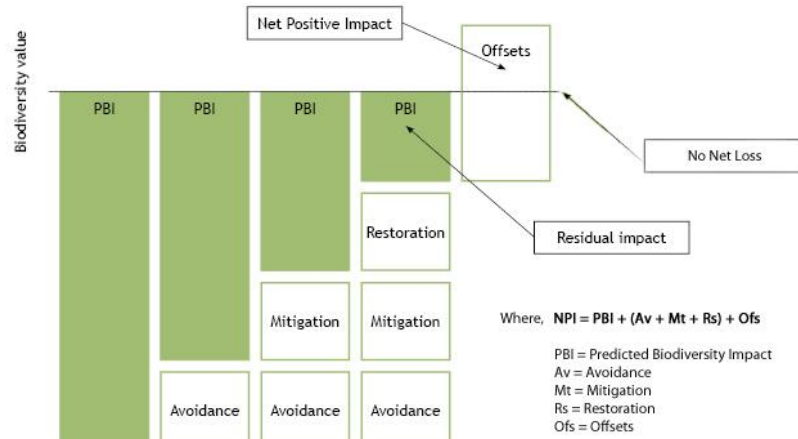


THE MITIGATION HIERARCHY

NO NET LOSS AND NET POSITIVE IMPACT



A graphical representation of the mitigation hierarchy. Credit: adapted from 1.

Background

The mitigation hierarchy is a set of prioritised steps to alleviate environmental harm as far as possible through avoidance, minimisation (or reduction) and restoration of detrimental impacts to biodiversity. Biodiversity offsetting is only considered to address residual impacts after appropriate avoidance, minimisation and restoration measures have been applied.

Fauna & Flora International (FFI) supports all of the businesses we work with to adopt and adhere to the mitigation hierarchy. It is an approach that favours early awareness and action to proactively and efficiently achieve 'no net loss', or preferably 'net positive impact', to biodiversity.

The mitigation hierarchy is now widely accepted as an approach for biodiversity conservation for sustainable development. To comply with the International Finance Corporation's (IFC) Performance Standard 6 for Biodiversity Conservation and Sustainable Management of Living Natural Resources, and the performance standards of several other multilateral finance institutions, a project proponent must develop and verify the implementation of a mitigation hierarchy that complies with the Standard.

Step by step

1. Avoidance includes activities that change or stop actions before they take place, in order to prevent their expected negative impacts on biodiversity and decrease the overall potential impact of an operation.^{2,3} For example, adjusting the location, scope or timing of a development could avoid negative impacts to a vulnerable species or sensitive ecosystem. Avoidance not only makes good business sense, for example by reducing later steps in the mitigation hierarchy, but is imperative for protecting the integrity of valuable and threatened biodiversity and ecosystem services.

2. Minimisation measures are taken to reduce the duration, intensity, extent and/or likelihood of impacts that cannot be completely avoided.³ An example of a minimisation measure would be improvement to the quality treatment of water outflows from mining areas, thereby reducing impacts on aquatic systems.⁴

3. Restoration involves altering an area in such a way as to re-establish an ecosystem's composition, structure and function, usually bringing it back to its original (pre-disturbance) state or to a healthy state close to the original.³ This is a holistic process aiming to return an ecosystem to a former natural condition and to restore ecological function. Restoration is preferred to rehabilitation which implies putting the landscape to a new or altered use to preserve a particular human purpose.

4. Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimisation and restoration measures have been taken.⁵ Biodiversity offsets are effectively a 'last resort'. A biodiversity offset should be designed and implemented to achieve measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity; however, a net gain is required in critical habitats – habitats with high biodiversity value, as defined by the IFC.⁶



Working with business for conservation.
Credit: Pippa Howard/FFI.



Avoid, minimise, restore, and if needed offset.
Credit: Pippa Howard/FFI.



Application of the mitigation hierarchy in mining.
Credit: Pippa Howard/FFI.

When offsets aren't an option

The greater the vulnerability or irreplaceability of biodiversity and ecosystem services, the more effort should be placed on avoiding or minimising impacts up front. There are some cases in which offsets are not appropriate and where avoidance is the only option to effectively address biodiversity loss.^{5,6} This includes projects that are likely to cause the extinction of an endangered species, that will cover a very large area or that will halt the availability of an ecosystem service to local people.

No Net Loss and Net Positive Impact

No Net Loss (NNL) is achieved when biodiversity gains from the combination of avoidance, mitigation, rehabilitation and targeted conservation actions match biodiversity losses from the impacts of a specific development project, such that there is no overall reduction in the type, amount or condition of biodiversity over space and time.⁷ The IFC Performance Standard 6 requires demonstration of NNL to biodiversity and as previously mentioned, NNL is the minimum target required for the implementation of biodiversity offsets. Going one step further, the term 'Net Positive Impact' (NPI), or 'net gain' refers to the point where biodiversity gains exceed biodiversity losses due to the impacts of a specific development project. IFC Performance Standard 6 requires demonstration of NPI in Critical Habitats to biodiversity.

The achievement of a NNL or NPI target is generally only possible when combining multiple interventions across the full mitigation hierarchy and across the full life of the development. There are a number of different methodologies being developed to calculate the predicted biodiversity impacts of a development, and the effectiveness of targeted conservation activities to mitigate adverse impacts. The sophistication of such methodologies vary according to the level of information available and the tools used. Geographic Information Systems (GIS) can be used to model and predict change, but the quality of data and information on which these models are based must be verified.

Fauna & Flora International has been deliberating the implications and demands of NNL and NPI since their conception, and we were influential in Rio Tinto's formulation of a group-wide NPI strategy. By developing methodologies and tools to enable robust NNL and NPI calculations and trialing these at sites with our business partners, we are helping to ensure the greatest possible benefit to biodiversity. Our expertise in this area, together with our work on-site guiding environmental teams, mine planners and other practitioners in following the mitigation hierarchy and appropriate offsetting practices, allows our business partners to take on the challenge of understanding the implications of, and achieving NNL or NPI at their sites.

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If you have any questions or would like further information please contact:

**Pippa Howard on 01223 579 493
or email pippa.howard@fauna-flora.org**



Fauna & Flora International, 4th Floor, Jupiter House, Station Road, Cambridge, CB1 2JD UK
Telephone +44 (0) 1223 571000 Fax +44 (0) 1223 46148 Email info@fauna-flora.org