

**RECOMMENDED TERMS OF REFERENCE FOR THE CONSIDERATION OF BIODIVERSITY
IN ENVIRONMENTAL ASSESSMENT AND DECISION-MAKING**

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1. Provide a general overview of the affected area in terms of connectivity, corridors, and ecological viability of the affected area.
2. In terms of biodiversity **pattern**, identify or describe:

2.1 Community and ecosystem level

- a. The main vegetation type¹, its aerial extent and interaction with neighbouring types, soils or topography.
- b. The types of plant communities that occur in the vicinity of the site.
- c. Threatened or vulnerable ecosystems (cf. new SA vegetation map/National Spatial Biodiversity Assessment <http://bgis.sanbi.org> (under 'Maps'), conservation plans <http://bgis.sanbi.org> (under 'Projects'), CapeNature State of Biodiversity Report²).
- d. The types of animal communities (fish, invertebrates, avian, mammals, reptiles etc).

2.2 Species level

- a. Red Data Book species (give location if possible using GPS).
- b. The viability of and estimated population size of the RDB species that are present (include the degree of confidence in prediction based on availability of information and specialist knowledge, i.e. High=70-100% confident, Medium 40-70% confident, low 0-40% confident).
- c. The likelihood of other RDB species, or species of conservation concern, occurring in the vicinity (include degree of confidence).

2.3 Other pattern issues

- a. Any significant landscape features or rare or important vegetation/faunal associations such as seasonal wetlands, alluvium, seeps, quartz patches or salt marshes in the vicinity.
- b. The extent of alien plant cover of the site, and whether the infestation is the result of prior soil disturbance such as ploughing or quarrying (alien cover resulting from disturbance is generally more difficult to restore than infestation of undisturbed sites).
- c. The condition of the site in terms of current or previous land uses.

3. In terms of biodiversity **process**, identify or describe:

¹ Mucina L and Rutherford MC (eds) (2006) The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

² http://www.capenature.org.za/know_how/html/sobintro.html

- a. The key ecological “drivers” of ecosystems on the site and in the vicinity, such as fire.
 - b. Any spatial component of an ecological process that may occur at the site or in its vicinity (i.e. *corridors* such as watercourses, upland-lowland gradients, migration routes, coastal linkages or inland-trending dunes, and *vegetation boundaries* such as edaphic interfaces, upland-lowland interfaces or biome boundaries).
 - c. Any possible changes in key processes, e.g. increased fire frequency or drainage/artificial recharge of aquatic systems.
 - d. The condition and functioning of rivers and wetlands (if present) in terms of: possible changes to the channel, flow regime (surface and groundwater) and naturally-occurring riparian vegetation.
 - e. Would the conservation of the site lead to greater viability of the adjacent ecosystem by securing any of the functional factors listed in (1)?
4. Would the site or neighbouring properties potentially contribute to meeting regional conservation targets for both biodiversity pattern and ecological processes? For information on conservation and biodiversity targets, contact the SANBI Biodiversity GIS Unit SANBI B-GIS), <http://bgis.sanbi.org>; BGISHelp@sanbi.org or the CapeNature Land Use Advisory Unit, Ph (021) 866-8000.
 5. Is this a potential candidate site for conservation stewardship? Contact CapeNature at Ph (028) 314-0173 for information on the stewardship programme.
 6. What is the significance of the potential impact of the proposed project, alternatives and related activities – with and without mitigation – on biodiversity pattern and process (including spatial components of ecological processes) at the site, landscape and regional scales?
 7. Indicate on a topographical map or orthomap, preferably at a scale $\geq 1:10\ 000$:
 - The area that would be impacted by the proposed development;
 - The location of vegetation, habitat and spatial components of ecological processes that should not be developed or otherwise transformed; and
 - Areas, including the site and surrounds, that must remain intact as corridors or ecological “stepping stones”
 8. Recommend actions that should be taken to prevent or, if prevention is not feasible, to mitigate impacts and restore disturbed vegetation or ecological processes. Indicate how preventative and remedial actions will be scheduled to ensure long-term protection, management and restoration of affected ecosystems and biodiversity.
 9. Indicate limitations and assumptions, particularly in relation to seasonality.
 10. Indicate how biodiversity considerations have been used to inform socio-economic aspects of the proposed project, e.g. through changes to the location or layout of infrastructure, or retaining public access to biodiversity-related amenities or resources such as beaches or grazing.