GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

Mr Stuart Smith
Director General
Department of Fisheries
Locked Bag 39
Cloisters Square
PERTH WA 6850

Our Ref: EA07-2013-0003
Enquiries: *Mike Pengelly 6145 0815*
Email: *mike.pengelly@epa.wa.gov.au*

Stuart

Dear Mr Smith

PROJECT NAME: **MID WEST AQUACULTURE DEVELOPMENT ZONE**
ASSESSMENT NO: **1972**
LEVEL OF ASSESSMENT: **PUBLIC ENVIRONMENTAL REVIEW – STRATEGIC PROPOSAL**

The Environmental Scoping Document (ESD) (Final July 2013) specifying the scope and content of the Public Environmental Review (PER) document for the above proposal was considered by the Environmental Protection Authority (EPA) at meeting number 1054 on 18 July 2013. The ESD has been approved as providing an acceptable basis for the preparation of the PER document.

Guidelines for preparing a PER document are available on the EPA website (www.epa.wa.gov.au).

During the preparation of the PER you are encouraged to consult with Mike Pengelly, the Office of the Environmental Protection Authority assessment officer for the project, who can be contacted on telephone number 6145 0815.

Yours sincerely

Dr Paul Vogel
CHAIRMAN

24 July 2013

Level 4, The Atrium, 168 St Georges Terrace, Perth, Western Australia 6000
Telephone 08 6145 0800 Facsimile 08 6145 0895 Email info@epa.wa.gov.au
Locked Bag 10, East Perth WA 6892
www.epa.wa.gov.au

ENVIRONMENTAL SCOPING DOCUMENT

PROPOSAL:	**Mid West Aquaculture Development Zone (Assessment No.1972)**
LOCALITY:	**Mid West - Offshore WA Waters, Within the Region of the Abrolhos Islands**
PROPONENT:	**Department of Fisheries**
LEVEL OF ASSESSMENT:	**Public Environmental Review with a 4 week public review period**

This Environmental Scoping Document (ESD) is provided to define the requirements of the Public Environmental Review (PER) document to be prepared in accordance with the Western Australian *Environmental Protection Act 1986* (EP Act).

The preliminary key environmental factors to be addressed in the PER document are identified in Section 2. The generic guidelines for the format of an environmental review document are available at the Environmental Protection Authority's (EPA's) website www.epa.wa.gov.au.

The Public Environmental Review document must adequately address all elements of this scoping document prior to approval being given to commence the public review.

1. Introduction

The *Environmental Protection Act 1986* (EP Act) sets out that where a proposal is considered to have a significant environmental impact it will be subject to an assessment by the EPA under section 38 of the EP Act. The EP Act also provides for the assessment of a strategic proposal, which is a future proposal (or a number of future proposals implemented together) that may in combination have a significant effect on the environment. A strategic proposal is normally assessed by the EPA at the level of Public Environmental Review (PER).

The desired objective of assessing a strategic proposal is to identify all potential significant environmental impacts and management as early as possible, and provide for greater certainty to local communities and proponents over future development, improved capacity to address cumulative impacts at the landscape level and flexible timeframes for consideration of environmental issues.

If it is agreed that a strategic proposal may be implemented, a Ministerial Statement for the strategic proposal is published.

Future Proposals will be managed in accordance with Section 11 of the *Environmental Impact assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012.*

Where a proposal is subject to PER, the proponent is required to produce a PER document in accordance with an approved Environmental Scoping Document (ESD). The purpose of the ESD is to:

- develop proposal-specific guidelines to direct the proponent on the key environmental issues for the strategic proposal that should be addressed in preparing the PER document; and
- identify the necessary impact predictions for the strategic proposal, and the information on the environmental setting required to carry out the assessment.

The EPA has determined that it will prepare and issue the ESD outlining the scope and content of the PER in relation to this proposal.

The EPA, in its formulation of the ESD, undertakes consultation with the proponent regarding the details of the proposal, its environmental setting and the environmental surveys and investigations required and expected outcomes. In addition the EPA will consult with the relevant government agencies, including Decision Making Authorities. The Office of the EPA (OEPA) provides services and facilities for the EPA. In many cases the OEPA will act for the EPA.

The proponent will then be required to prepare a PER document in accordance with the ESD. When the EPA is satisfied that the PER document has adequately addressed all of the environmental factors and studies identified in the ESD, the proponent will be required to release the document for a public review period of 4 weeks.

ESDs prepared by the EPA are not subject to a public review period. The ESD will be available on the EPA website (www.epa.wa.gov.au) upon finalisation and must be included as an appendix in the PER document.

The EPA considers that adequate consultation can be demonstrated when the stakeholders:

- are included in the consultation process and are able to make their concerns known;
- are kept informed about the potential and actual environmental impacts; and
- receive responses to the concerns raised, including identifying how the proposal has been modified and/or identifying management measures that will be implemented to address the concerns raised.

To facilitate adequate public input, the PER document should be made available as widely as possible and at a reasonable cost.

2. Specific Guidelines for the Preparation of the Environmental Review

The objectives of this assessment are to identify an environmentally acceptable location for the Mid West Aquaculture Development Zone(s) and to identify the operational limits and objectives to apply to future proposals in the Zone(s) to manage the cumulative impacts of multiple sea cage operations.

2.1 The strategic proposal

The Department of Fisheries, on behalf of the Minister for Fisheries proposes to create an 'Aquaculture Development Zone' to provide a management precinct for prospective future aquaculture proposals within State Waters, approximately 75 kilometres west of Geraldton within the Fish Habitat Protection Area of the Abrolhos Islands. The strategic proposal area has been selected by the proponent to maximise suitability for marine finfish aquaculture, and minimise potential impacts on existing marine communities and disruption to existing human use.

The strategic proposal, also known as the Mid West Aquaculture Development Zone (MWADZ), is proposed to encompass an area of 3000 hectares (ha) within the identified 5,200 ha study site (Attachment 1). The study site comprises two areas:

- a 4400 ha area located in Middle Channel, between the Easter Group and Wallabi Group; and
- a 800 ha study area located in Zeewijk Channel, between Pelsaert Group and Easter Group of the Abrolhos Islands.

2.2 Future Proposals

In assessing a strategic proposal, the EPA should be able to reasonably conclude at an appropriately high level that the future proposal(s) could be implemented without significant deleterious impacts on the environment.

At this time it is understood that the MWADZ will provide the management framework for future proposals, which would likely include the development of infrastructure such as sea cage systems, including grids to support multiple cages in the water column and aquaculture of marine fin fish species which naturally occur within the Mid West bioregion of WA. No processing other than preliminary post-harvest activities, such as icing, is proposed. There are no land based components to this strategic proposal.

With regard to the finfish species that would be likely to be considered for use, the Department of Fisheries has advised that for a range of species of marine finfish the farming technologies and management methods are much the same.

It is expected the proponent will identify the strategic proposal including the identification of future proposals within the PER document, in accordance with *Environmental Protection Bulletin No. 17 "Strategic and derived proposals".*

Sufficient detail should be made available in the PER document to allow the EPA to clearly understand the likely characteristics of future proposals, and their associated impacts, that will result from the implementation of the MWDAZ. The following dot

points should be addressed to enable the EPA to confidently define the overall environmental outcomes that must be achieved:

- define, as far as possible, the key characteristics of the future proposals, recognising that the assessment may provide opportunities to refine these characteristics;
- define the maximum extent or limits to the scope of any future proposals (e.g. maximum capacity of each individual proposal);
- identify the key environmental factors associated with the future proposals, at a scale commensurate with the nature and extent of those future proposals;
- define the maximum disturbance (impact) footprint of the future proposals (terrestrial and marine) and the envelope within which any future proposals will occur;
- define the potential maximum cumulative environmental impacts and risks from the future proposals, and demonstrate the acceptability of those impacts/risks;
- define potential best practice management principles and strategies to be applied to any future proposal to avoid and minimise impacts to the greatest extent possible; and
- define the proposed governance of future proposals. This should include but not be limited to clearly setting out the legislative process and approval under the *Fish Resources Management Act 1994* that would apply to the establishment of the aquaculture zone and the licencing of the individual aquaculture operations within the zone.

2.3 Preliminary key environmental factors, scope of works and policy documents relevant to this proposal

The PER should give a detailed assessment of each of the preliminary key environmental factors identified for this proposal. At this stage, the Office of the Environmental Protection Authority (OEPA) believes the preliminary key environmental factors, objectives and work required is detailed in Table 1.

Table 1 also identifies a list of relevant policy documents for this proposal, which set out how the preliminary key environmental factors are to be considered. The EPA expects that the treatment of environmental factors will be consistent with the approaches set out in these policy documents.

Table 1: Environmental factors and scope of works relevant to the proposal

Marine Environmental Quality	
EPA objective	To maintain the quality of water, sediment and biota so that the environmental values, both ecological and social, are protected.
Potential Impacts	Potential impacts include: - Impacts to water and sediment quality through release of fish feed and faeces leading to nutrient and organic enrichment of the marine environment. - Impacts to water, sediment and biota quality through release of pharmaceuticals or metals/metalloids in fish feed into the marine environment.

Work required	- Document baseline water and sediment quality (over an approximate 12 month period) in the region of the strategic proposal area in order to effectively capture seasonal and spatial variability to the greatest extent possible, including the following parameters: - **Water** - nutrients, dissolved oxygen, phytoplankton community composition, chlorophyll *a*, total suspended solids (organic), H_2S and light attenuation coefficient. - **Sediment** - total nitrogen, total phosphorous, total organic carbon (TOC), redox, NH_3, DO, H_2S, sediment trace metal and organic concentrations. - **Note** – The OEPA consisiders that testing for baseline levels of H_2S in both sediment and water would only be required to be conducted once. - Accurate and validated modelling of surrounding hydrodynamics, to understand dispersion, deposition and accumulation of nutrients, trace contaminants, organic waste material and pharmaceutical/chemical wastes from the sea cages and any other associated infrastructure. Hydrodynamic and particle transport modelling should take into account factors such as tides, meteorological and seasonal ocean conditions and should be linked to the ecological modelling. - A clear and comprehensive description of the predicted cumulative environmental effects of the future proposals within the strategic proposal area operating at maximum capacity based on professional judgement and supported by ecological models that are relevant to the locality and linked to the hydrodynamic modelling. This should include impacts to biodiversity; abundance and biomass; water, sediment and biota quality and ecosystem processes. The proponent must demonstrate a good understanding of the natural rates and types of ecological processes operating in the area and evaluate the possible extent and severity of any changes to the types and/or rates of processes under best case, worst case and most likely case scenarios. This should include the development of a nutrient budget with and without the potential strategic proposal and future proposals to use as a tool to assess changes in variables such as loading, feeding regimes, assimilation capacity and FCRs etc. The assessment must address the cumulative effects of all elements of the strategic proposal. The documentation should also include a review of the suitability and applicability of the models, and the interpreted outputs of the models, by an independent expert. - Predicted changes in sediment characteristics, both physically (e.g. organic content and TOC) and chemically (e.g. nutrients, H_2S, metals, DO, redox discontinuity) under the most likely or indicative cage locations and configurations to the outer boundary of the zone of reversible impact, for best, worst and most possible case. - Develop an environmental quality management framework (EQMF) for the strategic proposal, and to apply to future proposals, based on the recommendations and approaches in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000) and State Water Quality Management Strategy Report 6 (It is an expectation that the Department of Fisheries would liaise with the OEPA regarding this framework). The framework is underpinned by defining the environmental values to be protected, identifying the environmental concerns or threats and establishing the environmental quality objectives (EQO) and levels of ecological protection to be achieved and where they apply spatially (these should be included in a detailed map). (Note that the effects on environmental quality and biota are linked.) This establishes a framework for the EIA of the strategic proposal as well as for managing the ongoing operations from future proposals. - Develop cause/effect pathway models for nutrient and organic enrichment, sedimentation and other relevant environmental issues of concern. - A draft Environmental Monitoring and Management Plan (EMMP) for the

	proposal which includes the practical implementation of the EQMF. The parameters (environmental indicators) selected for monitoring will be based on the environmental quality objectives to be achieved, the identified environmental concerns/threats, cause/effect pathways and local constraints. EQG and EQS should be defined for each environmental issue of concern based on the level of ecological protection to be achieved and the recommended approaches from ANZECC and ARMCANZ (2000). - The draft EMMP needs to ensure environmental quality and ecological integrity are being maintained within acceptable limits when production reaches maximum capacity. The draft EMMP therefore needs to include a description of the monitoring protocols for each parameter, the proposed methodologies for interpreting the monitoring data and comparing against the EQG and EQS, the possible management actions that will be triggered if monitoring indicates that the EQOs are not being achieved and reporting procedures. The EMMP must also incorporate monitoring for any other environmental issues of concern identified through an environmental risks analysis of the strategic proposal. - A waste management plan to address all waste generated on site in addition to potential fuel and oil spills. This plan must include fish processing waste, dead fish and sewage treatment.
Relevant policy/guidance documents	- *National Water Quality Management Strategy* Report 4. - EPA (2002*) Implementation Framework for Western Australia for the Australian and New Zealand Guidelines for Fresh and Marine Water Quality and Water Quality Monitoring and Reporting* (Guidelines Nos 4 & 7: National Water Quality Management Strategy). - EPA (2004) *A framework to guide the development of environmental monitoring programs for marine aquaculture in seagrass dominated coastal environments in South Australia.* - EPA (2009) Environmental Assessment Guideline No. 3 – *Protection of Benthic Primary Producer Habitats in Western Australia's Marine Environment.*

Benthic Communities and Habitat	
EPA objective	To maintain the structure, function, diversity, distribution and viability of benthic communities and habitats at local and regional scales.
Potential Impacts	Potential impacts include: - direct disturbance or loss through the installation of anchors, wire sweep (deviation to the span of cables), mooring blocks and dragging nets; - direct and indirect impacts or loss through uneaten feed and faeces causing nutrient and organic enrichment of the marine environment leading to shading, smothering, deoxygenation or potential disease of benthic communities and habitats.
Work required	- Design and conduct a geo-referenced benthic habitat survey with the objective of mapping accurately the spatial extent of benthic habitats (including corals, macro-algae, seagrass, mangroves, filter feeders, microphytobenthos and presence of sediment infauna communities) and defining local assessment units to assess permanent loss of BPPH (in the context of EAG 3). Benthic habitat mapping should at least extend to the outer boundary of the area where both irreversible and reversible effects on biota are predicted to occur and extend into the zone of influence. - Predict and spatially define zones of high impact (irreversible loss of abundance/biomass or diversity of biota or ecological processes), moderate impact (reversible loss of abundance/biomass or diversity of biota or ecological processes within 5 years) and influence (changes in environmental quality or physiological stress, but no loss of biota or ecological processes) likely to result from the strategic proposal, and therefore the boundary beyond which there will be no effect. These zones need to be derived at maximum capacity and most

	likely pen configuration and accurately mapped to represent the aquaculture zone's footprint. This information will inform the future proponents when selecting the locations and numbers of potential impact sites and un-impacted reference sites.
Relevant policy/guidance documents	- EPA (2009) Environmental Assessment Guideline No. 3 – *Protection of Benthic Primary Producer Habitats In Western Australia's Marine Environment.* - EPA (2011) Environmental Assessment Guideline No. 7 – *Marine Dredging Proposals.* (Although the proposal doesn't involve dredging the principles of this EAG can be applied when assessing impacts to primary producing and non-primary producing communities and habitat.)

Marine Fauna	
EPA objective	To maintain the diversity, geographic distribution and viability of fauna at the species and population levels.
Potential Impacts	- Potential impacts to marine fauna from disturbances such as noise (during construction and operation), lighting, vessel strike and human interaction, entanglement and physical barriers imposed by infrastructure. - Potential impacts on seabirds through changes to population levels, levels of available food and predation. - Potential impacts on wild fish populations, habitats and genetic diversity through introduction of pathogens and parasites, escaped fish and discharge of uneaten feed, faeces and pharmaceuticals. - Potential impacts on fisheries and fisheries production.
Work required	*Marine mammals, seabirds and other significant marine fauna* - Identify and assess the values and significance of marine faunal assemblages within the strategic proposal area and immediate adjacent area and describe these values in a local, regional and State context. - Identify critical windows of environmental sensitivity for seabirds, marine mammals, including the Australian Sea Lion (*Neophoca cinerea*), other significant marine fauna and key fisheries in the strategic proposal area and immediate adjacent area. - Describe the presence of marine mammals, including the Australian Sea Lion (*Neophoca cinerea*), seabirds and other significant marine fauna in the proximity of the strategic proposal area and document any known uses of the area by them (e.g. foraging, migrating, calving and nursing etc). - Design, detail and conduct a targeted survey for seabirds. The survey should target the distribution, nesting and roosting habits of all locally relevant seabird species with consideration of survey timing to meet suitable weather conditions, time of day and season for presence of seabirds. - Identify the construction and operational elements of the proposal that may affect significant fauna and fauna habitat. - Describe and assess the potential direct and indirect impacts that may result from construction and operation of the proposal to marine mammals, including the Australian Sea Lion (*Neophoca cinerea*), seabirds and other significant marine fauna and their habitat. - Identify measures to mitigate adverse impacts on marine mammals, including the Australian Sea Lion (*Neophoca cinerea*), seabirds and other significant marine fauna and their habitat so that the EPA's objectives can be met. - Describe possible management options to address potential impacts on marine fish populations, marine mammals, including the Australian Sea Lion (*Neophoca cinerea*), seabirds and other significant marine fauna and the surrounding environment. This must include but is not limited to: uneaten feed, marine parasites, biofouling control methods and interaction or entanglement with marine fauna (through development of a marine fauna interaction plan).

	Biosecurity - Describe translocation, biosecurity and management arrangements addressing: fish disease/pathogen (including parasites) management and incident response, strategies for preventing outbreaks and/or preventative treatments chemicals to escape into the surrounding environment; brood stock and translocation issues; and prevention and management of escaped fish. *Fisheries* - Describe commercial and recreational fishing activity in the Northampton region and Abrolhos Islands that may be affected by the proposal. - Describe and assess the potential direct and indirect environmental impacts on recreationally and commercially important marine species, including impacts to migratory patterns, spawning areas and nursery areas.
Relevant policy/guidance documents	*National Biofouling Management Guidance for Non-trading Vessels* (Commonwealth of Australia, 2009). *Wildlife Conservation Act 1950.*

These preliminary key factors must be addressed within the environmental review document for the public to consider the impacts of the proposal and proposed management, and make comment to the EPA. All technical reports, modelling and referenced documents (not currently in the public domain) used in the preparation of the PER document should be included as appendices to the document. Documents used in the preparation of the PER must not contain disclaimers that preclude their public availability.

2.4 Other Environmental Issues

The EPA expects the proponent to take due care in ensuring all other relevant environmental factors and impacts which may be of interest to the public are addressed and that management is covered in the environmental review. For example, Heritage is another environmental factor that should be discussed in the PER.

If during the course of the preparation of the PER document other potential environmental matters or environmental factors are identified, the OEPA should be consulted to determine whether they are to be addressed in the PER document.

2.5 Agreed Assessment Milestones

EPA Environmental Assessment Guideline No. 6 "Timelines for EIA of Proposals" addresses the responsibilities of proponents and EPA for achieving timely and effective assessment of proposals.

This timeline (Table 2) is agreed between the EPA and proponent. Proponents are expected to meet the agreed proposal assessment timeline, and in doing so, provide adequate, quality information to inform the assessment. Proponents will need to allocate sufficient time to undertake the necessary studies to the appropriate standard and incorporate the outcomes of the studies into the PER.

Where an agreed timeline is not being met by the proponent, or if adequate information is not submitted by the proponent, the timeline for subsequent steps will be re-established. Where the OEPA is unable to meet a date in the agreed timelines the proponent will be advised and the timeline adjusted.

The EPA will report to the Minister for Environment on whether the agreed proposal assessment timeline has been met. Where the timeline has not been met, the reasons for this will be identified.

Table 2: Agreed Milestones for the proposal

Key Stage of Proposal	Agreed Milestone
EPA approval of ESD Document	July 2013
Proponent submits first adequate draft of PER Document	December 2014
OEPA provides comment on first draft PER Document	6 weeks*
Proponent submits adequate revised draft PER Document	February 2015
EPA authorises release of PER Document	2 weeks
Proponent releases approved PER Document	March 2015
Public Review of PER Document	4 weeks
Response to Public Submissions	May 2015
OEPA assesses proposal for consideration by EPA	7 weeks
Preparation and finalisation of EPA Report (including 2 weeks consultation on draft conditions with proponent and key Government agencies)	5 weeks from receipt of final information

*Note - if the document is received over the Christmas period the timeline may be required to be adjusted to reflect availability of Government Agency's to provide advice during this period.

2.3 Decision Making Authorities

At this preliminary stage, the EPA had identified the following Decision Making Authorities (DMAs) (see Table 3). Throughout the assessment process further DMAs may be identified.

Table 3: Nominated Decision Making Authorities

Decision Making Authority	Relevant Legislation
Minister for Lands	*Land Administration Act 1997* – (vested with Fisheries – Houtman Abrolhos Nature Reserve No. A20253).
Minister for Fisheries	*Fish Resources Management Act 1994* – Vested Fish Habitat Protection Area.
WA Museum (If consent is required to damage any archaeological site as defined under the Act).	*Maritime Archaeology Act 1973*

2.4 Preparation of the Environmental Review Document

The recommended format is described in the generic guidelines for the format of an environmental review document, available at the Environmental Protection Authority's (EPA's) website www.epa.wa.gov.au. When the EPA is satisfied with the standard of the environmental review document (see EAG 6 Section 4.3) it will provide a written sign-off, giving approval to advertise the document for public review. The review document may not be advertised for release before written approval is received.

The proponent is responsible for advertising the release and availability of the PER in accordance with the guidelines which will be issued to the proponent by the OEPA. The EPA must be consulted on the timing and details for advertising the document.

Attachment 1