agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

LEGAL GUIDE FOR THE AQUACULTURE SECTOR IN SOUTH AFRICA

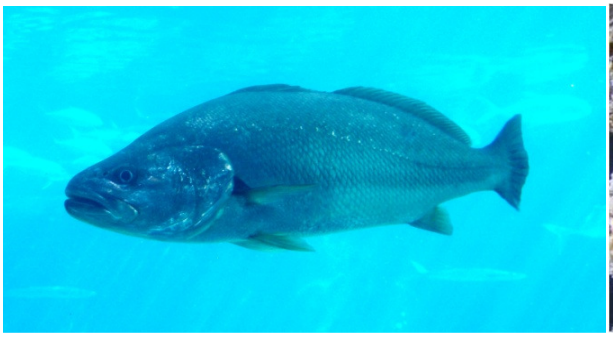

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TABLE OF ABBREVIATIONS

ADA	Animal Diseases Act, 35 of 1984
ADZ	Aquaculture Development Zones
AHA	Animal Health Act, 7 of 2002
AIS Regulations	Alien and Invasive Species Regulations (GG36683GN. R506 of 19 July 2013)
APrA	Animals Protection Act, 71 of 1962
BA	Basic Assessment
CA	Competent Authority
CAPE – NECO	Cape Nature and Environmental Conservation Ordinance, 19 of 1974
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Constitution	Constitution of the Republic of South Africa, 1996
CPA	Consumer Protection Act, 68 of 2008
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DG	Director-General
DoH	Department of Health
DoT	Department of Transport
DRDLR	Department of Rural Development and Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act,73 of 1989

EC – LURA	Land Use Regulation Act (Ciskei), 15 of 1987
EC – NCA	Nature Conservation Act (Ciskei), 10 of 1987
EIA Regulations	Environmental Impact Assessment Regulations, 2010
EMP	Environmental Management Programme
EWT	Endangered Wildlife Trust
FAO	Food and Agricultural Organisation (UN)
FCDA	Foodstuffs, Cosmetics and Disinfectants Act, 54 of 1972
FFASA	Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 36 of 1947
FPE	Fish Processing Establishment
GMOA	Genetically Modified Organisms Act, 15 of 1997
HACCP	Hazard Analysis and Critical Control Points
I&AP	Interested and Affected Party
FS – NCO	Nature Conservation Ordinance, 8 of 1969 (Free State)
KZN – NCA	Kwazulu-Natal Nature Conservation Act, 29 of 1992
KZN – NCO	Kwazulu-Natal Nature Conservation Ordinance, 15 of 1974
KZN – PEPO	Prevention of Environmental Pollution Ordinance, 21 of 1981
KZN – PDA	Kwazulu-Natal Planning and Development Act, 6 of 2008
LEMA	Limpopo Environmental Management Act, 7 of 2003
LUPO	Land Use Planning Ordinance 15 of 1985 – Cape
MLRA	Marine Living Resources Act, 18 of 1998
MRSA	Medicines and Related Substances Act, 101 of 1965
MTPA	Mpumalanga Tourism and Parks Agency
NASF	National Aquaculture Strategic Framework for South Africa
NC – NCA	Northern Cape Nature Conservation Act, 9 of 2009
NCO – TR	Nature Conservation Ordinance, 12 of 1983 – Transvaal

NEMA	National Environmental Management Act, 107 of 1998
NEMA Aquaculture EIA guideline	EIA Guideline for Aquaculture in South Africa (GG 36145, GN 101 of 11 February 2013)
NEMBA	National Environmental Management: Biodiversity Act, 10 of 2004
NEMICMA	National Environmental Management: Integrated Coastal Management Act, 24 of 2008
NEMPAA	National Environmental Management: Protected Areas Act, 57 of 2003
NEMWA	National Environmental Management: Waste Act, 59 of 2008
NFEPA	National Freshwater Ecosystem Priority Areas
NGO	Non-Governmental Organisation
NHA	National Health Act, 61 of 2003
NHRA	National Heritage Resources Act, 25 of 1999
NPA	National Ports Authority
NPAA	National Ports Act, 12 of 2005
NRCS	National Regulator for Compulsory Specifications
NRCSA	National Regulator for Compulsory Specifications Act, 5 of 2008
NWA	National Water Act, 36 of 1998.
OHSA	Occupational Health and Safety Act, 85 of 1993
OIE	World Organisation for Animal Health
PPECA	Perishable Products Export Control Act, 9 of 1983
RAS	Recirculation Aquaculture System
SAHRA	South African Heritage Resources Agency
SANPARKS	South African National Parks Board
SALA	Subdivision of Agricultural Land Act, 70 of 1970
SPCA	Society for the Prevention of Cruelty to Animals
SRA	Strategic Risk Assessment

SSA	Sea Shore Act, 21 of 1935
TOPS Regulations	Threatened or Protected Species Regulations, 2007
WESSA	Wildlife and Environment Society of South Africa
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wildlife Fund for Nature

INTRODUCTION

Introductory Notes

Internationally, aquaculture is growing rapidly and although South Africa currently has a relatively small and underdeveloped aquaculture sector, it has been identified as having good potential. In recognition of this, the South African government has developed a National Aquaculture Strategic Framework (NASF) to create "a pragmatic and supportive pro-aquaculture enabling regulatory and operational environment to ensure food security and promote food sovereignty."

The Department of Agriculture, Forestry and Fisheries (DAFF), as the lead agent for the management of the aquaculture sector, has prioritised the development of this sector because it is seen as having the potential to supplement dwindling fish stocks, increase food security, create jobs, and contribute to rural development in the country.

While it is DAFF's stated intention to encourage participation in aquaculture and related activities, a complicating factor is that a large number of laws and policies presently apply to the sector and several different government authorities are involved in its administration. The general view is that this uncoordinated legal framework and overregulation is hampering the development of the sector.

Although there are plans to remedy this problem by the rationalisation of the applicable law to allow for more efficient and streamlined governance of the sector, in the interim, DAFF has commissioned this user-friendly guide to assist in the identification and navigation of the existing but fragmented regulatory framework.

Who should use this Guideline?

It is important to note that this document only serves as a guideline and that it has no legal status. This legal guide is aimed at existing aquaculture enterprises, potential investors, government officials, extension officers, NGOs and new entrants to the aquaculture sector. It is mainly intended for the primary stakeholders in the sector who are directly affected by the laws governing and regulating the industry.

The guideline is focused on assisting people who are interested in pursuing aquaculture (either marine or freshwater aquaculture) as an enterprise and who need to know what the legal requirements affecting their project are. It will also be of use to those who provide associated services such as broodstock producers and suppliers, drugs and feed manufacturers and suppliers, processors, wholesalers and retailers, marketing bodies and the industry associations. The guideline will also assist secondary stakeholders who are indirectly affected by the regulation of the sector, in getting a better understanding of the scope of legal requirements that need to be complied with.

In summary, this guideline is intended to serve as a guide to law and policies only and those who may find the guide helpful will be people who need to comply with the applicable legislation in order to establish and operate an aquaculture project lawfully.

The Table below provides a list of primary stakeholders who are directly affected by the regulation of aquaculture and secondary stakeholders who are indirectly affected. These stakeholders are not ranked in order of importance.

Table 1 Primary and secondary stakeholders

PRIMARY STAKEHOLDERS (DIRECTLY AFFECTED)
1. Aquaculturists (local, private entrepreneur, corporate, etc.)
2. Processors, wholesalers and retailers
3. Fry, fingerling, seed and broodstock producers and suppliers
4. Feed manufacturers and suppliers
5. Drug, chemical and equipment manufacturers and suppliers
6. Fishers (where juveniles for aquaculture are sourced from the wild or where there is market competition between wild caught and farmed species)
7. Farmers/landowners, other local residents adjacent to aquaculture farms or sites
8. Other water resource users
9. Contributors to financial or technical resources (bank, donors or other sponsors)
10. Exporters
11. Aquaculture development project workers
12. Extension officers (provincial)
13. Government Officials
SECONDARY STAKEHOLDERS (INDIRECTLY AFFECTED)
1. Aquaculture researchers / academics
2. Consumer groups
3. Public Interest represented by environmental groups
4. Farmers/landowners/other local residents in the same area/region
5. Tourism organisations
6. NGOs

This guideline serves as a “road map” to guide aquaculture enterprise owners, potential investors and new entrants to the sector through the **key phases** of the life cycle of an aquaculture project. These are the planning and construction, operational and post-production phases. The guideline provides guidance on what permissions are needed to establish and operate an aquaculture facility and what is needed to ensure that post production issues, such as proper transportation and food safety, are taken care of and the necessary certificates obtained.

It is important to note what this guideline does *not* do:

- The guideline is not intended to provide guidance for the process of administrating an application.
- It is also not intended to be used as a guide for the purpose of creating a standard operating procedure (SOP).
- It does not provide a step-by-step guide of every activity that may and must be undertaken in formulating and planning an aquaculture facility, obtaining the necessary permissions to erect and operate such a facility, or the activities to be undertaken in the operational and post-production phases.
- The guideline does not cover any of the technical aspects related to aquaculture.

This is **NOT** a guideline to:

- ✓ give step-by-step instructions on every activity in setting up and operating an aquaculture facility
- ✓ create a SOP
- ✓ understand technical aspects of aquaculture

NOTE: While associated issues such as those relating to questions of access to land or sea space and the raising of capital for a project do also have legal ramifications, this guideline is not intended to address such aspects of an aquaculture enterprise. The reason for this is that the contractual arrangements in respect of a site and securing investment capital and development finance, are business risks that cannot be solved by the laws that regulate aquaculture. In other words, although these are things that are needed to establish an aquaculture facility and may delay application and approval processes if not in place, the solutions to these important challenges lie in other administrative and business-related interventions and processes.

How to use this guideline

This guideline has been set out in a manner that is intended to follow a logical path in obtaining the requisite legal permissions through the various phases of an aquaculture project from its initial identification (determining what type of aquaculture will be pursued and therefore which authorities will need to be approached), through all the phases of a project (its planning, operational and post-production phases) until possible closure.

The structure of this guideline is illustrated in the following figure.

Part 1	Provides a background to aquaculture including defining what aquaculture is and identifying the types and classification of aquaculture projects in practice
Part 2	Identifies the parties who need to be approached either in an authorising or commenting capacity.
Part 3	Describes the three production phases in an aquaculture project: • Planning and construction phase • Operational phase • Post-production phase (including decommissioning and closure)
Part 4	Contains resources such as contact details, additional reading, checklists and other useful resources

THE NATURE AND CLASSIFICATION OF AQUACULTURE

1.1 What is aquaculture?

In the National Aquaculture Policy Framework for South Africa, 2013, aquaculture is defined as *'the farming of aquatic (marine or freshwater) organisms including fish, mollusks, crustaceans and plants in controlled or selected 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. This definition includes ranching and stock enhancement as aquaculture activities'* (Nash, 1995).

The aspect of intervention is important because aquaculture does *not* include the operation of fisheries which entail the harvesting of aquatic organisms in circumstances where *no* attempt has been made to manage or otherwise influence the organisms by containment, feeding or the application of any other husbandry techniques.

In South Africa, there is no single legal definition of aquaculture, though the term mariculture is referred to in the Marine Living Resources Act (MLRA) and other laws.

1.2 Types and classification of Aquaculture in practice

Types

The primary types (or branches) of aquaculture are marine aquaculture (saltwater / coastal), freshwater aquaculture (fresh water / inland) and brackish water aquaculture.

> ***Marine aquaculture*** is a branch of aquaculture involving the farming of marine plants and animals which is conducted in the open ocean, in enclosed sections of the ocean, or in tanks, ponds or raceways which are filled with seawater.
>
> ***Freshwater aquaculture*** is a branch of aquaculture involving the farming of freshwater plants and animals which is conducted primarily in ponds, open water cages or tanks.
>
> ***Brackish water aquaculture*** is a branch of aquaculture involving the farming of fish and crustacea found in the saline waters of creeks, lagoons and estuaries.

Classification

There are different ways of classifying aquaculture operations. These classifications are used as adjectives to identify a specific feature of the aquaculture project e.g. a small scale semi-closed finfish pond project differs greatly from a commercial scale recirculation shellfish tank project. The most common classifications are by production system, production intensity; production scale; water circulation systems and other descriptive groupings. These classifications are explained below.

i. *Production System*

One method of classification is by the nature of the production system. The primary production systems (whether land or sea based), are cage culture, pond culture, tanks and ranching.

Cage Culture

Cage culture involves the placing of fish cages in lakes, ponds, rivers or oceans to contain and protect the fish until they can be harvested. The two main types of cages are floating cages and pen-cages. Floating cages are floating mobile units which can be moved around in the ocean, dam or river in which they are floating. Pen-cages are stationary netted enclosures on the shore of the ocean, dam or river concerned.

Pond Culture

The use of ponds and irrigation ditches lined with bentonite clay has proven very popular as a simple way to farm fish. It consists primarily of ponds containing fish which are fed and protected against natural predators until they are large enough to harvest. It is usually a closed or semi closed system so every pond will have an inlet and an outlet for water to be exchanged from time to time. In many instances aquatic plants are also kept in the ponds because they help to oxygenate the pond water.

Tanks

A recirculation aquaculture system (RAS) provides an alternative to outdoor pond or cage culture. A RAS is a series of culture tanks and filters where water is continuously recycled and monitored to keep optimal conditions year round. Water is filtered and treated biologically to neutralise harmful chemicals, while the use of UV sterilization, ozonation, and oxygen injection ensure optimal water quality. The system may be a partial re-circulation system (only a very small percentage of the water is passed back into the system before being released) or a full re-circulation system (at least 10 per cent of the water is passed back) but in general a RAS allows aquatic organisms to be grown at high density and rigorously managed under controlled environmental conditions.

A flow through system also uses tanks. This type of system consists of an artificial channel or rectangular tanks constructed of concrete and water passes through an inlet and an outlet in the tanks once before being discharged back into the environment. This allows animals to be cultured at high densities.

Ranching and Stock Enhancement

Ranching involves the release of hatchery raised aquatic organisms (mainly Abalone in South Africa) into the wild. Eggs are artificially hatched and grown in a hatchery and when ready, the identifiable young specimens are moved into the natural environment where they will grow to maturity and be harvested. Stock enhancement involves the release of stock for the public good without the intention of directly benefiting an exclusive user group.

Raceways

A raceway consists of a long and narrow canal of concrete with a water inlet (diverted from a river) and outlet (through treatment plant back into river) to maintain a continuous flow of fresh water. With fresh water continuously flowing through the canal, the water quality is always high and fish can be cultured at high densities.

Freshwater species (trout, catfish and tilapia) and marine species (juvenile salmon, sea bass, sea bream and abalone) are commonly cultured in raceways.

Rafts / Pontoons

Floating rafts or pontoons in lagoons or sheltered bays are primarily used to farm marine invertebrates like mussels or oysters. In the case of mussels, ropes are used to which the mussels attach themselves to feed on plankton. In the case of oysters, they are taken from hatcheries at an appropriate size and placed in bags hanging from the raft. This type of system is known as an extensive system because there is very little human input into the system.

ii. *Production Intensity*

Classification may also be by virtue of the type of production system – e.g. extensive, semi-intensive or intensive. The aforementioned classes are generally linked to the level of human involvement, inputs of feed/fertiliser and to the stocking density of the fish that can be supported. Intensive systems are characterised by a dependency on the use of commercial feeds and human intervention such as recirculation systems. Semi-intensive systems rely on natural feed and fertilizer sources with added enhancers like cereals, meal and commercial feeds. Extensive systems are maintained largely by natural sources of nourishment and do not rely on much input from humans, like mussel rafts and tilapia ponds.

The level of technology, capital expenditure, running costs, control, risk and volume of production are the variables that determine this type of classification.

iii. *Production Scale*

Alternatively, classification may be determined by the scale of production – small scale (which may even be subsistence farming), medium scale or large scale (commercial).

iv. *Water Circulation System*

Another type of classification is according to the nature of the water use – whether there is a closed system with little or no water replaced, a semi-closed system where water is added or replaced from time to time (such as a RAS or flow through system) or an open system where new water is constantly replacing the water in the system.

v. *Descriptive Groupings*

Aquaculture can also be classified in terms of species grouping where the division may be into typical groups (such as finfish, shellfish, aquatic plants or algae) or typical user groups (such as ornamental use or fish for use as food).

PART 2. THE PARTIES TO CONTACT

Once the nature of an aquaculture project has been decided, the next practical step is to identify which parties need to be approached to obtain the relevant authorisations or permits or just to provide comment.

In most instances this will mean approaching one or more government departments but in certain circumstances other interested and affected parties may also need to be contacted.

2.1 Government Authorities

The government authorities, in all three spheres (national, provincial and local) are the main role players in potential aquaculture projects.

The South African Constitution identifies the matters that the different levels of government are entitled to administer and legislate on.

The functional areas of ***concurrent competence*** (meaning that both the national and provincial governments have executive and legislative powers in respect of these areas) that are identified in the Constitution and which are most directly relevant to the regulation of aquaculture are:

- Agriculture
- Animal Control and Diseases
- Environment
- Health Services
- Pollution Control
- Planning and Development
- Water and Sanitation Services

Areas of ***exclusive provincial competence*** that are relevant to the regulation of aquaculture are:

- Veterinary Services
- Refuse removal

NOTE: Although this Constitutional division into areas of competency is important to the regulation of aquaculture, these divisions do not encompass all the relevant issues. Other areas to be aware of relate to issues such as certification, labelling and food health.

The following table identifies the relevant national government departments and describes their competencies

Table 2 National government departments

NATIONAL DEPARTMENT	COMPETENCY
Department of Agriculture, Forestry and Fisheries	Responsible for overseeing and supporting South Africa's agricultural, fisheries and forestry sectors – including aquaculture (this involves promoting the development of the sector, issuing marine aquaculture rights and permits etc). DAFF is also responsible for ensuring access to sufficient, safe and nutritious food by the country's population.
Department of Environmental Affairs	Responsible for protecting, conserving and improving the South African environment and natural resources. In particular, this department governs environmental authorisations and issues coastal waters discharge permits.
Department of Trade and Industry	Responsible for commercial and industrial policy. The department and its subsidiary agencies are involved in promoting economic development, Black Economic Empowerment, implementing commercial law, promoting and regulating international trade and consumer protection.
Department of Public Works	Responsible for promoting the national Expanded Public Works Programme and for encouraging the transformation of the construction and property industries in South Africa.
Department of Rural Development and Land Reform	Responsible for promoting the social and economic development of rural South Africa. The aim is to increase agricultural production through the optimal and sustainable use of natural resources and appropriate technologies to ensure food security, dignity and improved rural livelihoods.
Department of Health	Responsible for improving the health status by preventing illnesses.
Department of Water Affairs	Responsible for promoting effective and efficient water resources management to ensure sustainable economic and social development and for the formulation and implementation of policy governing this sector. It regulates water use licencing and also has overriding responsibility for water services provided by local government.
Department of Science and Technology	Responsible to develop, coordinate and manage a national system of innovation that will bring about maximum human capital, sustainable economic growth and improved quality of life.
South African Bureau of Standards	Responsible for the promotion and maintenance of standardisation and quality of processes, goods and services.

National Ports Authority	Responsible for port infrastructure and marine services at the eight commercial seaports in South Africa.
National Regulator for Compulsory Specifications	Responsible to the Minister of Trade and Industry for the administration of technical regulations including compulsory specifications based on standards that protect human health and safety and the environment.

The following table identifies the provincial departments that may have competencies in relation to aquaculture projects.

Table 3 Provincial government departments

PROVINCE	PROVINCIAL DEPARTMENT
Eastern Cape	Department of Economic Development, Environmental Affairs and Tourism
	Department of Rural Development and Agrarian Reform
Free State	Department of Economic Development, Tourism and Environmental Affairs
	Department of Agriculture and Rural Development
Gauteng	Department of Agriculture and Rural Development
	Department of Economic Development and Planning
KwaZulu-Natal	Department of Agriculture and Environmental Affairs
	Department of Economic Development and Tourism
Limpopo	Department: Economic Development, Environment and Tourism
	Department of Agriculture
Mpumalanga	Department of Economic Development, Environment and Tourism
	Department of Agriculture, Rural Development and Land Administration

North West	Department of Economic Development, Environment and Tourism
	Department of Agriculture and Rural Development
Northern Cape	Department of Environment and Nature Conservation
	Department of Agriculture, Land Reform and Rural Development
	Department of Economic Affairs
Western Cape	Department of Environmental Affairs and Development Planning
	Department of Agriculture
	Department of Economic Development and Tourism

NOTE: In some provinces, such as the Eastern Cape, public entities (such as the Eastern Cape Development Corporation and East London Industrial Development Zone) have been set up to contribute to the government's objectives for developing the area. These corporations may play a prominent role in prioritising the development of the aquaculture sector.

The Constitution also provides that local governments (municipalities) have responsibility for such matters as municipal planning (including zoning), beaches, building regulations and the provision of essential services such as water and electricity supply and solid waste disposal.

NOTE: Individual local authorities are not identified and listed here because the different municipalities that are likely to be involved will depend on the area in which the proposed aquaculture project will take place.

2.2 Interested and affected parties

Potential Interested and Affected Parties (I&APs) to a proposed project include adjacent land owners, certain public entities, non-governmental organisations (NGOs), local communities or tribal authorities and other interested individuals (including various industry bodies). These parties may need to be informed and given an opportunity to provide comments on a proposed project. Their legal right to be consulted is entrenched in the Constitution and is also specifically provided for in terms of a number of environmental laws, such as those pertaining to the EIA process.

For instance, the South African National Parks Board (SANParks) is a public entity that should be included as a potential I&AP in authorisation processes for aquaculture projects that may be situated in close proximity to national parks. It is also often necessary to inform and take

comments from NGO's such as the World Wildlife Fund for Nature (WWF), the Endangered Wildlife Trust (EWT) and the Wildlife and Environment Society of South Africa (WESSA).

NOTE: In practice, all three spheres of government may be involved in a particular aquaculture project. The Constitution requires the different spheres of government to co-operate with each other in carrying out their respective mandates. In line with this obligation, integrated permits can be obtained for some of the activities subject to authorisation.

PART 3. THE STAGES OF AN AQUACULTURE PROJECT

For the purposes of this legal guideline, three phases of an aquaculture programme have been identified. These are the planning and construction, operational and post production phases.

The legal requirements are dealt with in terms of this division.

3.1 PLANNING AND CONSTRUCTION PHASE

At the planning stage, the general framework of the proposed project must be identified and during the construction phase the necessary infrastructure must be built.
The following questions are relevant:

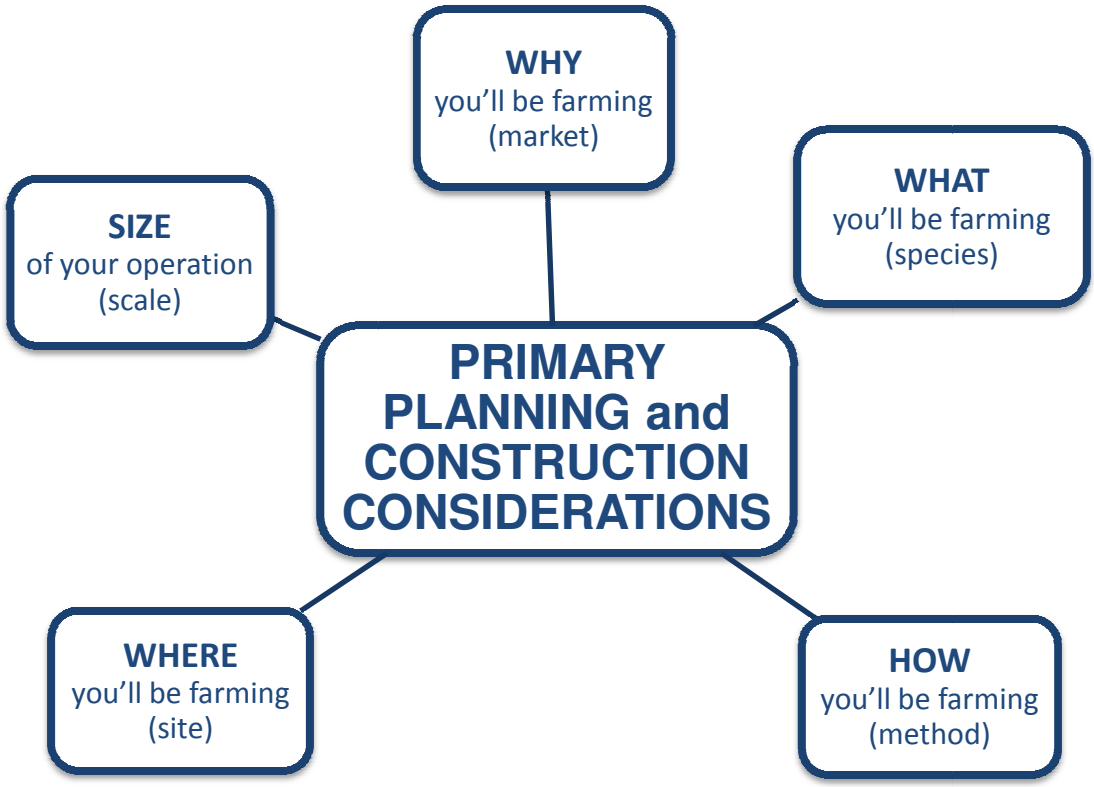


Figure 1 Primary planning and construction considerations

The answers to these questions will determine the types of permissions needed, the required path and the correct sequencing in the route to obtaining them. Each of these considerations is discussed briefly below:

A. The market

An investigation of the market potential of an aquaculture project is primarily an economic exercise that does not have obvious legal requirements attached to it. Although the legal requirements flowing from the market of choice become more apparent in the post production phase, it makes sense to consider them from the outset.

The most important market related requirements are those of food safety and traceability. In addition there are different requirements for permitted drug use and choice of feed in different markets internationally. Most export markets will have stringent requirements for imported fish (dead or alive) to protect their consumers. These requirements often rely on information generated during the operational phase so it is important to put systems in place during the planning phase for sufficient monitoring throughout the project's lifetime.

B. The Species

Species suitable for aquaculture can be freshwater or marine species. The following table provides an idea of the most common aquaculture species in South Africa. (This table is reproduced from the EIA Guideline for Aquaculture in South Africa, 2012)

Table 4 Species suitable for aquaculture

COMMON NAME	SCIENTIFIC NAME	FRESHWATER / MARINE	EXOTIC / INDIGENOUS	NOTES
Common Carp	*Cyprinus carpio*	Freshwater	Exotic	Limited farming
Grass Carp	*Ctenopharyngodon idella*	Freshwater	Exotic	Low levels of specialist farming
Sharptooth Catfish	*Clarias gariepinus*	Freshwater	Indigenous to some parts of south Africa	Widespread interest but limited farming
Rainbow Trout	*Oncorhynchus mykiss*	Freshwater	Exotic	Farmed in cold waters for angling and food
Brown Trout	*Salmo trutta*	Freshwater	Exotic	Limited farming for angling
Bass (Large and Smallmouth)	*Micropterus spp*	Freshwater	Exotic	Limited farming for angling
Nile Crocodile	*Crocodylus niloticus*	Freshwater	Indigenous	Widely farmed mainly for exported hides
Water Hawthorn	*Aponogeton distachyos*	Freshwater	Indigenous	Farmed in the Cape as a vegetable crop
Redbreast Tilapia	*Tilapia rendalii*	Freshwater	Indigenous	Limited farming in warm areas
Mozambique Tilapia	*Oreochromis mossambicus*	Fresh and brackish waters	Indigenous to some parts of South Africa	Much farming interest, but

COMMON NAME	SCIENTIFIC NAME	FRESHWATER / MARINE	EXOTIC / INDIGENOUS	NOTES
				limited production
Nile Tilapia	*Oreochromis niloticus*	Fresh and brackish waters	Exotic	Much farming interest with limited production
Mullet	Various	Fresh, brackish and marine	Indigenous	Limited farming around the coastline
Atlantic Salmon	*Salmo salar*	Fresh and marine waters	Exotic	Limited farming possible future expansion
Various ornamental species	Various	Fresh and marine waters	Mainly exotic	Variety of species - many imported
Various seaweeds and water plants	Various (including *Ulva and Gracilaria)*	Fresh and marine waters	Indigenous and exotic	Farmed for various uses
Dusky Cob	*Argyrosomus japonicas*	Marine	Indigenous	Much farming interest and growing sector
Mediterranean Mussel	*Mytilus galloprovincialis*	Marine	Exotic but naturalised	Mainly limited to Saldanha Bay
South African Abalone	*Haliotis midae*	Marine	Indigenous	Largest contributor to aquaculture in SA
Pacific Cupped Oyster	*Crassostrea gigas*	Marine	Exotic but naturalised	Limited production for local consumption
Yellowtail	*Seriola lalandi*	Marine	Indigenous	Research and development

The freedom to choose a particular species for an aquaculture project is circumscribed by legislation.

In this regard, the following Acts and Ordinances need to be checked.

NOTE: The Ordinances were drafted before the establishment of the nine provinces that exist today, so one Ordinance may apply to more than one province, as will be evidenced in applicable instances below.

Restrictions on Specific Marine Species

Marine Living Resources Act 18 of 1998 (MLRA)

Chapter 5 of the Regulations under the Marine Living Resources Act (GN R.1111 of 2 September 1998) places restrictions upon various fish species. The restrictions may be size or use related.

For instance, a prohibition is placed on controlling or being in possession of specimens of specified species below a certain size and an exemption in terms of the MLRA must be sought to do so. In addition, it is stipulated that permits are required for use of abalone and oysters in commercial operations. The Chapter also establishes an outright prohibition on any use of certain fish species.

Restrictions on Specific Freshwater Species

Cape Nature and Environmental Conservation Ordinance, 14 of 1974

This Ordinance is applicable in the Western, Eastern and Northern Cape as well as parts of the North West Province. It imposes a permitting requirement in respect of the sale or purchase of specific species of fish like endangered wild fish, live carp, bluegill, sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna.

Transvaal Nature Conservation Ordinance, 12 of 1983

This Ordinance is applicable in Gauteng, Mpumalanga and parts of the North West Province. It imposes permitting requirements in relation to Trout and the building of trout dams.

Restrictions on Importing Species

Importing from a foreign source

Import permitting requirements for importing live specimens or eggs are imposed by the:

- **Animal Diseases Act 35 of 1984,**
- **Marine Living Resources Act 18 of 1998 and**
- **Abalone Regulations in terms of the National Regulator for Compulsory Specifications Act 5 of 2008 (NRCSA).**
- **Animal Health Act 7 of 2002 (commencement pending),**

These permits are issued in cooperation with DAFF veterinary services and the National Regulator for Compulsory Specifications (**NRCS**).

Importing between Provinces

Every province has permitting requirements for importing live fish across its

Restrictions on Importing Species

borders.

- **Cape Nature and Environmental Conservation Ordinance, 14 of 1974**
  The Ordinance is applicable in the Western Cape, the Northern Cape, parts of the Eastern Cape and parts of the North West Province.
- **Transvaal Nature Conservation Ordinance, 12 of 1983**
  The Ordinance is applicable in Gauteng, Mpumalanga and parts of the North West Province.
- **Ciskei Nature Conservation Act 10 of 1987**
  The Act still operates in parts of the Eastern Cape
- **KwaZulu-Natal Nature Conservation Ordinance 15 of 1974**
  The law enforcement provisions of the Ordinance still apply in KZN because no regulations in terms of the later KwaZulu Natal Nature Conservation Act have been passed.
- **Orange Free State Nature Conservation Ordinance, 8 of 1969**
  The Ordinance is applicable within the Free State.

Importing between DAFF management zones

DAFF has established certain management zones restricting the movement of livestock. Two examples of such zones are Abalone disease management zones and Abalone genetic zones. An animal health certification report must be obtained to import abalone into or from a disease management zone. Movement between genetic zones are strictly prohibited.

Restrictions on Biodiversity

Genetically Modified Organisms Act, 15 of 1997 (GMOA)

The GMOA applies to the genetic modification of organisms as well as the development, production, release, use and application of genetically modified organisms (including viruses and bacteriophages). The Act might apply to both spat and feeds. A permit is required to undertake any activity in relation to genetically modified organisms. In order to undertake such an activity a suitable and sufficient assessment of the potential adverse effects to the environment, human and animal health and safety must be undertaken. This includes an assessment of the socio economic impact, cultural traditions as well as future security. An EIA that complies with section 78 of NEMBA may also be required. All facilities conducting activities with GMOs are to be registered with the Registrar. Thus, where GMOs are being used, a permit as well as registration of the premises may be required.

National Environmental Management: Biodiversity Act, 10 of 2004 (NEMBA)

NEMBA deals with the management and conservation of biological diversity as well as the use of indigenous biological resources, including fish and shellfish in a sustainable manner. It affects the establishment of an aquaculture project in a number of ways.

Restrictions on Biodiversity

TOPS Permits

Chapter 4 provides for the declaration of threatened or protected species ("TOPS") and for the restriction of certain activities involving those species (including keeping or breeding, killing, importing or exporting) through a permit system. An aquaculture project involving a threatened or protected species of fish or shellfish would therefore require authorisation. The Threatened or Protected Species Regulations (GNR. 388 of 16 April 2013) (TOPS Regulations) regulate the permit application process.

> **"protected species"** means any species listed as a protected species in terms of section 56;
>
> **"threatened Species"** is not defined in the Act.

AIS Permits

Chapter 5 provides for the protection of biodiversity from alien and invasive species (AIS). The Act defines alien and invasive species.

> **"alien species"** means—
>
> (*a*) a species that is not an indigenous species; or
>
> (*b*) an indigenous species translocated or intended to be translocated to a place outside its natural distribution range in nature, but not an indigenous species that has extended its natural distribution range by natural means of migration or dispersal without human intervention;
>
> **"invasive species"** means any species whose establishment and spread outside of its natural distribution range—
>
> (*a*) threaten ecosystems, habitats or other species or have demonstrable potential to threaten ecosystems, habitats or other species; and
>
> (*b*) may result in economic or environmental harm or harm to human health;

Certain activities in connection with alien or listed invasive species are restricted. These include importing, exporting, growing, breeding, transporting and selling those species. This restriction applies to any alien species.

Alien and Invasive Species Regulations (AIS Regulations) (GG 26683 GN R506 of 19 July 2013) have recently been published but a commencement date has not been set. At the same time, a national list of invasive species (GN R507), a list of prohibited alien species (GN R508) and a list of exempted alien species (GN R509) have been gazetted.

The list of invasive species sets out different categories of species (for example, some require compulsory control and others require control by means of an invasive species management programme). When the AIS Regulations come into effect, an aquaculture project involving a listed invasive species will require a permit.

The list of prohibited alien species identifies species in respect of which no permits will be given for any activity.

The list of exempted alien species exempts certain alien species from the permitting requirement. This exemption involves alien species that have been legally introduced into South Africa prior to the commencement date of the AIS Regulations and that are not listed as invasive species. While AIS permits may not be required, other permits such as those required in terms of CITES or TOPS may still be necessary. In addition, Chapter 5 of the Act, read with the Threatened or Protected Species Regulations (GNR. 388 of 16 April 2013) provides that an activity which would affect the *habitat* of a threatened or protected species also requires a permit. For instance, the TOPS Regulations may impact upon aquaculture if the chosen farming activity were to involve the brindle bass, potato bass or the Mozambique tilapia species.

AIS Risk Assessments

Risk assessments prior to issuing permits for alien or invasive species may be required in a number of contexts. At present they are necessary for species already in the country, the assessment of biocontrols, the assessment of species used for marine aquaculture and by some of the provinces before they will issue permits for the importation of alien species. Where an applicant is exempted from the EIA process (following written proof from the provincial authority) then a risk assessment should be conducted.

Chapter 6 of the AIS Regulations deals with the risk assessment framework and requires information relating to the relevant species, information regarding the restricted activity and information regarding the receiving environment. It also includes the procedure to be followed by the environmental assessment practitioner and lists the nature of the contents of the risk assessment report (which generally includes an Environmental Management Programme (EMP). If the issuing authority so desires, the report must also be submitted to the Institute for Scientific Review.

NOTE: Risk Assessment Guidelines are currently being developed by DEA, however, DAFF would prefer to limit the requirement for individual risk assessments by making use of species specific strategic risk assessments (such as that undertaken for oyster farming) or by relying on norms and standards for the farming of a particular species instead.

Restrictions on Broodstock

Marine Living Resources Act 18 of 1998 (MLRA)

Permits to collect broodstock from the wild must be obtained from DAFF. Through permit conditions DAFF may place restrictions on and requirements for the collection of broodstock from wild stocks. Those restrictions may be imposed in an effort to protect wild stocks from disease outbreaks and genetic degradation. Accordingly there are various collection protocols to ensure that stock identity can be verified since permission is required to move these stocks from the disease management or genetic zones where they are collected.

C. The Site

The choice of geographical area where a proposed aquaculture development can take place may be limited by the operation of certain laws.

NOTE: Some requirements are not aquaculture project specific. For instance, in any site selection, the nature and availability of the infrastructure and services in the area need to be investigated. In most instances, getting access to services will entail entering into an agreement with the relevant local authority to connect to their water and electricity supply. In addition, if there is no direct road access, then an arrangement has to be made with the relevant roads department to construct roads to the site. In some instances the construction of the access road will be at the developer's cost.

In an aquaculture project, the following Acts and Regulations need to be checked:

Site related Impact Assessments

National Environmental Management Act (NEMA) and the EIA Regulations

The list of activities which are subject to environmental authorisation by virtue of their geographical location are to be found in Listing Notice 3 (Government Notice R. 546 of 18 June 2010).

Activities listed in Notice 3 that are likely to be triggered by an aquaculture project are listed in the table below. In these instances, a Basic Assessment will be required:

NO	ACTIVITY	NOTES
12	*The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.*	For this activity to be triggered it must relate to a specific geographical range that differs from province to province. Specific consultation with the regulations and the relevant CA are required to determine the areas that include endangered ecosystems, critical biodiversity areas, the littoral active zone or areas 100 metres inland from the high water mark of the sea or an estuary.
NO	**ACTIVITY**	**NOTES**
13	*The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation*	For this activity to be triggered it must relate to a specific geographical range that differs from province to province. Specific consultation with the regulations and the relevant CA are required to determine the areas that include biodiversity areas, ecological support areas, estuaries, protected areas, sensitive areas, areas near National Parks, areas declared in terms of International Conventions, within 1 kilometre from the sea, near watercourses, areas identified in terms of provincial plans, nature reserves and more.
15	*The construction of facilities, infrastructure or structures of any size for any form of aquaculture.* *(a) In an estuary;* *(b) In a Protected Area identified in the NEMPAA;* *(c) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.*	This applies to all forms of aquaculture irrespective of scale. In addition, this activity is also triggered by any expansion or modification of existing aquaculture activities in which the expansion *or* modification takes place within the areas as stipulated (including the expansion or modification of aquaculture within these areas as per activity 25 of Listing Notice 3).

Marine Living Resources Act 18 of 1998 (MLRA)and Regulations

The minister may exempt a marine aquaculture development from commissioning an assessment of its environmental impacts, where that facility is situated within a marine aquaculture development area. Any exemptions would have to be streamlined with NEMBA to avoid duplication.

Site related Impact Assessments

National Environmental Management: Biodiversity Act, 10 of 2004 (NEMBA)

NEMBA allows for the declaration of ecosystems that are threatened or in need of protection and of processes that are regarded as threatening to those ecosystems.

In terms of the NEMA EIA Regulations, the clearance of 300m^2 or more of vegetation will trigger a basic assessment within any critically endangered or endangered ecosystem listed in terms of S52 of the Biodiversity Act. This means any development that involves loss of natural habitat in a listed critically endangered or endangered ecosystem of more than 300m² requires at least a basic assessment in terms of the EIA regulations. If a marine aquaculture operation is to be situated in an area that is a listed ecosystem and involves a declared threatening process, then an environmental authorisation in terms of Section 24 of NEMA would be necessary for the operation to take place in that area.

The requirement to obtain EA applies only to the remaining natural habitat within each ecosystem and not in portions of the ecosystem where natural habitat has already been irreversibly lost.

The National list of ecosystems that are threatened and in need of protection (*Government Gazette* No. 34809, GN 1002 of 9 December 2011) together with SANBI's online maps (http://www.bgis.sanbi.org/mapsearch.asp) must be consulted to determine whether a particular site is a protected ecosystem.

National Heritage Resources Act, 25 of 1999 (NHRA)

The NHRA provides examples of developments that affect "heritage resources" (which definition includes places of cultural significance, archaeological objects and graves). The applicant must file a notice of development with the relevant heritage resource and if there is reason to believe that a development will have a detrimental effect on heritage resources, a heritage impact assessment report must be submitted at the developer's cost.

Although most EIAs include a heritage assessment, this fact does not affect the developer's duty to give notice of development or the heritage authority's power to direct the applicant to provide suitable archaeological or paleontological assessments..

Generally the responsible authority is the South African Heritage Resources Agency (SAHRA), however, SAHRA often delegates authority to the Provincial Agencies (such as Heritage Western Cape).

Other Site Related Permissions

Marine Living Resources Act 18 of 1998 (MLRA) and Regulations

Regulations in terms of this Act also apply restrictions on among other things, the possession, selling, import and export of fish and aquatic plants without a permit. Importantly, separate marine aquaculture permits must be given for each site and they are not transferable.

National Environmental Management: Protected Areas Act, 2003 (NEMPAA)

NEMPAA was enacted to regulate the system of protected areas in South Africa and to provide for their management. Any commercial activity carried out in a protected area (which would include marine protected areas and sensitive estuaries or conservation worthy catchment areas) requires the written authorisation of the management authority, which will usually be SANParks or a provincial conservation authority.

National Environmental Management: Integrated Coastal Management Act, 24 of 2008 (NEM:ICMA)

NEM:ICMA does not require a site related permission but it has relevance with respect to the choice of site in that it deals with the preparation of estuary management plans. If an aquaculture project is undertaken in an area subject to such a plan, the standards and arrangements contained in that estuary management plan need to be complied with.

Coastal management lines (setback lines) are being defined at the time of drafting this guide and future aquaculture projects will be affected by restrictions applying to development between the sea and coastal management lines.

Access to Land and Sea Space

Proof of a right to land or sea space (a valid lease or title deed) forms part of the documentation required when submitting an application for an aquaculture facility. (Note that where marine aquaculture is concerned, the right to the sea space can only be in the form of a lease). Accordingly it is important to ensure that issues of title to land or leases of the land or sea space must be dealt with before the application is made.

The following legal provisions regulate issues of tenure and permitted use.

Coastal Leases

Essentially a coastal lease for sea space can only be granted by the relevant provincial conservation authority (by delegation of the Premier) or parliament depending on the circumstances. To lease coastal land the above position also applies except that the National Ports Authority controls leases within ports. Two leases may therefore be required (Sea Shore Act (SSA) and

National Ports Authority Act (NPAA)).

Provisions regarding leases in terms of NEM:ICMA, SSA, NPAA and MLRA are described below.

National Environmental Management: Integrated Coastal Management Act, 24 of 2008 (NEM:ICMA)

One of the main purposes of the NEM: ICMA is to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable.

The sections of the Act which regulate coastal authorisations for use of land in the coastal zone have not yet commenced at the time of drafting this guideline. When they do, these provisions will replace the system of coastal leases currently in place under the Sea Shore Act, 21 of 1935.

Sea Shore Act 21 of 1935 (SSA) and Regulations

While the coastal lease provisions of the Sea Shore Act remain in force, a coastal lease to use the sea shore and the sea will need to be concluded. The power to let (or alienate) is vested in the MoT (but has been delegated to coastal provinces) or the provincial Premiers and the leasing (or alienation) must be authorised in terms of the Act or some other law.

The SSA contemplates two classes of lease. Leases under Section 3 may be granted by the competent provincial authority and leases under section 6 may only be granted if approved by a resolution of the National Assembly (i.e. Parliament).

- Section 3 leases empowers the Minister (the provincial premiers as the power has been delegated) at their discretion to lease a portion of the sea or sea-shore for any of the purposes identified in that subsection provided that in their opinion such letting is in the interests of the general public or will not seriously affect the general public's enjoyment of the sea-shore and the sea. The purposes include the construction, among other things, of buildings or other structures and the carrying out of any work which in the opinion of the Minister (read premiers) serve a necessary or useful purpose.
- Section 6 leases refer to the alienation, letting or permission with regard to the sea-shore or the sea which is not authorised elsewhere in the SSA or in any other law, may only take place by resolution of the National Assembly. Where a lease can be authorised in terms of section 3 (which will always be a factual enquiry) it is not necessary to obtain a lease in terms of section 6. Only when section 3 does not apply does it become necessary to obtain a lease in terms of section 6.

The ICMA specifically saves any regulations made under the Sea Shore Act to the extent that they are consistent with it. These regulations deal with certain activities that may overlap with activities that form part of an aquaculture project. For instance, General Regulations made under the Sea Shore Act prohibit the erection of buildings and structures and the laying of pipes in the sea or on the sea shore without a lease in terms of the Act. There

is also a prohibition on dredging or reclaiming activities on the sea or sea shore or depositing anything which may be a nuisance or danger to health. There are also other regulations in terms of the Act which are specific to certain areas of the coast. Among other things, these prohibit the use of vehicles, the causing of nuisances, carrying on of a trade or business without consent and construction of buildings on the sea shore. Since a marine aquaculture operation may involve some of these activities, consent may be required.

National Ports Act 12 of 2005 (NPAA)

Ports are favourable sites for marine aquaculture projects. All ports fall under the jurisdiction of the National Ports Authority (NPA) which is a Transnet subsidiary company. The main function of the Authority is to own, manage, control and administer ports to ensure their efficient and economic functioning, and in doing so the Authority must, amongst other things, control land use within ports, provide access to and arrange services for ports, maintain the sustainability of ports and manage the pollution and protection of the port environment.

The NPA has the power to lease land within its jurisdiction under such conditions as it may determine and in most instances the port managers are the point of contact for negotiating leases. The NPA is also empowered to regulate activities in ports through a licencing process, so it may be necessary to ensure that the relevant licence is obtained where applicable.

Marine Living Resources Act 18 of 1998 (MLRA) and Regulations, GNR.1111 of 2 September 1998

The MLRA Regulations provide that no person may erect, acquire, build, lease, control or use any building, facility or works within any fishing harbour, in the sea, on the sea-shore or on any land adjacent to a fishing harbour, without a permit.

Agricultural Leases

Subdivision of Agricultural Land Act 70 of 1970 (SALA)

A lease over agricultural land in excess of ten years requires the approval of the Minister of Agriculture, Forestry and Fisheries.

The approval process tends to be lengthy and this impacts on the choice of suitable sites for freshwater aquaculture projects.

Sub-division of Agricultural Land

Subdivision of Agricultural Land Act 70 of 1970 (SALA)

The subdivision of agricultural land requires the approval of the Minister of Agriculture, Forestry and Fisheries. Subdivision of land and its subsequent rezoning may be necessary where the zoning of land identified for the project (in terms of a local authority scheme) does not permit aquaculture. The approval process tends to be lengthy and this impacts on the choice of

suitable sites for freshwater aquaculture projects.

Zoning

Municipal Zoning Schemes

Town planning schemes regulate land use throughout the country by means of zoning. Each zone has specific uses attached. These may be free entries (allowed without permission) or may require a "departure" (terminology used in the Land Use Planning Ordinance 15 of 1985 and referred to in Western Cape schemes), a "special consent" or a "consent use" (terminology used elsewhere) application before the proposed activity can take place in that particular zone.

In some zones, a departure or special consent application for a particular use is excluded. Therefore the relevant zoning scheme for the municipal area of the site must always be checked to see if there are agriculture or industrial zones that would be suitable to use with a consent or, alternatively, where it cannot be allowed as a consent use, as a departure.

At present there are no specific zones for aquaculture land use so an aquaculture project always needs some form of additional approval.

NOTE:

Aquaculture Development Zones (ADZs)
At the time of drafting this guide, DAFF is investigating the establishment of ADZs which will be studied and pre-selected for their suitability for aquaculture. Applicants should therefore consider approaching the DAFF before selecting a site, since establishing a project within an established ADZ would be preferable.

National Freshwater Ecosystem Priority Areas (NFEPA)
NFEPA maps are a useful resource when choosing a site since the NFEPA project details spatial bio-diversity planning information. This information assists by indicating in which areas aquaculture projects will probably be resisted. NFEPA guidelines and maps can be obtained at:
http://bgis.sanbi.org/nfepa/NFEPAmap.asp

Industrial Development Zones (IDZs)
The Department of Trade and Industry has initiated the establishment of IDZs. They are established within municipal areas, for instance, the Saldanha IDZ and the East London IDZ. IDZs are managed in terms of a development plan which may include aquaculture as a priority. Thus, aquaculture within an IDZ which prioritises aquaculture can be of great benefit but aquaculture is not a priority in every IDZ and the development plan for the particular IDZ where a project is proposed must be referred to in every instance.

D. The Aquaculture Process (Method)

The nature of an aquaculture project or how the farming will take place can trigger the need for a number of legal authorisations.

The most important of these authorisations is the environmental authorisation. This process is regulated by the EIA Regulations in terms of NEMA but given that there are generally a variety of authorities that need to be approached for any single project, it is essential that a thorough investigation of all the possibilities is carried out and that a critical path for obtaining these authorisations is established.

KEY QUESTIONS:

- **Is an EIA required?**
- **What other laws are relevant?**

NOTE: Although the other authorisations (for example, the application for a water use licence) follow a separate process to that of the EIA, their acquisition is usually a condition of the EIA approval, so in effect, the farming activity cannot commence until all the relevant permissions are in place.

When considering the process or method of farming, the following laws may need to be checked:

Process related Impact Assessment

NEMA and the EIA Regulations

Listing Notices 1 and 2 of the EIA Regulations describe a number of activities that may be linked to a proposed method of farming (Listing Notice 3 deals with the area where the project will take place, not the method). If a proposed project (or an existing project that is going to be expanded or modified) falls within the parameters of any listed activity, then an environmental authorisation is required and an application for approval in terms of the EIA Regulations must be made.

An Environmental Assessment Practitioner (EAP) needs to be employed to identify all possibilities. It should be noted that the determination of whether a listed activity actually applies is not always straight forward. In certain circumstances, aquaculture projects could also encompass many secondary activities that are listed and need to be specified in the application process.

For example, if an access road needs to be built, if genetically modified organisms (GMOs) will be released or if a storage dam needs to be constructed, these activities also need permission.

Furthermore, where “phased activities” are concerned (resulting in situations where the threshold for requiring authorisation is reached over time), environmental authorisation must be obtained before any phase commences.

While it does not fall within the scope of these guidelines to deal with the EIA procedure in any detail, some of the more likely activities found in Listing notices 1 and 2 are included in the following Tables. (The Tables form part of the DEA’s EIA Guideline for Aquaculture in South Africa 2012):

Process related Impact Assessment

LISTING NOTICE 1:

If any of these activities are triggered, a Basic Assessment ("BA") is required.

Basic Assessment
A Basic Assessment Report is a short analysis of the environmental impacts of the activities which are unlikely to have significant impacts. The process entails public participation and an assessment of the potential impacts, mitigation measures and significant issues or impacts requiring further investigation. The Competent Authority (CA) has the authority to request a more comprehensive assessment (EIA) if the information in the Basic Assessment Report is insufficient.

No	Activity	Notes
4	*The construction of facilities or infrastructure for the concentration of animals for the purpose of commercial production in densities that exceed - (iii) 30 square metres per crocodile at any level of production, excluding crocodiles younger than 6 months.*	Applies to crocodile farming only (including the expansion or modification of crocodile farms to this level as per activity 31(iii) of Listing Notice 1).
6	*The construction of facilities, infrastructure or structures for aquaculture of:* *(i) finfish, crustaceans, reptiles or amphibians where such facility, infrastructure or structures will have a production output exceeding 20 000 kg but less than 200 000 kg per annum (wet weight);* *(ii) molluscs where such facility, infrastructure or structures will have a production output exceeding 30 000 kg but not exceeding 150 000 kg per annum (wet weight);* *(iii) aquatic plants where such facility, infrastructure or structures will have a production output exceeding 60 000 kg but not exceeding 200 000 kg per annum (wet weight);* *excluding where the construction of facilities, infrastructure or structures is for purposes of offshore cage culture in which case activity 7 in this Notice will apply.*	Applies to aquaculture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants (including the expansion or modification of aquaculture with these species to the stipulated levels as per activity 33 of Listing Notice 1).

Process related Impact Assessment

No	Activity	Notes
7	*The construction of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants where the facility, infrastructure or structures will have a production output exceeding 50 000 kg but not exceeding 100 000 kg per annum (wet weight).*	Applies to all offshore cage culture (including the expansion or modification of offshore cage culture to this level as per activity 34).
8	*The construction of a hatchery or agri-industrial infrastructure outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.*	Applies mainly to large hatchery complexes and certain high density industrial type aquaculture ventures (including expansion or modification of aquaculture activities to incorporate these scenarios as per activities 35 and 36 of Listing Notice 1).
14	*The construction of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding* *(i) the construction of structures within existing ports or harbours that will not increase the development footprint or throughput capacity of the port or harbour.*	Applicable to aquaculture for which infrastructure is required in coastal public property (e.g. pipelines or pump houses etc.) (including the expansion or modification of aquaculture activities to a level that incorporates such construction as per activity 43 of Listing Notice 1).
16	*Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater, in respect of— (various infrastructure) but excluding:* *(a) if such construction or earth moving activities will occur behind a development setback line; or* *(b) where such construction or earth moving activities will occur within existing ports or harbours and the construction or earth moving activities will not increase the development footprint or throughput capacity of the port or harbour.*	Applies to all construction and earth moving for marine aquaculture in the sea, an estuary or within 100 metres inland from the high-water mark (including the expansion or modification of marine aquaculture to a level that incorporates such construction or earth moving as per activity 45 of Listing Notice 1).

Process related Impact Assessment

No	Activity	Notes
18	*The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:* *(i) a watercourse;* *(ii) the sea;* *(iii) the seashore;* *(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high- water mark of the sea or an estuary, whichever distance is the greater –* *but excluding where such infilling, depositing, dredging, excavation, removal or moving:* *a) Is for the maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or* *b) Occurs behind the development setback line.*	Applies to all in-situ materials handling for aquaculture in a watercourse, the sea, an estuary or within 100 metres inland from the high-water mark (including instances where the expansion or modification of aquaculture incorporates such materials handling).
26	*Any process or activity identified in terms of Section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).*	At the time of publication of this guideline the applicable regulations identifying processes and activities in terms of Section 53(1) had not been promulgated. Yet, in terms of aquaculture the farming of any alien species (including indigenous species outside of their native range) should be regarded as a potential trigger of activity 26 of Listing Notice 1 (see also Section 15.1 below).
	Although not applicable to all aquaculture types the construction of large scale bulk water supplies (activities 9 and 37 of Listing Notice 1), aquaculture activities within 32 meters of a watercourse (activities 11 and 40 of Listing Notice 1) and large volume water storage (activities 12 and 41 of Listing Notice 1) may apply to certain aquaculture ventures. In addition to this the Department of Water Affairs (as a key commenting authority) may call for an environmental assessment on the grounds of aquaculture activities proposed within a 1:100 year flood line or within a 500 metre radius of a wetland.	In these cases any uncertainty should be referred to the CA for clarity.

Process related Impact Assessment

LISTING NOTICE 2:

The following activities require a Scoping and Environmental Impact Report (EIR).

Scoping and EIR
Scoping reports and EIRs go hand in hand since the scoping report defines the scope of the EIR.

Scoping report
A Scoping Report describes the proposed activity and defines the scope of feasible alternatives, the property and the environment that may be affected and the biological, social, economic and cultural aspects of the environment that may be impacted upon by the proposed activity. Once having defined the scope, it creates a Plan of Study (roadmap) for the Environmental Impact Assessment to follow and specifies the methodology to be used to assess the potential impacts, and the specialists or specialist reports that will be necessary.

EIR
The final EIA Report is a comprehensive assessment of the impacts, mitigation measures, alternatives, public participation process and Environmental Management Plan (EMP) described in the Scoping report. The impacts, mitigation measures and assumptions made in the EIA must be substantiated by expert reports.

NO	ACTIVITY	NOTES
5	*The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.*	This could apply to aquaculture in instances where water containing waste is released into the environment.
12	*The construction of facilities, infrastructure or structures for aquaculture of –* *(i) finfish, crustaceans, reptiles or amphibians where the facility, infrastructure or structures will have a production output of 200 000 or more kg per annum (live round weight);* *(ii) molluscs where the facility, infrastructure or structures will have a production output of 150000 or more kg per annum (live round weight);* *(iii) aquatic plants where the facility, infrastructure or structures will have a production output of 200 000 or more kg per annum (live round weight); excluding where the construction of facilities, infrastructure or structures is for purposes of offshore cage culture in which case activity 13 in this Notice will apply.*	Applies to aquaculture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants.

Process related Impact Assessment

NO	ACTIVITY	NOTES
13	*The construction of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants where the facility, infrastructure or structures will have a production output of 100 000 or more kg per annum (live round weight)*	Applies to all offshore cage culture.

Norms and Standards ("N&S")
Where norms and standards are developed in terms of NEMA for a listed activity, that listed activity does not require EA, provided the applicant complies with the norms and standards. No such norms and standards have been developed for aquaculture.

Restrictions Protecting Biodiversity

Genetically Modified Organisms Act, 15 of 1997 (GMOA)

The GMOA applies to the genetic modification of organisms as well as the development, production, release, use and application of genetically modified organisms (including viruses and bacteriophages). The Act might apply to both spat and feeds. A permit is required to undertake any activity in relation to genetically modified organisms. In order to undertake such an activity a suitable and sufficient assessment of the potential adverse effects to the environment, human and animal health and safety must be undertaken. This includes an assessment of the socio economic impact, cultural traditions as well as future security. An EIA that complies with section 78 of NEMBA may also be required. All facilities conducting activities with GMOs are to be registered with the Registrar. Thus, where GMOs are being used, a permit as well as registration of the premises may be required.

National Environmental Management: Biodiversity Act 10 of 2008 (NEMBA)

TOPS Regulations, 2007

Restricted activities relevant to TOPS that may apply to the manner of farming in an aquaculture project include the possession, breeding and killing of a threatened or protected species. Such activities require a TOPS permit from the national Department of Environmental Affairs (for marine aquaculture species) and from the relevant provincial department (for other aquaculture species).

AIS Regulations, 2013

The AIS Regulations (soon to commence) will govern restricted activities such as the propagation, movement, trade and release of certain AIS species. Each restricted activity requires a permit and a risk assessment.

Water

National Water Act 36 of 1998 (NWA)

Water is important to an aquaculture project. Water uses are defined in Section 21 of the NWA and include taking water, storing water, diverting the flow of water into a watercourse, discharging wastewater and altering the bed or banks of a water course.

In certain circumstances the NWA requires authorisation to use water. Since many aquaculture projects require water to operate, this licence requirement needs to be checked and depending on the amount of water used and the method of farming chosen, a water use licence may need to be acquired. The water use may also fall within the thresholds of a general authorisation, in which case the use must be registered but a licence will not be required. Application is made to the Department of Water Affairs (DWA).

Water use for aquaculture must be limited to the quantities allowed by DWA (if it is freshwater aquaculture).

The quality of the discharge water must be within the quality standards stipulated by DWA for the resource (including in circumstances where the discharge is into the sea). The nature of the sampling and quality analyses checks that must be undertaken are dependent upon the conditions contained in the applicable approvals, authorisations or licences.

NEM: Integrated Coastal Management Act 24 of 2008 (NEM:ICMA)

NEM:ICMA states that no person is allowed to discharge effluent from a source on land into coastal waters. However, the Minister may issue a general authorisation that would allow the discharge of effluent into coastal waters or after consultation with the Minister responsible for water affairs, discharge into estuaries. This general authorisation would need to be gazetted and would apply to persons in general or to a specific category of persons.

If there is no general authorisation for discharge, then anyone wishing to discharge effluent into coastal waters must apply to the DEA for a coastal waters discharge permit.

> **NOTE:** At present there are no discharge permits being issued. An applicant must merely submit a letter of intent to apply for a discharge permit. The criteria for monitoring the discharge of the effluent are still under discussion between the DEA and the DAFF.

Aquaculture Rights and Permits

Marine Living Resources Act 18 of 1998 and Regulations

The Act prohibits the undertaking of marine aquaculture or the operation of a fish processing establishment unless a right has first been obtained from the Minister of Agriculture, Forestry and Fisheries. Once a right is obtained application must be made for a permit. While a marine aquaculture right is valid for 15 years the permit is only issued for one year. If conditions are not being adhered to or if the right or permit is not being used effectively, the rights or permits may be suspended.

The Regulations impose a duty on the operator of a marine aquaculture operation to take reasonable measures to avoid or minimise environmental harm. The DAFF Minister may require a permit applicant (or an existing permit holder) to undertake an EIA if there is reason to believe that the activities at any proposed or existing marine aquaculture operation has or may in future have a detrimental impact on the environment. This assessment must take place in accordance with guidelines determined by the Minister but in practice, EIA processes are undertaken in terms of the NEMA EIA Regulations, rather than under the MLRA.

Limpopo Environmental Management Act 7 of 2003

The Act stipulates that a permit must be obtained for the operation of an aquaculture facility from the MEC for Economic Development, Environment and Tourism.

Waste

National Environmental Management : Waste Act 59 of 2008 (NEM:WA)

Although few of the listed waste management activities apply directly to aquaculture, a Basic Assessment must be undertaken and a waste management licence applied for to dispose of domestic waste. This application and authorisation process is necessary in areas that are not serviced by municipal waste management services.

National Water Act 36 of 1998 (NWA)

Water use is defined in Section 21 of the NWA as, amongst others, discharging wastewater (see Water section above). In certain circumstances, a licence is required.

Restrictions on the Process for the Protection of an area

National Environmental Management: Protected Areas Act 57 of 2003

Protected areas are subject to a management plan, implemented by a management authority. Provision may be made for aquaculture in protected areas, it must occur in accordance with the management plan. The method of farming must therefore be tailored accordingly and the management authority's consent must be sought.

National Environmental Management: Integrated Coastal Management Act 24 of 2008

This Act is important to marine aquaculture because it establishes integrated procedures to regulate the disposal of effluent water into estuaries and the sea. Most marine aquaculture projects will require a Coastal Waters Discharge Permit for the discharge of effluent (defined widely as any liquid discharged into the coastal environment as waste) (see the section on Water above).

Construction

National Building Regulations

Aquaculture facilities must comply with the National Building Regulations and accompanying SANS codes.

NEMA and EIA Regulations

The design of an aquaculture facility forms part of an Environmental Impact Report and will accordingly require a specialist to design it in a way avoiding environmental impact.

Building Plan Approval

Building plans are signed off at a municipal level and construction cannot commence before the plans for the facility have been approved by the municipality.

E. The Scale

Scale related Impact Assessments

NEMA and EIA Regulations

The scale or size of an aquaculture development is relevant since scale or size is often part of the threshold of a listed activity. As mentioned above, should the scale or size of the new or extended operations exceed the output or footprint thresholds, a BA or EIA must be conducted.

The scale (i.e. output) of the facility may in certain instances be the threshold for example:

LISTING NOTICE 2

NO	ACTIVITY	NOTES
12	*The construction of facilities, infrastructure or structures for aquaculture of -* *(i) finfish, crustaceans, reptiles or amphibians where the facility, infrastructure or structures will have a production output of 200 000 or more kg per annum (live round weight);* *(ii) molluscs where the facility, infrastructure or structures will have a production output of 150000 or more kg per annum (live round weight);* *(iii) aquatic plants where the facility, infrastructure or structures will have a production output of 200 000 or more kg per annum (live round weight); excluding where the construction of facilities, infrastructure or structures is for purposes of offshore cage culture in which case activity 13 in this Notice will apply.*	Applies to aquaculture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants.
13	*The construction of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants where the facility, infrastructure or structures will have a production output of 100 000 or more kg per annum (live round weight)*	Applies to all offshore cage culture.

In other instances it is the size (i.e. footprint) of the new or extended facility which will be the threshold for example:

LISTING NOTICE 1

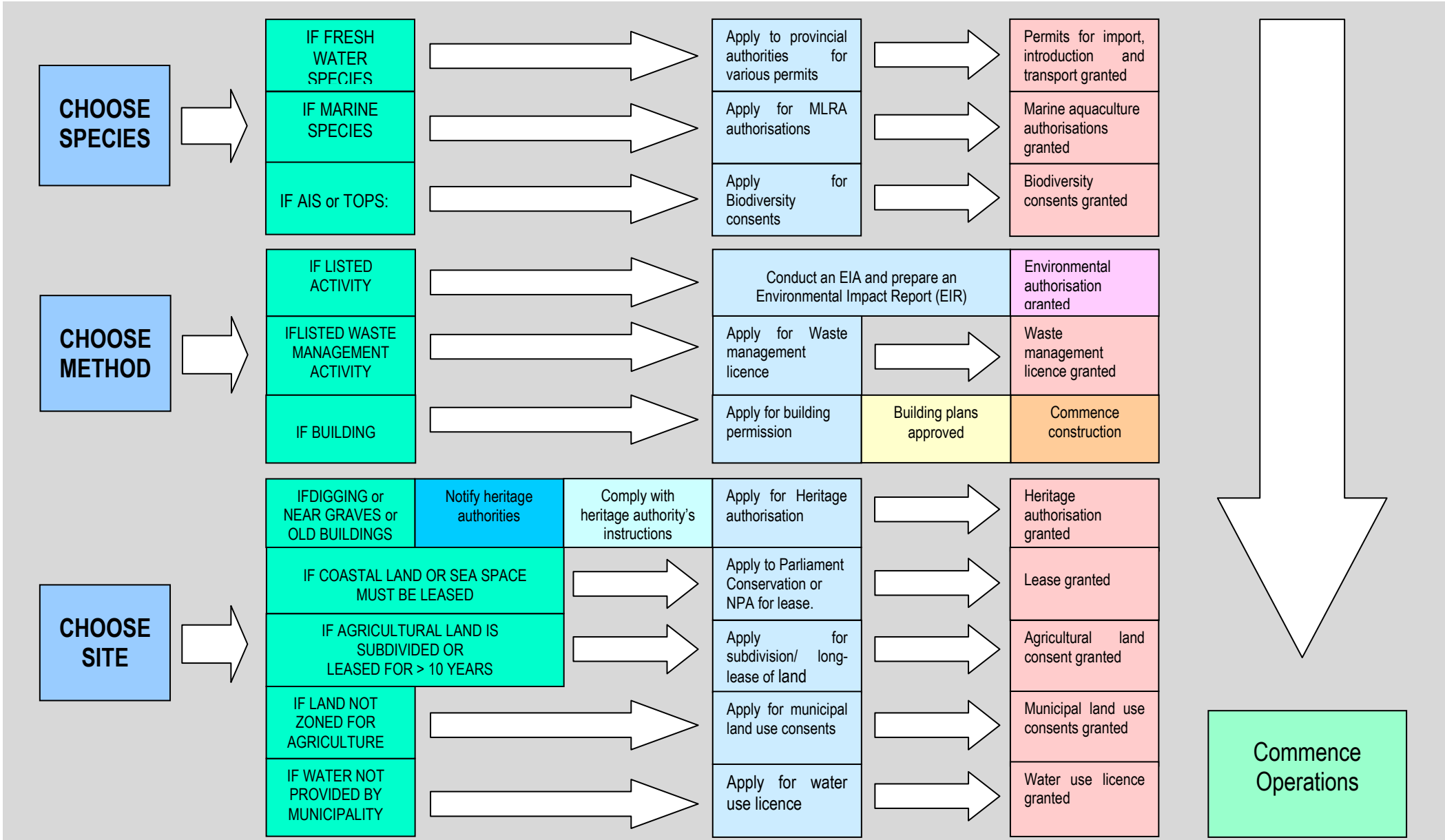
NO	ACTIVITY
4.	*The construction of facilities or infrastructure for the concentration of animals for the purpose of commercial production in densities that exceed—* *…* *(iii) 30 square metres per crocodile at any level of production, excluding crocodiles younger than 6 months;*
8.	*The construction of a hatchery or agri-industrial infrastructure outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.*
11.	*The construction of—* *(i) canals;* *(ii) channels;* *(iii) bridges;* *(iv) dams;* *(v) weirs;* *(vi) bulk storm water outlet structures;*

	(vii) marinas; *(viii) jetties exceeding 50 square metres in size;* *(ix) slipways exceeding 50 square metres in size;* *(x) buildings exceeding 50 square metres in size; or* *(xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.*
12.	*The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010;*

NOTE: The above examples do not represent a definitive list. The full EIA listing notices must be considered at the time when the new or extended operations are planned since the listed activities may change from time to time.

The figure below provides a "road map" of the key steps in the planning and construction phase that need to be taken before commencement. The figure illustrates the most obvious steps on a general time line to assist the reader to contextualise the legal provisions discussed in the planning phase section of this Guideline. It is a schematic representation and is not meant to represent an accurate timeline or a definitive list of the necessary steps. The figure should be read together with the Permissions Checklist for the planning phase (which appears in Appendix E). The Checklist provides a more comprehensive set of national and provincial permissions required for commencement.

Figure 2 Schematic representation of key steps in planning and construction phase



PLANNING and CONSTRUCTION OVERVIEW

This schematic represents important consequential steps in the planning and construction phase with a view to commencement but should not be used as a checklist.

3.2 OPERATIONAL PHASE

The operational phase starts when a project has obtained the relevant environmental and other authorisations, when the facilities are complete and when the fish goes into the water. This phase ends when the fish are taken out of the water for further trade or processing.

Below are the most important things to consider on an on-going basis during the operational phase.

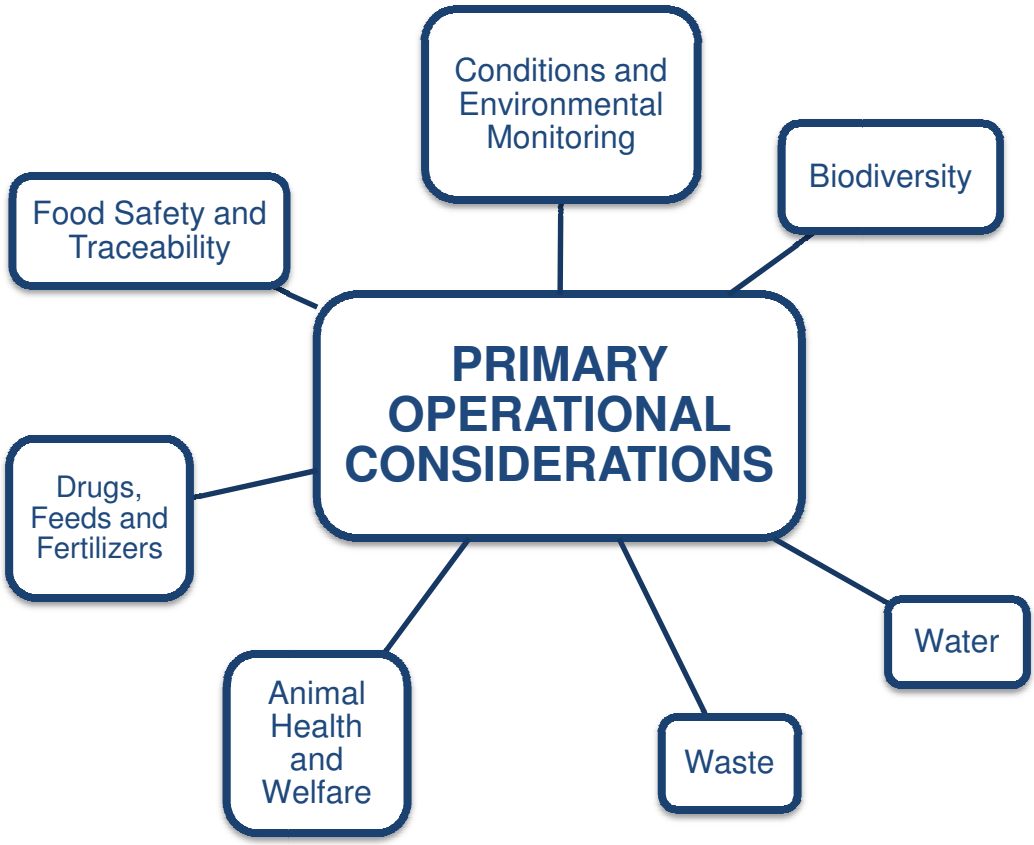


Figure 3 Primary operational considerations

Based on the above, the following laws should be considered during the operational phase:

Permissions and Conditions

National Environmental Management Act 107 of 1998 (NEMA)

The Environmental Authorisation is the most important permission for a new or expanding aquaculture operation and it is important to realise that getting the EA is only half the battle won since the conditions of the EA must be met on an on-going basis to avoid jeopardising the operation. The principles contained in Section 2 of NEMA can be seen as implied conditions of the EA since they inform the granting of any decision affecting the environment (like issuing an EA). There will also be express conditions to minimise environmental harm. Non-compliance with these conditions during the operational phase creates the risk of activities being suspended.

The management of aquaculture operations must be in accordance with Section 2 principles because these serve as the general framework within which the environment should be managed and are particularly relevant during the operational phase. For instance a risk averse and cautious approach must be followed and (as far as possible) negative impacts avoided.

NEMA also contains a general “duty of care” that requires every person who causes or may cause significant pollution or degradation of the environment to take reasonable measures, including to report it and prevent this from occurring or recurring. Where the harm is authorised or cannot be stopped then it must be minimised and (where possible) rectified.

If harm occurs and reasonable measures are not taken, then the authorities may issue a directive demanding particular action. In addition, the authorities may step in and take the required steps to minimise harm or to clean up themselves, but this does not absolve the operator from liability. In fact there is a large pool of persons who are potentially responsible (directly or indirectly) for harm. This pool includes any person who is or was responsible for or contributed to the pollution (or potential pollution), the owner of the land at the time when the pollution or degradation occurred or even the person in control of the land at the time. Costs are recoverable proportionally, according to the degree to which each party was responsible for the harm and directors of companies are in certain instances personally liable.

Marine Living Resources Act and Regulations

A Marine Aquaculture Permit is required for each mariculture operation of a right holder in terms of the MLRA. The operator of a mariculture operation must take reasonable on-going measures to avoid environmental harm, including taking measures to avoid harm from the disposal of effluent and sludge.

Permits are also required for, amongst other things, the possession, sale, transportation, import and export of marine fish and aquatic plants.

Biodiversity

NEMBA AIS Regulations, 2013

All listed invasive fish species are category 1b (including Tilapia, catfish and carp breeds) and a person in control of these species must:

- notify the competent authority in writing and in the prescribed form; and
- take the prescribed steps to manage the invasive species.

Marine Living Resources Act and Regulations

Ministerial permission is required for the release of live fish (except for indigenous wild fish caught in the Republic) into South African waters. Sea Ranching and stock enhancement amounts to the release of live fish.

Genetically Modified Organisms Act, 15 of 1997 (GMOA)

The GMOA applies to the genetic modification of organisms as well as the development, production, release, use and application of genetically modified organisms (including viruses and bacteriophages). The Act might apply to both spat and feeds. A permit is required to undertake any activity in relation to genetically modified organisms. In order to undertake such an activity a suitable and sufficient assessment of the potential adverse effects to the environment, human and animal health and safety must be undertaken. This includes an assessment of the socio economic impact, cultural traditions as well as future security. An EIA that complies with section 78 of NEMBA may also be required. All facilities conducting activities with GMOs are to be registered with the Registrar. Thus, where GMOs are being used, a permit as well as registration of the premises may be required.

Animal Health and Welfare

Animal Protection Act 71 of 1962

The Act and related Codes of Practice ensure animal welfare by ensuring that production animals are free from hunger, distress, injury, pain and discomfort.

“Animal” is defined to include any “wild animal, wild bird or reptile which is in captivity or under the control of any person”. The SPCA has confirmed that the APA applies to fish.

SPCA standards and codes of practice

Although the SPCA is not a government entity, it is authorised to tend to matters of animal welfare. At the time of drafting this guide, the SPCA is in the process of developing welfare standards and codes of practice to reduce the stress and pain of these animals during the production process. Accordingly, the SPCA standards must be referred to at the time of establishing the aquaculture project.

Animal Health and Welfare

Animal Diseases Act 35 of 1984

This Act requires veterinary clearances and authorisations for the export and import of organisms.

Feeds and Fertilisers

Fertiliser Farm Feeds Agricultural Remedies and Stock Remedies Act 36 of 1947

The Act provides for the use of registered feeds and stock remedies. At the time of drafting this guide DAFF is in the process of drafting a registered aquaculture feeds/stock remedies list and DAFF must accordingly be consulted to ensure that registered feeds/stock remedies are used once the list is published.

Codex Alimentarius Commission - Code of Practice on Good Animal Feeding

The Codex are the most important food safety standards globally and it is important for exporters to comply with these standards (see food safety below). This Code is for establishing a feed safety system for food producing animals which covers the whole food chain, taking into account relevant aspects of animal health and the environment in order to minimize risks to consumers' health.

Drugs

Fertiliser Farm Feeds Agricultural Remedies and Stock Remedies Act 36 of 1947

The Act provides for the use of registered remedies. At the time of drafting this guide DAFF is in the process of drafting a registered aquaculture remedies list and DAFF must accordingly be consulted to ensure that registered remedies are used once the list is published.

Animal Health Act 7 of 2002 (still to commence)

The Act requires permission from the competent authority to develop experimental drugs. In the absence of a registered list of remedies it is advisable for the aquaculturist to ensure that drugs used were lawfully manufactured.

Codex Alimentarius Commission - Maximum Residue Limits for Veterinary Drugs in Food

The Codex are the most important food safety standards globally and it is important for exporters to comply with these standards (see food safety below and in the post-production phase). This code sets minimum thresholds for drug residue in food.

Food Safety and Traceability

Marine Living Resources Act 18 of 1998

Marine Aquaculture permits require holders to comply with monitoring programmes such as the finfish or shellfish monitoring and control programmes which are aimed at ensuring food safety and traceability. Permission must be sought to transport specimens between certain management zones and in certain instances certain species may not be transported into specific genetic zones whatsoever.

Food Safety Guidelines

Food Safety is the most important consideration for importers of fish products and although different jurisdictions focus on different elements of food safety they tend to depart from a common point and use largely the same standards.

It is important to take early notice of the food safety standards of foreign markets since the way in which a product is produced is an important indicator of a product's integrity.

The standards almost universally implemented by foreign law makers and certification bodies are the guidelines drafted by the Codex Alimentarius Commission which is the food standards arm of the World Health Organisation (WHO) and Food and Agriculture Organisation of the United Nations (FAO).

There are a range of guidelines applicable to aquaculture such as:

Code of Practice for Fish and Fishery Products
This code prescribes good production practices for the producers of fish products. It applies to the growing, harvesting, handling, production, processing, storage, transportation and retail of fish, shellfish, aquatic invertebrates and products thereof from marine and freshwater sources that are intended for human consumption.

Code of Practice on Good Animal Feeding
This Code is to establish a feed safety system for food producing animals which covers the whole food chain, taking into account relevant aspects of animal health and the environment in order to minimize risks to consumers' health. This Code applies in addition to the principles of food hygiene already established by the Codex Alimentarius Commission, taking into account the special aspects of animal feeding.

These codes are available at:
http://www.codexalimentarius.org/standards/list-of-standards/

Food Safety and Traceability

Other standards used as a bedrock for developing domestic food safety standards include:

- *WTO Agreement on the application of sanitary and phytosanitary measures*
- ISO/IEC Guide 59. *Code of good practice for standardization. 1994*
- ISEAL. *ISEAL Code of Good Practice for Setting Social and Environmental Standards. 2006*
- *OIE Aquatic Animal Health Code*
- *Code of Practice on the Introductions and Transfers of Marine Organisms*
- ISO/IEC 22000:*2005 Food safety management systems- Requirements for any organization in the food chain*
- ISO/TS 2004:*2005 Food safety management systems - Guidance on the application of ISO 22000:2005*
- ISO/IEC 16665 *Water quality - Guidelines for quantitative sampling and sample processing of marine soft-bottom macrofauna*
- ISO 23893-1:2007 *Water quality - Biochemical and physiological measurements on fish - Part 1: Sampling of fish, handling and preservation of samples*
- ISO/IEC 17021:2006 *Conformity assessment - Requirements for bodies providing audit and certification of management systems*
- ISO/IEC 17065 13
- ISO/IEC 22003:*2007 Food safety management systems: Requirements for bodies providing audit and certification of food safety management systems*
- ISO/IEC 17025. *Laboratory testing*
- ISO/IEC 22005. *Chain of Custody*

Traceability Protocols

Traceability refers to the chain of evidence providing information about a product's origin and the processes it has gone through. DAFF has published traceability protocols for Kob, Abalone and Bloodworm and are likely to do so for freshwater species.

Codex Alimentarius Commission - Principles for Traceability / Product Tracing as a Tool Within a Food Inspection and Certification System

Should DAFF not have published a protocol for a particular species this codex is a very good benchmark for traceability. Other standards for traceability worth implementing are:

- ISO 22005:2007 Traceability in the feed and food chain - General principles and basic requirements for system design and implementation
- ISO/IEC 22005. Chain of Custody

3.3 POST PRODUCTION PHASE

The post production phase starts when the fish are harvested from the water for further trade or processing. The key considerations in the post production phase are:

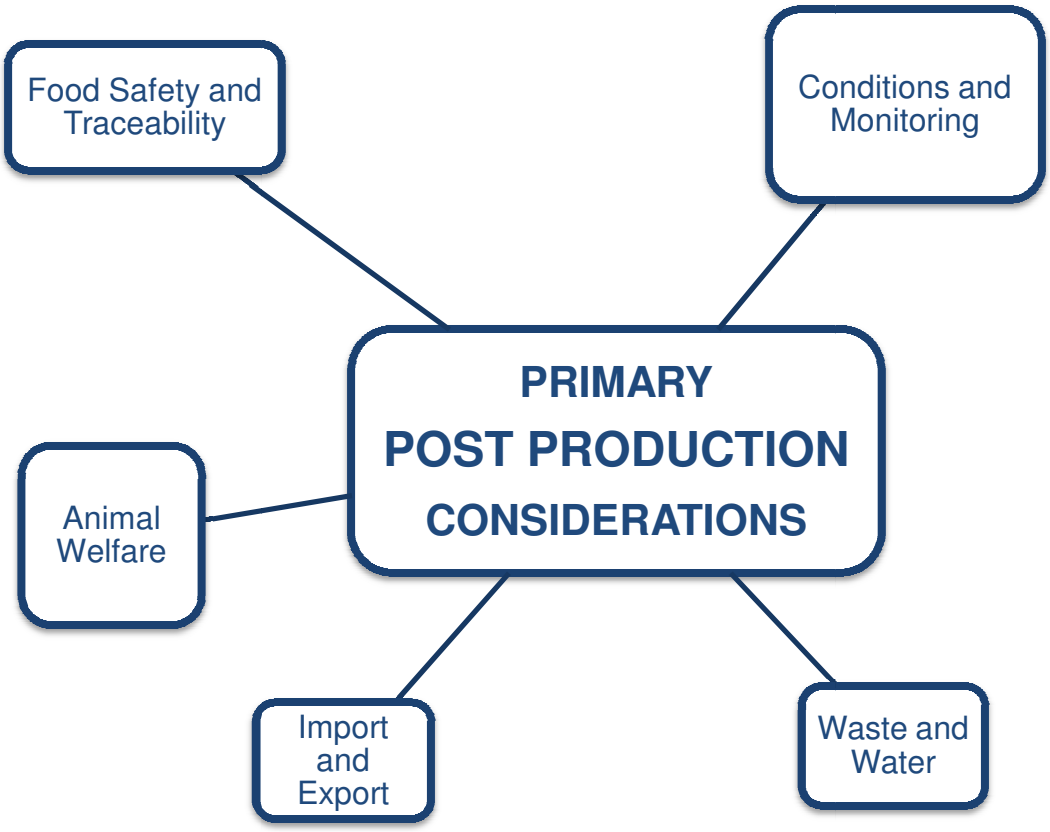


Figure 4 Primary post production considerations

At the post production phase the applicable legal requirements revolve around ensuring compliance with permits (such as export permits) and ensuring that issues such as proper transportation and food safety are taken care of and the necessary certificates obtained.

There are also a number of Codes of Practice (such as SANS codes), health standards and quality control procedures (such as Hazard Analysis and Critical Control Point or HACCP procedures) that may guide the handling and processing of aquaculture organisms. Whether or not they apply depends upon the level of processing that takes place, the nature of the product and compliance with these is often made a condition of a permit.

The closure of a facility also forms part of the post production phase: If production ceases entirely and the operation is shut down the applicable legal requirements for closure or decommissioning must be followed. This may include undertaking an EIA for closure.

The following laws may need to be checked at this stage:

Domestic Food Safety and Traceability

Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972 ("FCDA")

The FCDA defines "foodstuffs" to include any substance (and its ingredients, unless these ingredients are medicines controlled under the Medicines and Related Substances Act 1965) that is "ordinarily eaten or drunk by a person or purporting to be suitable, or manufactured or sold for human consumption".

The Minister has published regulations relating to Marine Food and the Hazard Analysis and Critical Control Points (HACCP) system, relating to food safety.

Marine Food Regulations (GN R2064 of 2 November 1973)
These Regulations were drafted with fisheries in mind, however, most of the principles apply to the post production phase for aquaculture once fish are harvested. The regulations prescribe which additives that may be added to fish products and require that fish for processing both at sea and on land shall be stored, handled and transported under hygienic conditions and that fish must be processed as soon after being caught as possible. Other provisions specify temperatures for keeping frozen fish and how it must be thawed.

HACCP Regulations
These Regulations regulate food handling enterprises but at present aquaculture does not appear on the list in Annex B. This may change in the future.

Regulations governing General Hygiene requirements for Food Premises and the Transport of Food (GNR. 962 of 23 November 2012)
These regulations affect aquaculture operations because all aquaculture products that are intended for human consumption fall within the definition of "food" in the regulations. Furthermore, "any building or structure where food is handled" is defined as a "food premises" and "handle" means to "manufacture, process, produce, pack, prepare, keep, offer, store and transport". Therefore many processing facilities will be designated as food premises for the purposes of these regulations. The Codex standard for bulk transport has been expressly incorporated into the Food Hygiene regulation

The main implication of being designated as food premises is that the facility must hold a valid Certificate of Acceptability. If an inspector decides that despite there being a valid Certificate of Acceptability available, food at the premises is being improperly handled and the premises is a health hazard, he or she may issue a notice and have the premises shut down until the hazard is remedied.

National Health Act 61 of 2003 (NHA)

The NHA has repealed the old Health Act but the regulations published in terms of the Health Act are still effective.

Offensive Trades
The Health Act is also relevant to aquaculture in that some operations will fall within the definition of "offensive trade". This definition includes fish-curing or fish canning works; works for the extraction of fish oil from sharks or other fish and works or premises used for the manufacture, storage or mixing of meal derived from fish or crustacea. If an offensive trade is being carried out, the

Domestic Food Safety and Traceability

building or any subsequent alterations thereof, requires authorisation from the DoH. Municipalities also regulate “offensive trades”.

Traceability Protocols

Traceability refers to the chain of evidence providing information about a product’s origin and the processes it has gone through. DAFF has published traceability protocols for Kob, Abalone and Bloodworm and are likely to do so for freshwater species.

International Food Safety and Traceability

Food Safety and Traceability are crucial considerations for importers of fish products and although different jurisdictions put more focus of different elements of food safety they tend to depart from a common point and use largely the same standards.

Standards used almost universally are the guidelines drafted by the Codex Alimentarius Commission which is the food standards arm of the World Health Organisation (WHO) and Food and Agriculture Organisation of the United Nations (FAO). There are a range of guidelines applicable to aquaculture such as:

- Principles for Food Import and Export Certification and Inspection
- Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories
- Standards for Quick Frozen Finfish, Eviscerated or Uneviscerated
- Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods
- Standard for Canned Shrimps or Prawns
- Guidelines for the Design, Operation, Assessment and Accreditation of Food Import and Export Inspection and Certification Systems
- Maximum Residue Limits for Veterinary Drugs in Food
- Standard for Quick Frozen Lobsters

These codes are available at:
http://www.codexalimentarius.org/standards/list-of-standards/

Other standards used as a bedrock for developing domestic food safety standards include:

- WTO Agreement on technical barriers to trade
- WTO Agreement on the application of sanitary and phytosanitary measures
- Codex guidelines on food import and export inspection and certification systems
- ISO/IEC Guide 59. *Code of good practice for standardization. 1994*
- ISO/IEC 22003:2007 Food safety management systems: Requirements for bodies providing audit and certification of food safety management systems
- ISEAL. ISEAL Code of Good Practice for Setting Social and Environmental

Standards. 2006
- OIE Aquatic Animal Health Code
- International Council for the Exploration of the Sea (ICES) Code of Practice on the Introductions and Transfers of Marine Organisms
- Code of Practice on the Introductions and Transfers of Marine Organisms
- ISO/IEC 22000:2005 Food safety management systems- Requirements for any organization in the food chain
- ISO/TS 2004:2005 Food safety management systems - Guidance on the application of ISO 22000:2005
- ISO/IEC 16665 Water quality - Guidelines for quantitative sampling and sample processing of marine soft-bottom macrofauna
- ISO 23893-1:2007 Water quality - Biochemical and physiological measurements on fish - Part 1: Sampling of fish, handling and preservation of samples
- ISO/IEC 17021:2006 Conformity assessment - Requirements for bodies providing audit and certification of management systems
- ISO/IEC 22003:2007 Food safety management systems: Requirements for bodies providing audit and certification of food safety management systems
- ISO/IEC 17021. Management Systems certification
- ISO/IEC 22003. Food safety management systems
- ISO/IEC 17025. Laboratory testing

Codex Alimentarius Commission - Principles for Traceability / Product Tracing as a Tool Within a Food Inspection and Certification System

In instances where DAFF has not published a protocol for a particular species this codex is a very good benchmark for traceability.

Other standards for traceability worth implementing are:
- ISO 22005:2007 Traceability in the feed and food chain - General principles and basic requirements for system design and implementation
- ISO/IEC 22005. *Chain of Custody*

HACCP

HACCP (pronounced “Hassop”) is the acronym for “Hazard Analysis and Critical Control Points”. The objective of HACCP is preventing hazard during production rather than detecting it after production on inspection so HACCP is a systematic preventive approach to food safety and allergenic, chemical, and biological hazards. HACCP methodology has been standardized internationally by the Codex Alimentarius Commission.

HACCP is implemented either by Prerequisite Programs which create conditions that are favourable to the production of safe food products or via HACCP Plans, designed to control hazards directly related to the food being processed or the manufacturing process.

HACCP plans are developed through a process of hazard analysis to determine hazards significant to food safety. Control measures are then put into place to prevent, reduce or eliminate these hazards. The control measures are monitored for effectiveness. If a hazard is not adequately controlled (the control measure fails), actions are taken to correct the failure.

International Food Safety and Traceability

NOTE: The food safety standards of the particular export market are based on the above standards but might differ from them so the relevant destination standards must be consulted in every instance.

Export, Certification and Transport

Export and international transport

Export permitting requirements are imposed by the:

- **Animal Diseases Act, 35 of 1984;**
- **Abalone Regulations of the NRCS Act; and**
- **Animal Health Act No. 7 of 2002 (commencement pending),**

Certification is conducted in cooperation with DAFF veterinary services and the NRCS.

Marine Living Resources Act and Regulations

The MLRA applies restrictions on the import and export of marine fish and aquatic plants without a permit. Permits are also required for the transport of any marine species.

Agricultural Products Standards Act, 119 of 1990 (APSA)

The Minister has the power to control the export of products including to prohibit the export of a prescribed product without prior approval. Sections 6 and 6A prohibits false or misleading product descriptions and prohibits and exempts the use of certain names respectively. Section 7 regulates powers of entry, investigation and sampling. Below are two important notices published in terms of APSA.

GN 41 of 27 March 2009
Perishable Products Export Control Board: Agricultural Product Standards (Government Gazette No. 32043) imposes inspection levies and tariffs for the products to be exported. With the exception of “canned goods” the aquaculture industry should fall under the provisions for “other products”.

GN 1347 of 22 September 2006
Procedures for the application, administration and allocation of export permits under the trade, development and co-operation agreement between the European Community and the Republic of South Africa was published following the enforcement of a Trade, Development and Co-operation Agreement (TDCA) between the European Community (EC) and the Republic of South Africa on 1 January 2000. The TDCA provides for the establishment of a Bilateral Free Trade Area between the EC and South Africa in accordance with the World Trade Organization (WTO) rules and the strengthening of European development assistance to South Africa. The tariff preferences applied under the TDCA and in accordance with the APS are unlikely to apply as yet to the

Export, Certification and Transport

aquaculture industry as the products specified in Table 1 to this notice do not overlap with this sector except to the extent that aquaculture might include "edible parts of plants".

Perishable Products Export Control Act 9 of 1983 (PPECA)

PPECA provides for the control of perishable products intended for export from the Republic of South Africa and for matters connected therewith. A "perishable product" includes fish (including shellfish and crustaceans). A particular point of relevance is the transit, inspection and "other levies" which the board may impose. The most recent notice in respect of imposed levies is the Perishable Products Export Control Board: Imposition of levies on perishable products (BN 44 of 30 March 2012, Government Gazette No. 35173).

Provincial Import, export, trade and transport

Every province in the country imposes permitting requirements for selling, importing, exporting and transporting fish. The conservation ordinances regulating these matters were drafted before the current 9 provinces were established so one ordinance may apply to various provinces as illustrated below:

- **Cape Nature and Environmental Conservation Ordinance, 14 of 1974**
  The Cape Ordinance is applicable in the Western, Eastern and Northern Cape as well as the North West Province.
- **Transvaal Nature Conservation Ordinance, 12 of 1983**
  The Transvaal Ordinance is applicable in Gauteng, Mpumalanga and the North West Province.
- **KwaZulu-Natal Nature Conservation Ordinance 15 of 1974**
- **Free State Nature Conservation Ordinance, 8 of 1969**

Environmental Assessments

NEMA and the EIA Regulations

Food processing is a postproduction activity and an environmental authorisation may be required for the construction of the facility (such as a cannery) used to carry out a food processing activity.

Furthermore, decommissioning or the closure of a facility may require environmental authorisation in terms of the EIA Regulations.

Consumer protection

Consumer Protection Act No.68 of 2008 (CPA)

The CPA aims to promote a fair, accessible and sustainable marketplace for consumer products and services. In protecting consumer rights, the CPA creates liability for every link in the production chain so a traceability and assessment systems must be in place. The CPA applies, subject to certain specified exemptions, to every transaction occurring in South Africa.

Labels and marketing: A particular area of application will be in labelling since any information the industry supplies to consumers must be in plain and understandable language and the CPA protects the right to fair and responsible marketing and protects consumers from false and misleading representations.

Traceability: A supplier of goods or services must provide a written record of each transaction to the consumer to whom any goods or services are supplied.

Safety and Quality: The CPA specifically protects the consumer's rights to fair value, good quality and safety. The National Consumer Commission set up under the CPA must promote the development, adoption and application of industry-wide codes of practice providing for effective and efficient systems to monitor the safety and recall of goods.

Wide Liability: Strict liability is attributed to producers and distributors for any harm caused by supplying unsafe goods. This means that the consumer does not have to prove fault on the producer or distributor's part when claiming compensation for damage caused by unsafe goods.

APPENDICES

Appendix A: USEFUL CONTACTS

NAME	POSITION	TELEPHONE NUMBER	FAX NUMBER	EMAIL ADDRESS
Belemane Semoli	Director, Aquaculture Research and Development (DAFF)	021 402 3534	021 402 3009	BelemaneS@daff.gov.za
Khumo Morake	Director, Aquaculture Technical Services (DAFF)	021 402 3038	086 724 3601	KhumoM@daff.gov.za
Asanda Njobeni	Director, Sustainable Aquaculture Management (DAFF)	021 402 3409	086 718 4248	AsandaN@daff.gov.za
Fatima Samodien	Control Environmental Officer, Sustainable Aquaculture Management: Environmental Assessments (DAFF)	021 430 7052	021 434 2899	FatimaS@daff.gov.za
Sasha Saugh	Aquatic State Veterinarian (DAFF)	021 430 7052	021 434 2899	SashaS@daff.gov.za
Michelle Pretorius	Environmental Officer: Shellfish farm monitoring, Sustainable Aquaculture Management (DAFF)	021 430 7034	021 434 2899	MichellePR@daff.gov.za
Andrea Bernatzeder	Environmental Officer: Finfish Farm Monitoring, Sustainable Aquaculture Management (DAFF)	021 430 7026	021 434 5333	AndreaB@daff.gov.za
John Foord	Environmental Officer (Specialised Production),	021 430 7003	021 434 2144	JohnF@daff.gov.za

NAME	POSITION	TELEPHONE NUMBER	FAX NUMBER	EMAIL ADDRESS
	Sustainable Aquaculture Management (DAFF)			
Imtiyaz Ismail	Environmental Officer (Specialised Production), Sustainable Aquaculture Management (DAFF)	021 402 3673	021 402 3420	ImtiyazI@daff.gov.za
Zimasa Jika	Deputy Director: Aquaculture Authorisations, Sustainable Aquaculture Management (DAFF)	021 402 3356	086 724 3601	ZimasaJ@daff.gov.za

Appendix B: AUTHORISATIONS CONTACT LIST

National Authorisations

Authorisation	Western Cape	Eastern Cape	Northern Cape	North West Province	KwaZulu Natal
General	Department of Environmental Affairs and Development Planning 021 483 4091	Department of Economic Development and Environmental Affairs 043 605 7004	Department of Environment and Nature Conservation 053 807 7416	Department of Economic Development Environment, Conservation and Tourism 018 387 7700	Department of Agriculture and Environmental Affairs 033 355 9100
Environmental (EIA)	Mr A Barnes (Office of Chief Director) 021 483 4094	Cecilia Gyan 043 605 7099	JJ Mutyorauta 053 807 7431	Mr Mukhola 018 389 5959	Peter Kuyler 079 897 1969 034 299 9664
Heritage	Andrew Hall (Heritage Resource Management) 021 483 9598	Cecilia Gyan 043 605 7099	Marietjie Smit 053 807 7476		Annie van der Venter-Radford (Amafa) 033-394 6543
Protected Areas	Cape Nature 021 483 0000	Linda Nonbo 056 605 7084	Elsabie Swart 053 807 7481	Mashudu Nemutandani 014 597 3597	Jenny Longmore (Ezemvelo KZN Wildlife) 033 845 1349
Water Use	Mr R Khan (Chief Director of DWA) 021 941 6000	Sandiso Zide 046 605 7256	Brian Fisher 053 807 7503		Norman Ward (DWA) 031- 336 2737

Authorisation	Western Cape	Eastern Cape	Northern Cape	North West Province	KwaZulu Natal
TOPS	Danelle Kleinhans (Cape Nature Permits) 021 483 0121	Linda Nonbo 056 605 7084	Nature Resources Elsabie or Marietjie 053 807 7476	Mashudu Nemutandani 014 597 3597	Jenny Longmore (Ezemvelo KZN Wildlife) 033 845 1349
AIS	Danelle Kleinhans (Cape Nature Permits) 021 483 0121	Linda Nonbo 056 605 7084	Nature Resources Elsabie or Marietjie 053 807 7476	Mashudu Nemutandani 014 597 3597	Jenny Longmore (Ezemvelo KZN Wildlife) 033 845 1349
Abalone	Deon Jacobs 021 526 3412	Gary Scholtz 083 325 3699			
GMO's	Directorate of Biodiversity 012 319 6382	Directorate of Biodiversity: 012 319 6383	Directorate of Biodiversity: 012 319 6384	Directorate of Biodiversity: 012 319 6385	Directorate of Biodiversity: 012 319 6386
Waste Management	Mr Arendse (Office of Chief Director) 021 483 5109	Tembela Matukata 046 605 7126	Brian Fisher 053 807 7503		Heather Sheard 033 343 1877
Waste Water Discharge	Mr Arendse (Office of Chief Director) 021 483 5109	Tembela Matukata 046 605 7126	Brian Fisher 053 807 7503	Bafadi Moselakgomo 018 389	Norman Ward (DWA) 031- 336 2737
Land Use	Mr Barnes (Office of Chief Director) 021 483 4094	Cecilia Gyan 043 605 7099	JJ Mutyorauta 053 807 7431		

Authorisation	Western Cape	Eastern Cape	Northern Cape	North West Province	KwaZulu Natal
Agricultural Land: Subdivision	Department of Agriculture 021 808 5111	Department of Agriculture 040 639 1180	JJ Mutyorauta 053 807 7431		Revival Mnguni (DAFF) 012- 319 7439
Agricultural Land: Lease	Department of Agriculture 021 808 5111	Department of Agriculture 040 639 1180	JJ Mutyorauta 053 807 7431		Revival Mnguni (DAFF) 012- 319 7439
Import / Export	Danelle Kleinhans (Cape Nature Permits) 021 483 0121	Linda Nonbo 056 605 7084	Marietjie Smit 053 807 7476	Mashudu Nemutandani 014 597 3597	Jenny Longmore (Ezemvelo KZN Wildlife) 033 845 1349
Certification					

National Authorisations continued

Authorisation	Free State	Limpopo	Gauteng	Mpumalanga
General	Department of Economic Development, Tourism and Environmental Affairs 0514049600	Department of Economic Development, Environmental and Tourism 015 2938300	Department of Agriculture and Rural Development 0112402500	Department of Economic Development, Environment and Tourism 013 766 4852
Environmental (EIA)	Grace Mkonsana 0514004828 mkhosana@detea.fs.gov.za	Mr Victor Mongwe 0152907091 mongwevm@ledet.gov.za	Mr Mafu Nkosi 0112402572/3409/3418 mafu.nkosi@gauteng.gov.za	Ms Robin Luyte 013 766 4826
Heritage		Lethole Donald 0152911804		
Protected Areas	Coenie Erasmus 0514004781 Erasmusc@detea.fs.gov.za	Rian Visagie 015 290 7072 visagiec@ledet.gov.za	Ms Eleanor McGregor 079889551 Eleanor.mcgregor@gauteng.gov.za	
Water Use		0152901200		Mr Johan Van Aswegen

Authorisation	Free State	Limpopo	Gauteng	Mpumalanga
				0828074198
TOPS	Werner Boing 0514009535/ 4850 boing@detea.fs.gov.za	Mr Deon Von Wielligh vonwiellighmd@ledet.gov.za	Ms Eleanor McGregor 079889551 Eleanor.mcgregor@gauteng.gov.za	
AIS	Werner Boing 0514009535/ 4850 boing@detea.fs.gov.za		Ms Eleanor McGregor 079889551 Eleanor.mcgregor@gauteng.gov.za	
Abalone				
GMO's				
Waste Management	Michelle Sello 0514004779 Sellom@detea.fs.gov.za			
Waste Water Discharge				
Land Use				

Authorisation	Free State	Limpopo	Gauteng	Mpumalanga
Agricultural Land: Subdivision				
Agricultural Land: Lease				
Import / Export				
Certification				

Provincial Authorisations

Authorisation	Western Cape	Eastern Cape	Northern Cape	North West Province	KwaZulu Natal Province	Limpopo Province	Mpumalanga Province	Gauteng Province	Free State Province
Introduction into public waters	Martine Jordaan (Cape Nature) 021 866 8011	Linda Nonbo 056 605 7084	Marietjie Smit 053 807 7476	Mashudu Nemutandani 014 597 3597	John Craigie (033) 845 1931		Selby Hlatshwayo 013 766 4849		Leon Barkhuizen 0514004787 083 256 9446
Selling, buying or transporting of certain fish.	Martine Jordaan (Cape Nature) 021 866 8011	Linda Nonbo 056 605 7084	Marietjie Smit 053 807 7477	Mashudu Nemutandani 014 597 3597	John Craigie (033) 845 1931	Anton Van Wetten 0829045859 (015)2973839	Selby Hlatshwayo 013 766 4850		Leon Barkhuizen 0514004787 083 256 9446
Import / Export	Dean Impson (Cape Nature) 021 866 8019	Linda Nonbo 056 605 7084	Marietjie Smit 053 807 7478	Mashudu Nemutandani 014 597 3597	John Craigie 033 845 1931	Anton Van Wetten 0829045859 0152973839	Selby Hlatshwayo 013 766 4851		
Land Use	Mr Barnes (Office of Chief Director) 021 483 4094	Cecilia Gyan 043 605 7099	JJ Mutyorauta 053 807 7431						
Coastal conservation area		Linda Nonbo 056 605 7084							
Protected and Specially Protected Fish			Marietjie Smit 053 807 7479			Anton Van Wetten 0829045859			Leon Barkhuizen 0514004787 083 256 9446

Authorisation	Western Cape	Eastern Cape	Northern Cape	North West Province	KwaZulu Natal Province	Limpopo Province	Mpumalanga Province	Gauteng Province	Free State Province
						0152973839			
Fish Hatchery					John Craigie 033 845 1931	Morris Maja 015 2673090			TJ Masiteng 051 861 8324
Bass					John Craigie 033 845 1931				
Trout				Mashudu Nemutandani 014 597 3597	John Craigie 033 845 1931		Selby Hlatshwayo 013 766 4852		

Appendix C: SELECTED LISTED SPECIES IN TERMS OF THE ALIEN AND INVASIVE SPECIES REGULATIONS, 2013.

PROHIBITED ALIEN SPECIES

Invertebrates (Fresh-Water)

No	*Species*	Common Name
140.	*Orconectes limosus*	North American Spiny Cheek Crayfish
141.	*Orconectes rusticus*	Rusty Crayfish
142.	*Pacifastacus leniusculus*	North American Signal xCrayfish
143.	*Procambarus clarkii*	Red Swamp Crayfish

Marine species		
	Scientific Name	**Common name**
144.	*Asterias amurensis*	Pacific seastar
145.	*Caulerpa taxifolia*	Caulerpa (sea weeds)
146.	*Eriocheir sinensis*	Asian mitten crab
147.	*Undaria pinnatifida*	Asian kelp

Freshwater fish		
	Scientific Name	**Common name**
148.	*Abramis spp.*	Bream
149.	*Acantharchus spp.*	
150.	*Acheilognathus spp.*	Bitterling
151.	*Acipenser spp.*	Sturgeon
152.	*Ameiurus spp.*	Bullheads
153.	*Amia calva*	Bowfin/Mudfish/Dogfish
154.	*Amphilius spp.*	Golden African kuhli
155.	*Anabas spp.*	Climbing perch/Climbing fish
156.	*Anguilla spp.*	
157.	*Aphanius spp.*	Minnow
158.	*Aplocheilichthys spp.*	Killifish
159.	*Arapaima gigas*	Arapaima
160.	*Bagrus spp.*	
161.	*Barilius spp.*	
162.	*Bathyclarias spp.*	Catfish
163.	*Centrarchus spp.*	
164.	*Chaca chaca*	Frogmouth catfish
165.	*Channa spp.*	Snakeheads
166.	*Chela spp.*	
167.	*Chetia spp.*	
168.	*Chiloglanis spp.*	
169.	*Chologaster cornutus*	
170.	*Chondrostoma spp.*	Nasling
171.	*Chrysichthys spp.*	
172.	*Cichla spp.*	Peacock cichlid
173.	*Colossoma spp.*	Pacu
174.	*Coregonus spp.*	
175.	*Cottus spp.*	
176.	*Croilia spp.*	
177.	*Cyprinodon spp.*	Pupfish
178.	*Docimodus spp.*	Catfish
179.	*Elassoma spp.*	
180.	*Electrophorus electricus*	Electric eel
181.	*Engraulicyprus spp.*	
182.	*Enneacanthus spp.*	

183.	*Esox spp.*	
184.	*Eutropius spp.*	
185.	*Fundulus spp.*	
186.	*Galaxias spp.*	Galaxias
187.	*Gambusia spp.*	
188.	*Gasterosteus spp.*	
189.	*Gephyroglanis spp.*	
190.	*Glossogobius spp.*	
191.	*Gobio spp.*	
192.	*Gymnallabes spp.*	
193.	*Heterobranchus spp.*	
194.	*Hucho hucho*	Huchen
195.	*Huso huso*	Beluga sturgeon
196.	*Hydrocynus spp.*	African tiger fish
197.	*Ictalurus spp.*	
198.	*Idus idus*	Silver/Golden orf
199.	*Jordanella floridae*	American flagfish
200.	*Lampetra spp.*	
201.	*Lates spp.*	
202.	*Lepomis spp.*	Sunfishes
203.	*Leptoglanis spp.*	
204.	*Leuciscus spp.*	
205.	*Liposarcus spp.*	Plecostomus
206.	*Lota Iota*	Burbot
207.	*Luciosoma setigerum*	Apollo shark
208.	*Malapterurus spp.*	
209.	*Marcusenius spp.*	
210.	*Mesobola spp.*	
211	*Micropterus spp.* (except the 3 species listed as restricted invasive species)	Bass
212.	*Misgumus spp*	Weather fish
213.	*Myleus spp.*	Brown metynnis
214.	*Neochanna spp.*	Mudfish
215.	*Neomacheilus spp.*	Loaches
216.	*Notemigonus crysoleucas*	Golden shiner
217.	*Notropis spp.*	Shiner
218.	*Oncorhynchus spp.(excluding rainbow trout)*	Trout / Salmon
219.	*Ophicephalus spp.*	Snakehead
220.	*Opsaridium spp.*	Barilius
221.	*Oreochromis spp. (excluding Oreochromis species and hybrids in zoning category for aquaculture)*	
222.	*Oryzias spp.*	Rice fish/Geisha girl/Golden mede
223.	*Osmerus eperlanus*	Smelt
224.	*Paragalaxias spp.*	Paragalaxias
225.	*Perca spp.*	Perch
226.	*Percina spp.*	Percina darters
227.	*Petrocephalus spp.*	Mormyrid
228.	*Petromyzon marinus*	Lamprey
229.	*Phoxinus spp.*	Minnow
230.	*Plecostomus spp.*	Plecostomus
231.	*Pogonopoma spp.*	Catfish
232.	*Pomoxis spp.*	
233.	*Protopterus spp.*	Lung fish
234.	*Pseudocrenilabrus spp.*	
235.	*Pseudorasbora spp.*	Whiptail sturgeon
236.	*Pseudorinelepis spp.*	Catfish
237.	*Pterygoplichthys spp.*	Plecos
238.	*Pungitius spp.*	Stickleback
239.	*Pygocentrus spp.*	Piranha
240.	*Pygosteus spp.*	Stickleback
241.	*Rhinelepis spp.*	Catfish
242.	*Rhamdia spp.*	
243.	*Rhinichthys atratulus atratulus*	Black-nose dance
244.	*Rhinichthys atratulus obtusus*	
245.	*Rhodeus spp.*	

246.	*Rooseveltiella spp.*	Piranha
247.	*Rutilus spp.*	Roach
248.	*Salmo spp. (except brown trout and Atlantic salmon)*	Trout and salmon
249.	*Salvelinus spp.*	
250.	*Sargochromis spp.*	
251.	*Sarotherodon spp.*	
252.	*Schilbe spp.*	
253.	*Serrasalmus spp.*	Piranha
254.	*Silurus glanis*	European/Wels/Waller catfish
255.	*Thymallus thymallus*	Grayling
256.	*Tilapia spp.* excluding *Tilapia rendalli* and *Tilapia sparrmanii*(regulated by area) and *Tilapia bakossiorum and Tilapia snyderae* (exempted)	

LISTED ALIEN SPECIES

Invertebrates (Freshwater)		
Scientific name	**Common name**	**Category**
Aedes albopictus	Asian tiger mosquito	1b
Aplexa marmorata	Marbled tadpole snail	1b
Astacus leptodactylus	Danube/Galician Crayfish	1a
Cherax destructor	Yabby	1a
Cherax quadricarinatus	Redclaw crayfish	1b
Lymnaea columella	Amphibious pond snail	1b
Tarebia granifera	Quilted malania	1b

Marine species		
Scientific name	**Common name**	**Category**
Carcinus maenas	European shore crab / Green crab	1b

Freshwater fish		
Scientific name	**Common name**	**Category**
Ctenopharyngodon idella	grass carp	1b
Cyprinus carpio (excl Koi)	carp	1b
Hypophthalmichthys molitrix	silver carp	1b
Lepomis macrochirus	bluegill sunfish	1b
Micropterus dolomieu	smallmouth bass	1b
Micropterus flortdanus	Florida bass	1b
Micropterus punctulatus	spotted bass	1b
Micropterus salmoides	largemouth bass	1b
Oncorhynchus mykiss	rainbow trout	1b
Oreochromis mossambicus	Mozambique tilapia	1b
Oreochromis niloticus	Nile tilapia and hybrids	1b
Oreochromis niloticus xOreochromis Mossambicus	Nile tilapia x Mozambique tilapia	1b
Pterygoplichthys disjunctivus	Vermiculated sailfin catfish	1b
Salmo salar	Atlantic salmon	1b
Salmo trutta	brown trout	1b

Appendix D: Provincial legislation relevant to aquaculture, by province

PROVINCE	PROVINCIAL ORDINANCE	PROVINCIAL ACT	COMPETENT / RELEVANT AUTHORITY
Western Cape	Nature and Environmental Conservation Ordinance 19 of 1974 (Cape)		Cape Nature
	Land Use Planning Ordinance 15 of 1985		Municipality
		Western Cape Nature and Environmental Conservation Ordinance Amendment Act 8 of 1999	Cape Nature
		Western Cape Nature Conservation Laws Amendment Act 3 of 2000	Cape Nature
Eastern Cape	Nature and Environmental Conservation Ordinance 19 of 1974 (Cape)		- Eastern Cape Parks and Tourism Agency - EC Department of Economic Development and Environment Affairs
	Land Use Planning Ordinance 15 of 1985		Municipality
		Nature Conservation Act (Ciskei) 10 of 1987	- Eastern Cape Parks and Tourism Agency - EC Department of Economic Development and Environment Affairs
		Agricultural Development Act 8 of 1999	MEC: Eastern Cape Department of Agriculture and Land Affairs
		Livestock Improvement (Eastern Cape) 10 of 2002	The National Registrar of Livestock Improvement in the Department of Agriculture Forestry and Fisheries

PROVINCE	PROVINCIAL ORDINANCE	PROVINCIAL ACT	COMPETENT / RELEVANT AUTHORITY
			[The Eastern Cape Director of Veterinary Services advises that the province does not implement this Act and all livestock improvement functions are carried out by the National Registrar]
		Animal Diseases Act (Ciskei) 21 of 1986	The Director of Veterinary Services in the Eastern Cape Department of Agriculture and Land Affairs (Mr Mnuta) 082 258 5647 [note: the Eastern Cape Director of Veterinary Services – i.e. the competent authority - is unaware of the existence of this Act]
		Land Use Regulation Act (Ciskei) 15 of 1987	The Eastern Cape Land Use Planning Board
		Land Disposal Act (Eastern Cape) 7 of 2000	The Premier of the Eastern Cape
Northern Cape	Nature and Environmental Conservation Ordinance 19 of 1974 (Cape)		Northern Cape Department of Environment and Nature Conservation
		Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation
Limpopo	None		
		Limpopo Environmental Management Act 7 of 2003	Limpopo Department of Economic Development, Environment and

PROVINCE	PROVINCIAL ORDINANCE	PROVINCIAL ACT	COMPETENT / RELEVANT AUTHORITY
			Tourism
		Limpopo Land Administration Act 6 of 1999	Limpopo Department of Economic Development, Environment and Tourism
Gauteng	Nature Conservation Ordinance 12 of 1983 (Transvaal)		Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)
		Gauteng Land Administration Act 11 of 1996	The Premier of Gauteng
Mpumalanga	Nature Conservation Ordinance 12 of 1983 (Transvaal)		Department of Economic Development, Environment and Tourism
		Mpumalanga Land Administration Act 5 of 1998	The Department of Agriculture Rural Development and Land Administration
North West	Nature Conservation Ordinance 12 of 1983 (Transvaal)		North West Department of Economic Development, Environment, Conservation, and Tourism
	Nature and Environmental Conservation Ordinance 19 of 1974 (Cape)		North West Department of Economic Development, Environment, Conservation, and Tourism
	Land Use Planning Ordinance 15 of 1985		Municipality
		North West Directorate of Entrepreneurial Development in Natural Resources Act 5 of 2003	Directorate of Entrepreneurial Development in Natural Resources Utilisation in the Provincial

PROVINCE	PROVINCIAL ORDINANCE	PROVINCIAL ACT	COMPETENT / RELEVANT AUTHORITY
			Department of Agriculture, Conservation and Environment
		North West Land Administration Act 4 of 2003	The Premier of the North-West Province
KZN	Nature Conservation Ordinance 15 of 1974		- Ezemvelo KZN Wildlife - Natal Parks Board
	Prevention of Environmental Pollution Ordinance 21 of 1981		- Ezemvelo KZN Wildlife - Natal Parks Board
		KwaZulu-Natal Nature Conservation Management Act 9 of 1997	- Ezemvelo KZN Wildlife - Natal Parks Board
		KwaZulu-Natal Land Administration Act 3 of 2003	MEC: KwaZulu-Natal Department of Public Works
		Kwazulu-Natal Planning and Development Act 6 of 2008	KwaZulu-Natal Department of Co-operative Governance and Traditional Affairs
		Kwazulu-Natal Rationalisation of Planning and Development Laws Act 2 of 2008	KwaZulu-Natal Department of Co-operative Governance and Traditional Affairs
Free State	Nature Conservation Ordinance 8 of 1969		Free State Department of Economic Development, Tourism and Environmental Affairs
		Free State Land Administration Act 1 of 1998	The Premier of the Free State

Appendix E: PERMISSIONS CHECKLIST FOR DEVELOPMENT PHASE

Below follows a list of permits, authorisations and consents to apply for if your planned activities represent a trigger activity. The list consists of the most important permissions and is consequently not a definitive list.

Note: Authorisation procedures take place at a provincial level since national departments have regional offices established to process applications in the particular province. See Appendix B for a contact list of competent regional authorities and offices.

NATIONAL				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Environmental (EIA)	- Authorisation	- NEMA: National Environmental Management Act No. 107 of 1998 - EIA Regulations, 2010	– DEA (delegated to Provincial environmental departments unless offshore)	Any listed activity
Heritage	- Authorisation	NHRA: The National Heritage Resources Act, 25 of 1999	– South African Heritage Resource Agency; or – Provincial heritage agency	Activities in proximity to heritage sites including graves, building older than 60 years, archaeological and paleontological sites
Protected Areas	- Written Consent	NEMPAA: National Environmental Management: Protected Areas Act No. 57 of 2003	– DEA (consult) – Managing authority of Protected Area (consent)	Project planned in a protected area
Water Use (not from Municipality)	- Licence; or - Register general auth use	NWA: The National Water Act, 36 of 1998	– DWA	- taking water - storing water - impeding or diverting flow - discharging waste or water containing waste - disposing of waste in a manner which may detrimentally impact on a water resource

NATIONAL				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
				- altering the bed, banks, course or characteristics of a watercourse
Threatened or Protected Species (TOPS)	- Registration (species) - Permit (activities)	– NEMBA: National Environmental Management: Biodiversity Act, 10 of 2004; and – TOPS Regs: Threatened or Protected Species Regulations Integrated permitting includes permits issued in terms of: – Provincial Legislation e.g. WCNCLAA: Western Cape Nature Conservation Law Amendment Act, 2000 (Act No. 3 of 200o; or – MLRA	– DEA; and/or – Provincial conservation authorities e.g. Cape Nature	Planning to start a hatchery or captive breeding project with a listed species
Alien or Invasive Species (AIS)	- Permit	– NEMBA – Provincial Legislation e.g. WCNCLAA: Western Cape Nature Conservation Law Amendment Act No. 3 of 2000	– DEA – Provincial conservation authority e.g. Cape Nature – Issuing Authority: MEC	Planning to breed or farm with a listed Alien or invasive species.

NATIONAL				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Abalone	- Certification	- NRCSA National Regulator for Compulsory Specifications Act, 5 of 2008 - Abalone regulations	– NRCS	Import Abalone.
Genetically Modified Organisms (GMO)	- Permit	- Genetically Modified Organisms Act 15 of 1997 - GMO regulations, 2010 - NEMBA (potential EIA requirement)	– DAFF: Directorate of Biosafety	Any activity relating to genetically modified organisms in the Republic of South Africa.
Waste Management	- Licence	Waste Act: National Environmental Management: Waste Act, 59 of 2008 (Waste Act)	– DEA	- Waste production in areas not serviced by municipality - discharging waste or water containing waste into water resource - disposing of waste in a manner which may detrimentally impact on a water resource
Waste Water Discharge	- Integrated permitting	- NWA - Waste Act - MLRA (if into sea) - NEMICMA (coastal discharge)	- DWA - DEA - DAFF - DEA - Provincial Authority	- Discharging waste or water containing waste into any fresh water or marine water source.

NATIONAL				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		- Provincial Acts and Ordinances - Local legislation	- Municipality	
Land Use	- Departure	- Provincial Ordinances e.g. Cape Land Use Planning Ordinance (LUPO)	- Municipality - DAFF (regulates Agricultural zoning)	Use of land for Aquaculture
Agricultural Land: Subdivision	- Ministerial Consent	- Subdivision of Agricultural Land Act no 70 of 1970 (SALA)	- DAFF	Subdivision of Agricultural Land.
Agricultural Land: Lease exceeding 10 year term	- Ministerial Consent	- Subdivision of Agricultural Land Act no 70 of 1970	- DAFF	Intention to conclude lease over agricultural land exceeding 10 year term.
Import	- Import Permit	– MLRA – AHA: Animal Health Act No. 7 of 2002; and – ADA: Animal Diseases Act, 35 of 1984 – International Animal Health Code of the World Organisation for Animal Health (i.e. OIE - Office International des Epizooties).	– DEA – DAFF veterinary services – NRCS – SABS	Importing any live fish / eggs

Western Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Introduction of fish in inland waters in the Western Cape
Buying or transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Import any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project

Eastern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Introduction of live fish into provincial in-land waters.
Buying or transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Import any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Coastal conservation area	- Permit	Nature Conservation Act (Ciskei) No. 10 of 1987	- Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Activity within 1km of high water mark on the former Ciskei coast: - clear any land; - erect any building;

Eastern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
				- build any dam; - lay any pipeline; - construct any road; or - carry on any other activity which disturbs or may disturb the natural state of the vegetation, the land or any waters or as may be prescribed.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project.

Northern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Protected and Specially Protected Fish	- Permit	NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	import; transport; or possess
Introduction of fish	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Northern Cape Department of Environment and Nature Conservation	Introduction of live fish into provincial in-land waters.

Northern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		- NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009		
Buying or transporting of certain fish.	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974 - NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974 - NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Import any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project.

Kwazulu Natal				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Fish Hatchery	- Ministerial Approval	- KZN - NCO: Kwazulu Nature Conservation Ordinance 15 OF 1974 - KZN – NCA: Kwazulu Nature Conservation Act No. 29 of 1992	- Ezemvelo KZN Wildlife - Natal Parks Board	Establish a hatchery in KZN.
Introduction of fish	- Permit - Departmental Approval	- KZN - NCO: Kwazulu Nature Conservation Ordinance 15 OF 1974 - KZN – NCA: Kwazulu Nature Conservation Act No. 29 of 1992	- Ezemvelo KZN Wildlife - Natal Parks Board	Introduction of fish into any waters in KZN.

Gauteng				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Introduction of fish into provincial waters.
Import	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Importation of live fish into province.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Building Trout dams

Mpumalanga				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Mpumalanga Tourism and Parks Agency	Introduction of fish into provincial waters.
Import	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Mpumalanga Tourism and Parks Agency	Importation of live fish into province.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 – Transvaal	Mpumalanga Tourism and Parks Agency	Building Trout dams

North West				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	- TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal - CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Introduction of fish into provincial waters.
Buying and transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	TV – NCO:	North West	Importation of live

North West				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		Nature Conservation Ordinance, 12 of 1983 - Transvaal	Department of Agriculture, Conservation and Environment	fish into province.
	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Import any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	North West Department of Agriculture, Conservation and Environment	Building Trout dams

Free State				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	FS – NCO: Nature Conservation Ordinance, 8 of 1969	Free State Department of Economic Development, Tourism and Environmental Affairs	Introduction of fish into provincial waters.
Import	- Permit	FS – NCO: Nature Conservation Ordinance, 8 of 1969	Free State Department of Economic Development, Tourism and Environmental Affairs	Importation of live fish into province.

Limpopo				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	LEMA: Limpopo	Limpopo Department of Economic	Place or release live aquatic biota in any

North West				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		Environmental Management Act, 7 of 2003	Development, Environment and Tourism	aquatic system in the Limpopo Province.
Aquaculture Project	- **Permit**	**LEMA: Limpopo Environmental Management Act, 7 of 2003**	**Limpopo Department of Economic Development, Environment and Tourism**	**Establish an aquaculture process.**
Import	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Importing an aquatic biota into the Limpopo province unless referred to in the MECs exemption list.
Transport	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Conveying an aquatic biota in the Limpopo province unless referred to in the MECs exemption list.

Appendix F: PERMISSIONS CHECKLIST FOR PRODUCTION PHASE

Below follows a list of permits, authorisations and consents which may be required during the production process after the project has been established and authorised. The list consists of the most important permissions and is consequently not a definitive list.

Note: Authorisation procedures take place at a provincial level since national departments have regional offices established to process applications in the particular province. See Appendix B for a contact list of competent regional authorities and offices.

National				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Environmental (EIA)	- Authorisation	- NEMA: National Environmental Management Act No. 107 of 1998 - EIA Regulations, 2010	– DEA (delegated to Provincial environmental departments)	Any listed activity e.g. Expansion of facilities
Protected Areas	- Written Consent	NEMPAA: National Environmental Management: Protected Areas Act No. 57 of 2003	– DEA (consult) – Managing authority of Protected Area (consent)	Any changes to production activity
Water Use (not from Municipality)	- Licence	NWA: The National Water Act, 36 of 1998	– DWA	- taking water - storing water - impeding or diverting flow - discharging waste or water containing waste - disposing of waste in a manner which may detrimentally impact on a water resource - altering the bed, banks, course or characteristics of

National				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
				a watercourse
Threatened or Protected Species (TOPS)	- Registration (species) - Permit (activities)	– NEMBA: National Environmental Management: Biodiversity Act, 10 of 2004; and – TOPS Regulations: Threatened or Protected Species Regulations Integrated permitting includes permits issued in terms of: – Provincial Legislation e.g. WCNCLAA: Western Cape Nature Conservation Law Amendment Act, 2000 (Act No. 3 of 200o; or – MLRA	– DEA; and/or – Provincial conservation authorities e.g. Cape Nature	Running a hatchery or captive breeding project with a listed species
Alien or Invasive Species (AIS)	- Permit	– NEMBA – Provincial Legislation e.g. WCNCLAA: Western Cape Nature Conservation Law Amendment Act No. 3 of 2000	– DEA – Provincial conservation authority e.g. Cape Nature – Issuing Authority: MEC	Breeding or farming with a listed Alien or invasive species.

National				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Abalone	- Certification	- NRCSA National Regulator for Compulsory Specifications Act, 5 of 2008 - Abalone regulations	– NRCS	Import, sell or supply Abalone.
Genetically Modified Organisms (GMO)	- Permit	- Genetically Modified Organisms Act 15 of 1997 - GMO regulations, 2010 - NEMBA (potential EIA requirement)	– DAFF: Directorate of Biosafety	Any activity relating to genetically modified organisms in the Republic of South Africa.
Waste Management	- Licence	Waste Act: National Environmental Management: Waste Act, 59 of 2008 (Waste Act)	– DEA	- Waste production in areas not serviced by municipality - discharging waste or water containing waste into water resource - disposing of waste in a manner which may detrimentally impact on a water resource
Waste Water Discharge	- Integrated permitting	- NWA - Waste Act - MLRA (if into sea)	- DWA - DEA - DAFF - DEA	- Discharging waste or water containing waste into any fresh water or marine water source.

National				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		- NEMICMA (coastal discharge) - Provincial Acts and Ordinances - Local legislation	- Provincial Authority - Municipality	
Agricultural Land: Lease exceeding 10 year term	- Ministerial Consent	- Subdivision of Agricultural Land Act no 70 of 1970 (SALA)	- DAFF	Renewal of lease over agricultural land exceeding 10 year term.
Import / Export	- Import Permit	– MLRA – AHA: Animal Health Act No. 7 of 2002; and – ADA: Animal Diseases Act, 35 of 1984 – International Animal Health Code of the World Organisation for Animal Health (i.e. OIE - Office International des Epizooties)	– DEA – DAFF veterinary services – NRCS – SABS	Importing or exporting any live fish / eggs

Western Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Introduction of fish in inland waters in the Western Cape
Buying or transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Sell, buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	Cape Nature	Import or export any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project

Eastern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Introduction of live fish into provincial in-land waters.
Buying or transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Sell, buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	- Eastern Cape Parks Board - Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA)	Import or export of any fish or its spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Coastal conservation	- Permit	Nature Conservation Act	- Eastern Cape Department of	Activity within 1km of high water mark on

Eastern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
area		(Ciskei) No. 10 of 1987	Economic Development and Environmental Affairs (DEDEA)	the former Ciskei coast: - clear any land; - erect any building; - build any dam; - lay any pipeline; - construct any road; or - carry on any other activity which disturbs or may disturb the natural state of the vegetation, the land or any waters or as may be prescribed.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project.

Northern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Protected and Specially Protected Fish	- Permit	NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Protected or Specially protected Species: import; export; transport; keep; possess; breed; or trade in
Introduction of fish	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974 - NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Introduction of live fish into provincial in-land waters.
Buying or transporting of certain fish.	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974 - NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Sell, buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;

Northern Cape				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Import	- Permit	- CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974 - NC – NCA: Northern Cape Nature Conservation Act no. 9 of 2009	Northern Cape Department of Environment and Nature Conservation	Import or export any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Land Use	- Departure - Rezoning Approval	LUPO: Cape Land Use Planning Ordinance 15 of 1985	- Municipality - DAFF (regulates Agricultural zoning)	Use of Land for Aquaculture project.

Kwazulu Natal				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Fish Hatchery	- Ministerial Approval	- KZN - NCO: Kwazulu Nature Conservation Ordinance 15 OF 1974 - KZN – NCA: Kwazulu Nature Conservation Act No. 29 of 1992	- Ezemvelo KZN Wildlife - Natal Parks Board	Establish a hatchery in KZN.
Trout and Bass	- Permit	- KZN – NCA: Kwazulu Nature Conservation Act No. 29 of 1992	- Ezemvelo KZN Wildlife - Natal Parks Board	Trade; Export.
Introduction of fish	- Permit - Departmental Approval	- KZN - NCO: Kwazulu Nature Conservation Ordinance 15 OF 1974 - KZN – NCA: Kwazulu Nature Conservation Act No. 29 of 1992	- Ezemvelo KZN Wildlife - Natal Parks Board	Introduction of fish into any waters in KZN.

Gauteng				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Introduction of fish into provincial waters.
Sale	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Sale of live fish in the province.
Import	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Importation of live fish into province.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Directorate of Nature Conservation: Gauteng Department of Agriculture and Rural Development (GDARD)	Selling Trout Building Trout dams

Mpumalanga				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Mpumalanga Tourism and Parks Agency	Introduction of fish into provincial waters.
Sale	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Mpumalanga Tourism and Parks Agency	Sale of live fish in the province.
Import	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	Mpumalanga Tourism and Parks Agency	Importation of live fish into province.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 – Transvaal	Mpumalanga Tourism and Parks Agency	Selling Trout Building Trout dams

North West				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	- TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal - CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Introduction of fish into provincial waters.
Sale	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of	North West Department of Agriculture, Conservation and	Sale of live fish in the province.

North West				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
		1983 - Transvaal	Environment	
Buying and transporting of certain fish.	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Sell, buy or transport of: - Protected or Endangered fish; - live carp, bluegill sunfish, trout, black bass, banded tilapia or exotic invertebrate freshwater fauna;
Import / Export	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	North West Department of Agriculture, Conservation and Environment	Importation of live fish into province.
	- Permit	CAPE – NECO: Nature and Environmental Conservation Ordinance, 19 of 1974	North West Department of Agriculture, Conservation and Environment	Import any fish or it's spawn (dead or alive) which is: - Endangered - Protected in terms of Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973.
Trout	- Permit	TV – NCO: Nature Conservation Ordinance, 12 of 1983 - Transvaal	North West Department of Agriculture, Conservation and Environment	Selling Trout Building Trout dams

Limpopo				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Place or release live aquatic biota in any aquatic system in the Limpopo Province.
Aquaculture Project	- **Permit**	**LEMA: Limpopo Environmental Management Act, 7 of 2003**	**Limpopo Department of Economic Development, Environment and Tourism**	**Establish an aquaculture process.**
Sale	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Selling an aquatic biota unless referred to in the MECs exemption list.
Import	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Importing an aquatic biota into the Limpopo province unless referred to in the MECs exemption list.
Transport	- Permit	LEMA: Limpopo Environmental Management Act, 7 of 2003	Limpopo Department of Economic Development, Environment and Tourism	Conveying an aquatic biota in the Limpopo province unless referred to in the MECs exemption list.

Free State				
Authorisation		**Legislation**	**Authority**	**Trigger Activity**
Introduction of fish	- Permit	FS – NCO: Nature Conservation Ordinance, 8 of 1969	Free State Department of Economic Development, Tourism and Environmental Affairs	Introduction of fish into provincial waters.
Import	- Permit	FS – NCO: Nature Conservation Ordinance, 8 of 1969	Free State Department of Economic Development, Tourism and Environmental Affairs	Importation of live fish into province.
Sale	- Permit	FS – NCO: Nature Conservation Ordinance, 8 of 1969	Free State Department of Economic Development, Tourism and Environmental Affairs	Sale of live fish in the province.