



Jabal Shada Protected Area zoning plan

2025-2030



1. INTRODUCTION

This report describes the approach used to arrive at a zonation plan for the Jabal Shada Protected Area (the Protected Area). In particular, the document aims to:

- Describe the methodology that was used;
- List the input data;
- Portray the resulting zonation map;
- Provide data on the extent and other characteristics of the delineated zone units.

The zoning plan is a tool that assists in dealing with the effects of land use decisions on the ecological and social environment and allows for the realization of potential use whilst at the same time providing protection of sensitive resources and elements. Put more simply, it involves the delineation of the Protected Area into specific areas that are each best suited for a different range of activities at certain levels of intensity. In protected areas, zoning refers to what can and cannot occur in different areas of the protected areas in terms of natural resources management, cultural resource management, human use and benefit, visitor use and experience, access, facilities development, maintenance and operations.

In particular, zoning promotes:

- Communication and understanding between planners, managers, tourism operators, visitors and local communities;
- Order and organization and the general welfare of visitors;
- A reduction in conflict between different users seeking different recreational experiences and activities.

2. DETAILED ZONING PLAN

2.1 ALIGNMENT TO IUCN GUIDELINES

There is no set formula for identifying different zones in a Protected Area¹. A number of zoning schemes have been proposed for different countries and organizations. In spite of their differences, they were all developed around a common interest, i.e. to provide a framework within which the essential qualities and intrinsic values of a conservation area can be protected and perpetuated, and for any development to take place within specified limits.

The IUCN approaches the definition of zonation categories as follows:

Types of management zones in IUCN Protected Area Categories I–IV. Many different kinds and names of management zone are used in protected area planning. However, it is possible to identify several common types of zone used in the more strictly protected categories of protected area (I–IV):

Special and/or unique values zone

This zone should contain outstanding, special or unique values – e.g. historic sites; important natural areas such as wetlands, salt marshes, estuaries or key marine areas such as spawning aggregations, which should be given priority for protection. Those parts of protected areas that are inhabited by indigenous peoples, or which are important as anthropological or unique cultural niches, should also be recognized. The management planning process protected by zoning recognizes these special values and limits or excludes unwanted visitation.

Primitive/wilderness zone

¹ See e.g. IUCN - <https://portals.iucn.org/library/efiles/documents/pag-010.pdf>



In this zone, roads and infrastructure development should be excluded, and manipulative management techniques normally prohibited. Natural processes dominate. Under normal circumstances, trails and perhaps a few, basic camping sites would be permitted – but their nature, number and extent should be strictly controlled. Sometimes these areas are called “core zones”, since they are likely to have the best-preserved natural values.

Limited development zone

Limited development would be permitted in this zone but must not be detrimental to the special or unique values of the park. An important purpose of this zone is to cater for certain types of recreational use, thereby relieving pressures on primitive or wilderness areas. In all cases the development should have minimal impact and serve only the immediate users of the designated area.

Intensive development/services zone

In many more strictly protected areas, this zone would be inappropriate. Its purpose is to accommodate major roads, hotels, accommodation and service facilities. The goal should be to avoid creating zones of this kind in or near areas containing special or unique values or that exemplify an ecosystem type etc. In many protected areas, the current trend is to move more intensive development to areas outside the boundary altogether. While this may increase servicing costs in the protected area, experience has found that it:

- frees management time and resources;
- is usually less detrimental to the protected area's natural values; and
- avoids the creation and siting of secondary service industries or activities within the protected area.
- Arguments in favor of allowing more intensive development within protected areas can also be well founded, particularly where the protected areas are large. These include:
 - having stronger control over the design, use and siting of the facilities, and their impacts;
 - allowing visitors to maximize their time in the protected area; enabling a better spread of visitor and recreational uses; and
 - benefits from increased user and visitor fees.

Zoning for traditional resource use

Many protected areas provide zones for traditional resource use by local communities. Several protected areas around the globe, including Kakadu National Park and the Great Barrier Reef Marine Park, make provision within zones allocated for this purpose. Where appropriate, limited development may occur to provide basic amenities for the traditional users.



2.3 PROPOSED ZONATION CATEGORIES

The table below presents the general proposed zonation categories for the Protected Areas with associated potential developments and activities.

Table: Proposed zonation categories

Permissible or suitable activity and/or development in each zone		YES	MAYBE (conditional)	NO	Access for management	Research & monitoring	Motorized access for other activities	Single-track, unpaved road	Tar / concrete / gravel roads	Guided / informed visitation	Overnight visitors	Mobile / temporary camps	Picnic sites	Temporary camps / lodges	Temporary facilities for sport, cultural and other events	Permanent management infrastructure	Visitor centre	Consumptive sustainable natural resource utilisation	Green energy	Mineral exploration
Special Value																				
Wilderness	Wilderness (pristine)																			
	Wilderness (remote)																			
Wildlands																				
Managed Resource Use																				
Development & Infrastructure																				



The table below lists appropriate activities for Jabal Shada, spread across the various zonation categories.
Table: Jabal Shada permitted activities

Activity	Development & Infrastructure	Resource Management Use	Wildlands	Wilderness
Livestock grazing				
Medicinal plant collection				
Herb collection (for cooking)				
Mushroom harvesting				
Beekeeping and honey collection				
Subsistence and commercial agricultural crops				
Small-scale irrigation of crops from locally sourced water				
Hiking (unguided)				
Hiking (guided or under permit)				
Mountain biking (unguided)				
Mountain biking (guided/under permit)				
Horse or camel riding				
Horse or camel riding (guided groups)				
e-Quadbikes				
e-Quad bikes (guided groups)				
Self-drive tourism				
4x4 off-roading (designated areas)				
Guided safari drives				
Bird/wildlife observation at hides				
Observation at vulture restaurant				
Picnicking				
Free camping				
Stargazing				
Stargazing (guided)				
Wildlife tracking (guided)				
Bouldering & rock climbing				
Ecological and other research & monitoring				
Green Energy				
Exploration and Mining	Not permitted on account of steep terrain and small size			

2.4 KEY INFORMANTS TO THE PROPOSED ZONING PLAN

Zonation is a spatial exercise that benefits from numerous data inputs that can be superimposed as layers to assist with the definition of desirable or undesirable zone options (see figure below). A number of such data layers are already available for Jabal Shada Protected Area or have been derived as secondary products during the current zonation process.

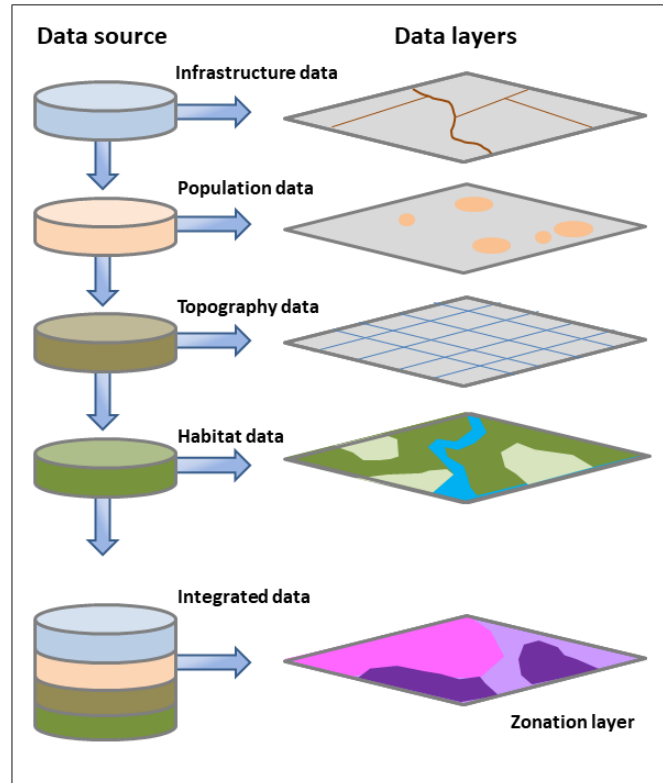


Figure 1: Schematic representation of data layers

The key informants to the zoning plan include the following:

- Topography and gradient.
- Areas of biodiversity importance.
- Habitats and land cover.
- Existing anthropogenic impacts, including infrastructural development (HQ complex, ranger stations, homestead, farmsteads, agricultural lands and other deforested areas), and linear utilities such as roads and powerlines.
- The presence of high intensity human activity in very close proximity to the protected area.
- Existing high value visitor areas.

The figure overleaf presents a graphic snapshot of various information used to ultimately inform the development of the proposed 2025 zoning plan.

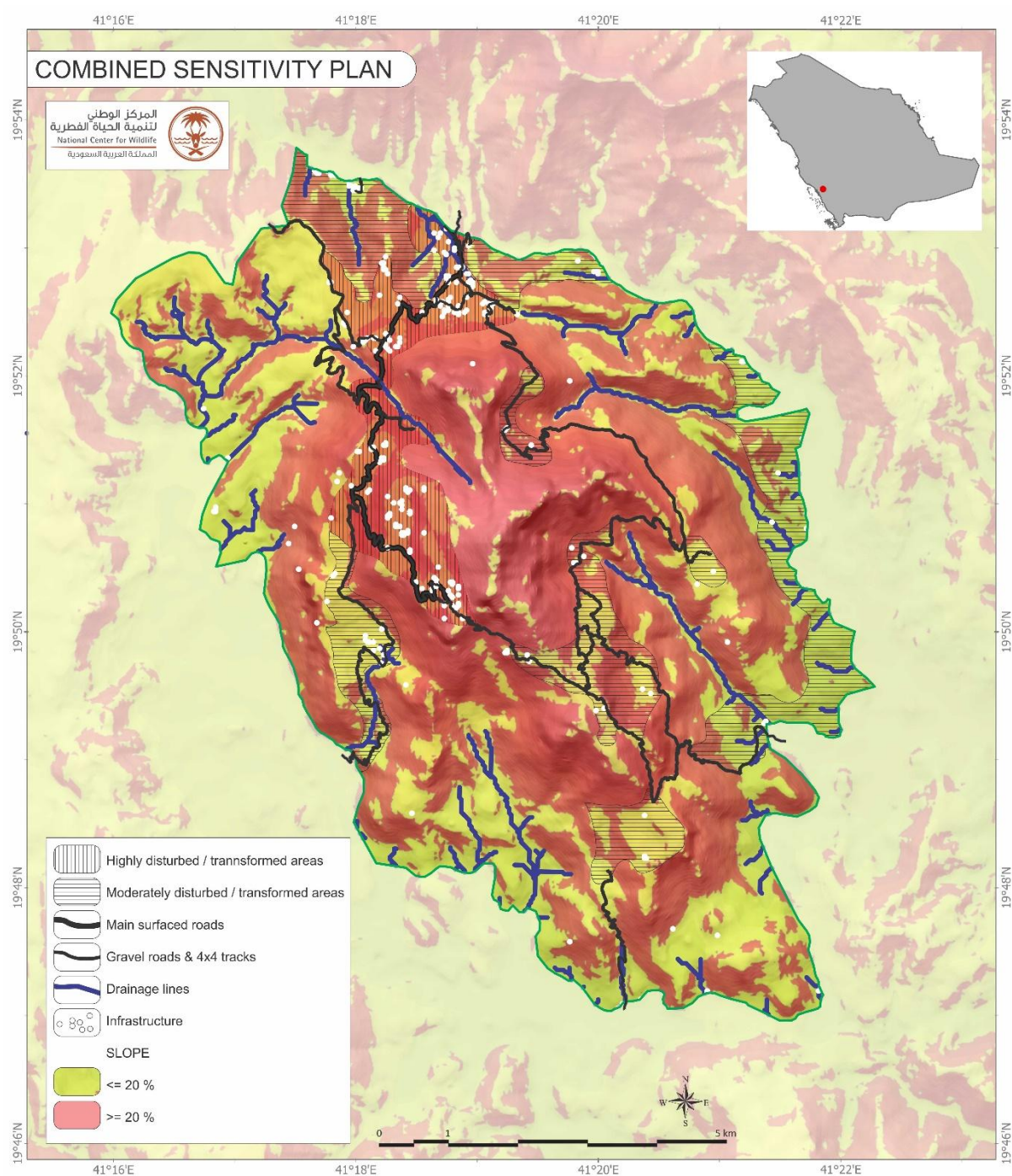


Figure 2: Combined sensitivity



2.5 APPLICATION OF ZONATION CATEGORIES TO THE PROTECTED AREA

Guiding principles

Experience and expertise of similar Protected Area context and similar arid and marine environments was applied with cognizance to the current limitations in data availability. The zonation is future-orientated with the expectation of the planned restoration being successful.

The following guidelines were considered:

- Rooted in the capacity of the Protected Area to support different types of desired uses and development.
- Focus on type and level of impact rather than on who is responsible for that impact – a specific impact by staff or by researchers has a similar influence on the natural system as the equivalent impact by a visitor.
- Eliminating or minimizing uses and activities that either damage the Protected Area or that create an undue burden on Protected Area management.
- Use of the minimum number of zones required to achieve conservation and development objectives.
- As far as practicable, avoidance of sudden transitions from highly protected zones to areas with little protection. Ideally, there should be a gradual transition from less to more protected zones.
- Where possible, using zoning boundaries that can be easily defined by prominent geographical features or roads to aid with easy identification by the user.
- Transform consolidated GIS data into input layers and combine through overlays into constraints and opportunities about conservation and development.
- Use this input to trace options for an initial zoning map. Develop the spatial expression of options at a high level to assess the conservation, development and management implications of each.
- Feedback loop – can the management objectives be realized through the proposed zonation scheme? Repeatedly refer to, and check options against objectives, to ensure that any option does contribute to achieving what was originally intended; and look forward and work out the interaction of options – and the design and management implications of possible solutions.

Zonation should also be considered in terms of the management authority and capacity of the relevant management body responsible for the area. Where monitoring and enforcement capacity is weak, a stricter zoning will, as a priority, set aside certain areas from development. Where the management body responsible has more capacity, it is possible to use strict construction supervision and operational management of activities rather than applying the a priori precautionary principle.



Application of the zonation in descending order of impact

The defined zoning categories are as follows (described from least intensive to most intensive use):

Wilderness Zone (10 km² or 13.06%)

This zone includes the higher elevations of the Protected Area, including Jabal Shada peak. This zone is largely pristine, is only accessible by foot, and is characterised by very steep mid slopes and vertical scarp faces.

Wildlands Zone (26 km² or 34 %)

This zone almost exclusively includes the steeper gradients and lesser disturbed areas of the Protected Area.

Managed Resource Use Zone (37 km² or 48.45%)

This covers areas that are moderately disturbed, are easily accessible by vehicle, and in most cases include man-made structures (most notably, Shada village) and utilities, a patchwork of cultivated lands, most of which are serviced by a network of 4x4 tracks.

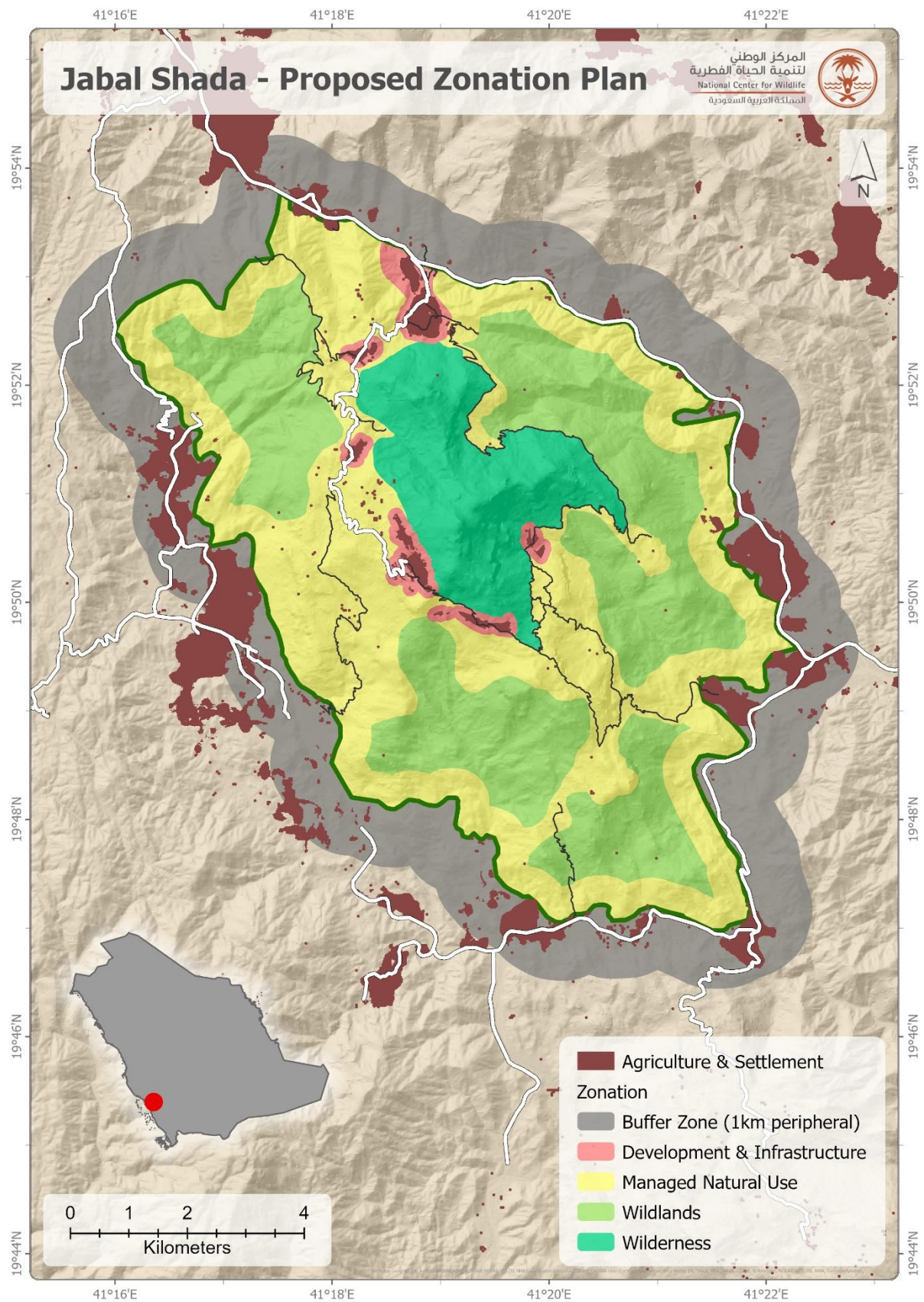
Development & Infrastructure Zone (3 km² or 3.95%)

This covers areas that are heavily disturbed, are easily accessible by vehicle, and in most cases include man-made structures and utilities. Importantly, this includes an area in very close proximity to the main entrance to the Protected Area and the Protected Area HQ.

Buffer Zone (44 km²) (located on the outside of the PA)

A dedicated buffer zone is an important component of the zonation for Jabal Shada to secure protected integrity and enable close collaboration between protected area staff and neighboring communities. Conceptually it is envisaged as a 1,000m buffer, but on the ground, hard barriers as well as natural catchment boundaries will modify its location as agreements are secured.

The figure overleaf below presents the proposed zoning plan.



Map 1: Proposed 2025 Zoning Plan



3. ENVIRONMENTAL PROTECTION FRAMEWORK

3.1 FOCUS AREAS

The focus areas for the environmental protection framework related to zoning are as follows:

- Development control including the application of the mitigation hierarchy.
- Resource sourcing (e.g. borrow pits for new roads, water abstraction from the scarce natural resources).
- Associated infrastructure – although a zone may have no developments planned, it could be impacted by new access roads or powerlines if no proper planning and control is exercised);
- Awareness building amongst staff and relevant stakeholders as to the boundaries of the zones and the associated restrictions.
- Monitoring.
- Feedback and adjustment (if necessary).

3.2 KPIS

The KPI's about zoning are as follows:

- Extent of each zone in km².
- Number of keys/beds in each zone.
- Track density (length per unit area) and vehicle density in each zone with particular emphasis on limitation in the Wilderness zones.

3.2 TOOLS AND METHODS

The methods include the following:

- Disseminate zoning typology to staff to be familiar with do's and don'ts of each zone.
- Inform relevant external stakeholders, especially where it concerns tourism operators, of the boundaries of the zones and their do's and don'ts.
- Ensure in-house capacity to understand zoning maps, zoning typology and what the potential or actual impacts are of developments and activities.



4. PROGRAM DEVELOPMENT AND ROADMAP

The implementation of the zoning plan will be aided by the following:

- Discuss proposed zoning within NCW (conservation specialists and management staff) as to applicability and detailed boundary alignment.
- Revise zoning based on feedback (including fine-scale adjustment to make it easier to recognize zone boundaries in the field, alignment with roads or track or with natural features).
- Demarcate zone boundaries where necessary (this is only to avoid conflict or unintended impacts where zone boundaries are difficult to visualize).
- Ensure in-house capacity (new appointment or training).
- Investigate the need for 'micro zonation' of ecologically sensitive hotspots, where a higher level of protection may be required.