

## National SEA for Aquaculture Development in South Africa Draft Meeting Notes

### National Strategic Environmental Assessment for Aquaculture Development in South Africa

#### Expert Reference Group Meeting #2

**Date:** 22 November 2016

**Venue:** Mountain View Seminar Room, CSIR Stellenbosch

**Attendees:**

| Organisation / Institution   |             | Name & Surname              | Email  |
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| Organisation / Institution       |        | Name & Surname    | Email                    |
|----------------------------------|--------|-------------------|--------------------------|
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### Apologies / Invited but did not attend:

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#### Agenda:

| DATE                    | TIME          | VENUE   |
|-------------------------|---------------|---|
| Tuesday,<br>22 Nov 2016 | 12:30 – 16:00 | Mountain View Seminar Room<br>CSIR Campus, Stellenbosch |

Proceedings will be as follow:

| TIME          | ACTIVITY/PRESENTATION  | PRESENTER                                       |
|---------------|--|---|
| 12:30 - 13:00 | Registration with lunch  |   |
| 13:00 - 13:10 | Welcome and introductions  | DAFF: Zimasa Jika                               |
| 13:10 – 13:45 | Overview of Aquaculture SEA – approach, impacts, objectives, scope & key outputs   | CSIR: Lizande Kellerman                         |
| 13:45 – 14:45 | Feedback on completion of the <u>Inception Phase</u> (stakeholder engagement, focus group meetings roadshow, literature review and baseline information, key impacts identified and review of scope of SEA)  | CSIR: Lizande Kellerman                         |
| 14:45 – 15:00 | Tea/Coffee break   |   |
| 15:00 – 15:50 | Feedback on <u>Screening Phase</u> progress (data capture & national-scale mapping of existing aquaculture facilities, environmental attributes, siting criteria & identification of areas most suitable for aquaculture)<br>Approach to remainder of <u>Screening phase</u> | CSIR: Luanita Snyman<br>CSIR: Lizande Kellerman |
| 15:50 – 16:00 | Way forward & closure  | DEA: Simon Moganetsi                            |

The presentation provided is available on the website for the Aquaculture SEA at <https://aquasea.csir.co.za/>. These notes provide the key points of discussion and outcomes from the meeting and are not intended as detailed minutes.

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### DRAFT MEETING NOTES:

#### 1. Overview of Aquaculture SEA: overall scope

The overall scope of the SEA was discussed, to ensure that the SEA focuses on the main priorities and those resources that are most effectively utilised.

- **Ornamental fish excluded from scope of the SEA:** Dean Impson explained that there are many species of ornamentals that are farmed by hobbyists and sold on the internet. They are sometimes grown in tanks in garages in suburbia and do not trigger the need for an EIA. It was agreed these should be excluded from the SEA. The purpose of the SEA is to create an enabling environment and one must be careful not to make it too complicated. Nonetheless, ornamentals are a risk if dumped into waterbodies and therefore education and awareness is important, but this must be done via a different platform, and not as part of the SEA.
- **Wider access to waterbodies (e.g. dams) and fisheries:** Ben Zaيمان mentioned the conflict between anglers, artisanal fishers and commercial fish cage farming at the Vanderkloof dam. The issue of who has rights to resources and who has access to resources is not being addressed in the SEA. Ferdie Endemann responded that “aquaculture is farming, and fishing is hunting”. DAFF is developing an inland fisheries plan and Vanderkloof is a case study for this. The purpose of the SEA is to assist decision-makers to open up areas for aquaculture in an informed manner. Andrea Bernatzeder added that mapping socio-economic aspects will be important. Economic opportunities for poor communities will form part of the opportunities to be assessed.
- **Level of engagement with communities:** Ben Zaيمان conveyed that a public body of water (e.g. dam) needs a full EIA, including community engagement, and enquired as to what level of community engagement will be achieved in the SEA. Would these artisanal fishers have a voice? Andrea Bernatzeder responded that the SEA is at a national scale, and once the zones have been identified there will be further drilling down into these types of issues. Many dams and other water bodies have resource management plans where these types of stakeholder issues can be considered. Paul Lochner added that the SEA is a high-level assessment to identify areas that are most suitable for aquaculture and least sensitive to negative impacts, but these areas are still subject to ground-truthing and stakeholder and community engagement as part of the project development. There may still be user conflicts on the ground, the SEA would not resolve those, but would assist decision-makers reach informed decisions.
- **Role of the SEA in creating an enabling environment:** Andrea Bernatzeder explained that the purpose of the SEA is to create an enabling environment. Greg Stubbs conveyed that a Norwegian study done in Africa on suitable sites for aquaculture found that the main reason aquaculture failed is because government did not create an enabling environment. He

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expressed concern that the Aquaculture Bill is adding more complexity to the development process. Zimasa Jika responded that one of the difficulties that proposed applicants have is that they have many authorisations sitting in different departments. The Aquaculture Bill seeks to coordinate all these different requirements, and create a cohesive body of legislation that covers all aquaculture activities.

- **Overall outcomes and benefits of the SEA:** Sue Reuther asked about the eventual outcomes of the SEA. Simon Moganetsi responded that the SEA is pro-actively identifying and pre-assessing areas where aquaculture can take place in a sustainable manner, instead of the traditional EIA approach which is more reactive. Also the SEA aims to come up with areas where a streamlined environmental authorisation process can be applied. Dee Fischer added that the intention is to replace the EIA process with the use of norms and standards, and to streamline and align the current legislative processes. DWS are developing a General Authorisation for Aquaculture instead of requiring a WULA. She emphasized that the SEA is not the legislation - DEA and DAFF will use the outcomes of the SEA to prepare the norms and standards and these will be gazetted.

Greg Stubbs asked if an outcome of the SEA is to identify ADZs. Andrea Bernatzeder responded that the SEA may propose areas, and DAFF may in the future take an area forward, but that is not the outcome of the SEA.

### 2. Scope of the SEA: environmental impacts and risks identified

The slide summarising the key environmental impacts/risks identified from the literature review was discussed.

- Thinus Jonker raised that the SEA should also look at the impact of mining rights activities and abalone ranching in the Northern Cape along the west coast, not only for land / ocean access, but also in terms of other potential negative impacts. E.g. whole Northern Cape coast is either mining or conservation areas. Lizande Kellerman responded that the SEA will assess the different land uses.
- Dean Impson: How were the candidate species chosen? E.g. Mozambican tilapia hasn't been a big commercial success, and brown trout mainly for recreation and not food production. He asked if the SEA is considering Atlantic salmon or other new potential species. The SEA must explain why these selected species are of priority importance. Michelle Pretorius responded that African sharptooth catfish was added to the SEA scope based on the outcome from the focus group meetings where its addition to the SEA scope was requested. These priority species were selected because the SEA needed a concise list of species of which the impacts are known and that is workable. This does not mean the other species are not viable, but a defined scope of work had to be pinned down.

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#### 3. Phase 2: Screening, including data capture, mapping and initial discussion on push and pull factors

Luanita Snyman presented the approach to the national scale collation of data and screening to identify areas suitable for aquaculture. The ERG plays a crucial role in providing input, comment, advice and guidance on the methodology and criteria for the mapping exercise.

Mary-Jane Chimuka: ARC has done studies in Gauteng for the Gauteng Government to look at the suitable areas for aquaculture. This mapping was done for the entire province using various different attributes. She said there are more than 9 aquaculture projects in Gauteng and this will also update the project locality mapping. **Action:** CSIR (Luanita Snyman) to contact Mary-Jane Chimuka for this Gauteng suitability mapping and project data.

Ané Oosthuizen: The screening must include all freshwater (i.e. NFEPA) and Marine Protected Areas and priority areas data.

Ben Zaaiman: Extensive data on water quality and water temperature in dams is available from DWS. Ferdie Endemann said it is best work through the DWS Coordinating Group to try and source this data. Ben Zaaiman added that developers and consultants often state that they can “create” the right water temperature and water availability, but this costs more money, and it is important to look at the “natural” water availability and suitability as this is a measure of the “natural attractiveness” of an area. **Action:** CSIR (Luanita Snyman) to contact DWS to try to obtain this data.

Sue Reuther: The SEA should investigate land-based/artificial systems. These can be completely engineered and be located anywhere. Gauteng GDARD has data on their provincial projects.

Greg Stubbs asked if GIS can generate oxygen levels and water temperature data, because it is critical to farm specific species under specific conditions. Luanita Snyman responded that GIS has this type of analytical capability, however, for this SEA the CSIR team is only using available desktop data. If projects are planned in a suitable area, then those projects will still need to be ground-truthed as part of the project level planning.

Mary-Jane Chimuka: Data is also available from the South African Weather Bureau. In Gauteng, trout farmers are controlling water temperature to grow trout at specific water temperatures.

Dean Impson: Mapping of existing facilities is crucial especially in terms of the natural occurrence of trout versus where trout is actually farmed. There is a growing interest in growing trout in warehouses in industrial areas and to establish land-based aquaculture facilities, but this is to be considered in future not now in this SEA. Trout mapping has been done by SANBI. Lizande Kellerman confirmed that the CSIR team is aware of this and has liaised with SANBI to obtain this information.



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Greg Stubbs: The Chilean government did rapid development of aquaculture without having proper biosecurity measures in place. This caused serious consequences and the industry almost collapsed.

The Aquaculture Stewardship Council Standards provide a good benchmark for environmental, social and economic requirements. **Action:** CSIR team to check that these standards have been obtained.

A discussion to identify the key **push and pull factors that influence the location of freshwater aquaculture facilities** then followed. The outcomes are summarised below:

| Pull factors   | Push factors  |
|--|---|
| <ul style="list-style-type: none"> <li>• Water temperature (species specific)</li> <li>• Water quality (e.g. dissolved oxygen)</li> <li>• Sufficient water quantity and availability (species specific)</li> <li>• Soil integrity, quality &amp; chemistry (e.g. earth dams &amp; ponds)</li> <li>• Water availability from existing agricultural irrigation supply schemes where water can be fed through an aquaculture system before being used in the agricultural scheme</li> <li>• Groundwater availability</li> <li>• Location of existing aquaculture facilities (can be push or pull factor, e.g. existing cage culture on a dam)</li> <li>• Carrying capacities of larger dams in terms of criteria such as phosphorus load, water turnover, water use requirements (agriculture / human).</li> <li>• Electricity availability (bulk)</li> <li>• Proximity and access to infrastructure such as roads, ports and airports</li> <li>• Proximity and access to market availability, noting this is dependent on scale of operations (i.e. larger scale projects can afford to be further from markets)</li> <li>• Location near main metros is an advantage as some production systems are highly technical and very fragile, and require</li> </ul> | <ul style="list-style-type: none"> <li>• Protected Areas, including downstream areas and upstream areas without natural barriers, that are vulnerable to invasion by alien aquaculture species, as well as cross boundary impacts along river systems</li> <li>• Wetlands, ephemeral pans and estuaries</li> <li>• Location of existing aquaculture facilities (can be push or pull factor, e.g. existing cage culture on a dam)</li> <li>• Conflicts of uses and/or constraints exist due to other established water users and water use rights (e.g. avoid a dam with excellent water quality that is used for urban drinking supply such as the Berg River dam; avoid a dam with existing rights for recreational fishers such as fly fishing at Sterkfontein dam)</li> <li>• For dams, when aquaculture is not aligned with approved Resource Management Plans (e.g. regarding introduction of alien species)</li> <li>• Constraints on water availability due to environmental flow requirements or lack of remaining allocatable water for consumptive use</li> <li>• Incompatibility with DWS risk based for different river systems, such as a DWS Special Standards for rivers which may limit intensity of production (see Aquaculture Stewardship Council Standards)</li> <li>• Lack of telecommunications (in remote</li> </ul> |



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|  |   |
|--|---|
| <p>technical support services that are usually available in major metros or areas of high density aquaculture development</p> <ul style="list-style-type: none"> <li>• Local government support</li> <li>• Local economic development priority areas</li> <li>• Proximity and access to research facilities (e.g. aquaculture research units in universities) and veterinary services</li> </ul> | <p>areas)</p> <ul style="list-style-type: none"> <li>• Water quality issues re how many facilities can be accommodated on a specific river in terms of carrying capacity, production volumes of facilities and what impacts it could have on up/downstream activities</li> <li>• Disease vulnerability (species specific)</li> <li>• Safety and security risks for personnel and capital investments</li> <li>• Restricted access due to mining rights or activities</li> </ul> |
|--|---|

#### 4. Approach to remainder of screening phase

Dean Impson: With regards to the task to “classify rivers and water bodies with regards to alien fish invasion”, the SAIAB needs to be involved with this. The SEA team should be careful about what this point wants to achieve, because it is a major undertaking that would not fit into the timeframe of the SEA. Andrea Bernatzeder responded that this classification would be nationally or within identified areas.

End of Meeting