

MARINE POLICY & COORDINATION

**ENVIRONMENTAL GUIDELINES AND PROCEDURES
IN RELATION TO CALM ADVICE ON THE MARINE
ASPECTS OF AQUACULTURE AND PEARLING
PROPOSALS IN WESTERN AUSTRALIA**

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CONTENTS

	PAGE
1. INTRODUCTION.....	1
2. LEGISLATION.....	1
2.1 INTRODUCTION.....	1
2.2 WILDLIFE CONSERVATION ACT 1950.....	2
2.3 CONSERVATION AND LAND MANAGEMENT ACT 1984.....	2
3. ENVIRONMENTAL FRAMEWORK	2
3.1 MAINTENANCE OF BIODIVERSITY AND ECOLOGICAL INTEGRITY	3
3.2 MAINTENANCE OF INTER-GENERATIONAL EQUITY (IE AVOIDANCE OF IRREVERSIBLE IMPACTS)	4
3.3 MAINTENANCE OF INTRA-GENERATIONAL EQUITY (IE EQUITY AMONG CURRENT USERS).....	4
4. PROCEDURES FOR CALM ADVICE TO OTHER GOVERNMENT AGENCIES	4
4.1 AQUACULTURE AND PEARLING PROPOSALS	4
5. GUIDELINES FOR PRELIMINARY CALM ADVICE TO PROPONENTS.....	5
5.1 FILTER FEEDING PROPOSALS	5
5.2 ARTIFICIAL FEEDING PROPOSALS.....	6
6. ACKNOWLEDGEMENTS	7
 APPENDICIES	
Appendix I. FLOW-CHART SHOWING THE PROCESS FOR THE ASSESSMENT OF PEARLING AND AQUACULTURE PROPOSALS. MINISTERIAL POLICY GUIDELINES No. 8, FISHERIES WA (1997)	8
Appendix II. MARINE CONSERVATION RESERVES: AQUACULTURE AND PEARLING (A GUIDE).....	10

1. INTRODUCTION

The numbers of aquaculture and pearling proposals in Western Australian waters have increased rapidly in recent years and this trend is likely to continue. Apart from pearling (*Pinctada maxima*) and mussel (*Mytilus edulis*) aquaculture, these industries are largely in a developmental stage. The following procedural guidelines have been developed to ensure that the Department of Conservation and Land Management (CALM) provides a coherent, technically defensible state-wide approach, both informally and formally, with respect to the marine aspects of aquaculture proposals in Western Australia.

Aquaculture projects in Western Australia are administered under the *Fish Resources Management Act 1994* (FRM Act) and pearling projects involving the large pearl shell, *P. maxima*, are administered under the *Pearling Act 1990*. The Executive Director of Fisheries WA (FWA) may grant aquaculture and pearling (*P. maxima*) licenses subject to a number of conditions being satisfied. Aquaculture and pearling (*P. maxima*) leases are granted by the Minister for Fisheries on advice from relevant decision making authorities and the Executive Director of Fisheries WA. The Minister for Fisheries must give weight to, but is not bound to accept any recommendation or advice of the Minister responsible for traditional usage rights. The normal process for assessment of aquaculture and pearling proposals by the Executive Director of Fisheries requires ;

- the consideration of advice from and the approval of relevant decision making authorities
- consultation with other relevant agencies, representative community and industry groups
- advertising in the press to provide an opportunity for public comment

A flow-chart illustrating the process for the assessment of aquaculture and pearling proposals is provided in Appendix I. For further details refer to Ministerial Policy Guideline No.8. Fisheries WA (1997).

Aquaculture and pearling licences and leases cannot be granted in Marine Nature Reserves or in *Sanctuary and Recreation Zones* of Marine Parks, but are permitted in and *General Purpose Zones* in Marine Parks and *Special Purpose Zones*, providing this use is consistent with the designated conservation purposes of the zone. Aquaculture and pearling licences and leases can also be granted in Marine Management Areas, a new category of multiple-use marine reserve established by amendments made to the *Conservation and Land Management Act 1984* (CALM Act) by the *Acts Amendment (Marine Reserves) Act 1997*. Granting of new licences and leases for aquaculture or pearling in the permissible zones of Marine Parks and in Marine Management Areas is subject to the approval of the Minister administering the CALM Act.

Aquaculture projects can also be referred to the Environmental Protection Authority (EPA), via the Department of Environmental Protection (DEP) for environmental impact assessment which can be either an informal or formal process under the *Environmental Protection Act 1986* (EP Act).

These guidelines address the marine aspects of aquaculture and pearling proposals only.

Note: Advice on the terrestrial aspects of these proposals will be sought from CALM's Environmental Protection Branch and the relevant Regional and District offices, and included in CALM's formal response.

2. LEGISLATION

2.1 Introduction

Subject to the direction and control of the Minister, CALM administers the *Wildlife Conservation Act 1950* and the CALM Act. As such CALM has statutory responsibility for the protection of fauna and flora throughout the State, including State waters, as well as management of marine and terrestrial conservation reserves and some other lands. These responsibilities have some overlap with the EP Act

and, to a lesser extent, with the FRM Act. The respective primary objectives of the EP Act and FRM Act are to ensure that development does not significantly impact the environment and ensure that exploited fish resources are managed on a sustainable basis.

The following is a brief summary of the statutory implications of the Wildlife Conservation Act and the CALM Act in relation to aquaculture and pearling projects in Western Australia. Further details in respect of CALM Act marine reserves are provided in Appendix II.

2.2 Wildlife Conservation Act 1950

All fauna and flora, irrespective of the tenure on which they occur, are protected throughout the State, including State waters. As such it is an offence to 'take' protected fauna or flora without lawful authority anywhere in the State or its waters under the Wildlife Conservation Act. In respect of fauna, 'take' includes killing, capture, molestation and disturbance. In respect to flora 'take' includes removal, damage and disturbance. For example, it is an offence under the Wildlife Conservation Act to disturb nesting sites of seabirds and turtles, or to remove, damage or disturb communities such as mangrove forests, seagrass meadows and coral reefs.

2.3 Conservation and Land Management Act 1984

Significant amendments were made to the marine reserve provisions of the CALM Act by the *Acts Amendment (Marine Reserves) Act 1997* (Amendment Act), including amendments directly affecting the presence of aquaculture and pearling projects in marine reserves. The Amendment Act also amended the FRM Act and Pearling Act to support the changes made to the CALM Act. The changes made affect all three categories of CALM Act marine reserve. The guide in Appendix II provides an overview of aquaculture and pearling in marine conservation reserves.

Marine nature reserves

In marine nature reserves aquaculture and pearling activities are not permitted.

Marine parks

Subject to normal assessment processes, aquaculture and pearling activities are generally permissible in marine park general use zones and certain special purpose zones. New licences and leases with respect to aquaculture and pearling activities may be granted for operations in a permissible marine park management zone provided the Minister administering the CALM Act approves the granting of the licence or lease. The special purpose zones where aquaculture and pearling are not permitted are those where it has been declared by the Minister administering the CALM Act that these activities are incompatible with a conservation purpose specified in the relevant classified area notice. The other marine park management zones where these activities are not permitted are sanctuary and recreation zones.

Marine management areas

In marine management areas the activities of aquaculture and pearling are permissible activities subject to normal assessment processes. The exclusion and permissible zoning scheme that applies in marine parks does not apply to marine management areas. The granting of new aquaculture and pearling licences and leases in marine management areas is subject to the same requirements as those described above with respect to these activities in the permissible marine park management zones.

Land reserves

In respect of all land reserves managed by CALM, including island reserves, aquaculture and pearling are not compatible with the statutory purposes and objectives of management plans for nature reserves, conservation parks or national parks, and consent to carry out aquaculture or pearling, or establish aquaculture or pearling infrastructure on such reserves, cannot be granted.

3. ENVIRONMENTAL FRAMEWORK

The unifying principles of Ecologically Sustainable Development (ESD) provide government agencies with a strategic environmental framework against which the administration of the legislation they are responsible for can be considered and so ensure that development, in this case aquaculture and pearling projects, proceed on an ecologically sustainable basis. These principles are the maintenance of biodiversity, ecological integrity and equity, both within and between generations. Current uses of the marine environment should be equitably managed as well as ensuring that future uses are not compromised. In biological terms the latter provision can be expressed as “...*the avoidance of significant irreversible impacts*”.

ESD principles also provide the conceptual framework for CALM regional officers when providing informal advice to aquaculture or pearling proponents and Fisheries WA Aquaculture Development officers, as well as the basis for formal advice to Fisheries WA and the Environmental Protection Authority (via the Department of Environmental Protection) from CALM's Marine Conservation Branch. If adhered to, this framework will facilitate consistency between informal advice at a regional level and advice provided formally by CALM via the Marine Conservation Branch. In a general sense, an aquaculture proposal that does not compromise the above principles, is by definition acceptable. In the past however, there has rarely been sufficient scientific information to support a technical argument for this position. Where information deficiencies exist and where other aspects of an aquaculture or pearling project give rise to serious concerns about environmental impacts, a *precautionary approach* should be taken and progression of the project reconsidered when more information is obtained to better assess the ecological risks. An example of where additional information is likely to be required are proposals to artificially feed a large number of caged animals (eg tuna) in enclosed, or poorly flushed waters. In most situations however, common sense and an understanding of how the broad principles of marine ecology apply in the Western Australian context can be used to assess the level of potential ecological risk. This can then form the basis for informal advice to proponents and the Fisheries Department in the early stages of aquaculture projects. Sound advice early in the planning phase can significantly reduce ecological concerns and potential conflicts with other users.

3.1 Maintenance of biodiversity and ecological integrity

Individual aquaculture or pearling projects are unlikely to compromise marine biodiversity values, in terms of the global gene pool, due to the generally widespread (>100 km) distribution of most marine flora and fauna in Western Australian waters and the relatively low level of endemism, particularly in the State's tropical waters. However, aquaculture and pearling projects involving the translocation of species outside their natural geographical range, are not included in this generality. The level of threat posed by aquaculture or pearling to the ecological integrity of marine ecosystems can be broadly assessed by the magnitude of the project and the perceived direct (on-site) and indirect (off-site) impacts on ecologically important components of the system in question. For example, properly managed, small-scale pearl or mussel (ie filter-feeding organism) farms located over areas of soft substrata (ie sand or mud), are unlikely to have ecologically significant on-site or off-site impacts. By contrast, large-scale aquaculture projects requiring intensive artificial feeding, such as tuna farms, require careful planning if long-term ecological impacts, both on-site and off-site, are to be avoided. The mass mortality of caged tuna in Port Lincoln in 1996 highlights the need for planning to be based on a good technical understanding of the potential environmental issues and comprehensive on-going environmental monitoring and management programs.

As a general rule aquaculture or pearling projects should be located some distance and downstream from areas of high primary productivity and/or biological diversity. Biological communities potentially at risk include algal and seagrass meadows, mangrove forests, coral reefs and limestone reef systems. These sensitive areas usually represent less than 20% of benthic habitat in most Western Australian marine ecosystems, therefore the avoidance of these community types by aquaculture and pearling developments will ensure the ecological integrity of an area is maintained without being unnecessarily restrictive to the industry. As areas of high primary productivity and diversity are often the foci of much recreational activity (eg. fishing, diving etc), their avoidance by aquaculture and pearling developments has the additional benefit of reducing potential conflicts with other users. The closer proposed

aquaculture or pearling sites are to important biological communities, the greater the need to assess potential ecological risk at the outset and, once in place, to intensively monitor the surrounding environment. This can place a significant financial burden on the proponent in both the initial development phase and during on-going production.

3.2 Maintenance of inter-generational equity (ie avoidance of irreversible impacts)

The pelagic life-form of many marine plants and animals during the early stages of their life history allows many impacted marine communities to recover once the cause of the original impact is removed. Therefore in many cases the principle of inter-generational equity, that is, the avoidance of significant irreversible biological impacts, is unlikely to be compromised by aquaculture or pearling projects, particularly when sited over areas of relatively low biodiversity such as bare sand or mud. However, current information on the recovery of the dominant meadow-forming seagrass communities in Western Australia's temperate marine waters suggests that seagrass communities, particularly the genera *Posidonia* and *Amphibolis*, are exceptions to this rule. It follows then that aquaculture and pearling projects must be sited and managed to avoid direct or indirect impacts on these communities if the principle of inter-generational equity is to be maintained.

3.3 Maintenance of intra-generational equity (ie equity among current users)

The maintenance of equity among current users is a more vexed question given the aquaculture and pearling industries' potential to generate considerable conflict with other groups and individuals who use the marine environment. The requirement for public consultation during the marine reserve implementation process under the CALM Act and the consequent zoning provide statutory mechanisms for resolving user conflicts within marine reserves. However, existing mechanisms outside the CALM marine reserve process are less able to ensure equity among potentially conflicting uses. These inadequacies have been clearly demonstrated by the strength of community opposition to aquaculture and pearling proposals in the Dampier Archipelago and aquaculture proposals close to Albany. This matter is being addressed by the Fisheries Department.

As a general guideline, aquaculture and pearling projects should not be located in areas with a high level of existing recreational use. If followed, this guideline will facilitate a balance between competing users in the marine environment of Western Australia and hence reduce conflict.

4. PROCEDURES FOR CALM ADVICE TO OTHER GOVERNMENT AGENCIES

The Manager (or delegate) of CALM's Marine Conservation Branch has responsibility for coordinating CALM's formal response to all aquaculture and pearling (*P. maxima*) projects to Fisheries WA and the Environmental Protection Authority (via the Department of Environmental Protection). As much of the initial informal CALM advice to FWA and aquaculture proponents is given by regional staff there is a need to ensure consistency between the informal advice delivered at the regional level and formal advice from the MCB. As such the following procedures have been developed to ensure a coordinated, coherent approach by CALM to the aquaculture and pearling industries:

4.1 Aquaculture and Pearling Proposals

- Project proposals initially received by regional staff should be forwarded, within two weeks of receipt, with written comments to: The Manager, Marine Conservation Branch, 47 Henry Street, Fremantle, Western Australian 6160. Ph. (08) 9432 5100; Facsimile: (08) 9430 5408; email [stellak@calm.wa.gov.au].
- Project proposals initially received by the Manager, Marine Conservation Branch will be sent to the appropriate Regional and District Managers, with initial comments from the Branch, within one

week of receipt. Such proposals are to be returned with written comment to the Manager, Marine Conservation Branch within a further four week period.

- The Manager, Marine Conservation Branch will then coordinate the appropriate CALM response to the executive director of FWA and/or DEP with copies sent to the appropriate Regional and District Managers.
- Where applicable, the Manager, Marine Conservation Branch will arrange for a proposal to be brought to the attention of the Marine Parks and Reserves Authority and/or the Minister.

5. GUIDELINES FOR PRELIMINARY CALM ADVICE TO PROPONENTS

Aquaculture proposals fall into two broad categories: those that involve animals that do not require artificial feeding (eg filter-feeders such as pearl oysters and mussels) and those that require artificial feeding (eg fish such as tuna). This difference has significant implications in regard to their potential impacts, particularly off-site impacts, on the ecological and social aspects of the receiving environment. For CALM to adequately assess the ecological and social risks of aquaculture and pearling proposals and to discharge its responsibilities under the *Wildlife Conservation Act 1950* and the *Conservation and Land Management Act 1984*, the proposal needs to contain the information outlined below.

In general CALM's information requirements to assess aquaculture and pearling applications need not be overly detailed but should be sufficient to adequately assess the issues listed below. These general requirements overlap substantially with the information required by the Fisheries Department to fulfil its own statutory obligations and functions as the lead agency coordinating the development and regulation of the aquaculture and pearling industries. It is important that applications address both existing uses and ecological risks, and potential future uses when selecting licence or lease areas to avoid potential conflicts that may unnecessarily disrupt the future operations of projects.

Proposals forwarded to CALM with insufficient information will be returned to the proponent, or Fisheries WA, accompanied by a request for the required information.

5.1 Filter feeding proposals

Information needed to assess ecological risks and potential community conflicts

- Identify whether the proposal is in a CALM Act marine reserve, and if so what category and zone (see page 2).
- A map of the major benthic habitats (eg. seagrass meadows, coral or limestone reef, bare sand, mud) in the proposed licence or lease area and surrounding area (within 1-2 km of proposed licence or lease boundary). The purpose of this map is to provide information that will assist CALM with assessing the extent of relatively high conservation value habitat in the licence or lease area and immediate vicinity, and as such, the scale of the mapping need not be detailed. For example, satellite images or aerial photographs (1:50 000) would generally provide sufficient habitat information for most of Western Australia's coastal waters. In areas such as the Kimberley, where the water clarity is generally too poor to use remote sensing, similar information could be recorded from a vessel using a 'drop-down' underwater video camera. This information also enables CALM to suggest modifications to the proposed licence or lease boundaries that may substantially reduce the ecological and social risks of the proposed aquaculture or pearling operation.

The information used to construct the benthic habitat map can also be used as baseline information for future monitoring of the licence or lease area provided the sampling sites or transects are representative of the major benthic habitats in the proposed licence or lease and that these sites can be accurately relocated. The MCB can provide proponents with advice and assistance with these matters, however Fisheries WA, as the Government's lead agency responsible for coordinating the development and regulation of the aquaculture and pearling industries should be the first point of contact for these industries.

- A map of the general water circulation patterns and information such as bathymetry and tidal range (which allow an estimation of flushing rates) in the proposed licence or lease area and surrounding waters (within 1-2 km of proposed licence or lease boundary) should be provided so that the ‘zone of influence’ of possible offsite impacts can be adequately assessed.
- A map of the important biological resources (eg. bird and turtle rookeries, sea lion breeding/haul-out sites) in the proposed licence or lease and surrounding area (within 1-2 km of proposed lease boundary) should be provided. This information will assist CALM in assessing the potential impacts, on these resources, of the increased activity associated with the project.
- A map of recreational ‘hot spots’ (eg. fishing, diving etc) and commercial operations (eg. fishing, petroleum exploration/production, marine tourism) in the proposed licence or lease area and surrounding area (within 1-2 km of proposed lease boundary) would also be useful in providing some indication of the potential for community conflicts associated with the project.

Location guidelines

- Locate as much of the proposed licence or lease over soft substrata (ie sand or mud) as possible.
- Locate the proposed licence or lease as far from areas of high recreational usage (eg fishing, diving etc) as possible.
- Locate proposed licence or lease as far from areas with important biological resources (eg bird and turtle rookeries, seal and sea-lion haul-out sites etc) as possible.
- Minimise surface structures to avoid boating conflicts and aesthetic impacts.
- Proposed shore-based infrastructure should be outside island reserves, nature reserves, conservation parks, national parks, terrestrial components of marine reserves or formally proposed conservation reserves.

5.2 Artificial feeding proposals

Information needed to assess ecological risks and potential community conflicts

The information requirements for filter feeding and artificial feeding aquaculture proposals are similar, however projects involving artificial feeding generally need to provide more detailed information and over a larger area due to the increased potential of these projects for off-site impacts. The local bathymetry, winds and tidal range will have a significant influence on water circulation patterns in the vicinity of a proposed licence or lease area and therefore the potential ‘zone of influence’ of possible off-site impacts. As such it is important that the scope of the information requirements outlined below are considered as guides only.

- Identify whether the proposal is in a CALM Act marine reserve, and if so what category and zone (see page 2).
- A map of major benthic habitats (eg. seagrass meadows, coral or limestone reef, bare sand, mud) in the proposed licence or lease area and surrounding area (within 5 km of proposed lease boundary).
- A map of the general water circulation patterns and information such as bathymetry and tidal range (which allow an estimation of flushing rates) in the proposed licence or lease area and surrounding waters (within 5 km of proposed lease boundary) should be provided so that the ‘zone of influence’ of possible off-site impacts can be adequately assessed.
- A map of the important biological resources (eg. bird and turtle rookeries, seal and sea-lion breeding/haul-out sites) in the proposed licence or lease area and surrounding area (within 5 km of proposed licence or lease boundary) should be provided. This information will assist CALM in assessing the potential impacts, on these resources, of the increased activity associated with the project.

- A map of recreational ‘hot spots’ (eg. fishing, diving etc) and commercial operations (eg. fishing, petroleum exploration/production, marine tourism) in the proposed licence or lease area and surrounding area (within 10 km of proposed licence or lease boundary) would also be useful in providing some indication of the potential for community conflicts associated with the project.
- Provide estimates of the organic and nutrient loading (ie mass per unit time) to the proposed licence or lease area based on the proposed feeding regime.

Location guidelines

- Locate as much of the proposed licence or lease area over soft substrata (ie sand or mud) as possible.
- Locate proposed licence or lease area as distant and downstream from areas of high conservation value (eg seagrass meadows, coral reefs, mangroves forests etc) as possible.
- Locate proposed licence or lease area as far from areas of high recreational use (eg fishing, diving etc) as possible.
- Locate proposed licence or lease area as far from areas with important biological resources (eg bird and turtle rookeries, seal and sea-lion haul-out sites etc) as possible.
- Minimise surface structures to avoid boating conflicts and aesthetic impacts.
- Proposed shore-based infrastructure should be outside island reserves, nature reserves, conservation parks, national parks or terrestrial components of marine reserves or formally proposed conservation reserves.

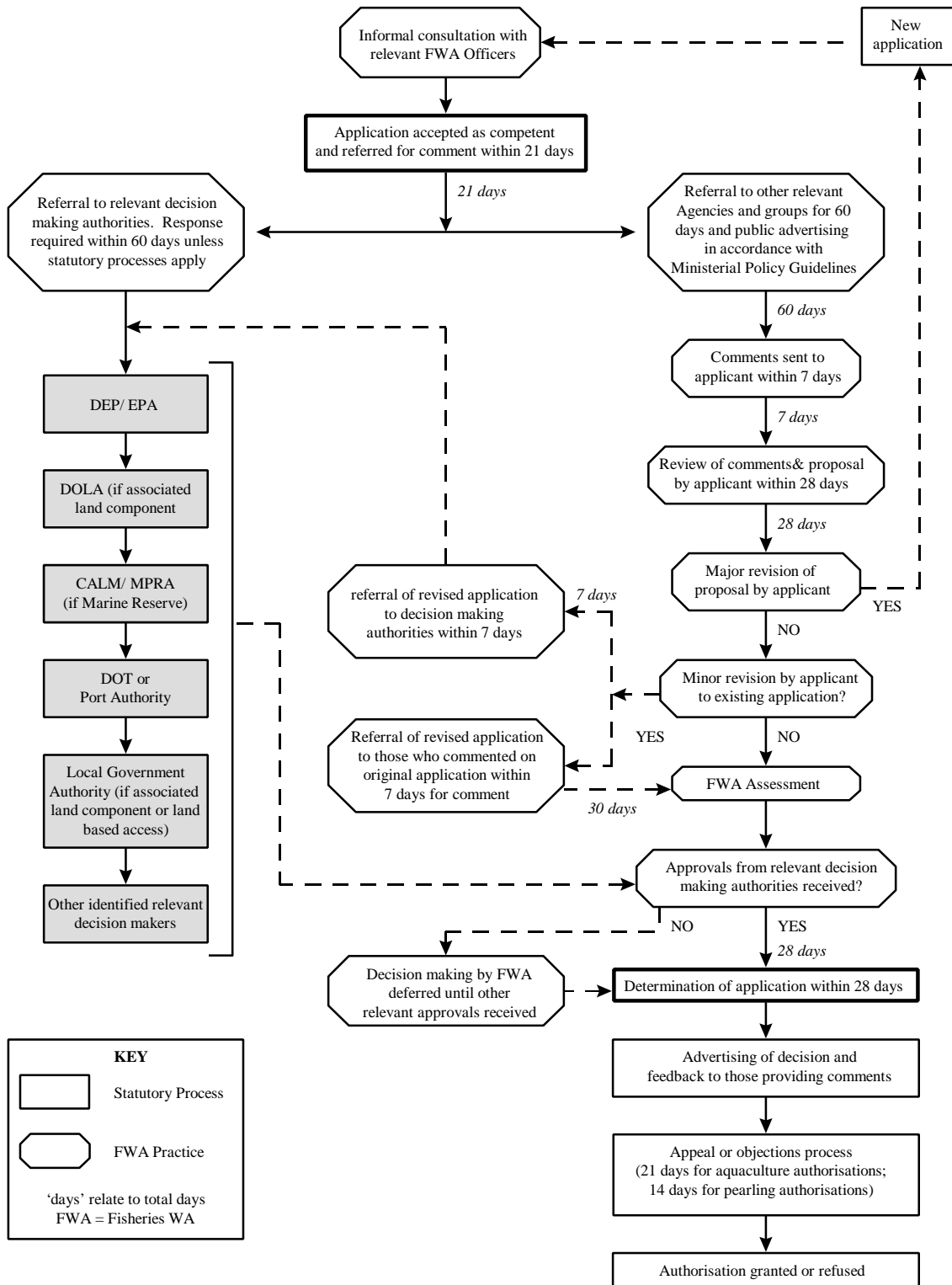
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APPENDIX I

PROCESS FOR THE ASSESSMENT OF AQUACULTURE AND PEARLING PROPOSALS FOR COASTAL WATERS OF WA

APPENDIX I - PROCESS FOR THE ASSESSMENT OF PEARLING AND AQUACULTURE PROPOSALS FOR COASTAL WATERS OF WESTERN AUSTRALIA. MINISTERIAL POLICY GUIDELINE No. 8. FISHERIES WA (1997).



APPENDIX II
MARINE CONSERVATION RESERVES
AQUACULTURE AND PEARLING
(A GUIDE)

**MARINE CONSERVATION RESERVES
AQUACULTURE AND PEARLING
(A GUIDE)**

GENERAL

Aquaculture and pearling are activities which require the setting aside and occupation of specified sites and the establishment of infrastructure at those sites.

Licensing and leasing of aquaculture other than aquaculture of the pearl oyster, *Pinctada maxima*, is subject to the provisions of the *Fish Resources Management Act 1994* (FRMA). Pearling and hatchery activities using the pearl oyster, *Pinctada maxima*, are subject to the licensing and leasing requirements of the *Pearling Act 1990*.

Apart from possible environmental impacts, the occupation of sites for aquaculture and pearling purposes also effectively or necessarily denies or prevents access to those sites by other users of the marine environment.

In marine conservation reserves there are certain constraints placed on these activities. These constraints were established by amendments made by the *Acts Amendment (Marine Reserves) Act 1997* (the Amendment Act) to the *Conservation and Land Management Act 1984* (CALM Act), the FRMA and the Pearling Act.

The possible effect of establishing a marine conservation reserve or a management zone in a marine conservation reserve is subject to public and Ministerial scrutiny prior to their establishment. For example, the Minister for Fisheries' concurrence is required with respect to the publication of a notice of intent to reserve; progression of reservation after the public consultation period; the content of management plans where they affect fishing, aquaculture and pearling; and the establishment of management zones in marine parks and marine management areas.

EXISTING LICENCES, LEASES, ETC.

Where a marine nature reserve or a marine park management zone which precludes aquaculture or pearling is established over an area which includes or overlaps with an existing aquaculture or pearling licence or lease, then the licence or lease remains valid (is preserved) and runs until its designated expiry date but it cannot be renewed.

In the case of a preserved lease where the lessee requires a licence to operate in the lease area, subject to the FRMA and the Pearling Act, the relevant licence can be granted and is renewable throughout the term of the lease.

With regard to a preserved pearl farm lease, while such a lease may have been granted for a term of up to 21 years it is subject to annual renewal. Preserved pearl farm leases may be renewed annually throughout the term of the lease under the Pearling Act.

Holding and dump sites for pearl oyster are established by notice under the Pearling Act and remain valid until the relevant notice is repealed. Their continued utilisation is dependent on when a preserved licence or lease applicable to the site expires.

MARINE NATURE RESERVES

In marine nature reserves aquaculture and pearling activities are not permitted.

Aquaculture and pearling licences and leases applying to an area which subsequently becomes reserved as a marine nature reserve remain valid until their designated expiry date (see above).

No new licences or leases for aquaculture and pearling activities can be granted for an area once the area is established as a marine nature reserve.

MARINE PARKS

In marine parks aquaculture and pearling activities are not excluded but may be permitted in appropriate management zones.

There are four management zones that may be applied in a marine park, namely a recreation zone, a sanctuary zone, a general use zone and a special purpose zone. To be formally established these management zones have to be made classified areas under the CALM Act by notice of the Minister published in the *Government Gazette*.

Subject to normal assessment processes, aquaculture and pearling activities are generally permissible in marine park general use zones and certain special purpose zones. If a conflict or inconsistency arises with respect to marine park purpose and aquaculture or pearling in a general use zone or a special purpose zone where these activities are permitted, then the FRMA or the Pearling Act prevails.

Existing licences and leases for aquaculture and pearling in an area which subsequently becomes a permissible management zone in a marine park may be renewed provided their continued operation is consistent with a CALM Act management plan applying to the area. If a management plan is not in place, then the Minister for Fisheries must consult the Minister administering the CALM Act and take that Minister's recommendation into account.

New licences and leases with respect to aquaculture and pearling activities may be granted for operations in a permissible marine park management zone provided the Minister administering the CALM Act approves the granting of the licence or lease.

The "conversion" of an existing aquaculture or pearling licence to a lease by the granting of a lease over the licensed area in a permissible marine park management zone does not require the approval of the Minister administering the CALM Act provided granting of the lease is consistent with the management plan applying to the area. If a CALM Act management plan is not in place, then the Minister for Fisheries must consult with and take the CALM Act Minister's recommendation into account before granting the lease.

The special purpose zones where aquaculture and pearling are not permitted are those where it has been declared by the Minister administering the CALM Act that these activities are incompatible with a conservation purpose specified in the relevant classified area notice. The other marine park management zones where these activities are not permitted are sanctuary and recreation zones (see also "Existing Licences, Leases, etc." above).

Marine park special purpose management zones can also be established to expressly, but not necessarily exclusively, provide for the activities of aquaculture and pearling.

MARINE MANAGEMENT AREAS

Marine management areas are reserved to manage and protect the marine environment so that it may be used for conservation, recreational, scientific and commercial purposes.

Commercial purpose has been defined in the CALM Act to include aquaculture, pearling and hatchery activities, and associated activities, ie. aquaculture and pearling are expressly recognized as permissible activities in the context of reserve purpose.

In marine management areas the activities of aquaculture and pearling are therefore permissible activities subject to normal assessment processes.

The exclusion and permissible zoning scheme that applies in marine parks does not apply to marine management areas.

Renewal of existing and granting of new aquaculture and pearling licences and leases in marine management areas is subject to the same requirements as those described above with respect to these activities in the permissible marine park management zones. The same process with regard to the "conversion" of a licence to a lease over the licence area in a permissible marine park management zone similarly applies in a marine management area.

If a conflict or inconsistency arises with regard to aquaculture or pearling and the purpose of a marine management area, then the FRMA or the Pearling Act prevails.

COMPENSATION

Where the establishment of a marine nature reserve or a marine park or the establishment of an exclusion zone in a marine park under the CALM Act is claimed to have reduced the commercial value of an aquaculture or pearling licence or lease, the relevant licensee or lessee (affected person) may be eligible for compensation under the *Fishing and Related Industries Compensation (Marine Reserves) Act 1997**. This Act is administered by the Minister for Fisheries.

NOTES:

- * At the time this guide was prepared the *Fishing and Related Industries Compensation (Marine Reserves) Bill 1997* had yet to be passed by Parliament.
- (a) the matters described in this guide are derived from the provisions of the CALM Act, the FRMA and the Pearling Act as amended by the *Acts Amendment (Marine Reserves) Act 1997*;
- (b) this guide should be read in conjunction with other Marine Conservation Reserve guides in this series, namely: "Initial Management Planning and Reservation Process"; "Establishment of Management Zones (Classified Areas)"; "Management Plans"; "Commercial Fishing"; "Recreational Fishing"; "Petroleum Exploration and Production"; and "Mining Tenements and Mining".