



## Background Information Document (BID)

### Environmental Assessment for the Proposed Farming of Atlantic Salmon *Salmo salar*, Lüderitz, //Karas Region, Namibia

#### Purpose of the BID

LM Environmental Consulting is appointed by African Aquaculture Company (Pty) Ltd to undertake an Environmental Assessment (*Scoping, Impact Assessment and Environmental Management Plan*) for the proposed Project.

The **Scoping** Process determines the extent of and approach to the detailed assessment; Scoping Report is defined as “a document prepared by the proponent to present the case for the assessment of an activity as part of the initial assessment process” (Government of the Republic of Namibia (GRN), 2012).

**Environmental Assessment** is the “process of identifying, predicting and evaluating the effects of proposed activities on the environment. It should include information about the risks and consequences of activities, possible alternatives, and steps which can be taken to mitigate (minimize or off-set) any negative impacts. It should also discuss steps to increase positive impacts and to promote compliance with the principles of environmental management” (Ministry of Environment and Tourism (MET), 2008).

An **Environmental Management Plan** is a “key document that should consist of the set of measures to be taken during implementation and operation to eliminate, offset, or reduce adverse environmental impacts to acceptable levels. Also included in the plan are the actions needed to implement them” (Directorate of Environmental Affairs (DEA), 2008).

**Environment** is defined as the “surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation” (International Organization for Standardization (ISO), 2004).

As part of the Environmental Assessment Process, a **Public Consultation Process** is being

carried out. The purpose of Public Participation or Consultation is to provide stakeholders, including the public, an opportunity to participate in the Environmental Assessment Process, in order to ensure that the intended development initiatives consider broad-based concerns. It further improves governance in that the intended development must consider a wide range of issues, e.g. the need to conserve the natural environment and the need to maintain a functioning ecology.

The purpose of the BID is thus to: i) provide stakeholders, including the public, with more information regarding the Project; and ii) give stakeholders, including the public, an opportunity to register as Interested and/or Affected Parties (I&APs) and comment on, or raise any issues and/or concerns related to the Project.

#### Background

The Norwegian African Aquaculture Company AS, through its Namibian subsidiary **African Aquaculture Namibia (Pty) Ltd** (AAC), is proposing to farm Atlantic Salmon *Salmo salar* in the Lüderitz area, //Karas Region Namibia.

According to Government Notice (GN) No. 29 (Government Gazette of the Republic of Namibia, No. 4878, 06 February 2012) the following activities may not be undertaken without an Environmental Clearance Certificate (ECC):

#### AGRICULTURE AND AQUACULTURE ACTIVITIES

7.1 Construction of facilities for aquaculture production, including mariculture and algae farms where the structures are not situated within an aquaculture development zone declared in terms of the Aquaculture Act, 2002. 7.8 The introduction of alien species into local ecosystems.

In line with the Commencement of the Environmental Management Act (EMA), 2007 (Act No. 7 of 2007) (06 February 2012; GN No. 28), the Listed Activities that may not be undertaken without an ECC (GN No. 29), and the Environmental Impact Assessment (EIA) Regulations (GN No. 30) (GRN, 2012), an application for an ECC was thus submitted to the Executive Director, **Ministry of Fisheries and Marine Resources** (MFMR; Competent Authority), and the Environmental Commissioner, **Ministry of Environment, Forestry and Tourism** (MEFT).

Subject to the Metocean conditions (see below), submersible net-pens may be applied.

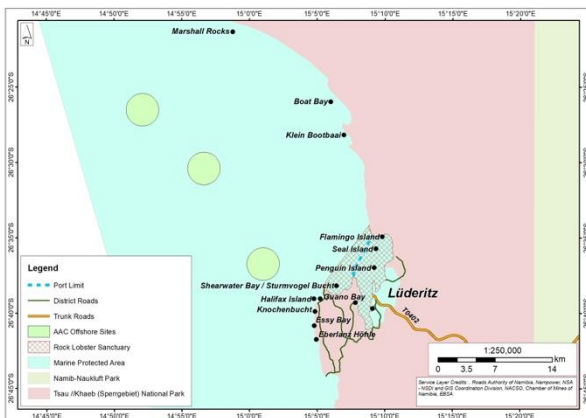


Source: AKVA Group (2023)

## Project Location

AAC is proposing to farm Atlantic Salmon at both **offshore** (see below) and **onshore** (location to be determined) production facilities.

Fish feed will be provided through a feed barge (one per site).



Source: M. Prickett (21 April 2023)



Source: AKVA Group (2023)

## Project Description

It is anticipated that the **offshore production** of Atlantic Salmon (50,000 tonnes/annum) will take place at three sites, each 12 square kilometres (km<sup>2</sup>) (1,257 hectares (ha)) in size, north-west of Lüderitz (note that offshore production sites include a two (2) km buffer zone). Each site will be equipped with a number of large net pens with a circumference in the order of 75 to 180 metres (m), equipped with seal-protection, and moored in arrays.

Atlantic Salmon (50,000 tonnes/annum) will also be produced **onshore** at a location to be determined. It is proposed to build around 30 flow-through basins at sea level; water will be pumped from offshore through large diameter pipes, or via underground tunnels (to the onshore facility). The size of the onshore location is foreseen to be 500 x 800 m (40 ha) in size.



Source: African Aquaculture Company AS (2022)

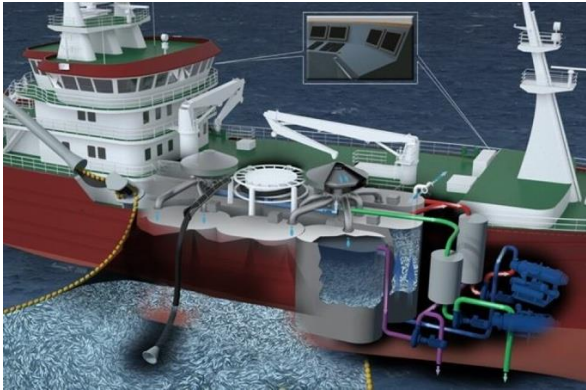
The Atlantic Salmon will be grown from smolt to a weight of up to 5 kilogrammes (kg) before slaughtering. The total time period from egg to slaughtering is expected to be around three (3) years. Smolt is produced in fresh water; production of fish up to 70 to 250 grammes (g) takes between 10 and 12 months. Hereafter, the Atlantic Salmon will be placed in salt water for a (growth) period of between 12 and 24 months.

Disease free Atlantic Salmon **eggs** may be imported from International suppliers (as per the requirements of the World Organisation for Animal Health (WOAH), formerly the Office International des Epizooties (OIE)) and the eggs will then be hatched close to the location where the fish shall grow out. Alternatively, disease free certified **juvenile** Atlantic Salmon will be imported from South Africa.

Initially, **fish feed** will have to be imported; it is assumed that a fish feed factory will be

established in Lüderitz once the production volume underpins such an investment.

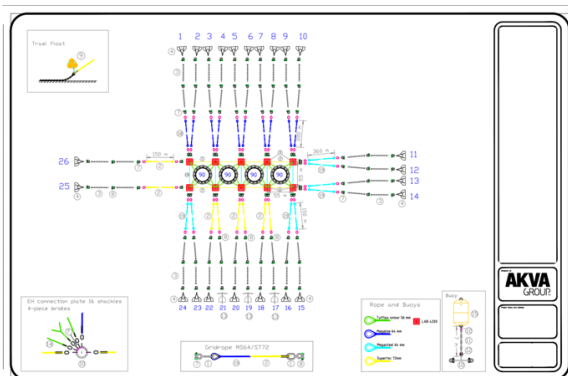
The best technical solution for **slaughtering** will be selected. Currently, it is assumed that a special vessel (well-boat) will be used where the Atlantic Salmon will be pumped onto the vessel. The fish will, either be killed on board, or on-shore and then cut and bled, before it will be put on ice and transported to local and international destinations for processing and consumption. All biological waste from harvesting and processing will be retained and reused.



Example of a well-boat (Source: MMC-Tendos)

The South African market for salmon is around 5,000 tonnes/annum and it is assumed that the production from the initial phase (see below) can be transported by road to South Africa and sold into the local market. When full capacity is reached, air transport from Windhoek or Lüderitz is assumed the most economical solution. The global market for salmon was around 3.5 million tonnes in 2022 and is expected to grow to 4.3 million tonnes by 2028.

In order to confirm the technical feasibility of the proposed offshore component, AAC is proposing to first carry out a **pilot phase**. Metocean data will be collected for a period of up to 12 months, after which four (4) net pens will be installed.



Example layout (Source: AKVA Group, 2023)

The pilot phase will be run for a short production cycle to test the mooring and net-pen technology and to confirm the biological conditions for growth of Atlantic Salmon in Namibian waters. Based on the learnings of the pilot phase, the design of the full-field offshore development will then be optimised; the latter can then be installed in less than one year.

Once the offshore pilot phase has confirmed the feasibility of farming Atlantic Salmon in Namibian waters, only then can the **initial phase** of the **onshore** development commence (African Aquaculture Company (Pty) Ltd, 2023). The latter development will be subject to a new Environmental Assessment / Addendum to the existing Environmental Assessment.

### Employment

Based on statistics from the Norwegian Salmon Industry, a production level of 100,000 tonnes/annum would imply the employment, directly and indirectly, of around 5,000 people and would generate an annual turnover of approximately N\$15 billion (African Aquaculture Company (Pty) Ltd, 2023).

### Future Involvement

If you would like to remain involved in this process, please register as an I&AP and submit any comments and/or concerns in writing by **26 May 2023**.

Note that the *Draft* Environmental Assessment Report will be made available to registered I&APs for review in **June 2023**. Comments received will be incorporated and a Final Environmental Assessment Report will then be submitted to the Executive Director, Ministry of Fisheries and Marine Resources (MFMR), and the Office of the Environmental Commissioner, Ministry of Environment, Forestry and Tourism (MEFT) for review and decision-making.

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## References

African Aquaculture Company AS. 2022. *A culture of innovation*. PowerPoint Presentation. 32 pp.

African Aquaculture Company (Pty) Ltd. 2023. *Atlantic Salmon farming in Namibia - AAC Development Plan*. April 2023. Oslo, Norway. 30 pp.

AKVA Group. 2023. *Oppdrett i Namibia - skisse til mulig konsept*. PowerPoint Presentation. 25 pp.

Directorate of Environmental Affairs (DEA). 2008. *Draft Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP)*. Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek.

Government of the Republic of Namibia (GRN). 2012. Ministry of Environment and Tourism. Government Notice No. 28. *Commencement of the Environmental Management Act, 2007*. Government Notice No. 29. *List of activities that may not be undertaken without Environmental Clearance Certificate: Environmental Management Act, 2007*. Government Notice No. 30. *Environmental Impact Assessment Regulations: Environmental Management Act, 2007*. Government Gazette of the Republic of Namibia. No. 4878. 6 February 2012.

International Organization for Standardization (ISO). 2004. *ISO 14001 Environmental management systems — Requirements with guidance for use*. Second Edition. 32 pp.

Ministry of Environment and Tourism (MET). 2008. *Guide to the Environmental Management Act 7 of 2007*. 64 pp.

