. This includes – but is not limited to – projects that:
 - i. are located in protected areas, in areas not formally protected but important for their biodiversity value⁷ and/or managed as such by local communities, as well as in other areas of particular importance for the conservation of biodiversity;
 - ii. involve the introduction or reintroduction of species from within or beyond their historical range of occurrence;
 - iii. involve environmental risks when promoting restoration or modification of ecosystems outside protected areas, including ecosystem-based disaster-risk-reduction projects or projects modifying the hydrological cycle; and/or
 - iv. involve the use of living natural resources – harvesting wild living resources as well as cultivating plants and animals for human or animal consumption⁸ or establishing sustainable use schemes for these resources.
10. The standard's applicability is determined through a case-by-case examination as part of the ESMS screening.⁹ The screening is a preliminary desk assessment of potential impacts

³ International Finance Corporation, 2012, *Performance Standards on Environmental and Social Sustainability*, available at <http://tinyurl.com/IFC2012PS>

⁴ The objectives of the Convention on Biological Diversity are outlined on the CBD website, available at <https://www.cbd.int/convention/articles/default.shtml?a=cbd-01>.

⁵ Global Environment Facility, 2015, *Policy on Agency Minimum Standards on Environmental and Social Safeguards*, available at <http://tinyurl.com/GEFSafeguards2015>

⁶ At a later stage this standard will address environmental risks related to synthetic biology, which has the potential to provide solutions to key challenges, including global biodiversity loss, yet may also pose risks to conservation and sustainable development. Being an emerging field of science, it is too early to include it in the standard.

⁷ See definition of areas of high biodiversity value in the glossary; they are also referred to as critical habitats in other safeguard systems.

⁸ For instance, projects involving agriculture, animal husbandry, wild-harvest fisheries, aquaculture, forestry, wildlife management and the harvest of wild plants and other non-timber forest products.

and their significance. It is based on information, including the ESMS Screening Questionnaire, provided by the project proponent and is conducted by the ESMS Coordinator in consultation with members of the IUCN ESMS Expert Team and, as needed, with staff from IUCN regional programmes. The screening determines the project's risk level and required further assessments, as needed.

11. Negative impacts might include the following:

- i. direct impacts occurring in the project site;
- ii. indirect impacts including inadvertent knock-on effects or side-effects of a project given the complexity of ecological processes and the human-environment interface;
- iii. impacts within the project's wider area of influence¹⁰ including transboundary impacts or impacts along the supply chain;
- iv. negative impacts triggered immediately as well as long-term impacts where changes occur because of a succession of impacts;
- v. cumulative effects that materialise through interaction with other developments at the project site as well as in the wider area of influence¹¹

E. Requirements

General risk management requirements

12. The ESMS screening pre-assesses the project for potential adverse impacts on biodiversity, ecosystem services and natural resources. If the screening has determined the potential for adverse impacts, the standard is triggered and an ESIA¹² must be undertaken to analyse identified risks, appropriately address uncertainty issues and develop an appropriate risk management strategy. The level of detail of the assessment should be proportional to the complexity of the project and the identified risks.
13. The application of this standard is guided by the ESMS principles from the ESMS Policy Framework. In adherence to the ESMS Principle on Stakeholder Engagement, the ESIA will involve relevant groups and communities, concerned government authorities, relevant civil society organisations, local experts and traditional knowledge holders in assessing potential impacts on biodiversity and ecosystems and exploring avoidance and mitigation options.
14. In its work with private or public sector agencies that develop infrastructure or other investment projects, IUCN promotes the application of the mitigation hierarchy¹³ for establishing strategies that avoid and minimise negative impacts on biodiversity. Applying this hierarchical approach requires that, first and foremost, risks and impacts are avoided where possible. Negative impacts on biodiversity that cannot be avoided should be minimised. Only after these two options have been rigorously applied should the restoration of a damaged site and/or a compensation strategy (such as biodiversity offsets) be considered.
15. As a conservation organisation whose mission is to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable, IUCN deliberately sets a higher bar for its *own projects* and will not implement

⁹ See the ESMS Manual for details about the ESMS screening www.iucn.org/esms.

¹⁰ See definition of wider area of influence in the glossary.

¹¹ There is a limit to what extent future developments can be foreseen. However, it is good practice for the project proponent to have ample consultations with other stakeholders to capture as much information as possible.

¹² ESIA is used as a generic term covering different types of assessments (full ESIA or partial ESIA targeting specific risk issues).

¹³ See definition of mitigation hierarchy in the glossary.

or support projects that risk harming biodiversity to the extent that either restoration or compensation would be required.

16. Risk avoidance strategies might include giving preference to alternative project approaches and/or to siting physical infrastructure on land where natural habitats and associated biodiversity have been already converted to other land uses.
17. Where impacts cannot be completely avoided, measures should be taken to minimise them so that they become negligible or acceptable based on scientific knowledge and by the communities who depend on the resources. The determination of acceptable should also involve weighing these impacts against the project's overall expected biodiversity gains. Only projects with a clear net biodiversity benefit compared to the baseline scenario should be supported.
18. The standard requires that negative impacts across different temporal scales be taken into account, including long-term impacts. For predicting impacts, it is good practice to develop scenarios using models and techniques that are sufficiently robust, both technically and scientifically. The level of uncertainty should be indicated. Given the complexity of predicting impacts over a long time, it is important to apply the precautionary principle and use adaptive management¹⁴ practices during project implementation.
19. The standard emphasises the need for recognising impacts on biodiversity and ecosystem functions and services across different spatial scales. This requires expanding the scope beyond the project site and identifying the wider area over which the project has influence (e.g., adjacent and other ecosystems, up- and down-stream areas). Adopting a landscape or seascape approach is beneficial.

Risk management requirements relevant to specific areas of IUCN's work

The following sections list requirements for identifying and managing risks relevant to specific areas of IUCN's work. These requirements are complementary to the general requirements above.

I. Risks related to protected areas and other areas of importance for biodiversity conservation

One of the principal ways in which IUCN achieves the conservation of biodiversity and ecosystems is by promoting and facilitating the establishment, effective management and equitable governance of protected areas of all categories and governance types. IUCN also promotes conservation strategies for areas that are not formally protected but are important for their biodiversity values and managed as such by indigenous peoples, other traditional and local communities, or other local users.

Other areas of key focus are those known by authoritative sources as areas of high biodiversity value, such as areas of important habitat for threatened species according to the IUCN *Red List of Threatened Species* and areas identified as Key Biodiversity Areas.¹⁵ Areas of key focus can include ecosystems that have been modified by humans, yet have significant biodiversity value and present critical ecosystem services or features for the survival of certain species.

¹⁴ See definition of adaptive management in the glossary.

¹⁵ See full list of areas considered as "areas with high biodiversity value" in glossary.

It is important to understand that the geographical space IUCN considers as important for biodiversity conservation is more comprehensive than the concept of natural and critical habitat used in other safeguard systems.¹⁶ Hence, the protection of natural habitats and in particular of critical habitats is fully encompassed in IUCN's areas of key focus.

IUCN projects are generally not expected to have negative impacts on any of these ecosystems and their associated biodiversity. However, the purpose of the minimum requirements below is to assure that all risks or potential impacts (including minor impacts) are identified and appropriately addressed.

Minimum requirements

20. The ESMS screening pre-assesses whether a project has any risk of negative impacts. If risks are identified, the screening determines the risk level and the type of ESIA¹⁷ needed to assess the significance of impacts and develop mitigation measures. Potential risk issues relevant for projects in protected areas or other areas of high biodiversity value are listed below.
 - i. *Projects that establish or expand protected areas*: consider risks for the natural resource management regimes of areas beyond the boundaries of the protected area;
 - ii. *Projects that alter the management plan of a protected area*: consider direct and indirect impacts of the proposed management plan on all components of biodiversity in or beyond the boundaries of the protected area;
 - iii. *Projects that develop infrastructure for protected area management or visitor use*: consider impacts of developing infrastructure such as roads, hides, watch towers, walkways, staff accommodation lodging facilities, visitor centres or trails –during construction phase and afterwards;
 - iv. *Projects that develop ecotourism*: consider potential disturbances to the ecosystem and its flora and fauna through overuse of campsites, inappropriate waste disposal, water consumption and waste water disposal, purposeful disturbance of wildlife, accidental fires, trespassing into fragile areas, or slope erosion due to overuse of trails.
21. Where project activities are located within a legally protected area¹⁸ or an internationally recognised area¹⁹ the project must assure that activities are consistent with existing protected area management plans²⁰ and that relevant stakeholders (protected area sponsors and managers, local communities, indigenous peoples and other key stakeholders, as relevant) are appropriately consulted.
22. Potential social impacts caused by the establishment, expansion, management or development of protected areas:
 - i. as a consequence of restrictions in access to areas or in the use of natural resources are addressed through the ESMS Standard on Involuntary Resettlement and Access Restriction; or

¹⁶ For instance the Global Environment Facility's Policy on *Agency Minimum Standards on Environmental and Social Safeguards with its Minimum Standard 2: Protection of natural habitats*, available at <http://tinyurl.com/GEFSafeguards2015>; please refer to the definition of natural habitats and critical habitats in the glossary.

¹⁷ ESIA is used as a generic term covering different types of assessments (full ESIA or partial ESIA targeting specific risk issues).

¹⁸ See definition of protected area in the glossary.

¹⁹ Defined as UNESCO Natural World Heritage Sites, UNESCO Biosphere Reserves or wetlands under the Ramsar Convention on Wetlands.

²⁰ It is noted that IUCN projects often aim at improving existing management plans to achieve conservation goals.

- ii. as a consequence of disturbances to the livelihoods of indigenous peoples are addressed through the ESMS Standard on Indigenous Peoples.

23. It is evident that IUCN projects will not implement activities that risk significantly affecting biodiversity within protected areas (including those officially proposed as protected areas), conserved areas or areas with high biodiversity value, with impacts that are irreversible and long-term or contribute to their destruction, fragmentation and/or degradation. If strategies for avoiding or minimising these risks are not feasible, the project will not be supported.

II. Risks related to the introduction of species and management of invasive species

Many of the world's ecosystems have undergone significant degradation with negative impacts on biological diversity and peoples' livelihoods. Hence species conservation and the conservation of ecosystems and ecological restoration represent important areas of IUCN's work.

Deliberate introduction. Conservation strategies for species may involve species translocations²¹ that can be (1) a reinforcement and reintroduction of a species *within* its historical range of occurrence (2) or a conservation introduction comprising assisted colonisation and ecological replacement *outside* its indigenous range.²²

Ecological restoration projects aimed at recovering degraded, damaged or destroyed ecosystems may also require the reintroduction of species from within their historical range of occurrence, or, in some cases, the introduction of species outside their natural range. Also other types of interventions such as ecological engineering, green infrastructure development or ecosystem-based disaster-risk-reduction projects, may involve the reintroduction or introduction of species.

Translocation can be an effective conservation tool. However, its use involves risks affecting the focal species and its/their associated communities and ecosystem functions in both source and destination areas. There are also risks of impacts on people. Translocations of organisms outside of their historical range are especially risky as evidenced by numerous examples where species released outside their indigenous ranges have become invasive, often with massively adverse impacts.

Accidental introduction. Conservation projects, especially those involving the production of living natural resources (e.g., agriculture, animal husbandry, aquaculture or forestry), might *accidentally* introduce non-native species. Projects may also result in the inadvertent contamination of gene pools by introducing an ecotype or variant that does not naturally occur in the area.

To avoid risks for biodiversity, the following minimum requirements and good practice recommendations should be respected.

Minimum requirements

24. All projects that may provide a key pathway for invasive species are screened for their potential to *accidentally* introduce invasive alien species. This applies in particular to projects that involve the production of living natural resources (e.g., agriculture, animal husbandry, aquaculture and forestry), but also to activities such as import of commodities,

²¹ See definition of species translocation in glossary.

²² IUCN/Species Survival Commission, 2013, *Guidelines for Reintroductions and Other Conservation Translocations*. Version 1.0, available at <https://portals.iucn.org/library/efiles/edocs/2013-009.pdf>

movement of boats, or tourism.²³ If the screening identifies a risk, an ESIA²⁴ will be required. The screening will determine the level and type of assessment needed.

25. Ecological restoration projects that include the *deliberate translocation* of species should generally give preference to native (indigenous) species. While giving preference to native species, the ultimate choice of species should also consider species' adaptive capacity to climate change in order to restore ecosystem functionality and resilience; this may require in-depth analysis as well as the identification of measures to mitigate risks.
26. Any project that deliberately translocates or introduces species is considered at least a moderate- if not a high-risk project.²⁵ Projects that plan to introduce species outside its natural range to achieve a conservation outcome are always considered high-risk projects.
27. Moderate- and high-risk projects require a comprehensive risk assessment with a level of effort appropriate to the level of risk, as well as a risk management plan. The assessment should include determining the potential of the species for developing invasive characteristics as well as the risks of infecting wild species with diseases,²⁶ and rigorously weigh the conservation benefits against the costs and risks of both the translocation and alternative strategies. If risks are high and/or uncertainty remains about risks, the translocation should not proceed.²⁷
28. Projects introducing species outside its natural range must prove that their activities are in accordance with the regulatory framework for such species introductions in the country.
29. If alien species are established in the country or region where the proposed project is sited, diligence must be exercised to keep them from spreading into areas in which they are not already established. The potential risk of spreading invasive species through project activities that involve facilitatory species (e.g., mammals might spread the seeds of an invasive plant) needs to be taken into account as well as the risks of restoration projects creating corridors of expansion for invasive species.
30. Projects in ecosystems that are particularly vulnerable to invasive species should be accorded the highest attention. Vulnerable ecosystems include islands and isolated ecosystems such as lakes and other freshwater ecosystems, cloud forests, coastal habitats and mountain ecosystems.

Good practice recommendations

31. If appropriate, measures should be taken to manage or eradicate invasive alien species from the natural habitats over which the project has management control. If these measures include the use of pesticides to control invasive species, the provisions from the IUCN Guidance Note on Pest Management Planning²⁸ will apply.

III. Risks related to managing or restoring ecosystems and ecosystem services

²³ These pathways and relevant guidelines and tools are described in the CBD document *Pathways of Introduction of Invasive Species, their Prioritization and Management*, available at <http://tinyurl.com/CBD2014Invasive>

²⁴ ESIA is used as a generic term covering different types of assessments (full ESIA or partial ESIA targeting specific risk issues).

²⁵ For an explanation of the risk categories see glossary and the ESMS Manual.

²⁶ In accordance with the IUCN *Guidelines for wildlife disease risk analysis*, available at <http://www.iucn-whsg.org/dra>

²⁷ IUCN/ Species Survival Commission, 2013, *Guidelines for Reintroductions and Other Conservation Translocations*, Version 1.0., available at <https://portals.iucn.org/library/efiles/edocs/2013-009.pdf>; IUCN, 2000, *Guidelines for the Prevention of Biodiversity Loss caused by Alien Invasive Species*, available at http://www.issg.org/pdf/guidelines_iucn.pdf; further guidance is provided on the IUCN/SSC Reintroduction Specialist Group website at <http://www.iucnsscrg.org/>.

²⁸ See ESMS Guidance Note on Pest Management Planning, available at www.iucn.org/esms.

This section focuses on ecosystems located mainly outside of protected areas that may be subject to risks caused by interventions promoted by IUCN projects. These interventions may include efforts to provide nature-based solutions²⁹ to address societal challenges by managing, restoring or preserving ecosystems in order to maintain or enhance biodiversity and the provision of environmental services, such as reliable water resources, and ecosystem-based disaster risk reduction efforts.³⁰ While positive conservation impacts are intended, the complexity of ecological processes and interactions among species and other living and non-living components of the ecosystem (including water, air and soil) might give rise to unwanted adverse environmental impacts, such as indirect or knock-on effects or long-term impacts, some of which might be accelerated or amplified by climate change.³¹

Risks might also occur if a project aimed at tackling a certain biodiversity pressure adversely affects the delivery of ecosystem services upon which a community's livelihood depends. For example, a project to restore an upstream forest landscape using water-intensive species may reduce rates of water infiltration and instream flows. A project that introduces rainwater harvesting or small water storage structures to cope with water and food scarcity in a human settlement may reduce water availability in downstream ecosystems. Removing a dam to restore a river flow regime might lead to increased sediment flowing downstream potentially harming downstream ecosystems on which people depend.

To avoid risks for biodiversity, ecosystem functions and the delivery of ecosystem services, the minimum requirements listed below must be respected.

Minimum requirements

32. If the ESMS screening identifies risks for biodiversity, ecosystem functions and/or for ecosystem services on which communities depend for their livelihoods, an ESIA³² is necessary. The screening determines the level and type of assessment needed.
33. If communities whose livelihoods depend on the delivery of ecosystem services are potentially affected by a project that manages or restores ecosystems, they must be involved in identifying and assessing the significance of the impacts and developing mitigation measures.
34. Projects promoting ecosystem restoration, including forest landscape restoration, will always ensure that biodiversity, ecosystem functions and ecosystem services are maintained or enhanced.
35. If a project is likely to cause disturbances of water dynamics, river connectivity or the hydrological cycle more generally with the risk of inhibiting freshwater and other water-related ecosystems from fulfilling their functions up- and down-stream, the screening must call for specialist studies to assure the integrity of watersheds, river systems, estuaries or wetlands.
36. IUCN does not promote the use of compensation measures for adverse impacts on water resources or on water ecosystems such as wetlands. Offsetting impacts affecting water flows and water availability elsewhere is highly complicated because of the seasonality of

²⁹ See definition of nature-based solutions in the glossary.

³⁰ See definition of ecosystem-based disaster risk reduction in glossary; examples include slope restoration, construction of vegetation barriers, mangrove restoration to prevent storm surges.

³¹ An ESMS standard is in preparation to more explicitly address environmental and social risks of projects failing to take climate change factors into consideration.

³² ESIA is used as a generic term covering different types of assessments (full ESIA or partial ESIA targeting specific risk issues).

supply and demand of water and the critical importance of water quality to the environment and other water users.³³ Options such as water conservation measures, alternative water supplies, mitigation or/and avoidance of resource contamination, and demand management must be considered instead to meet demand for water resources within the available supply.

37. The screening process must assure that determination of environmental flows and decisions on water allocation, as well as management strategies for the wider ecosystem, take the needs of different stakeholders into account as well as the diversity of societal visions, environmental objectives, values and perceived threats when it comes to the future sustainability of their landscape or river basin.

IV. Risks due to unsustainable use of living natural resources

In accordance with IUCN's mission, IUCN projects aim to ensure that any use of living natural resources is equitable and ecologically sustainable. Sustainable use means that the resources are used in a way and at a rate that does not lead to long-term decline of the target species or of other potentially affected components of biodiversity. The sustainability of living natural resources is a function of biological or ecological factors (e.g., off-take pressure, biological production, habitat quality, and resilience), social factors (e.g., livelihood needs, culture, diversity of societal visions and environmental objectives) and economic factors (e.g., perception of costs and benefits, existence of markets, property rights).

The sustainable use of living resources can be an important conservation tool because the social and economic benefits derived from such resources provide incentives for people to conserve them.³⁴ However, IUCN recognises that even IUCN projects could lead inadvertently to unsustainable use. Examples are projects promoting sustainable harvesting that lack appropriate institutional structures for verification or projects that disrupt or curtail traditional sustainable natural resource management systems.

For this standard, living natural resources are defined as wild living resources or plants and animals cultivated for human or animal consumption. This standard addresses projects involving agriculture, animal husbandry, wild-harvest fisheries, aquaculture, forestry, wildlife management and the harvest of wild plants and other non-timber forest products.

Following the definition in the *White Oak Principles of Sustainable Use*,³⁵ achieving sustainable use of living natural resources should be considered a dynamic, ongoing process rather than a static state because knowledge about the natural system is always uncertain, and because both ecological and human aspects of sustainable use interactions change over time.³⁶

To move towards sustainability, the following requirements must be applied to any IUCN projects that involve use of living natural resources or that might significantly impact existing sustainable use systems.

³³ An argument against offset strategies for water is that 'saved' water that is created by any water intervention has to be allocated to another beneficial use in order for that water to have some value to another user – including leaving the water in the river or aquifer for environmental needs.

³⁴ IUCN, 2000, *Policy Statement on Sustainable Use of Wild Living Resources*, adopted at IUCN World Conservation Congress, Amman, available at: <https://portals.iucn.org/library/efiles/documents/Rep-2000-054.pdf>.

³⁵ IUCN Sustainable Use Initiative/ Sustainable Use Group, 2001, *White Oak Principles of Sustainable Use*, available at <http://cmsdata.iucn.org/downloads/woprinciples.pdf>.

³⁶ R. Cooney, 2007, *Sustainable use: Concepts, ambiguity, challenges*, available at <http://cmsdata.iucn.org/downloads/whiteoakmtgfinalbackgroundjuly07.pdf>.

Minimum requirements

38. If an IUCN project proposes resource management, production systems or harvest plans and the ESMS screening has identified sustainability risks, an ESIA³⁷ must be carried out to assess significance of impacts and identify strategies for avoiding or minimising impacts.
39. In analysing the use of natural resources for potential social impacts, and following the ecosystem management approach,³⁸ it is important to take into account the diversity of societal visions and choices in nature conservation strategies, including beliefs and values, knowledge systems, locally defined management objectives and practices of diverse cultural groups and their interrelationship with ecological conditions as well as the capacity and strategy of the host government in managing the environmental resources.
40. It is also critical to identify and avoid or minimise broader negative environmental impacts related to the use of natural resources. For instance, the concept of sustainable fisheries not only includes limiting the harvest of target species but also minimising negative impacts on by-catch species and marine and aquatic habitats.
41. Applying the precautionary principle may sometimes prohibit the use of natural resources, especially in situations where urgent measures are required to avert imminent threats or where particularly vulnerable species or ecosystems are concerned.
42. However, in accordance with the IUCN *Guidelines for Applying the Precautionary Principle to Biodiversity and Natural Resource Management*,³⁹ the search for alternatives and practical solutions should acknowledge that there may be threats associated with all courses of action and that decisions may involve a choice between 'risk and risk' rather than between 'risk and caution'. Hence, it is important to recognise that prohibitions themselves can carry conservation risks, as well as raise potential rights and livelihoods issues.
43. Because the use of natural resources can contribute to meeting important socio-economic and cultural priorities and dependencies, any changes to the systems used for harvesting wild living resources (e.g., hunting restrictions) should be scrutinised for impacts on livelihoods, income, food security and other systems. Projects that restrict access to and/or use of natural resources trigger the ESMS Standard on Involuntary Resettlement and Access Restrictions.
44. IUCN projects generally do not support plantation development and in particular do not support plantation development that involves conversion or degradation of natural forest areas or of other areas with high biodiversity value. However, if conservation objectives justify the development of a plantation, for example, as part of a livelihood strategy for local communities or as part of a wider social-ecological strategy, it is important to assure that the project is environmentally appropriate, socially beneficial and economically viable.
45. If a project requires the purchase of a significant amount of primary production in regions where there is risk of significant conversion of areas of high biodiversity value, IUCN applies appropriate industry-specific sustainability verification practices, preferably codified in globally, regionally, or nationally recognised standards, for evaluating its primary

³⁷ ESIA is used as a generic term covering different types of assessments (full ESIA or partial ESIA targeting specific risk issues).

³⁸ Gill Shepherd, Ed., 2008, *The ecosystem approach: Learning from experience*, Ecosystem Management Series 6, Gland: IUCN, available at <https://portals.iucn.org/library/efiles/edocs/CEM-005.pdf>.

³⁹ IUCN, 2007, *Guidelines for Applying the Precautionary Principle to Biodiversity and Natural Resource Management*, available at http://cmsdata.iucn.org/downloads/ln250507_ppguidelines.pdf.

suppliers. Procurement must be limited to suppliers that can demonstrate that they are not contributing to significant conversion of areas of high biodiversity value.⁴⁰

46. IUCN avoids the application of biocides such as pesticides or herbicides and promotes production practices that reduce the occurrence of pests, increasing natural enemies of pests and using other biological control techniques. However, in certain cases, biocides cannot be avoided. The standard requires evidence that options for avoiding the use of biocides have been rigorously considered and none have proven viable. To ensure that environmental and health risks associated with pesticide use are minimised and managed, an appropriate pest management planning process must be carried out including risk assessment and disclosure of a Pest Management Plan. A guidance note provides further details.⁴¹
47. In some situations, biological pest management techniques can negatively impact biodiversity. If the screening has identified risks associated with the use of biological control measures, an assessment of risk is required.

Good practice recommendations

48. The IUCN *Red List of Threatened Species* provides information that can help determine whether harvest rates are sustainable and/or whether sustainable harvests are likely to be possible. However, relying solely on a species' listing status from the global *Red List* for developing a local harvest plan is not sufficient; other supporting information such as site-level data, socio-economic and biological data are required.⁴²
49. The emerging IUCN *Red List of Ecosystems*⁴³ can provide insights into risks to an ecosystem and suggests what needs to be done to reduce risk, or reward good ecosystem management.
50. Enhancing the sustainability of the use of living natural resources involves an ongoing process of improved management of those resources. In accordance with the Addis Ababa Principles,⁴⁴ such management should be *adaptive*; based on: (1) science and traditional and local knowledge, and (2) iterative, timely and transparent feedback derived from monitoring the environmental and socio-economic impacts and the status of the resource being used. An adaptive approach is particularly important when there is considerable uncertainty about possible impacts due to gaps in information or limitations of the predictive power of available methods for detecting and assessing threats and impacts. It is consistent with applying the precautionary principle.
51. The trade in wild species and their products is both an opportunity and a threat; it is a major source of income for some groups and can provide incentives to maintain species and habitats while generating critical livelihood benefits. However, unsustainable and/or illegitimate trade in wildlife can drive species towards extinction, fuel wildlife crime, and undermine local livelihoods and governance structures. Projects involved in this area need

⁴⁰ For further guidance on supplier selection and evaluation please refer to IFC Performance Standard 6, paragraph 30.

⁴¹ See ESMS Guidance Note on Pest Management Planning, available www.iucn.org/esms.

⁴² IUCN, 2011, *Guidelines for appropriate uses of IUCN Red List Data: Incorporating the guidelines for reporting on proportion threatened and the guidelines on scientific collecting of threatened species, Version 2*, available at http://www.iucnredlist.org/documents/RL_Guidelines_Data_Use.pdf.

⁴³ See the Red List for Ecosystem website, available at <http://iucnrle.org/>.

⁴⁴ Secretariat of the Convention on Biological Diversity, 2004, *Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity (CBD Guidelines)*, available at <https://www.cbd.int/sustainable/addis-principles.shtml>

to make informed and evidenced judgements about the likely impact of any increase or decrease in wildlife trade on conservation and local livelihoods.⁴⁵

52. Projects engaged in the production of living natural resources should use industry-specific sustainable management practices and standards and, where available and appropriate, credible⁴⁶ verification or certification schemes.⁴⁷ If such a system is unavailable or inadequate, the development of sustainable management practices and a credible standard might be pursued in cooperation with relevant stakeholders.
53. For projects promoting sustainable harvesting of medicinal and/or aromatic plants, it is good practice to refer, where relevant, to the FairWild Standard version 2.048 and the *Guidelines on the conservation of medicinal plants*.⁴⁹ IUCN has also developed special guidance for promoting sustainable aquaculture.⁵⁰ Projects relating to high-value recreational hunting will benefit from reference to the IUCN Species Survival Commission's *Guiding principles on trophy hunting as a tool for creating conservation incentives*.⁵¹

F. Specialised expertise

54. General roles and responsibilities are described in the ESMS Manual. Additional expertise can be sought as necessary from expert networks within the IUCN Commissions – such as the Species Survival Commission (SSC), Commission on Environmental, Economic and Social Policy (CEESP), the Commission on Ecosystem Management (CEM), the World Commission on Protected Areas (WCPA), Theme on Indigenous Peoples, Local Communities, Equity and Protected Areas (TILCEPA), Theme on Sustainable Livelihoods (TSL), the Specialist Groups on Indigenous Peoples, Customary & Environmental Laws & Human Rights (SPICEH) and on Sustainable Use and Livelihoods (SULI) as well as from IUCN Members and partners.⁵²

⁴⁵ A framework to analyse the impact of wildlife trade on conservation and local livelihoods is provided in Cooney et al., 2015, *The trade in wildlife: A framework to improve biodiversity and livelihood outcomes*, International Trade Centre, available at <http://tinyurl.com/ITC2015Wildlife>.

⁴⁶ Please refer to the credibility principles established by the International Social and Environmental Accreditation and Labelling Alliance (ISEAL), available at: http://issuu.com/isealalliance/docs/credibility_principles_booklet.

⁴⁷ Examples are the industry standards developed by the Forest Stewardship Council (<https://us.fsc.org/en-us>), the Sustainable Agricultural Network (<http://san.ag/web/>), the Roundtable for Sustainable Palm Oil (<http://www.rspo.org/>) and Aquaculture Stewardship Council (<http://www.asc-aqua.org/>). The International Trade Centre's Standard Map is a good source for updates on standards and management practices (<http://www.standardmap.org/>).

⁴⁸ The FairWild Standards emerged from the *Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants* developed by Medicinal Plant Specialist Group in collaboration with German Federal Agency for Nature Conservation (BfN), TRAFFIC, WWF.

⁴⁹ World Health Organisation, IUCN and World Wildlife Fund, 1993, *Guidelines on the conservation of medicinal plants*, available at: <http://apps.who.int/medicinedocs/documents/s7150e/s7150e.pdf> (currently being updated).

⁵⁰ IUCN, 2007, *Guide for the sustainable development of Mediterranean aquaculture*, Gland, Switzerland and Malaga, available at https://cmsdata.iucn.org/downloads/acua_en_final.pdf.

⁵¹ IUCN Species Survival Commission, 2001, *Guiding principles on trophy hunting as a tool for creating conservation incentives*, available at: https://cmsdata.iucn.org/downloads/iucn_ssc_guiding_principles_on_trophy_hunting_ver1_09aug2012.pdf.

⁵² See IUCN website for contact details at www.iucn.org.

Glossary

Term	Definition or explanation
Adaptive management	Adaptive management, loosely defined as ‘learning by doing’, relies on an accumulation of credible evidence to support action-demanding decisions. ⁵³
Areas with high biodiversity value	IUCN considers sites as areas with high biodiversity value or significant biodiversity features on the basis of one or more of the following attributes: <ul style="list-style-type: none"> • areas important to threatened species according to IUCN <i>Red List of Threatened Species</i>; • areas important to endemic or restricted-range species or to migratory and congregatory species; • areas representing key evolutionary processes, providing connectivity with other critical habitats or key ecosystem services; • highly threatened and/or unique ecosystems (e.g. to be determined in future by the evolving IUCN <i>Red List of Ecosystems</i>); • areas identified as Key Biodiversity Areas (KBA) and subsets such as: <ul style="list-style-type: none"> ○ important Bird and Biodiversity Areas (IBAs) ○ important Plant Areas (IPAs) ○ important Sites for Freshwater Biodiversity and ○ Alliance for Zero Extinction (AZE) sites • areas identified as High Conservation Value areas (HCV). By other safeguard system these areas are often referred to as <i>critical habitats</i> . ⁵⁴
Biological diversity	Variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (CBD). ⁵⁵
Biodiversity offsets	Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. ⁵⁶
Critical Habitats	Critical habitats is used synonymous with ‘areas of high biodiversity value’, see definition in this glossary.
Ecosystem	Dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (CBD).
Ecosystem management approach/ Ecosystem approach	A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. It is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems. ⁵⁷
Ecosystem	Benefits that people, including businesses, derive from ecosystems. Ecosystem

⁵³ Walters and Holling, 1990, *Large-Scale Management Experiments and Learning by Doing*, Ecology, Vol. 71, No. 6.

⁵⁴ See for instance International Finance Corporation, 2012, *Performance Standards on Environmental and Social Sustainability*, available at <http://tinyurl.com/IFC2012PS>.

⁵⁵ Definitions from the Convention on Biological Diversity quoted in the glossary are available at <https://www.cbd.int/convention/articles/default.shtml?a=cbd-02>.

⁵⁶ Business and Biodiversity Offsets Programme (BBOP), 2012, *Standard on Biodiversity Offsets*, BBOP, Washington, D.C., available at <http://bbop.forest-trends.org/guidelines/Standard.pdf>.

⁵⁷ Convention on Biological Diversity, available from <https://www.cbd.int/ecosystem/>

services	<p>services are organised into four types:</p> <ol style="list-style-type: none"> 1. provisioning services, which are the products people obtain from ecosystems; 2. regulating services, the benefits people obtain from the regulation of ecosystem processes; 3. cultural services, the nonmaterial benefits people obtain from ecosystems; and 4. supporting services, the natural processes that maintain the other services.⁵⁸
Ecosystem-based disaster risk reduction	Sustainable management, conservation and restoration of ecosystems to provide services that reduce disaster risk by mitigating hazards and by increasing livelihood resilience. ⁵⁹
Environmental and Social Impact Assessment (ESIA)	An ESIA is an assessment prescribed for IUCN projects where high or moderate environmental or social risks are anticipated. It examines the identified impacts, analyses their significance and develops suitable mitigation measures to avoid, minimise, or compensate for these impacts.
Habitat	Habitat means is the place or type of site where an organism or population naturally occurs. (CBD).
Mitigation hierarchy	A sequence of actions to anticipate and avoid risks and impacts, or where avoidance is not possible to minimise and/or compensate for.
Natural habitat	An area composed of viable assemblages of plant and/or animal species of largely native origin and/or where human activity had not essentially modified its primary ecological functions and species composition (IFC 2012). ⁶⁰
Modified habitat	Areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition. Also often referred to as semi-natural habitat. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands (IFC, 2012).
Natural resources	Natural resources: includes living renewable living natural resources as well as non-living natural resources such as land, soil and water. For the purpose of this Standard the use of living natural resources includes harvesting of wild living resources as well as the cultivation of plants and domestication animals. This encompasses all types of forestry, whether in natural forests or in plantations, as well as non-timber forest products which may be harvested from natural forests; all types of agriculture, including both annual and perennial crops and animal husbandry, including livestock; and both wild and capture fisheries including all types of marine and freshwater organisms, both vertebrate and invertebrate (IFC, 2012)
Nature-based solutions	Interventions continuously supported by the protection, management and restoration of natural or modified ecosystems, to directly address societal challenges in an effective and adaptable manner; by doing so, they simultaneously provide human well-being and biodiversity benefits (IUCN, working definition).
Protected area	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.

⁵⁸ Millennium Ecosystem Assessment, available at <http://www.millenniumassessment.org/documents/document.300.aspx.pdf>.

⁵⁹ Partnership for Environment and Disaster Risk Reduction (PEDRR), 2013, available at <http://pedrr.org/>

⁶⁰ International Finance Corporation, 2012, *Performance Standards on Environmental and Social Sustainability*, available at <http://tinyurl.com/IFC2012PS>.

Species translocation	Conservation translocation is the deliberate movement of organisms from one site for release in another. ⁶¹
Wider area of influence	Areas, individuals and communities beyond the footprint of the project or activity affected by cumulative impacts from further planned development of the project or other sources of similar impacts in the geographical area, by any existing project or condition, or by other project-related developments that can realistically be expected at the time due diligence is undertaken.

⁶¹ IUCN/Species Survival Commission, 2013, Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0, available at <https://portals.iucn.org/library/efiles/edocs/2013-009.pdf>.