



BACKGROUND INFORMATION DOCUMENT (BID) **Environmental Impact Assessment Process**

Sea-based Aquaculture Development Zones in the Eastern Cape

9 December 2011

Introduction

The **Department of Agriculture, Forestry & Fisheries: Directorate Sustainable Aquaculture Management** (the Applicant), has applied for rights to develop various sea-based Aquaculture Development Zones (ADZs) within which individual **Finfish Mariculture projects** (marine aquaculture = sea fish farming) could be considered along the **Eastern Cape** coastline. The decision to investigate sites along the Eastern Cape coast is based on the outcome of a recent **Strategic Environmental Assessment (SEA)** undertaken for the South African coastline as a whole, highlighting the Eastern Cape as an area with potential for ADZs.

Background on Aquaculture

Aquaculture is defined as the propagation, improvement, trade or rearing of aquatic organisms (plant and animal) in controlled or selected aquatic environments (fresh, sea or brackish waters) for any commercial, subsistence, recreational or other public or private purposes (DEA&DP, 2007). Unlike with 'capture fisheries', which entails the harvesting of aquatic organisms from the natural environment in which no attempt has been made to manage, or otherwise influence the organisms by containment, feeding or application of any husbandry technique;

aquaculture involves some form of intervention in the rearing process to enhance production i.e. regular stocking, feeding, protection from predators.

Due to a growing interest in aquaculture, the Provincial Department of Economic Development and Environmental Affairs (DEDEA) published an *Introduction to Aquaculture in the Eastern Cape* (Hinrichsen 2008) in which it is stated that the global harvest of natural aquatic resources for food, protein, oils and other materials has reached capacity and has already caused a collapse in the stocks of various species, habitat loss and pollution. Nevertheless, the demand for these aquatic resources is increasing and aquaculture production has the potential to meet this demand.



Scott & Muir 2000 (typical semi-submersible inshore cages)

The Department of Environmental Affairs & Tourism (DEA&T) recently published a research document on *Marine Aquaculture in South Africa* which explains that commercial marine aquaculture (also referred to as mariculture) started in the 1980's with the establishment of oyster, mussel and prawn farming. Abalone farming was developed in the 1990's and is now the most valuable resource of the sector. In 2006, the total mariculture production was approximately 1800 tonnes and valued at approximately R250 million.

The Eastern Cape is home to approximately 12,5% of South Africa's aquaculture producers and has been identified as having significant mariculture potential. The coastline is well known for the harvest of natural marine resources and possesses the potential for the development of a strong marine and freshwater aquaculture sector.

Why the Eastern Cape coast?

As with any other business venture, aquaculture requires a suitable feasibility study before initiation. DEA&T performed such a study in April 2009 which is reported on in *The identification of potential sea-based sites suitable for marine aquaculture development in South Africa*. This study was followed-up with a Strategic Environmental Assessment (SEA) compiled by Anchor Environmental (November 2011). Both studies identified sites that could be considered suitable for development of MADs.

The 2011 SEA differed from the 2009 investigation in that it focusses on **sea-based finfish** cage farming only, whilst the 2009 report also considered shellfish and seaweed mariculture. The 2011 SEA puts more focus on site selection criteria that were developed in conjunction with key industry, academic and government stakeholders and applied Geographical Information System (GIS) software.

The preferred **inshore** sites identified through the SEA include two (2) sites west of Mossel

Bay (Western Cape), and two (2) sites within Algoa Bay (Eastern Cape). Out of the South African coastline as a whole, these particular areas were identified as having the lowest potential cost to existing industry.

In order to verify the accuracy and applicability of these study areas, and to determine the potential environmental impacts that may result from implementing such ADZs in the locations suggested, further detailed investigations are required in form of **Environmental Impact Assessments (EIAs)**.

The Applicant has requested that such an EIA process be undertaken for the Eastern Cape study area as a priority project. Two potential sites located within Algoa Bay have been identified as preferred sites, with a third site also in Algoa Bay and fourth site east of Cape St. Francis/Jeffrey's Bay as alternative options.

The detailed assessments that are required to inform the EIA will assist in determining whether or not the proposed MADs may be considered and/or implemented. Only once the detailed EIA investigation and process is complete with the delegated decision-making authority, the National Department of Environmental Affairs & Tourism (Pretoria) be in a position to issue a decision about the proposed project(s).

Description of the sites & environment

The three potential inshore sea-based ADZs are all located within Algoa Bay and can be accessed from either the Port Elizabeth or Coega Harbours. The sizes of these ADZs vary from 665ha to 279ha and 542ha respectively. The fourth site located close to Cape St Francis Bay is roughly 1 474ha.

If successful in their application to establish some of the ADZs, the Applicant will proceed with identification of potential Service Providers who will develop individual finfish farming operations *within* an ADZ.

These identified sea-based ADZ sites are generally well sheltered, within reachable distance from existing ports/harbours, have sufficient ocean bottom depth, with suitable water temperatures and are outside of known upwelling cells. The wave height and direction is more suitable than elsewhere, with limited known turbidity and pollutant sources. These locations exclude known reef areas and other sensitive marine habitats (i.e. threatened marine ecosystems or protected marine areas), and have attempted to avoid areas that are important to existing commercial activities (i.e. fishing, mining and shipping).

Ongoing research on Mariculture

According to DEA&T, mariculture is one of *the fastest growing food production systems* in the world and it will continue to grow due to a **growing demand for aquaculture products**, continuously **declining marine fisheries stocks** and the **diversification of business opportunities** offered by the sector. As such investigations and research is ongoing and similarly will be dealt with during this environmental process as well:

- **Species selection** (*what species are best suited for the study area and environment*);
- **Nutrition** (*nutritional requirements*);
- **Animal husbandry** (*management systems and maintenance of favourable environmental conditions*);
- **Farm design** (*select and design systems which most effectively meet the needs and best fit the opportunities and constraints of the local environment*);
- **Environmental interaction** (*preventative measures against environmental degradation such as biological/chemical/organic pollution and habitat medication*);
- **Carrying capacity** (*to better understand the tolerance of the coastal environment to mariculture activities*);

- **Animal health** (*disease detection and control*); and
- **Food quality, safety and public health** (*dealing mainly with product safety*).

Why is an environmental process necessary?

Good planning of any (aquaculture) activity is important to ensure that the resultant environmental footprint is limited and met by mitigation measures that can ensure sustainability. The environmental process will inform designs, plans and strategies that are to be tested against the applicable resources, social and environmental matters in order to allow for the concept to be modified to best achieve minimisation of, or the avoidance of potentially negative impacts.

In order to determine whether the Applicant may commence with the proposed activity and to ensure that the proposal will not result in any significant detrimental impacts to the receiving environment a **Full Scoping & Impact Assessment** environmental process will be followed. This is due to the fact that the proposed project potentially triggers several “listed activities” as stipulated in NEMA (Act No. 107 of 1998) and the 2010 Environmental Impact Assessment Regulations.

Cape Environmental Assessment Practitioners (*Cape EAPrac*) has been appointed, as independent environmental assessment practitioners (EAP), to facilitate the legally required environmental process and to ensure that the Public, key Stakeholders, relevant Authorities and Organs of State are presented an opportunity to participate and give input to the process and proposal.

What is the purpose of this document?

The main purpose of this **Background Information Document** (BID) is to:

- Provide potential “Interested and Affected Parties” (I&APs) with information regarding the proposed project;
- Describe the environmental process being undertaken;
- Provide I&APs with the opportunity to raise issues or concerns regarding the environmental process and/or the proposal;
- Identify possible Alternatives; and
- Provide information on the way-forward for the environmental process.

What is being proposed?

The proposal includes the following:

- Establishment of functional and suitable ADZs along the Eastern Cape coastline that can be further developed by service providers wanting to invest in finfish farming operations within the ADZs.

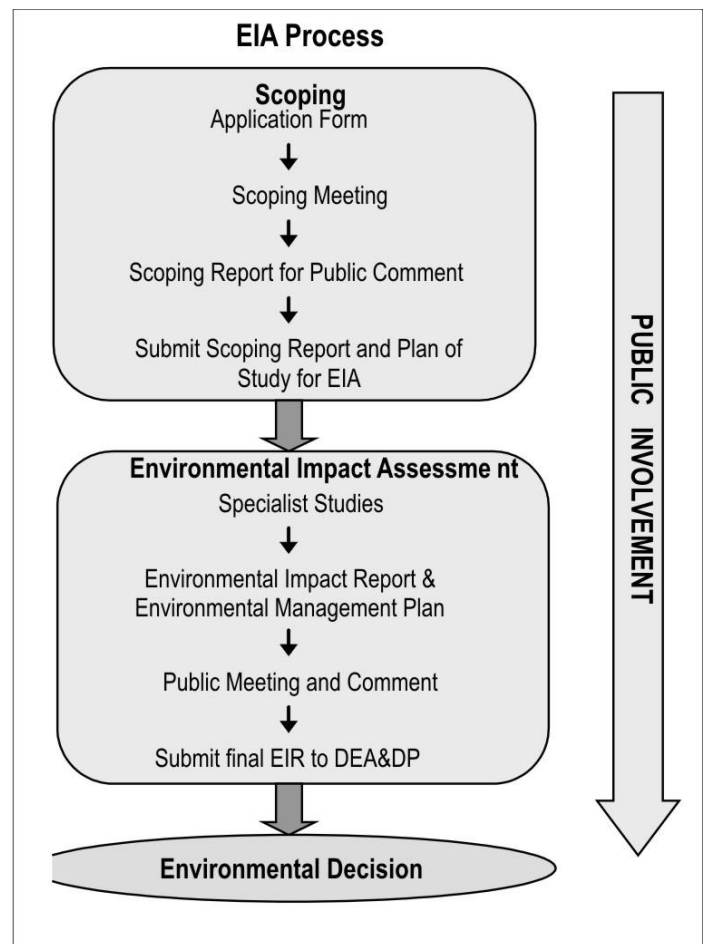
Note – the other potentially suitable ADZ sites identified near Mossel Bay are excluded from this EIA application and will be subject to separate EIA process(es) if the Department decides to pursue these as well.

What legislation applies?

The environmental process is undertaken in terms of NEMA, (Act No.107 of 1998 as amended) including the 2010 Environmental Regulations. In the event that gazetted “listed activities” are triggered, an application must be made to the competent authority for Environmental Authorisation. In this case the authority is the National Department of Environmental Affairs & Tourism to whom a formal Application has been submitted.

Other relevant legislation pertaining for marine resources and integrated coastal management will be considered, and where relevant permits/licenses applied for in the event that the ADZs are found to be suitable / acceptable.

What process will be undertaken?



The environmental process for this project involves the following steps as part of a Full Scoping & Impact Assessment process:

Steps completed as part of the process:

- Submission of the **Application Form** to DEA&T (Reference number **12/12/20/2181**)
- Identify & notify key **stakeholders, authorities** and relevant **Interested and Affected Parties (I&APs)**.
- Availability of the **SEA** and **BID**, with background on site selection and briefly explaining the process and project (*this document*). Copies of the SEA and BID can be downloaded from www.cape-eaprac.co.za/active, OR www.anchorenvironmental.co.za; OR www.daff.gov.za/doaDev/fisheries/03_areasofwork/social.html#AE. Hard copies are available for review at the Humansdorp Library, Jeffrey’s Bay Library, Kouga Municipal Office and Port Elizabeth City Public Library);

- **Advertise** the project in the relevant newspapers **calling for I&APs to register** for the environmental process (*advert placed in The Herald, Die Burger* (issue 9 December 2011) and *Sunday Times, Rapport* (issue of 11 December 2011));
- **Site notices** will not be put up due to location of the proposed ADZs being out at sea;
- An **extended timeframe** has been allowed for over the December holidays for visiting Stakeholders to have sufficient time to register as an I&AP and provide initial comment on the SEA and BID, thus registration and comment must reach this office by **28th January 2012** starting 9 December 2011.
- Open a **Register** for Stakeholders who will continue to participate in the environmental process (*only those parties who react to notices, adverts, attend meetings etc. will be kept informed throughout the remainder of the environmental process*);
- Appoint **specialists** to determine development constraints and evaluate/assess potential issues of concern;

Activities still to be undertaken as part of process:

- Undertaking of various **specialist investigations and studies** to inform the process;
- Availability of the draft and final **Scoping Report**, highlighting all issues identified by the project team and specialists, alternatives considered;
- Compilation of the draft and final **Environmental Impact Report (EIR) with Environmental Management Plan (EMP)**, incorporating all comments received, and **submit to DEA&DP** for consideration and decision-making; and
- Inform **registered I&APs** of DEA&T's decision by means of correspondence and advertisement.

Which parties were informed of this proposal?

In compliance with the regulations on Public Participation, the following, state departments, local authorities, Non-Governmental Organizations and other parties have been identified and will be invited to comment during the process, as per Regulation 54 – 57:

- Local Councillors and Ratepayers / Community organisations;
- Relevant industries (i.e. commercial fisheries)
- Local Authorities (Municipalities/State Departments);
- Organs of State that have jurisdiction in the area; and
- Various key stakeholders that have been identified by the Project Team with interest in mariculture.

These parties are requested to inform Cape EAPrac if (i) they have preliminary issues/concerns, (ii) know additional I&APs we should contact.

Why and how should I get involved?

In the event that you have an **interest** in the project, or feel that you **may be affected** by the proposed development, you are invited to **register** as an I&AP for the environmental process. An important component of the EIA Process is **public consultation** as it provides the opportunity to get a better understanding of what is being proposed and to actively participate in the Environmental process.

How does one register for the EIA process?

This notice does not mean that the party receiving this notice has been automatically registered as an “Interested & Affected Party”.

In order to be Registered it is necessary to respond to the Adverts, SEA, BID or Notification letter by forwarding your **full**

contact details (name, postal address, email address, fax and telephone number) to *Cape EAPrac* within the provided registration period, **no later than 28th January 2012**. Alternatively, register online at www.cape-eaprac.co.za/active and access the project page.

In order to be registered, any direct business, financial, personal or other interest which you may have in the approval or refusal of the proposed project must be disclosed.

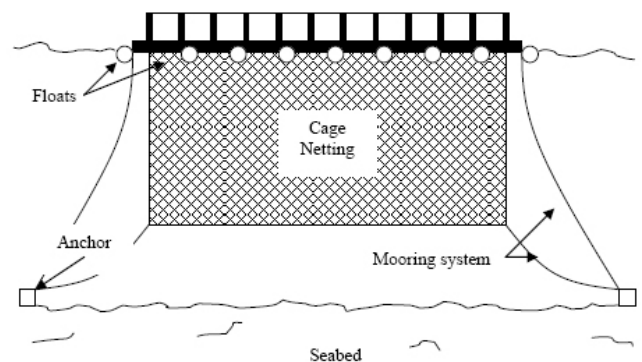
If you have any preliminary comments on the proposed development or environmental process, please complete the attached form and return it to *Cape EAPrac* at the address or fax number provided below, or register online at www.cape-eaprac.co.za/active. Submissions must reach *Cape EAPrac* **no later than 28th January 2012**.

What issues have been identified to date?

Potential issues that have already been identified by the Project Team include but are not limited to:

- Incubation and transmission of fish disease and parasites from captive to wild populations;
- Pollution of coastal waters due to the discharge of organic wastes;
- Escape of genetically distinct fish that compete and interbreed with wild stocks that are often depleted;
- Chemical pollution of marine food chains and potential risk to human health due to the use of therapeutic chemicals in the treatment of cultured stock and antifouling treatment of infrastructure;
- Physical hazard to cetaceans and other marine species that may become entangled in ropes and nets;
- Piscivorous marine animals (including mammals, sharks and birds) attempt to remove fish from cages and may become tangled or injured;

- User conflict due to exclusion from mariculture zones for security reasons;
- Potentially negative impacts on eco-tourism or coastal real estate due to negative aesthetic impact;
- Remove pressure from indigenous, wild stock species and allow their numbers to regenerate;
- Potentially enable threatened marine ecosystems to recover in the event that natural fishing operations are replaced by caged fishing;
- Provide sustainable supply of fish to supply in the existing and growing local and international human demand for resources.



Schematic diagram of sea-based fish cages (Birt, Rodwell & Richards, 2009)

What kind of specialist studies?

It is recommended that the following baseline and detailed specialist investigations and impact assessments be undertaken to inform the EIA process:

- Marine Ecology (impact on the marine environment as a result of finfish cage farming);
- Socio-Economic Impact Assessment (to determine the financial gain and potential costs of a successful ADZs on the economy and on the receiving economy i.e. competing industries, as well as the impact of skills development, employment, sense-of-place, values);
- Visual Impact Assessment (to determine the potential impact of

inshore finfish cages on coastal real estate and the receiving environment).

Baseline investigations already undertaken will be considered and used to inform the Scoping Report whereas the detailed impact assessments will be used to inform the Environmental Impact Report.

Alternatives

In terms of the NEMA legislation, alternatives must be considered during an assessment. These may be site, activity, operational or technological alternatives. As such, alternatives to the development concept and layout will be developed / investigated throughout the environmental process.

The No Go Alternative (Status Quo = current fishing operations and demand/supply) must be considered as a baseline against which to measure the impacts of any other Alternatives.

Stakeholders are requested to provide details of any reasonable and / or feasible Alternatives that they may be aware of. This will provide the Specialists an opportunity to include them in their assessments.

A third site in Algoa Bay, as well as a fourth site near Cape St Francis Bay is being considered as alternatives.

Application for Exemption

Cape EAPrac has not applied for any specific exemptions from the Regulations. The process will be done in accordance with the relevant requirements of the environmental Regulations.

Due to the distant location of the ADZs (out at sea) no site notices will be put up.

Way Forward

On completion of all the required Specialist Studies and the comment period timeframe, the Scoping Report will be finalised and made available to all **registered** I&APs for their input.

The Scoping Report will be followed by the EIR that will contain detailed analysis and

assessment of potential impacts along with recommendations and mitigations measures.

In the event that it is considered necessary Open House events will be arranged to present the findings and information to stakeholders throughout the process.

Please note the Department's Reference Number for this application, on all correspondence: 12/12/20/2181.

It is advised that interested and affected parties review the SEA for details about site selection criteria, as well as maps indicating preferred ADZs. Comment received on the SEA will be considered and used to inform the remainder of the EIA.

Please make sure to send your registration notice and any comment you would like to submit at this stage, in writing, to:

Cape EAPrac

ATT: Melissa Mackay

PO Box 2070, George, 6530

Telephone: 044 874 0365

Facsimile: 044 874 0432

E-mail: mel@cape-eaprac.co.za

Website: www.cape-eaprac.co.za/active

Registration notices and any preliminary comments must reach this office no later than 28 January 2012