



## **Introduction to Aquaculture in the Eastern Cape**

### ***Edition 1***

#### ***Issued by:***

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## **PREAMBLE**

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The Department of Economic Development and Environmental Affairs (DEDEA or “the Department” hereafter) has compiled this *Introduction to Aquaculture in the Eastern Cape* to assist stakeholders with finding basic information pertaining to this sector in the province. It further serves as a forerunner for two more comprehensive guidelines that the Department have compiled, these being:

- *Generic Environmental Best Management Practice Guideline for Aquaculture Development and Operation in the Eastern Cape.*
- *Guideline to the Authorisation Requirements for Aquaculture in the Eastern Cape.*

It is important that the referenced guidelines above be consulted if further information is required around best management practices and the authorisation of aquaculture development in the province.

**NOTE:** This booklet has been specifically compiled for use in the Eastern Cape Province. Use outside of this province must be sanctioned by the Eastern Cape Department of Economic Development and Environmental Affairs.

## **EXECUTIVE SUMMARY**

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With the rapid growth of aquaculture, the Department of Economic Development and Environmental Affairs have released this booklet as a tool to introduce all stakeholders to the key elements that will contribute to the development of a sustainable aquaculture sector in the Eastern Cape Cape.

The booklet defines aquaculture and provides details of its nature by explaining the categorisation of aquaculture types. An overview of the global trends in aquaculture is complemented by an indication of the strong position of the Eastern Cape in the South African aquaculture sector.

The Department's approach to aquaculture is one through which a facilitative regulatory environment can complement the growth of a successful aquaculture industry. To achieve this, the Department advocates that aquaculture activities are well planned and that the checklist provided in this booklet be used as a foundation from which to conduct comprehensive feasibility assessments into newly proposed aquaculture ventures. Such assessments should cover the choice of species, site selection, market research and legal compliance.

The use of best management practices in aquaculture will ensure the minimisation of unavoidable environmental impacts and the prevention of avoidable impacts associated with the sector.

Aquaculture activities are subject to authorisations from various authorities and in accordance with various laws. In this regard the Department supports an integrated authorisation process in which compliance is streamlined through a chronological approach.

**RELEVANT CONTACT DETAILS**

<b>National Departments</b>	
Department of Environmental Affairs and Tourism	315 Pretorius Street, cnr Pretorius & van der Walt Streets, Fedsure Forum Building, North Tower, 2nd Floor, Pretoria, 0001. Private Bag X447, Pretoria, 0001 Tel: 012 310 3911 Web: <a href="http://www.environment.gov.za">www.environment.gov.za</a>
Department of Water Affairs and Forestry	2 Hargreaves Avenue, King William's Town Private Bag X7485, King William's Town, 5600 Tel: 043 604 5402 Fax: 043 604 5592 Web: <a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
Department of Agriculture	Agriculture Place, 20 Beatrix Street, Arcadia, Pretoria, 0002 Private Bag x250, Pretoria, 001 Tel: 012 319 6000 Web: <a href="http://www.nda.agric.za">www.nda.agric.za</a>
Marine and Coastal Management Branch: Department of Environmental Affairs and Tourism	2nd Floor, Foretrust Building, Foreshore, Cape Town Private Bag X2, Roggebaai, 8012 Tel: 086 112 3626 or 021 402 3036 Fax: 021 402 3009 Web: <a href="http://www.mcm-deat.gov.za">www.mcm-deat.gov.za</a>
Department of Land Affairs	42 Terminus Street, Permanent Building PO Box 1958, East London, 5200 Tel: 043 743 4689 Fax: 043 743 4786 Web: <a href="http://www.land.pwv.gov.za">www.land.pwv.gov.za</a>
South African Bureau of Standards	30 Kipling Road, Kenzington, Port Elizabeth PO Box 3013, North End, 6056 Tel: 041 391 8400 Fax: 041 391 8427 Web: <a href="http://www.sabs.co.za">www.sabs.co.za</a>
<b>Provincial Departments</b>	
Department of Economic Development and Environmental Affairs	Indwe House, 2 <sup>nd</sup> and 3 <sup>rd</sup> Floors, Bhisho Private Bag X0054, Bhisho, 5605 Tel: 040 609 3234 Fax: 040 609 3211 Web: <a href="http://www.ecprov.gov.za">www.ecprov.gov.za</a>
Department of Agriculture	Dukumbaba Building, Independence Avenue, Bhisho Private Bag X0040, Bhisho, 5605 Tel: 040 639 1180 Fax: 040 636 3462 Web: <a href="http://www.ecprov.gov.za">www.ecprov.gov.za</a>
Eastern Cape Development Corporation	Sector Specialist: Rory Haschick Ocean Terrace Park, Moore Street, Quigney, East London Tel: 043 704 5600/5710 Fax: 043 704 5700 Web: <a href="http://www.ecdc.co.za">www.ecdc.co.za</a>
<b>Other organizations</b>	
Aquaculture Institute of South Africa	PO Box 51743, West Beach, 7449 Tel: 021 556 7339 Fax: 021 556 4428 Web: <a href="http://www.ai-sa.org.za">www.ai-sa.org.za</a>
Aquaculture Association of Southern Africa	PO Box 71894, The Willows, 0041 Tel: 012 807 6720 Fax: 012 807 4946 Web: <a href="http://www.aasa-aqua.co.za">www.aasa-aqua.co.za</a>

## **INTRODUCTION**

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Aquaculture is a relatively new production sector in South Africa. An awareness and understanding of the manner in which aquaculture works, including the technologies and methods, the business principles and the impacts (financial, social and environmental) is still limited. For this reason the Department has compiled this booklet and other guidelines as its contribution to the establishment of a sustainable aquaculture sector in the Eastern Cape.

Aquaculture 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. To accommodate this growth in a sustainable manner all stakeholders, including both the public and private sectors, must cooperate around responsible development.

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## **WHAT IS AQUACULTURE**

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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 purpose.

Aquaculture does not include capture fisheries, which entails the harvesting of aquatic organisms from an environment in which no attempt has been made to manage or otherwise influence the organisms by containment, feeding or application of any husbandry techniques.

The aquaculture sector employs a range of production techniques that can be classified according to the nature of water use, the environment in which the activity is practiced, the scale and intensity, the degree of “openness” to the environment, the species, the housing facilities for production organisms and more. Firstly, aquaculture is carried out as either freshwater aquaculture or marine aquaculture (or mariculture), which is practiced in fresh and marine waters respectively. Estuarine and brackish water aquaculture straddles the divide between fresh and marine water aquaculture.

Aquaculture can further be defined in terms of the intensity of production. The typical classification in this regard refers to extensive production as opposed to semi-intensive and intensive production, where the level of technology, capital expenditure, running costs, control, risk and volume of production per unit area typically increases from the less to more intensive practices. Associated, but not necessarily linked to this, is the magnitude of production that can be broadly divided into small-scale operations (often subsistence ventures), medium scale enterprises and large-scale enterprises (often referred to as industrial aquaculture).

A range of production facilities are used in aquaculture and these can be broadly categorised into tank culture, pond culture and cage culture systems. Within each of these categories various subcategories can be identified. Tank culture can range from typical glass tanks to tanks of various sizes constructed of fibreglass, plastics, concrete or other materials. Pond culture typically refers to earthen ponds, but various plastic, concrete or other pond linings are common. Cage culture systems range from basic penned enclosures and basic floating cages to technologically advanced systems that are constructed from materials such as polyethylene.

Categorisation by species not only refers to marine or freshwater species, but also to the typical species groups such as reptiles, finfish, crustaceans, molluscs, aquatic plants or algae.

## AQUACULTURE STATUS - GLOBALLY AND IN THE EASTERN CAPE

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Globally the development of aquaculture is driven by market forces, the diversification of the economic base, the sustainable utilization of resources and a quest for food security. In this regard, aquaculture has developed into a diverse industry, with many countries participating in the production of many species of fish, shellfish, crustaceans and aquatic plants. Rohana Subasinghe, an aquaculture specialist with the Food and Agriculture Organisation (FAO), recently stated that the percentage of fish produced in global aquaculture for human consumption has grown from 9% in 1980 to 44% today (2007). Globally, aquaculture is growing more rapidly than any other food-producing sector.

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 certain species, habitat loss and pollution. Nevertheless, the demand for these aquatic resources is increasing and aquaculture production has the potential to meet this demand. This is especially relevant to the Eastern Cape, as the province is well known for the harvest of natural marine resources, but also possesses the potential for the development of a strong marine and freshwater aquaculture sector. This new sector will also contribute, in an increasing manner, to the diversification of resource utilisation, economic activity, the creation of employment, rural development, food security, poverty relief and the development of technology and skills. Aquaculture has a significant potential for empowerment, community-private-public and other partnerships, often without the need for complicated reform processes.

The further growth of aquaculture in South Africa and the Eastern Cape depends on the successful integration, use and development of natural resources (water, land, climate, energy and biodiversity), human resources (labor, skills and technology), economic resources (capital, infrastructure and market access) and a facilitative regulatory environment.

Currently, the Eastern Cape is home to 12.5% of South Africa's aquaculture producers (Botes *et al.*, 2006), and while no dedicated economic assessment of the size of the industry in the province have been made, the major income generating sub-sectors that have been developed include abalone, oyster, and trout culture. In the near future, the emergence of finfish culture (e.g. dusky and silver kob) is expected to significantly increase in importance.

The various marine and freshwater aquaculture species are currently cultivated in the Eastern Cape Province include:

a) Marine species

- Abalone (*Haliotis midae*)
- Various marine finfish under investigation (including cob (*Argyrosomus spp.*))
- Mediterranean mussel (*Mytilus galloprovincialis*)
- Pacific cupped oyster (*Crassostrea gigas*)
- Seaweed species (*Gracilaria spp.*)
- Dusky kob (*Argyrosomus japonicus*)

b) Freshwater species

- African catfish (*Clarias gariepinus*)
- Carp (*Cyprinus carpio*)
- Goldfish (*Carrasius auratus* and other *spp.*)
- Ornamental fish (various ornamental species)

- Rainbow and brown trout (*Oncorhynchus mykiss* and *Salmo trutta*)
- Koi carp (*Cyprinus carpio*)
- Marron (*Cherax tenuimanus*)
- Mozambique and other tilapia species (*Oreochromis spp*)

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## **POSITION OF THE DEPARTMENT OF ECONOMIC DEVELOPMENT AND ENVIRONMENTAL AFFAIRS ON AQUACULTURE**

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In terms of aquaculture, the Department is primarily concerned with the provision of an accessible and enabling regulatory framework to guide the development of sustainable aquaculture practises in the Eastern Cape and to ensure that the Department is prepared and equipped to deal effectively with the growing aquaculture sector. Through the establishment of an accessible regulatory framework, the Department seeks to be an integral stakeholder and partner in the growth and equitable intensification of the sector. In this manner the Department will strive towards the achievement of the socio-economic and development based objectives of the National Environmental Management Act.

The use of natural resources for aquaculture poses the potential for impacts to these resources and the associated social, economic and biophysical environments. In order to ensure the sustainability of the sector it is imperative that these resources are protected, and that their utilisation for aquaculture is based on sound management, while ensuring equitable benefits to all. This leads to the necessity for the implementation of best environmental management practises in aquaculture, which will assist the Department in its contributions towards a sustainable industry. For this reason the Department has compiled both a best management practise guideline and a guideline to the authorisation requirements for aquaculture in the province.

Due to the diverse nature of aquaculture and the fact that it is influenced and controlled by legislation and mandates from various Government Departments, DEDEA strive to interact in a co-operative manner towards the aquaculture initiatives in other Departments. This will lead to the formulation of a common and conducive approach to the aquaculture sector, forming the foundation for cooperative governance.

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## **METICULOUS PLANNING OF AQUACULTURE IS IMPORTANT**

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Best management practices, legal compliance, sustainability and responsible growth of the aquaculture sector all depend on comprehensive and integrated planning around resources, social matters, environmental aspects, technical matters and economics. For this reason the Department supports and encourages good planning in aquaculture to ensure that the resultant environmental footprint of any aquaculture activity is limited and met by mitigation measures that can ensure sustainability. Such planning should be based on a feedback process in which designs, plans, strategies and processes are continuously tested against the applicable resource, social and environmental matters so that any concept can be modified to best achieve a minimisation of negative impacts. The Department also supports meticulous planning to limit the negative impacts that may be caused by failed or sub-economic aquaculture ventures.

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Just like any other business venture, aquaculture requires a detailed feasibility study before initiation. The development of aquaculture activities must not be based on a perception of aquaculture being an appealing lifestyle choice.

To support prospective aquaculturists, the Department has devised a basic checklist that should be used in the planning of new aquaculture ventures. This self guided primer for prospective aquaculturists only covers the basic drivers of a successful aquaculture practice and it will be necessary for further research into the viability of any new venture.

**Basic checklist of aspects for the planning of a sustainable aquaculture venture:**

<b>Aspect to be considered</b>	<b>Questions to be asked</b>	<b>Organisations that could assist with one or all of the questions (contact details provided on page vi)</b>
Choice of a Species	<ul style="list-style-type: none"> <li>• Is the species indigenous, exotic or extralimital?</li> <li>• If exotic, does the species occur in the area?</li> <li>• Is the species suited to the conditions and climate?</li> <li>• Are the rearing, biology and husbandry techniques for the species known?</li> <li>• Have the various approaches to production of the species been investigated?</li> <li>• Does the design of the facilities suite the species?</li> <li>• Is feed readily available for the species?</li> <li>• What are the market prospects for the species?</li> <li>• Will the chosen species be spawned on site and if not, are sources of juveniles available?</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Economic Development and Environmental Affairs</li> <li>• Department of Agriculture</li> <li>• Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism (for marine species)</li> <li>• Aquaculture Association of Southern Africa</li> <li>• Aquaculture Institute of South Africa</li> <li>• Eastern Cape Development Corporation</li> </ul>
Choice of a Site	<ul style="list-style-type: none"> <li>• Does the project conform to regional development objectives and is the site correctly zoned?</li> <li>• Can legal access be gained to the site?</li> <li>• Does the site have adequate water resources that can be accessed legally?</li> <li>• Is the site physically accessible?</li> <li>• What services (electricity, water, roads, sewage and refuse) are required?</li> <li>• What infrastructure is required?</li> <li>• What is the surrounding land use and how will this influence the project?</li> <li>• What is the environmental sensitivity of the area?</li> <li>• Have floods, tides, winds and other forces of nature been considered?</li> <li>• Has aquaculture effluent discharge been considered?</li> <li>• What will the influence of the project be on its neighbors?</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Economic Development and Environmental Affairs</li> <li>• Department of Agriculture</li> <li>• Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism (for marine sites)</li> <li>• Department of Water Affairs and Forestry</li> <li>• Local Authorities</li> <li>• Aquaculture Association of Southern Africa</li> <li>• Aquaculture Institute of South Africa</li> <li>• Eastern Cape Development Corporation</li> </ul>
General Feasibility	<ul style="list-style-type: none"> <li>• Has a feasibility analysis and business plan been done for the project?</li> <li>• Is the project financed and has provision been made for capital reserves?</li> <li>• Is the required technology available?</li> <li>• Are the required human resources and skills available?</li> <li>• Are the required support services in place and have the logistical needs been considered?</li> <li>• Have water, species and feed resources been</li> </ul>	<ul style="list-style-type: none"> <li>• Aquaculture Association of Southern Africa</li> <li>• Aquaculture Institute of South Africa</li> <li>• Eastern Cape Development Corporation</li> </ul>

	<p>considered in detail?</p> <ul style="list-style-type: none"> <li>• Have social matters been addressed. Is the project acceptable to neighbors and local communities?</li> </ul>	
Market Analysis	<ul style="list-style-type: none"> <li>• Have the markets been identified and secured?</li> <li>• Has market timing, seasonality, needs and price been researched?</li> <li>• Is the market size and demand known?</li> <li>• Can the quality demand of the market be matched or bettered?</li> <li>• In what form should the product be presented in the market?</li> <li>• Is the market competition known?</li> <li>• Have market logistics (handling, freezing etc.) been considered?</li> <li>• Have the phytosanitary and other legal requirements been addressed?</li> </ul>	<ul style="list-style-type: none"> <li>• Aquaculture Association of Southern Africa</li> <li>• Aquaculture Institute of South Africa</li> <li>• National Agriculture Marketing Council</li> <li>• Eastern Cape Development Corporation</li> </ul>
Authorisations and Legal Matters	<ul style="list-style-type: none"> <li>• Does the project require approval in terms of the National Environmental Management Act?</li> <li>• Does the water use for the project require authorisation?</li> <li>• Are any marine aquaculture permits required?</li> <li>• Are any transport permits for aquaculture organisms required?</li> <li>• Are veterinary permits for import and export of organisms required?</li> <li>• Are any authorisations required from the Local Authorities?</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Agriculture</li> <li>• Department of Economic Development and Environmental Affairs</li> <li>• Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism (for marine sites)</li> <li>• Department of Water Affairs and Forestry</li> <li>• Local Authorities</li> <li>• Aquaculture Association of Southern Africa</li> <li>• Aquaculture Institute of South Africa</li> <li>• Eastern Cape Development Corporation</li> </ul>

In addition to the planning matters above, the document titled *Generic Environmental Best Management Practice Guideline for Aquaculture Development and Operation in the Eastern Cape* also contains specifications related to planning around the operational activities of an aquaculture venture or project. These operational best practices should also be used to provide direction in the design, layout and planning of a sustainable project.

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## **BEST MANAGEMENT PRACTISES (BMP'S) IN AQUACULTURE**

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BMP's are defined as the management of activities to achieve an ongoing minimisation of the activities' environmental harm through cost-effective and continually assessed measures.

By their nature, BMP's refer to a wide range of interventions that can be made to improve or optimise performance in financial, social, environmental and other areas or sub-categories. The term has however been adopted strongly into the realm of responsible environmental management. In this context BMP's promote the minimisation of unavoidable environmental impacts and the prevention of avoidable impacts associated with aquaculture activities.

The importance of BMP's in aquaculture is driven by:

## *DEDEA: Introduction to Aquaculture in the Eastern Cape*

- a) The need for aquaculture to be in compliance to legislative obligations,
- b) The need for resource protection and conservation,
- c) The need for resource use to be equitable, responsible and sustainable,
- d) The need for the aquaculture sector to become recognised as environmentally responsible and sustainable,
- e) The need for the aquaculture sector to provide independent norms and standards by which it can be held accountable, and
- f) The need for the sector to illustrate adequate environmental due diligence.

Furthermore BMP's in aquaculture should:

- a) Be relevant to the nature of the aquaculture sector,
- b) Be practical and provide for ease of implementation,
- c) Provide options for management,
- d) Be flexible,
- e) Provide a mechanism for environmental self-regulation,
- f) Fall within the legal requirements for aquaculture development and operation, and
- g) Provide clear standards for performance and monitoring.

Due to the great importance of BMP's in sustainable aquaculture development, the Department has compiled a comprehensive guideline on the subject. This guideline is titled *Generic Environmental Best Management Practice Guideline for Aquaculture Development and Operation in the Eastern Cape*. This guideline provides BMP techniques to minimise the potential environmental impacts associated with aquaculture and highlights the environmental matters related to aquaculture. These matters are divided into four main categories, these being:

- a) The approach required towards the surrounding biophysical environment of aquaculture activities,
- b) The approach required towards the infrastructure environment of aquaculture activities,
- c) The approach required in the operational or production activities of aquaculture, and
- d) The approach required in dealing with the social environment around aquaculture.

BMP's are also the building blocks in contingency planning. These elements and the BMP's however need regular auditing and review to ensure that they remain relevant to the given situations.

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## **THE INTEGRATED AUTHORISATION PROCESS FOR AQUACULTURE**

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The integrated authorisation of an aquaculture activity refers to a process in which all the relevant authorities and stakeholders provide the required inputs, authorisations and permits to ensure that any proposed aquaculture project or venture is in compliance with the applicable resource based legislation. The Department has compiled a detailed guideline document on the authorisation process titled *Guideline to the Authorisation Requirements for Aquaculture in the Eastern Cape*. The core objectives of this guideline are:

- a) To provide guidance on the process, steps and procedures to follow in applying for the authorisation of an aquaculture activity in terms of the legislation for which DEDEA is mandated,
- b) To provide guidance on the process, steps and procedures to follow in gaining

authorisation for an aquaculture activity in terms of other resource based legislation administered by other authorities, and

- c) To provide guidance on the integration of the respective authorisation processes overseen by the different authorities.

In order to simplify the authorisation process it has been broken down into ten clearly defined steps as follows (consultation with the abovementioned guideline is important for further information pertaining to this process):

- a) **Step 1: Formulation of an aquaculture project.** This step consists of conceptualisation of a project or venture so that the concept can be used to inform the authorisation process.
- b) **Step 2: Choosing of a candidate species.** This step consists of the identification of an appropriate species and may require consultation with various Government Departments and organisations, especially when the use of exotic species is considered.
- c) **Step 3: Land access planning.** This step consists of ensuring that the land earmarked for a proposed aquaculture project or venture is rightfully owned or that consent is obtained for the use of the land.
- d) **Step 4: Land use planning.** This step consists of ensuring that the land use planning for a proposed project or venture is in place. These land use planning aspects include:
- o Ensuring that the land is correctly zoned,
  - o Ensuring that building plans are in place for any new structures, and
  - o Ensuring that due consideration is given to any environmentally sensitive areas.
- e) **Step 5: Service planning.** This step consists of ensuring that the necessary services and service infrastructure (electricity, water, roads, sewage services, telecommunications etc.) is available at the required capacity.
- f) **Step 6: Water use planning.** This step consists determining the need for a water use authorisation from the Department of Water Affairs and Forestry.
- g) **Step 7: Marine resource planning.** This step consists of informing and gaining authorisation for all mariculture activities from the Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism.
- h) **Step 8: Environmental planning.** In this step a determination is made whether a project requires an environment authorisation and the process by which such an authorisation is gained. The requirement for such an environmental authorisation is triggered by the activities listed in GN R 386 and GN R 387. In cases where an environmental authorisation is required, an application must be made in this regard to the Department.
- i) **Step 9: Permitting.** This step determines which additional permits may be required by an aquaculture venture. In this regard permits may be required from:
- o DEDEA for the capture or transport (including export and import) of live organisms and for the keeping of certain endangered or exotic species,
  - o The Marine and Coastal Management Branch of the Department of Environmental Affairs and Tourism for the capture or transport (including export and import) of all marine organisms and for the keeping of certain endangered or exotic species, and

- The Veterinary Services of the Department of Agriculture for the import or export of aquaculture organisms.
- j) **Step 10: Post approval planning.** Once the necessary authorisations have been obtained, there may be a requirement for the implementation of ongoing checks and balances, and in certain cases, renewal of the authorisations. These post approval requirements may include internal and external compliance and/or environmental audits, reporting, record keeping, permitting and renewals as required by the respective authorities.

Although the steps above are sequential, the emphasis remains on their integration into a logical process in which the concurrent execution of certain steps is possible. In order to achieve this integration it is important to consult the associated *Guideline to the Authorisation Requirements for Aquaculture in the Eastern Cape*.

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## **WHO TO CONTACT IN RELATION TO AQUACULTURE MATTERS**

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A full list of contact details is provided on page vi of this booklet. The list contains the contact details of all the authorities involved in the development and authorisation of aquaculture. Furthermore, contact details are provided for the Aquaculture Association of Southern Africa and the Aquaculture Institute of South Africa. The Association is the umbrella representative of aquaculture producers, while the Institute is an important development agency and link between the aquaculture sector and the Government at large.

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## **CONCLUSION**

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The booklet provides a basic overview of what aquaculture is, what needs to be taken into consideration when planning an aquaculture venture, best management practises in aquaculture and an overview of the processes that must be followed in the authorisation of aquaculture activities. This information will assist prospective aquaculturists, authorities, financial institutions and other parties that may come into contact with the rapidly expanding aquaculture sector. All these parties will be able to use this booklet as an entry point to further information from the Department and from other sources.