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*an Administrative Guide
to Environmental Requirements
for Tourism Developments
in Western Australia*

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*Prepared for the
Western Australian Tourism Commission
and Environmental Protection Authority*

FOREWORD

Western Australia is particularly well situated to take advantage of Australia's tourist growth potential. The State offers much which is increasingly rare – vast tracts of untouched bushland, thousands of kilometres of undeveloped coastline, native forests of spectacular aspect and ancient landscapes like the Bungle Bungle and Purnululu National Park, and the Kimberley Ranges.

The Western Australian Tourism Commission aims to assist and encourage tourist development throughout the State provided that such projects are sympathetic to the environments in which they are proposed. The Commission is also aware that some tourist developers find the procedures for obtaining land and getting all the necessary approvals a confusing maze through which they have to find their way.

The degree of success or failure which each proposal meets during the course of getting these approvals results to a large extent on the appropriateness of the original concept, and the skill which the project design team has in recognising the environmental opportunities and constraints imposed by the land, its natural resources and the climate.

This guide has been prepared for the Western Australian Tourism Commission and Environmental Protection Authority by consultant Colin Porter to assist developers understand the more important opportunities and constraints they are likely to encounter. It has been divided into three parts: the first is a general overview, the second deals with specific areas within the State and identifies issues particularly important to them, while the third is simply a listing of the Government agencies most involved. Potential developers have therefore only to read the General Overview and those sections of parts 2 and 3 relevant to their proposals.

Julian Grill

Bob Pearce

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GENERAL OVERVIEW

The State Government occupies a number of roles through its various agencies and departments affecting those undertaking tourist developments in Western Australia. On the one hand agencies like the Western Australian Tourism Commission and the various regional development authorities provide helpful advice for those considering establishing such developments; while at the other there are a number of statutory agencies with responsibility to ensure sound planning, protect public health, maintain the environment and safeguard the State's water resources, whose consent may be needed for the project to proceed.

In addition to these, a range of State and Federal agencies are available to provide expert advice on such diverse issues as climate, tidal range, soil types, mineral resources, vegetation, land tenure and underground water availability.

INTRODUCTION

The difficulties facing developers usually result from lack of familiarity with all the legal requirements and issues that may arise before approvals are granted. The overlooking of one issue may lead to considerable delay, particularly where some further investigation is required, or the legislation requires the proposal to be advertised publicly for a certain period.

This guide has been produced jointly by the Western Australian Tourism Commission and Environmental Protection Authority to assist developers through their way through the legal process, together with an indication of how long each step is likely to take. It is also intended as an aide-memoire or check list to reduce the risk of some important issue being overlooked.

Particular emphasis is laid on the need to harmonise developments with the environment because in Western Australia so many areas which attract tourists do so because of the natural environment, whether it be the coast, the magnificent forests of the South West or the spectacular landscape of the Kimberley region. Some attractions have a limited 'carrying capacity' and the scale of the development must clearly not exceed the threshold beyond which environmental damage occurs, or the sheer weight of visitor numbers detracts from the appeal.

There are certain statutory requirements for nearly all developments. These may be limited to local authority planning and building approvals, or they may involve other agencies where re-zoning is required or freehold title is not in the hands of the developer. These are set out in this General Overview, while an indication of how to undertake developments in particular locations is included in the next part.

For large developments the Environmental Impact Assessment process provides the umbrella under which a range of issues are examined and which, in certain circumstances, can be published for public

comment. The legislation under which this procedure operates is found in the Environmental Protection Act (1986). This Act gave legal backing to many of the steps which had been introduced progressively over the previous eight years by successive governments. Moreover it now places a legal obligation on local authorities and other decision making agencies to refer proposals to the Environmental Protection Authority if it appears likely that the development would have a significant effect on the environment.

Developers and others often ask how they are expected to know whether their development is environmentally significant or not. There are calls for 'significant' to be more precisely defined, or a list produced of the type of development that would need to undergo full environmental assessment. While some other States have tried to do this in the past it is very difficult if not impossible to be fully definitive. This is best illustrated by examples. A development catering for a large number of tourists may have a significant environmental impact in an area with limited water resources, but cause no concern in an area that is well endowed. Similarly one affecting a known habitat of an endangered species, or one with a major visual impact on an area noted for its scenery. Because value judgements are involved, the level of assessment is left to a statutory body – the Environmental Protection Authority (EPA). The EPA's assessment procedures are set out in sections 38 to 40 of the Environmental Protection Act and are dealt with later in this section.

The issues to be addressed by a developer will depend to a large extent on the size and location of the project. Developments in the northern part of the State will be particularly concerned with infrastructure compared with the south where roads, accommodation, electricity supplies, etc, already exist and water resources are relatively abundant. On the other hand much of the eastern part of the forested country in the South West has been quarantined to prevent the spread of dieback disease, and access is only by gazetted road or on foot

Coastal developments can be particularly sensitive and policies have been published for many of the more popular sections of coastline. Where openings are proposed, for example to create a marina or boat harbour, extensive studies are likely to be required prior to the preparation of a full Environmental Review and Management Programme. Similarly reshaping of the coastline, or reclamation, are unlikely to receive approval without evidence that long term changes to the coastal regime will not occur. Expert advice will be needed for this type of development which should not be considered lightly or without early consultation with the Department of Marine and Harbours.

LAND OWNERSHIP

Land in Western Australia is usually either held in freehold title or comprises Crown Land. Crown Land owned by the State is, in general, administered by the Department of Land Administration in respect of pastoral land, vacant Crown Land and some Crown reserves; by the Department of Conservation and Land Management in respect of national parks, nature reserves and State forests; and by the Aboriginal Land Trust in respect of Aboriginal reserves. In addition some land is owned by the Commonwealth Government.

Where the developer has freehold title or has an option to acquire the freehold should the development receive approval, the zoning of the land under the local town planning scheme, administered by the local authority, is of importance. Council officers will be able to advise whether the proposed tourist development is a permitted use under the current zoning. If not, re-zoning of the land will be required before council approval can be given. Details of the re-zoning procedure are given later in this section.

In respect of Crown Land administered by the Department of Land Administration, there are opportunities to acquire land suitable for tourist development following negotiation with the

Department. There is however little vacant Crown Land suitable for such developments and most land comprises reserves, such as foreshore reserves, or is land leased under a variety of short term or long term leases. Much of the long term leased land is pastoral land administered by the Pastoral Board, while the short term leases may be for grazing or for some development, including tourist development.

The Department of Land Administration will seek advice from a number of agencies, including the local authority, before granting a lease for a tourist development so that the time needed to arrange a lease will vary from three months (if every agency supports the proposal and responds quickly) to a period of a year or more.

A particular difficulty arises in the case of land which forms part of a pastoral lease. The Pastoral Board will consider low key tourist developments by pastoralists which can be accommodated within the existing homestead infrastructure.

This might include, for example, the use of shearers quarters for overnight tourist accommodation. However, pastoral leases are designed to promote that industry and there is unlikely to be support for a pastoralist wanting to build a motel, for example, to develop a major tourist business on a pastoral lease.

For land to be excised from a pastoral lease, the agreement (and signature) of the leaseholder is required. In that case the Department would prefer the excised portion, deemed suitable for a tourist development, to be open for tender or advertised so that applications for the use of the site can be received.

Because of this a pastoral leaseholder who may wish to enter into an agreement or joint venture arrangement with a tourist developer could find that, having agreed to the excision of a small part of this lease for development, the successful tenderer may not be the developer with whom he has arranged an agreement. There may also be other issues to be resolved, in particular access to the development may not be possible except across the leaseholder's land.

Where development is to take the form of a major facility such as a motel or other substantial buildings, the Department would normally issue a short term lease of, say, five years until the project is substantially completed and then arrange for the leaseholder to acquire freehold title to the land.

However where the development takes the form of low key tourist facility, such as a caravan park, there is some reluctance to transform the lease into freehold. This is because there is a risk that the new owner of the park may then arrange to strata title and sell off the sites. The caravan park then ceases to be a tourist facility for which the land was ceded in the first place.

It has to be accepted that once freehold title is granted on what was once Crown Land, the Department of Land Administration ceases to have any control over the way that the land is used.

The Department therefore needs substantial evidence that the purpose for which Crown Land is converted, does not change after freeholding.

In respect of Crown Land administered by the Department of Conservation and Land Management, there are two statutory bodies which are advisory to Government: the National Parks and Nature Conservation Authority, which is the vesting body for national parks, nature reserves, marine parks and conservation reserves; and Land and Forest Commission, which occupies a similar role in respect of State forests and timber reserves. Both bodies are charged with the task of preparing management plans for the various areas under their

control. Any tourist development must conform with the management plan and no development can be allowed unless a management plan exists.

There is strong opposition among some sections of the community to commercial tourist developments within national parks and, as a general rule, such ventures are better located outside the boundaries of the park. However there are certain places where the size and extent of the park may render it desirable for some privately run facilities to be operated within park boundaries. Any such development is likely to be the subject of a leasing arrangement by the Department of Conservation and Land Management to whom the first approach should be made.

Nature reserves fall into a different category since the primary purpose of these reserves is the protection of flora and fauna. Commercial tourist developments within nature reserves are unlikely to be permitted since the objective is to reduce interference from human activity to a minimum.

There are possibilities for tourist developments on Aboriginal reserve land in association with the local community, however it should be noted that such reserves are created for the use and benefit of Aboriginal inhabitants and any development which does not achieve these ends is unlikely to receive approval. It should also be noted that reserves proclaimed under Section 25 of the Aboriginal Affairs Planning Authority Act may not be entered by non-aboriginals without express approval. Tourist developments in association with Aboriginal communities would clearly need to be low key with emphasis on the Aboriginal culture and traditions.

A report on the scope for tourism in Aboriginal reserves has recently been completed and is currently being considered by Government.

Some years ago the Environmental Protection Authority undertook a study of all natural land within Western Australia to indentify areas of such high conservation value that it should be

considered for reservation as national park, nature reserve or regional park. This Conservation Through Reserves Programme was published through a series of reports on the twelve systems, or areas, into which the State was divided. The final recommendations, incorporated in a series of 'red books,' include some land already owned by the Crown, some leasehold land and some land in private ownership.

Since resumption of freehold land outside the Metropolitan region was not envisaged in the EPA's proposals, the acquisition of the land by the Crown when it came onto the market, or on expiry of an existing Crown lease, was expected to take many years. There are still a number of tracts of land identified in the reports which the Authority still wishes to see incorporated into the State's parks and reserves land bank.

PLANNING AND DEVELOPMENT CONTROL

The local authority is the first agency to be approached in respect of a new development whether this is on freehold or Crown Land for, while the local authority has the statutory power to grant or refuse approval for the development only in respect of privately owned land, approval for use of Crown Land is unlikely to be granted without the support of the local authority. Moreover the local authority is in the best position to advise on those issues which are most likely to need addressing prior to approval and where these issues should be pursued.

Should the local authority support the proposal in principle but find that development cannot proceed under existing zonings, re-zoning of the affected land will be required. The procedure for amending a local authority town planning scheme is shown in fig. 1. It should be noted that there is no right of appeal against a local authority's refusal to initiate a re-zoning, although there are two avenues of appeal against a council's refusal to approve the development itself. One of these is to the Town Planning Appeal Tribunal where the case will be

heard in a quasi-judicial framework; and the other is to the Minister for Planning who will make a decision after investigation by the Town Planning Appeal Committee.

Early discussions on the possibility of obtaining a lease of Crown Land should be held with either the Department of Land Administration or the Department of Conservation and Land Management as appropriate. Each of these agencies has regional and district managers who are well informed on the issues which will need to be addressed before tourist developments are undertaken in their areas.

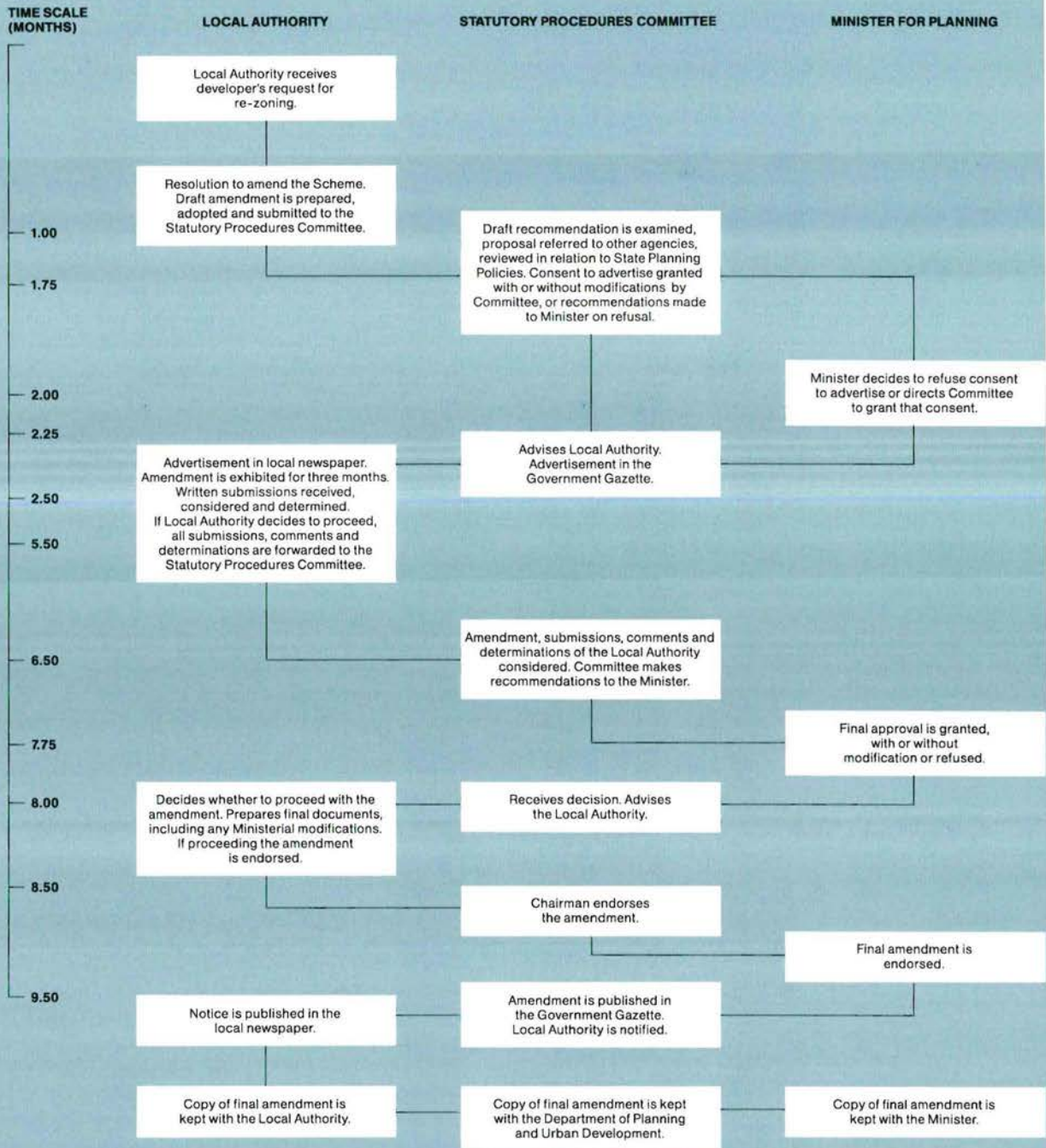
ENVIRONMENTAL IMPACT ASSESSMENT

Although formal procedures for environmental assessment are set out in the Environmental Protection Act, and the assessment is undertaken by the Environmental Protection Authority, all agencies will be concerned to see that developments harmonise with their environments and do not cause adverse environmental effects.

Section 38 of the Act requires any decision-making authority to refer proposals which could have a significant effect on the environment to the Authority for consideration. The same section also permits such referral either by the developer or by any other person. Proposals may also be referred by the Minister for the Environment or called for by the Authority itself.

It is likely that all major developments affecting scenic areas will be referred to the Authority and anyone proposing such developments would be well advised to seek early discussions with officers of the EPA. The Authority may seek formal advice from the promoter of a tourist development in the form of a Notice of Intent. This may be no more than a letter, but may be a comprehensive report, describing the proposed development and identifying the anticipated environmental impacts.

Figure 1.
*Procedure for Amending
 Local Authority Town Planning Scheme*



NOTE: The Statutory Procedures Committee operates under fully delegated powers from the State Planning Commission.

The purpose of the Notice of Intent is to enable the Authority to make an informed decision on whether the project is likely to have a significant effect on the environment and, if so, what level of assessment is appropriate.

A guide to the Environmental Protection Act (1986), was published in February, 1987, and fig. 2 shows the procedure for Environmental Impact Assessment. It will be noted that the EPA uses three levels of assessment under the Act: A Notice of Intent, a Public Environmental Report, or an Environmental Review and Management Programme. Both of the last two reports, which are prepared by the developer or his agent, are made public for a period determined by the EPA and submissions are sought.

An Environmental Review and Management Programme will probably be called for for any project which is of major scale, is likely to be controversial, has considerable environmental implications, or requires an ongoing monitoring or management component. It should be noted that the Authority has the power to vary the management programme should subsequent events show this to be necessary.

A Public Environmental Report is called for where the development is considered to have less impact but where it is felt the public has the right to know, and comment on, the proposal.

Where a proposal has been referred to the EPA, that Authority can decide that it is not sufficiently significant from an environmental standpoint to take action under its Act. It may however review the project informally and offer advice in the same way as any other Government agency may do.

Where it decides to undertake formal assessment the EPA can require the proponent and any other person to provide information, and may even hold a public inquiry with the Minister's approval, although no such inquiry has yet been held. No decision-making authority, and that includes all Government agencies and the local authority, can

then make a decision until the EPA has completed its review and reported accordingly.

The time taken to go through the complete assessment process, including public review, is unlikely to be less than three months and may take much longer. However the longest part of the process is likely to be in the preparation of the Public Environmental Report or Environmental Review and Management Programme, particularly if this involves monitoring or data gathering at the site.

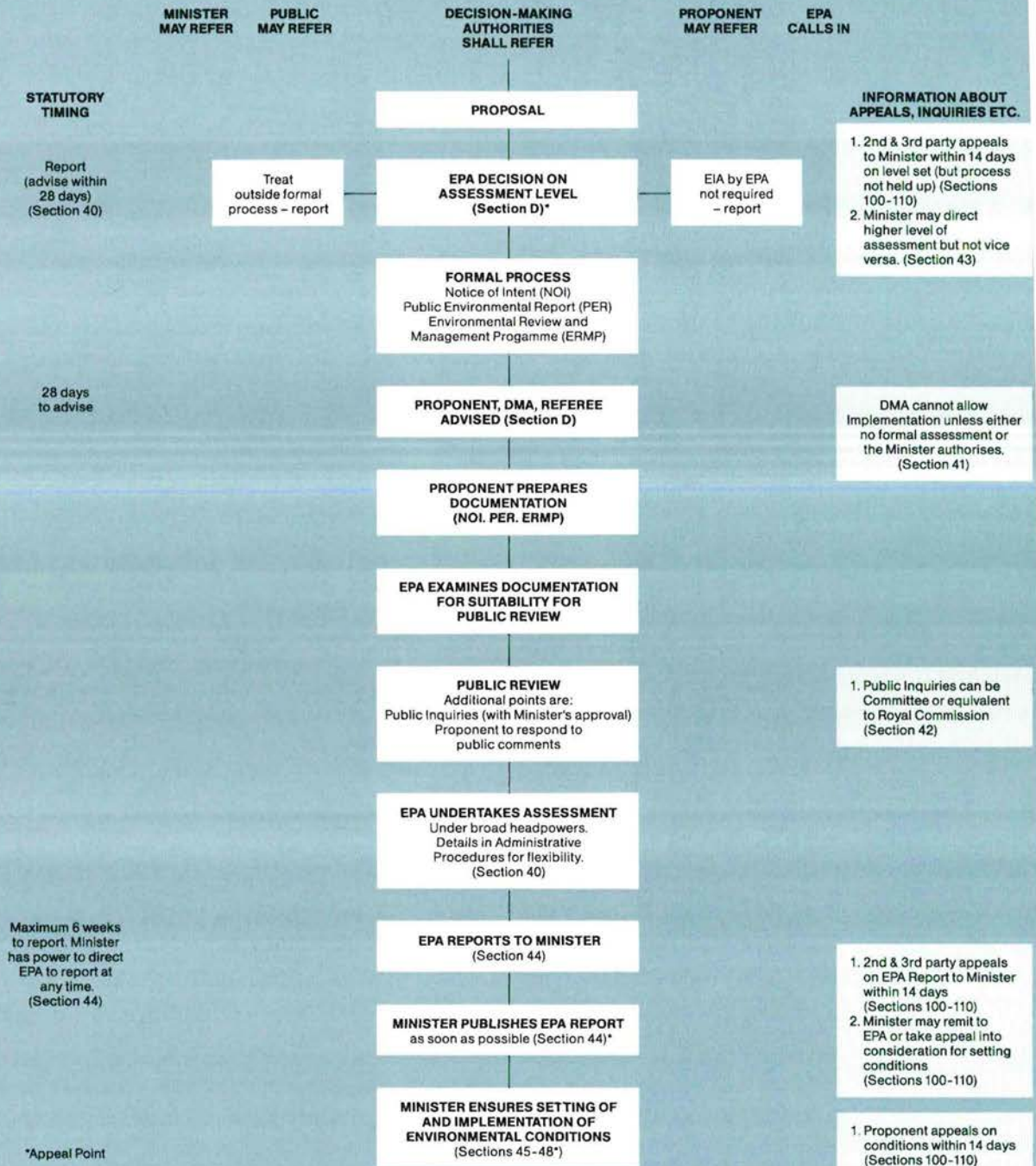
The guidelines for these public reports are generally prepared by EPA staff in consultation with the developer. The earliest consultation with the EPA is therefore advisable for environmentally significant projects to establish what information will be required. These discussions can proceed on a confidential basis even before steps have been taken to secure the site.

In addition to the State's environmental assessment requirements, the Commonwealth Government has its own assessment procedures which might apply in certain circumstances. These powers are contained in the Environment Protection (Impact of Proposals) Act (1974). However they are only likely to be invoked where the proposal takes place on Commonwealth Land or where Commonwealth approval is required for overseas funding.

Generally the Commonwealth's role in impact assessment has not been obtrusive and it is most likely that, should the Commonwealth legislation apply, any assessment is likely to be conducted jointly with the EPA who will liaise with the Commonwealth as necessary.

Figure 2.

**The Environmental Assessment (EIA) Process
(Under the Environmental Protection Act, 1986)**



ABORIGINAL SITES

All Aboriginal sites are covered by the provisions of the Aboriginal Heritage Act (1972-80). Section 17 of the Act makes it an offence to excavate, destroy, damage, conceal or in any way alter an Aboriginal site without written permission from the Minister for Aboriginal Affairs.

Although some 12,500 sites have already been identified in Western Australia and records are held by the Department of Aboriginal Sites, many more sites of importance undoubtedly exist that have not been surveyed or recorded. All sites are covered by the Act whether recorded or not, and prior to any developments that will disturb the ground, developers should liaise with the Department of Aboriginal Sites.

The Act is aimed at protecting both sites of significance to Aboriginal people and those of archaeological significance. Site significance is determined by the Aboriginal Cultural Material Committee on behalf of the Trustees of the Western Australian Museum, who have responsibility for the carriage of the Act. The Aboriginal Cultural Material Committee receives advice from the Department of Aboriginal Sites, which liaises with the traditional Aboriginal custodians.

Aboriginal cultural heritage is often focused on prominent features in the landscape and these same features will often be of interest to tourists. It is therefore important that tourist developers have a good understanding of the Aboriginal significance, if any, of the land they propose to develop.

Advice can be sought from the Department of Aboriginal Sites which has three regional offices apart from its head office in Perth. In addition the Department produces a series of regional brochures identifying the principal Aboriginal cultural heritage for the area; and from time to time arranges workshops for the tourist industry in conjunction with the Western Australian Tourism Commission.

It should be noted that a site under the Heritage Act may be large or small. It may consist of a single tree, or an arrangement of stones. Alternatively it may be a landscape feature which has mythological significance. Some areas may have access restrictions. Tour operators and developers should liaise with the Department of Aboriginal Sites before entering any area that may be of significance to Aboriginal people.

TYPES OF SPECIFIC ENVIRONMENTS

Because of the size of the State, different issues assume importance depending on the feature which is the focus of the proposed development. The purpose of this section is to assist developers to identify the constraints imposed by the various environments and to design accordingly. Site sensitive design will hasten environmental approvals.

THE COAST

With 12,500 kilometres of largely undeveloped coastline it is not surprising that a high proportion of proposed tourist developments are aimed at Western Australia's coastline.

The need to plan and manage developments near the coast has long been recognised in this State, and has gained impetus over the last fifteen years. In 1977 the EPA published its 'Guidelines for an Environmental Protection Policy on the Coastal Zone in Western Australia'. 1980 saw the appointment of the first Coastal Planning and Management Advisor, initially within the Environment Ministry but later transferred to the State Planning Commission, and in 1982 a Coastal Management Co-ordinating Committee was established.

A Government Position Paper was published in 1983, a Country Coastal Planning Policy by the State Planning Commission in 1987 and a Statement of Planning Policy on the Metropolitan Coastline by the same body in 1988.

The reason for all this activity is simple; that part of the land adjacent to the sea is subject to natural forces far stronger than the rest of the land. In addition it is often fragile, the vegetation surviving and providing soil stabilisation with difficulty in a salt-spray environment. Anyone proposing a tourist development on the coast should have a basic understanding of coastal processes.

Fortunately a large number of local coastal management plans have been prepared under the aegis of the Coastal Management Co-ordinating Committee, covering many of the most frequented parts of the coastline. In addition several regional plans and planning reports have been published, and these identify both opportunities and limitations on the coastline. Further information on all these reports can be obtained from the Planning Services Division of the State Planning Commission.

The essential fact concerning sandy coastlines is one of mobility. The constant breaking of ocean waves on sandy beaches causes the slope and shape of the beach to change. Under winter storm conditions sand will move from the beach down through the surf zone to form an offshore bar. As a result the beach becomes narrower and steeper. If the storms increase in frequency or severity the primary dune, that is the strip of mounded sand nearest the ocean, will be undercut and may also disappear into the ocean. Any constructed development such as buildings or concrete steps built on it are likely to collapse.

In calmer summer conditions the waves are lower and sand returns to the beach. In time the effect of wind and wave will be to restore the dune which has been lost to the ocean. This is part of the natural coastal process and should not be interfered with without the greatest care. Always regard the primary dune as part of the beach, not part of the land.

However, the dune system can also be affected by the wind if the primary dune becomes de-vegetated, by trampling or use of motor vehicles like dune buggies, and blow aways. There is also a risk that the secondary dune may become eroded by the ocean. The maintenance of dune vegetation is therefore of the utmost importance and access to the beach from any coastal development should only be by defined and protected walkways.

The above coastal process is a seasonal one for many beaches, but there is also the risk of an occasional storm surge which takes the form of an elevated high water. The storm surge (sometimes incorrectly called a tsunami or tidal wave) is caused by exceptional meteorological conditions, such as an intense cyclone, occurring offshore. An irregular peak, which may last for an hour or two, is added to the normal tidal rise and fall and can cause short term flooding of coastal flats above the normal high water mark. The Department of Marine and Harbours and the Bureau of Meteorology are in a position to give the best advice on storm surge.

Blowing sand can be a major nuisance not only to those on the beach, but also car parks behind the dune become inundated with sand and residential buildings can also be invaded. Coastal local authorities are particularly conscious of the problems caused by wind blown sand and some have become hostile to development proposals which involve land disturbance near the coast unless they can be convinced that nuisance will not occur. The design of developments near the coast therefore calls for expert skills.

However, movement of sand is not only onshore-offshore. Ocean waves travelling at an angle to the coastline also move sand along the coast – the so-called littoral drift. Considerable quantities of sand may move along the coast within the surf zone and any structure which intrudes across the beach will interrupt this movement, causing a build-up of sand on the up drift side and erosion on the down drift side.

Any ill-considered development that interferes with the littoral drift of sand will cause costly remedial action to be necessary. Expert advice will certainly be needed before any such developments are contemplated. The Department of Marine and Harbours has competent coastal engineers who can give preliminary advice on these issues.

Another factor of importance in considering coastal developments is whether the coastline is stable, accreting or eroding in the longer term. Where the littoral drift causes more sand to arrive at a beach than leave over a number of years, the beach will accrete, or build out. Conversely where more sand leaves than arrives, the beach slowly erodes and the dune system may slowly disappear. There are obvious dangers in establishing buildings with a long life on eroding sections of the coast. There are geomorphologists available to act as consultants on the long term stability of any particular section of coast.

Another factor of importance is often quoted as the nodal beach development. This requires that separate developments along the coast should not

be connected by roads running close to the dune system, but by roads established a kilometre or more inland with access roads down to the coast at selected locations. The reason for this is fairly obvious: coastal roads encourage visitors to park their cars by the road and tramp across the dunes to reach the beach. In so doing they destroy the dune vegetation and the road either disappears under a mass of wind blown sand, or the dune erodes and storm wave action finally undermines the road. The visual impact of coastal roads must also be considered.

Coastal roads should therefore only be constructed along rocky coastlines where they can be built unobtrusively, notwithstanding the pressure from the local population to build a scenic drive along the back of the beach.

Expert advice on dune stabilisation and the design of developments sympathetic to fragile coastlines can be obtained from the Soil Conservation Service of the Department of Agriculture.

Another factor of importance in considering coastal developments is the large variation in tidal range between the northern and southern coasts. In the south the range is in the order of half to one metre, while in the north it can be as high as ten metres. In addition the Greenhouse Effect has been estimated to cause a rise in sea level of between 30 and 140 centimetres over the next half century. While other factors may cause the rise to be much less than this, it is nevertheless prudent to plan for the possibility of a long term rise in sea level which could cause inundation of some of the lower lying coastal areas.

Also in the northern part of the State some substantial areas of coastal mangroves and samphire tidal flats occur. While these generally are less attractive coastal areas, the mangrove fringe serves an important role in protecting and stabilising the coastline, and in providing sanctuary and nourishment for juvenile fish as well as certain birds and animals. Mangroves and samphire flats should not be regarded as suitable areas for clearing and filling.

Because Australia is well endowed with fine sandy beaches and Western Australia alone has 12,500kms of coastline, there can arise the perception that the lease or sale of a short length of Crown Reserve foreshore land for a favoured tourist development will be successful. This is not likely to be the case and attempts to exclude any sections of the coast from general public access are unlikely to succeed. There are of course exceptions, such as Commonwealth Defence Department land or port areas, where safety and security require the public to be denied access.

In general a developer capitalising on a coastal development will be required to leave a foreshore reserve, in addition to any need for a coastal protection strip, between private land and the beach.

Any large scale development like a multi-storey hotel will also have to conform to the coastal scene. In general, the larger the structure the further back from the beach it is likely to be required to be located. While it would be nice from the developer's point of view to locate his hotel at the end of a peninsula projecting into the seas, so that all rooms have ocean views, the reality is that such a development would create a considerable intrusion into the coastal landscape and may well not be acceptable.

WETLANDS

In Western Australia, wetlands have been defined as:

"Areas of seasonally, intermittently or permanently waterlogged soils or inundated land, whether natural or otherwise, fresh or saline, eg. waterlogged soils, ponds, billabongs, lakes, swamps, tidal flats, estuaries, rivers and their tributaries."

They have received almost as much attention as the coast; possibly because filling and draining, undertaken in the days before the ecological importance of wetlands was understood, caused the loss of many wetlands.

Guidelines for the protection and management of wetlands have been produced from time to time by the EPA. Bulletin 374 covers the Metropolitan region and another bulletin currently in preparation: "Design and Management for Wetland Conservation", will be of particular value to those proposing tourist developments on wetlands.

Developers considering tourist developments based on or adjacent to estuaries, rivers or lakes should make themselves familiar with these guidelines.

While estuaries and tidal flats share some of the issues discussed in the previous section relating to tidal range and the Greenhouse Effect, there are other concerns that assume greater importance. Some estuaries which are already receiving a good deal of attention from the tourist industry have been the subject of detailed studies. In particular the following should be noted:

- *The Swan and Canning Rivers Activity Study 1977*
- *The Swan River Management Strategy 1988*
- *The Peel Harvey Estuarine Study 1976-86*
- *The Blackwood River Estuary Study 1974-5*

However in a State where the climate varies from mediterranean to sub-tropical, water based tourist activities will always be of major importance and it is to be expected that competition for the use of these assets will increase.

Many of Western Australia's rivers are subject to flooding, some frequent and some flooding only rarely. For example in the middle reaches of the Swan River the once in 100 year flood will elevate the water level by more than four metres. In the north the flood situation can be further aggravated by storm surge resulting from cyclonic activity. Fortunately the flood potential of most of the State's rivers has been under investigation for many years by the Water Authority of Western Australia and its predecessor the Public Works Department.

Although there are currently no statutory powers to prevent developments taking place on flood plains local authorities are normally guided by advice from the Water Authority where such projects are proposed.

The Department of Marine and Harbours and the Bureau of Meteorology are able to advise on the possibility of storm surge resulting from cyclonic activity.

The principal environmental constraint on tourist developments near to wetlands arises from the disposal of wastes and the run-off of nutrients. Water pollution can rapidly transform an attractive watercourse into an unsightly and odourous site, as the Peel Harvey study has shown, with a major impact on both amateur and professional anglers. Further nuisance resulting from excess nutrients are the proliferation of midges, the choking of water bodies with aquatic weeds and waterfowl deaths.

Developers should take particular care to design their sewage and waste water systems to minimise the risk of effluent reaching the wetland either by surface run-off or groundwater flow. The problem is exacerbated where developments are located in low-lying areas with a high water table or on unabsorbent soils such as are often found near wetlands.

Tourist developments adjacent to wetlands are amongst those most likely to be of concern to the EPA and any proposal which involves substantial buildings, recontouring of land or disposal of wastes should be discussed with their officers at an early stage.

Two important additional factors arise when an artificial waterway is constructed adjacent to an estuary to form what is called a canal estate. While these have mostly been developed for residential housing in the past, the future may see the concept extended to tourist facilities. Problems can arise due to the salty estuarine water being introduced into what was formerly land, due to the movement of the fresh/salt groundwater interface. This can, for

example, lead to nearby bores drawing saline instead of fresh water.

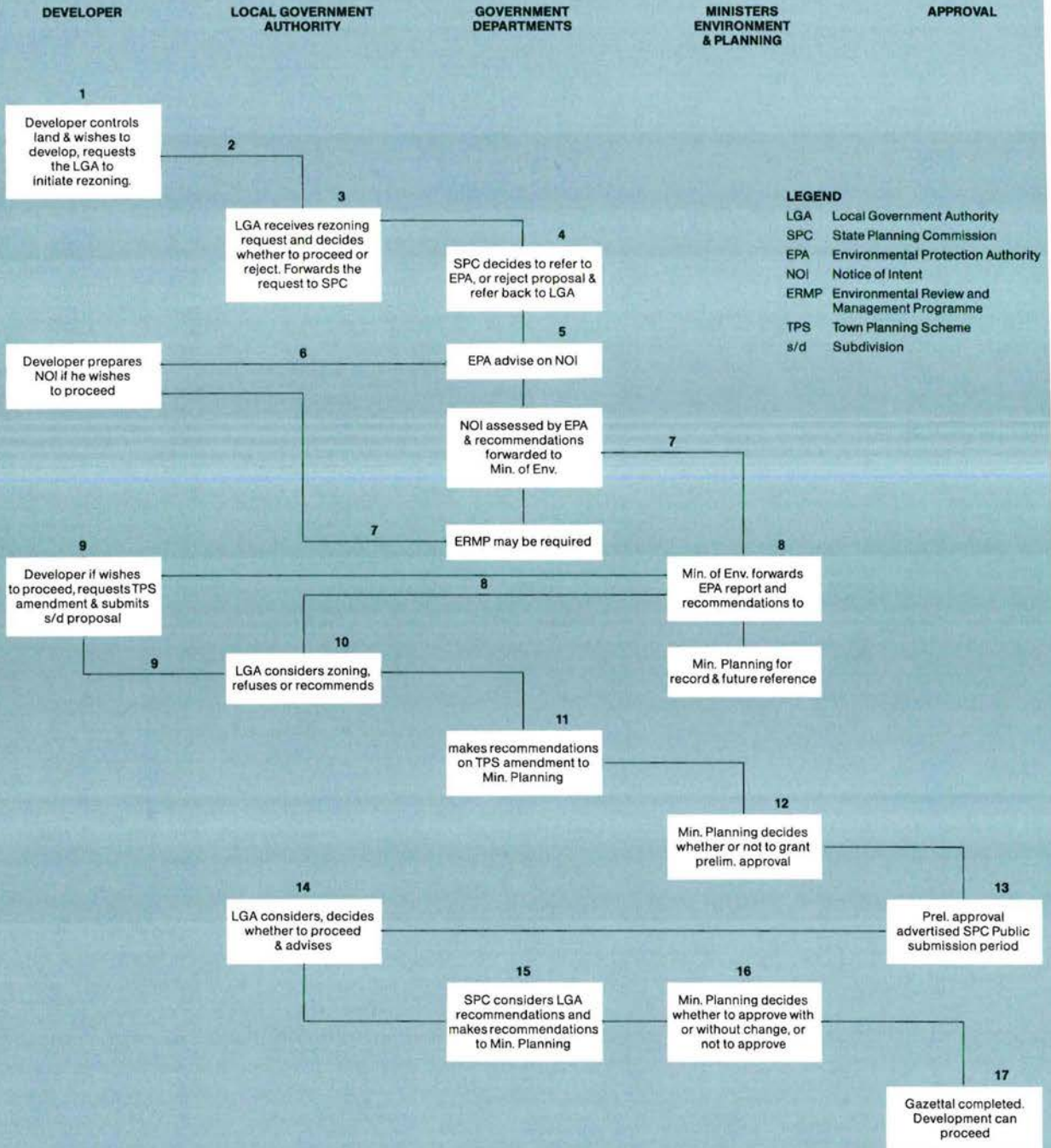
The other problem which can result from poor flushing within the constructed waterway is the build-up of nutrients from garden fertilisers and other pollutants. This is most likely to occur when the tidal range in the natural waterway is small as is generally the case in the South West of the State.

Since re-zoning is generally necessary for the construction of a canal estate and the preparation of an Environmental Review and Management Programme (ERMP) is also likely to be required, a table setting out the procedures for obtaining approval is shown in Fig. 3. The procedures have been subject to some criticism because both the ERMP, and the preliminary approval for re-zoning must be advertised for public comment. Under the procedures shown in Fig. 3, these two periods of public review are not concurrent and this extends the time needed for approval. A review is currently being undertaken to see whether this process can be shortened.

Three estuaries are subject to further controls, the Peel Harvey Estuarine system, which is under the control of the Peel Inlet Management Authority; and the Leschenault Inlet, controlled by the Leschenault Inlet Management Authority. Both of these statutory bodies were created under the Waterways Conservation Act and their responsibilities include the conservation of the estuaries and their banks. Any works carried out on foreshore land covered under the Act requires the approval of the appropriate body.

More recently, the Swan River Trust was established under its own Act in 1989 and took over responsibility for the Swan and Canning Rivers from the former Swan River Management Authority. The Trust has prepared its own pamphlet on Development Approval Procedures. Generally the Trust has direct responsibility for the two rivers and all foreshore land reserved under the Metropolitan Region Scheme.

Figure 3.
*Procedure for Approval
 to Develop a Canal Estate*



It would be prudent for developers proposing projects close to these estuaries to contact the appropriate agencies; either the Swan River Trust in the case of the Swan and Canning Rivers, or the Peel Inlet Management Authority or Leschenault Inlet Management Authority in the case of these two estuaries.

Lakes, swamps and partly inundated land have the capacity to breed mosquitos which can cause considerable nuisance, if not create a health hazard due to Ross River virus. Fortunately research into the mosquito problem has been sponsored by a number of Government agencies and local authorities and advice on minimising the problem can be obtained from the EPA amongst others.

NATIONAL PARKS AND STATE FORESTS

Tourist developments based on national parks offer considerable scope for people to enjoy both natural bush and many scenic features unique to Western Australia. As previously stated commercial tourist developments within a park arouse considerable opposition from some sections of the community and are best avoided if possible. Where alternatives do not exist, the Department of Conservation and Land Management (CALM) is prepared to consider a leasing arrangement provided that it has a major say in the style of development. A maximum twenty year lease is permissible under the legislation.

There is a degree of inherent conflict between tourism and the conservation of parks in that the attraction of parks is primarily due to the enjoyment people get out of visiting natural areas where the landscape, flora and fauna have been unchanged for thousands of years. However the very pressure of too many visitors itself reduces these natural values, particularly if careful management is not available. CALM therefore takes a pro-active role in respect of tourist accommodation adjacent to national parks, and seeks the assistance of developers in maintaining and enhancing park values.

Between the extreme views of those who advocate the maximum tourist exploitation of scenic and natural areas, and those who argue that national parks can best be protected by minimising human intrusion, lies a proper balance. Like many developing states with large land areas and small population, Western Australia does not have the financial resources to manage all of its parks effectively. Calls for the opening up of scenic areas by better access roads must be considered against the availability for sufficient park rangers to cope with the resulting influx of visitors.

For many years it has been Government policy to restrict access to some remoter sections of national parks by not providing access roads until on-the-ground management can be provided. This is a legitimate approach, indeed the only one if the decimation that can be caused by fire, or the degradation due to littering and lack of toilet facilities within the park, are to be avoided.

CALM has identified seven principal values in land entrusted to it:

- *flora and fauna conservation*
- *landscape beauty and amenity*
- *water*
- *timber*
- *recreation*
- *minor resources such as honey, wildflowers*
- *historical or cultural factors.*

There are also commercial uses to which the land may be put such as mining, roads, reservoirs, power line easements etc. In pursuing a policy of multiple land use CALM identifies some uses which are compatible and some which are not.

As the population increases, not only in Australia but also worldwide, the demand for tourist accommodation and other facilities, so that visitors can enjoy what will become increasingly rare – large tracts of natural and completely unaltered land – can only grow. CALM recognises this long term trend and is anxious to assist tourist developers in managing the increase in pressure on our natural places.

THE NORTH

The northern half of the State offers great challenges and opportunities for tourist development. The Western Australian Tourism Commission believes that the north represents one of the greater growth potentials for the future.

The principal characteristics of the north, contrasting with the south are:

- *Low population density resulting in a less developed infrastructure*
- *Dramatic landscapes of gorges, ravines and monoliths which tend to fragility*
- *A climate which is sub-tropical with uncertain rainfall and cyclones.*

The low population density leads to road access being poor or non-existent. Reticulated power, water and sewerage do not exist outside these towns.

While the spectacular landscapes provide excellent opportunities for tourism, the carrying capacity of this country is low with serious risks of soil erosion resulting from friable soils and rocks. Sensitivity in design and use are therefore most important.

The climate too imposes its own constraints with destroyed vegetation being slow to recover in low and uncertain rainfall. The northern coastline is also cyclone prone leading to a need for cyclone-proof building design. However in the north west the cyclonic activity is the main source of rainfall

which may be very heavy. Good drainage is therefore a prerequisite of developments and flood plains avoided wherever possible.

The tidal range is high, contrasting with the south, and this, coupled with the risk of storm surge at sea due to cyclonic activity, places constraints on the location of coastal developments near to the sea. Advice should be sought on maximum predicted tide-cum-surge levels from the Department of Marine and Harbours.

Because of unreliable rainfall and very high rates of evaporation many areas in the Pilbara have high soil salt levels reducing the range of vegetation able to be grown. The problem may be made worse by irrigation using groundwater, as rising water tables will mobilise salt stored in the soil profile. It may therefore be difficult and costly to establish those traditional gardens which make the tourist development attractive. A booklet "Water Conservation through Good Design", produced by the W.A. Water Resources Council will be found to be particularly helpful. Examination of the soil salt levels prior to a decision to proceed on any particular site may help to avoid later problems.

While the underground water resources have been well defined in the more populated south, less is known about the reserves of underground water in the north. Where rainfall is sporadic and unreliable, recharge rates are less certain and, even where usable groundwater exists, available draw rates may not be known. The Groundwater Section of the Water Authority of W.A. and the hydrogeologists in the Mines Department are the best people from whom to seek advice on availability of potable groundwater and sustainable yield.

Land tenure in the north is again somewhat different to the south. Overall only seven per cent of land in Western Australia has freehold title and by far the highest proportion of this lies in the south. Much of the land in the northern half of the State comprises pastoral leases granted by the Pastoral Board. The Department of Land Administration has responsibility for most of the Crown Land in the north.

A further complication that developers proposing tourist projects in the north should be aware of is the quarantine regulations which apply north of the tropic of Capricorn.

The quarantine regulations are administered by the Department of Agriculture and those affecting the north of Western Australia also apply to most of the Northern Territory and a small part of north west Queensland. Included is vegetable matter which may not be transferred into or out of this area are cotton and cotton seed, maize, rice, soybean and sugar cane. Details are obtainable from the Department of Agriculture. In addition some areas have been quarantined, and access restricted, due to the risk of transporting noxious weeds.

THE SOUTH

The tourist industry is already well established in the South West of the State, based largely on the temperate climate, accessible and attractive beaches including sheltered beaches to the south of Geographe Bay, the forest country which provides excellent stands of jarrah, karri, tuart and tingelwood unique to Western Australia, and more recently a flourishing wine-making industry. The South West is also noted for its rivers and estuarine embayments, many in unspoilt surroundings.

Many of the problems to be encountered in the north are likely to be less in the south. However as is to be expected land use conflicts are more evident owing to the competition for land. Pressure for sub-division near to the coast is high and land prices have been forced up.

In the Leeuwin-Naturaliste Region, between Busselton and Augusta, the State Planning Commission is preparing a regional plan on which future land use planning will be based. Stage one of the plan was completed in August 1988 and Stage 2, dealing with the southern section was released in April 1989. Two major resources – timber and water – have assumed prime importance in the South West region. Timber is under threat from wildfire and in some areas from the jarrah root fungus disease *Phytophthora Cinnamoni* also known as

'dieback'. Prevention and control of wildfire and the quarantining of disease risk areas (some 237,000 hectares) mainly in the eastern half of the jarrah forest have imposed controls on those using the forests.

All tourist developers in the area should be aware of these restrictions. Details can be obtained from the Department of Conservation and Land Management.

Because clearing of the land in the early days of settlement led to the major rivers in the South West becoming saline and unsuitable for drinking water supply, those smaller rivers whose catchment is largely confined to the forested areas have assumed increased importance in meeting future water demands, and to conserve flora and fauna dependent on fresh water streams.

As a result the clearing of land in several designated catchments has been restricted. Where the catchment has been declared for the purposes of water supply a number of constraints on land use are imposed by the Water Authority. Developers should ascertain which catchment their projects fall within and whether any special requirements are needed. This information can be obtained from the Water Authority.

GOVERNMENT AGENCIES

The following is a list of Government Agencies which are either directly involved in the approval process of a tourism development or which may be useful to contact and discuss various aspects of a proposal.

**STATE PLANNING COMMISSION AND
DEPARTMENT OF PLANNING AND
URBAN DEVELOPMENT**

The head office of the Commission is located at:

Oakleigh Building
22 St George's Terrace
PERTH WA 6000
Tel. (09) 425 7333

Regional offices are located at:

Albany

1st Floor
"Coach House"
Peel Street
ALBANY WA 6330
Tel. (098) 41 8122

Bunbury

Bunbury Tower
61 Victoria Street
BUNBURY WA 6230
Tel. (097) 91 0577

Geraldton

Suite 2, Geraldton Shopping Centre
Chapman Road
GERALDTON WA 6530
Tel. (099) 21 2700

The Commission has responsibility for overall planning and land use throughout the State but has delegated many of its powers to two councils: The Metropolitan Planning Council and the Country Planning Council. It also has specific responsibility for coastal planning and coordination through the Coastal Management Coordinating Committee.

Strategic planning is undertaken by the Strategic Planning and Policy Division and statutory planning through the Planning Services Division of the Department. The latter is divided into Metropolitan and Country, each with a Planning Services Coordinator.

Within the Metropolitan area the Commission has a number of powers residual from the now defunct Metropolitan Region Planning Authority, but outside this area the Commission's primarily concerned with developments that require either re-zoning or subdivision. These issues are dealt with by the Statutory Procedures Committee acting under delegated powers.

**DEPARTMENT OF LAND
ADMINISTRATION**

Located at:

Central Government Building
Cathedral Avenue
PERTH WA 6000
Tel. (09) 323 1222

There are regional offices located at:

Bunbury

Bunbury Tower
61 Victoria Street
BUNBURY WA 6230
Tel. (097) 91 0836

Karratha

SGIO Building
Welcome Road
KARRATHA WA
Tel. (091) 86 8276

Kununurra

Government Office
Messmate Drive
KUNUNURRA WA 6743
Tel. (091) 68 0255

The Land Operations Division deals with the sub divisional planning of Crown Land together with acquisition and disposal, management and conveyancing of such land.

Initial approaches for those seeking a lease of Crown Land should be to the appropriate region manager in the following areas:

Metropolitan - Perth

Bunbury - Bunbury

South-east - Perth

Mid-west - Perth

Pilbara - Karratha

Kimberley - Kununurra

**THE ENVIRONMENTAL PROTECTION
AUTHORITY**

The EPA comprises a five person statutory body together with a department of about 120 officers. The Chairman is the only full-time member of the Authority and is also the chief executive of the department.

The organisation is located at:

B.P. House
1 Mount Street
PERTH WA 6000
Tel. (09) 222 7000

with the pollution control branch at:

57 Murray Street
PERTH WA 6000

An officer is also located at Karratha.

SGIO Building
Welcome Road
KARRATHA WA 6714
(091) 86 8292

The two divisions most likely to be concerned with tourist developments are the Evaluation Division concerned with environmental impact assessment and the Environmental Investigations Division which provides the scientific research and investigative back-up to the Evaluation Division.

**DEPARTMENT OF CONSERVATION
AND LAND MANAGEMENT**

CALM Head Office is located at:

Hackett Drive
CRAWLEY WA 6009
Tel. (09) 386 8811

The operational headquarters is at:

50 Hayman Road
COMO WA 6152
Tel. (09) 367 0333

Regional Offices are located at:

Albany

44 Serpentine Road
ALBANY WA 6330
Tel. (098) 41 7133

Geraldton

Cathedral Avenue
(Cnr Chapman Street)
GERALDTON WA 6530
Tel. (099) 21 5955

Karratha

Welcome Road
KARRATHA WA 6714
Tel. (091) 86 8258

Kununurra

Konkerberry Drive
KUNUNURRA WA 6743
Tel. (091) 68 0200

Mt. Pleasant

5 The Esplanade
MT. PLEASANT WA 6153
Tel. (09) 364 0777

Bunbury

North Boyanup Road
BUNBURY WA 6230
Tel. (097) 25 4300

Kalgoorlie

Hannan Street
KALGOORLIE WA 6430
Tel. (090) 21 2095

Kelmscott

3044 Albany Highway
KELMSCOTT WA 6111
Tel. (09) 390 5977

Manjimup

Brain Street
MANJIMUP WA 6258
Tel. (097) 71 1988

Narrogin

PO Box 100
NARROGIN WA 6312
Tel. (098) 81 1113

In addition there are several district offices, but initial enquiries are best directed to the nearest regional office.

**DEPARTMENT OF REGIONAL
DEVELOPMENT AND THE NORTH WEST**

The Head Office is located at

12th Floor, May Holman Centre
32 St George's Terrace
PERTH WA 6000
Tel. (09) 222 0222

In addition, regional offices are located at:

Central

McIver House
297 Fitzgerald Street
NORTHAM WA 6401
Tel. (096) 22 4254

Goldfields-Esperance

377 Hannan Street
KALGOORLIE WA 6430
Tel. (090) 21 0811

Pilbara

Cnr Welcome and
Searipple Roads
KARRATHA WA 6714
Tel. (091) 85 0188

Development Authorities

Esperance

Port Authority Building
The Esplanade
ESPERANCE WA 6450
Tel. (090) 71 1558

Great Southern

144 Stirling Terrace
ALBANY WA 6330
Tel. (098) 41 4088

Gascoyne

Stuart House
Stuart Street
CARNARVON WA 6701
Tel. (099) 41 1803

Kimberley

Papuana Street
KUNUNURRA WA 6743
Tel. (091) 68 1044

Geraldton Mid-West

SGIO Building
45 Cathedral Avenue
GERALDTON WA 6530
Tel. (099) 21 0702

South West

Bunbury Tower
61 Victoria Street
BUNBURY WA 6230
Tel. (097) 91 2000

**WESTERN AUSTRALIAN TOURISM
COMMISSION**

The Commission was established to serve the growing needs of a fast developing tourism industry in Western Australia. It has three relevant divisions:

Investment and Regional Development

Marketing

Research and Planning.

Head Office

16 St George's Terrace
PERTH WA 6000
Tel. (09) 220 1700

The Investment and Regional Development Division is committed to assisting tourism investors and has staff located throughout the State.

Central South

Park Street
NARROGIN WA 6312
Tel. (098) 81 0113

Goldfields

377 Hannan Street
KALGOORLIE WA 6430
Tel. (090) 21 0821

Kimberley

Papuana Street
KUNUNURRA WA 6743
Tel. (091) 68 1044

Midwest

PO Box 135
GERALDTON WA 6530
Tel. (099) 21 0709

South West

Bunbury Tower
61 Victoria Street
BUNBURY WA 6230
Tel. (097) 91 0810

Gascoyne

30 Robinson Street
CARNARVON WA 6701
Tel. (099) 41 2406

Great Southern

45 Serpentine Road
ALBANY WA 6330
Tel. (098) 41 8599

Midlands

130 Avon Terrace
YORK WA 6302
Tel. (096) 41 1877

Pilbara

State Government Office
Cnr Welcome &
Searipple Roads
KARRATHA WA 6714
Tel. (091) 85 0188

**WATER AUTHORITY OF
WESTERN AUSTRALIA**

The Water Authority's head office is at:

John Tonkin Water Centre
629 Newcastle Street
LEEDERVILLE WA 6007
Tel. (09) 420 2420

Regional offices are located at:

Albany

63 Serpentine Road
ALBANY WA 6330
Tel. (098) 41 4111

Bunbury

Bunbury Tower
61 Victoria Street
BUNBURY WA 6230
Tel. (097) 91 0400

Geraldton

SGIO Building
45 Cathedral Avenue
GERALDTON WA 6530
Tel. (099) 21 0888

Kalgoorlie

Hannan Street
KALGOORLIE WA 6430
Tel. (090) 21 2755

Karratha

Welcome Road
KARRATHA WA 6714
Tel. (091) 86 8222

Mandurah

13 Pinjarra Road
MANDURAH WA 6210
Tel. (09) 535 6333

Northam

Fitzgerald Street
NORTHAM WA 6401
Tel. (096) 22 1422

with district offices in many other towns.

**COMMONWEALTH BUREAU
OF METEOROLOGY**

The W.A. regional office is located at:

127 Wellington Street
EAST PERTH WA 6000
Tel. (09) 425 9299

**DEPARTMENT OF MARINE
AND HARBOURS**

Marine House
1 Essex Street
FREMANTLE WA 6160
Tel. (09) 335 0888

**WATERWAYS COMMISSION AND
SWAN RIVER TRUST**

Jardine House
184 St George's Terrace
PERTH WA 6000
Tel. (09) 321 8677

DEPARTMENT OF AGRICULTURE

Two divisions of the Department may be of particular help in planning tourist developments: the Agricultural Quarantine Service and the Soil Conservation Service. Both are located at:

Baron-Hay Court
SOUTH PERTH WA 6151
Tel. (09) 368 3333.

Like other agencies the Department of Agriculture has a number of regional offices.

ABORIGINAL AFFAIRS

The Department of Aboriginal Sites, the Aboriginal Affairs Planning Authority and the Aboriginal Lands Trust are all located at:

35 Havelock Street
WEST PERTH WA 6005

Department of Aboriginal Sites
Tel. (09) 322 7144

Aboriginal Affairs Planning Authority and
Lands Trust
Tel. (09) 483 1222

Developers who need to determine the existence of Aboriginal sites should contact the Field Services Division of the Department.