Marine Aquaculture Policy Implementation Plan
2009 - 2014

February 2009
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### ACRONYMS

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ASWG</td>
<td>Aquaculture Southern Working Group</td>
</tr>
<tr>
<td>BBBEE</td>
<td>Broad Based Black Economic Empowerment</td>
</tr>
<tr>
<td>DEAT</td>
<td>Department of Environmental Affairs and Tourism (the Department)</td>
</tr>
<tr>
<td>DEAT:B&amp;C</td>
<td>Department of Environmental Affairs and Tourism Branch: Biodiversity and Conservation</td>
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<tr>
<td>DEAT:EQP</td>
<td>Department of Environmental Affairs and Tourism Branch: Environmental Quality and Protection</td>
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<tr>
<td>DEAT:MCM</td>
<td>Department of Environmental Affairs and Tourism Branch: Marine and Coastal Management</td>
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<tr>
<td>DLA</td>
<td>Department of Land Affairs</td>
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<td>DoA</td>
<td>Department of Agriculture</td>
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<td>DoH</td>
<td>Department of Health</td>
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<tr>
<td>DWAF</td>
<td>Department of Water Affairs and Forestry</td>
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<td>DST</td>
<td>Department of Science and Technology</td>
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<td>DTI</td>
<td>Department of Trade and Industry</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>FAO</td>
<td>Food and Agriculture Organisation</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>MAAF</td>
<td>Marine Aquaculture Advisory Forum</td>
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<td>MAWG</td>
<td>Marine Aquaculture Working Group</td>
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<td>MASA</td>
<td>Marine Aquaculture Association of South Africa</td>
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<td>MPAs</td>
<td>Marine Protected Areas</td>
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<td>NPA</td>
<td>National Ports Authority</td>
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<td>NEMA</td>
<td>National Environmental Management Act 107 of 1998</td>
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<td>NEMBA</td>
<td>National Environmental Management Biodiversity Act 10 of 2004</td>
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<td>NHT</td>
<td>National House of Traditional Leaders</td>
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<td>PCC</td>
<td>Provincial Coastal Committee</td>
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<td>PPP</td>
<td>Public Private Partnership</td>
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<td>SABS</td>
<td>South African Bureau of Standards</td>
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<tr>
<td>SETA</td>
<td>Sector Education Training Authority</td>
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<td>SMMEs</td>
<td>Small, Medium and Micro Enterprises</td>
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<tr>
<td>SALGA</td>
<td>South African Local Government Association</td>
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<td>SRPP</td>
<td>Social Responsibility Policy and Projects</td>
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</table>

### Definition:

Aquaculture: *The farming of marine aquatic organisms including fish, molluscs, crustaceans and plants in controlled or selected marine aquatic environments, with some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators etc. Farming also implies individual or corporate ownership of the stock being cultivated.*
1. **Introduction**

This document constitutes the Implementation Plan (2009 – 2014) for the “Policy for the Development of a Sustainable Marine Aquaculture Sector in South Africa – 2007”. This policy provides direction to the marine aquaculture development and management activities of the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management (DEAT: MCM) and specifically concludes with a policy directive for the establishment of implementation strategies.

2. **Background**

DEAT: MCM has compiled and launched the policy for marine aquaculture (2007). In order to achieve the objectives of this policy, the Department requires this complimentary implementation plan. In order to remain efficient in its delivery of the policy objectives, it is important that this plan remains a live document.

Broadly, the policy objectives are aimed at promoting the development of an economically sustainable and globally competitive marine aquaculture industry in South Africa. The policy will encourage acceleration of industry development, provided that these objectives can be put into systematic and measurable actions by means of this implementation plan.

The implementation plan is stakeholders and needs driven and has been compiled in direct reaction to the inputs from the sector participants – including government, private sector, communities, researchers and academia, non-government organisations and experts. With these stakeholder inputs and the direction given by policy, the implementation plan has been structured into specific programmes, each with specific tasks, timeframes, resources, roles, responsibilities, participants and potential pitfalls.

3. **Vision and Mission**

From the primary objectives of the marine aquaculture policy, the **vision** for the creation of:

> An internationally competitive, technology-based industry with a broad base of participation.

To achieve this vision the implementation plan will be directed and will subscribe to the following **mission**:

> To provide a tool with which clear direction can be given to the required actions for the achievement of the policy objectives.

The aquaculture sector has unique regulatory and developmental needs, which if achieved successfully, can contribute to the greater development plans and strategies for South Africa as a country. Amongst others, these development areas include socio-economic aspects, food-security, contribution to GDP, human resource development and equitable access to resources. To give effect to this, this implementation plan, through its vision and mission, aims to be:
Marine Aquaculture Implementation Plan

- **Forward Looking** - considerate of the potential future growth of aquaculture and the need for continued renewal in the required approach.
- **Outward Looking** - cognisant of the effects of the implementation programmes on the industry and thus being service orientated as opposed to restrictive.
- **Innovative and Flexible** - leading the design and implementation of more efficient means to ensure sustainable growth.
- **Joined Up** - linked to all government and private sectors that deal with, or have an interest in marine aquaculture, and considerate of other policies, mandates, regulatory frameworks and protocols.
- **Inclusive** - effective at all levels of the sector from subsistence to large enterprise, across technologies, markets and scale.
- **Evidence Based** - geared to the particular nature of the aquaculture as seen from the actual sector characteristics.
- **Evaluated** - adequately reviewed and updated through internal (mandated) and external (participatory and need driven) means.

4. **Strategic Overview**

South African capture fisheries are declining, partly due to overexploitation of resource. In this regard, significant challenges are faced around poverty alleviation, unemployment and food security related to the fisheries sector. Marine aquaculture, as one of the fastest growing global food industries, presents an opportunity to substantially increase the diversity of economic activities and the skills-base around the coastline.

While DEAT: MCM is mandated to develop and accelerate the marine aquaculture sector, this development must be done without undue impacts to the environment and with broad based and equitable beneficiation. To achieve this, the Department will establish various guidelines that will follow the basic principals in the marine aquaculture policy. These are:

- Maintain ecosystem health;
- Foster long term growth and profitability;
- Encourage participation and inclusivity;
- Promote transformation;
- Promote transparency; and
- Encourage intergovernmental collaboration

A number of factors (taken from the policy) hamper the development of the marine aquaculture sector in South Africa. From a strategic point of view, these factors underlie the implementation plan and the development approach by the Department.

- A high-energy coastline (rough seas with strong wave and current action) with a limited number of naturally protected sites;
- A coastal strip that is relatively pristine, highly sought after such that marine aquaculture competes with other activities such as tourism, recreation, real estate, etc.;
Marine Aquaculture Implementation Plan

- A relatively recent acceptance of marine aquaculture as a viable economic activity and therefore limited investment has been made in this activity by both government and private sector;
- Reluctance of financial institutions to lend money to potential farmers;
- Inadequate market-related services such as market information, market intelligence, information for consumers, infrastructure for marketing, marketing organisations, products or technology, etc;
- Limited human resource capacity in aquaculture research, management, technical and advisory services;
- Administrative arrangements and processes that lead to complicated authorisation procedures; and
- Absence of a supporting legislative framework.

5. Implementation Plan Objectives

The objectives of the implementation plan are to:

- Give effect to the objectives of the marine aquaculture policy through clear programmes and actions.
- To react to the development needs of the marine aquaculture sector through clear programmes and actions. In this the implementation plan aims to be stakeholder driven.
- To provide guidance around the timeframes of specific programmes and actions.
- To provide guidance around the lead organisations and participatory organisations in specific programmes and actions.
- To provide an indication the required resources (both human and financial) in specific programmes and actions.
- To highlight potential pitfalls in the specific programmes and actions.

It is imperative that the implementation efforts be geared to that which is practically possible and achievable at any given time. This achievability is related to physical time, human resources, financial resources, participation, coordination and the interrelatedness between actions and how actions address the industry needs. In reality fewer well planned and successfully executed actions in each programme will bear more fruit than a multitude of actions that are poorly planned and haphazardly executed. As the implementation plan will be subject to regular review and progress evaluation, more actions can be added as the initial tasks are successfully implemented and executed.

6. Policy Directives

The marine aquaculture policy provides for this implementation plan in that it concludes with a call for implementation through departmental and other structures with the requisite resources. In this is the directive for well aligned industry and structure plans at national, provincial and local level, to form an effective legislative and administrative framework for the marine aquaculture industry. These institutional arrangements, improved intergovernmental coordination and capacitation of actions and programmes, stands at the core of this implementation plan.

Apart from the directive above for the creation of the implementation plan, the policy stands on four core objectives to which this implementation should provide actions and programmes. These are:
To create an enabling environment that will promote the growth of marine aquaculture in South Africa and enhance the industry’s contribution to economic growth;
To promote transformation and broader participation in the aquaculture industry;
To support and develop regulatory and management mechanisms aimed at avoiding or minimizing adverse environmental impacts; and
To expand the resource base from the few species currently being farmed to a more diverse array of species.

7. **Roles, Responsibilities and Coordination**

As the implementation plan is an extension of the marine aquaculture policy over which DEAT:MCM is mandated, the primary responsibility for this plan and the programmes therein fall to DEAT: MCM. The department however recognises the importance of other government departments, the industry participants and other organisations in its delivery of these programmes. In certain instances, government departments outside of DEAT have a leading legislative and operational mandate over certain aspects that related to marine aquaculture (e.g. veterinary services which resides in the Department of Agriculture). This is recognised in the implementation plan by ensuring that the applicable government departments lead or co-lead the particular actions.

**Role of other National Departments**
1. DEAT-EQP continues to administer the NEMA regulations (EIA).
3. DoA – Provision of animals health and veterinary services
4. DTI – Business support, investment promotion and trade
   a. Facilitation of finance and incentives for industry
5. DLA - Identification and zonation of sites (land)
6. DST – Research and technology transfer
7. DoH – Food safety and public health requirements for aquaculture products
8. DWAF - Water resource planning and authorisation
9. National Treasury - Funding of projects
10. Public Enterprises
    a. Transnet – allocation of sea space with commercial ports
    b. National House of Traditional Leaders - facilitate access to land
    c. SABS - Ensure food safety

**Role of Provincial Departments**
1. Environment - Issuing of Record of Decision (RoDs) for EIAs
2. Economic Development - Provide/facilitate funding, setting up projects or other support (training for SMMEs)
3. DoA - Provide animal health and veterinary services
4. DoH - Ensure that food safety and public health requirements are met

**Role of Local Government**
2. Municipalities – ensure that food safety and public health requirements are adhered to.
3. Municipalities - Assist with sampling for shell fish monitoring programme.
4. SALGA – to ensuring integration of aquaculture in municipal IDPs.
The implementation plan makes provision for a department or organisation to lead any particular action or programme, while providing for the identification of partners and participants. In many instances actions and programmes will become the executive function of the joint Marine Aquaculture Advisory Forum (MAAF), which will consist of DEAT: MCM, sister government departments. This forum will also rely on researchers and academia and industry inputs and representation when necessary. Representatives that serve on the MAAF will be mandated to fulfil this joint function in the development and support of the marine aquaculture sector.

8. Implementation Programmes

In total eleven key programmes have been identified in this marine aquaculture implementation plan. These programmes are:

- **The establishment of aquaculture zones**
  - Marine aquaculture faces competition from other land and sea use activities, both commercial as well as recreational. It is a matter of high priority, therefore, to ensure that areas (sea, land and suitable estuaries) which may be suitable for marine aquaculture development are zoned for this purpose.

- **The provision of marine aquaculture incentives**
  - South Africa’s marine aquaculture industry faces competition from many other nations in Europe, South America and Asia. DEAT shall, in collaboration with other government departments particularly the DTI and Treasury, strive to ensure that a range of financial mechanisms that are routinely employed by government to improve the competitiveness of South African industry are designed and managed so as to benefit the marine aquaculture industry.

- **The creation of an enabling regulatory environment**
  - Legislation pertaining to marine aquaculture is currently fragmented and does not promote investment. Appropriate legislation and regulations will be developed in order to implement measures aimed at achieving the policy objectives.

- **Marine aquaculture services**
  - The development of a successful South African marine aquaculture industry will depend on the existence of services and programmes that address food safety and fish health.

- **Health management**
  - A National Marine Aquaculture Animal Health Management Programme will be developed together with public and private partners, in particular the DoA.

- **Intergovernmental coordination / cooperative governance**
Currently national and provincial departments as well as local government (municipalities) have different mandates that impact, or have the potential to impact on the marine aquaculture industry.

- **Education, training and skills development**
  - Successful marine aquaculture requires the availability of highly skilled (general and specialised) people at all levels, across a wide range of disciplines. To address these challenges the Department shall in consultation or partnership other relevant institutions develop and implement a skills development programme.

- **Awareness, communications and dissemination**
  - The policy identifies the need to improve communication and dissemination of information between the Department and stakeholders.

- **Marine aquaculture research**
  - Marine aquaculture in South Africa is currently based on a relatively limited number of species. A research programme will be implemented to develop new species and technology as well as to improve performance of existing species.

- **Environmental matters**
  - All forms of aquaculture have the potential to impact negatively on the environment. In order to minimise the risk or the intensity of negative environmental impacts the Department will put mitigation and controls measures in place.

- **Transformation**
  - Few Previously Disadvantaged Individuals (PDIs) own or are involved in aquaculture operations at a senior management level. The policy seeks to promote industry transformation and to broaden participation.

The majority of these programmes revolve around or are related to the creation of an enabling environment (this being the first of the marine aquaculture policy objectives). The other policy objectives are however equally important and these are reflected in their own specific programmes (i.e. transformation, environmental matters and research).

Each of the programmes are divided into actions and these are depicted in tabular form on the following pages. Each action is expanded into an implementation task by the provision of details related to:

- Timeframes
- Lead Organisation / s
- Participatory and Assisting Organisation / s
- Required Human Resources
- Required Financial Resources
- Potential Pitfalls or “Red Flag” Areas

Seen in combination, these aspects provide the direction and framework for measurability to the actions.
## Marine Aquaculture Implementation Plan

### PROGRAMME 1  Establishment of Aquaculture Development Zones (ADZ)

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flag Areas</th>
</tr>
</thead>
</table>
| **Determine the primary position / location of marine aquaculture zones** | - Determine information needs.  
- Assessments of coastline to determine suitable areas.  
- Determine priority areas.  
- Align with government interests, priorities and incentives.  
- Obtain an overview of socio-economic development needs.  
- Consider health implications of zoning.  
- Consider existing development clusters (e.g. IDZs).  
- Conduct economic feasibility assessment.  
- Devise mechanisms to ensure equitable allocation of marine aquaculture resources. | Early 2009  
Conclude by end 2010 | - Lead: DEAT: MCM (lead and coordinate).  
- Participate: Dept. of Land Affairs  
- Other: Provincial authorities (as implementing agents). | - Lead: One project manager at DEAT: MCM (overall coordination)  
- Participate: One project manager per province (regional coordination). | 2009: R 1 000 000  
Per land-based zone for completion of assessments and planning (aim for 4 ADZs) | Lack of suitable baseline information.  
- Complicated multi-departmental regulations and mandates.  
- Implementation capacity.  
- Lack of finance.  
- Tight timeframes |
| **Design / provide specific incentives for marine aquaculture development in ADZs** | - Assessments of existing development zones and types of development incentives used.  
- Consult with DTI and IDC on development incentives.  
- Investigate possibility and types of specific incentives. | Commence early 2009  
Conclude by end 2010 | - Lead: DEAT: MCM (lead and coordinate).  
- Participate: MAAF, ADZ team for each province (multidisciplinary).  
- Other: Applicable municipalities. | - Under auspices of above project manager with cooperation from DTI / IDC personnel.  
- Participate: One project manager per province (regional coordination). | 2009: R 150 000  
Per province (regional coordination) | Specific incentives are complicated to develop.  
- Incentives must be attractive to stimulate development and investments.  
- Legal declaration could take long.  
- Services must accommodate target aquaculture types.  
- Costs of infrastructure is unknown until needs have been assessed. |
| **Declare the marine aquaculture development zones** | - Implement legal steps for declaration.  
- Define services and infrastructure that will be provided.  
- Design basic infrastructure.  
- Construct basic infrastructure. | 2009  
2011  
2012 | - Lead: DEAT: MCM (lead and coordinate).  
- Participate: MAAF, ADZ team for each province (multidisciplinary).  
- Other: Applicable municipalities. | - Lead: One project manager per province (regional coordination) (same person as above).  
- Participate: Under auspices of above project manager with cooperation from DTI / IDC personnel. | 2009: R 2 800 000  
Declared (per site): R 200 000  
Design (per site): R 500 000  
Construct (per site): R  unknown. | Legal declaration could take long.  
- Services must accommodate target aquaculture types.  
- Costs of infrastructure is unknown until needs have been assessed. |
| **Market and populate the marine aquaculture development zones** | - Involve industry in design phase.  
- Prioritize key species and technologies that can be accommodated.  
- Run ADZ’s campaign. | 2011  
2010  
- Participate: MAAF, ADZ team for each province (multidisciplinary).  
- Other: Applicable municipalities. | - Lead: Campaign under provincial project managers.  
- Participate: Under auspices of above project manager with cooperation from DTI / IDC personnel. | 2011: R 800 000  
Campaign (per site): R 200 000 | Do not marginalize industry in planning.  
- Campaign must be well informed. }
### PROGRAMME 2: Marine Aquaculture Incentives

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine who funds / can fund primary sector incentives for marine</td>
<td>Set up working discussion with DTI, DOA, IDC and other relevant</td>
<td>Early 2010</td>
<td>DEAT: MCM</td>
<td></td>
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</tr>
<tr>
<td>aquaculture</td>
<td>government departments</td>
<td></td>
<td></td>
<td>Other applicable government departments</td>
<td>Within existing manpower budgets</td>
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<td>MAAF</td>
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<td>Existing officials from each department with mandate</td>
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<tr>
<td>Investigate tailor made incentives for marine</td>
<td>Set up working discussion with DTI, DOA, IDC and other relevant</td>
<td>Commence 2009</td>
<td>DEAT: MCM</td>
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<tr>
<td>aquaculture development</td>
<td>government departments</td>
<td>Conclude by end 2010</td>
<td></td>
<td>Business Support and Trade Steering Committee</td>
<td>Within existing manpower budgets</td>
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<td>MAAF</td>
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<td>Industry</td>
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<td>Existing officials from each department with mandate</td>
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<tr>
<td>Packaging of existing incentives for aquaculture</td>
<td>Create tailor made incentive packages</td>
<td>Implemented by 2011</td>
<td>DTI / IDC/Financial Institutions</td>
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<td>DEAT: MCM</td>
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<td>MAAF</td>
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<td>Industry</td>
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<td>Dedicated project coordinator from DTI</td>
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<td>Existing officials from each department with mandate</td>
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<tr>
<td>Design / provide specific incentives for marine</td>
<td>Repeated action – see Programme 1</td>
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<td>DTI and Business and Trade Support</td>
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<td>aquaculture development in ADZs</td>
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### Lead
- DEAT: MCM
- Other applicable government departments
- MAAF
- Existing officials from each department with mandate
- Within existing manpower budgets

### Participate
- MAAF
- Industry
- Existing officials from each department with mandate
- Within existing manpower budgets

### Human
- Existing officials from each department with mandate
- Discussions must be outcome based / task driven
- Industry must provide direction
- Incentive must be equitable

### Financial
- Incentive packaging part of DTI core function / budget – use of existing incentives.
- Industry must provide direction
- Incentive must be equitable
- Incentive must be attractive to investors
<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
</table>
| Review of current regulatory environment, constraints and needs | • Re-visit regulatory reviews that have been done to determine problem areas.  
• Consult with industry on problem areas.  
• Consult with other regulatory branches of DEAT.  
• Consult with other regulatory authorities from other Departments  
• Determine areas of improvement and discuss with applicable authorities.  
• Establish MAAF as centrally coordinated and adequately mandated discussion forum for regulatory streamlining.  
• Amend Marine Living Resources Act to accommodate marine aquaculture | 2010  
2010  
2010  
2010  
2009  
2009 - 2011 | DEAT: MCM  
Industry  
Other applicable government departments and branches  
Legal experts  
MAAF | These tasks should be driven by the aquaculture manager / coordinator in DEAT: MCM (delegated to internal personnel)  
Departmental legal experts / advisors | General budget for activities: R 50 000 per annum.  
2009: R 50 000  
2010: R 50 000  
2011: R 50 000 | Complicated multi-departmental regulations and mandates.  
Changes to law require time.  
Ensure industry buy-in. |
| Streamline and harmonizing permitting process around imports and exports | • Review the process and determine areas of improvement  
• Investigate possibility of online permitting systems | 2010  
2011 | DEAT: MCM  
DOA  
SABS  
CITES  
MAAF | Much of this can be done by representatives to the MAAF  
Review: R 100 000  
Investigate online: R 50 000 | 2009: R 100 000  
2010: R 80 000 | Take regard of international requirements (e.g. EU standards) |
| Improve monitoring systems (to feed into better compliance frameworks) | • Develop standard monitoring protocols (possibly as part of best management practices: Programme 10) | 2009 - 2011 | DEAT: MCM  
MAAF  
Provincial authorities  
Industry | Aquaculture manager / coordinator in DEAT: MCM  
Overall budget of R 200 000 per annum | Monitor must remain practical, affordable, repeatable and data must be useful.  
South African coastline has unique monitoring profile. |
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<tr>
<th>What to do</th>
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</tr>
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</table>
| Establish service needs | Conduct needs assessment of:  
  - Financial service needs  
  - Health service needs  
  - Secondary service needs  
  - Extension service needs  
  - Environmental monitoring services  
  - Food safety services needs  
  - Establish Product Quality and Safety Steering Committee  
  - Seed supply needs  
  - Other | 2009 - 2011 | DEAT: MCM |  
  - Consult with industry  
  - MAAF  
  - DOA  
  - SABS  
  - DoH  
  - Provincial authorities  
  - Product Quality and Safety Steering  
  - Aquaculture manager / coordinator in DEAT: MCM  
  - Steering Committee members appointed | Overall budget of R 200 000 per annum |  
  - Service needs of established commercial sector will differ from services for new entrants.  
  - Private sector must not be marginalized in the provision of services in the free market. |
| Create service framework and approach | Develop service implementation strategy for DEAT: MCM with particular focus in:  
  - Seed supply services  
  - Extension services | 2010- 2011 | DEAT: MCM |  
  - Consult with industry  
  - MAAF  
  - DOA  
  - SABS  
  - Provincial authorities  
  - Aquaculture manager / coordinator in DEAT: MCM (delegated to internal personnel) | Develop service implementation strategy: R 300 000 |  
  - As above  
  - Certain other government departments have very specific service delivery mandates that must be accommodated. |
| Provide key services | Establish selected services or support private sector service provision | 2014 | DEAT: MCM  
  - Provincial authorities |  
  - MAAF  
  - Industry  
  - DOA  
  - SABS  
  - Provincial authorities | Can only be established after service needs assessment |  
  - Can only be established after service needs assessment |  
  - As above |
## PROGRAMME 5: Health Management

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish dedicated group to deal with health management</td>
<td>• Obtain mandate from DOA (Vet Services) and establish Health and Welfare Management Steering Committee</td>
<td>2009</td>
<td>DEAT: MCM</td>
<td>• DOA</td>
<td>• Industry</td>
<td>Operating budget of R 50 000 per annum</td>
</tr>
<tr>
<td>Address regulatory matters</td>
<td>• Address absence of aquatic animals in the Animal Diseases Act</td>
<td>2009 - 2012</td>
<td>Health management task team</td>
<td>• DEAT: MCM</td>
<td>• Professional</td>
<td>Budget of R 200 000 per annum</td>
</tr>
<tr>
<td>Establish strategic framework with clear health management objectives</td>
<td>• Commission Aquaculture Disease Management Strategy, including: - Disease reporting protocols - Disease response protocols</td>
<td>2010 - 2011</td>
<td>Health management task team</td>
<td>• DEAT: MCM</td>
<td>• MAAF</td>
<td>Overall budget: R 400 000</td>
</tr>
<tr>
<td>Facilitate health management services to the sector</td>
<td>• To follow steps in Programme 4 (this should remain a private sector service, which government can facilitate)</td>
<td>2009 – 2014</td>
<td>Health management task team</td>
<td>• DEAT: MCM</td>
<td>• MAAF</td>
<td></td>
</tr>
<tr>
<td>Establish research activities in health management</td>
<td>• Identify health management problems that require research. • Carry research priorities into Programme 9.</td>
<td>2010 - 2014</td>
<td>Health management task team</td>
<td>• DEAT: MCM</td>
<td>• Research institutions</td>
<td>Overall budget: R 500 000 per annum</td>
</tr>
<tr>
<td>Establish training in health management</td>
<td>• Set up accredited national health management training for: - Industry - Training specialists - Government officials - New entrants</td>
<td>2010 - 2014</td>
<td>Health management task team</td>
<td>• DEAT: MCM</td>
<td>• Training institutions</td>
<td>Overall budget: R 500 000 per annum</td>
</tr>
<tr>
<td>What to do</td>
<td>How to do it</td>
<td>When (start, intervals, end etc.)</td>
<td>Who will do this</td>
<td>Resources</td>
<td>Financial</td>
<td>Red Flags</td>
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</tbody>
</table>
| Establish MAAF | - Invite other Departments and set up national discussion  
- Determine and obtain necessary mandates  
- Develop TORs and clear objectives for MAAF  
- Involve industry in MAAF | 2009  
MAAF to meet at least biannually | DEAT: MCM  
DOA  
DTI  
DST  
DWAF  
Provincial authorities  
Industry  
Co-opted members as required | Each Department to mandate a specific representative. Aquaculture manager /coordinator from DEAT: MCM to drive the process  
DEAT-MCM to appoint Secretariat | Operating budget of R 100 000 per annum  
2009: R 100 000  
2010: R 100 000  
2011: R 100 000 | Representatives without mandates to take action in marine aquaculture development may hamper the process. Meetings must be attended fully. |
| Strengthen Industry Liaison Forum | - Rotate areas in which meetings are held or set-up provincial sub-meetings.  
- Ensure that outcome from forum are fed into MAAF and that actions and timeframes are devised  
- Establish partnerships with other industry forums such as SAWG | 2009 - 2014 | DEAT: MCM  
Liaison Forum members from industry  
Provincial authorities  
MAAF | Aquaculture manager / coordinator from DEAT: MCM to drive the forum  
DEAT-MCM to appoint Secretariat | Operating budget of R 50 000 per annum  
2009: R 50 000  
2010: R 50 000  
2011: R 50 000 | Poor industry attendance must be addressed. Forum issues must receive dedicated attention. |
| Align policies | - Assess all aquaculture policies, development plans, strategies and protocol to determine areas of possible conflict / poor alignment (national and provincial).  
- Establish means to coordinate policy, development plan, strategy and protocol development through MAAF. | 2010 - 2012 | DEAT: MCM  
MAAF  
Provincial authorities  
Industry  
Legal advisors | This assessment must be done by Aquaculture manager /coordinator from DEAT: MCM  
DEAT-MCM to drive the forum  
MAAF to coordinate | Overall budget of R 400 000 per annum  
2010: R 400 000  
2011: R 400 000 | Many departments, provinces and development agencies have embarked on policy and development plan exercises. |
| Align legislation | - Assess all legislation that impacts on marine aquaculture.  
- Determine areas in legislation that required amendment.  
- Submit recommendations through MAAF | 2010 - 2012 | DEAT: MCM  
MAAF  
Provincial authorities  
Industry  
Legal advisors | This assessment must be done by Aquaculture manager /coordinator from DEAT: MCM (delegated to internal personnel)  
DEAT-MCM to drive the forum  
MAAF to coordinate | Overall budget of R 400 000 per annum  
2010: R 400 000  
2011: R 400 000 | Legal reform is slow and some interim measures / arrangements may be required |
### PROGRAMME 7: Education, Training and Skills Development

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine skills and training needs</td>
<td>• Conduct skills and training audit</td>
<td>2009-2010</td>
<td>DEAT: MCM</td>
<td>• Training institutions&lt;br&gt;• Industry&lt;br&gt;• MAAF&lt;br&gt;• Department of Educations&lt;br&gt;This assessment must be done by Aquaculture manager /coordinator from DEAT: MCM (delegated to internal personnel)</td>
<td>Overall budget of R 200 000</td>
<td>• The assessment must look at all levels of training needs</td>
</tr>
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<td></td>
<td>• Survey of current initiatives</td>
<td></td>
<td></td>
<td></td>
<td>2009: R 200 000</td>
<td></td>
</tr>
<tr>
<td>Design training programmes</td>
<td>• Determine accreditation needs</td>
<td>2009-2011</td>
<td>DEAT: MCM</td>
<td>• Training institutions&lt;br&gt;• Industry&lt;br&gt;• MAAF&lt;br&gt;• Applicable SETA&lt;br&gt;• Department of Educations&lt;br&gt;Aquaculture manager /coordinator from DEAT: MCM will work closely with training institutions (delegated to internal personnel)</td>
<td>Overall budget of R 500 000</td>
<td>• In terms of capacity this will require a dedicated person within DEAT: MCM under the Aquaculture manager /coordinator</td>
</tr>
<tr>
<td></td>
<td>• Determine appropriate content</td>
<td></td>
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<td></td>
<td>• Develop unit standards – recognition of prior learning</td>
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<tr>
<td></td>
<td>• Determine training spectrum: from skilled to unskilled</td>
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</tr>
<tr>
<td>Assist trainees</td>
<td>• Integrate with existing training frameworks</td>
<td>2010 - 2014</td>
<td>DEAT: MCM</td>
<td>• Accredited training institutions/individuals&lt;br&gt;• Industry&lt;br&gt;• MAAF&lt;br&gt;• PCCs&lt;br&gt;Although the Aquaculture manager /coordinator from DEAT: MCM and MAAF will play an active role, these responsibilities will fall largely on training institutions</td>
<td>Provision of funds to training institutions: R 1 000 000 p/a&lt;br&gt;Bursaries: R 400 000 per annum</td>
<td>• Training funds and bursaries must be provided on basis of accountability&lt;br&gt;Training and bursary funds must be distributes equally and equitably.</td>
</tr>
</tbody>
</table>
### PROGRAMME 8: Awareness, communications and dissemination

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
</table>
| Improve communications | • Develop communication (and sector marketing) strategy with inclusion of the actions below and:  
  - Determine and deal with negative perceptions of the industry  
  - Investigate promotional subsidies from DTI | 2010 | DEAT: MCM  
  • MAAF  
  • Industry | This Aquaculture manager /coordinator from DEAT: MCM (delegated to internal personnel) | Budget of R 200 000 | • Strategy must be sensitive to diverse audience in aquaculture that is thinly spread. |
| Promote aquaculture as an economic investment | • Support the role of MASA  
  • Publicize in lifestyle magazines  
  • Participate in trade shows  
  • Develop annual industry awards with media coverage  
  • Media statements  
  • Sessions with PCCs | 2009 - 2014 | DEAT: MCM  
  • MAAF  
  • Industry  
  • DTI | Aquaculture management personnel | Media materials:  
  • R 300 000 per annum  
  • Support MASA:  
  • R 100 000 per annum  
  • Trade shows:  
  • R 200 000 per annum  
  • Industry awards:  
  • R 50 000 per annum | 2009: R 650 000  
  2010: R 650 000  
  2011: R 650 000 | • Monitor effects of industry promotion Promotions must reach all of the target audience – rural communities also. |
| Promote local use of aquaculture products | To be determined by strategy above | 2009 - 2014 | DTI  
  MAAF  
  DEAT:MCM | Trade and Investments division of DTI | 2009: R 50 000  
  2010: R 50 000  
  2011: R 50 000 | |
| Promote sustainability and environmental management in aquaculture | To be determined by strategy above (see also Programme 10) | 2009 - 2014 | DEAT  
  MAAF  
  Industry  
  NGO | DEAT: Environmental division | 2009: R 50 000  
  2010: R 50 000  
  2011: R 50 000 | |
| Disseminate technical and research information | • Work closely with research institutions to promote information flow (see also Programme 9) | 2009 - 2014 | DEAT: MCM  
  • Research institutions  
  • MAAF | Aquaculture manager /coordinator from DEAT: MCM (delegated to internal personnel) | 2009: R 20 000  
  2010: R 20 000  
  2011: R 20 000 | • Research should be industry and development orientated |
### PROGRAMME 9: Marine Aquaculture Research

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
</table>
| Establish Aquaculture Research Steering Committee | • Invite steering committee participants  
• Obtain mandates for members  
• Establish terms of operation | 2009 - 2014  
Steering committee to meet at least four times a year | DEAT: MCM  
Industry  
DST  
Research Institutions | Industry  
DST  
Research Institutions | Operating budget of  
R 50 000 per annum | 2009: R 50 000  
2010: R 50 000  
2011: R 50 000 | Representation on the committee is important.  
Attendance of committee meetings. |
| Plan research according to needs (establish research areas) | • Conduct research needs analysis  
• Appoint Research and Development Steering Committee to develop plan/plan, which must include:  
- Research review mechanisms  
- Lessons from Frontier Programme  
- Research dissemination  
- Research infrastructure needs  
- Research funding needs  
Identify research priorities and call for proposals | 2009 - 2014 (annually) | DEAT: MCM  
Research Steering Committee  
Research Institutions  
MAAF  
Industry  
DST | Research Steering Committee  
Research Institutions  
MAAF  
Industry  
DST | This assessment must be done the steering committee under guidance of the research manager at DEAT: MCM | Assessments:  
R 200 000  
Research Plan:  
R 200 000  
Call for proposals:  
R 20 000 per annum | Research plan must serve all needs of industry development from commercial operators to new entrants |
| Create research capacity | • Appoint full time research manager in DEAT: MCM | 2010 | DEAT: MCM  
DEAT: MCM | DEAT: MCM  
One full time research manager | Internal staffing budget | Qualification of appointed person |
| Facilitate research | • Provide funding for research  
• Investigate joint funding (with DST) | 2009 - 2014 | DEAT: MCM  
Research Steering Committee  
Research Institutions  
MAAF  
Industry  
DST | Research Steering Committee  
Research Institutions  
MAAF  
Industry  
DST | Function of steering committee | Fund research with  
R 8 000 000 per annum | Equal and equitable allocation of research funds  
Research must address needs of the industry |
### PROGRAMME 10: Environmental Matters

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Financial</th>
<th>Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish environmental development and management tools</td>
<td>• Develop EIA guidelines</td>
<td>• DEAT: MCM&lt;br&gt; • Other environmental management branches of DEAT</td>
<td>DEAT- EQP to nominate official to drive process for EIA guidelines</td>
<td>EIA Guidelines: R 200 000&lt;br&gt;Best Practices: R 200 000&lt;br&gt;Norms and Standards: R 200 000&lt;br&gt;Monitoring Protocols: R 200 000</td>
<td>• All tools must be geared toward industry facilitation and should not create admin. and regulatory burdens</td>
</tr>
<tr>
<td></td>
<td>• Develop best practices and codes</td>
<td>• Industry&lt;br&gt; • MAAF&lt;br&gt; • Other interested and affected parties</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Develop norms and standards</td>
<td></td>
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<tr>
<td></td>
<td>• Develop monitoring protocols</td>
<td></td>
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<tr>
<td></td>
<td>2010&lt;br&gt; 2010 - 2011</td>
<td></td>
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</tr>
<tr>
<td>Environmental research</td>
<td>• Align with Programme 9 and include:</td>
<td>• Research Steering Committee&lt;br&gt; DEAT: MCM</td>
<td>This will become a coordination function of the DEAT: MCM research manager</td>
<td>In budget of Programme 9</td>
<td>• Research must be aligned with actual industry needs</td>
</tr>
<tr>
<td></td>
<td>• Environmentally sensitive systems</td>
<td>• Research Institutions&lt;br&gt; Industry&lt;br&gt; MAAF</td>
<td>(see Programme 9)</td>
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<tr>
<td></td>
<td>• Better technology</td>
<td></td>
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<tr>
<td></td>
<td>• Integrated production</td>
<td></td>
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<tr>
<td></td>
<td>• Alien species</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>2009 - 2014</td>
<td></td>
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</tr>
<tr>
<td>Enforcement matters</td>
<td>• Liaise with all enforcement agencies</td>
<td>• DEAT: MCM&lt;br&gt; • Other environmental management branches of DEAT</td>
<td>Aquaculture manager coordinator from DEAT: MCM (delegated to internal personnel)</td>
<td>Operating budget of R 50 000 per annum</td>
<td>• Cooperate with industry to prevent strained relationships. Enforcement procedure must be very clear to industry</td>
</tr>
<tr>
<td></td>
<td>• Standardize enforcement</td>
<td>• All enforcement agencies&lt;br&gt; Industry&lt;br&gt; MAAF&lt;br&gt; Provincial authorities</td>
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<tr>
<td></td>
<td>• Inform industry of enforcement mechanisms, procedures and scale etc.</td>
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<tr>
<td></td>
<td>• Determine and discuss impact of CITES</td>
<td></td>
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<tr>
<td></td>
<td>2010&lt;br&gt; 2009 - 2014</td>
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<tr>
<td>Public relations</td>
<td>• Develop positive press around the impact and environmental management of aquaculture (see also Programme 8)</td>
<td>• DEAT: MCM&lt;br&gt; • Other environmental management branches of DEAT</td>
<td>DEAT-MCM Stakeholders Relations division</td>
<td>Operating budget of R 20 000 per annum</td>
<td>• Be sensitive to type of negative press. Press must be factual and appropriate to SA conditions and industry</td>
</tr>
<tr>
<td></td>
<td>2009 - 2014</td>
<td>• Industry&lt;br&gt; MAAF&lt;br&gt; NGOs</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Improved environmental management tools for aquaculture zones (see also Programme 1)</td>
<td>• Conduct SEA in each aquaculture development zone</td>
<td>• Environmental experts</td>
<td>DEAT: MCM to nominate official to drive process</td>
<td>SEA per zone: R 400 000&lt;br&gt;EMF per zone: R 200 000</td>
<td>• These SEA and EMF must not be a burden to development and must aim at easing development progress</td>
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<tr>
<td></td>
<td>• Establish EMF for each aquaculture development zone</td>
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<tr>
<td></td>
<td>2009 - 2010</td>
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</tbody>
</table>

2009: R 600 000<br> 2010: R 200 000<br> 2011: R 200 000

2009: R 50 000<br> 2010: R 50 000<br> 2011: R 50 000

2009: R 20 000<br> 2010: R 20 000<br> 2011: R 20 000

2009: R 800 000<br> 2010: R 1 200 000<br> 2011: R 400 000
<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
<th>When (start, intervals, end etc.)</th>
<th>Who will do this</th>
<th>Resources</th>
<th>Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritize equitable resource allocation</td>
<td>Review current marine aquaculture resource rights allocation process</td>
<td>2009/10</td>
<td>DEAT: MCM</td>
<td>MAWG, Legal advisors, DEAT-MCM legal division together with MAWG</td>
<td>Rights should stimulate industry growth and redress</td>
</tr>
<tr>
<td>Provide incentives</td>
<td>Liaise with DTI on possible incentive scheme for:</td>
<td>2010</td>
<td>DEAT: MCM DTI</td>
<td>MAAF, Business Support and Trade Steering Committee, Aquaculture manager</td>
<td>2009: R 100 000, This should be incorporate with Programme 2</td>
</tr>
<tr>
<td></td>
<td>- Mentorships</td>
<td></td>
<td></td>
<td>from DEAT: MCM (delegated to internal personnel)</td>
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<tr>
<td></td>
<td>- Partnerships</td>
<td></td>
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<tr>
<td></td>
<td>- New entrants</td>
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<tr>
<td>Promote partnerships</td>
<td>Compile partnership guidelines for marine aquaculture.</td>
<td>2010 - 2014</td>
<td>DEAT: MCM</td>
<td>Industry, MAAF, Legal advisors, Economic advisors, DEAT: MCM to appoint</td>
<td>These guideline should attract investors and the existing participants to form partnerships</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>official</td>
<td></td>
</tr>
<tr>
<td>Other actions</td>
<td>Establish hatcheries</td>
<td>2010 - 2014</td>
<td>DEAT: MCM</td>
<td>SRPP, Industry, MAAF, Provincial authorities, Beneficiaries and communities</td>
<td>Hatcheries should not compete with private operations</td>
</tr>
<tr>
<td></td>
<td>Establish pilot projects</td>
<td>2010 - 2014</td>
<td></td>
<td></td>
<td>Planning for hatcheries and pilot projects is a dedicate exercise outside of this implementation plan.</td>
</tr>
<tr>
<td></td>
<td>Establish training programmes</td>
<td>2010 - 2014</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>(see also Programme 7)</td>
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</table>
9. **Implementation Resources**

In the implementation and action tables above, two resource matters have been addressed, these being the required human resources and financial resources.

In terms of human resources, no allowance has been made for internal personnel costs that are provided for in greater Departmental budget frameworks.

Many of the actions fall to the aquaculture manager / coordinator within DEAT: MCM. This intention is that he / she will delegate certain functions to support personnel.

Financial resources have been determined on the best available information at the time. These figures will require constant review as each programme and action is implemented. In summary, the overall budget from the programmes and actions above are:

<table>
<thead>
<tr>
<th>No.</th>
<th>Programme</th>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013/14</th>
<th>Five year total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The establishment of aquaculture zones</td>
<td></td>
<td>415000</td>
<td>280000</td>
<td>400000</td>
<td>400000</td>
<td>To be determined</td>
<td>775000</td>
</tr>
<tr>
<td>2</td>
<td>The provision of marine aquaculture incentives</td>
<td>0</td>
<td>To be determined</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>The creation of an enabling regulatory environment</td>
<td>150000</td>
<td>130000</td>
<td>50000</td>
<td>200000</td>
<td>230000</td>
<td>To be determined</td>
<td>730000</td>
</tr>
<tr>
<td>4</td>
<td>Marine aquaculture services</td>
<td></td>
<td>200000</td>
<td>500000</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
<td>700000</td>
</tr>
<tr>
<td>5</td>
<td>Health management</td>
<td></td>
<td>750000</td>
<td>165000</td>
<td>105000</td>
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<td>Awareness, communications and dissemination</td>
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10. **Monitoring and Reporting**
**Marine Aquaculture Implementation Plan**

The timely collection, reporting and dissemination of reliable information about the implementation plan is critical. This responsibility will fall to the aquaculture manager / coordinator within DEAT: MCM, who should report on progress at every meeting of the MAAF. This report should cover the following minimum information:

- Completed programmes and actions
- Current programmes and actions
- Future programmes and actions
- How do the programmes and actions meet the timeframes in the implementation plan
- How do the programmes and actions meet the budgets in the implementation plan
- Capacity and human resource matters
- Cooperation received and required
- Review of the implementation programmes and actions
- Effects on industry growth and development.

11. **Revision and Update**

The revision and update of this implementation plan is of critical importance in ensuring the successful and period applicable development of marine aquaculture in South Africa. This revision and update will fall into the tasks of the MAAF and should be done according to the following programme:

- **Late 2009:** Rapid review of implementation plan and compilation of addendum of any programme or action amendments.
- **Late 2010:** Rapid review of implementation plan and compilation of addendum of any programme or action amendments.
- **During 2012:** Compilation of new implementation plan for the period 2013 – 2015.

12. **Conclusion**

This implementation plan provides guidance to the programmes and actions that have been identify by the aquaculture industry to take growth and development thereof forward. At its core remains the goal to provide a platform through which the *Policy for the Development of a Sustainable Marine Aquaculture Sector in South Africa – 2007* can be implemented. This success of this plan will rely on the people that use it.