



Document Cover Sheet

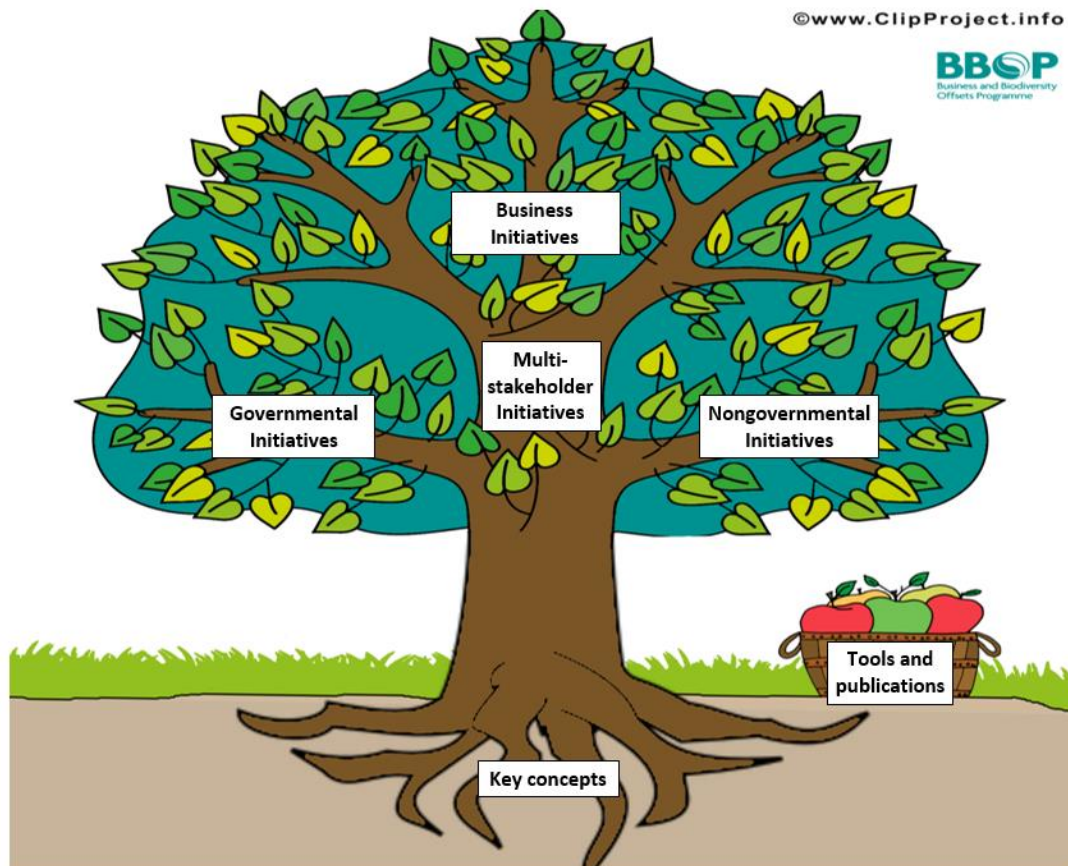
Document reference:	DraftGlobalInventoryofInitiativesforWCC.pdf
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Title:	<i>Draft Global Inventory of Initiatives on the biodiversity mitigation hierarchy</i>
Document history:	Prepared by Marianne Darbi and members of the BBOP Secretariat (Kerry ten Kate, Amrei von Hase and Patrick Maguire)
Abstract:	<p>This document is a draft for discussion at the IUCN World Conservation Congress, specifically at the Knowledge Café : Reconciling development and nature: laying the foundations for collaborative action to scale up implementation of a net gain for biodiversity. Based on feedback, it will be further developed and discussed at the next meeting of the Advisory Group of the Business and Biodiversity Offsets Programme (BBOP13) in London on 3-4 November 2016.</p> <p>This draft Global Inventory of Initiatives on the Biodiversity Mitigation Hierarchy has been prepared in response to a request by BBOP members at their last meeting (BBOP12) in Barcelona on 16-17 October 2015. It is an initial working draft of an inventory of initiatives that seek to improve the application of the biodiversity mitigation hierarchy (avoid, minimize, restore and offset) around the world. This would include civil society led initiatives as well as government-led policy development and No Net Loss commitments, and company-led work at individual sites and corporate No Net Loss commitments. With feedback from the IUCN Congress participants and the BBOP Advisory Group, the structure and content of this draft will be revised and the potential to develop this into an interactive, searchable, online tool will be investigated.</p> <p>If you would like to contribute draft text to this inventory, please contact us at bbop@forest-trends.org</p>

Please note that the text in this initial working draft has not yet been reviewed or approved by the initiatives described. This version is illustrative, and intended to show a proposed structure and sample draft text as a basis for feedback. We will request the initiatives covered to review and correct the draft text in due course.

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Visual Representation of the Content of this Document



Zoom-in sub page – title: **Key concepts**



(This inventory could eventually be available as an online tool, with a graphical navigation interface such as this tree and roots image.)

1. Inventory of initiatives

1.1 Multi-stakeholder initiatives

(Illustrative example) The Business and Biodiversity Offsets Programme	
Summary:	<p>The Business and Biodiversity Offsets Program (BBOP) is a global partnership of more than 80 companies, government agencies, financial institutions, conservation NGOs and experts that promotes rigorous application of the mitigation hierarchy and planning for no net loss/net gain of biodiversity. The BBOP partners wish to show, through experience in a range of industry sectors, that application of the mitigation hierarchy, including biodiversity offsets where appropriate, can help achieve significantly more, better and more cost-effective conservation outcomes than normally occurs in infrastructure development. The BBOP partners believe that demonstrating no net loss of biodiversity can help companies secure their license to operate, better manage their costs and liabilities, and improve outcomes for affected communities.</p> <p>In January 2012 BBOP released its Standard on Biodiversity Offsets which can be used by companies and auditors to assess risk and determine whether an offset has been designed and subsequently implemented in accordance with international best practice, as described in the BBOP Principles. The BBOP standard was negotiated and agreed amongst its Advisory Group, tested in several pilot sites, and disseminated worldwide with guidance notes and resources on topics such as loss-gain calculations, limits to offset use, and pilot project case studies. A community of practice has been built through monthly webinars, annual meetings of the Advisory Group, the No Net Loss Summit in June 2014 with 300 participants from 33 countries, and various training events delivered to the banking sector, environmental impact assessment consultants and environmental staff of footprint companies.</p> <p>BBOP's goals include:</p> <ul style="list-style-type: none"> • To provide a global forum for collective learning, the dissemination of biodiversity mitigation and offset concepts and the sharing of experience on implementation. • To assist developers in designing and implementing mitigation measures including offsets that produce measurable and long term conservation outcomes in the widest range of countries and sectors possible. • To support the development of institutional, legal and regulatory frameworks which support no net loss and preferably a net gain of biodiversity, including biodiversity offsets. • To improve biodiversity offset concepts methods informed by practical experience and research and scientific practice. • To promote development and adoption of biodiversity offset standards and methods for verification in the domain of no net loss and the mitigation hierarchy, such as the Standard on Biodiversity Offsets, with a view to ensuring that mitigation measures including offsets are applied when appropriate and to a high standard.

	<p>In its current phase of work BBOP implements these goals through five broad and interlocking activities:</p> <ul style="list-style-type: none"> (a) Improve the Standard and associated tools; (b) Expand the Community of Practice to reach beyond BBOP membership, via webinars and conferences. (c) Build capacity through training of professionals (d) Mainstream no net loss of biodiversity into policy and practice (e) Research on best practice on emerging issues <p>BBOP was established by Forest Trends in 2004 which currently serves on its Secretariat with the Wildlife Conservation Society.</p>
Sources/links	BBOP website: http://bbop.forest-trends.org/
Note	

1.2 Governmental initiatives

1.2.1 Initiatives by individual governments

1.2.1.1. Africa

(Illustrative example) Madagascar	
Summary:	<p>In Madagascar general and specific mitigation and compensation measures are defined in the EIA guidelines. Furthermore, biodiversity offsets are being piloted in the mining sector. (1) The mining sector has a significant position, given that the Madagascar Action Plan (MAP) includes the goal of promoting biodiversity compensation mechanisms for this sector (3). Furthermore the whole sector has undergone an EIA in 2003 (2). The mining sector also developed Good Governance and Asset Management Principles to improve environmental performance and management of national assets (3).</p> <p>A policy of net gain is promoted (“leaving better conditions than existed before the project began”), with the aim of replacing the historical approach of mining and hydrocarbon industries, when the implementation of mitigation policies meant restoring conditions to the state prior to the impact once a project had been completed (3).</p> <p>The mitigation of impacts (usually the term “atténuation” is applied, only in some cases is “mitigation” used) consists of actions or measures to prevent, avoid or reduce negative impacts or to increase benefits for the environment (4). Adequate mitigation and / or compensation measures have to be determined for each stage of activity, source of impacts, action or activity that has a negative influence on one or several components of the environment (4, 5). This implies the development of strategies to reduce adverse impacts and to consider (and / or choose) alternatives if these are less harmful to the environment (4).</p>

	<p>A distinction is made between general and specific mitigation and compensation measures. The former aim to mitigate the negative effects of a project as a whole while the latter are used to address the negative impacts on a particular component of the environment (4).</p> <p>In addition, Madagascar (6) is one of the countries where the COMBO Project (Conservation, impact Mitigation and Biodiversity Offsets in Africa) is taking place (7).</p>
Sources/links	<ol style="list-style-type: none"> 1. Darbi et al. (2009) (Darbi, M.; Ohlenburg, H.; Herberg, A.; Wende, W., Skambracks, D. & Herbert, M.): International Approaches to Compensation for Impacts on Biological Diversity. Final Report. 2. TECSULT INTERNATIONAL LIMITEE (2005): Évaluation environnementale et sociale du pôle de Nosy Be. Volume 1 - Chapitres 1 à 4. 3. PROJET DE GOUVERNANCE DES RESSOURCES MINERALES DE MADAGASCAR (ed.) (n.d.): Position Paper 5. Principles for Overseeing Integrity in Resource Asset Management. National Asset Management and Integrity 4. MINISTERE DE L'ENVIRONNEMENT & OFFICE NATIONAL POUR L'ENVIRONNEMENT (ONE) (2000): Directive Generale pour la Realisation d'une Etude d'Impact Environnemental à Madagascar. 5. OFFICE NATIONAL POUR L'ENVIRONNEMENT (ONE) (n.d.): Guide Sectoriel pour la Réalisation d'une Étude d'Impact Environnemental des Projets d'Operations Petrolieres "Amont". 6. http://combo-africa.org/madagascar_fr/ 7. http://combo-africa.org/
Note	-

(Illustrative example) South Africa	
Summary:	<p>South Africa's environmental law requires adherence to the impact mitigation hierarchy (i.e. avoid, minimise and remedy adverse effects for biodiversity and ecosystems) but does not explicitly include offset requirements. However, the inclusion of biodiversity offsetting as a condition of authorisation for individual projects is enabled through the EIA regulations under the National Environment Management Act (NEMA 1998) (1, 2)...</p> <p>Guidelines have been published for two of South Africa's nine provinces: the Western Cape (3) and KwaZulu-Natal (Error! Reference source not found.). The Western Cape's Department of Environmental Affairs and Development Planning (DEA&DP) has developed guidelines for biodiversity specialist studies conducted as part of the EIA. In 2007, it also released an Information Document on Biodiversity Offsets in 2007 (3). DEA&DP is currently revising its guidance and has called for more research on public finance and administration of the system (5).</p> <p>At the national level, a best practice guideline on wetland offsets has been published jointly by the South African National Biodiversity Institute (SANBI) and the Department of Water and Sanitation (DWS) (6). Furthermore, the Department of Environmental Affairs (DEA) in conjunction with South African National Biodiversity Institute (SANBI)</p>

	is leading the development of a national biodiversity offset framework: A draft policy was produced in 2012 and revised in 2016 and is expected to be released for public consultation in 2016.
Sources/links	<ol style="list-style-type: none"> 1. Manuel, J. (2013): Overview of the South African framework for Biodiversity Offsets. BBOP Community of Practice, 22 May 2013 2. Darbi et al. (2009) (Darbi, M.; Ohlenburg, H.; Herberg, A.; Wende, W., Skambracks, D. & Herbert, M.): International Approaches to Compensation for Impacts on Biological Diversity. Final Report. 3. DEA&DP: Department of Environmental Affairs and Development Planning. (2011). Information Document on Biodiversity Offsets. EIA Guideline and Information Document Series. Western Cape, South Africa. 4. Department of Environmental Affairs and Development Planning. 2007. Provincial Guideline on Biodiversity Offsets. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town. 5. EKZNW: Ezemvelo KZN Wildlife. (2013). Comprehensive Guideline for Biodiversity Offsets: KwaZulu-Natal Province, South Africa. 6. 2016. SANBI & DWS. Wetland Offsets: A Best Practice Guideline for South Africa. Published by the Water Research Commission. Available for download at www.wrc.org.za
Note	-

Gabon

Ghana

Guinea

Liberia

Mozambique

Namibia

Uganda

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1.2.1.2. Asia

(Illustrative example): UNDP mainstreaming biodiversity into Russia's energy sector	
Summary:	UNDP aims to build the capacity of the Russian energy sector to minimize negative impacts on biodiversity and mainstream biodiversity in the operations of energy resource extractive and power producing companies. The UNDP project targets companies operating in the coal mining, hydropower, and oil and gas sectors.

	<p>Although EIA is required in Russia, biodiversity is often poorly addressed; there is no specific requirement for biodiversity assessment or 'in-kind' compensation for biodiversity damage, and no explicit guidance. Existing compensation mechanisms focus predominantly on payments to government for such damage.</p> <p>UNDP is running pilot initiatives in different regions of the Russian Federation. A number of existing 'in-kind' compensation activities being provided by partner companies will be evaluated, and General Guidelines for 'best practice' offsetting are to be prepared. These Guidelines are to draw on current 'best practice' around the world and respond to the needs of target stakeholders.</p> <p>The project began in 2011 and runs until 2017. It involves various Ministries (energy, economic development) and NGOs, as well as energy companies.</p>
Sources/links	1. http://www.undp.ru/index.php?iso=RU&lid=1&cmd=programs&id=205
Note	The main thrust of this project is to encourage companies to consider 'in-kind' compensation for biodiversity loss, and preferably offsets.

China

Japan

Malaysia

Mongolia

Qatar

Uzbekistan

Vietnam

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1.2.1.3. Australia and Oceania

(Illustrative example) Australia	
Summary:	<p>In Australia a distinction can be made between Federal and State levels (1). At the federal level the Environment Protection and Biodiversity Conservation Act of 1999 (the EPBC Act) (2) sets the framework for offsets with regard to matters of national environmental significance (NES) (3) and stipulates a net benefit approach. The legislative requirements for approval conditions for proposed developments/actions in general and for biodiversity offsets in particular are covered in Part 9 of the EPBC Act (section 134 and 136 in particular) (3). According to the 2012 EPBC Environmental Offsets Policy (4), offsets are measures that compensate for the residual impacts of an action on the environment, after avoidance and mitigation measures are taken. Where appropriate, offsets are considered during the assessment phase of an environmental impact assessment under the EPBC Act (5).</p>

	<p>Moreover, it is at state level that various compensation approaches are being developed and implemented. Many Australian states already established a more or less developed form of biodiversity offset or biodiversity banking scheme based on market statutes (6). The two most well-known Australian offset schemes at state level are BushBroker in the state of Victoria and BioBanking in the state of New South Wales.</p> <p>BushBroker: Initially developed in 2006 in Victoria, the scheme aims to protect and enhance native vegetation. Therefore, any clearance of native vegetation is subject to a permit, a process that includes finding offsets. Offsets for residual impacts are to be provided on a like-for-like-or-better basis after the mitigation hierarchy has been observed. The scheme also seeks to deliver a 'net gain' in biodiversity provision. One of the principal metrics used is 'Habitat Hectares' where not only the area affected by the change in condition or 'quality' of the vegetation affected or preserved is measured and scored, allowing for comparison of losses and gains.(6)</p> <p>BioBanking: The New South Wales scheme was established in 2007. It requires any urban development to 'improve or maintain' any related ecological damage, which is assessed in a 'biobanking statement'. Developers are obliged to meet an 'improve or maintain' test. Offset providers register their credits, or biobanks, on a public registry. As of 2012, there were only six biobanks, thus it is still early to review the effectiveness of the scheme. The offset providers can choose how much to charge. There are suggestions that high upfront costs of participation may be putting participants off and limiting the number of biobanks. (6)</p>
Sources/links	<ol style="list-style-type: none"> 1. HAYES, N. & MORRISON-SAUNDERS, A. (2007): Effectiveness of environmental offsets in environmental impact assessment: Practitioner perspectives from Western Australia. – Journal for Impact Assessment and Project Appraisal, Guildford, Surrey 25 (3): 209-218. 2. https://www.environment.gov.au/epbc 3. Commonwealth Of Australia (2007): Use of Environmental Offsets Under The Environment Protection and Biodiversity Conservation Act 1999 - Discussion Paper. Australian Government Department of the Environment and Water Resources. Canberra. 4. Commonwealth of Australia (2012): Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy. 5. http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy 6. eftec, IEEP et al. (2010): The Use of Market-Based Instruments for Biodiversity Protection – The Case of Habitat Banking. Technical Report. For European Commission DG Environment.
Note	-

New Caledonia (France)

New Zealand

Papua New Guinea

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1.2.1.4. Central and South America

(Illustrative example) Colombia	
Summary:	<p>Colombia is a megadiverse country with a growing economy, where the government has authorized the exploration and development of a significant percentage of remaining natural land cover. In response to this conservation challenge it has become a leader in Latin America on the implementation of biodiversity offsets policy. In 2012 the Ministry of Environment and Sustainable Development, released its Manual for the Determination of Compensation for Loss of Biodiversity, under its Policy on Integrated Management of Biodiversity and Ecosystem Services. The Manual was updated in 2014.</p> <p>The law requires that projects obtain environmental permits and produce environmental management plans to avoid, mitigate, and offset their residual environmental impacts by restoring or protecting an equivalent habitat elsewhere. The law is based on two key principles: no net loss and ecological equivalence.</p> <p>In an article in PlosOne, Policy Development for Environmental Licensing and Biodiversity Offsets in Latin America, the authors find the following regarding Colombia's approach:</p> <ul style="list-style-type: none">• Projects subject to EIA must offset their significant impacts. The policy explicitly requires offset implementation across all sectors.• The developer of the project is responsible for implementing the offsets, although the location is decided by the National Environmental License Authority (ANLA).• The general EIA regulations of Colombia mention the mitigation hierarchy (avoid, minimize, restore, offset) although they do not explicitly require adherence to it.• EIA policy requires the assessment of indirect impacts for the hydrocarbon sector in particular.• The evaluation of biodiversity impact significance is included in general EIA policies.• A Manual provides guidance for offset design and includes a series of rules developed for selecting offset sites that meet the conservation needs of potentially impacted biological targets (i.e. size, condition, landscape context) as well as rules for impacts to offset ratio determinations based on a structured and transparent approach.• Colombia sets net-gain of biodiversity as goal for offsets.• Offsets are required to match impacted ecosystems• Offsets should last at least for the length of the project,

	<ul style="list-style-type: none"> • Clear limits as to what can be offset are established. • A link between offsets and broader conservation plans is established.
Sources/links	<p>Ministry of Environment and Sustainable Development, Colombia (2012). Manual for the Allocation of Compensation for Loss of Biodiversity. Vice Ministry of Environment and Sustainable Development Forest Management, Biodiversity and Ecosystem Services.</p> <p>A Framework for Implementing and Valuing Biodiversity Offsets in Colombia: A Landscape Scale Perspective Sustainability 2013, 5, 4961-4987; doi:10.3390/su5124961</p> <p>Policy Development for Environmental Licensing and Biodiversity Offsets in Latin America Ana Villarroya, Ana Cristina Barros, Joseph Kiesecker PLOSOne Published: September 5, 2014</p>
Note	

Argentina

Brazil

Chile

Costa Rica

Ecuador

Mexico

Paraguay

Peru

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1.2.1.5. Europe

(Illustrative example) France	
Summary:	<p>France has a requirement to compensate for negative environmental impacts stipulated in the environmental law since 1976. However, the French compensation requirement was never properly implemented until a set of reforms were introduced starting in 2007 as a result of a national consultative process on environmental policy (called "Grenelle de l'Environnement").</p> <p>To streamline offset implementation, France has launched a pilot habitat banking scheme and in 2008 the French ministry for the environment in cooperation with the private "CDC Biodiversité" (a specialized subsidiary of a state-owned sovereign fund) started to implement a first pilot on biodiversity offsets, by restoring natural grasslands in the Crau area in Southern France (5).</p>

	<p>In June 2011 the French government chose to expand this pilot to several other regions and foster additional habitat banks. Furthermore, French offsetting requirements have been significantly strengthened by the issuance of a ‘doctrine’ on how to best avoid, reduce and offset (“sequence ERC” (1)) impacts on biodiversity and ecosystems (2) as well as accompanying guidelines (lignes directrices) in 2012. (3)</p> <p>In 2016 the French national Assembly adopted a new biodiversity law (4), which now also includes the application of the mitigation hierarchy in order to reach the goal of No Net Loss (or preferably Net Gain) of biodiversity. Furthermore, the law allows for 3rd party providers of offsets (habitat banking) who will require the prior approval of the French authorities in order to be able to operate.</p> <p>The “Lignes directrices nationales sur la séquence éviter, réduire et compenser les impacts sur les milieux naturels” state that if residual impacts remain after avoidance and minimization steps, compensation is mandatory in the case of damage resulting in “major environmental issues”. Step-by-step recommendations are given as to how to go through the mitigation hierarchy when planning and implementing a project. 31 thematic spread sheets set out single steps or specific cases are presented in some detail, e.g. for marine environments.</p>
Sources/links	<ol style="list-style-type: none"> 1. http://www.developpement-durable.gouv.fr/Eviter-reduire-et-compenser-les,46019.html 2. Ministère de l’écologie, du Développement durable, des Transports et du Logement (2012): DOCTRINE relative à la séquence éviter, réduire et compenser les impacts sur le milieu naturel 3. Commissariat Général Au Développement Durable. Direction De l’eau Et De La Biodiversité (2013): Lignes directrices nationales sur la séquence éviter, réduire et compenser les impacts sur les milieux naturels. 4. Loi pour la reconquête de la biodiversité, de la nature et des paysages 5. http://www.cdc-biodiversite.fr/nos-metiers/compensation-ecologique/
Note	-

(Illustrative example) Germany

Summary:	<p>Biodiversity offsetting in Germany is part of the mitigation hierarchy under the Impact Mitigation Regulation, IMR (<i>Eingriffsregelung</i>). This mandatory system builds on the provisions in the 1976 Federal Nature Conservation Act [1] which sets the overall framework that is further elaborated in the nature conservation laws of the federal states. The IMR applies to developments and projects on all areas, scales of impact and sectors (excluding agriculture, forestry and fisheries) [2].</p> <p>The overall objective is to ensure the preservation of the existing ecological situation as a minimum standard by avoiding any impairment of nature and landscape in general and more specifically, of the natural assets (species and habitats, soil, water, climate and air quality) as well as the aesthetic quality and the recreational function of the landscape, and compensating for residual unavoidable impacts through nature conservation and landscape management measures [1]. These measures include</p>
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	<p>compensation measures (<i>Ausgleich</i>) and substitution measures (<i>Ersatz</i>) and, in the case of remaining adverse impacts, via monetary substitution [1].</p> <p>The IMR, which is based within nature conservation legislation, was later complemented by its inclusion in the Federal Building Code and the Federal Spatial Planning Act.</p> <p>The use of pool and banking models (compensation pools and eco-accounts) has been explored since the beginning of the 1990s [2, 3], backed by amendments in the Federal Building Code in 1998 (with the aim of optimising the enforcement and implementation of compensation measures in urban development planning) and the Federal Nature Conservation Act in 2002 [4].</p> <p>In recent years, several of the German states have enacted ordinances in support of this practice, in addition to the framework legislation of the Federal Nature Conservation Act, thus establishing the basis for the occurrence of professional public and private providers of compensation services ("compensation agencies") [5].</p> <p>As a result of forty years of experience, the German IMR is outstanding due to its comprehensive character and strict additionality of offsets [2, 6]. It rests on a broad scientific base and discussion, high quality standards and numerous detailed methods and guidelines developed by the ministries of the German states and other institutions[7]. As a result, German IMR is one of the best developed formal compensation systems worldwide and the largest one in Europe [8].</p>
Sources/links	<ol style="list-style-type: none"> 1. Federal Nature Conservation Act 2. Darbi et al. (2009) (Darbi, M.; Ohlenburg, H.; Herberg, A.; Wende, W., Skambracks, D. & Herbert, M.): International Approaches to Compensation for Impacts on Biological Diversity. Final Report. 3. eftec, IEEP et al. (2010): The Use of Market-Based Instruments for Biodiversity Protection – The Case of Habitat Banking. Technical Report. For European Commission DG Environment. 4. Wende et al. (2005) (Wende, W; Herberg, A; Herzberg, A (2005): Mitigation banking and compensation pools: improving the effectiveness of impact mitigation regulation in project planning procedures. Journal for Impact Assessment and Project Appraisal, Guildford, Surrey, 23 (2005) 2, p. 101-111 5. http://www.verband-flaechenagenturen.de/ 6. Herbert, M. (2015): German Impact Mitigation Regulation – National, European, International. A Comparison from the Viewpoint of the Federal Agency for Nature Conservation. In: UVP-report 29 (3): 149-151. Eingriffsregelung; Umweltverträglichkeitsprüfung; Strategische Umweltprüfung; Biologische Vielfalt. 7. Darbi, M. & Tausch, C. (2010): Loss-gain-calculations in German Impact Mitigation. 8. Madsen et al. (2011) (Madsen, B., Carroll, N., Kandy, D., & Bennett, G.): Update: State of Biodiversity Markets. Washington, DC: Forest Trends, 2011.
Note	<p>The overall objective "to ensure the preservation of the existing ecological situation" as a minimum standard can be interpreted as "no net loss" standard.</p> <p>Compensation measures can be interpreted as in-kind offsets and substitution measures as out-of-kind offsets.</p>

Austria

Belgium

Finland

Netherlands

Spain

Sweden

United Kingdom

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1.2.1.6. North America

(Illustrative example) United States	
Summary:	<p>The National Environmental Policy Act (NEPA) is the main environmental law in the USA (1). It defines the concept of environment, covers different sectors and mediums and establishes the fundamentals of EIA and the obligation to avoid and correct environmental damages (2). Additionally, the Endangered Species Act (4) regulates the restoration of lost habitats, while prohibiting “in principle any land use which adversely affects an endangered species or its habitat”, regardless of whether this relates to private or public land (3). Further nature conservation laws and regulations exist at national and state levels.</p> <p>After NEPA, the mitigation and compensation of wetlands according to the Clean Water Act (CWA) is the second most important approach to addressing impacts on biological diversity (4). In principle, according to section 404, activities in wetlands are forbidden, if the wetland would be significantly damaged or if a feasible, less environmentally harmful alternative exists. However, permission to damage wetland can be granted under exceptional circumstances by the US Army Corps of Engineers (the authority responsible for the execution of the law). In 1990 the Department of the Army and the U.S. EPA entered into a Memorandum of Agreement (MOA) (6). This document clarifies the “appropriate and practicable steps” required by the environmental guidelines from 1980 to offset unavoidable impacts to wetlands under the §404 regulatory program (7).</p> <p>A three-part mitigation sequence consisting of appropriate and practicable avoidance, minimization, and compensation was established to achieve the goal of no overall net loss of wetland functions and values (8): First, the project proponent has to avoid alteration of wetlands by using the least environmentally damaging site. This may include sites that are not owned by the proponent. Second, a plan has to be developed to minimize the adverse effects of the unavoidable impacts. Finally, if after the rectification and reduction over time, impacts still remain, the proponent has to adopt appropriate compensation measures. This may either be done by paying monetary compensation or using the services provided by a third party, usually a private investor with a commercial interest, a so-called mitigation bank.</p>

	<p>Since the middle of the 1990s mitigation banking has become a significant business in the United States (9), bringing in USD 2.0-3.4 billion and over 15,000 hectares (37,700 acres) annually (10). The Issuance of the Federal Banking Guidance in 1995 brought about a proliferation of the number of banks across the United States and commercial mitigation banks became a “mainstream option” (7). US mitigation banking is still showing increases, with a total of 1,044 active and sold-out wetland, stream and conservation banks (10).</p>
Sources/links	<ol style="list-style-type: none"> 1. https://www.epa.gov/nepa 2. Darbi et al. (2009) (Darbi, M.; Ohlenburg, H.; Herberg, A.; Wende, W., Skambracks, D. & Herbert, M.): International Approaches to Compensation for Impacts on Biological Diversity. Final Report. 3. Suvantola, L. (n.d.): Environmental Offset Arrangements in Biodiversity Conservation. 4. https://www.fws.gov/endangered/laws-policies/ 5. https://www.epa.gov/cwa-404/compensatory-mitigation 6. https://www.epa.gov/cwa-404/memorandum-agreement 7. ELI (2002) (Environmental Law Institute): Banks and Fees: The Status of Off-site Wetland Mitigation in the United States. 8. U.S. Army Corps of Engineers (U.S. Corps) (n.d.): Final Environmental Assessment, Finding of No Significant Impact, and Regulatory Analysis for the Compensatory Mitigation Regulation. 9. Bishop, J. (2004): Producing and Trading Habitat Or Land development as a source of funding for biodiversity conservation: A review of mitigation and conservation banking in the USA and its implications for global biodiversity conservation. 10. Madsen et al. (2011) (Madsen, B., Carroll, N., Kandy, D., & Bennett, G.): Update: State of Biodiversity Markets. Washington, DC: Forest Trends, 2011.
Note	-

Canada

1.2.2 Intergovernmental initiatives

(Illustrative example) IUCN – approach to biodiversity offsets	
Summary:	<p>At the 2012 World Conservation Congress, IUCN Members called on the Director General to establish a working group to develop an IUCN policy on biodiversity offsets through a consultative process [1]. A Draft Biodiversity Offsets Policy is now available [2] and will be voted on at the IUCN World Conservation Congress in September [3]. The draft policy aims to provide a framework to guide the design, implementation and governance of biodiversity offset schemes and projects. It offers guidance on when offsets are and when they are not an appropriate conservation tool so that when they are used, they lead to positive conservation outcomes compared to business as usual and the risk of negative conservation outcomes is minimised.</p> <p>The first phase of the development of this policy was a Biodiversity Offsets Technical Study Paper [4] prepared by the IUCN Biodiversity Offsets Technical Study Group. The group referred to relevant literature, and focussed on principles that enjoy broad agreement and are important for IUCN’s membership to understand as well as unresolved issues that IUCN’s membership could address collaboratively.</p> <p>The technical study paper was founded upon a comprehensive review of issues in biodiversity offsetting, and drew largely on two input papers prepared for the study group. [5][6]</p> <p>One of these papers, Biodiversity offsets : policy options for governments [5] defines key terms, offers information on the background and trends in government, business, banks and civil society and the basic concepts involved. It describes different kinds of offsets and the policies and legal provisions giving effect to NNL/NG, various possible roles of government in offsetting schemes, the main elements of cost in developing and implementing NNL/NG policy, some of the lessons learnt from the experience in various countries, and possible ways forward for governments interested in exploring biodiversity offset policy options.</p> <hr/> <p>The other input paper, Technical conditions for positive outcomes from biodiversity offsets [5], assesses the conditions under which biodiversity offsets may provide the best outcomes for biodiversity and achieve no net loss.</p> <p>IUCN has also undertaken research on Business and Biodiversity Net Gain, focussing on a Net Positive Impact on biodiversity, and has published several reports on related topics, such as: Net Positive Impact on biodiversity: the business case [7]. This paper summarizes the business case for private sector applications of NPI and outlines the opportunities available for businesses that implement best practice biodiversity management by applying NPI in their operations. Net Positive Impact on biodiversity: the conservation case [8] summarizes the main arguments, from a conservation perspective, for operationalizing the concept of net positive impact on biodiversity. The report No Net Loss and Net Positive Impact Approaches for Biodiversity : Exploring the potential application of these approaches in the commercial agriculture and forestry sectors [9] learns from the NNL/NPI experience</p>

	of the extractives and infrastructure sectors and proposes an organizing framework for applying NNL/NPI approaches in other business sectors and to explore the potential for applying NPI approaches in commercial agriculture and forestry.
Sources/links	<p>[1] https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2012_RES_110_EN.pdf</p> <p>[2] A Draft Biodiversity Offsets Policy</p> <p>[3] http://www.iucnworldconservationcongress.org/</p> <p>[4] Biodiversity Offsets Technical Study Paper</p> <p>[5] Biodiversity offsets : policy options for governments</p> <hr/> <p>[6] Technical conditions for positive outcomes from biodiversity offsets</p> <p>[7] Net Positive Impact on biodiversity: the business case</p> <p>[8] Net Positive Impact on biodiversity: the conservation case</p> <p>[9] No Net Loss and Net Positive Impact Approaches for Biodiversity : Exploring the potential application of these approaches in the commercial agriculture and forestry sectors</p>
Note	

(Illustrative example) Convention on Biological Diversity – approach to biodiversity offsets

Summary:

The CBD is a treaty ratified by 196 Parties [1] with the objectives of the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the utilisation of genetic resources [2].

In its comprehensive scope and programme of work [3], much of the work under the CBD is relevant to the mitigation of impacts on biodiversity and planning for No Net Loss and preferably a Net Gain of Biodiversity. Among the relevant Articles of the CBD [4] are Articles 1 (Objectives), 2 (Use of Terms), 6 (General Measures for Conservation and Sustainable Use – including National Strategies and Action Plans), 7 (Identification and Monitoring), 8 (In situ Conservation), 10 (Ex situ Conservation), 10 (Sustainable Use); 11 (Incentives); 12 (Research and Training); 13 (Public Education and Awareness); 14 (Impact Assessment and Minimizing Adverse Impacts); 15 (Access to Genetic Resources); 16 (Technology Transfer); 17 (Exchange of Information); 18 (Technical and Scientific Cooperation); 19 (Handling of Biotechnology and Distribution of its Benefits); 20 (Financial Resources); and 21 (Financial Mechanism).

The Parties have adopted the Strategic Plan for Biodiversity 2011–2020 and the Aichi Targets [5] – A ten-year framework for action by all countries and stakeholders to save biodiversity and enhance its benefits for people. Several of the Aichi targets are specifically relevant to the avoidance and minimisation of impacts on biodiversity, to

	<p>restoration, and to addressing residual impacts so as to achieve No Net Loss or a Net Gain of biodiversity.</p> <p>Among the Decisions taken by the Conference of the Parties of the CBD that are particularly relevant to the mitigation hierarchy including biodiversity offsets are the following: COP8: Decision VIII/17 (Private-sector engagement); COP9: Decision IX/11 (Review of implementation of Articles 20 and 21); Decision IX/18 (Protected Areas); Decision IX/26 (Promoting business engagement); COP10: Decision X/21 (Business Engagement). [6]</p>
Sources/links	<p>Insert references and links to websites.</p> <p>[1] https://www.cbd.int/information/parties.shtml</p> <p>[2] https://www.cbd.int/convention/articles/default.shtml?a=cbd-01</p> <p>[3] https://www.cbd.int/programmes/</p> <p>[4] https://www.cbd.int/convention/text/</p> <p>[5] https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf</p> <p>[6] https://www.cbd.int/decisions/</p>
Note	<p>See here [hyperlink – <i>analysis under preparation in a separate doc, available soon!</i>] an analysis of the relevance of how planning for No Net Loss or preferably a Net Gain of biodiversity can help achieve the Aichi Targets, and how the Aichi targets are relevant to>NNL/NG.</p>

(Illustrative example) EU No Net Loss Initiative

Summary:	<p>The EU is committed to halt the loss of biodiversity and the degradation of ecosystem services by 2020. The Biodiversity Strategy [1] sets out 6 targets and 20 specific actions geared towards this overall objective. Action 7 is to ensure no net loss of biodiversity and ecosystem services [2]. The action calls for the development of a methodology to assess the impact of EU funds on biodiversity and foresees that the Commission proposes "<i>an initiative to ensure there is no net loss of ecosystems and their services (e.g. through compensation or offsetting schemes).</i>" This commitment is reiterated in the roadmap to a Resource Efficient Europe [3]</p> <p>The European Commission established a Working Group on No Net Loss of Ecosystems and their Services [4] to gather opinions on how to prepare the no net loss initiative, taking into account all relevant policies and instruments. In its last meeting on 5th July 2013, the>NNL WG adopted a set of documents, including a definition of the scope and objectives of the no net loss initiative [5], a glossary [6] and a document discussing the development of operational principles of any proposed EU no net loss initiative [7].</p> <p>In addition, the European Commission commissioned several studies in preparation of the No Net Loss initiative [8], [9],[10].</p>
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	<p>The Commission ran an internet consultation on the EU No Net Loss initiative from June 2014, soliciting views on how to develop the policy, how to apply the mitigation hierarchy; the scope and the scale of the initiative; which drivers of biodiversity loss and which economic sectors to include; how to tackle the challenges related to offsetting and the choice of policy instruments to use. A summary of responses is available. [11], and the Commission is preparing an impact assessment to support the No Net Loss Initiative.</p>
Sources/links	<p>http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm</p> <p>[1] http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm</p> <p>[2] http://ec.europa.eu/environment/nature/biodiversity/strategy/target2/index_en.htm</p> <p>[3] http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm</p> <p>[4] http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm</p> <p>[5] http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/Subgroup_NNL_Scope_Objectives.pdf</p> <p>[6] http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/NNL_Glossary.pdf</p> <p>[7] http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/NNL_Operational_Principles.pdf</p> <p>[8] Policy Options for an EU No Net Loss Initiative, IEEP, 2013 http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/Policy%20Options.pdf (and annexes http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/Policy%20Options_annex.pdf).</p> <p>[9] Exploring potential demand for and supply of habitat banking in the EU and appropriate design elements for a habitat banking scheme (ICH GHK, Bio Intelligence Service, 2013) http://ec.europa.eu/environment/enveco/taxation/index.htm#hab_bank</p> <p>[10] Biodiversity metrics and mechanisms for securing long term conservation benefits (IEEP, ICF, Dec 2014) http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/Biodiversity%20offsets%20metrics%20and%20mechanisms.pdf</p> <p>[11] http://ec.europa.eu/environment/consultations/nnl_en.htm</p>
Note	

(Illustrative example) GEF: Work relevant to biodiversity offsets by GEF and its Implementing Partners	
Summary:	<p>The Global Environment Facility (GEF) is an international partnership of 183 countries, international institutions, civil society organizations, and private sector to address global environmental issues. It was established to tackle the planet's most pressing environmental problems and (as of 2016) has provided US \$14.5 billion in grants and mobilized \$75.4 billion in additional financing for almost 4,000 projects since it was founded in 1992. [1][2][3] The GEF serves as financial mechanism a number of international environmental conventions, including the Convention on Biological Diversity (CBD).</p> <p>The GEF's current biodiversity strategy sets out its approach. [4]</p> <p>The GEF has 18 implementing partners: Asian Development Bank (ADB), African Development Bank (AFDB), Development Bank of Latin America (CAF), Conservation International (CI), Development Bank of Southern Africa (DBSA), European Bank for Reconstruction and Development (EBRD), Foreign Economic Cooperation Office - Ministry of Environmental Protection of China (FECO), Food and Agriculture Organization of the United Nations (FAO), Fundo Brasileiro para a Biodiversidade (FUNBIO), Inter-American Development Bank (IDB), International Fund for Agricultural Development (IFAD), International Union for Conservation of Nature (IUCN), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Industrial Development Organization (UNIDO), West African Development Bank (BOAD), World Bank Group (WBG), World Wildlife Fund U.S. (WWF). [1][2][3]</p> <p>In several countries, GEF implementing partners such as UNDP have supported or are supporting countries as they improve the application of the mitigation hierarchy and plan for No Net Loss or a Net Gain of biodiversity, including the use of biodiversity offsets. Examples include Uzbekistan [5], Sabah [6], Papua New Guinea [7] and South Africa [8].</p> <p>GEF implementing partners have supported research and publications on the mitigation hierarchy including biodiversity offsets [9], [10] and are also working on putting into practice a range of different solutions for financing the conservation and sustainable use of biodiversity in many sectors and across many thematic areas. For example, the Biodiversity Finance Initiative is serving 30 countries to support the financing of national biodiversity strategies [11].</p>
Sources/links	<p>[1] https://www.thegef.org/gef/whatisgef</p> <p>[2] http://www.undp.org/content/sdfinance/en/home/solutions/biodiversity-offset.html</p> <p>[3] https://www.thegef.org/gef/home</p> <p>[4] https://www.thegef.org/gef/biodiversity</p> <p>[5] https://www.thegef.org/gef/node/10802 (GEF-6 Biodiversity Strategy)</p> <p>[6] https://www.thegef.org/gef/node/10802</p> <p>[7] https://www.thegef.org/gef/node/10802</p> <p>[8] https://www.thegef.org/gef/node/10802</p> <p>[9] https://www.thegef.org/gef/node/10802</p> <p>[10] https://www.thegef.org/gef/node/10802</p> <p>[11] https://www.thegef.org/gef/node/10802</p>

	<p>[6] http://www.my.undp.org/content/malaysia/en/home/operations/projects/environment_and_energy/80468_forestlandscapes.htm</p> <p>[7] PNG</p> <p>[8] SANBI, 2008. <i>National Grasslands Biodiversity Programme Proposal</i>. Prepared by the Republic of South Africa for the United Nations Development Programme and the Global Environment Facility, Proposal ID: 0045129, Project ID: 00053253, BU: ZAF10 (NGBP) PIMS 2929. South African National Biodiversity Institute, Pretoria, South Africa. Retrieved from: http://www.thegef.org/gef/sites/thegef.org/files/repository/12-12-07%20South%20Africa%20PIMS%202615%20-%20doc%20for%20web%20posting.pdf</p> <p>[9] Report: Habitat Banking in Latin America and Caribbean: A Feasibility Assessment</p> <p>[10] Report: State of Biodiversity Markets: Offset and Compensation Programs Worldwide</p> <p>[11] Project: The Biodiversity Finance Initiative</p>
Note	

1.3 Nongovernmental initiatives

1.3.1 Initiatives by individual NGOs

(Illustrative example) Forest Trends Biodiversity Initiative	
Summary:	<p>Forest Trends' Biodiversity Initiative (FTBI) seeks to redefine business-as-usual practices so that economic activities result in a Net Positive Impact on biodiversity. In addition to managing the Business and Biodiversity Offsets Programme (BBOP), FTBI works directly with companies, governments, banks and conservation organizations to help them improve the outcomes for biodiversity from their operations. Forest Trends offers advisory services to governments on policy development and landscape-level planning for "No Net Loss" and preferably a "Net Positive Impact" on biodiversity, using the BBOP standard and other best practices. It provides strategic and technical advice to companies with a biodiversity footprint to help them at the project level and with company-wide identification and management of risk and opportunity related to biodiversity. Expertise includes:</p> <p>Advising governments – Forest Trends offers policy and technical advice to governments on the application of the mitigation hierarchy (including biodiversity offsets) and environmental assessments, by:</p> <ul style="list-style-type: none"> Supporting the development and implementation of government strategies for No Net Loss or Net Gain (NNL/NG) of biodiversity. These strategies typically cover regulations and policy, technical guidelines, and preparation of public and private sector organizations for their role in the system, whether on the supply or demand side, or as brokers.

	<ul style="list-style-type: none"> • Conducting policy gap analyses tailored to specific countries, provinces and regions, and providing advice on the advantages and disadvantages of different options in order to embed NNL/NG in the policy framework. • Assisting governments (including Ministries of the Environment, Mining, Energy, Finance, Agriculture, Planning and Justice) in the development and use of a roadmap to achieve Net Gain. The roadmap will show how, over time, to put into place the guidelines, systems, planning, coordination and capacity needed to deliver mitigation and Net Gain in daily land-use planning and decision-making. • Producing guidelines on core issues in offset design and implementation. Such guidelines include: following the mitigation hierarchy, defining limits to what can be offset, exchange rules and metrics to quantify biodiversity losses and gains, site selection, implementation options, monitoring & evaluation, enforcement and adaptive management. • Preparing data sets and spatially explicit plans and maps to support NNL/NG planning. • Capacity building and training of staff responsible for designing and administering biodiversity mitigation systems, land-use planning and permitting. • Helping governments build the financial resources and technical capacity to implement these systems. <p>Supporting the private sector – Forest Trends advises companies in the mining, energy, infrastructure, tourism and forestry sectors on NNL/NG planning, by:</p> <ul style="list-style-type: none"> • Assisting companies as they plan for NNL/NG at three stages 1) early assessment of the feasibility of achieving NNL/NG; 2) design and implementation of NNL/NG during and after the preparation of EIAs; and 3) assessment of existing mitigation measures, including offsets, for conformance with standards. • Providing a roadmap, checklist and common definitions and guidance for companies considering or planning no net loss/net gain biodiversity commitments. • Developing and administering a 'Stepwise' approach for companies to build towards compliance with the mitigation hierarchy and BBOP offset standard. • Creating tools for company staff and consultants, such as terms of reference for impact assessments and model biodiversity impact mitigation and offset management plans. • Training company staff and especially the consultants they employ to assess impacts and design and deliver mitigation measures (including biodiversity offsets). <p>Assisting financial institutions - Forest Trends works with commercial and development banks and export credit agencies, in:</p> <ul style="list-style-type: none"> • Revising and establishing biodiversity policies and safeguards • Reviewing and giving advice on clients' projects • Facilitating dialogue with stakeholders to support national and project-based mitigation <p>Helping the conservation community – Forest Trends undertakes projects for conservation organizations, such as:</p> <ul style="list-style-type: none"> • Writing publications, communication tools and position papers on the mitigation hierarchy, No Net Loss, Net Gain, biodiversity offsets, etc. • Chairing and facilitating working groups
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	<ul style="list-style-type: none"> Preparing and delivering training materials for organizations to use with their members
Sources/links	Forest Trends Biodiversity Initiative homepage Biodiversity Offsets: Policy options for governments Exploring lessons learned from biodiversity offsetting markets in other countries that could inform appraisal of options for delivering offsets in England
Note	

(Illustrative example) The Nature Conservancy's Development by Design	
Summary:	<p>Spearheaded by the Development by Design program (1), The Nature Conservancy is working to bring efficiencies to mitigation planning that are transparent and transferable to industry and regulators, complementary to the environmental assessment process, and support “no net loss” of biodiversity values.(2) This includes conservation and landscape-level planning, global reach and policy expertise, and solution-oriented approach. (2)</p> <p>Development by Design is a science-based mitigation planning process that balances the needs of planned development, such as mining, oil and gas, and infrastructure, with those of nature conservation. (3) This work is underpinned by a large number of scientific publications, e.g. (4, 5, 6)</p> <p>Given the breadth of the Conservancy's mitigation work, it has formulated and promoted a core set of principles for mitigation. This set of 10 principles – 6 principles for applying the mitigation hierarchy and 4 principles specific to offsets builds on the works of BBOP and IUCN. Because the mission of The Nature Conservancy is to “protect the lands and waters on which all life depends,” we believe the central focus of our engagement on mitigation must be on application of the full mitigation hierarchy, which includes offsets as a last step but starts with avoiding and minimizing impacts. (2)</p> <p>Current Development by Design projects are being applied in timeframes of 6 to 18 months, with implementation taking place in different geographies and habitat types (3). TNC is working in a dozen countries and over 40 U.S. states, with a variety of stakeholders, e.g. companies and governments to apply Development by Design at several projects – mining, oil and gas, and renewable energy – in the United States (7), Colombia (8), Australia (9), and Mongolia (10).</p> <p>In the past decade, the Conservancy has engaged in more than 150 mitigation projects in the U.S. alone, helping direct over \$500 million of mitigation funding towards conservation priorities and directly contributing to conservation outcomes on over 1.5 million acres. (2)</p>
Sources/links	1. http://www.nature.org/ourinitiatives/urgentissues/land-conservation/smart-development/index.htm

	<ol style="list-style-type: none"> 2. McKenney, Bruce and Jessica Wilkinson. April 2015. "Achieving Conservation and Development: 10 Principles for Applying the Mitigation Hierarchy." The Nature Conservancy 3. ICMM (2010): Mining and Biodiversity. A collection of case studies – 2010 edition. 4. Kiesecker, J.M, H. Copeland, A. Pocewicz, N. Nibbelink, B. McKenney J. Dahlke, M. Holloran, and D. Stroud. 2009. A Framework for Implementing Biodiversity Offsets: Selecting Sites and Determining Scale. <i>BioScience</i> 59:77-84 5. Kiesecker, J.M., H. Copeland, A. Pocewicz, and B. McKenney. 2010. Development by Design: Blending Landscape Level Planning with the Mitigation Hierarchy. <i>Frontiers in Ecology and the Environment</i>. 8:261-266 6. McKenney, B. and J.M. Kiesecker. 2010. Policy Development for Biodiversity Offsets: A Review of Offset Frameworks. <i>Environmental Management</i> 45:165-176 7. Obermeyer, B., R. Manes, J.M. Kiesecker, J. Fargione, and K. Sochi. 2011. Development by Design: Mitigating Wind Development's Impacts on Wildlife in Kansas. <i>PLoS ONE</i> 6(10): e26698. doi:10.1371/journal.pone.0026698 8. Saenz, S., T. Walschburger, J.C. González, J. León, B. McKenney, J.M. Kiesecker. 2013. Development by Design in Colombia: Making Mitigation Decisions Consistent with Conservation Outcomes. <i>PLoS ONE</i> 8(12): e81831. doi:10.1371/journal.pone.0081831 9. Fitzsimons, J., M. Heiner, B. McKenney, K. Sochi, and J. M. Kiesecker. 2014. Development by Design in Western Australia: Overcoming offset obstacles. <i>Land</i> 3: 167-187. 10. Heiner, M., D. Galbadrakh, J.M. Kiesecker, B. McKenney, J. Evans, E. Tuguldur, D. Zumburelmaa, V. Ulziisaikhan, B. Oyungerel, D. Sanjmyatav, R. Gankhuyag, D. Enkhbat, L. Ocirhuyag, G. Sergelen, E. Girvetz and R. McDonald. (2011) Identifying Conservation Priorities in the Face of Future Development: Applying Development by Design in the Grasslands of Mongolia. The Nature Conservancy. Ulaanbaatar.
Note	-

Birdlife Europe

Conservation International

Fauna and Flora International

Wildlife Conservation Society

World Wildlife Fund

1.3.2 Initiatives by groups of NGOs

Cambridge Conservation Initiative

1.4 Business initiatives (companies and banks)

1.4.1 Initiatives by individual companies

(a) Group-level commitments and policies

(Illustrative example) Rio Tinto	
Summary:	<p>Rio Tinto is a leading global mining group with a large number of operations in different locations worldwide.</p> <p>At the IUCN World Congress in 2004, Rio Tinto has launched its biodiversity strategy [2] as a voluntary commitment to address a number of key business risks, including managing the growing issue of land-use conflict and access to resources, as well as meeting its site closure obligations. The strategy was updated in 2008 [6].</p> <p>The goal of Rio Tinto's biodiversity strategy is a 'Net Positive Impact' (NPI) on biodiversity, with a goal to have an NPI as early as possible during the life of the operation. This means "minimising the impacts of our business and contributing to biodiversity conservation to ensure a region ultimately benefits as a result of our presence" [2, 6, 3].</p> <p>To support the strategy, a series of methodologies and tools has been developed with the input of biodiversity stakeholders, such as Flora and Fauna International, Birdlife International, IUCN and The Biodiversity Consultancy, including:</p> <ul style="list-style-type: none">• The Group-wide biodiversity values assessment: This accounts for the biodiversity values of Rio Tinto's land holdings and surrounding areas, and assesses an operation's biodiversity values• The biodiversity action planning tool: The Biodiversity Action Plan is the primary way that Rio Tinto evaluates and plans for its NPI programs at an operational level.• The offset design tool: The use of offsets to compensate for biodiversity loss is now practiced widely and is required by legislation in a number of countries where Rio Tinto operates.

	<p>Biodiversity offsets are used as part of the mitigation hierarchy, i.e. “offsets are not employed in place of appropriate on-site avoidance and minimization measures, but rather seek exclusively to address the residual loss after mitigation”. The mitigation hierarchy includes four main types of conservation actions: Avoidance, minimization, rehabilitation and restoration and ultimately biodiversity offsets. Additional conservation actions may also be undertaken. For example, Rio Tinto QMM is carrying out a number of additional conservation actions (e.g. environmental education, capacity-building, livelihoods alternatives, etc.) with the aim of making a positive contribution to sustainable development in the region and reducing human pressure on biodiversity.</p>
Sources/links	<ol style="list-style-type: none"> 1. Rio Tinto (2008a): Rio Tinto and biodiversity. Biodiversity offset design. 2. Rio Tinto (2004): Rio Tinto's biodiversity strategy. Sustaining a natural balance. 3. Rio Tinto (n.d.) : Rio Tinto and biodiversity. Achieving results on the ground. 4. Rio Tinto and IUCN (2012): Rio Tinto QMM On track to a Net Positive Impact on biodiversity. 5. Rio Tinto (2012): Achieving the Goal of Net Positive Impact on Biodiversity. 6. Tinto, R. (2008). Rio Tinto and biodiversity: Achieving results on the ground. 7. Temple, H.J., Anstee, S., Ekstrom, J., Pilgrim, J.D., Rabenantoandro, J., Ramanamanjato, J.-B., Randriatafika, F. & Vincelette, M. (2012). Forecasting the path towards a Net Positive Impact on biodiversity for Rio Tinto QMM. Gland, Switzerland: IUCN. x + 78pp. 8. Rio Tinto (2015): QIT Madagascar Minerals. 9. Rio Tinto (2008b): Managing biodiversity in Guinea. On the ground at Rio Tinto's Simandou project.
Note	

Kingfisher

SENZ

Centerra

Suncor

BHP Billiton

Newmont

Shell

De Beers

Barrick Gold

Solid Energy New Zealand

Gold Reserves Inc

(b) Individual projects

(Illustrative example): Ambatovy	
Summary:	<p>Ambatovy is a large-tonnage nickel and cobalt mining enterprise located in Madagascar, with a total project cost of US\$8 billion (as at 2015) - the largest-ever foreign investment in the country. It is a partnership of three companies: Sheritt International Corporation (40% ownership) from Canada, Sumitomo Corporation (32.5%) from Japan, and Korea Resources Corporation (27.5%) from Korea. Ambatovy is now in its operation phase, with an expected life of mine of 29 years.</p> <p>The company has developed ‘interrelated environmental and social policies that aim to ensure no net loss, and preferably a net gain, of biodiversity while ensuring socioeconomic benefits for local populations’. Ambatovy is committed to following best international practice as set out in the Equator Principles, the IFC’s Performance Standards, and the principles of the Business and Biodiversity Offsets Program (BBOP). This applies to all phases, including construction, operations, and closure. Ambatovy also works closely with the Malagasy regulator, the National Environment Office (ONE), which must approve all environmental plans for implementation.</p> <p>Central to Ambatovy’s approach to limiting and managing its impacts is adherence to the mitigation hierarchy. This includes the steps to avoid, minimize and restore environmental impacts and to compensate for residual impacts through the implementation of a multi-faceted biodiversity offsets program. The stated aim is ‘to achieve no net loss and possibly a net gain of biodiversity’ (e.g. see Ambatovy case study). Implementation of these steps, including the biodiversity offset, is guided by a specifically designed biodiversity management system (ABMS). The Environmental Management Plan (EMP) provides the framework to ensure that all issues identified during the Environmental and Social Impact Assessment (ESIA) are addressed through appropriate mitigation and monitoring.</p>
Sources/links	<p>www.ambatovy.com – Environment</p> <p>http://www.ambatovyfiles.net/files/docweb/ambatovy-case-study.pdf</p>
Note	

QMM

Oyu Tolgoi

Simandou

Yemen LNG

1.4.2 Initiatives by associations of companies

(Illustrative example) International Council on Mining and Metals (ICMM)	
Summary:	<p>The International Council on Mining and Metals was formed in 2001 “to improve sustainable development performance in the mining and metals industry” [2]. It consists of currently 23 mining and metals companies as well as 34 national and regional mining associations and global commodity associations and requires its members to implement the Sustainable Development Framework. This includes integrating a set of 10 principles into corporate policy[1], notably “Principle 7: Contribute to conservation of biodiversity and integrated approaches to land use planning.”[2]</p> <p>ICMM members are convinced that economic development stimulated by mining can potentially reduce threats of biodiversity depletion from poverty pressures and make a positive contribution [2].</p> <p>In a joint workshop with IUCN held in 2003, ICMM agreed to explore the use of biodiversity offsets [5]. Since then they have published two sets of case studies on integrating mining and biodiversity conservation - 2004 and 2010 [9, 5]. Furthermore, they issued a number of guidance documents, including a proposition paper [7] and a briefing paper for the mining industry [8] as well as “Good Practice Guidance for Mining and Biodiversity” [6].</p> <p>ICMM members recognize the environmental values of protected areas and have pledged not to mine or explore in World Heritage Sites. Furthermore, they are committed to high standards of on-site mitigation.</p> <p>As of 2014, almost half of ICMM’s members have a policy commitment on offsets. However, the actual involvement in offsets is likely to be higher [3]. Nevertheless, the application of offsets is largely limited to one or two sites per company.</p>
Sources/links	<ol style="list-style-type: none"> 1. ICMM (2016): International Council on Mining and Metals. Sustainable Development Framework. Homepage. 2. ICMM (2015): International Council on Mining and Metals. Biodiversity good practice and offsets. Homepage. 3. Globalbalance and The Biodiversity Consultancy (2014): Review of the International council on Mining and Metals members’ biodiversity performance management since 2003. Unpublished report to ICMM & IUCN. 4. ICMM IUCN (2012): Independent report on biodiversity offsets. Prepared by The Biodiversity Consultancy. 5. ICMM (2010): Mining and Biodiversity. A collection of case studies – 2010 edition. 6. ICMM (2006): Good Practice Guidance for Mining and Biodiversity. 7. ICMM (2005a): Biodiversity offsets: a proposition paper from The International Council on Mining and Metals. 8. ICMM (2005b): Biodiversity offsets – A Briefing Paper for the Mining Industry 9. IUCN and ICMM (2004): Integrating mining and biodiversity conservation: Case studies from around the world.
Note	<p>The formulated goal of “making a positive contribution” can be interpreted as net gain type approach. Furthermore, the standard “not to mine or explore in World heritage Sites” can be interpreted as “No Go” areas.</p>

(Illustrative example) CIRIA/IEMA/CIEEM – work on principles for biodiversity offsets	
Summary:	<p>CIRIA is a UK construction industry research and information association, working collaboratively across the construction industry to identify best practice, develop new approaches and to identify and enable innovation. IEMA is a worldwide alliance of environment and sustainability professionals, with over 15,000 members, driving global standards for sustainable practice. CIEEM is a professional membership body representing and supporting ecologists and environmental managers in the UK, Ireland and elsewhere, with members from local authorities, government agencies, NGOs, environmental consultancy, academia and industry. The three organisations are collaborating to develop principles on achieving biodiversity net gain in development. The principles focus on delivering net gain outcomes for biodiversity from development (whether or not developers need the last stage of the mitigation hierarchy - i.e. offsetting - to do so).</p> <p>CIRIA/IEMA/CIEEM have compiled principles about NNL/NG and biodiversity offsetting published in the UK and internationally, discussed these in a first consultation workshop and held a workshop with experts from industry, government and the NGO sector in England. They invited comments in order to edit principles specific to the construction sector as the foundation for the forthcoming CIRIA/IEMA/CIEEM guidance on Biodiversity Net Gain approaches for the UK. A draft document of principles for Net Gain approaches in the UK is now the basis of consultation with experts, members online, and in Scotland, Wales and Northern Ireland, and should be ready by the end of 2016. This may be accompanied by a guidance document, to be developed in a subsequent 6-12 months.</p>
Sources/links	<p>http://www.ciria.org/</p> <p>http://www.cieem.net/</p> <p>http://www.iema.net/</p>
Note	

(Illustrative example) IPIECA	
Summary:	<p>The International Petroleum Industry Environmental Conservation Association (IPIECA) was set up in 1974 following the establishment of the United Nations Environment Programme (UNEP). IPIECA is a global association representing both the upstream and downstream oil and gas industry on key global environmental and social issues. (1) IPIECA has been addressing biodiversity issues since the early 1990s. In 2002, IPIECA formed a Biodiversity and Ecosystem Services Working Group (BESWG) with the International Association of Oil and Gas Producers (OGP), to improve the way the industry recognizes and manages biodiversity impacts, and engages with society on biodiversity conservation issues. Among other issues, it is working on integrating</p>

	<p>Biodiversity and Ecosystem Service concepts and management into oil and gas operations by developing science based good practice tools using the mitigation hierarchy as a reference framework (3) At the same time, the oil and gas industries have begun to explore the use of offsets. (2)</p> <p>The oil and gas industry recognizes the dependency on the ability to explore for and develop reserves without adversely affecting nature. Oil and gas companies therefore seek to integrate biodiversity considerations into their business practices and operations to minimize risks and maximize opportunities to make a positive contribution to biodiversity conservation and improve ecosystem services. (3) Therefore, IPIECA develops tools and guidance whilst also running workshops and developing case-study examples to both communicate and illustrate industry action. (3)</p> <p>In 2010, IPIECA and OGP published 10 tips for managing Biodiversity & Ecosystem Services in the oil and gas industry. Each tip is supported by resources, many of which are IPIECA/OGP documents. This includes clear adherence to the Mitigation Hierarchy: “Systematically apply the Mitigation Hierarchy throughout the asset life-cycle to follow an effective order of preference in addressing all potential impacts on BES of oil and gas operations. The order of preference is: Avoid; Reduce; Restore, and, in cases where significant residual biodiversity impacts remain, Offset.” (5)</p> <p>This work of IPIECA is underpinned by case studies, e.g. the Villano oil field, operated by Agip Oil Ecuador (AOE) in the Ecuadorian Amazon: Demonstrating no net loss by integrating biodiversity management into operational practices based on sound science: The VBD project provided science-based evidence for the mitigation hierarchy as an effective framework to manage potential operational impacts and to drive performance improvement in achieving NNL of biodiversity. A timely application of the mitigation hierarchy (particularly avoidance) as early as possible in the project life-cycle is key to achieving NNL when operating in forest environments. The mitigation hierarchy should drive site selection and promote a smaller footprint in designing projects, allowing successful and more cost-effective restoration. In turn this can help to avoid or minimise the need for biodiversity offsets. (4)</p>
Sources/links	<ol style="list-style-type: none"> 1. www.ipieca.org/ 2. Rajvanshi, A., & Mathur, V. B. (2009). 8-Reconciling conservation and development: the role of biodiversity offsets. Biodiversity in Environmental Assessment: Enhancing Ecosystem Services for Human Well-Being, 255. 3. http://www.ipieca.org/focus-area/biodiversity 4. http://www.ipieca.org/topic/biodiversity/biodiversity-case-studies/eni-demonstrating-no-net-loss 5. IPIECA & IOGP (2016): Managing Biodiversity & Ecosystem Services (BES)issues along the asset lifecycle in any Environment: 10 Tips for Success in the Oil and Gas Industry 6. International Petroleum Industry Environmental Conservation Association. (2005). A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector.
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(Illustrative example) Consumer Goods Forum

Summary:	<p>The Consumer Goods Forum is a global, industry network that brings together the CEOs and senior management of some 400 retailers, manufacturers, service providers, and other stakeholders across 70 countries. (1)</p> <p>In November 2010, the Board of Directors agreed a resolution on deforestation, with the aim of achieving zero net deforestation by 2020. The Resolution is of voluntary character, but authoritative (non-binding in a legal sense). The group intends to achieve this aim both by initiatives taken by individual company and by working collectively in partnership with governments and NGOs. This includes developing specific, time bound and cost effective action plans for the different challenges in sourcing commodities like palm oil, soya, beef, paper and board in a sustainable fashion. (2)</p> <p>The Consumer Goods Forum's members will deliver against the Deforestation Resolution by working towards excluding deforestation from their supply chains. Therefore, they work with an array of stakeholders – NGOs, development banks, governments etc – to create funding mechanisms and other practical schemes that will incentivise and assist forested countries to conserve their natural assets and enable them to achieve the goal of zero net deforestation, whilst at the same time meeting their goals for economic development". (2)</p> <p>Defining "Zero Net Deforestation" (2)</p> <ul style="list-style-type: none">• "Zero net deforestation" can be distinguished from "zero deforestation", which means no deforestation anywhere.• The Forum endorses the WWF definition of zero net deforestation.• However, zero net deforestation is not achieved through the conversion of primary or natural forests into fast growing plantations. Such conversion would count as deforestation in assessing progress against the target.• "Zero net deforestation" acknowledges that some forest loss could be offset by forest restoration. Zero net deforestation is not synonymous with a total prohibition on forest clearing. Rather, it leaves room for change in the configuration of the land-use mosaic, provided the net quantity, quality and carbon density of forests is maintained. It recognises that, in some circumstances, conversion of forests in one site may contribute to the sustainable development and conservation of the wider landscape (e.g. reducing livestock grazing in a protected area may require conversion of forest areas in the buffer zone to provide farmland to local communities).
Sources/links	<ol style="list-style-type: none">1. http://www.theconsumergoodsforum.com/about-the-forum2. http://www.theconsumergoodsforum.com/sustainability-strategic-focus/sustainability-resolutions/deforestation-resolution
Note	-

(Illustrative example) Cross Sector Biodiversity Initiative CSBI

Summary:	<p>ICMM and IPIECA, together with the Equator Principles Association have united “to promote the use of scientifically valid, innovative and practical applications of the mitigation hierarchy to manage potential project related impacts on biodiversity and ecosystem services” (1). In 2013 they jointly launched a Cross Sector Biodiversity Initiative (CSBI) (2). The CSBI aims to explore and develop practical tools and share good practices for the effective application of the mitigation hierarchy and the International Finance Corporation Performance Standard 6 on biodiversity conservation. CSBI published a Timeline Tool in 2014 (3) and a cross-sector guide for implementing the mitigation hierarchy in 2015 (2). The Timeline Tool provides assistance on project planning in the extractive industries. The goal is to align development and management of biodiversity impact management with financial timelines and milestones (3).</p> <p>CSBI’s guide on the mitigation hierarchy was developed in consultation with, and with input from, technical specialists in impact assessment, extractive industry experts and financial institutions, with feedback and input from the non-profit sector. It defines the four steps of the mitigation hierarchy—avoid, minimize, restore and offset—and their application with regard to managing biodiversity throughout the life cycle of an extractive project. Furthermore, provides clear, systematic guidance for determining and demonstrating biodiversity loss or gain as a result of mitigation efforts, highlighting links to ecosystem services where available and appropriate. The guide reviews the many options to mitigate impacts, and guides users through a flexible approach to applying the mitigation steps. The approach is adaptable according to site-specific environmental and operational circumstances, including different regulatory regimes. (2)</p>
Sources/links	<ol style="list-style-type: none"> 1. Equator Principles (2013): The Equator Principles. June 2013. A financial industry benchmark for determining, assessing and managing environmental and social risk in projects. 2. http://www.csbi.org.uk/ 3. http://www.csbi.org.uk/tools-and-guidance/timeline-tool/ 4. The Biodiversity Consultancy (2015): A cross-sector guide for implementing the Mitigation Hierarchy.
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The Energy and Biodiversity Initiative (EBI)

1.4.3 Initiatives by banks

(Illustrative example) World Bank

Summary:	<p>The World Bank’s Board of Executive Directors approved its new Environmental and Social Framework (ESF), on August 4, 2016. Often called “safeguards”, these policies serve to identify, avoid, and minimize harms to people and the environment and require borrowing governments to address certain environmental and social risks in order to receive Bank support for investment projects.</p> <p>Under the new structure, Environmental and Social Standards (ESSs 1- 10), ESS6 focuses on “Biodiversity Conservation and Sustainable Management of Living Natural Resources”. A stated aim of the new ESF was to bring these environmental and social</p>
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	<p>protections into closer harmony with those of other development institutions, and in the case of ESS6, closer to IFC Performance Standard 6.</p> <p>During the review period a consistent message from civil society was the need to clarify that offsets are a last resort in the mitigation hierarchy, and a strong preference to prevent offsets in Critical Habitat. In addition, respondents stated the need for logging and hydropower projects to adhere to the mitigation hierarchy as well as projects in other sectors.</p> <p>The new framework concludes nearly four years of analysis and engagement with governments, development experts, and civil society groups. A 12-18 month transition period to the new framework, which is scheduled to go into effect in early 2018, has begun. Implementation will focus on: supporting and strengthening the capacity of borrowers; training Bank staff and Borrowers to implement the framework; strengthening the Bank's environmental and social risk management system; and strengthening strategic partnerships with development partners. The World Bank's current safeguards are expected to run in parallel to the new ESF for about seven years to govern projects approved before the effectiveness date of the new ESF.</p> <p>The World Bank has also studied the potential to expand implementation of biodiversity offsets in Liberia and Mozambique. A National Biodiversity Offset Scheme: A Road Map for Liberia's Mining Sector explores the feasibility of implementing a national biodiversity offset scheme in Liberia to help minimize adverse impacts on biodiversity and ecosystem services resulting from mining. This scheme could overcome some of the limitations of project-specific biodiversity offsets and at the same time provide an opportunity for the private sector to contribute to an underfunded protected areas network. The report examines, <i>inter alia</i>: the role of offsets in securing conservation outcomes; legal, policy and institutional framework to support a national offset scheme; and methodological challenges.</p> <p>The aggregated offsets concept is reinforced in the World Bank Forest Action Plan FY16-20, which aims to integrate the sustainable management of forests more fully into the Bank's development priorities over the next five years. The Forest Plan notes that a key benefit of land use planning is the possibility to define aggregated biodiversity offset schemes. For sectors such as mining and infrastructure, in order to achieve net gains after earlier steps in the mitigation hierarchy have been pursued, biodiversity offsets may be needed and the report states that aggregated offset schemes can be more economically and ecologically efficient means for developers to achieve these gains</p>
Sources/links	<p>https://consultations.worldbank.org/consultation/review-and-update-world-bank-safeguard-policies</p> <p>http://documents.worldbank.org/curated/en/183611467991015452/A-national-biodiversity-offset-scheme-a-road-map-for-Liberia-s-mining-sector</p> <p>pubdocs.worldbank.org/pubdocs/publicdoc/2016/4/190381459984535520/WBG-Forest-Action-Plan-FY16-6apr16-CODE.pdf</p>
Note	-

(Illustrative example) International Finance Corporation (IFC) Performance Standard 6

Summary:

IFC, a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector in developing countries. IFC's Environmental and Social Performance Standards define its clients' responsibilities for managing their environmental and social risks. Performance Standard 6 (PS6) 'Biodiversity Management and Sustainable Management of Living Natural Resources', is one of the most significant drivers of corporate biodiversity management.

The IFC's updated Sustainability Framework took effect on 1st January 2012, including the IFC's eight Performance Standards. PS 6 places certain requirements on clients whose projects will impact 'natural' or 'critical' habitat, among other issues.

'Natural Habitat': The client will not significantly convert or degrade natural habitats, unless:

- no other viable alternatives within the region exist for development of the project on modified habitat;
- consultation has established the views of stakeholders on the conversion and degradation;
- any conversion or degradation is mitigated according to the mitigation hierarchy; and
- mitigation measures are designed to achieve **no net loss of biodiversity** where feasible. Appropriate actions include: avoiding impacts on biodiversity through the identification and protection of set-asides; implementing measures to minimize habitat fragmentation, such as biological corridors; restoring habitats during and/or after operations; and implementing biodiversity offsets.

'Critical Habitat': In areas of 'critical habitat', there shall be no project unless the client has demonstrated that:

- no other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical;
- the project does not lead to measurable adverse impacts on biodiversity values for which critical habitat is designated and on ecological processes supporting them;
- the project does not lead to net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time; and
- a robust, appropriately designed, and long-term biodiversity monitoring and evaluation programme is integrated into the client's management programme.

In cases where a client can meet these requirements, the project's mitigation strategy will be described in a Biodiversity Action Plan and will be designed to achieve **net gains** of those biodiversity values for which critical habitat was designated.

The design of the offset must be carried out in alignment with best available information and current practices. External experts with knowledge in offset design and implementation must be involved. PS6 is accompanied by Guidance Note 6 providing background information and context in the application of PS6.

Clients are also obliged to undertake a systematic review (with the participation of affected communities) to identify priority ecosystem services – i.e. ecosystem services which: (i) the project is likely to impact, resulting in adverse impacts to affected communities; and (ii) the project is directly dependent for operations. The client is to

	<p>avoid and minimize impacts on priority ecosystem services and implement mitigation measures that increase resource efficiency of their operations.</p> <p>The impact of PS6 is amplified as it is now a condition of project finance from the 84 financial institutions that have adopted the Equator Principles, and thus apply the IFC's Performance Standards.</p> <p>The IFC launched a 'lessons learnt' initiative in early 2016 seeking input from a select group of practitioners regarding challenges and lessons in applying PS6. IFC has also established a Performance Standards Community of Learning for financial institutions and others which convenes on a regular basis to share knowledge.</p>
Sources/links	<p>Environmental and Social Performance Standards and Guidance Notes</p> <p>2012 Performance Standards (full document)</p> <p>2012 Guidance Notes (full document)</p>
Note	-

Equator Principles Association

Regional Development Banks Policies (IDB, ADB, AfDB, CDB, IBRD, EBRD, EIB)

2. Tools and publications

BBOP Principles & Standard, Handbooks, BBOP Resource Papers

BBOP Webinars

CSBI Timeline, CSBI Mitigation Hierarchy tool; CSBI Baselines tool

ICMM case studies etc.

IUCN Independent report on biodiversity offsets (2012)

3. Key concepts

Please note that many of these terms are used by a wide range of parties and particular definitions may vary, for instance in legislation by different countries and specific corporate commitments by individual companies.

Term	Definition	Source
No Net Loss (NNL)	<p>A target for a development project in which the impacts on biodiversity caused by the project are balanced or outweighed by measures taken to avoid and minimise the project's impacts, to undertake on-site restoration and finally to offset the residual impacts, so that no loss remains.</p> <p>The point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g., local, landscape-level, national, regional).</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. NNL must be defined relative to an appropriate frame of reference or reference scenario (NNL compared with what?). For example, this can be what is likely to have occurred in the absence of the project and the offset, or a scenario that provides a better outcome for biodiversity conservation. It is important clearly to set out the assumptions underlying the definition of this frame of reference. 2. When reference is made to <u>NNL of biodiversity</u>, this usually refers to the relevant <u>surrogate</u> that is used to represent biodiversity overall. In general, such surrogates are based on selected sub-components of biodiversity (e.g. vegetation or a species, sometimes a set of measurable ecological functions) rather than on every facet of biodiversity. 	<p>BBOP Glossary 2012. http://bbop.forest-trends.org/guidelines/Updated Glossary</p> <p>IFC Performance Standard 6. http://www.ifc.org/wps/wcm/connect/bff0a28049a790d6b835faa8c6a8312a/PS6_English_2012.pdf?MOD=AJPERES</p> <p>IUCN Draft Biodiversity Offset Policy (http://cmsdata.iucn.org/downloads/iucn_biodiversity_offsets_draft_policy_for_consultation.pdf)</p>
Net Gain (NG)	The point at which the biodiversity gain (through measures taken to offset residual impacts of a development project) exceeds the loss. As with NNL, NG must be defined relative to a sound frame of reference.	BBOP Glossary and IUCN Draft Biodiversity Offset Policy (as above)
Net Positive Impact	<p>An overall benefit for biodiversity.</p> <p>A net gain to biodiversity features measured in quality hectares (for habitats), number or percentage of individuals (for species) or other metrics appropriate to the feature.</p>	<p>Rio Tinto 2012. http://old.stage.riotinto.com/documents/Biodiversity_action_planning_guidance_note.pdf</p>

Zero Net Deforestation	<p>No overall loss of forest area or forest quality, while acknowledging that some forest loss could be offset by forest restoration; it thus allows some flexibility to meet local needs, recognising that, in some circumstances, conversion of forests in one site may contribute to the sustainable development and conservation of the wider landscape. ZND is explicitly not achieved by conversion of primary or natural forests to fast-growing plantations).</p>	<p>WWF http://awsassets.panda.org/downloads/wwf_2020_zero_net_deforest_brief.pdf</p> <p>Consumer Goods Forum</p> <p>http://www.theconsumergoodsforum.com/sustainability-strategic-focus/sustainability-resolutions/deforestation-resolution</p>
Mitigation hierarchy	<p>The mitigation hierarchy is a tool or framework designed to help developers limit, as far as possible, the negative impacts of development projects on biodiversity and ecosystem services. The approach comprises four key actions—anticipate and ‘avoid’, ‘minimize’, ‘restore’ and ‘offset’.</p> <p>The steps forming part of the mitigation hierarchy are defined as follows:</p> <ol style="list-style-type: none"> Avoidance: measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components of biodiversity. Minimisation: measures taken to reduce the duration, intensity and / or extent of impacts (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided, as far as is practically feasible. Rehabilitation / restoration: measures taken to rehabilitate degraded ecosystems or restore cleared ecosystems following exposure to impacts that cannot be completely avoided and / or minimised. Offset: measures taken, as a last resort, to compensate for any residual significant, adverse impacts that cannot be avoided, minimised and / or rehabilitated or restored, in order to achieve no net loss or a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, protecting areas where there is imminent or projected loss of biodiversity. 	<p>CSBI Mitigation Hierarchy guide (http://www.csbi.org.uk/tools-and-guidance/mitigation-hierarchy/) and</p> <p>BBOP Glossary (as above)</p>

Biodiversity offset	<p>Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development* after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure and ecosystem function and people's use and cultural values associated with biodiversity.</p> <p>*While biodiversity offsets are defined here in terms of specific development projects (such as a road or a mine), they could also be used to compensate for the broader effects of programmes and plans.</p>	BBOP Glossary (as above)
Biodiversity	<p>The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species (genetic diversity), between species and of ecosystems.</p> <p>NOTE ON SURROGATES!</p>	<p>Convention on Biological Diversity, Article 2</p> <p>BBOP Glossary (as above)</p>
Compensation	<p>Generally, compensation is a recompense for some loss or service, and is something which constitutes an equivalent to make good the lack or variation of something else. It can involve something (such as money) given or received as payment or reparation (as for a service or loss or injury). Specifically, in terms of biodiversity, compensation involves measures to recompense, make good or pay damages for loss of biodiversity caused by a project. In some languages 'compensation' is synonymous with 'offset', but in BBOP, compensation is contrasted with a biodiversity offset. BBOP defines a biodiversity offset as a no net loss (or net gain) conservation outcome. Compensation can involve reparation that falls short of achieving no net loss, for a variety of reasons, including that the conservation actions were not planned to achieve no net loss; that the residual losses of biodiversity caused by the project and gains achievable by the offset are not quantified; that no mechanism for long term implementation has been established; that it is impossible to offset the impacts (for instance, because they are too severe or pre-impact data are lacking, so it is impossible to know what was lost as a result of the project); or that the compensation is through payment for training, capacity building, research or other outcomes that will not result in measurable conservation outcomes on the ground.</p>	BBOP Glossary (as above)
Landscape and Landscape Level Planning	<p>Landscape:</p> <p>Visible features of an area of land, including physical elements such as landforms, living elements of flora and fauna, abstract elements such as lighting and weather conditions, and human elements, for instance human activity</p>	<p>BBOP Glossary and BBOP Standard (both available for download from http://bbop.forest-</p>

	<p>or the built environment. Landscape means different things to different people. Within the scientific community, a landscape can be a watershed, a region defined by soil or vegetation type, or an ecologically cohesive space. When the human dimension is overlain, the same biophysical landscape can have its boundaries redefined. At the grassroots level, landscape may be the local forest, watershed or even agriculture community. For the ecologist, landscape may be the habitat and connecting corridors necessary for a species to survive. At the national level, landscape may mean an entire bioregion that crosses political boundaries and encompasses multiple watersheds, towns, villages, highways, flora, fauna, core protected areas, buffers and corridors.</p> <p>Landscape Level Planning:</p> <p>Whether conducted to guide conservation, sustainable land use or development, landscape level planning sets out to tackle issues that are not tractable at the very local scale by taking a multi-stakeholder perspective at a wider, landscape scale. It encompasses a diverse range of practices that seek to link grassroots and community-based actions at the site, farm or forest levels to the broader landscape or ecosystem level, taking into consideration national and regional perspectives.</p>	trends.org/pages/guidelines)
Limits	<p>There are limits to biodiversity offsets, as encapsulated in the principles of the Business and Biodiversity Offsets Programme and IUCN's Draft Policy on Biodiversity Offsets: In certain circumstances residual impacts on biodiversity (after following the mitigation hierarchy to avoid, minimize and restore impacts) cannot be offset and a no net loss or net gain outcome is impossible to achieve. In addition, there are components of biodiversity for which - in theory - impacts could be offset, but with a high risk of failure. In these situations, biodiversity offsets are not appropriate. This means that the project as designed should not proceed, and that lower impact alternatives should be re-examined to identify ways of avoiding and minimising the predicted impacts: this may include not proceeding with the project at all.</p> <p>Indicative thresholds for non-offsetable impacts have been included in some banks' lending conditions (e.g., IFC, 2012) and in some national or sub-national policies and guidelines (see Treweek et al., 2010; BOP, 2011). These may provide a useful reference point for assessing the risk that a project's impacts may not be possible to offset. Drawing clear-cut lines to determine when development impacts on biodiversity may be expected to be offsetable/non-offsetable is however neither scientifically nor politically straightforward. In general, whether a specific set of development impacts on biodiversity can and should be offset is context dependent</p>	<p>BBOP Standard and Resource Paper on Limits (both available for download from http://bbop.forest-trends.org/pages/guidelines)</p> <p>IUCN Draft Biodiversity Offset Policy (http://cmsdata.iucn.org/downloads/iucn_biodiversity_offsets_draft_policy_for_consultation.pdf)</p>

	and needs to be established on a case by case basis. This requires consideration of a wide range of ecological, legal, socio-economic and financial factors, and should be guided by the advice of suitably qualified specialists and local expertise.	
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