

Guidance Note for  
Standard 3 on  
**Biodiversity  
and Ecosystems**



European  
Investment  
Bank



*The EIB bank*





# Guidance Note for Environmental and Social Standard 3 on Biodiversity and Ecosystems

*This Guidance Note has been prepared with the support of Dr J. R. Treweek.*

## Introduction

The purpose of this document is to assist the user of EIB's Standard 3: "*Biodiversity and Ecosystems*" (the Standard). The Standard and this Guidance Note should be read together: the content of the Guidance Note aligns with the main headings in the Standard and provides additional information as needed to support interpretation and implementation.

## International Commitments and Legal Requirements

The Standard emphasises the need for developments to be designed and implemented in accordance with relevant instruments of European and international law and commitments made by the European Union (EU) under international agreements and conventions (paragraph 5). Key requirements are summarised below and references to further guidance or sources of additional information are provided.

### International Commitments

International conventions and agreements relevant to EIB's Standard 3 that have been signed by the EU are listed in Table 1:

**Table 1: overview of biodiversity-related international conventions and agreements**

<b>Convention</b>	<b>Main considerations</b>
The Convention on Biological Diversity of 1992 (CBD). <a href="http://www.cbd.int">www.cbd.int</a>	The main international agreement governing EU biodiversity policy. The EU and its Member States are all parties to the Convention, which requires assessment of the significant adverse effects of projects on biological diversity (defined in Article 2 of the Convention), with a view to avoiding or minimising such effects. The CBD supports efforts to adequately reflect biodiversity considerations in impact assessments.
The Convention on the Conservation of European Wildlife and Natural Habitats (the <b>Bern Convention</b> ); adopted in Bern, Switzerland in 1979, and came into force in 1982. <a href="https://www.coe.int/en/web/bern-convention/presentation">https://www.coe.int/en/web/bern-convention/presentation</a>	The EU is a signatory to the Convention which has the principal aims of: ensuring the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II), increasing cooperation between contracting parties, and regulating the exploitation of species (including migratory species) listed in Appendix III.  The Convention imposes legal obligations on contracting parties to protect over 500 wild plant species and more than 1,000 wild animal species. The EU meets its obligations by means of Directive 2009/147/EC on the conservation of wild birds (the Birds Directive) (the codified version of Council Directive 79/409/EEC as amended) and the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). The Emerald Network of Areas of Special

	Conservation Interest (ASCI) underpins the Convention's efforts to conserve natural habitats through its Article 4. The Natura 2000 network constitutes the EU's contribution to the Emerald Network, which also includes sites in some African countries.
The Convention on the Conservation of Migratory Species of Wild Animals, 1979 (Bonn Convention or CMS). <a href="http://www.cms.int">www.cms.int</a>	Article III (4), refers to prevention of adverse impacts and of factors likely to further endanger species listed on Appendix I. Impact assessments should consider flyway implications of developments and the particular requirements of migratory species throughout their ranges. This may require trans-boundary considerations or impact assessments in some cases.
The Convention on International Trade in Endangered Species of Wild Flora and Fauna, 1975 (CITES). <a href="http://www.cites.org">www.cites.org</a>	May have implications for assessment of supply chain and indirect impacts of human activities.
The Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971 (Ramsar Convention). <a href="http://www.ramsar.org">www.ramsar.org</a>	Requires assessment of implications for the integrity of designated sites and the sustainability of natural resource use, as well as conservation of species.
Convention concerning the Protection of World Cultural and Natural Heritage, 1972 (UNESCO World Heritage Convention). <a href="http://www.whc.unesco.org/en/convention/">www.whc.unesco.org/en/convention/</a>	Where designation relates to natural capital, unique values may be protected for which acceptable outcomes will be challenging to achieve. The need for "no go" options should be considered when alternatives are assessed, to ensure that unique values are preserved.

### ***The Convention on Biological Diversity***

The United Nations Convention on Biological Diversity ('the Convention'), to which the EU is party, sees environmental assessment as an important mechanism for contributing to attainment of the headline target, also adopted by the European Council in 2010, of halting biodiversity loss and the degradation of ecosystem services by 2020 and restoring them where feasible.

EIB's Standard 3 should be followed with a view to supporting efforts to meet the objectives and targets set out in:

- The Convention's *Strategic Plan for Biodiversity 2011-2020* (adopted in Nagoya, October 2010), which aims to inspire action for biodiversity by all countries and stakeholders.
- *The Aichi Targets*, which include 20 headline targets organised under five strategic goals that address the underlying causes of biodiversity loss, reduce the pressures on biodiversity, safeguard biodiversity at all levels, enhance its benefits, and provide for capacity-building.
- *National Biodiversity Strategies and Action Plans*, which are the principal instruments for implementing the Convention at the national level. The Convention requires countries to prepare a national biodiversity strategy (or equivalent instrument) and to ensure that this strategy is mainstreamed into the planning and activities of sectors whose activities could have an impact (positive or negative) on biodiversity. Aichi Target 17 relates to the development and implementation of those strategies.

## **EU Biodiversity Strategy**

To conform with EIB's Standard 3, projects should be designed and implemented in accordance with EU policies and strategies for biodiversity, notably the *EU 2020 Biodiversity Strategy*, which reflects the commitments made by the EU in 2010 within the framework of the international Convention on Biological Diversity. In line with the Aichi Targets, the Strategy sets targets for actions to halt the loss of terrestrial and marine biodiversity and the degradation of ecosystem services by 2020 and to restore a proportion of them. Review of progress in 2015<sup>1</sup> showed continuing declines in biodiversity and degradation of ecosystem services, consistent with global trends: with the exception of Target 5 (combat invasive alien species), there had been no, or insignificant progress towards achieving the Strategy's targets since the EU 2010 biodiversity baseline. Projects supported by EIB are therefore expected to make a tangible contribution to achieving the targets, including efforts to safeguard or enhance the conservation status of ecosystems and species that are threatened at a global, EU or national level. This also applies to projects located outside the EU and to areas affected indirectly by projects via their supply chains.

## **Requirements under EU Legislation and Directives**

The EIB requires projects in the EU, Candidate and potential Candidate countries to conform with all relevant EU environmental legislation. Projects in other countries must provide the necessary assurance that similar outcomes can be achieved to those that would be required under EU legislation, using methods or procedures that broadly align with those specified in relevant EU instruments. Projects must be designed and implemented in accordance with the spirit of EU environmental legislation even if they are located outside the EU.

The following EU Directives are especially relevant to EIB's Standard 3:

- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the EIA Directive).
- Directive 2001/42/EC (the SEA Directive).
- Directive 2008/56/EC (the Marine Strategy Framework Directive).
- Directive 2009/147/EC (the Birds Directive).
- Directive 92/43/EC (the Habitats Directive).

EIB's Standard 3 requires a comprehensive and carefully planned approach to assessment and management of biodiversity risks to conform with the requirements of these Directives<sup>2</sup> as they relate to terrestrial and marine biodiversity, taking transparent and evidence-based approaches.

### **The EIA Directive**

The EIA Directive requires Member States to ensure that an assessment of environmental effects is carried out before development consent is given for projects likely to have significant effects on the environment because of their nature, size or location. This includes effects on biodiversity, flora and fauna. EIA is mandatory for project types listed on Annex I and is required for project types listed in Annex II based on the outcome of the screening against the criteria set out in Annex III of the Directive. Biodiversity is an explicit consideration when screening to determine if a full EIA is necessary.

---

<sup>1</sup> European Commission, EC (2015). *Mid-term review of the EU biodiversity strategy to 2020 EU assessment of progress towards the targets and actions.*

<sup>2</sup> Full texts of these Directives, together with detailed explanations of their requirements are available on official websites, including [www.EUR-lex.europa.eu](http://www.EUR-lex.europa.eu).

Amendments to the EIA Directive have introduced more explicit requirements to consider implications of development for biodiversity and to achieve outcomes compatible with conservation and sustainable use of biodiversity. Biodiversity concerns and issues are expected to be fully integrated in EIA. The measures taken through the EIA Directive to avoid, prevent, reduce and, if possible, offset significant adverse effects on the environment, (in particular on species and habitats protected under the Birds and Habitats Directive) are expected to make a tangible contribution to no net loss and net gain of biodiversity (where applicable), in accordance with the EU's commitments under the CBD and EU Biodiversity Strategy. The use of EIA as a tool towards no net loss of biodiversity is stated explicitly in the Directive. Guidance on integration of biodiversity (and climate change) considerations in EIA was published in 2013<sup>3</sup>.

Directive 2014/52/EU explicitly indicates that EIA studies shall identify, describe and assess in an appropriate manner and in the light of each individual case, the direct and indirect significant effects of a project on biodiversity, with particular attention to species and habitats protected under the Birds and Habitats Directives. The EIA procedure required through the Directive reflects accepted good international practice in terms of which environmental aspects and types of impact should be covered and the information that should be included, but does have some specific requirements that reflect EU policy and the requirements of international conventions. For example, it requires a transparent approach involving environmental authorities and the public.

### **The SEA Directive**

Strategic Environmental Assessments (SEAs) are required in the EU for certain plans and programmes according to the SEA Directive. Among others, SEA is mandatory for plans or programmes which have been determined to require assessment under the Habitats Directive. If plans affect one or more Natura 2000 sites, a plan-level "Appropriate Assessment" may be required, even if the plan does not give rise to development footprint within them. Considering implications for biodiversity is a requirement under the Directive and SEA can effectively support a landscape or seascape "ecosystem approach" in line with EIB's Standard 3 Principles. Likely significant effects on biodiversity must be identified in SEA reports, in line with relevant conservation objectives. Annex I(f) requires an environmental report to consider effects on "biodiversity, fauna and flora". Measures to "prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme" must also be identified, including measures to safeguard populations of protected species, the integrity of individual Natura 2000 Sites or the coherence of the EU Natura 2000 network as a whole.

Existing SEA reports can be a useful source of information on conservation policies and objectives that apply to a planned development area. Guidance on incorporation of biodiversity and climate change considerations in SEA was produced in 2013<sup>4</sup>, which emphasises the need to consider the implications of changes in climate and biodiversity for the proposed plan, but also to consider longer-term consequences of the plan for biodiversity and its resilience. There is also guidance on using SEA as a tool for conservation of biodiversity in Treweek *et al.*, (2005)<sup>5</sup>.

---

<sup>3</sup> European Commission, EC (2013). *Guidance on Integrating Biodiversity and Climate Change into Environmental Impact Assessment*.

<sup>4</sup> European Commission, EC (2013). *Guidance on Integrating Biodiversity and Climate Change into Strategic Environmental Assessment*.

<sup>5</sup> Treweek, J., Therivel, R., Thompson, S. and Slater, M. (2005). Principles for the use of SEA as a tool for promoting the conservation and sustainable use of biodiversity. *Journal of Environmental Assessment Policy and Management*, 07(02), pp.173-199.

## **The EU Birds and Habitats Directives**

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora aims to safeguard biodiversity, taking account of economic, social, cultural and regional requirements. Together with the Birds Directive, it establishes the EU-wide ecological network of protected areas (the Natura 2000 Network) and makes provision for safeguarding it against potentially damaging developments. It also makes provision for protecting certain habitats and species whether they occur within this network or not. More than 1,000 species and 200 habitat types are listed in the Directive's annexes and protected in various ways:

- **Annex I habitats** (about 200): the annex includes a full list of natural habitats of Community interest, targeted for conservation in their own right. Priority natural habitat types, in danger of disappearance and for the conservation of which the Community has particular responsibility, are also identified.
- **Annex II species** (about 900): core areas of their habitat are designated as sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.
- **Annex IV species** (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range within the EU, both within and outside Natura 2000 sites.
- **Annex V species** (over 90): Member States must ensure that their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

In line with the EU Birds and Habitats Directives, EIB's Standard 3 requires implications for Natura 2000 sites, European Protected Species and threatened ecosystems to be a key consideration in determining the need for EIA, and this requirement extends to proposed projects outside the EU that support biodiversity or areas that are of an equivalent standard or importance for conservation.

Article 6(3) of the Habitats Directive requires appropriate assessment (also referred to as 'Habitats Directive assessment' or 'Natura 2000 assessment') to be carried out if a planned project might affect integrity of a Natura 2000 site or the ability to achieve favourable conservation status for a European protected species. The Standard specifies further requirements on this in paragraphs 18 to 20.

## **Principles and Objectives**

Paragraph 6 emphasises EIB's overall aim of achieving positive impacts on biodiversity and ecosystems as a means to secure sustainable economic, environmental and social outcomes.

### **Key definitions**

It introduces the following key terms that appear later, throughout the Standard:

- **Integrity:** the ability of a site to continue to support protected habitats or species in a viable or self-sustaining condition.
- **Resilience:** the ability of an ecosystem to absorb impacts and disturbances, without losing structure or functionality or capacity to adapt to stress and change. It reflects the amount of change a system can undergo without changing state.
- **No Net Loss:** the point where biodiversity gains from targeted conservation activities match the losses of biodiversity due to the impacts of a specific development project, so that there is no net reduction overall in the type, amount and condition (or quality) of biodiversity over space and time." The concept of no-net biodiversity loss lies at the heart of biodiversity offsetting (Business and Biodiversity Offsets Programme).



- Net Gain: a net gain means that biodiversity gains exceed a specific set of losses, i.e. an outcome beyond No Net Loss.

Reflecting the requirements of the Directives and conventions set out in Paragraph 5, Paragraph 7 identifies the principles and foundations for good practice that are expected to underpin the Standard. More explanation is provided for two of these, the precautionary principle and the ecosystem approach. Others are either self-explanatory, or relate more directly to implementation in practice and are explained in detail later in this guidance.

### **Precautionary Principle**

The precautionary principle is a key principle of environmental governance, featuring prominently in many international treaties and in the national strategies and laws of numerous countries. Principle 15 of the Rio Declaration on Environment and Development (1992) established that, where there are threats of serious or irreversible damage, “lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” A Resolution on the precautionary principle was brought to the attention of IUCN at its First World Conservation Congress in Montreal in 1996<sup>6</sup> and the precautionary principle is one of the four environment principles in the Treaty of the EU. Article 191, §2 states that EU policy on the environment “shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay”. The precautionary principle is explicit in several EU Policies and Directives that address biodiversity, with varying degrees of emphasis<sup>7</sup>, for example the EIA Directive refers to the need for precautionary action when developing projects which “because of their vulnerability to major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment”.

The precautionary principle counters the presumption in favour of development: rather than assuming that economic activities will proceed until and unless there is clear evidence that they are harmful, the precautionary principle shifts the balance in decision-making toward prudent foresight and places the burden of proof on the development promoter to demonstrate, with good evidence, that significant threats to the environment can be avoided or managed. This is particularly important where rare or threatened biodiversity is affected, which may have limited resilience or ability to recover. In extreme cases, there is a risk that species populations may go extinct, or ecosystems become permanently degraded in the absence of effective solutions to safeguard or restore them.

Applying the principle may cause costly delays in development while evidence is gathered to demonstrate that acceptable outcomes can be achieved. To conform to EIB’s Standard 3 and avoid delays, it is advisable to ensure that a robust biodiversity baseline is in place in time to inform project design and that mitigation strategies are realistic and evidence-based, particularly where natural and critical habitats may be adversely affected.

### **Ecosystem Approach**

The ecosystem approach is 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 organisation which encompass the essential processes, functions and interactions among organisms and their environment, and recognises that humans, with their cultural diversity, are an integral component of ecosystems.

---

<sup>6</sup> Visit: [https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC1\\_RES\\_045\\_THE\\_PRECAUTIONARY\\_PRINCIPLE.pdf](https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC1_RES_045_THE_PRECAUTIONARY_PRINCIPLE.pdf)

<sup>7</sup> Commission of the European communities (2000). *Communication from the Commission on the Precautionary Principle*.

The Convention on Biological Diversity emphasises the need for an ecosystem approach to decision making and it is also reflected in IFC Performance Standard 6<sup>8</sup>. In practical terms, it means defining spatial and temporal scopes for applying EIB's Standard 3 that are ecologically defined, rather than reflecting project site boundaries, administrative limits or impact effect distances designed for more static receptors. Guidance on how to define an "ecologically appropriate area of analysis" (EAAA) is given below (Biodiversity Scoping). These scopes should also incorporate areas where ecosystems might be indirectly affected by socio-economic changes induced by a project.

### **Good practice in biodiversity-inclusive Impact Assessment**

The remaining principles set out in paragraph 7 align with generally accepted good international practice for biodiversity-inclusive impact assessment (see for example the European Commission's *Guidance on integrating biodiversity and climate change with EIA*<sup>4</sup>). They underpin robust approaches to implementing development according to the Biodiversity Assessment Framework presented at the end of this Guidance Note, which outlines expectations to conform with Standard 3. The International Association for Impact Assessment (IAIA) provides further guidance<sup>9</sup> including principles and key citations relevant to biodiversity-inclusive impact assessment.

Another list of recognised standards and management practices by sectors is managed by the International Trade Centre's Standards Map and the Practitioners Network<sup>10</sup>.

To conform to EIB's Standard 3, explicit biodiversity scoping, impact assessment and monitoring phases should be built into the assessment, design and implementation of all projects and any associated environmental and social impact assessments (ESIA), regardless of their biodiversity context; though the precise content of each step may vary between projects, as may their order and relative importance. Throughout project development, a precautionary, ecosystem-based and adaptive approach should be taken for the management of biodiversity risks and issues.

From Paragraph 8 onwards, Standard 3 is organised around these three phases and they are also used to structure the remainder of this guidance.

## **Biodiversity Scoping**

### **What is included in this phase?**

Paragraphs 8 to 16 (inclusive) of Standard 3 require promoters of projects to establish the characteristics and likely sensitivities and risks to biodiversity from the earliest possible stage in project design and development. Paragraph 22 requires an "explicit biodiversity scoping stage" and this is expected for all projects. It should be conducted in parallel with, or as part of any applicable ESIA process, though it may also be necessary as part of any post-hoc gap-filling exercise if the EIB gets involved in the later stages of project development.

ESIAs conducted in accordance with the requirements of the EIA Directive may have a formal scoping phase in which the project promoter requests guidance on ESIA coverage from the competent authority.

---

<sup>8</sup> International Finance Corporation, IFC (2012). *Performance Standard 6: Biodiversity Conservation and sustainable Management of Living Natural Resources*.

<sup>9</sup> Visit: [www.iaia.org](http://www.iaia.org)

<sup>10</sup> Visit: [www.standardmap.org](http://www.standardmap.org) and [www.tradestandards.org](http://www.tradestandards.org)

The main purpose of biodiversity scoping is to identify the important ecological characteristics of the landscape (or seascape) where a project will be developed, review available data and information, define a suitable study area, provide an early indication of potential sensitivities and risks (including risk of failure to comply with the Standard or to offset significant impacts on biodiversity) and establish what further information will be needed to carry out a robust biodiversity-related impact assessment.

The Standard is structured according to the assumption that a comprehensive biodiversity baseline will be developed post-scoping. However initial searches for information on biodiversity should be conducted using literature, maps and databases that provide best available information on species distributions and ranges (e.g. IUCN Red List and IBAT<sup>11</sup>). Preliminary expert interviews, local stakeholder interviews, and field visits should be conducted if possible.

### **Study area: defining an ecologically appropriate area of analysis (EAAA)**

Identifying an appropriate spatial scope or study area is an essential first step in biodiversity scoping. This should take a precautionary approach and encompass at least:

- the likely geographic area or extent of anticipated project activities and impacts, sometimes referred to as the *project area of influence*, or the *project affected area*; and,
- the full extent of ecosystems that might be affected in any way, together with any additional areas that have a functional role in supporting those ecosystems or their associated biodiversity, for example the limits of relevant river catchments or watersheds needed to support a wetland.

The *project area of influence* includes:

- Areas physically occupied by infrastructure and project facilities or where project activities will be carried out, including facilities directly connected with or necessary to support the project such as pipelines, power-transmission corridors, waste disposal areas, and areas supplying aggregate.
- Areas that may be affected by emissions and effluents, even if relatively distant from project footprint.
- Areas occupied or affected by associated facilities that would not have been constructed in the absence of the project including railways, roads, captive power plants, transmission lines, pipelines, utilities, warehouses, ports, and logistics terminals.
- The physical footprint of non-project activities in the surrounding area that are caused by or stimulated by the project (“induced growth”), plus any areas affected by their emissions and effluents. These are generally the result of changing economic or social patterns catalysed by the project’s presence, such as human settlement associated with in-migration of people seeking work in a project. This can “open” areas to exploitation, exacerbating destruction of natural habitat (e.g. increased access to sensitive areas as a result of new roads or rights-of way). In some cases, a project’s indirect impacts can greatly exceed its direct impacts.

The spatial scope should be ecologically determined and defined, and referred to as an *ecologically appropriate area of analysis* (EAAA). It should encompass wider distributions of potentially affected biodiversity features and the ecological patterns, processes, and functions that are necessary for maintaining them throughout this distribution. EAAAs typically extend well beyond a project’s anticipated physical footprint and may also extend beyond the project area of influence. For some wide-ranging species, the EAAA should incorporate any important areas of aggregation, recruitment, and other habitat features, connectivity or ecosystem processes that are needed to maintain viable populations of the species.

---

<sup>11</sup> Visit: [www.iucnredlist.org](http://www.iucnredlist.org) and [www.ibatforbusiness.org](http://www.ibatforbusiness.org)

Ability to define an EAAA depends on the extent of knowledge about a project context and is always an iterative process. It should be refined when baseline assessments have been completed. Where it can be shown that multiple species have largely overlapping ecological requirements and distributions, a common or aggregated area may be appropriate, otherwise EAAAs should be defined for each feature of concern identified through scoping.

### **Application of the Standard in categories of habitat with different sensitivities and risks**

An important aspect of biodiversity scoping is to identify and review potential biodiversity sensitivities, risks and impacts, so that appropriate actions can be taken to ensure that the requirements of Standard 3 (e.g. paragraph 10) can be met. This includes the specific requirements that apply to projects located in critical, natural or semi-natural Habitats as they are defined in the Standard; or in legally protected areas or other recognised areas of importance for biodiversity conservation. This process should be initiated at the scoping stage, but may require further inputs later in the ESIA process to validate the results of scoping. For example paragraphs 14 to 16 of the Standard specify requirements that must be met for projects potentially affecting critical habitats. The first requirement, regarding a description of project alternatives, must be addressed at the scoping stage. Other requirements can be addressed in subsequent stages of assessment and planning.

Standard 3 includes certain requirements which have to be addressed, depending on the sensitivity and risks associated with the EAAA that are identified during biodiversity scoping:

- Strong assurance of no net loss is required where projects affect semi-natural or natural categories of land, and strong assurance of net gain where critical habitat<sup>12</sup> is affected. The EIB will not invest in projects affecting some critical habitats (paragraphs 14 to 16 inclusive).
- Projects within or affecting certain types of legally protected area or other areas of recognised high importance for biodiversity, including Natura 2000 sites, must demonstrate that the integrity of such sites can be sustained and that applicable national or EU legal requirements are met. The EIB will not invest in projects affecting certain protected areas, specifically UNESCO World Heritage Sites.

Assurance must be provided that benefits can be sustained for ecosystem services on which the planned project or affected communities have high levels of dependence, with limited or unacceptable alternatives available to them to achieve the same types and level of benefit.

### ***Natural, Semi-Natural and Modified or Urban Areas***

Paragraph 8 of EIB's Standard 3 requires promoters to identify and map areas within the EAAA according to the extent of their human modification into "urban", "semi-natural" and "natural" categories as defined in paragraph 9. This requirement relates to the pre-project situation and should not reflect any clearance done in anticipation of a project. If such clearance has been done without prior assessment or in the case of any doubt or lack of reliable evidence to the contrary, the EIB will take a precautionary approach to interpretation of any outputs and assume prior presence of natural or semi-natural habitat. Identification and mapping of urban, semi-natural and natural areas should be done during the Scoping Phase if possible, but in some cases may have to be done later.

The expectation is that ecosystems or habitats will be identified and assigned to urban, semi-natural or natural categories based on their type, management and condition. Habitats listed under Annex I of the Habitats Directive (including Priority Habitats) should be inventoried

---

<sup>12</sup> Critical Habitat may be in the urban or modified category as well as the semi-natural and natural categories.

separately for projects in the EU. Classifications and maps of habitats exist, at least at a coarse scale, for most locations within the EU<sup>13</sup>. Detailed vegetation classifications are less common but may be needed to confirm presence of the aforementioned habitats or other threatened ecosystems. Such habitats are expected to fall into semi-natural or natural categories unless heavily degraded.

Outside the EU, the IUCN Red List of Threatened Ecosystems has information on globally threatened ecosystems and has developed key documents and tools to help practitioners undertake assessments using the Red List criteria<sup>14</sup>, though few regional assessments have been completed at this stage. Ecosystems meeting the criteria for a “threatened ecosystem” at a level of vulnerable, endangered or critically endangered can be expected to meet the Standard 3 definition of semi-natural or natural habitat. Ecosystems that meet the criteria for endangered or critically endangered may meet the Standard 3 definition of critical habitat. WWF has published a data set of Ecoregions, a sub-set of which has been identified as key to conservation of threatened ecosystems at a global level. Presence of characteristic ecosystem types from the Global 200 Ecoregions can be a useful indicator of potential presence of threatened semi-natural or natural habitats<sup>15</sup>.

An ecologist with relevant local experience and knowledge may need to add further definition to refine such maps for utility at the appropriate scale and in some cases it may be necessary to develop classifications “*de novo*”. This will require input from a suitably qualified ecologist and potentially a botanical specialist. In many cases, the ability to determine level of modification will depend on interpretation of species composition, going beyond broad habitat definition. For example, presence of certain species might indicate that modification has occurred whilst others might indicate presence of good natural habitat. The rationale used to assign areas into different categories and generate maps at an appropriate scale should be presented.

### **Critical Habitat Determination**

Paragraph 10 emphasises that there is a strong presumption of avoidance where critical habitat may be affected. Paragraph 11 presents six broad criteria that should be used to establish the potential presence of critical habitats. Other criteria may also be used if a justification can be given, based on strong evidence or specialist opinion. An area will be considered critical if it supports any of the following, and is needed to sustain it in a viable state:

- a highly threatened or unique ecosystem;
- a population of a critically endangered, endangered or vulnerable species, as defined by the IUCN Red List of threatened species and in relevant national legislation;
- part of the population, range or distribution of an endemic or restricted-range species, or highly distinctive assemblages of species;
- habitat required for the survival of migratory species and/or congregatory species;
- biodiversity and/or ecosystems with significant social, economic, or cultural importance to local communities and indigenous groups;
- habitat of key scientific value and/or associated with key evolutionary processes.

Indicative thresholds for these criteria are presented below. They should be applied with appropriate specialist input, which may require engagement of local and international specialists, interaction with conservation NGOs and local community representatives and

---

<sup>13</sup> European Environment Agency, EEA (2014) Terrestrial habitat mapping in Europe: an overview. Visit: [http://www.arcgis.com/home/webmap/viewer.html?url=http://bio.discomap.eea.europa.eu/arcgis/rest/services/Ecosystem/Ecosy stemMap\\_el1\\_1km\\_v2\\_1/MapServer&source=sd](http://www.arcgis.com/home/webmap/viewer.html?url=http://bio.discomap.eea.europa.eu/arcgis/rest/services/Ecosystem/Ecosy stemMap_el1_1km_v2_1/MapServer&source=sd)

<sup>14</sup> Visit <http://iucnrl.org/>.

<sup>15</sup> Maps are available through DataBasin (<https://databasin.org/datasets/a5b34649cc69417ba52ac8e2dce34c3b>) or the Nature Conservancy web page ([http://maps.tnc.org/gis\\_data.html](http://maps.tnc.org/gis_data.html)).

engagement with government organisations or others responsible for systematic conservation planning. Specialists may use other thresholds for confirming presence of critical habitat according to each criterion if they consider this appropriate and can provide a strong justification. In all cases, the area of critical habitat includes the area occupied by the relevant feature together with all other areas needed to support it by maintaining key ecological processes, based on a well-defined EAAA. Note that the ability to define the precise limits of critical habitat can be expected to improve as new information are obtained during the ESIA process.

### **Criterion 1: Highly threatened or unique ecosystems.**

Areas will be considered critical habitat under Criterion 1 if they are occupied by or are needed to support:

- a) Priority Habitats listed in Annex I of the Habitats Directive and habitats considered to be their equivalent in countries outside the EU;
- b)  $\geq 5\%$  of the global extent of an ecosystem type meeting the criteria for IUCN's Red List of Ecosystems<sup>16</sup> with a status of critically endangered or endangered;
- c) Examples of ecosystems outside the EU and not yet assessed by IUCN, but determined to be of high priority for conservation on the basis of regional or national-level systematic conservation planning or informed specialist input.

### **Criterion 2: Population of critically endangered, endangered or vulnerable species, as defined by the IUCN Red List of threatened species and in relevant legislation.**

Areas will be considered critical habitat under Criterion 2 if they are occupied by or are needed to support:

- a) A population of an IUCN Red-listed endangered or critically endangered species<sup>17</sup> that is  $\geq 0.5\%$  of the global population and/or  $\geq 5$  established reproductive units<sup>18</sup> of an endangered or critically endangered species;
- b) Significant concentration of an IUCN Red-listed vulnerable species or of multiple IUCN Red-listed vulnerable species, especially where the loss of the area would result in the change of the IUCN Red List status to endangered or critically endangered.
- c) Nationally or regionally-important concentration of a species listed as endangered or critically endangered on a regional/national IUCN Red List, or equivalent on national/regional listing.
- d) A population of species listed in Annex II and IV of the Habitats Directive.

Threat status should be assessed using the IUCN's Red List of Threatened Species<sup>19</sup> as well as relevant national and regional legislation and listings, so as to have a more accurate picture of threat or due to national or EU-level requirements which require to consider species status at these levels. Qualified specialists should be also consulted.

---

<sup>16</sup> Visit: <https://www.iucn.org/resources/conservation-tools/iucn-red-list-ecosystems>.

<sup>17</sup> This also includes any species currently listed as vulnerable which is expected to be relisted in a higher category by suitably qualified specialists.

<sup>18</sup> The IUCN Key Biodiversity Area Standard uses the following definition for *reproductive unit*: the minimum number and combination of mature individuals necessary to trigger a successful reproductive event at a site. Examples of five reproductive units include five pairs, five reproducing females in one harem, and five reproductive individuals of a plant species.

<sup>19</sup> Visit: <https://www.iucn.org/resources/conservation-tools/iucn-red-list-threatened-species>.

**Criterion 3: Population range or distribution of endemic or restricted-range species, or highly distinctive assemblages of species.**

Areas will be considered critical habitat under Criterion 3 if:

- a) They regularly hold  $\geq 10\%$  of the global population size and support  $\geq 10$  reproductive units of an endemic or restricted-range species.
- b) They are considered by relevant specialists to support unique or rare assemblages of species that occur there habitually, predictably or repeatably. The constituent species may not meet other critical habitat thresholds mentioned here in their own right, but may present assemblages that are considered important to maintain high biodiversity in the area.

Endemic species are defined as species confined to a defined area. Single-site endemics are species for which populations are found in one location only globally, whereas national endemics are species confined to the country of concern. Restricted-range refers to a limited extent of occurrence (EOO), so most endemic species are also restricted-range:

- For terrestrial vertebrates and plants, a restricted-range species is defined as those species that have an extent of occurrence less than 50,000 square-km<sup>20</sup>.
- For marine systems, restricted-range species are provisionally being considered those with an extent of occurrence of less than 100,000 square-km.<sup>21</sup>
- For coastal, riverine and other aquatic species in habitats that do not exceed 200 km width at any point (e.g. rivers), restricted range is defined as having a global range less than or equal to 500 km linear geographic span (i.e. the distance between occupied locations furthest apart).<sup>22</sup>

**Criterion 4: Habitat required for the survival of migratory species and/or congregatory species.**

Migratory species have a significant proportion of the members of the entire population (or any geographically separate part of the population) cyclically and predictably crossing one or more national jurisdictional boundaries<sup>23</sup>.

Congregatory species are considered to be species that habitually form social groups, sometimes in large numbers and often in particular areas on which they depend (e.g. for their breeding success).

Areas will be considered as critical habitats under Criterion 4 if:

- a) They sustain  $\geq 1\%$  of the global population of a migratory or congregatory species at any point of the species' lifecycle on a cyclical or otherwise regular basis.
- b) They are needed to support migratory or congregatory species during periods of environmental stress.

**Criterion 5: Biodiversity and/or ecosystem with significant social, economic, or cultural importance to local communities and indigenous groups.**

Areas of semi-natural and natural habitat used by indigenous peoples and local communities to obtain essential or priority benefits will be considered critical from an ecosystem service perspective. Criteria for identifying priority ecosystem services should be developed for each

---

<sup>20</sup> BirdLife International (2008). *Many bird species have very small ranges and occur together in Endemic Bird Areas*.

<sup>21</sup> Edgar, G. J. et al. (2009). *Key biodiversity areas as globally significant target sites for the conservation of marine biological diversity*. Aquatic Conservation: Marine and Freshwater Ecosystems, 18, pp. 969–983.

<sup>22</sup> International Union for Conservation of Nature, IUCN (2016). *A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0*. First edition. Gland, Switzerland: IUCN.

<sup>23</sup> As per the Convention on the Conservation of Migratory Species of Wild Animals (1979). Visit: <https://www.cms.int/>

project, with input from social specialists and the relevant users and beneficiaries. Priority ecosystem services are services (including cultural services) on which people depend strongly for their livelihood or wellbeing, with limited access to acceptable alternatives. Impacts must be compatible with sustained and sustainable use of priority ecosystem services and mitigation measures must be identified as necessary to ensure that a) ecosystems retain the capacity to supply the services on which indigenous people or local communities depend or b) to ensure that they are able to obtain essential benefits. In some circumstances communities may accept alternative benefits to those derived from ecosystem services affected by a project, but those alternatives should not be imposed on people without meaningful consultation.

### **Criterion 6: Habitat of key scientific value and/or associated with key evolutionary processes.**

This may include, but is not limited to, exceptional representations of:

- a) Landscapes with high spatial *heterogeneity* and therefore high levels of species diversity;
- b) *Environmental gradients*, also known as *ecotones*, that produce transitional habitat which is associated with the process of speciation and high species and genetic diversity;
- c) *Edaphic interfaces* that juxtapose soil types (e.g. serpentine outcrops, limestone and gypsum deposits), which have led to the formation of unique plant communities;
- d) *Connectivity* between habitats (e.g. biological corridors) with importance for species migration and gene flow, which is especially important in fragmented habitats and for the conservation of metapopulations. This also includes biological corridors across altitudinal and climatic gradients and from “crest to coast.”
- e) Sites of demonstrated importance to *climate change adaptation* for either species or ecosystems.

If the possibility of impacts on critical habitat is identified on the basis of these criteria and the indicative thresholds given above, further more detailed work will be needed to confirm the presence of critical habitat, to delineate it and to assess potential risks to its viability.

Project promoters will be expected to provide evidence that there are no viable alternatives for the project that would allow impacts on critical habitat to be avoided. Note that this requirement means assessment of alternatives from the perspective of critical habitat avoidance and goes beyond the broad comparison of alternatives typically included in ESIA.

**Before any activities or impacts occur**, including exploration phase impacts that involve significant disturbance or land clearance, project promoters will also be expected to provide assurance that there is no risk of non-offsetable impacts and that achieving a net positive outcome is a realistic proposition for critical habitat features potentially affected by a project.

### **Legally Protected Areas and Internationally Recognised Areas for Biodiversity Conservation**

Scoping must identify any legally protected areas that could be affected in any way by a planned project, as mentioned in paragraph 17 of the Standard. This includes sites protected as part of the Natura 2000 network (including Special Areas of Conservation and Special Protection Areas), potential Natura 2000 sites, sites of the Emerald Network, Ramsar sites, UNESCO Natural World Heritage sites, UNESCO Man-and-Biosphere Reserves, Important Bird and Biodiversity Areas (IBAs), and sites from the Alliance for Zero Extinction (AZE). In countries outside the EU, sites supporting biodiversity that would be likely to be protected within the Natura 2000 Network in the EU should also be included. Presence of other internationally recognised areas of importance for biodiversity, such as Key Biodiversity Areas (KBAs) or others as relevant, should also be noted. For purposes of clarity and monitoring,



where several protected areas are relevant, they should be presented following IUCN categories, starting with the strictest. Depending on their condition, some of these may qualify as critical habitat.

There are a number of recognised databases and tools which allow for the identification of the presence of formally protected areas. A useful online source of information is the World Database on Protected Areas (WDPA)<sup>24</sup>, a global inventory of protected areas managed collaboratively by the UNEP World Conservation Monitoring Centre (UNEP-WCMC) and IUCN.

In the EU, Candidate and potential Candidate countries, databases on Natura 2000 areas should be consulted, including shadow lists of sites not yet designated for which certain management requirements already apply. Conservation objectives and/or management plans should be acknowledged as appropriate, as well as the list of relevant species for which the area has been designated, as presented in the EU Standard Data form.

Ideally, a map of the project site displaying the project site and all overlapping and neighbouring protected and internationally recognised areas should be produced and integrated in the initial biodiversity assessment. GIS data on protected areas can easily be downloaded from the website of the WDPA, of the European Environmental Agency and from the Biodiversity Information System for Europe (BISE) platform. Any relevant site or area for which there is any potential impact pathway should be included, regardless of its distance from the project location.

As databases may lack current details in some countries, further due diligence and consultation with international, national and sub-national authorities, local nature organisations and stakeholders should be carried out, as appropriate, to verify that all relevant protected areas have been listed and to check for those areas not yet designated but which should or will be designated in the foreseeable future.

The EIB will not invest in projects within areas designated as World Heritage Sites by the United Nations, unless the purpose of the project is to support the conservation of the area and the project is coordinated with the managing authority of the site. Projects in other types of protected areas or internationally recognised areas for biodiversity conservation may be eligible for EIB project investment when they comply with paragraph 17 of the Standard.

In all cases, impacts on legally protected areas should be avoided and this should be considered in analysis of alternatives, with least damaging options identified. Promoters must demonstrate that any legal requirements have been met. Measures must be identified in the impact assessment phase to safeguard the integrity of protected areas and their ability to continue to support their designated biodiversity features.

Appropriate Assessment must be carried out for projects affecting Natura 2000 sites in the EU under Article 6(3) of the Habitats Directive. The main stages of this assessment and requirements for promoters are listed in paragraph 19 of the Standard. A “shadow” process should be conducted if projects affect sites considered the equivalent of Natura 2000 sites in other countries (e.g. sites of the Emerald Network). The need for this should be established during the scoping stage.

---

<sup>24</sup> Visit: <https://www.iucn.org/resources/conservation-tools/protected-planet>.

## Biodiversity Impact Assessment

### What is included in this phase?

The Standard broadly names two major components of study, the biodiversity baseline study and the impact assessment under the title *Biodiversity Impact Assessment*. The goal of this stage is to accurately characterise the biodiversity in the EAAA in its baseline state, and then predict how it will change if a project is developed. Paragraphs 21 to 27 inclusive indicate what must be included and in what order so as to get a comprehensive understanding of impacts on biodiversity, ecosystems and their associated services.

This phase also involves further, more detailed assessment of alternatives that could be considered to minimise impacts, assessment of cumulative or in combination effects (paragraph 35), consideration of supply-chain impacts (paragraph 42) and appropriate integration of stakeholder engagement throughout the process (paragraphs 43 and 44).

The impact assessment findings inform development of an appropriate mitigation strategy, developed in accordance with the mitigation hierarchy. The arrangements and measures needed to implement this strategy and to monitor its outcomes are set out in the third phase “Biodiversity Management Plan”.

### *Definitions of impact categories*

The Standard requires assessment of three categories of impacts, defined as follows:

- *direct impacts* – the physical footprint of project activities (including all project-related infrastructure and the incremental transportation and energy infrastructure required to support it) plus changes associated with project-related disturbances, emissions and effluents;
- *indirect impacts (also called induced impacts)* – including the physical footprint of non-project activities in the surrounding area caused or stimulated by the project, plus changes due to their emissions and effluents; and
- *cumulative impacts* – the overall impacts occurring in the EAAA caused by the project and non-project activities (related and unrelated to the project), generally including clusters of projects, land use change trends, and/or foreseeable developments.
- *residual impacts* – impacts remaining despite actions to avoid and minimise them, or to restore biodiversity and ecosystems following damage. Offsets are used as the final step of the mitigation hierarchy to compensate for these impacts so that no net loss or net gain outcomes can be achieved.

In paragraphs 35 and 36, the Standard sets out the circumstances in which explicit consideration of cumulative impacts will be expected. Article 6(3) of the Habitats Directive also includes a specific requirement to consider the effects of projects alone and in combination with other projects that might affect the integrity of the Natura 2000 site under consideration.

### *Assessment of alternatives*

As indicated above, requirements to avoid impacts on natural and critical habitat or legally protected areas should be identified as early as possible, ideally during scoping. However, detailed consideration of alternatives may only be possible when good baseline information is available. Baseline studies should be designed to support effective assessment of alternatives from a biodiversity perspective, including the *without-project* scenario (see below).

The expectation of EIB’s Standard 3 (paragraph 24 and then further in paragraphs 28 to 30 inclusive) is that significant and tangible efforts will be made to relocate or redesign projects

that will affect semi-natural or natural habitat, critical habitat, or other important biodiversity features, in line with relevant conservation policies and objectives. These efforts need to go beyond the broad overview of alternatives typically carried out for ESIA as approaches based on identification of the best overall “compromise” option are unlikely to be “fit for purpose”.

There are particular requirements where Natura 2000 Sites are affected: under Article 6(3) of the Habitats Directive, significant impacts on Natura 2000 sites are only permissible for reasons of overriding public interest.

To conform with EIB’s Standard 3, an option or design alternative expected to affect semi-natural, natural or critical habitat can only be provisionally selected or approved if a) it is the only option for a viable project, b) strong evidence is available to support this and c) there is no risk of significant residual impact.

### **Establishment of Biodiversity Baseline**

The biodiversity baseline study informs the impact assessment by documenting the biodiversity and ecosystems within the EAAA including features identified in the scoping stage, as well as others encountered during subsequent field work. Any inadequacies in the baseline will persist throughout the impact assessment and may make it impossible to meet the requirements of Standard 3. A robust, evidence-base is essential for assessing impacts and to underpin future monitoring. Well-designed baselines are also likely to be more efficient and cost-effective than approaches based on inventorying everything, regardless of likely sensitivities and risks.

The guidance document *Good Practices for the Collection of Biodiversity Baseline Data*<sup>25</sup> provides advice on how to design robust baselines in accordance with good practice.

The baseline should characterise ecosystems, vegetation communities and species populations as they are expected to persist in the absence of the project.

The baseline study is expected to comprise some combination of additional and site-specific literature review, spatial data analysis, stakeholder engagement and consultation, in-field surveys and other relevant assessments; proportional to the anticipated biodiversity sensitivities, risks and impacts from the project already anticipated during the scoping phase. The optimal timing for conducting comprehensive biodiversity baselines and the level of effort required will vary between projects according to their nature and scale, but long lead-times may be needed to carry out complete and cost-effective baseline surveys, so early scoping is always advisable.

Where legally protected areas or internationally recognised areas for biodiversity conservation are potentially affected, baseline surveys or assessments should target the specific features for which a site has been designated or identified as important and evaluate the potential or ability of the site to support them, with and without the Project. This should be done even for designated features that have seasonally variable distributions and may not be present all year-round. All designated features should be included even if they have not been observed for some time, unless there is strong and reliable evidence from well-designed and repeated surveys that they no longer occur on the site concerned.

In EU, Candidate and potential Candidate countries, for projects having a potential impact on a Natura 2000 site, the starting point for identifying the ecological baseline should be the Standard Data Form (SDF) prepared for each site. The SDF provides information about the site (e.g. its size, locations, threats and pressures) and about the species and habitat types for

---

<sup>25</sup> Gullison, R.E., Hardner, J., Anstee, S. and Meyer, M. (2015). *Good Practices for the Collection of Biodiversity Baseline Data*. Prepared for the Multilateral Financing Institutions Biodiversity Working Group & Cross-Sector Biodiversity Initiative.

which it is designated as well as their ecological condition. The information contained within the SDF is important on several accounts as it sets the baseline against which one can determine whether the habitat type and species of Community interest present on the site are improving or deteriorating. The conservation objectives have to be analysed in the context of the Appropriate Assessment under the Habitats Directive. If conservation objectives have not been formally established, specialist assistance may be needed to develop them for the purposes of assessing impacts and defining no net loss targets.

For projects with potentially significant impacts on natural, semi-natural and critical habitats, the baseline should include in-field surveys over multiple seasons or a full year and conducted by competent and external professionals, as appropriate. In the case of semi-natural habitats, particular attention should be given to the dependence of species and habitats on the type of human activities undertaken on the site prior to the project.

In-field surveys and assessments should be as recent as possible. Where critical, natural and semi-natural habitats are affected, a baseline assessment of threats and pressures together with an estimate of how they would change over time, with or without the Project, has to be developed, requiring some forecasting or modelling of anticipated trends over time.

### **Establishment of an Ecosystem Services Baseline**

The Standard requires projects to show that the types of ecosystem service used and the level of benefits derived from them will be sustained, even if projects have significant impacts on priority services. These are defined as ecosystem services on which beneficiaries have a high level of dependence, with limited alternatives available or that they are willing to accept.

A combined effort between the biodiversity and social study teams will be required to establish a baseline for ecosystem services. This undertaking requires advance coordination between these teams and in the best case, joint field work. General guidance is available in *Ecosystem Services Review for Impact Assessment*<sup>26</sup>. This emphasises the need to consider both the implications of a project for the ecosystems supplying services to a project or to project-affected communities (their extent, health or condition) and on the ability of users to access or benefit from those services. A project may degrade ecosystems without compromising supply of services if there is plentiful supply, but if supply is already inadequate, this degradation could have significant impacts on the ability of users to access or benefit from the services generated from those ecosystems. Other useful guidance has been provided by the International Petroleum Industry Environmental Conservation Association (IPECA)<sup>27</sup> and UNEP-WCMC<sup>28</sup>.

The World Resources Institute (WRI), World Business Council for Sustainable Development (WBCSD) and Meridian Institute developed guidelines for identifying business risks and opportunities arising from ecosystem change in *The Corporate Ecosystem Services Review* in 2012<sup>25</sup>. This is useful to assist businesses in understanding the extent to which their planned projects depend on ecosystem services for their viability and profitability.

In some cases, valuation of the benefits derived from ecosystem services may be needed and advice on how to mainstream nature values into planning and decision making is provided by TEEB<sup>29</sup> and by the Natural Value Initiative (NVI)<sup>30</sup>.

---

<sup>26</sup> World Resources Institute, WRI (2012). *Guidelines for Identifying Business Risks & Opportunities Arising from Ecosystem Change*. Version 2.0.

<sup>27</sup> IPECA (2011). *Biodiversity and Ecosystem Services Guide and Checklists*.

<sup>28</sup> Peh, K. S.-H. et al. (2017). *Toolkit for Ecosystem Service Site-based Assessment (TESSA)*. Version 2.0. Cambridge, UK.

<sup>29</sup> The Economics of Ecosystems and Biodiversity, TEEB (2010). *Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEB*.

<sup>30</sup> Natural Value Initiative (NVI) Toolkit, an initiative of Flora and Fauna International, UNEP-Finance Initiative, Nyenrode Business University, the Dutch Association of Investors for Sustainable Development and the Brazilian Business School FGV.

## Stakeholder Engagement

Stakeholder engagement forms a key part of biodiversity-related impact assessment, whether to obtain relevant data, understand the uses, values and benefits associated with biodiversity or develop acceptable mitigation strategies. Project promoters should follow a transparent and participatory approach in line with the requirements of other EIB Standards, notably 1, 7 & 10.

EIB's Standard 3 includes a particular requirement to consult with relevant biodiversity specialists where there may be impacts on critical habitat. Article 6(3) of the Habitats Directive also introduces a requirement to engage with biodiversity-relevant stakeholders regarding potential impacts on Natura 2000 Sites, including relevant management agencies.

If projects are expected to impact ecosystem services on which indigenous communities have retained high levels of dependence for their livelihoods and culture, requirements for "Free, Prior and Informed Consent" may apply, in line with EIB's Standards 7 and 10, and the UN Declaration on the Rights of Indigenous Peoples (2007), which promotes the full and effective participation of indigenous people in all matters that concern them. The Declaration establishes a universal framework of minimum standards for the survival, dignity, well-being and rights of indigenous peoples. It addresses both individual and collective rights including cultural identity and rights to health amongst others. Some of these rights may depend critically on access to natural resources and ecosystem services, in which case potential changes in benefits from ecosystem services should be considered and discussed in order to understand impacts and agree on mitigation measures.

## Assessment of Impacts

The Standard describes a structured approach to identifying and assessing impacts of the proposed project on biodiversity. Additional general guidance is available in *Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning*<sup>31</sup>.

The assessment should make reference to national legislation, EU Directives and any obligations and standards of multilateral agreements and conventions to which the host country is party to. If the project has potential impacts on an area with a formal conservation regime, it must be demonstrated that development is legally permitted (e.g. through an Appropriate Assessment). The biodiversity impact assessment should consider the potential impacts on project-related activities in this context, taking into account:

- a) The location and scale of project activities, including indirect impacts resulting from associated facilities, access roads, settlements and increase of the activities in the wider region; also considering the technologies that will be used, the efficiency of proposed methods and equipment and the implications of supply chains;
- b) The intensity, extent or magnitude of changes and their ecological implications or consequences;
- c) The natural resources used and their provenance;
- d) The timing and frequency of impacts in relation to ecological considerations (is it possible to avoid breeding seasons or carry out work when migratory species are not present, to avoid disturbance?);
- e) The duration of impacts in relation to ecological considerations (breeding rates, recovery rates);
- f) The probability of occurrence of a specific impact (e.g. explosion, leakage, etc.); and,
- g) Knowledge gaps (can all impacts be identified, assessed and quantified? If not, the precautionary principle and adaptive management must be applied).

---

<sup>31</sup> Hardner, J., Gullison, R. E., Anstee S. and Meyer, M. (2015). *Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning*. Prepared for the Multilateral Financing Institutions Biodiversity Working Group.

A project might lead to an exacerbation of previously existing threats, by changing the local economy or creating new access to previously remote areas and their natural resources. This category of indirect impacts (sometimes referred to as induced impacts) often represents a significant risk to biodiversity. Specifically in the case of semi-natural, natural or critical habitat the assessment should establish a clear baseline of human activities and indicate how their quality and intensity might change (see also guidance on baseline). This may require a wider EAAA than needed for other categories of impact.

In the context of this Standard, a *significant impact* is one that requires a management response, through mitigation or an offset, to achieve the Standard's goals. In other words, if it is possible to define no net loss or a net gain (as appropriate) using credible metrics or methods and it is possible to identify interventions or measures that will deliver this outcome, it can be concluded that there is no significant impact. Choice of appropriate methods to measure and compare losses and gains are therefore essential to underpin evaluation of impact significance. Project promoters should explain how no net loss or a net gain will be defined and achieved for each feature of concern (unless they can be shown to share ecological requirements and can therefore be managed collectively). The requirement is to follow the mitigation hierarchy (see following section) to the point where a state of non-significance can be achieved and demonstrated, using offsets only as a last resort.

There is a wealth of literature on metrics and methods for measuring loss and gain, much of which has been developed in relation to biodiversity offset design. Useful starting points are the Standard developed by the Business and Biodiversity Offset Programme (BBOP) in 2016<sup>32</sup> and the guidance developed by the Department for the Environment, Food and Rural Affairs (DEFRA) in the UK<sup>33</sup>. Impact assessment should be conducted firstly to characterise likely impacts of the project *without* mitigation. The following stage is to develop a mitigation strategy, after which the impact assessment should be repeated to determine the impact *with* corrective actions in place, to establish whether residual impacts are likely. The impact assessment should also be repeated for each viable project alternative, based on comparison with the *without-project* scenario, which should be based on anticipated trends occurring in the area that will affect biodiversity and ecosystem services even in the absence of the proposed project. This comparison provides a basis for determining the relative influence of each project alternative on biodiversity rather than a static before-and-after assessment.

There are limits to the impacts that are acceptable by the EIB. Unacceptable projects include those with significant impacts in critical habitat for highly threatened or unique species and ecosystems<sup>34</sup>; or those with a high likelihood of compromising the viability of any critical habitat or its features at the scale of the EAAA (or greater) because ecological resilience is not sufficient to prevent a departure from the baseline trajectory for the habitat or features and changes will not be within the limits of normal variation over time.

Table 2 provides a guide to appropriate management responses to meet EIB's Standard 3 requirements (the promoter should use this in place of the tables provided in *Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning*).

---

<sup>32</sup> Business and Biodiversity Offsets Programme, BBOP (2012). *Standard on Biodiversity Offsets*. Washington DC, USA: BBOP.

<sup>33</sup> Department for Environment Food & Rural Affairs, Defra (2016). *Consultation on biodiversity offsetting in England: Summary of responses*. London, UK: Defra. Visit: [https://consult.defra.gov.uk/biodiversity/biodiversity\\_offsetting/](https://consult.defra.gov.uk/biodiversity/biodiversity_offsetting/).

<sup>34</sup> This includes habitats and species of Community interest listed in Annex I and Annex IV respectively of the EU Habitats Directive; unless the project must be carried out for imperative reasons of overriding public interest as per Article 6(4) of the Habitats Directive.

**Table 2 EIB's Standard 3 requirements according to degree of potential impact**

<b>Impact Consequence</b>	<b>EIB Requirements</b>
No discernable impact (changes are negligible or below detection limits)	<i>No action</i>
Impacts are detectable, but affect non-critical habitat. Affected ecosystems/biodiversity features are resilient and can recover without management intervention. There is no departure from the baseline trajectory for the habitat or biodiversity feature concerned: changes are within limits of normal variation over time.	<i>Monitoring required</i>
a) Loss of non-critical habitat, or impacts outside baseline trends. Affected ecosystems or populations lack the resilience to recover without mitigation or management intervention. OR b) Loss of or damage to critical habitat, but ecological resilience allows for maintenance of the long-term viability of the habitat. The critical habitat and its ability to support the biodiversity features for which it is critical is not compromised (at the scale of the EAAA).	<i>Management/ mitigation required with assurance of effectiveness and monitoring</i> <i>a): No net loss required</i> <i>b): Net Gain required</i>
Loss of critical habitat, where ecological resilience is insufficient to prevent a departure from the baseline trajectory for the habitat or features, such that their long-term viability is compromised at the scale of the EAAA.	<i>Unacceptable for EIB in biodiversity terms. May be acceptable if offsets are provided in advance to achieve a positive outcome with strong assurance of long term viability.</i>
Loss of critical habitat, where ecological resilience is insufficient to prevent a departure from the baseline trajectory for the habitat or features, such that their long-term viability are compromised nationally or globally	<i>Unacceptable for EIB in biodiversity terms.</i>

## Mitigation Strategy

Based on the results of the impact assessment, a biodiversity mitigation strategy should be developed, following the sequential steps of the mitigation hierarchy. The initial emphasis should be on preventive actions, then on corrective actions, including habitat restoration, and finally on off-site compensation or offsets. EIB expects that project promoters in critical habitat will assume a degree of stewardship that endeavours to improve the resilience of an area for all the features depending on it. This is expected to be reflected in the mitigation strategy and delivered through a Biodiversity Management Plan (see next section).

The Standard describes the components of the mitigation hierarchy and provides a detailed explanation of what is expected (see paragraphs 45 to 61 inclusive). Further details on how it may be applied can be found in *Good Practices for Biodiversity Inclusive Impact Assessment and Management Planning*<sup>31</sup> and *A Cross-Sector Guide for Implementing the Mitigation Hierarchy*<sup>35</sup>.

The promoter's mitigation strategy should be designed to the best of the promoter's abilities, and should take a risk-averse approach that explicitly identifies and accommodates uncertainty about outcomes of mitigation measures and residual impacts (paragraph 53). The expectation is that measures included in the strategy are known to be effective, will be included in project commitment registers and will be implemented.

More detailed guidance on the biodiversity offset step of the mitigation hierarchy can be found in *Biodiversity offsets: a user guide*<sup>36</sup>. EIB's requirements for offsets are indicated in the

<sup>35</sup> Cross Sector Biodiversity Initiative, CSBI (2015). *A Cross-Sector Guide for Implementing the Mitigation Hierarchy*. Prepared by the Biodiversity Consultancy on behalf of IPIECA, ICMM and the Equator Principles Association.

<sup>36</sup> Ledec, G. and Johnson, S. (2016) *Biodiversity offsets: a user guide (English)*. Washington DC, USA: World Bank Group.

Standard paragraphs 53 to 61 inclusive, reflecting international best practice principles for biodiversity offsetting<sup>37</sup>, as summarised in paragraph 55. An important consideration is the need to recognise limits to what can be offset (paragraph 56).

Offsets must be designed and implemented in conformance with applicable national laws and policies. In cases where compensation is required for unavoidable impacts on Natura 2000 sites, the specific requirements of the Habitats Directive apply, but a situation may also occur where additional compensation (i.e. beyond the Directive's requirements) is needed so as to reach net gain in a critical habitat.

One feature of biodiversity offsets is that their design and implementation are typically a long-term undertaking. Although offsets should only be considered when earlier steps in the mitigation hierarchy have been addressed, there are two aspects that require early consideration:

- The possibility of non-offsetable impacts that might place stronger emphasis on the need for avoidance of impacts.
- The need for funds, legal frameworks and institutional capacity to be planned well in advance so that they are in place to allow offset implementation to begin in advance of significant impacts from the project – biodiversity-related finance should therefore be discussed during the appraisal stage.

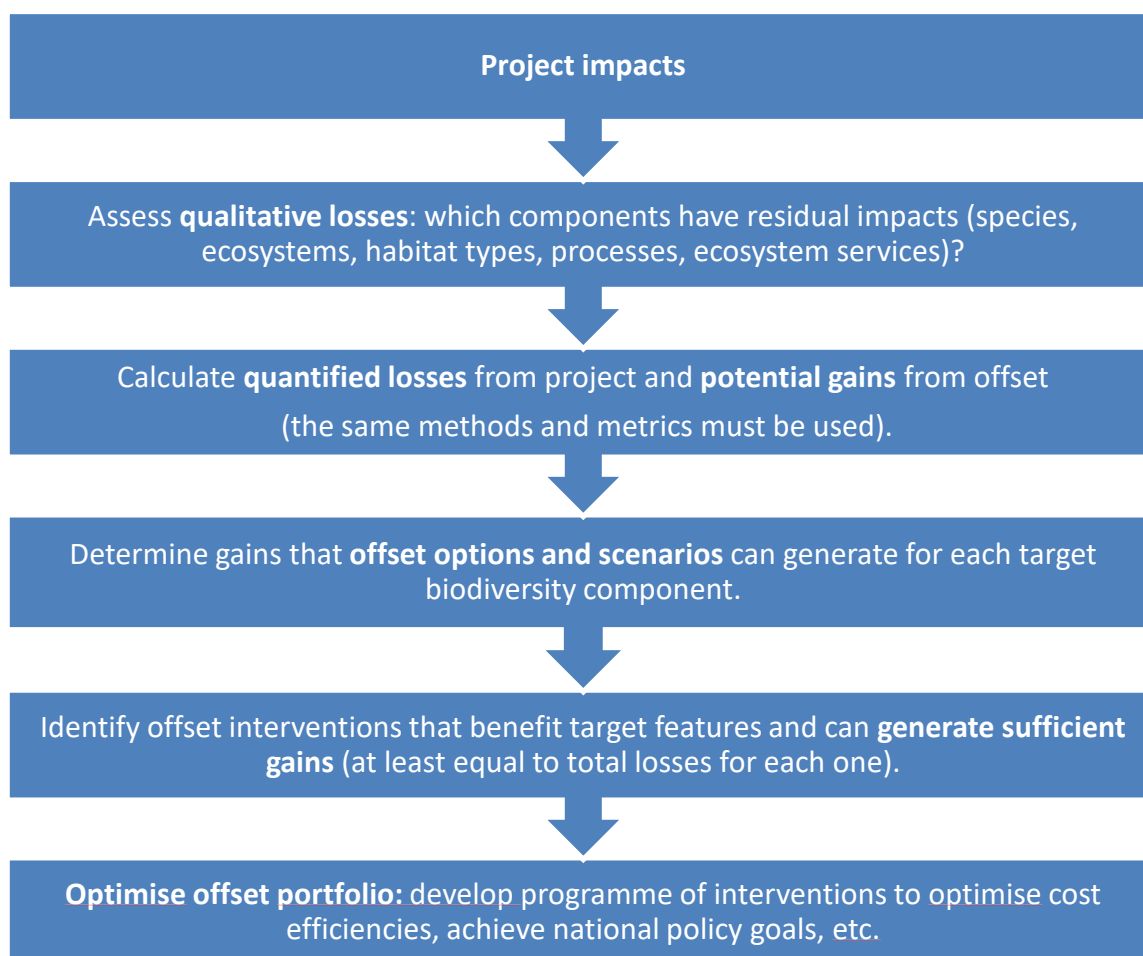
Offsets may take the form of practical conservation initiatives, involving active creation or restoration of ecosystems; or they may involve “averting risk” to existing ecosystems, for example by including them in a new protected area (paragraphs 57 and 58). Averted risk offsets are normally considered acceptable only if risks can be shown to be inevitable without the offset and it is possible to quantify threats and pressures so that offsets deliver gains sufficient to counter them. This can require studies of the wider landscape and historic data to backcast and forecast rates of habitat loss and degradation. Designing and delivering effective offsets may require an element of capacity building or research, but these must translate into tangible outcomes “on the ground” so that biodiversity is physically enhanced to a degree commensurate with losses due to the project (paragraph 57).

---

<sup>37</sup> Visit: [http://bbop.forest-trends.org/documents/files/bbop\\_principles.pdf](http://bbop.forest-trends.org/documents/files/bbop_principles.pdf).



The overall process for designing and implementing biodiversity offsets is summarised in the diagram below.



Details relevant to the project should be provided in the offset implementation and management plan (paragraph 60). This should include:

- a) An analysis showing the overall biodiversity value of the offset in comparison to the initial state of affected biodiversity, with a detailed description of the methodologies used;
- b) Evidence that the proposed offsets are feasible and will result in development of ecologically equivalent ecosystems and associated biodiversity values;
- c) A detailed budget and timeline of the measures envisaged, based on the expectation that the offset will be supported by the promoter for as long as impacts persist. Costs associated with offsetting should be factored in the business feasibility analysis;
- d) An explanation of the roles, rights and responsibilities of all parties involved in implementation and monitoring;
- e) Clear indicators of success of the operation and directions for adapting and correcting measures should indicator targets not be met; and,
- f) A presentation of reporting duties and timeline.

In implementing biodiversity offsets, promoters are strongly advised to collaborate with relevant specialist organisations, so as to meet internationally recognised best practice requirements. Specialist input needed to design offsets to meet international standards and to implement effective offsets in practice may differ and there are specific requirements when operating in critical habitat (paragraph 60). These may require input from international specialists with expertise relevant to the specific features with critical habitat affected by a project.

## Biodiversity Management Plan

The goal of the Biodiversity Management Plan (BMP) is to apply the mitigation strategy for a project in such a way as to achieve no net loss of biodiversity and ecosystem services, or a net gain for critical habitat and the biodiversity features it supports. The BMP is expected to have a practical focus and to give a clear indication of the actions that will be taken to meet biodiversity-related commitments arising from the ESIA. It may take a tabular form, setting out objectives, timeframes and responsibilities for action.

In some cases it will be necessary to repeat the impact assessment once the management plan is developed (using offsets only where appropriate), demonstrating that the project can eliminate its significant impacts.

The Standard uses the term “adaptive management” to mean a practical approach to managing uncertainty in biodiversity management planning. Flexibility should be built into the management plan so that it can be adapted based on its performance over time. However, adaptive management is not a trial and error process, but rather structured learning by doing.

### Monitoring

Under the EIA Directive, EU Member States must ensure that appropriate procedures are determined regarding the monitoring of significant impacts on the environment resulting from the construction and operation of a project, *inter alia*, to identify unforeseen significant impacts so that appropriate remedial action can be taken.

Monitoring (in the third biodiversity assessment phase) should be designed to detect impacts that may have been considered initially insignificant but elevate over time, to track the implementation of mitigation measures, to follow up on the effectiveness of the mitigation strategy and to identify the need for contingency arrangements or corrective actions.

Monitoring plans are mandatory where projects affect critical habitat but are also required in other cases to support ongoing auditing of the effectiveness of the biodiversity management plan, so that corrective actions can be undertaken if necessary. Key Performance Indicators or KPIs can be defined and used to establish thresholds for action, or triggers for adapting management practices if the need for this is indicated by monitoring results. The adaptive management responses that will be made in response to these triggers should be pre-defined in the plan, while acknowledging that mitigation and management options may change over time due to knowledge gained through experience or changing conditions. New findings may arise from the promoter’s monitoring programme or from independent sources. In either case, the promoter has the responsibility to update its approach to integrate these findings.

Although suitable indicators will vary from project to project, “good” indicators follow the SMART philosophy (specific, measurable, achievable, relevant and timely). They must also be sufficiently sensitive to provide a warning of change before irreversible damage occurs – effectively they must serve to indicate where no significant change is occurring, and also where the threshold between insignificant and significant change lies<sup>38</sup>.

---

<sup>38</sup> The Energy & Biodiversity Initiative, THEEBI (2009). *Biodiversity Indicators for Monitoring Impacts and Conservation Actions*.

## Invasive Alien Species

Invasive Alien Species (IAS) are animals or plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for their new environment. They represent a major threat to native plants and animals in Europe and worldwide and can cause damage that is costly to rectify. As invasive alien species are often a trans-boundary risk, the European Commission has promoted various coordinated actions between Member States, including horizon-scanning for emergent species of concern.

Regulation (EU) 1143/2014 on invasive alien species (the IAS Regulation)<sup>39</sup> entered into force on 1 January 2015, fulfilling Action 16 of Target 5 of the EU 2020 Biodiversity Strategy. It provides for a set of measures to be taken across the EU in relation to invasive alien species included on a list of Invasive Alien Species of Union concern<sup>40</sup>. The European Alien Species Information Network (EASIN) is an online platform that aims to facilitate the exploration of existing information on alien species from distributed sources. It includes a Species Search and Mapping tool<sup>41</sup> allowing for basic and advanced search for over 14 000 alien species in Europe and showing the distribution on a map including for the 49 species on the Union list. An identification Guide has also been produced.<sup>42</sup>

EIB's Standard 3 requires promoters to reflect this risk in their assessments and when designing, implementing or operating projects.

In practical terms, promoters are required to ensure that their projects and activities do not either introduce invasive alien species into areas where they have not occurred previously, or cause them to spread any further.

Presence of invasive alien species should be included in the scope of baseline surveys and maps clearly indicating their locations and distributions should be generated and made available to contractors involved in construction or operation. If there is a confirmed risk of introducing or spreading invasive alien species, an Invasive Species Management Plan will be needed, identifying all the measures and controls that will be put in place and the procedures that will be followed to limit or control spread. This might include stringent hygiene controls, such as washing wheels of vehicles or developing workplans that avoid tracking through areas where invasive plants occur.

To demonstrate that appropriate actions are taken to manage risks related to invasive alien species, appropriate KPIs should be assigned. Monitoring should track outcomes for invasive alien species throughout construction, operation and decommissioning.

In some situations, action to control invasive alien species may constitute a valid means of achieving conservation gain, or implementing an offset.

---

<sup>39</sup> Visit: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1417443504720&uri=CELEX:32014R1143>.

<sup>40</sup> European Commission (2017) *Invasive Alien Species of Union Concern*.

<sup>41</sup> Visit: <http://alien.jrc.ec.europa.eu/SpeciesMapper>.

<sup>42</sup> Visit: <https://circabc.europa.eu/sd/a/59ccbe20-4953-4305-a486-c732e5c0e108/Identification%20guide.pdf>.

## Biodiversity Assessment Framework

### What biodiversity features and values are likely to be associated with the project area and surrounding landscape?

What is the formal conservation regime of the area? Is it a UNESCO World Heritage Site?

What are the categories of habitat found (urban, semi-natural, natural)?  
Are there any critical habitat features, for example:

- highly threatened or unique ecosystems?
- threatened, protected or endemic species?
- areas important for migratory or congregatory species?
- Areas supporting important ecological processes?
- Ecosystem services vital to local communities and indigenous groups?
- Important scientific values or key evolutionary processes?

Do any EU requirements apply, for example under the Habitats Directive? Might an appropriate assessment be required due to possibility of impacts on Natura 2000 Sites or other EU designated features?

### Biodiversity Scoping

### What are the baseline biodiversity and ecosystem characteristics of the project location and affected area, based on an ecologically appropriate area of analysis (EAAA)?

- What are the baseline trends without the Project?

### What are the potential impacts (direct, indirect, induced and cumulative) of the project?

- Compared with baseline trends, what are the impacts resulting from construction, operation, and decommissioning phases?
- What are the impacts associated with the supply of living natural resources?
- What are the cumulative impacts associated with the different elements of the project and with other projects in the area?

### Biodiversity Baseline and Impact Assessment

### What are the alternatives for project design (including location) and the resulting scenarios for biodiversity?

### Is it possible to improve the project's design or location to avoid impacts?

Is it possible to improve project design to minimise impacts that cannot be avoided?

Is it possible to implement restoration strategies to ensure the recovery of degraded ecosystems due to the project's impacts that cannot be avoided nor minimised?

### Mitigation

Is there any residual biodiversity loss? Are offsets needed (or compensation under the Habitats Directive) to achieve no net loss or net gain of biodiversity?

### Were the mitigation and compensation measures detailed in the biodiversity management plan effective?

- How have the biodiversity, ecosystem services, and criticality of the project site actually changed throughout the life of the project?
- Are additional measures required to avoid further impacts?

### Biodiversity Monitoring and Adaptive Management



# Guidance Note for Standard 3 on **Biodiversity and Ecosystems**



**European  
Investment  
Bank**

*The EIB bank*



**European Investment Bank**  
98-100, boulevard Konrad Adenauer  
L-2950 Luxembourg  
☎ +352 4379-22000  
✉ +352 4379-62000  
[www.eib.org](http://www.eib.org) – [info@eib.org](mailto:info@eib.org)