

CBA series #2

Land management guidelines: an introduction



Summary of recommended guidelines for managing Critical Biodiversity Areas (CBAs) & Ecological Support Areas (ESAs)

This guideline should be used in conjunction with available ecosystem guidelines and/or other guidelines when **evaluating land development applications** (e.g. EIAs, water use licenses, mining or agricultural applications etc.). Here is a useful list:

- Landuse Planning Resource Pack: CBA series. www.award.org.za
- NFEPA Implementation Manual for Freshwater Ecosystem Priority Areas (Driver et al., 2011).
- Wetland offsets: A Best-Practice Guideline for South Africa (Macfarlane et al., 2014).
- Buffer zone guidelines for rivers, wetlands and estuaries (Macfarlane & Bredin, 2017).
- Guidelines for Development within Kruger to Canyons Biosphere Region. Download at <http://www.kruger2canyons.org/01-17%20-%20K2C%20Development%20Guidelines.pdf>.
- Grassland Ecosystem Guidelines (SANBI, 2013).
- Grazing and Burning Guidelines (SANBI, 2014).
- Guidelines for Game Farming (developed by the Department of Local Government and Human Settlements).
- Mining and Biodiversity Guideline (SANBI, 2013).
- The Western Cape Provincial Guideline on Biodiversity Offsets can also be consulted for additional support (DE&ADP, 2007).

Managing loss of natural habitat in Critical Biodiversity Areas (CBAs):

- Further loss of natural habitat should be avoided in CBA 1, whereas loss should be minimized in CBA 2 i.e. land in these two categories should be maintained as natural vegetation cover as far as possible.
- CBA 1s and CBA 2s not formally protected should be rezoned where possible to conservation or an appropriate zoning, and where possible declared in terms of the Protected Areas Act.
- CBA 1 and CBA 2 can act as possible biodiversity offset receiving areas.
- The provincial biodiversity stewardship programme may wish to prioritise privately owned erven in CBA 1s and CBA 2s to be incorporated into the protected area network through biodiversity stewardship agreements. The provincial protected area expansion strategy to use the CBA Map in prioritising these erven.
- Degraded or disturbed CBA 1s and CBA 2s should be prioritized for rehabilitation through programmes such as Working for Water and Working for Wetlands. An invasive alien vegetation eradication programme should be implemented. If threatened species are identified as being present, rehabilitation programs should explicitly consider these species in the development of restoration programs. Rehabilitation activities should be undertaken in such a way that does not negatively impact on the survival of threatened species.

General management guidelines in Aquatic CBAs and ESAs:

- Maintain water quality and flow regimes as close to natural as possible.
- Where Ecological Reserves or Environmental Flow Requirements have been determined these should be strictly adhered to. Where these have not been determined, determination should be prioritized for all CBA and ESA rivers and wetlands.
- All effluent (including municipal, mining and industrial waste water) as well as acid mine drainage should be treated to the required specifications before release.
- Storm water flow should be managed to avoid degradation of CBAs and ESAs.
- Where CBAs and ESAs include floodplains (e.g. areas within the 1:100 year flood line), riparian areas (e.g. as a minimum, a 32m buffer around rivers) or buffers around wetlands, management activities should ensure that these remain in a natural state or are rehabilitated to a natural state. Do not permit infilling, excavation, drainage, hardened surfaces (including buildings and asphalt), intensive agriculture or any new infrastructure developments within a river, riparian area, wetland or buffer area. In addition to avoiding irreversible modification of natural vegetation cover, other activities such as livestock access may need to be controlled and alien vegetation managed to avoid damage to banks, riparian areas, wetlands and buffer areas.
- Where necessary, the site development plan should indicate the 1:100 year flood line, as determined by a professional engineer. If the development is not subject to flood lines this should be confirmed by a professional engineer.
- Areas that are degraded or disturbed should be rehabilitated through programmes, such as Working for Water and Working for Wetlands; and an invasive alien vegetation eradication programme implemented.
- Linear infrastructure that crosses CBAs is not desirable, whereas for ESAs 1 and 2, linear infrastructure features designed to cross rivers and riparian areas are permitted subject to appropriate impact minimisation, avoidance, mitigation and offset.
- Creation of berms, roads, culverts, canalisation, channelization, invasive alien vegetation, impoundment, abstraction, well points, storm-water or other point source inflows, irrigation return flows, grazing / trampling, agriculture, golf courses, suburban gardens, artificial deepening and drainage, should be avoided within CBAs, whereas for ESAs these impacts should be avoided, where possible, within the 1:100 year flood line.

Where rezoning, land use change & infrastructure is proposed, the following guidelines are recommended:

- See CBA Series www.award.org.za. Guide to integrating the critical biodiversity areas map into environmental impact assessments and land use change applications.
- Biodiversity or ecological specialist to conduct an ecological assessment.
- Land use changes that may impact on the population viability of listed threatened species should be assessed by a specialist.
- **Rezoning in CBAs and ESAs:**
 - In CBA1s and CBA2s: Rezoning of properties to afford additional land use rights that will result in increased biodiversity loss should not be granted (i.e. permission to increase the permitted number of units per erf or per hectare should not be granted).
 - In ESA 1s: Rezoning of properties to afford additional land use rights that will result in increased impacts on ecological processes should not be granted, unless significant net conservation gains can be achieved, ecosystem functioning and connectivity of ESAs will not be compromised, and biodiversity impacts with regard to species and habitats are of an acceptable significance and mitigated where possible.
 - In highly modified ESA2s that are still important for supporting ecological processes: Current land uses should either be maintained or less intensive land uses permitted (e.g. game farming, game reserves, eco-tourism facilities, low density rural residential), intensification of land use should be avoided (e.g. a transition from extensive agriculture to urban or mining). If cultivation is no longer viable then these areas should be targeted for ecological restoration.
- **Infrastructure in CBA and ESA:**
 - In CBA1s: The installation of infrastructure in CBA 1s is not desirable and should only be considered if all alternative alignment and design options have been assessed and found to be non-viable. Under such conditions, at least a Basic Assessment (BA) should be undertaken, and if approved, a comprehensive Environmental Management Plan (EMP) must be developed and best-practice restoration efforts strictly implemented.
 - In CBA2s: Should additional infrastructure be required in CBA 2, the requirements of threatened species should be taken into account. At least a Basic Assessment (BA) should be undertaken for any development which results in the intensification of land use, and if intensification of land use is approved, an Environmental Management Plan (EMP) must be developed to minimize impacts on threatened species.
 - Infrastructure developments should be limited to existing degraded / modified footprints, if and where present.
 - In ESA2: Infrastructure should be designed to avoid additional impacts on ecological processes (e.g. ensuring that hydrological functioning of runoff flow rate, quantity and quality are not impacted; or, landscape connectivity is not reduced through, for example, fencing).
 - Units carefully dispersed or clumped to achieve least impact, particularly with regard to threatened species, habitat loss and fragmentation.
 - A site development plan should be compiled and approved by the municipality and LEDET.
 - A services report should be compiled by a professional engineer and a services agreement drawn up with the local municipality. Long term maintenance of infrastructure should be indicated, for example road, sewage and water supply infrastructure.


Managing loss of ecological functionality in ESAs:

- In ESA 1s, maintain in a functional state, avoid intensification of land uses, and rehabilitate to a natural or near-natural state, where possible.
- In ESA 2s, additional impacts on ecological processes should be avoided.
- Maintain connectivity between CBAs, continue ecosystem functioning within the CBA corridors and prevent the degradation of adjacent CBAs.
- General management guidelines in CBAs and ESA1s:
- An Environmental Management Plan should be compiled where required in CBA 1, CBA 2 and ESA 1. The Environmental Management Plan to include invasive alien species control, fire management, prevention of overgrazing etc. Fire management is especially important and should be appropriately managed for the particular vegetation type(s) on site.
- Control of illegal activities, such as hunting and dumping, which impact on biodiversity, should be prioritized in CBA 1s, then CBA 2s then ESA 1s.
- Prioritise CBA 1s for LandCare projects, Working for Water, beneficial green economy projects (e.g. alien clearing, rehabilitation) and NGOs to direct their conservation projects, programmes and activities, thereafter CBA 2s and then ESA 1s. In some cases, ESA 2s might be suitable sites for such projects.
- The introduction and breeding of alien species should not be permitted in CBAs and ESAs.
- The restriction of animal movement (especially of threatened species) due to impenetrable fences should be discouraged, where possible



AWARD is a non-profit organisation specializing in participatory, research-based project implementation. Their work addresses issues of sustainability, inequity and poverty by building natural-resource management competence and supporting sustainable livelihoods. One of their current projects, supported by USAID, focuses on the Olifants River and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems to sustain livelihoods and resilient economic development in the catchment.

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A stylized map of Southern Africa, showing the outlines of South Africa, Mozambique, and Zimbabwe, set against a blue background. The map is surrounded by decorative, hand-drawn patterns in brown and orange.

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About USAID: RESIIM-O

USAID: RESILIM-O focuses on the Olifants River Basin and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems that support livelihoods and resilient economic development in the catchment. The 5-year program, involving the South African and Mozambican portions of the Olifants catchment, is being implemented by the Association for Water and Rural Development (AWARD) and is funded by USAID Southern Africa.

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