



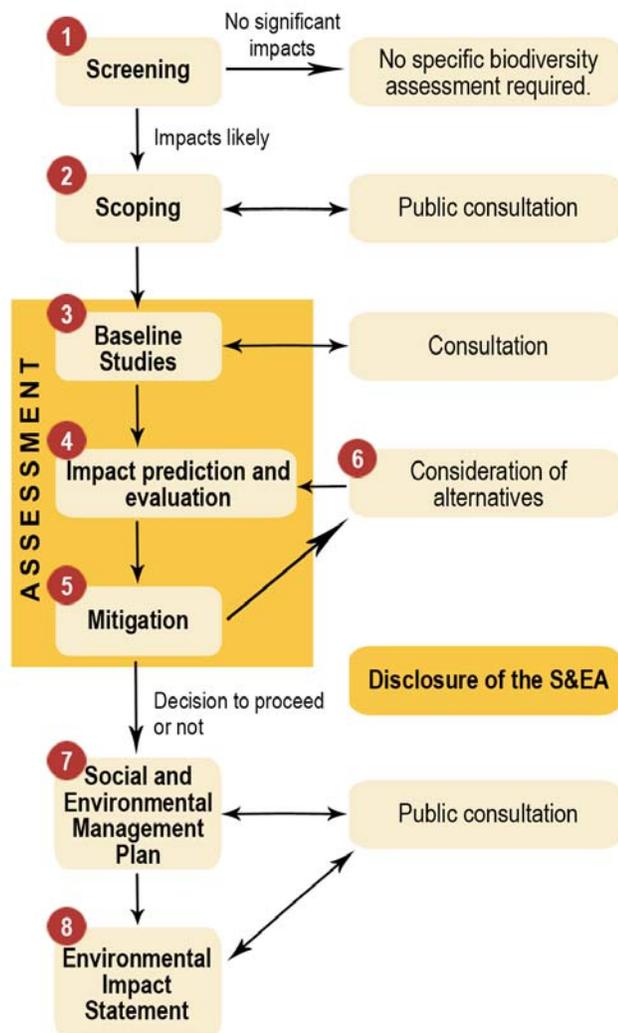
# A Guide to Biodiversity for the Private Sector

[www.ifc.org/BiodiversityGuide](http://www.ifc.org/BiodiversityGuide)

## The Social and Environmental Impact Assessment Process

The Social and Environmental Impact Assessment (S&EA) process is a way to identify, predict and assess the type and scale of potential biodiversity impacts, and opportunities to benefit conservation, associated with any business activities or projects. Biodiversity assessment should begin as early as possible, as effective assessment of the biodiversity characteristics of an area — and the potential impacts — may require months or even years, to account for seasonal and migration issues. In addition, early attention to biodiversity issues means that potential impacts can be identified and avoided or mitigated in the earliest stages of planning. Once a project or business activity proceeds, the costs of redesign or re-siting will make it more difficult to effectively address biodiversity issues.

The standard social and environmental impact assessment process is illustrated in the figure below:



### Screening

Screening is a quick, high-level analysis to determine whether a full S&EA is necessary. For biodiversity assessments, the process evaluates:

1. the location, scale and duration of project activities, including those of associated facilities, and impacts arising through supply chains or other third party relationships
2. the presence of significant biodiversity value (such as endangered species and proximity to protected areas or critical natural habitats) or potential impacts to ecosystem services
3. the types of technology that will be used

Screening is a vitally important tool for predicting and understanding potential biodiversity impacts, as it can help determine whether biodiversity will be a significant issue for a project, and spotlight what issues to monitor and prioritize for future study. For example, potential red flags that might arise during a screening process might include the complications of operating in a **remote, pristine location**, or the risks of introducing **non-native species** to an ecosystem.

Through the screening process, any activities that could affect biodiversity or ecosystems services (or the communities dependent on these goods and services) are designated for more detailed analysis in the full impact assessment. In areas where biodiversity information is scarce or absent, some companies undertake short-term rapid assessments [[http://www.biodiversityscience.org/xp/CABS/research/rap/about\\_rap.xml](http://www.biodiversityscience.org/xp/CABS/research/rap/about_rap.xml)] of biodiversity resources, to identify major issues early

in the planning process, so that they can be more fully addressed in subsequent stages of the S&EA.

## Scoping

If a full S&EA is required, scoping determines which impacts are likely to be significant and should become the main focus of the S&EA. Scoping also identifies data availability and gaps. The scoping process determines the appropriate spatial and temporal scopes for the assessment and suggests suitable survey and research methodologies.

At this stage, [consultation](#) with government officials, conservation organizations and local communities is important to help identify key biodiversity impacts, including those with linkages to local livelihoods and social issues, and to gather feedback that will be used to produce a final assessment plan. For example, consultation during the planning stages for the Pamir Hydro project [see the IFC website: <http://www.ifc.org>] in Tajikistan revealed that local communities might be affected by changes in fish populations and grazing areas adjacent to the reservoir and allowed for the development of a range of mitigation measures.

## Baseline studies

Baseline studies of biodiversity resources provide a reference point against which any future changes associated with a project can be assessed and offer information for subsequent monitoring of biodiversity performance. A comprehensive baseline study should identify (both in the immediate and wider area around a project site) habitats that will be affected, the range and status of the main species groups that live in the area, the potential presence and status of protected areas or other important areas for biodiversity, and any potential impacts to ecosystem services that might have local, regional or global impacts. Collecting baseline biodiversity information can be difficult, especially in remote or little studied areas, and it may be necessary to commission lengthy field-based studies to fully capture seasonal and migratory issues.

The first step in conducting a baseline assessment is creating a map of the natural habitats found in the area of operation and in the immediate surrounds, including details of protected areas and habitat types, and information on human population centers and resources used by local communities. Maps can be compiled from existing sources of information available from governments, universities, conservation organizations and local communities. A number of online sources [see [http://www.ifc.org/ifcext/enviro.nsf/Content/BiodiversityGuide\\_Resources](http://www.ifc.org/ifcext/enviro.nsf/Content/BiodiversityGuide_Resources)] can also provide useful data for baseline studies, but additional survey work and consultation with local experts is

usually required to get a full picture of an area. It is important to remember that a baseline study per se is not sufficient to determine biodiversity impacts; the information forms the basis of subsequent impact assessment activities.

## Impact prediction and evaluation

Impact prediction and evaluation is the heart of the S&EA and involves analyzing the impacts identified in the scoping and baseline work to determine their nature, temporal and spatial scale, reversibility, magnitude, likelihood, extent and effect. Such detailed impact analysis requires professional judgment, and will require input from relevant experts, including ecologists, biologists, sociologists and economists.

Once the potential impacts are more fully understood, it is necessary to judge the significance of each impact, to determine whether it is acceptable, requires mitigation or is unacceptable. Determining the significance of impacts is a complex and subjective process. A number of factors affect this significance, including the importance of resources at local, regional, national or international levels; whether the area is subject to formal or informal protection; the ecological values of potentially affected animal and plant species and habitats, and the value of the ecosystems as sources of food or livelihood for local communities. [Consultation](#) with local stakeholders is vital at this stage, and particular attention should be given to [vulnerable or disadvantaged communities](#), risks to communities from changes to ecosystem services and quality, and risks arising from [involuntary resettlement](#) and economic displacement. Successfully identifying and addressing significant impacts at this stage can be key to obtaining both a formal and informal license to operate.

## Mitigation

Mitigation aims to eliminate or reduce negative biodiversity impacts. Mitigation options should generally be considered in the following order of preference:

1. Avoidance of impacts altogether
2. Reduction of impacts where unavoidable
3. Restoration of habitats to their original state
4. Relocation of affected species or habitats
5. Compensation for any residual, unavoidable damage

For more information on IFC's expectations in relation to mitigation, please see [IFC Performance Standard 1 - Social and Environmental Assessment and Management Systems](#).

An emerging mitigation option is [biodiversity offsets](#) which are conservation activities that are undertaken to compensate for the

residual, unavoidable harm of a given project, once all other mitigation options have been explored. Offsets, which generally take place in a different area from where the impact occurs, are increasingly integrated into national legislation and can help secure a “no net loss” outcome.

### **Consideration of alternatives**

When all mitigation measures have been identified, a comparison of alternatives will allow identification of the least damaging option. This is an iterative process of comparing potential impacts and mitigation options of a series of alternative designs, locations, technologies and operations to identify the optimal configuration that meets or exceeds the requirements of national legislation and any funding agencies. Alternatives can include variations in layout on the project site, alternative engineering processes and construction practices, the selection of different sites or routing of linear facilities, and screening of suppliers to select those with appropriate environmental and social risk management systems.

### **Social and Environmental Management Plan**

Also called an Environmental Action Plan or corrective action plan, a social and environmental management plan (SEMP) defines resources, roles and responsibilities required to manage biodiversity impacts and implement mitigation measures. The SEMP forms a link between the S&EA and the Social and Environmental Management System. The central elements of a SEMP should include a prioritized description of the activities planned to mitigate impacts, a time line and identification of resources to ensure the SEMP can be delivered, and a communication plan that indicates how progress in the implementation of the SEMP will be disclosed. The SEMP should also define monitoring requirements to determine whether mitigation is successful. Although monitoring is often overlooked since it occurs once the project has been approved and is underway, it is important for providing evidence that the company is achieving compliance and allowing for any necessary remedial measures to be put in place.

For more information on IFC expectations in relation to SEMPs, please see [IFC Performance Standard 1 - Social and Environmental Assessment and Management Systems](#).

### **Environmental Impact Statement**

The Environmental Impact Statement (EIS) is the physical report on the S&EA process and findings. The EIS should provide a clear, jargon-free review of potential impacts and how they have been and will be mitigated. The report often forms the basis of public consultation activities and is the document that is presented to regulatory authorities and others, including IFC, as the basis for decision making. Public disclosure helps affected communities understand risks, impacts and opportunities related to potential projects.

For more information on IFC expectations in relation to public disclosure of EIS documents, please see [IFC Performance Standard 1 - Social and Environmental Assessment and Management Systems](#).