

DRAFT

INTERIM GUIDELINES FOR OPERATIONS

MEENTHEENA PASTORAL LEASE
1998-2003

Department of Conservation and Land Management

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INDEX

1. PURPOSE OF INTERIM MANAGEMENT GUIDELINES (IMGs)	
1.1 Principal Management Directions.	3
1.2 Area Description.	3
2. MANAGEMENT FOR CONSERVATION	
2.1 Geology and Landforms.	3
2.2 Vegetation, Flora and Introduced Plant Species.	4
2.3 Native and Introduced Fauna.	4
2.4 Aboriginal Heritage.	5
2.5 European History.	5
2.6 Landscape.	6
2.7 Erosion, Mining and Rehabilitation.	6
2.8 Fire.	7
2.9 Boundary, Land Tenure and Fences.	7
2.10 Artificial Waters.	8
3. MANAGEMENT FOR RECREATION	
3.1 Access and Basic Raw Materials.	8
3.2 Visitor Safety.	8
3.3 Facilities and Development.	9
3.4 Domestic Animals.	9
3.5 Information and Interpretation.	9
4. RESEARCH AND MONITORING	
4.1 Nature Conservation.	10
4.2 Social.	10
5. IMPLEMENTATION	10
6. REFERENCES	11

1. PURPOSE OF INTERIM MANAGEMENT GUIDELINES (IMGs)

These guidelines are required for planning purposes so that certain operations can be carried out in an orderly fashion in the absence of an approved management plan. The operational activities described in the guidelines are defined as those actions necessary for the preservation or protection of persons, property, land, flora and fauna.

This IMG has been prepared in accordance with Departmental policy, and to fulfil the requirements of Environment Australia.

1.1 Principal Management Directions.

These guidelines cover the major management issues. These are:

- the conservation of biological, physical, cultural and landscape resources
- the facilitation of recreation in a safe and appropriate form in relation to the physical and climatic conditions of the area and the conservation objectives
- to seek a better understanding of the natural and cultural environment and the impacts of a range of management activities.

1.2 Area Description.

Meentheena pastoral lease is situated 80 kilometres east of Marble Bar in the Pilbara Region (Figure 1). It is approximately 225 700 hectares in area (Figure 2).

The climate of the area is characterised by low and erratic rainfall with the annual average of 320 mm. Average maximum daily temperatures range from 22°C in winter to 40°C in summer.

Meentheena is made up of granite sandplains of low relief, and rugged hills with heavily dissected ranges on both sides of the Nullagine River. The vegetation is primarily spinifex with little overstorey. Figure 1 provides an overview of the location of the lease within the east Pilbara.

2. MANAGEMENT FOR CONSERVATION

2.1 Geology and Landforms.

Meentheena comprises Archaean and Proterozoic rocks. The Archaean rocks occur in the western and south eastern parts of the lease. The remainder of the lease is made up of Proterozoic units.

The Meentheena Carbonate unit contains extensive outcrop of stromatolite fossils which are of great significance. These stromatolites deposits represent ancient lake bed life forms (2 700 million years old), and are of international interest and significance.

The variety of geological units present and the geological complexity present on the Meentheena lease indicate a high level of biogeographic diversity. Archaean granitic and

volcanic greenstone units are overlain in parts by Proterozoic sedimentary and volcanic units, while other Proterozoic sedimentary units lie in the eastern part of the lease. North trending faults cut across both Archaean and Proterozoic rocks. Landforms consist of flat plains with spinifex in the west and south east, with rugged heavily dissected hills over much of the remainder of the lease. There are a number of major water courses including the Nullagine River, Yilgalong Creek, Elsie Creek, Police Creek and Stony Creek.

Action

- Provide interpretive material on the geology, landforms and soils of the area at key locations for visitors to the area.
- Seek advice from geological authorities (including international researchers) regarding the appropriate management of stromatolite fossils.

2.2 Vegetation, Flora and Introduced Plant Species.

The major vegetation communities are described by Beard (1971). *Acacia* shrubs over *Triodia* hummock grasses occur over sandy granitic country. Eucalypt woodlands over *Triodia* hummock grasslands dominate the rocky Proterozoic units along the Nullagine River. Riverine communities are typical of those found in the Pilbara. No species of threatened flora are known from this area.

Three species of weed occur, all of which are widespread and naturalised in the Pilbara. Buffel grass (*Cenchrus ciliaris*) grows along nearly every water course. Kapok bush (*Aerva javanica*) is apparent along roads and tracks. Mexican poppy (*Argemone ochroleuca*) occurs in small numbers along the Nullagine river bed. Whilst this species is a declared weed, within the Pilbara it is not controlled while confined to water courses.

Action

- No control of these weed species is proposed at present, though the situation will be monitored.
- Hygiene in road construction and grading will be required, to reduce the introduction and spread of weeds.
- Detailed flora surveys are required to document any unique assemblages which are not represented in existing reserves or to locate threatened or priority flora.

2.3 Native and Introduced Fauna.

No detailed information is known of the fauna although it is likely to contain populations of significance, including species usually found in the Kimberley. Known species of interest observed include:

bilbie (*Macrotis lagotis*)
pebble mound mouse (*Pseudomys chapmani*)
Rothschild's rock wallaby (*Petrogale rothschildii*)
brush-tailed possum (*Trichosurus vulpecula arnhemensis*)
Pilbara olive python (*Morelia olivacea barroni*)
black headed python (*Aspidytes melanocephala*)

Feral animals include horses, cattle, donkeys and camels. Cats are uncommon, possibly due to the presence of dingos. House mice (*Mus domesticus*) almost certainly occur on Meentheena.

Action

- Horses and cattle will be mustered and removed over the next 18 months (December 1999). Following this any horses, cattle, donkeys and camels will be shot. Populations will be monitored.
- No cat control is proposed at present.
- No dingo control is proposed. As the surrounding stations run cattle, no dingo control is considered necessary. CALM will liaise with neighbours and Agriculture WA on this matter.
- Detailed fauna surveys are required to document the fauna.

2.4 Aboriginal Heritage.

In pre-contact times, Aboriginal people lived throughout the Meentheena lease, using the land for hunting, gathering and cultural purposes. Meentheena contains a number of sites containing evidence of past Aboriginal occupation, including rock art galleries and camping places. In addition to these archaeological sites, there may be sites on Meentheena which have ethnographic significance.

Action

- Identify Aboriginal traditional owners, and liaise with them regarding protection of Aboriginal heritage sites.
- Ensure that recognised Aboriginal sites are registered with the Aboriginal Affairs Department.
- Protect significant cultural heritage sites from the impacts of visitor usage, particularly those along the Ripon Hills Road (King Rockhole).

2.5 European History.

Europeans arrived in the area in (the early part of this century and took up land for grazing purposes, initially along the Oakover River. The Meentheena pastoral lease was taken up in the early part of the 1900's, and has remained an active pastoral property to this time. There are three homestead sites on the property, including one which was abandoned in the 1930's. Several marked grave sites are located along the Nullagine River (two stockmen) and at the Yandicoogina gold field (a miner).

The Meentheena lease was at some times operated as part of the Mount Edgar lease, with the Meentheena homestead used as an outcamp. The remains of old stockyards and fences at various locations on the lease stand as a reminder of past pastoral activity.

Action

- Identify sites of historic significance and ensure steps are taken to provide adequate protection of them.

- Construct stock proof fencing around grave sites, including that of the two stockmen buried near Baroona Hill.
- Establish the need to retain existing buildings and demolish those considered unsafe and unnecessary.
- Remove existing yards and fences where they are no longer necessary for destocking purposes.

2.6 Landscape.

The term landscape is used to describe the visual image of the area. In many places the natural landscape has been modified by the activities of man to become the cultural landscape; the landscape has already undergone modifications and will continue to change. It is the rate of change and degree of impact which are important to management of the landscape.

The objective of CALM's Visual Resource Management Policy is to ensure that all lands are managed in ways that sustain the beauty of the natural environment.

Action

- Ensure development proposals are managed to minimise impact on the landscape, in accordance with CALM's Visual Resource Management guidelines.

2.7 Erosion, Mining and Rehabilitation.

There is minimal land degradation on Meentheena as the area was lightly stocked and has few mills. Areas favoured for grazing will regenerate naturally once stock is removed.

There has been mining undertaken on the property in the past, and significant mineral deposits are known to occur at a number of sites. Historical gold workings are located at Yandicoogina and Twenty Ounce Gully. Flourite was mined from Tambiana in the 1970's, and manganese from the Ripon Hills. Base metal deposits are known at Lennon Find. Lime reserves may also be also significant in Carawine dolomite formations in the eastern parts of the property (Dugdale 1998).

Many prospecting and exploration licences are current over the lease, and exploration is occurring with standard pastoral lease conditions (Map 3).

Action

- Any future mining licences will be granted in accordance with conditions agreed to between CALM and the Department of Minerals and Energy (DOME). Prior to any ground disturbing activity a detailed program will be prepared by the proponent and referred to CALM. This program will also address rehabilitation requirements.
- Main Roads WA (MRWA) and Shire gravel pits will be rehabilitated to agreed standards in accordance with MRWA guidelines or a management plan pursuant to Section 34A of the Land Act (check).

2.8 Fire.

Fire management considerations include the protection of persons, property and conservation values. Fire is a major ecological process in spinifex communities which burn readily and are adapted to fire. Fire is a major source of diversity through post-fire succession. During the summer of 1997-98 there were extensive fires in the Pilbara, and a large part of Meentheena was burnt.

Action

- The homestead area and any future recreational developments will be protected by fuel-reduced buffers.
- Prior to any prescribed burning being undertaken, a fire management plan for Meentheena will be developed. This plan will include a Wildfire Threat Analysis for the lease.

2.9 Boundary, Land Tenure and Fences.

Meentheena is surrounded by pastoral leases to the west and north (Mt Edgar, Warrawagine and Eginbah) and vacant Crown land to the east and south. The boundaries of Meentheena are defined by stock fences adjacent to neighbouring pastoral leases, although most of the boundary adjacent to vacant crown land is unfenced. Fences do not necessarily follow cadastral boundaries, but utilise the most suitable topographic alignment. The boundary between Mt Edgar and Eginbah is partially fenced. Some internal fencing is also present. Most boundary fencing is in good condition.

In the interests of good relations with neighbouring lessees, CALM will maintain boundary fences co-operatively with neighbours.

Some adjustment to the current Meentheena boundary in the west is proposed to allow for the inclusion of a large cattle holding yard and associated water points into the adjacent Mt Edgar lease. This boundary adjustment will be conditional upon the lessee of Mount Edgar installing fencing suitable to exclude stock from Meentheena, and for the lessee of mount Edgar to be responsible for the future maintenance of that boundary fencing.

Meentheena was purchased by CALM in mid 1998 and will initially be held as pastoral lease by the Executive Director CALM. The intention is to convert the lease to a conservation park, vested with the National Parks and Nature Conservation Authority (NPNCA) and consistent with Native Title requirements. Liaison with the Shire of East Pilbara and Department of Minerals and Energy (DOME) will be necessary.

The western boundary cuts through one unvested water reserve and a small area of vacant crown land. The Nullagine stock route traverses the lease along the course of the Nullagine River.

Action

- Commence process of declaring the property a protected area under relevant legislation.
- Adjust boundaries with the adjoining Mt Edgar Pastoral Lease.
- Liaise with neighbours on the maintenance of boundary fencing.
- Once vesting is finalised, undertake management planning.
- Pursue incorporation of minor reserves, vacant crown land and stock route into the final vesting category of the reserve.

2.10 Artificial Waters.

Few artificial watering points were established for pastoral purposes on Meentheena, and most of those recently operating were in the western part of the lease.

Artificial waters support artificial population levels of animals, concentrated in areas surrounding artificial water supply. Artificial waters will be closed down following periods of heavy rain, when animal populations are naturally dispersed. Sudden denial of waters is undesirable and closure will occur following heavy rainfall.

Action

- Existing mills (other than at the homestead) will be closed following destocking and extensive rainfall. Open wells and bores will be secured so they are not accessible to stock and wildlife.

3. MANAGEMENT FOR RECREATION

3.1 Access and Basic Raw Materials.

Vehicular access is limited within the lease (Figure 2). The new Ripon Hills Road will bisect the lease from east to west. This gazetted road will be built on an 800 m corridor and maintained by the Shire of East Pilbara.

Action

- Basic raw materials (BRM) will be sourced from the easement and the pits rehabilitated to agreed standards in accordance with MRWA guidelines. BRM used for maintenance will be rehabilitated by the Shire according to an agreed management plan.
- Soil hygiene for plant and equipment during construction and grading will be required to reduce the risk of weed introduction.

3.2 Visitor Safety.

The construction of the Ripon Hills Road will provide relatively easy visitor access to parts of Meentheena. The extent and type of visitor use of the area requires management consideration.

Action

- Maximise visitor safety by only encouraging access to proposed recreation sites.

- Assess the need to maintain, upgrade or close existing tracks to improve visitor safety.
- Advise visitors of hazards through signage, brochures and other means.

3.3 Facilities and Development.

Facilities are required for management of the area, for protection of the lease from stock on surrounding pastoral leases, and for travellers on the Ripon Hills Road.

Existing facilities include the station accommodation and sheds, fences, yards and airstrips. With the exception of the bough shed, all station buildings are currently open to wildlife and weather.

Tumbiana Pool, where the Ripon Hills Road crosses the Nullagine river, may become a focus for recreation by travellers.

Action

- Maintain boundary fencing co-operatively with adjacent land holders. Remove sections of internal fences which cross creeks.
- Maintain the better of the two airstrips located near the homestead.
- Maintain a basic level of shelter accommodation for staff visiting the property, and secure entry against fauna and stock. Demolish and remove damaged or unsightly buildings and structures which are not otherwise required.
- Develop a site management plan for the Tumbiana Pool crossing, Ripon Hills Road.
- Develop a site management plan for the King Rockhole site, Ripon Hills Road

3.4 Domestic Animals.

Domestic animals (other than guide dogs) will not be permitted on Meentheena. Pets disturb wildlife, can introduce disease, foul recreation areas and water holes, and can interrupt native fauna activity.

Action

- Discourage domestic animals from the property.

3.5 Information and Interpretation.

At present there is some public information available about Meentheena and the history of the station in the library at Marble Bar. A well informed and supportive public can greatly assist CALM with the management of remote areas such as Meentheena. Information and interpretive display boards at key recreation and historical and cultural locations provide an important avenue for communicating with visitors. Staff contact on the site is also an effective means of communicating information. The remoteness of Meentheena may however restrict staff visits. The appointment of Honorary CALM officers may provide opportunities for the transfer of information and assist with management activities.

Action

- Identify key locations for the provision of suitable interpretive material.
- Design interpretive displays in accordance with existing standards.

4. RESEARCH AND MONITORING

4.1 Nature Conservation.

Effective conservation management requires adequate knowledge of flora, fauna and natural processes within the landscape, including baseline condition and changes associated with management, natural events and climate. Monitoring provides long term information on trends.

Action

- Detailed flora and fauna surveys are required to document baseline condition, locate threatened or priority species of flora and fauna and document unique assemblages.
- Monitoring of feral animal and weed populations is desirable.
- Monitoring of recovery and successional trends following removal of grazing pressure is desirable in selected locations, by establishing a series of photographic monitoring points.

4.2 Social.

Visitor numbers to the area are expected to increase as a result of the construction of the Ripon Hills Road (see map - for location of this road) and once the area is gazetted as a conservation park.

To assist in the development of interpretive and information, and other facilities regional staff will need to gather information about the number of visitors, their expectations and reasons for travelling in this area. Visitor surveys will provide information about patterns of use and the need for the provision of facilities and information.

Action

- Conduct appropriate visitor surveys.
- Monitor visitor impacts to the area.

5. IMPLEMENTATION

The implementation of these guidelines will be undertaken within the annual works program developed by Pilbara regional staff. Implementation activities will also be subject to broader regional priorities and will depend on the availability of staff and other resources.

These guidelines may be changed as new information becomes available or major development (such as mining activities occur).

Activities which will be conducted over the next few years are identified in the following table.

6. REFERENCES.

Beard, J S. 1971. Vegetation survey of Western Australia. Sheet 5, Pilbara. University of Western Australia Press, Perth.

Dugdale, A. L. 1998. Geological and mineral prospectivity assessment of the Meentheena Station: Crown Lease 385/1993. Unpublished report, Land Access Unit, Dept of Minerals and Energy. Perth, Australia.