

WEST COAST WORKING GROUP

KALBARRI

Report to the

ENVIRONMENTAL PROTECTION AUTHORITY

September 1982

711.14  
(9412)  
WES

911769



~~000364~~

WEST COAST WORKING GROUP  
KALBARRI

Report to the

ENVIRONMENTAL PROTECTION AUTHORITY

September 1982

## CONTENTS

### 1. INTRODUCTION

Background  
Formation  
Terms of Reference  
Working Group Membership

### 2. LANDUSE/RESOURCE EVALUATION

Reserve 12996, a historical summary  
Natural Resource Evaluation  
Tourism and Recreation Resources  
Current Usage and Values of Reserve 12996

### 3. KEY ISSUES AND RECOMMENDATIONS

Reserve 12996  
Proposed Equestrian Development  
Kalbarri Rubbish Disposal site  
Kalbarri Airport Requirements  
Siltation of the Murchison River Estuary  
Illegal Netting in the Murchison River Estuary

## 1. INTRODUCTION

### 1.1 Background

#### 1.1 (1) Conservation Through Reserves Committee

The report of the Conservation Through Reserves Committee in 1974 recognised that coastal lands generally are "particularly vulnerable to environmental degradation and, because the coastline is one of the most attractive recreational parts of our environment, and the greater part of the population lives close to the coast, they are under heavy environmental pressure."

With regard to the coastal lands in System 5 (Moore River to Kalbarri) the CTRC noted, that those areas still controlled by the Crown are an important public resource, increasingly being used by people from Perth and the northern agricultural areas for recreation. The CTRC regarded with concern the increasing mobility of dunes, the multiplication of tracks and too frequent fires. They stated "The land needs to be controlled and managed to prevent further deterioration, to rehabilitate the environment where necessary and to provide public access and facilities in suitable places."

The Committee recommended that a working group be set up to make recommendations on the control and management of crown lands on the west coast, and to report on the financial implications of creating a special authority to manage these crown lands.

#### (2) EPA Recommendation 5.24

In 1976 the EPA released its recommendations for conservation reserves in Systems 1, 2, 3 and 5, based on a review of the CTRC recommendations. Recommendation 5.24 dealt with the coastal areas of System 5, it did not endorse the CTRC concept that a special authority be set up to manage the coastal crown lands, however the recommendation that a working group be set up was accepted.

Recommendation 5.24 stated:

*The EPA notes the CTRC recommendation relating to effective control and management of Crown Lands on the west coast between Moore River and Kalbarri. However the EPA sees this matter as falling within the scope of a coastal management policy. The EPA has already issued "Preliminary Draft Guidelines for an Environmental Protection Policy on Coastal Management" and has sought, and is receiving, preliminary comments from professional groups, local and State Government authorities for its guidance in further development of the policy. It will issue in September Draft Guidelines for public comment.*

*The EPA however gives notice of its intention to set up a working group consisting of representatives of local government authorities, State Government departments and instrumentalities and the public to deal with the spirit of the CTRC recommendation.*

The terms of reference of this working group will be to make recommendations on the future control and management of Crown Lands on the west coast between Moore River and Kalbarri, excepting:

- (a) Kalbarri National Park (area 5.1)
- (b) the proposed Mt Lesueur Reserve (area 5.17)
- (c) Nambung National Park (area 5.21)
- (d) reserves 31675 and 31781 (area 5.23)
- (e) islands between Lancelin and Dongara (area 5.26)

The EPA does not believe it proper that this working group should report on the financial implications of creating a special authority to manage these Crown Lands.

## 1.2 Formation of the Working Group

This working group was formed in accordance with EPA Recommendation 5.24 above, specifically to consider the future purpose vesting and management of Reserve 12996 near Kalbarri. This Reserve for the purpose of Water and Fauna (Pisciculture) of 1214 ha, incorporates both banks of the Murchison River Estuary and has a significant recreational and environmental potential but is unvested and unmanaged.

In recent years the Reserve has attracted an increasing level of recreational usage, reflecting Kalbarri's growing popularity as a holiday destination. In the absence of any form of management however, this usage has already caused considerable degradation.

In mid 1980 the trend towards increasing recreational and development pressures on the Reserve culminated with a proposal to build an equestrian centre on approximately 20 ha of Reserve land adjacent to the estuary. At about the same time the National Parks Authority members inspected the Reserve and subsequently applied to the Department of Lands and Surveys for its vesting, a move which was strongly opposed by the Northampton Shire Council and local residents.

This combination of events created considerable demand to resolve the future vesting and management of the Reserve and through the mutual agreement of the Shire and NPA, precipitated the formation of the Working Group as a means of achieving this end.

The decision to limit the scope of the Working Group to a consideration of Reserve 12996 was taken because at the time, in view of limited Department of Conservation

and Environment Staff resources to co-ordinate the Working Group, it was not feasible to consider all lands covered by Recommendation 5.24.

### 1.3 Terms of Reference

As was mentioned above, the scope of this Working Group was originally to be limited to a consideration of the future control and management of Reserve 12996. However at the initial meeting it was agreed to allow the Working Group to make recommendations on the future control and management of adjacent areas of vacant crown land, Murchison House Station and Kalbarri Townsite and other nearby areas where problems of mutual concern existed.

EPA recommendation 5.24 specifically excluded Kalbarri National Park from consideration by the Working Group. However its inclusion was considered to be important, allowing a more complete rationalization of Reserve boundaries to the benefit of the National Park and a prerequisite to the successful management of Reserve 12996.

### 1.4 Working Group Membership

In accordance with EPA Recommendation 5.24, the working group included representatives from both the Northampton Shire Council and the local community. State Government Departments and instrumentalities represented were as follows. The Department of Lands and Surveys, The Department of Tourism, The National Parks Authority and the Department of Conservation and Environment.

An invitation to the Department of Fisheries and Wildlife to become involved was declined. It was explained that the Department supported a previously made offer by the National Parks Authority to include Reserve 12996 in Kalbarri National Park and in view of the need to make efficient use of limited staff, it was not considered necessary to become involved.

During the first meeting of the Working Group, it became clear that discussions would of necessity involve the Murchison House Station. It was therefore agreed that Mr D Jarvis, a consultant to Murchison House Station invited to observe the meeting, would subsequently be involved on the Working Group.

The Working Group comprised:

Group Leader	Mr G Whisson	Department of Conservation and Environment
Members	Cr R Allen	Northampton Shire Council
	Mr N Brook	Local Resident
	Cr B Burges	Northampton Shire Council
	Mrs A Glass*	Local Resident

Mr D Jarvis	Consultant to Murchison House Station
Mr P McAdam	Department of Lands and Surveys
Mr N Orr	Department of Conservation and Environment
Mr C Sanders	National Parks Authority
Mr E Watling	Department of Tourism

\*Because of travel commitments Mrs A Glass was only able to attend the initial meeting.

Mr N Orr was the Working Group convener for the initial meeting, this work was then taken over by Mr G Whisson.

In addition to the Working Group Members, the following people were present as observers and contributed to the discussions.

Mr C Cockman	National Parks Authority
Mr J Fraser	Northampton Shire Clerk
Mr R Harris	National Parks Authority
Dr B Hamilton	Department of Conservation & Environment
Mr T Mouritz	Private Developer and Resident

Valuable assistance was also received from Mr J Riches, Department of Agriculture.

The Working Group's recommendations are unanimous.

## 2. LANDUSE/RESOURCE EVALUATION

### 2.1 Reserve 12996 A Historical Summary

Reserve 12996 was gazetted on the 9th of September 1910, on land resumed from Murchison House Station Pastoral Lease. The Class C Reserve was given the dual declared purposes of Water and Fauna (Pisciculture), but was not vested, its primary function being to ensure that the freshwater springs lining the Murchison River Estuary remained under the control of the Crown. The purpose, Fauna (Pisciculture), was apparently inspired by references at the time to the abundance of fish in the estuary.

When gazetted the Reserve encompassed both banks of the estuary to a distance of 20 chains from the river and extended from the mouth of the River upstream to the limit of tidal influence. Only where the freehold locations of Murchison 8 and Edel 3 encroached was the continuity of the reserve broken.

The Reserve was not fully surveyed or fenced, consequently the area, which had been grazed by stock since the 1850's, continued to be grazed despite its Reserve status.

Other than the long established Murchison House Station, development in this area came late and it was not until 1951, when the new townsite of Kalbarri was gazetted on land resumed from the Reserve and Murchison House Station, that any new pressures were placed on the Reserve.

In 1963 the Reserve was further reduced to 1214 ha following the excision of the area now designated as

Reserve 25591, located immediately north of Kalbarri townsite. In the same year Kalbarri National Park A27004 was gazetted and enhanced a trend towards increasing tourist development.

Since then the region has seen a marked increase in the local population, greatly increased tourist traffic and mounting recreational demands placed on Reserve 12996.

In 1971 the Reserve was classified as a Sanctuary under the Fauna Conservation Act 1950-70 but remained unvested and largely unmanaged (Nature Reserve under the 1975 Amendment to the Act ).

The trend towards increasing recreational demand has been maintained and culminated in 1980 with the proposal to build a tourist oriented equestrian centre on the Reserve.

## 2.2 Natural Resource Evaluation

### (1) Topography

The Kalbarri region consists of a gently undulating sand plain typically formed on ancient flat lying Tumblagooda sandstone of Silurian Age. North of Kalbarri however, this sandstone is overlain by relatively thin sequences of younger Cretaceous rocks of which Toolonga Calcilutite is a prominent member. This chalk and greenish shale strata forms the conspicuous, eroding cliffs bounding the northern side of the lower Murchison Valley and the capping of Meanarra Hill near Kalbarri, (Clarke and Teichert (1948)\*. Closer to the coast, the sandstone is frequently overlain by Tamala aeolianite formed from the consolidation of calcareous dune sands deposited near the shoreline during the Quaternary Period.

It is through the Tumblagooda sandstone that the Murchison River has carved its spectacular gorge and the more gentle slopes of the lower Murchison Valley. In the vicinity of Reserve 12996, the valley is broad but still bordered in places by high scarps, notably Tumblagooda Hill.

The river opens into the Indian Ocean at Kalbarri via an estuary some 16 kms long and up to 800 m wide and marks the only break in an otherwise long line of coastal cliffs.

The current Reserve is largely confined to river flood plains and lower slopes surrounding the Murchison estuary, though where the flood plain is absent as occurs below Tumblagooda Hill, elevations in excess of 60 m are achieved.

\* Clarke, E. de C. & Teichert, C. (1948) Cretaceous stratigraphy of the Lower Murchison River area. J. Proc. Roy. Soc. W. Aust. 33 : 19 - 47.



The proposed boundary rationalizations recommended in Section 3.1 would include in the Reserve a substantial area of sand plain topography. This addition together with the inclusion of the coastal (Tamala) limestone ridge for a distance of approximately 4 km north of the river mouth, would make the Reserve more representative of the Lower Murchison River Valley.

## (2) Soils

The soil of the Reserve is predominantly fluviatile detritus mainly comprised of variably textured sands derived from the sandstone substrate. Towards the coast, however, the increasing salinity of the river flats is evidenced by the occurrence of saline flats in which silt sized particles are prominent.

Above the flood plain, yellow to orange sand is ubiquitous, other than along the more significant drainage lines which feature sandy loam soils with a higher organic content and consequent darker colouration. The pale sands are of poor fertility and are susceptible to erosion following removal of the vegetative cover.

Thin skeletal soils predominate on the steep sandstone slopes of Tumblagooda Hill and Red Hill. Hard sandstone outcrops along the estuary at Gregory's Rock and along both shorelines north of Kalbarri.

The proposed boundary rationalization (See 3.1(2)), will add substantially to the existing area of deep yellow-orange sand, more typical of the Kalbarri sand plain and include in the Reserve the calcareous sand of the coastal Tamala ridge.

## (3) Vegetation

Beard (1976)\* in mapping the vegetation of this region classifies the entire Reserve area as *Acacia rostellifera* thicket, but notes that it is in fact a mosaic of vegetation types controlled by topography. The *Acacia rostellifera* (Black Wattle) formation in fact, is largely restricted to drainage lines and other low lying areas above the flood plain, particularly areas with the heavier loamy soils mentioned above, and is only one of several prominent vegetation formations present in the Reserve.

On the flood plain, fringing and open woodlands of River Gum (*Eucalyptus camaldulensis*) are typical, but are replaced in more saline areas by similar formations of *Casuarina obesa* and in places grade into a grassland formation. River Gum also forms minor areas of open forest in association with a few of the larger springs.

\* Beard, J.S. (1976). The Vegetation of the Ajana Area Western Australia. Map and Explanatory Memoir 1:250,000 Series Vegmap Publications, Perth.

The sandplain areas are dominated by diverse and variable shrub communities which are widely represented in Kalbarri National Park. These areas are notable however, in that they have so far escaped the excessively frequent burning that has occurred so widely in the National Park.

Much of the crest and landward slopes of the coastal ridge is dominated by a low woodland of *Melaleuca cardiophylla*.

The inclusion of the coastal ridge in the Reserve through the proposed boundary rationalization, would further increase this diversity by adding a substantial area of coastal shrubland dominated by *Olearia* and *Acacia* species, to the Reserve. This community is confined to the coastal slopes and crest of the Tamala limestone ridge.

With the exception of the River floodplain and some heavily-grazed areas north of the River, the vegetation of the Reserve remains in good condition.

In contrast, vegetation communities occupying the more open flood plains are in a degraded condition. These areas, more suited to grazing than the thick shrubland, have seen the original understorey probably native perennial grasses, largely eliminated by grazing pressure, to be replaced by grazing-tolerant introduced grasses. In more recent years Blue Lupin, originally introduced and cultivated as fodder, has spread adventively throughout much of the flood plain area. In the last few years grazing pressure has been removed from the Reserve south of the river and there are signs of significant regeneration in some areas. However, from photographic interpretation and ground checking, it is estimated that Blue Lupin, which was controlled by grazing, now dominates approximately 150 ha of the floodplain in the Reserve.

## 2.2 Tourism and Recreation Resources

Tourism is the principal industry in Kalbarri and except for the seasonal Rock Lobster fishery, almost its only reason for existing.

The following statistics provided by the Department of Tourism, illustrate the importance of Kalbarri as a tourist centre and its rapidly increasing popularity.

It is estimated that Kalbarri generates 13% of all visits to the Mid West region and in 1979/80 received 41 000 visits rising to 57 000 in 1980/81. Over the past three years Kalbarri has achieved an annual average growth rate of 19%. That this growth is likely to continue is indicated by the most recent study, which estimated that 6% of Perth Metropolitan residents took their most recent holiday in Kalbarri and 8% intended to spend their next holiday there.

Two recently announced major holiday resort projects, a \$9m luxury mediterranean style complex and a \$3.5m Tourist Village, will add further impetus to Kalbarri's growing tourist trade.

Kalbarri owes this success to the combination of spectacular and diverse scenery, massed wildflower displays in spring, good fishing, boating, swimming and surfing conditions and a warm sunny climate. These tourist drawcards, all features of the natural environment around Kalbarri, serve to illustrate its dependence on the maintenance of an attractive and bountiful setting.

The Murchison River Estuary and Reserve 12996 together form a very significant part of this setting, providing a picturesque and sheltered waterway, and major recreation resource. Reserve 12996 complements the estuarine landscape and as a natural backdrop of varying landforms, vegetation, textures and colours, is a major contributing factor to the recreational experience obtained.

#### 2.4 Current Usage and Values of Reserve 12996

As has been previously noted (Section 2.1) the major purpose in gazetting Reserve 12996 was to protect the springs along the estuary, which were valued as water resources. In view of the current emphasis on tourism as the main industry in the region and the abundant underground water supply at Kalbarri, these springs are no longer of great significance as a water resource and accordingly this declared purpose of the Reserve is largely irrelevant.

The growth of the tourist industry has however lead to the Reserve assuming even greater importance as a recreational resource and as a means of protecting the estuarine environment and surrounding areas.

As the only substantial estuary in a considerable length of coastline, this water body is likely to be a significant breeding ground for fish and for the same reasons, is probably an important waterbird habitat.

By protecting the banks of the estuary, Reserve 12996 attains considerable conservation value. However as it incorporates a wide variety of habitat types, including numerous sources of permanent fresh water and estuarine environments not represented in Kalbarri National Park, the Reserve functions as a valuable adjunct to the Park in its own right.

Much of the value of the Reserve as a Recreation resource again lies in its association with the estuary. The natural estuarine setting is a major factor in Kalbarri's significance as a tourist and recreation destination. In this regard the Reserve serves to protect the estuarine environs and as a scenic background complements the beauty of the estuary.

In purely recreational terms the Reserve claims considerable significance by ensuring continued public access to the estuary via land, and providing a pleasant setting from which to fish, enjoy a relaxing picnic or sightseeing drive. Though not yet realized, the Reserve has potential for scenic walking trails and is in demand for horse trials (Section 3.2). The river-flats are likely to remain a focus of recreational activity in the Reserve.

The need to provide a range of recreational pursuits for permanent residents, is also an important planning consideration, particularly in an isolated town like Kalbarri. In this regard the existing motorcross track and clay pigeon shooting club, located in an area proposed for inclusion in the Reserve and an informal horse racing track on the flood plain some distance from the estuary, provide a significant recreational outlet for the community.

The river flats north of the estuary are still used for pastoral purposes by Murchison House Station. These areas represent some of the highest quality grazing currently available to the station and include watering points at Tatula and Mullewa Wells, which supply water to a substantial part of the station. They are therefore of economic importance to the viability of the station.

### 3. KEY ISSUES AND RECOMMENDATIONS

#### 3.1 Reserve 12996 Water & Fauna (Pisciculture) and Nature Reserve, not Vested

##### (1) Purpose and Vesting

In view of current and likely continued emphasis on tourism as the main industry in the area and the abundant underground water supplies at Kalbarri the primary purpose of the Reserve, that of retaining the springs under Crown control as water resources, is now largely irrelevant. The secondary purpose Fauna (Pisciculture) was only included after reports indicated the estuary was swarming with fish.

The main values of the Reserve now are as a recreation resource and as a means of protecting the banks of the estuary and flood plain from development and conserving environments not represented in Kalbarri National Park, notably the estuarine environment.

As a recreation resource the Reserve has high potential, both to provide tourists with low key recreation experiences, in a natural setting and to a limited extent, provide more intensive recreation facilities for residents.

Parts of the Reserve are and have been for the past 130 years a significant grazing and water resource for Murchison House Station.

A program of effective management, reflecting the values and uses of the Reserve is a high priority. Provided the vested authority is committed to appropriate

management of the Reserve, the representative of the National Parks Authority indicated it would not in principle object to the Reserve being vested in the Shire Council.

#### Recommendation

*In view of the significance of the Reserve as a recreational resource, and likely incompatibility of certain uses with conservation as the specifically declared purpose, it is recommended that the declared purpose of Reserve 12996 be changed from Water and Fauna (Pisciculture) to Parkland and Recreation.*

*It is also recommended that Reserve 12996 be vested in the Northampton Shire Council with power to lease designated development zones, subject to the vestee agreeing to manage the Reserve according to the provisions of a management plan framed by the Working Group and to be periodically reviewed in consultation with DCE and NPA.*

*It is further recommended that the Department of Lands and Surveys, at their discretion, either lease to Murchison House Pastoral Company a designated portion of the Reserve, on an annual basis, for the purpose of depasturing stock, or grant the vested authority power to lease the same, subject to appropriate conditions.*

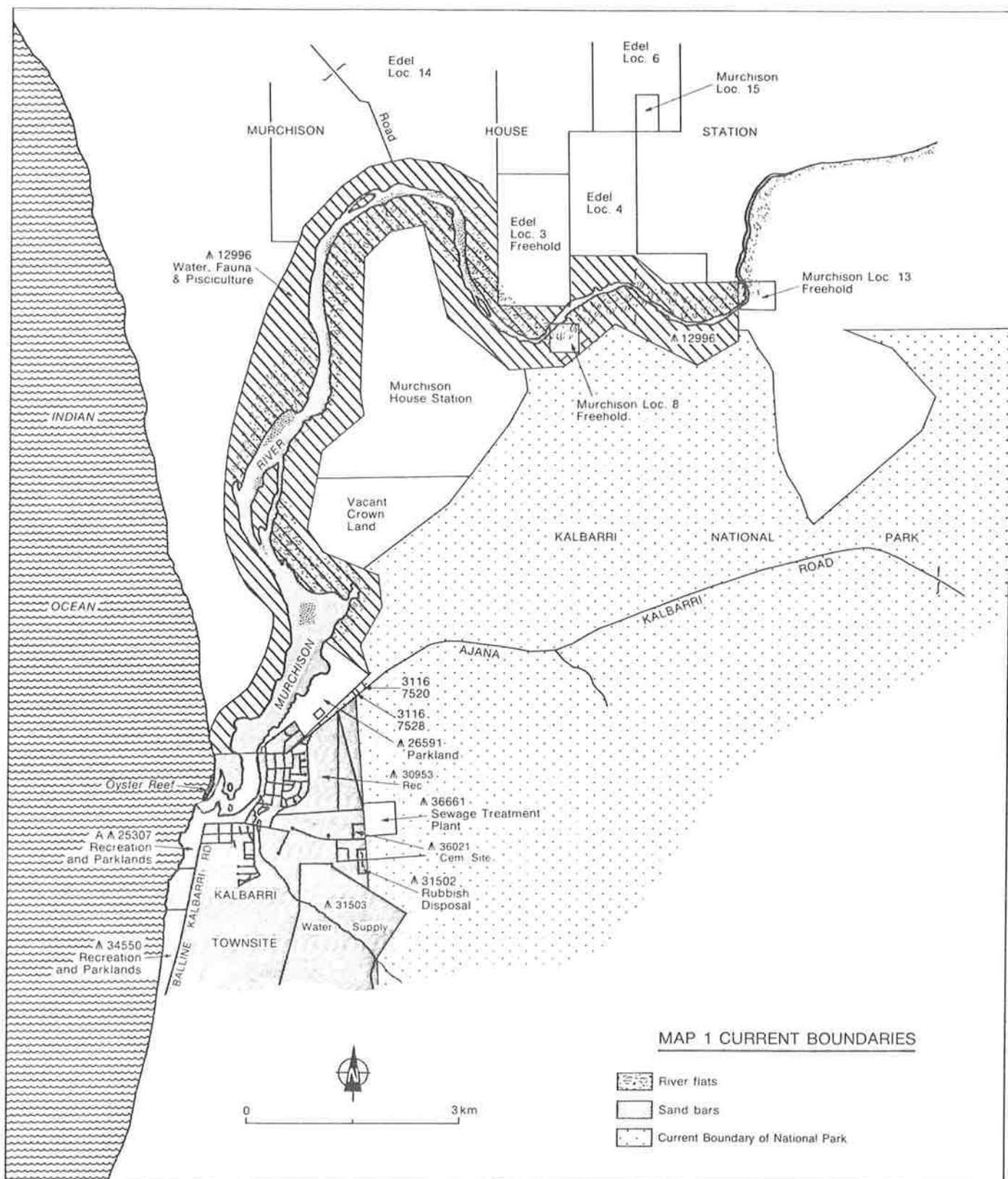
#### (2) Boundary Rationalization

The current boundaries of Reserve 12996, as shown on Map 1, are a function of its original intended purpose, of historical precedent giving Murchison House Station freehold blocks that included the river flat and estuary and of excision for other purposes. The boundaries are long and complicated, largely unrecognisable on the ground and clearly have not been located with regard to efficient and effective management. As a consequence, effective management of the Reserve on the basis of its current uses and values is virtually impossible.

The historical evolution of the Reserve boundaries has similarly resulted in inefficient and illogical boundaries for Murchison House Station and Kalbarri National Park.

The package of amendments proposed by the Working Group are intended to shorten and simplify Reserve and National Park boundaries, eliminate non-functional enclaves and ensure that the entire river-flats, an important recreational resource, are retained in public ownership.

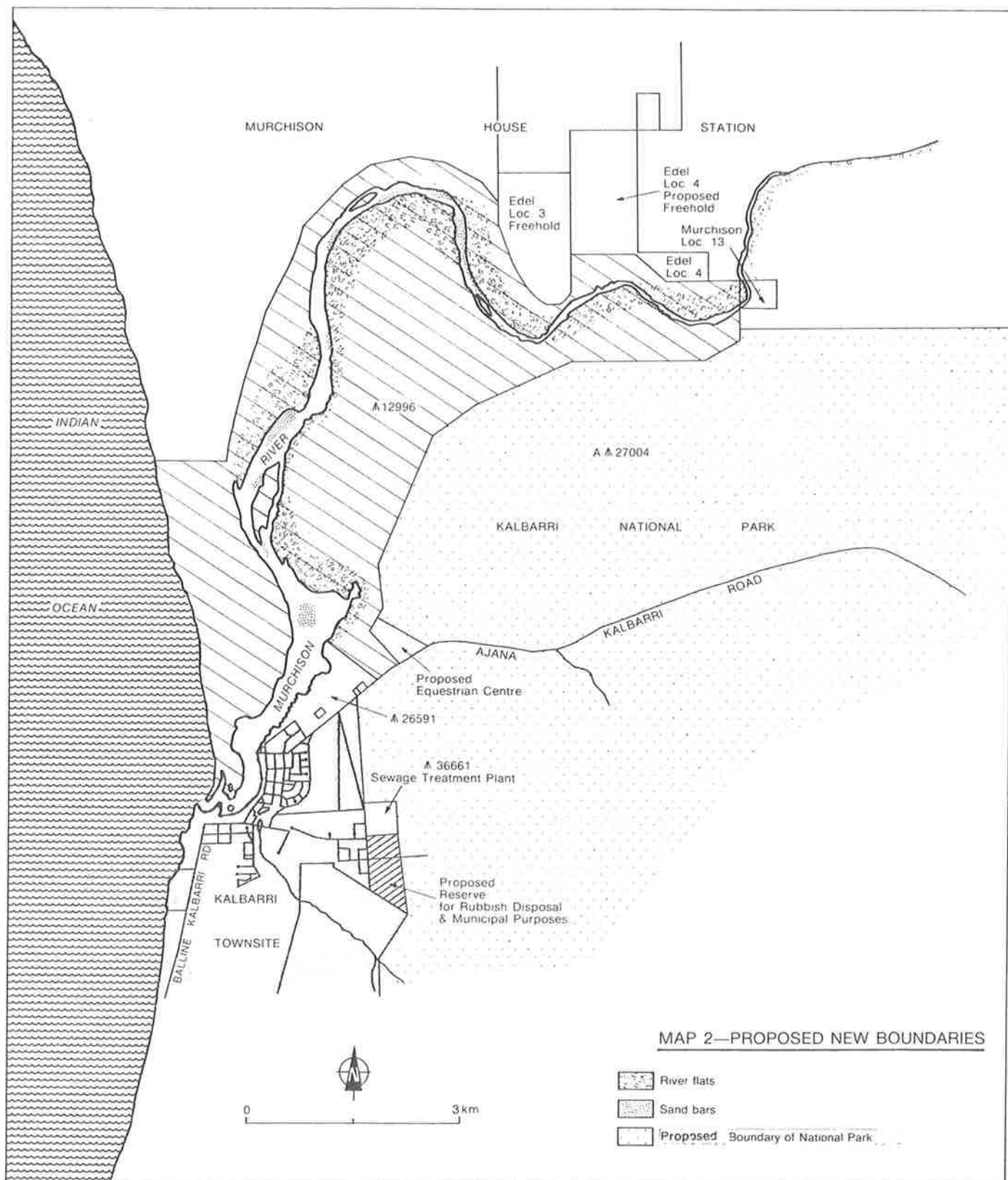
Under these proposals the size of both Kalbarri National Park and Reserve 12996 is increased. The size of the Murchison House Pastoral lease is reduced, however it is considered that the proposals are equitable to all parties concerned.



The Working Group recommends that the boundaries of Reserves 12996, A27004 (Kalbarri National Park), 26591 and 34550 and those of Murchison House Station and Kalbarri Townsite, be amended to enable more efficient management and to better serve their purpose and values. (See Map 2).

Specific amendments proposed are as follows:

1. Murchison location 8 and that portion of Edel location 3 extending to just above the limit of the floodplain (schematically represented on Map 2) to be included in Reserve 12996. The freehold title to these areas to be forgone in exchange, with appropriate compensation, for freehold title to Edel location 4.
2. The boundary of Reserve 12996 to be extended to the coast along an east-west line from a point on the current Reserve boundary approximately 600 m north of Tumblagooda Hill (corresponding to the southern end of Mullewa Flat).
3. That portion of Kalbarri Townsite north of the Murchison River to be excised and included in Reserve 12996.
4. The extension of Kalbarri National Park between Reserve 26591 and the Kalbarri-Ajana Road to be excised and included in Reserve 26591.
5. An area of approximately 20 ha between Reserve 12996 and the Kalbarri-Ajana Road to be excised from Kalbarri National Park and leased for development as an equestrian centre (See Section 3.2). The portion of National Park isolated by the Kalbarri-Ajana Road and the equestrian lease to be added to Reserve 12996.
6. From the northern boundary of the equestrian centre, the proposed Reserve 12996 - Kalbarri National Park boundary follows the existing boundary in a northerly direction until it turns in a westerly direction. At this point the proposed boundary continues in the same northerly bearing to meet the fenceline alongside the access track to the Second Well, Murchison location 8. The boundary to follow this fenceline until it again meets the current Reserve 12996 boundary just south of the above location. The enclave of Vacant Crown Land (pt. Victoria location 8076) and Murchison House pastoral lease (pt. Victoria location 8075) through which the boundary passes to be added to Reserve 12996 and Kalbarri National Park. From this point, the proposed boundary extends eastward to meet the next southward protrusion of Reserve 12996 at its southernmost point, completing the proposed amendments to Reserve 12996.
7. That portion of Murchison House pastoral lease south of Murchison location 13, that is an enclave within Kalbarri National Park, to be added to the National Park.





8. *The Kalbarri National Park - Reserve 34550 boundary in the vicinity of the Red Bluff car park to be shifted south a distance sufficient to include the entire car park area within Reserve 34550. This car park serves visitors utilizing Reserve 34550 (Recreation and Parklands) and should justifiably be serviced by the Local Authority.*
9. *An excision from Kalbarri National Park to create a reserve for rubbish disposal and municipal purposes is further detailed in section 3.3.*

(3) Reserve Management

Reserve 12996 was gazetted primarily to ensure that freshwater springs lining the estuary remained under state control as potential water resources. For this simple purpose, management of the Reserve was not necessary, so it remained unvested and largely ignored.

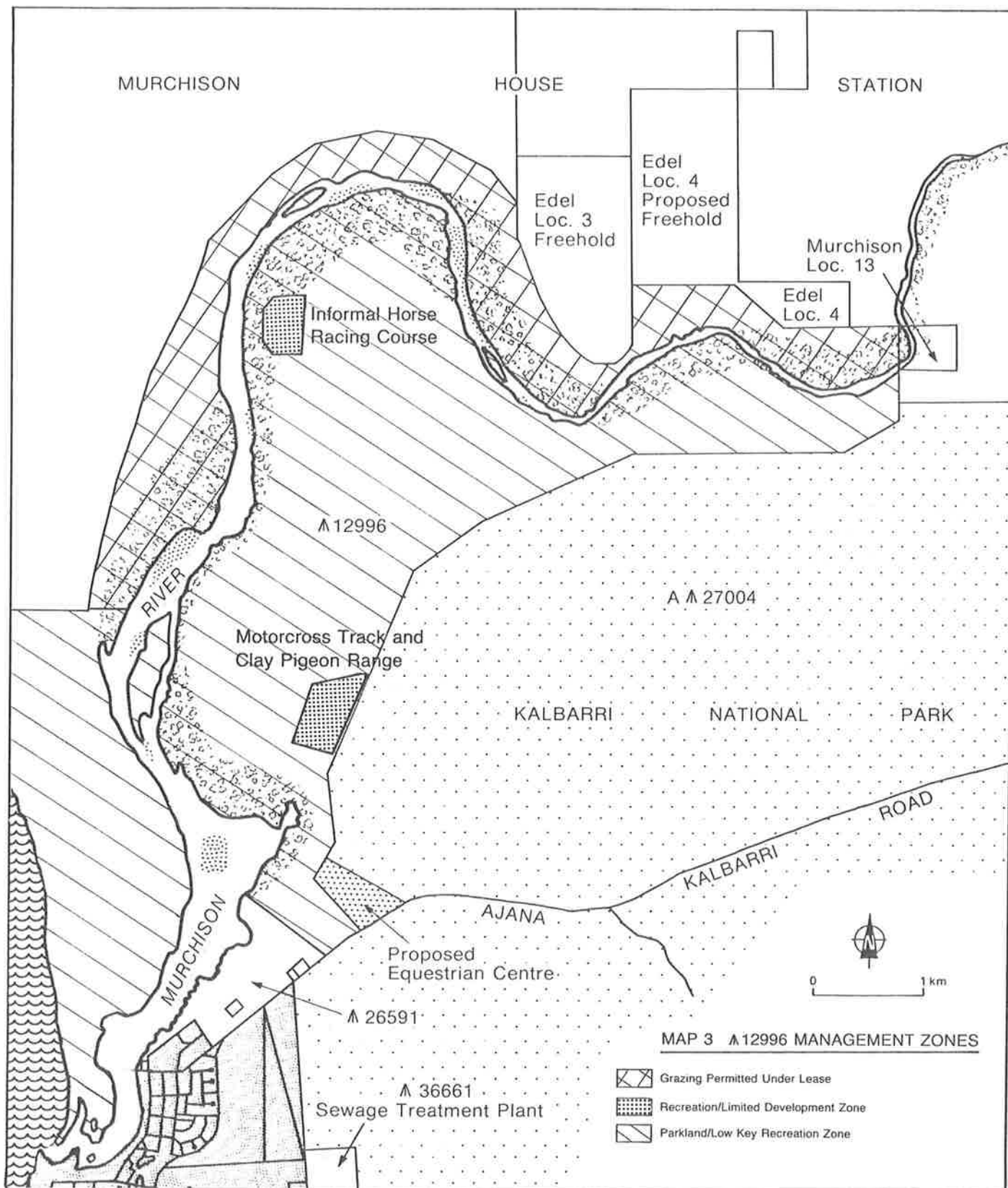
Following the great upsurge in tourism to the region this situation no longer exists. In the absence of management, uncontrolled vehicle access has resulted in a proliferation of tracks markedly degrading the amenity of the Reserve. Increasing recreational pressures, associated with Kalbarri's growing popularity as a holiday destination and the proposed development of equestrian facilities can only add to the degradation of the Reserve unless effective management measures are undertaken as a matter of high priority.

Any plan of management for the Reserve should recognise the multiple values of the Reserve.

Recommendation

*In accordance with the current uses and values of Reserve 12996 and with the provisions of recommendation 3.1 (a) (above) it is recommended that the following management objectives be adopted as the basis for a plan of management:*

1. *To adopt the management zones within the Reserve as delineated on Map 3, for the purposes of*
  - (a) *Recreation/Limited Development*
  - (b) *Parkland/Low key Recreation**and define developments permitted within these zones.*
2. *To permit within the area delineated on Map 3 the depasturing of stock under lease, subject to conditions applied by the Department of Lands and Surveys to safeguard the amenity of the Reserve and maintain fringing woodlands.*
3. *To rationalize the system of vehicular roads within the Reserve and provide designated parking areas.*



4. *To initiate and maintain adequate fire protection and suppression measures in co-ordination with the NPA.*
5. *To control weed species.*
6. *To provide and maintain horse trails in appropriate areas.*
7. *To provide and maintain walking trails in appropriate areas.*
8. *To adequately signpost Reserve 12996.*
9. *To initiate a program of regular maintenance within the Reserve*

*The management plan to be developed by the Department of Conservation and Environment in liaison with the vested authority and National Parks Authority.*

Expanded management provisions are appended.

### 3.2 Proposed Equestrian Development

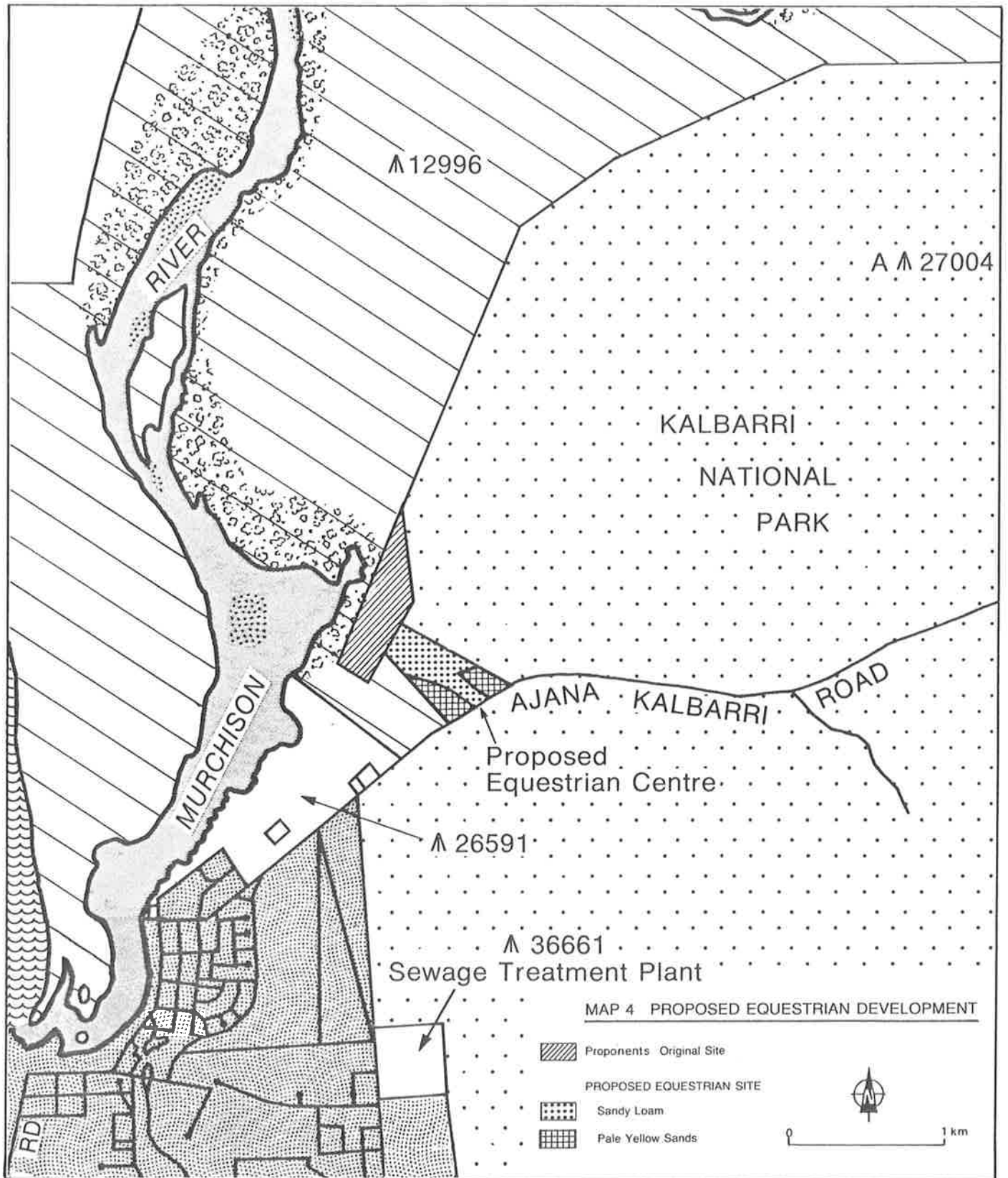
The Working Group considered a proposal to develop a tourist-orientated equestrian development in Reserve 12996 adjacent the Murchison River Estuary. The need to satisfactorily resolve this issue was one of the principal reasons leading to the formation of the working group at this time.

The resolution of this proposal had been stalled on environmental grounds. The main concerns, in the absence of effective formalized management of the Reserve, related to potential soil erosion problems and the danger of spreading weeds through the Reserve as a result of the proposed trail-riding activities. Site-related concerns associated with the original proposal were over the potential for nutrient and waste contamination of the adjacent spring and estuary, the creation of a very narrow access corridor into Reserve 12996, dominated by an extensive private development and disturbance to the natural scenic appearance of the estuarine foreshore. (The developers original site is shown on Map 4).

In March this year the Government determined that, subject to appropriate controls, an equestrian facility should be permitted at Kalbarri as local interest in this type of development is strong. In consequence the Working Group has drafted proposals defining the most appropriate location for such a development together with management conditions intended to minimise environmental disturbance.

The potential locations for a development of this type at Kalbarri are severely restricted by environmental constraints and by the high proportion of Reserve land surrounding the town. Within these constraints the choice of a site is limited and no potential site can be considered ideal.

The preferred location is considered to be the most suitable potential site for the following reasons:



- (a) It is situated some distance from the estuary, thereby reducing the likely impact on the estuary, and springs.
- (b) It avoids the situation in which access to Reserve 12996 is funnelled through a narrow passage dominated by an equestrian development (a problem with the developers' original proposal).
- (c) It avoids disturbing the natural appearance of the foreshore.
- (d) The site is protected from the prevailing southerly winds and largely confined to loamy soils, thereby reducing the risk of soil erosion.
- (e) The site has good visitor visibility and reasonable access to scenically interesting areas.
- (f) It is close to townsite facilities and therefore readily serviced.

As a private development of this scale and extent is outside the concept and purpose of Reserve 12996, it is proposed that it occupy a separate reserve or lease for equestrian purposes.

#### Recommendation

*It is recommended that a reserve of approximately 20 ha for Equestrian Purposes be created in the location indicated on the attached map or alternatively this area to be leased for this purpose directly from the Department of Lands and Surveys. Should the first alternative be accepted, it is recommended that the reserve be vested with the Northampton Shire Council with power to lease for 21 year periods. Should the equestrian centre fail to eventuate, this area should be added to Reserve 12996.*

*The following conditions to apply with the lease are proposed:*

#### Available water supply

1. *Development of the lease in the format proposed here, is subject to their being available, water supplies of sufficient quality and quantity to irrigate and maintain adequate pasture cover. The existence of such a supply to be demonstrated prior to development proceeding. (In the absence of a suitable water supply, the proposed development will have to be substantially modified in liaison with DCE and the Department of Agriculture).*

#### Tenure

2. *Tenure will be on a 21 year lease agreement with the option of renewal subject to the satisfactory compliance with lease conditions. Subject to Department of Lands & Surveys approval of building locations, as shown on a site plan, and compliance with Shire building standards, provision can be made to freehold the area incorporating the major building structures.*

Measures to control horse numbers and management

3. The number of horses kept on the Reserve not to exceed 45 except in the following circumstances:  
By prior written approval from the vested authority additional horses can be kept on the Reserve but must not exceed 105 additional horse days/week nor a total of 420 additional horse days/calendar year (where 1 horse day is one horse in excess of 45 on the Reserve for 1 day or part thereof).
4. The lessee to agist up to a maximum of 15 locally owned horses on a continuing basis at a fee negotiated with the Local Government Authority.
5. No more than 24 horses to be depastured on the Reserve at any one time.
6. A full feed ration should be supplied for all horses on the lease.

Stables should be located adjacent to an exercise yard/s of approximately 1 000 sq metres. The stables and exercise yards to be surrounded by a windbreak of native trees.

Soil protection measures

7. Paddock areas to be sown to pasture and irrigated to maintain plant cover and soil stability, these areas to be managed as exercise areas for horses, not for fodder production.
8. Measures to be taken to re-establish plant cover on denuded areas, these measures to include temporary fencing to exclude horses if required.
9. Effective windbreaks to be grown on all boundary areas and elsewhere as required to reduce surface wind velocities and minimise the effects of wind erosion. Horses are to be excluded from boundary windbreaks. Only appropriate native species are to be used for this purpose.
10. A 10 M wide strip centred on the natural drainage line to be fenced to exclude horses, the natural vegetation to be retained where-ever possible. All crossing points to be formed and to include culverts sufficient to permit uninhibited drainage.

Measures to minimise pollution

11. The lessee to agree to liaise with DCE regarding developments in slow release fertilizers and to utilize the improved fertilizers when available for broad scale application.
12. Moist sand rather than straw to be used as the stable bedding material as it requires less frequent changing, has fewer disposal problems and reduces fly problems.

13. *All wastes to be disposed of to the satisfaction of the local authority in consultation with the Department of Conservation and Environment and in accordance with with the Public Health Act.*

Measures to reduce the spread of weeds

14. *Only pasture species unlikely to spread adventively under the natural conditions prevailing in the area are to be planted.*
15. *Imported fodder should not comprise adventive plant species as a principal constituent.*

To protect visual amenity

16. *Building structures to be subject to Local Government Act and by laws and to be not more than two (2) storeys or 10 metres high and roofs to be constructed of a low reflective material.*

To protect surrounding areas

17. *The lessee to agree to comply with all relevant management provisions applying in surrounding Reserve and Pastoral areas.*
18. *Hire riders are not to take horses beyond the confines of the lease, unless they are in the presence of a competent and experienced rider, familiar with the region, who is employed as a guide.*

### 3.3 Kalbarri Rubbish Disposal Site

The problem of finding a suitable site for rubbish disposal has been a recurring issue between the Northampton Shire Council and the National Parks Authority.

The existing tip is too close to land zoned for light industrial purposes and is reaching the end of its life. It would be desirable to locate a new tip away from the town, but Kalbarri is constrained on all sides by reserves, National Park and water catchment and no land has been readily available.

The following locational considerations were of significance in determining an appropriate site.

The site should be:

1. separate from areas proposed for development;
2. located on a deep sandy substrate;
3. separate from major drainage lines and water catchment areas;
4. inconspicuous;
5. located where the prevailing south-westerly winds would not carry smoke over Kalbarri;

6. chosen to avoid creating an undesirable enclave within Kalbarri National Park or Reserve 12996.

Recommendation

*It is recommended than an area, currently part of Kalbarri National Park, immediately east of the townsite boundary and bounded on the east by an extension southward of the eastern boundary of Reserve 36661 (Sewage Treatment Plant) to meet the easternmost extension of Reserve 31503 (water supply) be excised from Kalbarri National Park and included in Kalbarri Townsite as a Reserve for Rubbish Disposal and Municipal Purposes. The Shire to consult and liaise with the NPA in planning for the new tip.*

### 3.4 Kalbarri Airport Requirements

The need and appropriate location for upgraded airport facilities at Kalbarri has been a recurring issue in recent years.

While it was agreed that this was an issue that should be discussed by the Working Group as a matter of mutual concern, the detailed consideration of airport site requirements and threshold levels of usage needed to warrant upgraded facilities, are largely beyond the consideration of the Working Group.

Recommendation

*The NPA should undertake to give favourable consideration in due course to the siting within Kalbarri National Park of a new airport serving Kalbarri Townsite, should it be demonstrated that such a facility is necessary, and that a location within the National Park is the only suitable site.*

During discussions, two matters were raised which though largely beyond the terms of reference of the Working Group none the less have considerable bearing on the amenity of Reserve 12996 and Kalbarri.

### 3.5 Siltation of the Murchison River Estuary

In 1980, the Murchison River, in its last major flood, deposited very large quantities of sediment on the flood plains and river bed around the upper reaches of the Estuary. Sedimentation is particularly evident opposite Murchison House where, it is known that approximately three metres depth of sediment was deposited.

The normal rate of sedimentation for this river has not been studied and similarly the rate of sedimentation within the Estuary itself is not known. Accordingly, it is not clear whether this degree of sedimentation reflects increased levels of sediment transport as a result of human influences in the Murchison River catchment or simply represents an event within the range expected from such a flood.



If this degree of sediment deposition is indicative of accelerated rates of erosion from the catchment, in addition to being symptomatic of potentially serious land degradation, it may be causing accelerated siltation in the already shallow Murchison River Estuary. Further shallowing or partial choking of the Estuary by sediment, would very considerably degrade the amenity of Reserve 12996 and the estuarine environment and damage the tourist industry at Kalbarri. Further, repeated closure of the river mouth by sediment (as has previously occurred) will invariably affect the viability of the rock lobster industry based at Kalbarri.

#### Recommendation

*It is recommended that the matter of siltation in the Murchison River Estuary be referred to the Departments of Lands and Surveys, Public Works and Marine and Harbours, for investigation to determine whether it is a problem and if so to identify the cause and undertake appropriate action.*

### 3.6 Illegal Netting in the Murchison River Estuary

Illegal netting of fish in the Murchison River Estuary is known to occur and is difficult to control because a fisheries inspector is only based at Kalbarri during the rock lobster season and is further constrained by not having a four-wheel drive vehicle for his use. The Working Group is concerned that continued illegal netting of the Murchison River Estuary may contribute to a depletion of fish stocks to the detriment of the estuarine environment and the recreational amenity of Reserve 12996.

#### Recommendation

*The Working Group recognises the financial constraints within which the Department of Fisheries and Wildlife must operate, but endorses the concept of inspectors having sufficient tools to adequately perform their task.*

*It is also recommended that a Fisheries Inspector make intermittent checks on illegal netting in the Estuary throughout the year.*

RESERVE 12996 - EXPANDED MANAGEMENT PROVISIONS

## 1. Management Zones

## (a) Recreation/Limited Development Zone

To allow the existence of limited recreation developments, appropriate to the Reserve, two areas are defined as Limited Development Zones. They are:

- 1) - An area of approximately 20 ha surrounding the already existing Motorcross track and clay pigeon shooting range and extending to a distance of 20 metres from the eastern boundary of Reserve 12996.
- 2) - An area of approximately 20 ha surrounding the existing "horse racing track" but extending no closer than 100 metres to the estuary.

Within such zones recreation development is permitted provided it does not affect the scenic amenity when viewed from the estuary, nor unduly degrade the conservation value of the Reserve. Only structures consistent with the needs of the recreation activity are to be erected and wherever possible, consistent with their intended function, should be designed and constructed to blend with the environment.

In the case of Limited Development Recreation Zone 1), screening vegetation will be retained between the development and the reserve access road and where appropriate on the development site wind breaks, of suitable native plants, grown to limit wind erosion and improve visual amenity.

Usage of Limited Development/Recreation Zone 2), to be restricted to one occasion per calendar year to be held during a period of low fire risk.

At the discretion of the vested authority, these facilities may be leased to the appropriate incorporated sporting club, subject to conditions imposed by the Department of Lands.

Any additional developments proposed within these areas will be referred to the Departments of Lands and Surveys and Conservation and Environment for approval.

## (b) Parkland/Low Key Recreation Zone

Consistent with the values of the Reserve this zone is to apply to the remainder of the Reserve. Development within this zone is to be limited to appropriate access roads and car parking bays, appropriately designed and sited barbecue and picnic facilities, walking trails and horse riding trails. These facilities to be developed after consultation with the Department of Conservation and Environment.

A part of this zone designated below, to be leased for pastoral purposes.

## 2. Grazing Lease

In recognition of the long history of usage of the Reserve area for grazing purposes and dependance on the water and fodder resources of the Reserve, stock belonging to Murchison House Station may be depastured on that portion of the Reserve leased and defined as follows. That Area north of the Murchison River, excepting the area south of the east-west Reserve boundary at the southern end of Mullewa flat.

The Lease to depasture stock on this area to be subject to the following conditions:

- 1) River Gum and Casuarina fringing vegetation to be re-established and maintained along the estuary and in major stream lines where it has been lost or markedly reduced
- 2) Standard lease conditions applied by the Department of Lands and Surveys

Should the leasing agency be the vested authority, funds raised by the lease fees are to go towards management of the Reserve.

## 3. Rationalization of Roads and Provision of Parking

The present proliferation tracks to be rationalized to a few appropriately located tracks. Tracks closed should be ripped and barred to vehicles.

The main access road is to follow the river floodplain as far as the second well then, avoiding the current route along the drainage line, turn away from the estuary to connect with and follow the existing access track along the boundary between the Reserve and Kalbarri National Park.

The route though allowing vistas of the estuary, will not follow the river so closely that it is visible at most times. Such a route would excessively disturb riverbank areas and degrade the amenity of the river, particularly when viewed from a boat or while fishing or otherwise utilizing a quiet riverbank.

Where appropriate access to the more popular fishing locations and to Gregory Rock will be provided by side tracks ending short of the riverbank in a defined car parking bay. Another side track leading to the base of Red Hill

to connect with a foot track to the summit is also proposed.

Access through the centre of the Reserve will continue to be provided via the existing track following the fenceline between the two sandstone hills. This track also to function as a firebreak dividing the Reserve into two. To help facilitate escape from fire the existing track leaving the second well and passing through Kalbarri National Park to the Kalbarri-Ajana Road, (opposite the old Kalbarri road) should also be retained. (The National Parks Authority to be requested to upgrade the section of the track passing through the Park).

To obtain effective control over vehicle usage in the Reserve, it is proposed to have the Reserve, other than designated tracks, declared a prohibited area under the Control of Vehicles (Off Road Areas) Act.

Vehicular access to the Reserve north of the river will not be encouraged.

All recognised roads in the Reserve to be upgraded to an appropriate standard, their location to be determined in consultation with the Department of Conservation and Environment.

#### 4. Fire Protection and Suppression

An adequate system of firebreaks is to be established and maintained in the Reserve. On boundaries shared with Kalbarri National Park the location and maintenance of fire breaks is to be co-ordinated with the National Parks Authority.

In locating firebreaks consideration is to be given to maintaining the visual amenity of the Reserve as seen from access roads and lookout points.

Firebreaks are to be established and maintained around developments in Recreation/Limited Development Zones.

To better facilitate escape from fires, road access within the Reserve will be planned such that there are several widely-separated access points, including one access road maintained along the existing track between the second well and the Kalbarri-Ajana Road (opposite the old Kalbarri Road).

Control of fires in the Reserve to be under the responsibility of the local volunteer fire brigade, with assistance from the National Parks Authority.

#### 5. Weed Control

Blue lupin is the principal plant pest on the Reserve and the only one posing a serious management problem at present. Its dominance of the river flats both degrades the aesthetic appeal of the Reserve and increases the fire hazard.

The control measures recommended by the Department of Agriculture are:

- 1) Spraying with Amine 2,4D the most effective method for broad scale control. (Spraying should be conducted in still conditions to limit drift.)
- 2) Spraying with Gramexone, a spot spray for localised infestations.

In each case the recommended time for spraying is shortly after full germination has been achieved. Of the two Amine 2,4D is the more suited to this situation.

Effective control of the problem will be expensive and control measures will be required for several consecutive years to achieve effective control. To spread the cost it may be desirable to systematically treat small areas each year, commencing from upstream areas to avoid the possibility of floods redistributing seed over controlled areas.

Where natural regeneration of native species is apparent, the progress of vegetation is to be monitored to determine whether control by spraying is necessary.

#### 6. To provide and maintain horse trails

Horse trails are to be provided where appropriate in the Reserve. All horse riding is to be confined to these defined trails, except on the cleared and grazed river flats north of the river where, subject to the approval of the leesees free range riding is permitted.

Trail design and location will be determined in liaison with the Department of Conservation and Environment and subject to the approval of the Environmental Protection Authority.

Trail design to follow the following principles:

1. Trails are to avoid steep slopes and tidal flats
2. Trails not to parallel the southern riverbank for any distance
3. Trails to avoid following drainage lines
4. Murchison River crossing points are to be limited to a very few appropriate sites
5. Where possible trails are preferred on the northern side of the river.
6. Access routes to coastal areas to be strictly limited to areas of firm substrate and to approach the coast at a shallow angle, to minimize erosion. (In view of the coastal topography, it is quite likely that no suitable access to coastal areas will be available in the Reserve.)

7. In general trails to be sufficiently wide enough to allow two horses to pass
8. Trails eroding badly will be subject to closure
7. To provide and maintain walking trails

Subject to there being sufficient demand, or where foot traffic is sufficient to initiate erosion or noticeable damage to vegetation, appropriately designed walking trails are to be provided.

The most likely routes would lead to the summits of Tumblagooda Hill and Red Hill and along some sections of the Estuary.

Consideration will also be given to constructing self guide walking trails provided with sufficient interpretation material to enable visitors to gain a better appreciation of the plants and environment surrounding them.

8. Adequate signposting of the Reserve

Signposts to be erected on all access routes into the Reserve, the signs to identify the Reserve, indicate that vehicles should not be driven off the roads and that visitors should enjoy their visit and leave the Reserve in a condition for others to enjoy.

A Sign to be erected on the major horse trail leading into the Reserve stating that horses are not to be ridden off the designated trails.

9. Maintenance Programme

A programme of regular ongoing maintenance is to be established. This programme to include regular emptying of rubbish bins, removal of litter, closure of any unauthorised vehicle tracks and periodic inspection and maintenance of roads, horse trails and other developments.

PART 4 SUMMARY OF WORKS AND MAINTENANCE PROPOSALS

PRIORITY	PROJECT	DURATION
High	Rationalization of Roads and provision of parking	Medium
High	Fire Protection and Suppression	Continuing
High	Erect Signs	Short
High	Provide Horse Trails	Short
High	Regular Maintenance Program	Continuing
Moderate	Provide Picnic and Barbecue facilities	Short
Moderate	Weed Control	Continuing
Low	Provide Walking Trails	Short