DEPARTMENT OF ENVIRONMENTAL AFFAIRS

NO. 276 **31 MARCH 2017**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998
(ACT NO. 107 OF 1998)

DRAFT NATIONAL BIODIVERSITY OFFSET POLICY

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby give notice of my intention to publish the National Biodiversity Offset Policy, under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as set out in the Schedule hereto. The aim of the National Biodiversity Offset Policy is to ensure that significant residual impacts of developments are remedied as required by NEMA, thereby ensuring sustainable development as required by section 24 of the Constitution of the Republic of South Africa, 1996. This policy should be taken into consideration with every development application that still has significant residual impact after the Mitigation Sequence has been followed in the Environmental Impact Assessment process, and should be applied taking the principles of NEMA into consideration.

Members of the public are invited to submit to the Minister within 60 days after the publication of the notice in the *Gazette*, written representations on, or objections to the following addresses:

By post to: The Director-General
Department of Environmental Affairs
Attention: Ms Willeen Olivier
Private Bag X447
PRETORIA
0001

By hand at: Environment House, 473 Steve Biko Road, Arcadia, Pretoria, 0083.

By e-mail: wolivier@environment.gov.za

Any enquiries in connection with the draft National Biodiversity Offsets Policy can be directed to Ms Willeen Olivier at 012 399 9581.

An electronic copy of the draft National Biodiversity Offsets Policy can be downloaded from the following link: https://www.environment.gov.za/legislation/guidelines

Comments received after the closing date may not be considered.

BOMO EDITH EDNA MOLEWA
MINISTER OF ENVIRONMENTAL AFFAIRS

SCHEDULE: DRAFT NATIONAL BIODIVERSITY OFFSET POLICY

Preamble

South Africa is one of the most biodiverse countries, and a large portion of our economy is based on sustainable or extractive use of natural resources. South Africa is also a developing country with a rapidly growing population. As populations grow and countries need to develop, transformation of the natural environment increases. Transformation of natural areas can in most cases not be restored to what it was before transformation. The increased transformation is also not limitless or sustainable – unlike financial capital that can draw interest and grow; natural capital is fixed, and can even decrease with development. This places an ever increasing and cumulative pressure on natural resources and ecosystem services in two ways. The first is the consumptive use of biodiversity (e.g. commercial fishing), and the second is the competition for physical space required for development (landscape transformation). While the first can be either sustainable or not, depending on whether the level of use is within the limits of the biological resource to replenish itself, the second is by its very nature limited and unsustainable – very much like a mine where the minerals are removed, and the extraction process has to be terminated. While a certain amount of transformation is not only necessary but within the ecosystem's ability to handle, there is growing international recognition of the impact of unsustainable transformation and the importance of the functioning of these ecosystems that underpin human needs.

As we lose more of this function, the importance of these functions in supporting food security, health and development becomes more apparent. The loss has, in some cases reached critical proportions, with a resultant negative impact on aspects of human social and economic development, and it is more and more necessary to look for ways to appropriately remedy the environmental costs of human activity, in order to make development more sustainable and have less of an impact on particularly poor communities who are most reliant on these services. The National Development Plan (Vision 2030) provides a succinct summary of the nature of the environmental problem to which biodiversity offsets are a response:

> *Market and policy failures have resulted in the global economy entering a period of "ecological deficit", as natural capital (ground water, marine life, terrestrial biodiversity, crop land and grazing) is being degraded, destroyed, or depleted faster than it can be replenished."*

In order to manage the impact of development on biodiversity, the Environmental Impact Assessment (EIA) process has been developed and legislated. One of the first steps in this process entails the application of a mitigation sequence where the developer has to look, consecutively, at avoiding or preventing the loss, then at minimising or mitigating what cannot be avoided, rehabilitating where possible, and as a last resort, offsetting the residual impact. Although most impacts on biodiversity are mitigable, one impact that has come across consistently in this process as unmitigatable is the ***rapid and consistent transformation*** of certain ecosystems and vegetation types, leading to the loss of ecosystems and extinction of species. The loss of some of these ecosystems, particularly in wetlands and mountain catchment areas, have a significant negative economic impact, affecting the sustainable water supply to downstream factories, food security through irrigation schemes, and flood damage. Often this "off-site" impact is not included in the impact assessment, as it is difficult to quantify, even though the cumulative impact of development in these areas have significant negative environmental, social and economic impacts. South Africa is also

losing the ability to protect viable 'witness sites' for certain ecosystems that is not only an international obligation, but also a constitutional imperative that we as a country have committed to, and will lead to a serious impact on ecosystem services that especially rural people are dependent on for survival. Losing the ability to protect these sites as set out in our National Protected Areas Strategy is unmitigable, and the only way in which development can address this is to ***avoid the impact*** by planning the proposed development in another location.

There are however ecosystems where, although we are close to losing the ability to reach our protected area targets, we can still afford to exchange some of our ecological capital for economic development. This impact cannot be mitigated as set out in the mitigation sequence, and the developer therefore needs to either find an alternative site for development (avoid), or offset remaining portions of this ecosystem ***by legally securing these areas*** for conservation and managing it for its biodiversity value through Protected Area declaration or by creating lasting servitudes. These areas have been identified, not only in the planning tools available, but also in the listing of threatened and protected ecosystems through the National Environmental Management: Biodiversity Act, Act 10 of 2004 (NEMBA).

Where ecosystems remain largely untransformed, intact and functional, an offset would not be required for developments that lead to transformation, provided that they have not been identified as a biodiversity priority. Already transformed areas would also not require an offset, unless they serve a purpose as important ecological infrastructure, and as such needs to be offset in accordance with the Wetland Offset Policy.

Further, the NDP proposes:

> "*measures to protect the country's natural resources including an environmental management framework in which developments that have serious environmental or social effects need to be offset by support for improvements in related areas and a target for the amount of land and oceans under protection*"[1].

Habitat loss is recognized as the primary driver of biodiversity loss and biodiversity offsets are becoming an internationally accepted tool which can be used to ensure that development is ecologically sustainable by enhancing the conservation and sustainable use of priority ecosystems and fragile biodiversity-rich areas not under formal protection. However, although offsets are a useful tool, they are not appropriate in situations where critical or irreplaceable biodiversity would be adversely impacted, and in these cases the development is fatally flawed.

Although the above strongly indicates that offsets should be applied to all activities that transforms an ecosystem, this policy sets out to identify and define instances where offsets would be required for activities that trigger the NEMA EIA process, as well as the legal framework, principles, and requirements for the offset process, in order to set standards for provincial policies and guidelines.

This policy applies to land-use decisions that lead to land cover change, and should apply to all decisions where the mitigation sequence is applicable. It should therefore be used in all related decision-making processes in South Africa. The policy must be read with the National Environmental Management Act, 107 of 1998 Environmental Impact Assessment (EIA) regulations (2014), the Guideline on Need and Desirability (2014), the Minimum Requirements for Biodiversity in EIAs (draft 2016), the Wetland Offsets - A best-practice guideline for South Africa (SANBI and Department of Water Affairs, 2014), Mining and Biodiversity Guideline - Mainstreaming Biodiversity in the Mining Sector, 2013 and any applicable national and provincial policies or guidelines.

[1] National Development Plan 2030

Acronyms

BAR	Basic Assessment Report
BBOP	Business and Biodiversity Offsets Programme
CBA	Critical Biodiversity Area
CBD	Convention on Biological Diversity
CEA	Competent Environmental Authority in terms of NEMA
DEA	Department of Environmental Affairs
DAFF	Department of Agriculture, Forestry and Fisheries
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
ESA	Ecological Support Area
I&AP	Interested and affected party
IEM	Integrated Environmental Management
NBA	National Biodiversity Assessment
NBSAP	National Biodiversity Strategy Action Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMPAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NDP	National Development Plan 2030
NFEPA	National Freshwater Ecosystem Priority Areas project
NFSD	National Framework for Sustainable Development (2008)
S&EIR	Scoping and Environmental Impact Report
SANBI	South African National Biodiversity Institute,
SANParks	South African National Parks
SEA	Strategic Environmental Assessment
SDF	Spatial Development Framework
ToR	Terms of Reference

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1 BACKGROUND AND INTRODUCTION

Globally, biodiversity and ecosystems are threatened. The ongoing loss of biodiversity together with the complicating effects of climate change place increasing demands on dwindling resources, and are key challenges to sustainable development. In South Africa, pressure for economic growth and the additive effects of development pose a threat to the remaining biodiversity through the destruction and fragmentation of natural habitat, introduction of alien invasive organisms and pollution, amongst other impacts.

One specific challenge identified through the trends analysis in developing the NFSD was the need to reverse the "*continuing degradation or loss of biodiversity and functioning ecosystems*" on which sustainable development is dependent (DEAT 2008). 'Sustaining our ecosystems and using natural resources efficiently' is one of five 'strategic focus areas' in the NFSD. The promulgation of NEMBA and NEMPAA, as well as the gazetting of the National Biodiversity Framework (2009) and the adoption of the NBSAP and the review thereof in 2015, provides the context and tools to address this challenge. Further, the NDP proposes "*measures to protect the country's natural resources including an environmental management framework in which developments that have serious environmental or social effects need to be offset by support for improvements in related areas and a target for the amount of land and oceans under protection*".

Although proposed development that could result in significant environmental impacts on the environment is subject to EIAs in terms of NEMA, it is increasingly acknowledged that EIA as a tool cannot address the cumulative impacts on biodiversity and ecosystem services at landscape scale. EIA aims to find the 'best practicable environmental option', invariably allowing some loss of biodiversity in each instance. The additive effects of these numerous minor losses of biodiversity means that, at ecosystem or landscape scale, biodiversity continues to decline, as do our ecosystem services.

In recognition of the above challenges, interest in ways to stop the loss of biodiversity has escalated in recent years. An emerging tool in this regard is 'biodiversity offsets'. While offsets offer clear benefits, they are not appropriate in situations where irreplaceable biodiversity would be adversely impacted. There is a concern, therefore, that unless their use is strictly controlled, they could be used as leverage to obtain authorization for listed activities in cases where offsets should not be considered, resulting in the loss of critical biodiversity.

Biodiversity offsets are explicitly recognized in the National Biodiversity Framework (NBF), (gazetted in 2009); wherein the development of a national policy framework for biodiversity offsets and its application

across the country is identified as one of its priorities. The NBF states that "*In some cases, following avoidance and mitigation, there is still residual damage to biodiversity as a result of a development. In such cases, if the development is socially and economically sustainable, ecological sustainability may be achieved through a biodiversity offset. A biodiversity offset involves setting aside land in the same or a similar ecosystem elsewhere, at the cost of the applicant, to ensure no net loss of important biodiversity. Biodiversity offsets are particularly important in securing threatened ecosystems and critical biodiversity areas. They are already being implemented to some extent in South Africa, but in the absence of a legal or policy framework and thus with little consistency. Systematic application of biodiversity offsets could provide significant benefits at little cost to the fiscus".*

This document presents a draft policy on biodiversity offsets for South Africa. Implementation of the policy would ensure that due remedy is obtained for significant adverse impacts on biodiversity resulting from development. The policy would contribute to securing priority biodiversity and ecosystem functioning in perpetuity, for the benefit of both present and future generations.

The different provinces in South Africa have particular characteristics, priorities for biodiversity conservation and institutional capacities. It is thus important for them to develop their own, tailored offsets policies that are at minimum consistent with this national policy on biodiversity offsets. This National Policy is designed to be used by any CEA in the absence of its own policy on biodiversity offsets.

2 DEFINITION OF TERMS

Defining Offsets:

Biodiversity offsets are conservation measures designed to remedy the residual negative impacts of development on biodiversity and ecological infrastructure, once the first three groups of measures in the mitigation sequence have been adequately and explicitly considered (i.e. to avoid, minimize and rehabilitate/ restore impacts). Offets are the 'last resort' form of mitigation, only to be implemented if nothing else can mitigate the impact.

*Alternatives**	• property on which or location where the activity is proposed to be undertaken; • type of activity to be undertaken; • design or layout of the activity; • technology to be used in the activity; or • operational aspects of the activity; • the option of not implementing the activity.
Biodiversity pattern	Structure and composition of ecosystems
Biodiversity process	Ecological processes and functions that sustain biodiversity

Biodiversity network	Core areas and interlinking ecological corridors contributing to a biodiversity plan within an urban edge and/or in a municipal spatial development framework
Biodiversity Management Plan	Plan aimed at ensuring the survival of a species or ecosystem not listed in terms of the NEMBA but that warrants special conservation attention (s43 of that Act)
Biodiversity Plan	Any systematic conservation plan prepared for a region, at scales ranging from 1:250 000 (Biome or Province) to fine-scale plans at 1:10 000 (municipal or specific ecosystem), and published by a statutory authority.
Biodiversity specialist	There is no one 'biodiversity specialist'. Rather, the term is used to cover a range of specialists in the field of biodiversity, from broad areas of expertise (e.g. plant or terrestrial ecologist, marine ecologist or freshwater ecologist) to narrow areas of expertise (e.g. mammalogist, herpetologist, avian specialist, ichthyologist, wetland specialist, specialist in marine algae, fungi or bacteria, etc.). The term also covers specialists with expertise in the functional attributes of ecosystems (e.g. nutrient cycling, carbon cycling)
Bioregional Plan	Plan adopted in terms of NEMBA, highlighting CBA's, ESA's and other natural areas, and in line with the Guidelines for Bioregional Plans published in terms of NEMBA. They are the biodiversity sector's input into SDFs, EMFs, SEAs and EIAs. They are based on systematic biodiversity plans developed using best available science, and are intended to inform land-use planning, environmental assessment and natural resource management by a range of sectors whose policies and decisions impact on biodiversity, and to support and streamline environmental decision-making.
Critical Biodiversity Areas (CBAs)	Sites selected to be the most efficient configuration in the landscape for meeting biodiversity targets of representivity and persistence. CBAs hat are irreplaceable or 'important and necessary' in terms of meeting targets for biodiversity pattern and process, and large enough and connected enough to be functional and persist in the long term.
Conservation servitude	Legally binding provision or obligation on property for conservation purposes
*Cumulative impact**	Past, current and reasonably foreseeable future impacts of an activity, considered together with the impact of the proposed activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities
Ecological Infrastructure	Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people, such as water and climate regulation, soil formation and disaster risk reduction. It is the nature-based equivalent of built or hard infrastructure, and can be just as important for providing services and underpinning socio-economic development.
Ecological integrity	The state or condition of an ecosystem that displays the biodiversity characteristic of the reference, such as species composition and community structure, and is fully capable of sustaining normal ecosystem functioning
Ecological processes	The dynamic attributes of ecosystems, including interactions between/among organisms and interactions between organisms and their environment. They are the basis for self-maintenance in an ecosystem.
Ecosystem	An ecological system with particular defining characteristics. In South Africa, ecosystems tend to be broadly grouped in terms of freshwater ecosystems, terrestrial ecosystems and marine ecosystems. Within these groupings, there are further sub-groupings of ecosystems (e.g. terrestrial ecosystems are described and defined primarily in terms of vegetation type). This guideline deals primarily with terrestrial ecosystems and wetlands (a type of freshwater

	ecosystem).
Ecosystem services	The benefits to society in general and communities in particular provided by ecosystems; or 'the components of nature, directly enjoyed, consumed or used to yield human wellbeing'. The Millennium Ecosystem Assessment 2003 classifies the services that ecosystems can provide into four broad categories: provisioning services, regulating services, cultural services, and supporting services
Ecosystem status	Indicates the condition of an ecosystem relative to thresholds for its continued existence (or persistence), both in terms of the ecological processes to maintain ecosystem function and the conservation of the species and habitats characteristic of that ecosystem. Threatened ecosystems comprise Critically Endangered, Endangered and Vulnerable ecosystems.
Environmental authorization	Decision taken by the competent environmental authority in terms of the NEMA EIA Regulations (see below)
Ecological Support Areas	Sites not explicitly targeted for biodiversity pattern or process, but which underpin the delivery of key ecosystem services or goods (e.g., water) and whose basic structure and ecological function thus require protection.
Fatal flaw	A major defect or deficiency in a project proposal that should result in authorization being refused
Fine-scale plans	Biodiversity plans that have a high degree of confidence with regard to the accuracy of mapping vegetation and land cover at a scale of 1:50 000, and a lower degree of confidence at scales of 1:10 000
Mitigation	A sequence of possible measures to avoid, minimize, rehabilitate and/or remedy negative impacts (e.g. NEMA s2 principles). Anticipation and prevention of negative impacts and risks, then minimization, rehabilitation or 'repair' (NEMA 2014 EIA Regulations)
NEMA EIA regulations	R982-R985 of 4 December 2014, in terms of Chapter 5 of NEMA
'Out of kind' offsets	Offsets not targeting the same ecosystem or habitat as the one affected. 'Trading up' is one of these offsets.
Protected Area	Area declared as such in terms of Chapter 3 of NEMPAA
Protected Ecosystem	Ecosystem declared as such in terms of s52(2)(d) of NEMBA
Remedy	To solve, correct, counteract or improve.
Rehabilitation	Returning a disturbed, degraded or destroyed ecosystem to productive use, with the emphasis on repairing ecosystem processes and services (i.e. need not involve re-establishing species composition and community structure, or associated ecological integrity)
Residual impacts	Impacts that remain after the proponent has made all reasonable and practicable changes to the location, siting, scale, layout, technology and design of the proposed development, in consultation with the environmental assessment practitioner and specialists (including a biodiversity specialist), in order to avoid, minimize, and/or rehabilitate negative impacts on, amongst others, biodiversity. That is, after consideration has been given to the first three measures in the mitigation sequence.
Restoration (of an ecosystem or a species' habitat)	An intentional activity that initiates or accelerates the recovery of a damaged, degraded or destroyed ecosystem with respect to its health, integrity and sustainability. An ecosystem has recovered - and is restored - when it contains sufficient biotic and abiotic resources to continue

	its development without further assistance or subsidy.
*Significant impact**	An impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets
Spatial component of ecological process	Spatial surrogates for landscape-scale ecological and evolutionary processes (ecological processes cannot be 'seen' in the landscape, so spatial 'indicators' are used as a practical substitute)
Sustainable	Use of a biological resource in a way and at a rate that would not lead to its long-term decline, would not disrupt the ecological integrity of the ecosystem in which it occurs and would ensure its continuted use to meet the needs and aspirations fo present and future generations of people (NEMBA, s1)
Threatened ecosystem	Threatened ecosystems are listed in terms of NEMBA, using the following categories. Critically Endangered, Endangered, Vulnerable
'Trading up'	Offsets target an ecosystem of greater value or priority to biodiversity conservation from the one being impacted.

3 POLICY IMPERATIVE

South Africa is an arid country, with a high portion of the population living in rural areas and dependent on sustainable livelihoods provided by their environment. These are the very resources that development requires. It is necessary to balance the two needs, and the importance of this balance has been emphasised with the recent 2015/16 drought. Without a clear and explicit policy on the use of biodiversity offsets it is likely that biodiversity and ecological functioning will continue to be lost, rural communities' livelihoods endangered, and that offsets will continue to be used inconsistently, inappropriately, and ineffectively as a tool purportedly to benefit the conservation of biodiversity and ecosystem services and pursue sustainable development.

It is imperative that a national policy is adopted, to ensure that offsets are used in a controlled, consistent, and predictable way to make a material contribution to conservation in South Africa.

4 POLICY PRINCIPLES

In addition to the general principles under NEMA which govern all environmental policy making, the following specific principles[2] underpin the biodiversity offsets policy:

[2] The principles listed below are adapted and drawn from a synthesis of principles used locally and internationally (DEA&DP 2015; KZN 2009; BBOP 2012; Australia 2006; International Council on Mining and Metals 2005; WWF 2006).

1. The Ecosystem Approach

Biodiversity offsets take an 'ecosystem approach' to biodiversity conservation which promotes the integrated management of land, water and natural capital to achieve conservation and sustainable use of biodiversity. This approach recognizes the interdependence between biodiversity, ecosystems and the benefits they provide for people through use and cultural values. It takes a landscape-scale, rather than a site-specific scale view, to enable consideration of cumulative impacts.

2. Offsets - the last resort in the Mitigation Sequence

Biodiversity offsets should only be considered as a mitigation option once all feasible actions and alternatives, first to avoid or prevent impacts on important biodiversity, then to minimize impacts, and then to repair or restore areas harmed by impacts to the condition before impact or better, have been taken into account.

3. Limits to what can or should be offset

Biodiversity offsets are to be used in cases where the EIA process identifies negative residual impacts of 'medium' or 'high' significance on biodiversity. Activities resulting in impacts of 'low' significance may not require an offset.

Impacts on biodiversity of 'very high' significance may not be able to be fully offset because of the conservation status, irreplaceability, or level of threat to affected biodiversity, or the risk of preventing scientific targets for conserving that biodiversity from being met. In these cases, given that the proposed activity would lead to irreversible impacts and irreplaceable loss of biodiversity, alternatives to the proposal should be sought; i.e. the proposed activity should not be authorized in its current form.

4. Ecosystem protection

Biodiversity offsets should ensure the long-term protection of priority ecosystem on the ground and improve their condition and function, thereby resulting in measurable positive outcomes for biodiversity conservation 'on the ground'. These outcomes could contribute to improved ecosystem integrity and increased use and/ or cultural value of offset areas and the ecosystems of which they are part.

5. No Net Loss up to specified limits of acceptable change

Offsets should not be used to 'soften' a development proposal that would result in unacceptable loss of biodiversity. Biodiversity offsets should be designed in such a way that scientific targets for conserving ecosystems and other biodiversity features in the long term are attainable and not undermined as a consequence of the proposed activity. No biodiversity feature (species or ecosystem) should be at risk of being pushed beyond an Endangered threat status by a development.

6. Locating biodiversity offsets in the landscape

Biodiversity offsets should be located in the landscape in such a way that they help to secure priority areas for conservation, improve connectivity between these priority areas, and/ or consolidate or expand existing protected areas. Where priority ecosystem services are residually affected, biodiversity offsets should preferably be located in the landscape in such a way that they deliver equivalent services to affected parties; that failing, additional compensation measures would be needed for these parties.

7. Equivalence – 'like for like'

Biodiversity offsets should comprise - or benefit - the same biodiversity components as those components that would be negatively affected by development. *In exceptional cases* only, and only with support from the provincial conservation agency, could consideration be given to the biodiversity offset targeting a relatively more threatened ecosystem or habitat.

8. Additionality – new action required

Biodiversity offsets must result in conservation gains above and beyond measures that are already required by law or would have occurred had the offset not taken place.

9. Timing and duration of biodiversity offsets

The design of the biodiversity offset and plans for its implementation should be approved by the provincial biodiversity conservation agency and the CEA before the proposed listed activity starts. Implementation of the biodiversity offset should preferably take place before the impacts of the activity occur, or as soon thereafter as reasonable and feasible.

The biodiversity offset site(s) should endure at least for the duration of the residual impact on biodiversity, but preferably in perpetuity, in order to make a long-term contribution to biodiversity conservation. It should be monitored and managed adaptively to sustain biodiversity outcomes.

10. Defensibility

The measure of residual negative impacts on biodiversity caused by a proposed development, as well as the design and implementation of biodiversity offsets, should be based on the best available biodiversity information and sound science, and should incorporate local traditional or conventional knowledge as appropriate.

Offsets must consider all significant residual impacts on biodiversity: direct, indirect and/ or cumulative impacts. The scope of assessment must include due consideration of impacts on recognized priority areas for biodiversity conservation; impacts on biodiversity pattern (conservation status of ecosystem and species, importance to migratory species) and ecological and evolutionary processes (must look across scales and take into account connectivity, gradients and corridors); and impacts on ecosystems or species on which there is high dependence for health, livelihoods, and/ or wellbeing.

11. Precaution

The biodiversity offset must be designed in a risk-averse and cautious way to take into account uncertainties about the measure of residual negative impacts (including uncertainties about the effectiveness of planned measures to avoid/ prevent, minimize and rehabilitate impacts), and the successful outcome and/ or timing of the biodiversity offset.

12. Fairness and equity

The determination of residual negative impacts, and the design and implementation of biodiversity offsets, should be undertaken in an open and transparent manner, providing for stakeholder engagement, respecting recognised rights, and seeking positive outcomes for affected parties.

Biodiversity offsets should not displace negative impacts on biodiversity to other areas, and/ or cause significant negative effects that in turn would need to be remedied.

13. Non substitutable

A biodiversity offset cannot be exchanged for, or traded off against, compensation for social, cultural heritage or other residual impacts unrelated to biodiversity. Moreover, offsets for residual impacts on use or cultural values of biodiversity cannot be exchanged or substituted for offsets on intrinsic values of biodiversity.

14. Enforceable and auditable

Offsets must be able to be monitored and audited in relation to clear management and performance targets. In addition, they must be able to be enforced through explicitly worded, legally binding conditions, and/or common law contracts.

5 PURPOSE OF POLICY

Biodiversity offsets have been included as negotiated conditions of development authorisations in South Africa since at least 2006. However, the application of an offset requirement has been *ad hoc* and the methodology for determining an appropriate offset has been inconsistent in the absence of clear policy and guidance. The adoption of this policy would serve to standardise the requirements for biodiversity offsets in South Africa, and ensure consistency in approaches and implementation.

The biodiversity offsets policy gives effect to a number of the NEMA principles, including the requirement to 'minimize and remedy' impacts on biodiversity where they cannot be avoided, to protect ecological integrity, and the polluter-pays principle in particular. Currently, the costs of residual and cumulative impacts on biodiversity and ecosystem services are being borne by society as 'externalities', rather than by those responsible for these impacts.

The desired outcome of biodiversity offsets is to ensure that:

1. The cumulative impact of development authorization and land use change does not:
   - result in the loss of CBA's or jeopardize the ability to meet South Africa's targets for biodiversity conservation;
   - lead to ecosystems becoming more threatened than 'Endangered'[3]; and/or
   - cause a decline in the conservation status of species and the presence of 'special habitats'[4].
2. Conservation efforts arising from the development application process, and contributing to improved protection of South Africa's unique species and ecosystems in perpetuity, are focused in areas identified as priorities for biodiversity conservation. Particular emphasis is on consolidation of priority areas and securing effective ecological links between priority areas; and
3. Ecosystem services provided by affected biodiversity and on which local or vulnerable human communities - or society as a whole - are dependent for livelihoods, health and/or safety, are at minimum safeguarded, and preferably improved.

[3] NEMBA makes provision (s52) for listing threatened ecosystems (Critically Endangered, Endangered and Vulnerable) and for listing (s56) threatened species (Critically Endangered, Endangered and Vulnerable). Threatened terrestrial ecosystems were listed in 2011 and threatened species (as a result of commercial utilisation or harvesting) in 2007. South Africa's Red Data Books and Red Lists indicate threatened species.

[4] As referred to in the NBSAP, and defined in some fine-scale biodiversity plans (e.g. rocky outcrops, wetlands, etc). The identification of these 'special habitats' captures elements of significant biodiversity that would not be covered by considering coarser indicators like threatened ecosystem or species. They could foreseeably include habitat known to be important for migratory species, for particular life-stages of threatened or commercially important species, to support keystone species that 'drive' ecosystems, and/or for locally rare or range-restricted species. In addition to being identified in fine-scale biodiversity plans, these features could be identified by statutory competent or commenting authorities or biodiversity specialists.

6 POLICY OBJECTIVES

The objective of the biodiversity offsets policy in South Africa, through the development authorization and any change in land use process, is to ensure that residual impacts on biodiversity and ecosystem services that are of medium to high significance (i.e. that do not represent a 'fatal flaw' from a biodiversity perspective) are duly remedied by applicants in such a way that a material contribution is made to safeguarding remaining areas supporting the impacted biodiversity (thus to reach associated national biodiversity targets) and valued ecosystem services. An additional objective is to achieve sustainable development and conservation objectives more effectively by internalising costs of some environmental externalities and creating opportunities for conservation beyond the site of development, rather than focusing only on that site.

This policy:

- Defines offsets; the purpose and desired outcomes of biodiversity offsets in the country;
- Specifies when biodiversity offsets would and would not be appropriate;
- Requires offsets to be considered as an integral part of the mitigation sequence during the planning of all EIAs conducted in terms of the NEMA EIA Regulations. It should therefore also apply to the following activities insofar as they trigger the NEMA EIA process:
  - applications for authorization in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002);
  - changes in land use in terms of the Spatial Planning and Land Use Act, 2013 (Act No. 16 of 2013); and
  - other relevant planning and land use change legislation where proposed development may have a significant negative impact on the environment;
- Sets out the legal framework and principles of offsets;
- Specifies the requirements of the offset process in South Africa;
- Sets standards and create consistency and predictability in the use of biodiversity offsets across the country.

7 POLICY ASSUMPTIONS

It is **assumed** that:

- The policy would be applied by officials in the CEA in reviewing EIAs[5] and preparing authorizations, with the support and input of statutory commenting authorities[6], and by EAPs in carrying out EIAs.

[5] The term 'EIA' is used to refer to both Basic Assessment and Scoping and Impact Assessment requirements in terms of the NEMA EIA regulations.

- Offsets would apply to all applicants for listed activities/proponents of development, regardless of whether they are from the private or public sectors.
- The guidance provided in the policy document would provide a sufficient basis for these parties to implement this policy in practice.
- Judicious indication of the likely need for an offset would be made, such that an EAP could have the requisite studies, analysis and design completed for an offset within the timeframes stipulated by the "One Environmental System".

There may be **financial and capacity implications** associated with the policy:

- There are likely to be additional demands on staff of provincial conservation authorities through increased requests for advice and assistance in designing, locating and implementing biodiversity offsets. In addition, there are likely to be additional demands on staff to negotiate and conclude protected area legal agreements to secure 'on the ground' offsets.
- There will be a need for increased capacity in the CEA to identify the need for a biodiversity offset, evaluate a proposed offset's design and implementation assurance, and to draft defensible, robust and enforceable conditions of authorization.
- There will be a need for increased capacity in the institution or agency tasked to set up and maintain a register of biodiversity offsets, and to carry out periodic evaluation of the performance of these offsets (refer to Paragraph 11 of this Policy).
- There is likely to be a minor incremental increase in the time needed by CEA officials to check and enforce any biodiversity offset conditions attached to development authorizations, over and above checking and enforcement of other conditions.
- There is likely to be an increase in the work load or staff capacity in statutory agencies that may be responsible for implementing or taking over offset areas, even though this might be funded by the applicant for the duration of the offset condition requirements.

8 SCOPE OF APPLICATION

The policy applies to the evaluation of all development (including mining) applications submitted to the CEA. It will thus affect the authorities' expectations of the EIA processes and outcomes, and thus of the scope of work to be undertaken by the proponent and his or her EAP, possibly including specialists contributing to these processes. In addition, it will affect the way the CEA processes applications and drafts authorizations, permits, rights and associated conditions. It may be appropriate in certain circumstances for a CEA to consider the use of offsets in applications for remediation terms of Section 24G of NEMA, after

[6] Including DAFF, DWS, SAN Parks, SANBI and provincial conservation authorities

appropriate administrative and other penalties have been applied. It may also be appropriate to mitigate the impacts of emergency activities authorised under Section 30A of NEMA.

The policy would be implemented and administered by DEA and all other CEAs. Provinces are encouraged to develop specific and more detailed provincial offset policies if they are required to address issues unique to the biodiversity of those provinces, provided that they are not in conflict with this policy.

National and provincial conservation authorities would likely play a key role in guiding offset selection, location, establishment and maintenance, and would ultimately assume responsibility for managing the offset area as a part of the conservation estate held in the public trust.

The public, for whom biodiversity and ecosystem services are held in trust, would benefit from the policy. It is likely that non-government and community-based organizations may play a key role in helping to identify and evaluate suitable biodiversity offsets.

9 PROCEDURES, APPROACHES AND GUIDELINES

9.1 When should biodiversity offsets be considered?

The need for offsets would not depend on the scale or nature of the particular development, but on the ***significance of residual negative impacts on biodiversity and ecosystem services*** predicted as a result of that development. Biodiversity offsets should be considered to remedy residual negative impacts on biodiversity of ***'medium' to 'high'*** significance.

- Residual impacts of **'very high'** significance are a fatal flaw for development. Impacts would in all likelihood lead to irreplaceable loss of biodiversity, and/ or irreversible deterioration in valued ecosystem services, and therefore should not be authorised; applicants must be asked to pursue alternative proposals. In such cases where the development is authorised for overriding public and economic considerations, offset ratios are typically set very high and may require "out-of-kind" or "trading-up" offsets (see below).
- Residual impacts of **'medium'** to **'high'** significance should trigger a requirement for a biodiversity offset; and
- Residual biodiversity impacts of **'low'** significance would usually not require offsets, provided that all factors informing the evaluation of impact significance have been taken into account (see Table 1: Guidelines of appropriate offset ratios based on the impacted biodiversity feature.)

The focus of biodiversity offsets is to provide an *'in kind', or* ***'like for like'*** area of the same ecosystem type, species composition and ecological function to fully remedy that which is lost or negatively affected by development, and/or result in an overall improvement in biodiversity conservation and delivery of associated ecosystem services. In exceptional cases, ***'out of kind'*** provision of an offset area of greater

conservation significance (***'trading up'***) may be considered if it would have greater conservation benefit from a strategic perspective.

Development inside a Protected Area needs to be handled differently, because of the double impact – loss of an existing Protected Area as well as destruction of critical habitat. The area lost should be replaced, and then the offset should be determined in the usual manner according to the impact on biodiversity in the footprint of the development, which will be high, as it is already in a Protected Area.

There are four main approaches to offsetting residual negative impacts:

1. Averting risk of imminent or projected loss of biodiversity by securing areas for protection and effective management in perpetuity. A developer that is planning future development can, ahead of time, identify possible receiving areas and secure them with the view to use them as future offsets.
2. Enhancing the management of degraded areas e.g. by re-introducing native species, rehabilitation measures, etc. This can only be considered an offset if it is not already the responsibility of a conservation authority.
3. Averting risk of imminent or projected loss of biodiversity by tackling the underlying causes or drivers of biodiversity loss in an area. Only if the risk is successfully removed will it be considered an offset.
4. Re-creating or fully restoring lost habitat. Best available science should determine the possibility of success of this option.

9.2 When should biodiversity offsets *not* be considered?

There are instances where biodiversity offsets should not be considered, but for different reasons, and the environmental authorisation should take this into account:

- When residual impacts are of ***very high*** significance (e.g. when critical biodiversity areas identified in provincial conservation plans identified as irreplaceable, Critically Endangered ecosystems or ecosystems containing irreplaceable biodiversity, or ecosystems that provide irreplaceable or critical ecosystem services would be seriously affected). In these cases, the proponent should be asked to seek alternatives to the proposed development and/ or revisit earlier steps in the mitigation sequence.
- When residual impacts are of ***low*** significance (and therefore there would not be any meaningful impacts to be remedied), the environmental authorisation should not require offsets. A developer may however, as part of their environmental responsibility plan, contribute to the achievement of biodiversity targets. This should not be seen as an offset.

9.3 General procedures to be followed when considering offsets

The 2014 EIA Regulations as part of the introduction of the "One Environmental System" (where different application and authorisation processes are run concurrently), impose very tight timeframes on BAR and S&EIR processes. In order for the biodiversity impacts to be adequately assessed and evaluated, and the

mitigation sequence applied, it is desirable to evaluate the probable need for – and design of - offsets in the pre-application phase. It is therefore important for the applicant and EAP to work with the CEA in the pre-application phase to finalise as much of the biodiversity-related work as possible before the application is submitted. This should include:

a. Pre-application meeting with the CEA and EAP to determine the possibility of an offset being required. If an offset might be required, it becomes imperative for the applicant to investigate other project alternatives during the EIA process, particularly where impacts are likely to be of high or very high significance. The pre-application GIS tool that DEA is developing to make the EIA process easier may serve to give an early 'red flag' of biodiversity significance.

b. The biodiversity specialist(s), appointed by the applicant, should be fully appraised of the development proposal, including feasible location or siting alternatives, proposed layouts, operational activities, associated activities and infrastructure on which the development depends, likelihood of risks (amongst others) in order to perform specialist studies that can produce reliable and defensible **significance ratings** for negative impacts on biodiversity[7], as well as mitigation recommendations. Specialist studies[8] should be done well in advance of the submission of the application.

c. Should there be potentially significant negative impacts on biodiversity, the environmental assessment should undertake a process to exhaust the mitigation sequence to reduce the impact on biodiversity through the investigation of alternatives. The study should clearly show how the mitigation sequence has been followed.

d. Should residual impacts of very high significance be probable, the applicant would effectively be pursuing his/ her application on risk.

e. If the biodiversity specialist(s) subsequently confirms that the residual negative impacts on biodiversity of medium/high significance would be unavoidable, offsets should be discussed with the CEA and, if deemed appropriate, offset investigation, planning and design would best commence pre-authorisation and be incorporated into all stages of the EIA process.

f. If an offset is required, the authorisation should state that development may only commence after the offset has been secured.

The general procedure to be followed should be in line with NEMA requirements at the time of the study. The mitigation sequence has to be seen to be followed in the process, as depicted in Figure 1.

Cooperative governance is key for the effective implementation of environmental decision making and the use of offsets. As with other mitigation measures, addressing the biodiversity offset requirements as an integral form of mitigation within the EIA process is 'good practice' that gives the applicant and project funders a reliable indication of the likely costs of offsets that should be taken into account in overall project budgets.

[7] The significance rating system applied is subject to acceptance by the Competent Authority, who may have guidelines in place for the conducting of biodiversity specialist studies. Please see DEA's Minimum Requirements for Biodiversity Reporting in EIAs (DEA 2016).
[8] Baseline biodiversity studies are crucial to identify likely significant impacts and risks, and specialist inputs should shape the final development proposal to satisfy the NEMA s2 requirements.

With the 'One Environmental System', where decisions on other licences and authorizations must be made within the same timeframes as the environmental authorization, it is crucial that collaboration takes place between authorities with an interest in offsets. In particular, there must be collaboration and cooperation to avoid duplication between the CEA and the Department of Water and Sanitation (DWS) with regard to offsets for impacts on freshwater (wetlands, rivers) and estuarine ecosystems where Water Use Licences as well as Environmental Authorizations are needed for a particular project. Offsets as required by DWS should be integrated with biodiversity offsets.

DAFF should be engaged where impacts would have consequences for forest or woodland ecosystems and/or protected tree species or could trigger offset requirements, particularly those required by DAFF policies and legislation; Land Use Planning authorities should be engaged in cases where they may also require offsets.

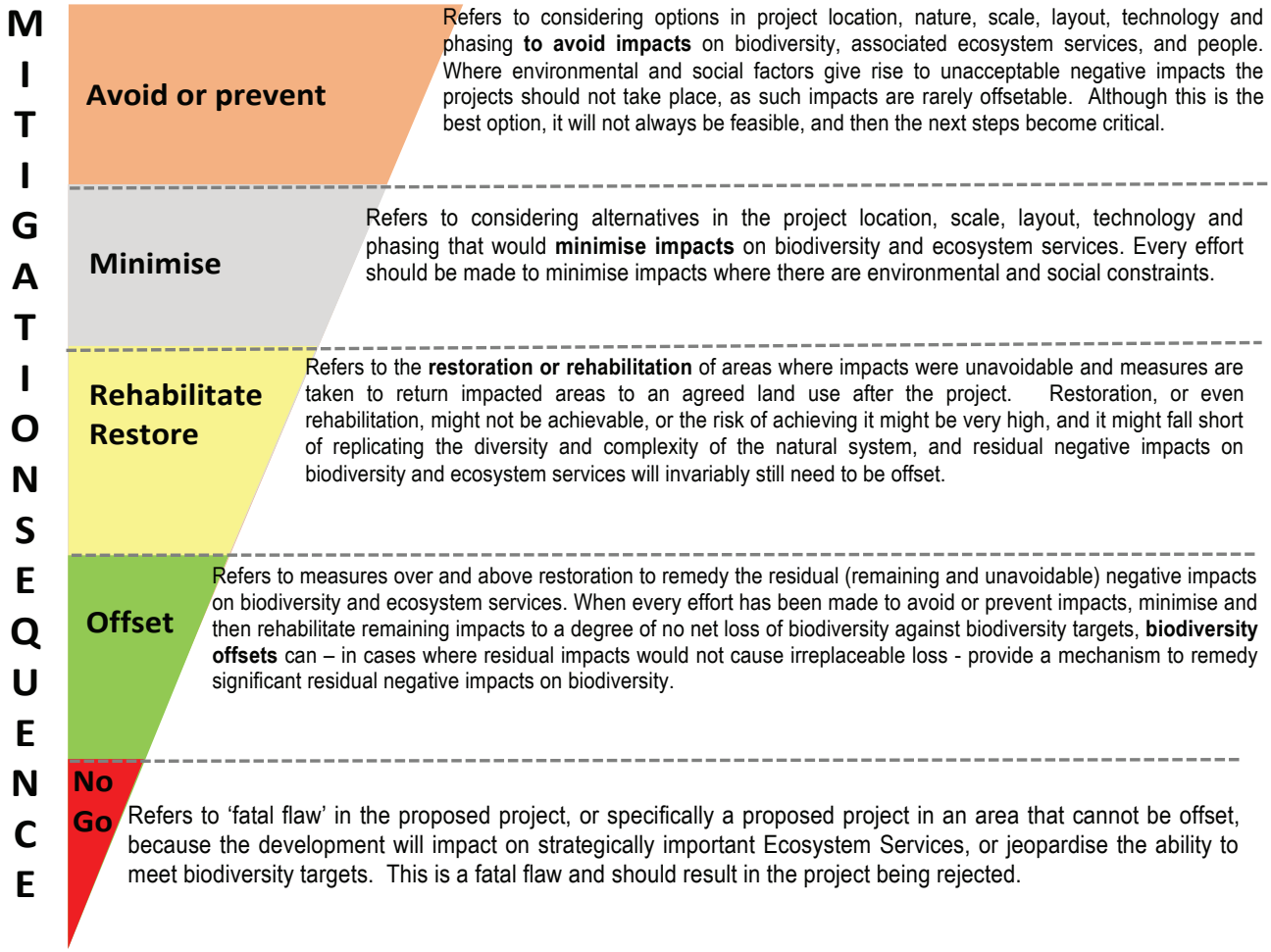


Figure 1: Placing offsets in the environmental impact mitigation sequence in South Africa. Adapted from Department of Environmental Affairs, et al, 2013

9.4 Designing and locating an offset

There is no single best approach to decide on an appropriate offset. However, unless there is compelling reason not to follow this process, the offset design process should comprise of the following seven steps:

1. Obtain a measure of the residual loss of biodiversity (i.e. residual negative impacts) as a consequence of the proposed development. This measure at minimum relates to the area and condition of affected ecosystem/ habitat;
2. Determine the best type of offset;
3. Determine the required size of offset and, where applicable, its optimum location;
4. Investigate candidate offset site(s) in the landscape that could meet the offset requirements. Check whether any eligible offset receiving area is suitable;
5. Decide on the best way to secure the offset, and ensure that the offset option would be acceptable to the CEA and the statutory conservation authorities;
6. Prepare an Offsets Report or dedicated section within the EIA report; and
7. Conclude agreements on offsets (between the applicant and an implementing agent) and develop an Offset Management Programme, where applicable.

Biodiversity targets (DEA&SANBI 2011) provide a sound foundation for determining the size of offset required. A basic offset ratio is used, linked to the particular biodiversity feature affected, and adjusted according to a number of biodiversity and ecosystem services considerations.

Table 1: Guidelines of appropriate offset ratios based on the impacted biodiversity feature.[9]

Feature	Basic offset ratio and specific requirements of the offset	Adjustments to size and/ or number of offsets
Composite biodiversity attributes		
Areas of irreplaceable biodiversity	**Impacts on irreplaceable biodiversity to be avoided** Offset at 30:1 only where no alternatives to the development project are deemed feasible and where project is of overriding public importance. Refer to the DEA guideline on "Need and Desirability". Offset sites to comprise areas of highest conservation priority that are currently without protection.	
Areas of composite biodiversity significance recognised in approved biodiversity policy, bioregional, biodiversity or spatial conservation plans	**Impacts preferably to be avoided** Offset ratio at minimum 20 times the impacted area. Offset sites to comprise areas of highest conservation priority that are currently without protection. e.g. Protected areas[10], CBAs, verified wetland and river feature FEPAs, areas earmarked for protected area expansion.	
Biodiversity pattern		
Ecosystem status (using most up-to-date and reliable biodiversity information, and	Impacts on Critically Endangered ecosystems should be avoided. Offset at 30:1 only where no alternatives to the	Offset sites to comprise areas of highest priority for conservation currently without protection.

10 This table of ratios applicable to specific biodiversity features is the most generic guidance possible and in alignment with existing provincial guidance. It should be considered the minimum required, although provinces may chose some higher ratios based on provincial biodiversity targets.

[10] As identified in S9 of the NEM: Protected Areas Act.

applying ***all relevant criteria*** for listing threat status (e.g. criteria established in GN 1002 see DEA, 2011)[11].	listed activity are feasible and where activity is of overriding public importance; Basic offset ratio[12]: Endangered ecosystems at least 10 but up to 20 times impacted area Vulnerable ecosystems from 1 to 5 times impacted area. Least Threatened, then generally no offset required, ***provided that*** other criteria do not apply.	Offset requirements should be adjusted where necessary on the advice of a biodiversity specialist, to account for the condition of impacted site, and the condition of and ability to restore offset areas.
Species threat status (using most up-to-date and reliable biodiversity information).	Impacts on the habitat of Critically Endangered species and local endemic species with highly restricted distributions should be avoided. When threatened or localised endemic species are impacted, the offset must cater explicitly for the habitat needs of the affected species and prevent any change (i.e. increase) in their threat status. A precautionary approach to determining the size of offset must be exercised in cases where highly threatened or vulnerable species are affected.	Where the ecosystem is listed as Least Threatened, it may be necessary to provide an offset to cater for residual negative impacts on threatened species. Where an offset requirement has been determined for a threatened ecosystem (i.e. recognised as Vulnerable, Endangered or Critically Endangered) using the basic offset ratio, it may be necessary to increase size of offset and/ or number of offset sites on the advice of a relevant biodiversity specialist to ensure enough of that species' habitat would be protected and managed to ensure its status would not change (i.e. worsen).
Special habitats.	The offset area must include good examples of impacted special habitats.	Where the ecosystem is Least Threatened, it may be necessary to provide an offset to cater for residual negative impacts on special habitats. Where an offset requirement has been determined for a threatened ecosystem using the basic offset ratio, it may be necessary to provide an offset, and/ or to increase size of offset and/ or number of offset sites on the advice of a relevant biodiversity specialist to ensure that special habitats are represented.
Biodiversity process		
Important ecological, corridors (e.g. linking mountains to coast, along gradients, linking protected areas or other priority areas for biodiversity) or areas important for ecological functioning.	If any important corridors are impacted, the offset must incorporate areas that would provide substitute corridors or linkages connecting priority areas.	Where the ecosystem is Least Threatened, it may be necessary to provide an offset to cater for residual negative impacts on important biodiversity process areas. Where an offset requirement has been determined for a threatened ecosystem using the basic offset ratio, it may be necessary to provide an offset, and/ or to increase size of offset and/ or number of offset sites on the advice of a relevant biodiversity specialist to ensure

[11] Please note that Listed Threatened Terrestrial Ecosystems (DEA, 2011) may have been augmented by more recent provincial biodiversity planning, and associated categorisation of different ecosystems and their status. Department of Environmental Affairs 2011. National List of Threatened Ecosystems. Government Gazette No 34809 General Notice 1002 of 9 December 2011. National Printer, Pretoria.

[12] Determined according to the relevant biodiversity target for the affected ecosystem, area already protected and remainder of original extent of that ecosystem, to ensure status does not drop below Endangered (i.e. target plus at least 5%)

		that ecological linkages are represented and connectivity maintained.
Ecosystem services		
Areas that provide ecological goods and services of high value to communities or society as a whole, and on which there is a high level of dependence.	The offset must provide acceptable substitute goods and services.	Where the ecosystem is Least Threatened, it may be necessary to provide an offset to cater for residual negative impacts on ecosystem services. Where an offset requirement has been determined using the basic offset ratio, it may be necessary to provide additional offset sites that would provide the necessary ecosystem services, and/ or compensation in kind. The potential to rehabilitate degraded parts of earmarked offset areas, to improve ecosystem services delivery to affected communities, should be considered.

Where significant wetland impacts are likely, specific guidance from DWS, including the Wetland Offset Best Practice Guideline (SANBI/DWS 2016) should be used for determining appropriate offsets.

Any part of an offset that satisfies the requirements for any particular biodiversity feature can also contribute to the offset requirements of any another feature, and are not necessarily mutually exclusive.

As a general rule, the most recent biodiversity plans at the finest scale should take precedence over coarser scale, older biodiversity plans when assessing potential impacts, evaluating impact significance and determining optimum offset areas. Information from biodiversity plans at coarser scales must be verified in field by an appropriate biodiversity specialist. A useful source of information on biodiversity plans is the SANBI Geographic Information System website (http://bgis.sanbi.org).

PLEASE NOTE: If a provincial or municipal plan has been developed, and is consistent with "best available information and science", then that information should be used, according to the criteria set out above. If a fine-scale bioregional/ biodiversity/ spatial biodiversity plan at provincial or municipal scale is not available, then national ecosystem status and ratios must be used as a departure for offset quantification.

Where there are residual impacts on pattern, process and/ or ecosystem services, a single biodiversity offset may not suffice. In these situations, a 'package' of offsets may be required.

For **wetland/ coastal** ecosystems (special habitats), consideration of the functionality of the affected ecosystem as well as that of the proposed offset area, are significant additional considerations to determine the appropriate size and location of offset.

A CEA may publish or adopt a map of suitable offset receiving sites, establish programmes to simplify the design, location, administration and securing of offset areas, and/or to facilitate the establishment of offsets in its area of jurisdiction.

Offsets should be located in the landscape to (in order or priority):

- Be in the same bioregion, vegetation or ecosystem type and, preferably, the same quinary catchment as the impact site;

- Consolidate or buffer existing protected or priority conservation areas and/or minimize fragmentation of habitat;
- Make a maximum contribution to securing, protecting and/or linking biodiversity priority areas, and consolidating ecological corridors in the landscape identified in the provincial biodiversity plan, bioregional or other provincial or municipal biodiversity plans, SDF, EMF, fine scale plans, (etc.);
- Provide habitat for threatened species that would be adversely impacted; and
- Provide comparable ecosystem services specifically to those parties adversely affected by impacts on 'their' ecosystem services;

Offsets could be considered close to, or at some distance from the site on which the listed activity is to be located. It is important to consider the possible negative impacts associated with setting aside an area as a biodiversity offset: this action may negatively affect current users of that area, in turn requiring compensation, or may displace activities that are impacting biodiversity elsewhere so that there is little overall benefit of the offset. Existing/ planned development, land claims or mineral rights on a candidate offset site may pose a threat to the viability of a potential offset area and must be taken into consideration when identifying potential sites and designing protection strategies for them.

9.5 Securing an offset

It is preferable for an offset site to be declared as a protected area under NEMPAA. If this is not recommended by the relevant statutory conservation authorities, or is not possible or appropriate in the circumstances, then some other effective means of preserving the biodiversity values on the offset site in the long term must be found.

Offsets can be secured through:

- Land donation by the applicant to an appropriate statutory conservation authority or a PBO approved by the CEA and willing to receive such land;
- Conservation servitudes (e.g. stewardship agreements, or the purchase and retirement of development rights) entered into between the applicant, landowner and the state conservation authority; and
- Purchase or other acquisition of land or rights to land by the applicant for either of the above purposes;

Suitable financial provision for meeting the needs of an offset may be required by the CEA, prior to the issue of an environmental authorization. These financial provisions may include, but are not limited to:

- The probable costs of acquiring/ securing a sufficient area of suitable land, including transaction costs;
- The costs of protection, rehabilitation and management of the offset area and, where necessary, obtaining specialist input about its management, for at least the duration of the residual impact, or until such time as a closure certificate is issued or other extended time frame as may be determined by the CEA; and

- The costs of monitoring and auditing performance and compliance;

9.6 Requirements for a proposed offset as part of the EIA process

A CEA may require that an Offset Report or an Offset Agreement to be submitted as part of the final Basic Assessment or EIA Report, or that an Offset Agreement be concluded prior to the commencement of the listed activity. Where the applicant has secured and will manage (or contract a third party to manage) an offset, an Offsets Management Plan/ Programme may also be required to be submitted to the CEA.

Reporting on Offset performance and sufficiency should be included in the EMPr for any project.

Any Offset Report would be submitted as a specialist report with, and incorporated into, the BAR or EIR. At minimum, it should include the following information (see Appendix 3 of the 2014 EIA Regulations):

1. An evaluation of the adequacy of measures considered and adopted to avoid, minimize and rehabilitate potentially significant negative impacts on biodiversity. (That is, were these measures sufficient; were reasonable and feasible alternative measures investigated, or could greater effort have been made particularly to avoid and minimize these impacts?)
2. A clear statement regarding the appropriateness of considering biodiversity offsets in this case. (That is, are there any residual impacts of 'very high' significance that could lead to irreplaceable loss of biodiversity and/ or priority ecosystem services?).
3. A reliable measure of residual negative impacts on significant biodiversity and ecosystem services requiring offsets.
   - It must take into account gaps in information or low levels of confidence in the predicted negative impacts.
   - It must give due consideration to uncertainties or low levels of confidence in the outcome of proposed measures to avoid, minimise and/ or rehabilitate negative impacts.
4. The duration of residual negative impacts of the proposed activity on biodiversity, taking a risk-averse approach, to determine the minimum duration of the biodiversity offset(s).
5. An explicit statement on the required size of the biodiversity offset to remedy these residual negative impacts, applying the basic offset ratio and adjustments as appropriate.
6. A description of the offset options considered (like for like habitat, trading up, or other), giving defensible reasons for arriving at the proposed offset type.
7. Where the proposed offset comprises land to be secured and managed:
   a) Evaluation of the probable availability of suitable offset site(s) in the surrounding landscape to meet offset requirements.
   b) Description of potential site(s) for biodiversity offset(s).
   c) Description of stakeholder engagement process in identifying and evaluating the adequacy and acceptability of the proposed offset site.
   d) Description of proposed approach to securing the offset site(s) (e.g. conservation servitude, protected area consolidation/ stewardship) and how it would be managed.
   e) Evaluation of probable adequacy of proposed offset site(s) by biodiversity specialist(s) and, where relevant, a social/ livelihood specialist:

- *Is there a high level of confidence that offset site(s) would remedy residual impacts on a) biodiversity pattern (threatened ecosystems, threatened species and special habitats), b) biodiversity process, and c) on ecosystem services, while making a positive contribution to the long term conservation of biodiversity in the South Africa?)*
- *Would the offset sites be located in recognised 'offset receiving areas'?*
- *If relevant, is the motivation for a 'trading up' offset defensible in the specific context?*
- *Would the offset site(s) be functionally viable in the long term?*

f) A reliable estimate of the costs of acquiring or securing, rehabilitating and managing the necessary offset site(s) for the duration of residual negative impacts (See Appendix 1 as a guide for cost calculation);

g) Responsibility for managing, monitoring and auditing the biodiversity offset;
   - *Who would be responsible for implementing, managing and auditing the biodiversity offset?*
   - *Statement regarding the adequacy of capacity of the institution, organization or other party to meet obligations in terms of above responsibilities;*

h) What measures would be taken to ensure that society as a whole, and affected communities in particular, would not be left more vulnerable or less resilient as a consequence of the proposed development [i.e. where offsets are to remedy loss of biodiversity underpinning valued ecosystem services, would the proposed offset(s) be affordable, accessible and acceptable to the main affected parties];
   - *Any negative impacts on local communities and/or society as a whole as a consequence of the proposed offset. If yes, how would these negative impacts be avoided;*
   - *Would the proposed use of the biodiversity offset site(s) be compatible with biodiversity conservation objectives? In particular, where an offset for residual negative impacts on biodiversity also provides offsets for residual impacts on ecosystem services, assurance must be provided that the latter would not compromise the biodiversity value of that offset (e.g. if biodiversity is to be a direct-use resource, then use could lead to degradation of that biodiversity / ecosystem).*

i) What mechanism is to be used to provide sufficient funds for acquiring/ securing and managing the biodiversity offset site(s) for the duration of residual negative impacts of the proposed activity (i.e. Who will be the recipient of money? How will funds flow to the implementing agent?)

If an offset is to be included as a part of the EA, a CEA must:

- Include an accurate description of the offset activities and required outcomes;
- State clearly who would be responsible for carrying out the offset activities – including implementation, management, monitoring and reporting, auditing;
- Specify what must be done by when, linked to the timing of development activities in the EA;
- State for how long the developer is responsible for the offset area/ activities/ monitoring.

A CEA may include as conditions of an EA, the following requirements for:

- Guarantees of adequate financial resources to comply with the offset conditions. These guarantees must be held in the name of the implementing agent (e.g. statutory conservation authority, conservation NGO or PBO), or held in an escrow[13] account of a reputable financial institution or auditing firm; and/or
- Binding agreements with landowners to purchase or otherwise secure suitable offset sites, for biodiversity conservation (e.g. documented purchase agreements, agreements of sale, stewardship agreements or other legal agreements related to the securing of offset site(s));
- Rezoning, subdivision or other such requirements as may be necessary for the continued success of the offset.

If a CEA includes an offset requirement as a condition of an EA, the EA must **specify the consequences of failure** to fulfil any of the conditions.

Where no offsets are required but there would clearly be residual, significant impacts, the authority must give explicit and defensible reasons with justification, in particular, for:

- Not applying the NEMA principles as set out above; and
- Permitting development that would not qualify as ecologically sustainable

10 INSTITUTIONAL ARRANGEMENTS

The CEA is responsible for evaluating development applications on the basis of their EIAs[14], and for issuing EAs with conditions. EIAs should apply the mitigation sequence and incorporate biodiversity offsets, where appropriate, as the final mechanism to remedy negative impacts. The authority must review the adequacy of the EIA and take a decision on the development, ensuring that (where relevant) explicit biodiversity offsets acceptable to either the National (if an impact is in a buffer zone of National Park) or Provincial conservation authorities - or both - are incorporated in the conditions of an EA.

In preparing an EA and associated conditions requiring an offset, the CEA must at a minimum:

- Prescribe the amount and type of biodiversity feature(s) that must be secured as an offset and an ***accurate description*** of the offset activities that must be undertaken;
- Allocate clear and unambiguous responsibility for carrying out the offset activities;
- Provide clear time frames for delivery and completion of offset activities. The authority could specify that the authorized activity may not commence before specified conditions are complied with;
- Specify the duration of the offset obligation;

[13] 'Escrow account is a temporary pass through account held by a third party during the process of a transaction between two parties

[14] The term 'EIA' is used to refer to both Basic Assessment and Scoping and Impact Assessment requirements in terms of the NEMA EIA Regulations.

- Require notification of establishment or completion of the offset;
- Provide for management, monitoring and reporting requirements, as appropriate and auditing arrangements;
- Determine penalties and consequences, including the suspension of the EA or the ineligibility to apply for further EAs, which apply if the conditions are not met.

The applicant may need to appoint an independent EAP and biodiversity specialists (amongst others) to carry out an EIA process to find the Best Practicable Environmental Option that is consistent with NEMA's national environmental management principles (section 2 of NEMA). As part of this process, it may be necessary to investigate biodiversity offsets as a 'last resort' form of mitigation in order to remedy residual negative impacts on biodiversity. The applicant may need to appoint relevant specialists or service providers to compile any documentation, including but not limited to agreements for the implementation of the offset, for review by the CEA.

All costs related to the investigation and implementation of biodiversity offsets would be to the applicant's account.

The **national and provincial biodiversity conservation authorities** will play a lead role in advising on and approving proposed biodiversity offsets to the competent authority. Biodiversity specialists and EAPs **must** involve these authorities in proposed developments that could adversely affect biodiversity and protected areas and engage staff with regard to finding optimum offsets. Statutory Authorities receiving offset sites to manage as part of protected areas should report on those offsets as part of their statutory reporting responsibilities.

The EAP provides an assessment of how the mitigation sequence has been adhered to, and may need to appoint biodiversity specialists (and other specialists, as appropriate) to determine the need for, and investigate and evaluate potential biodiversity offsets. The EAP must also ensure that all relevant statutory commenting authorities have been adequately informed of the offset.

Specialists will give site- and context-specific information, assess and evaluate potential impacts on biodiversity and ecosystem services, provide an estimate of residual biodiversity impact, propose appropriate offset metrics and components, and, where appropriate, investigate and advise on securing, rehabilitating and managing biodiversity offsets.

11 MONITORING AND EVALUATION

a) A biodiversity offset register and associated map reference must be set up and updated by each CEA on the number, form, description and location of biodiversity offsets in their jurisdiction. These updated registers need to be submitted to DEA and SANBI annually at the latest one month after the end of the financial year. This should be done through Working Group 5

b) The implementation of biodiversity offsets, as one of a possible range of conditions specified in an EA, must be monitored and enforced in accordance with these conditions.

c) Every three years, the CEA must conduct an evaluation of the number and forms of biodiversity offsets, and of their performance/ success in meeting the policy objectives. The results of this evaluation should inform revision of the policy and associated guidelines. In addition, it should indicate non-compliance with conditions of an EA and the need for remedial action and/ or enforcement by the CEA.

d) The monitoring contemplated in paragraph (c) above may cease once the offset is incorporated into a protected area. In this event, the Management Authority shall report annually to the Minister or the MEC for environment on the performance/success of the offset as part of their statutory reporting requirements under NEMPAA.

e) The basic offset ratios used in this policy should be updated at any time that the ecosystem status or targets for different vegetation types or species are formally revised, so that the offset requirements respond effectively to the changing situation.

12 REFERENCES

Business and Biodiversity Offsets Programme. Biodiversity Offset Standard, Design Handbook, Cost-Benefit Handbook and Implementation Handbook. www.forest-trends.org/biodiversityoffsetprogram/guidelines/

Department of Environmental Affairs (DEA), 2009. South Africa's National Biodiversity Framework. Gazetted Report. DEAT, Pretoria, South Africa.

Department of Environmental Affairs and Tourism (DEAT), 2005. National Biodiversity Strategy Action Plan (NBSAP). DEAT: Pretoria.

Department of Environmental Affairs (DEA)/South African National Biodiversity Institute (SANBI), 2011. National Biodiversity Assessment 2011: Priorities for Biodiversity Conservation in South Africa. DEA/SANBI: Pretoria.

DEA (Department of Environmental Affairs), DMR (Department of Mineral Resources), Chamber of Mines, South African Mining and Biodiversity Forum, and South African National Biodiversity Institute (2013) *Mining and Biodiversity Guideline: Mainstreaming biodiversity into the mining sector*. Pretoria.

Department of Environmental Affairs 2016. Minimum Requirements for Biodiversity Reporting in EIAs. Draft, available from DEA, Pretoria.

Department of Environmental Affairs 2013 Guideline On Need And Desirability In Terms Of The Environmental Impact Assessment (Eia) Regulations, 2010, Integrated Environmental Management Guideline Series 9, available from DEA, Pretoria.

Driver A., Sink, K.J., Nel, J.N., Holness, S., Van Niekerk, L., Daniels, F., Jonas, Z., Majiedt, P.A., Harris, L. & Maze, K. 2012. *National Biodiversity Assessment 2011: An assessment of South Africa's biodiversity and ecosystems. Synthesis Report*. South African National Biodiversity Institute and Department of Environmental Affairs, Pretoria.

National Development Plan 2012. *Our future - Make it work.* Office of the Presidency. Republic of South Africa.

SANBI / DWS, 2016. *Wetland Offsets: A best practice guideline for South Africa*. Report to the Water Research Commission by South African National Biodiversity Institute and the Department of Water and Sanitation. WRC Report No. TT/2203

13 APPENDICES

Appendix 1: Considerations for determining financial provision for biodiversity offsets

Financial provision to secure and manage biodiversity offset			
A: Estimated cost of acquiring and securing offset land			
Ecosystem type	**Average cost of land in that vegetation type (R/ha)** [15]	**Offset area (ha)**	**Anticipated cost of offset (R)**
(name)			
(name)			
Etc.			
		Land survey costs	
		Legal/ transaction costs (e.g. lodging notarial deeds, gazetting, advertisements or legal notices)	
		Costs of fencing, equipment, infrastructure needed to implement offset	
		Other (e.g. signage, compensation of affected parties)	
		Total cost	
B: Estimated cost of offset establishment			
Item		**Area, number or extent**	**Anticipated cost (R)**
Costs of any permits, authorizations triggered by offset activities (e.g. rehabilitation works)			
Costs of fencing, equipment, infrastructure needed to implement offset			
Other (e.g. signage, compensation of affected parties)			
		Total cost	
C: Estimated cost of intensive initial management			
For each ecosystem type and for offset area as a whole during the first x years			
Item		**Area, number or extent**	**Anticipated cost (R)**
Rehabilitation of eroded areas or physical / structural rehabilitation work			
Intensive clearing of dense infestations of invasive alien species			

[15] It is crucial that this estimated cost of land is up to date and/ or projected in terms of longer term trends in land value over the period during which land must be secured. If underestimated, it would be impossible to secure the necessary offset.

C: Estimated cost of intensive initial management		
For each ecosystem type and for offset area as a whole during the first x years		
Item	**Area, number or extent**	**Anticipated cost (R)**
Costs of any permits, authorizations triggered by offset activities (e.g. rehabilitation works)		
	Total cost	
D: Estimated cost of annual management		
For each ecosystem type and for offset area as a whole over the required timeframe, taking into account escalation/ inflation		
Item	**Area, number or extent**	**Anticipated cost (R)**
Fire management		
Erosion management		
Alien and invasive species control/ management		
Faunal management		
	Total cost	
E: Other costs		
For each offset area		
Administrative costs		
Risk premium/ insurance		
Other (specify)		
Total costs (sum A-E)		

Good practice dictates that all costing exercises should be peer reviewed by a qualified, competent specialist.

Appendix 2: Conventions, Laws, Policies, Plans, Strategies and Guidelines Directing or Informing Biodiversity Offsets

This section provides information on the international, national, and provincial legal and policy frameworks, and information guiding or informing biodiversity offsets.

A International Conventions and Guidelines

1 Convention on Biological Diversity

South Africa is a signatory to the Convention on Biological Diversity (1992). The Convention gives an obligation to member countries to:

1. Protect species and ecosystems that warrant national or local protection, including:
   - ecosystems that are threatened, important for maintaining key ecological or evolutionary processes and/or functions, ecosystems that contain rich biodiversity or large numbers of threatened or endemic species, with social, economic, cultural or scientific value;
   - species and communities of species that are threatened, related to domesticated or cultivated species, and/or have medicinal, agricultural or other economic, social, cultural or scientific significance;
   - genotypes with social, scientific or economic significance.
2. Use indigenous biological resources sustainably; and
3. Share the benefits of biodiversity equitably.

The CBD adopted Voluntary Guidelines on biodiversity-inclusive impact assessment in 2006.

At its tenth Conference of the Parties in Nagoya, Japan 18-29 October 2010, Parties, including South Africa, adopted the Strategic Plan for Biodiversity 2011-2020, with its Aichi Targets. Specifically the following Aichi targets refer to offsetting:

Strategic goal B: Reduce the direct pressures on biodiversity and promote sustainable use

***Target 5*:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced

***Target 12*:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

***Target 14*:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

2 Millennium Ecosystem Assessment (MA) and the Southern African component of the Millennium Ecosystem Assessment (Scholes and Biggs 2004)

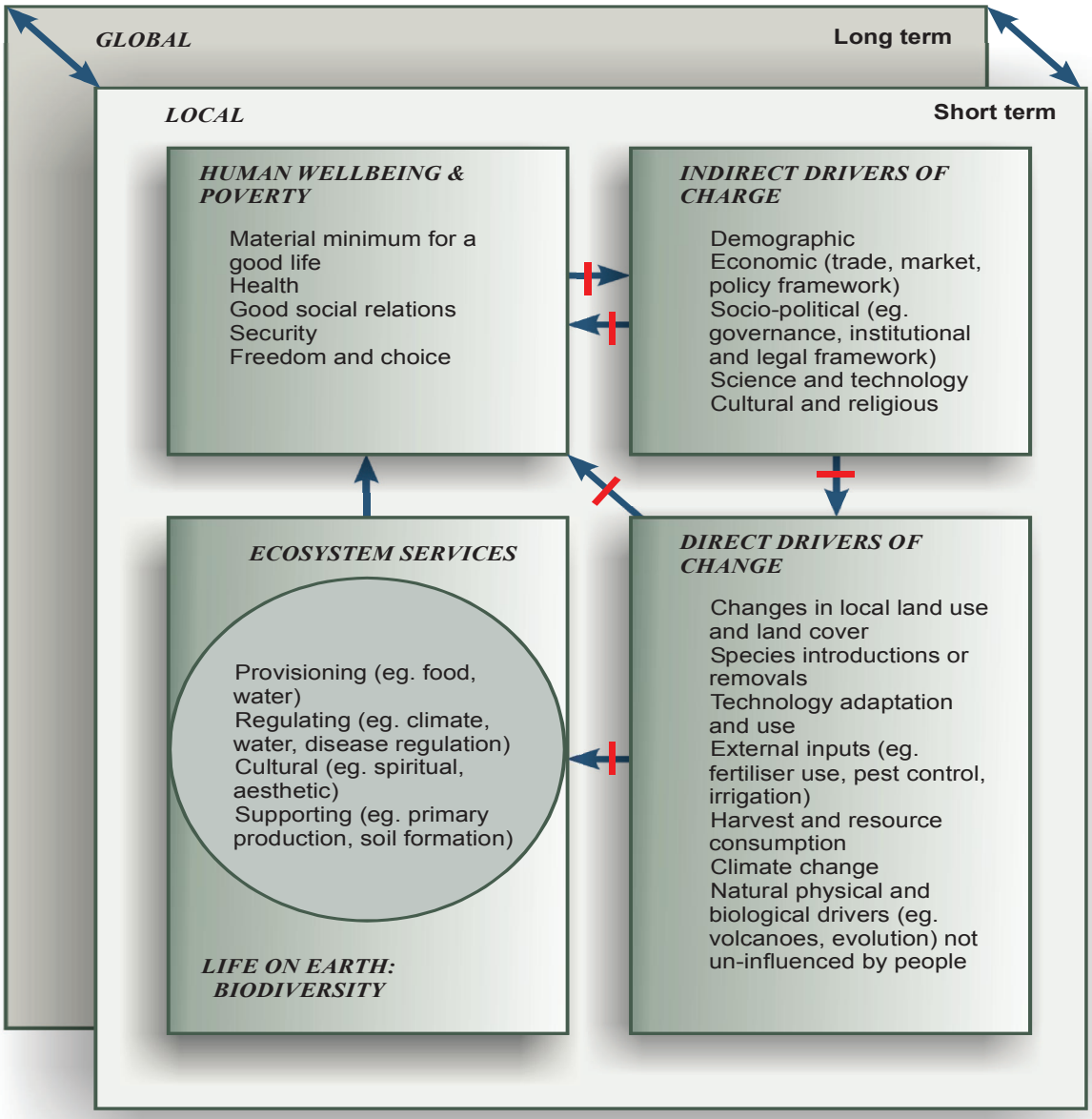
The Millennium Ecosystem Assessment is an international work program designed to meet the needs of decision makers and the public for scientific information concerning the consequences of ecosystem change for human well-being and options for responding to those changes. As such, it provides a global perspective on the importance of biodiversity and ecosystem services. Figure 7

shows the Millennium Assessment Framework that highlights the interdependencies of human-wellbeing and ecosystem services.

The MA focuses on ecosystem services (the benefits people obtain from ecosystems), how changes in ecosystem services have affected human wellbeing, how ecosystem changes may affect people in future decades, and response options that might be adopted at local, national, or global scales to improve ecosystem management and thereby contribute to human well-being and poverty alleviation.

Particularly in sub-Saharan Africa, the condition and management of ecosystem services is a major factor influencing prospects for reducing poverty. The South African Component of the Millennium Ecosystem Assessment concluded, amongst others, that:

- there is a high correlation between environmental sustainability and human wellbeing;
- livelihoods are often linked directly or indirectly to ecosystem services;
- the greatest potential for limiting biodiversity loss is through preventing degradation of semi-natural ecosystems used outside of public protected areas.



The drivers of change are affected by human wellbeing. Feedback [black arrows] occurs at all scales, from individuals to the entire globe. The red lines across the arrows represent points of intervention to influence feedback in beneficial ways.

Figure 7: Biodiversity-socioeconomic- human wellbeing links[16]

3 Business and Biodiversity Offsets Programme guidance and handbooks

The Business and Biodiversity Offsets Programme (BBOP) is a partnership of some 40 leading organisations and individuals including companies, governments, conservation experts and financial institutions from around the world. Since 2004 it has produced a Biodiversity Offset Design

[16] The Millennium Ecosystem Assessment (2003) conceptual framework

Handbook (revised 2012), a Biodiversity Offset Implementation Handbook and a Biodiversity Offset Cost-Benefit Handbook (2009), a number of resource papers, a Standard on Biodiversity Offsets (2012), as well as case studies on offsets.

4 International Finance Corporation (World Bank Group) Performance Standards, adopted by Equator Banks

The revised IFC Performance Standards (PS, 2012) must be satisfied by corporate clients. PS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources explicitly cover biodiversity offsets, requiring 'no net loss' of biodiversity for projects affecting Natural Habitats and 'net gain' of biodiversity for projects affecting Critical Habitat. PS 6 emphasizes the need to apply the mitigation sequence, and to seek 'like for like or better' exchanges in compensating for residual negative impacts on biodiversity. Ecosystem services are also covered in PS6 and are grouped according to levels of dependence on them by affected parties. Projects financed by these banks must maintain the value and functionality of priority ecosystem services.

B Laws informing and directing biodiversity offsets

Constitution of the Republic of South Africa, 1996, article 24 (b) – (c)	*"everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development"*
National Environmental Management Act, 1998 (Act No. 107 of 1998)	The National Environmental Management Act,1998 (Act 107, 1998) states in section 2(4)(k) that The environment is held in public trust for the people, the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage. Section 2(4)(a) ('the NEMA principles') specifies that sustainable development requires the consideration of all relevant factors including the following: ▪ that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; ▪ that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised; ▪ that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions ▪ that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied; and ▪ that equitable access to environmental resources, benefits and services be pursued to meet basic human needs and ensure well-being. Special measures may be taken to ensure access by categories of persons disadvantaged by unfair

	discrimination Section 2(4)(p) states that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.[17] According to section 24(P), an applicant for an **environmental authorization relating to prospecting, exploration, mining or production** must, before the Minister responsible for mineral resources issues the environmental authorization, comply with the prescribed financial provision for the management of negative environmental impacts. 'Financial provision' is defined (section 1) as the insurance, bank guarantee, trust fund or cash that applicants for an environmental authorization must provide in terms of this Act guaranteeing the availability of sufficient funds to undertake, amongst others, the '*remediation of any other negative environmental impacts*'.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The objectives of this Act are within the framework of the National Environmental Management Act, include: ▪ The management and conservation of biological diversity within the Republic of South Africa and the components of such biological diversity ▪ The use of indigenous biological resources in a sustainable[18] manner; and ▪ The fair and equitable sharing among stakeholders of benefits arising from bio prospecting involving indigenous biological resources; and ▪ Giving effect to ratified international agreements relating to biodiversity which are binding on the Republic. The Act, amongst others, provides the framework for biodiversity management and planning, comprising a national biodiversity framework, bioregions and bioregional plans, and biodiversity management plans and agreements. Threatened and protected ecosystems (section 52) have been listed (December 2011) and activities or processes within those ecosystems may be listed as 'threatening processes', thus triggering the need to comply with the NEMA EIA regulations. Lists of critically endangered, endangered, vulnerable and protected species have also been promulgated in terms of this Act (2007), covering species affected by 'restricted' activities; effectively those species hunted, bred or traded for economic gain. In

[17] According to the *polluter (or environmental degrader) pays principle*, resource users should pay full costs of the use of resources including environmental damage and the costs of mitigating adverse effects on the environment. The failure of the market economy is widely acknowledged. Some costs are *externalised*, in particular the costs to biodiversity and the ecosystem services. The costs accrue to the natural economy as loss of biodiversity, and the economy of the society as costs of restoration or substitution of the ecosystem services. The costs are carried by the society as a whole, while the benefits are received by private individuals or companies (Suvantola 2004).

[18] The term 'sustainable' in relation to biological resources is defined as 'sustainable' in relation to the use of a biological resource, means the use of such resource in a way and at a rate that

a) would not lead to its long term decline
b) would not disrupt the ecological integrity of the ecosystem in which it occurs and
c) would ensure its continued use to meet the needs and aspirations of present and future generations of people

	addition, regulations addressing alien and invasive species and their management/ control were promulgated in 2014. The Act further provides (section 43) for 'biodiversity management plans' approved by the Minister to manage ecosystems or species that warrant special conservation attention. The Act establishes the South African National Biodiversity Institute (SANBI), with a range of functions and powers (Chapter 2 Part 1).
National Environmental Management Protected Areas Act,2003 (Act No.57 of 2003)	The objectives of this Act within the framework of the National Environmental Management Act, include the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in order to: ▪ Protect areas with significant natural features or biodiversity ▪ Protect areas in need of long-term protection for the provision of environmental goods and services ▪ Provide for sustainable flow of natural products and services to meet the needs of a local communityInvolvement of private landowners. The Act provides for the involvement of parties other than organs of State in the declaration and management of protected areas.
National Environmental Management Integrated Coastal Management Act, 2008 (Act No.24 of 2008)	The Act aims to integrate coastal and estuarine management in South Africa, to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable. The Act defines a coastal protection zone, coastal public property and coastal protected areas, as well as providing for development setback lines. A National Estuarine Management Protocol (2013) has been drafted.
Promotion of Administrative Justice Act,2000 (Act No. 3 of 2000)	The requirement in PAJA and the EIA Regulations for empowering provisions for administrative actions would indicate that proactive strategies for offset receiving areas would need to be catered for in policy, and subsequently empowered in legislation. It might be necessary to include such a provision in the forthcoming EIA Regulations amendment.
Spatial Planning and Land Use Management Act,2003 (Act No. 16 of 2013)	Sustainability and resilience principles apply to all aspects of spatial development planning, land development and land use management, specifically with reference to ensuring sustainable livelihoods in communities most likely to suffer the impacts of environmental shocks.
National Forests Act, 1998 (Act No. 84 of 1998)	Permits required for damage or destruction of protected tree species, natural forest. Offsets may be required where damage or loss is deemed significant
The Conservation of Agricultural Resources Act,1983 (Act No. 43 of 1983)	Addresses the need to protect soils, wetlands and water resources, natural vegetation through its gazing capacity regulations as well as the categorization and supporting regulations pertaining to weeds and alien and invasive plants.

Sub-division of Agricultural Land Act, 1970 (Act No. 70 of 1970) (SALA)	The Sub-division of Agricultural Land Act, 1970 (Act No. 70 of 1970) (SALA) is applicable to all demarcated agricultural land in South Africa. Proclaiming an area as a conservation site should be with the support of the said Act as this land, depending on the agreed upon conservation status / level may result in its loss for agricultural production purposes. The same principle applies under this Act pertaining to the registering of a servitude on a demarcated agricultural land parcel. 3.9 Paragraph 6.2: As indicated above SALA may have an indirect impact on biodiversity offset principles. The same implications are of relevance to the draft Preservation and Development of Agricultural Land Framework Bill and policy that have been developed to protect and management agricultural land in favour of agricultural production and food security. This draft bill and policy has been gazetted for comments and is aimed to replace SALA.
Income Tax Act,1962 (Act No. 58 of 1962)	Inclusion of 'conservation, rehabilitation or protection of the natural environment, including flora, fauna or the biosphere' as approved public benefit activities for purposes of section18A (1) (a) of the Income Tax Act (GN 403 of 26 April 2006). [In order to qualify as a 'public benefit organisation' under this Act and thus qualify for tax exemptions or reductions, the organisation must, amongst others, be a trust or association of persons, be incorporated under Section 21 of the Companies Act, register as a non-profit organisation under the Non-profit Organisations Act, and the organisation's sole objective must be to carry on a 'public benefit activity'.]
Revenue Laws Amendment Act,2008 (Act No. 60 of 2008)	Insertion of section 37C into the Income Tax Act, 1962: "Deductions in respect of environmental conservation and maintenance": Tax relief for expenditure incurred by the taxpayer in conserving or maintaining land that forms part of either (i) a biodiversity management agreement of at least 5 years duration in terms of s44 of the NEM Biodiversity Act, (ii) a declaration of at least 30 years duration in terms of s20, 23 or 28 of the NEM Protected Areas Act; or (iii) a national park or nature reserve in terms of an agreement under section 20(3) or 23(3) of the NEMPAA and the declaration has been endorsed on the title deed for a period of 99 years.
Mineral and Petroleum Resources Development Act,2008 (Act No. 29 of 2008)	The MPRDA governs mining and prospecting in South Africa, and contains a number of environmental provisions. The Act ensures the sustainable development of South Africa's mineral resources, within the framework of national environmental policies, norms and standards, while promoting economic and social development. Section 37(1) of the MPRDA provides that the environmental management principles listed in Section 2 of the National Environmental Management Act (No. 107 of 1998) (NEMA) must guide the interpretation, administration and implementation of the environmental requirements of the MPRDA, and makes those principles applicable to all prospecting and mining operations. Section 37(2) of the MPRDA states that "any prospecting or mining operation must be conducted in accordance with generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of prospecting and mining projects in order to ensure that exploitation of mineral resources (Wetland Offsets Guideline 2014).

C Policies, plans, and guidelines directing or informing biodiversity offsets

Policies and plans informing biodiversity offsets include:

1. National Biodiversity Strategy and Action Plan 2015

The National Biodiversity Strategy and Action Plan (NBSAP) is a requirement of contracting parties to the Convention on Biological Diversity (CBD). NBSAPs set out a strategy and plan for contracting parties to fulfil the objectives of the Convention. With the adoption of the CBD's Strategic Plan for Biodiversity for 2011-2020, parties agreed to revise and align their NBSAPs to the Strategic Plan and the Aichi Targets.

This document is South Africa's revised NBSAP for the period 2015 – 2025. It identifies the priorities for biodiversity management in South Africa for this period, aligning these with the priorities and targets in the global agenda, as well as national development imperatives

2. Both the **National Framework for Sustainable Development** in South Africa (2008) and the **National Strategy for Sustainable Development** (2010) highlight the value of biodiversity to society, its importance in sustaining our life support systems and livelihoods, and the range of benefits for people of healthy, functioning ecosystems

3. National Development Plan (Vision 2030)

Chapter 5 of the NDP builds on the National Strategy for Sustainable Development, which defines sustainable development as:

> ***Sustainable development*** *is the process that is followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option, which allows for appropriate and justifiable social and economic goals to be achieved, based on the meeting of basic needs and equity, without compromising the natural system on which it is based.*

Chapter 5 of the NDP makes an implicit case for biodiversity offsets:

> *"The biodiversity and ecosystems in conservation areas are national assets. Long-term planning to promote biodiversity and the conservation and rehabilitation of natural assets is critical, and should be complemented by a strategy for assessing the environmental impact of new developments as an important component of overall development and spatial planning. Where damage cannot be avoided or mitigated, and where the social and economic benefits justify the development, a commensurate investment in community development and the rehabilitation and conservation of biodiversity assets and ecosystem services is required."*

4. The **National Biodiversity Framework** (NBF, 2009) notes that biodiversity offsets are already being implemented to some extent in South Africa, but with little consistency. It thus called for a national framework for biodiversity offsets to be prepared as a priority, and for it to be applied across the country.

5. The **Principles and Guidelines for Control of Development Affecting Natural Forests** of the Department of Agriculture, Forestry and Fisheries (DAFF, undated) includes biodiversity offsets with respect to impact on protected trees and set out the steps to be taken and aspects to be addressed.

6. **Wetland Offsets Guideline (2014)**
A distinguishing feature of wetlands offsets is that they combine the need to address residual impacts on biodiversity with an explicit focus on the key regulating and supporting ecosystem services provided by wetlands in relation to water resource management and quality objectives.

Due to the social and economic importance of water and the vital role wetlands play in water purification, regulating water flows and supporting rich species diversity that has both high cultural and economic value, the Department of Water Affairs and Sanitation has produced *Wetlands Offsets: A Best Practice Guideline for South Africa*, in conjunction with SANBI and its Grasslands Programme

7. The **National Climate Change Response White Paper** (2011) points to the need to conserve, rehabilitate and restore natural systems to improve our resilience to climate change impacts and/ or to reduce impacts. It also advocates expanding the protected area network where it improves resilience to climate change, and to manage threatened ecosystems and species to minimize the risks of species extinction.

8. The **National Framework for Biodiversity Offsets** (SANBI/DEA, 2012) provides an overarching framework and national context for biodiversity offsets in South Africa. The Framework provides national definitions and understanding of key concepts relating to biodiversity offsets, and outlines the key legal context for biodiversity offsets in South Africa. It is also intended to provide authorities with a template to prepare specific guidelines on biodiversity offsets, and the procedures that need to be in place to implement offsets.

9. In addition to the National Framework, South Africa has draft biodiversity offset guidelines and/ or policies in three provinces, namely in Kwa-Zulu Natal (EKZNW, 2009, 2010), in the Western Cape (DEA&DP, 2007), and in Gauteng (GDARD, 2013).

10. The **Mining and Biodiversity Guidelines** sets out how biodiversity should be considered in mining applications, and during the mining process, up to and including rehabilitation**.**