



## Meeting Notes

### Strategic Environmental Assessment (SEA) for Aquaculture Development: DRAFT Notes from Project Steering Committee (PSC) Meeting #2

**Date: 22 November 2016**

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

**Attendees:**

<u>Organisation / Institution</u>		<u>Name &amp; Surname</u>	<u>Email</u>
Council for Scientific and Industrial Research	CSIR	Paul Lochner	<a href="mailto:PLochner@csir.co.za">PLochner@csir.co.za</a>
Council for Scientific and Industrial Research	CSIR	Lizande Kellerman	<a href="mailto:LKellerman@csir.co.za">LKellerman@csir.co.za</a>
Council for Scientific and Industrial Research	CSIR	Pat Morant	<a href="mailto:pmorant@csir.co.za">pmorant@csir.co.za</a>
Council for Scientific and Industrial Research	CSIR	Luanita van der Walt	<a href="mailto:LvdWalt1@csir.co.za">LvdWalt1@csir.co.za</a>
Council for Scientific and Industrial Research	CSIR	Karabo Mashabela	<a href="mailto:KMashabela1@csir.co.za">KMashabela1@csir.co.za</a>
Dept of Agriculture, Forestry & Fisheries	DAFF	Zimasa Jika	<a href="mailto:ZimasaJ@daff.gov.za">ZimasaJ@daff.gov.za</a>
Dept of Agriculture, Forestry & Fisheries	DAFF	Grant Pitcher	<a href="mailto:GrantP@daff.gov.za">GrantP@daff.gov.za</a>
Dept of Agriculture, Forestry & Fisheries	DAFF	Andrea Bernatzeder	<a href="mailto:AndreaB@daff.gov.za">AndreaB@daff.gov.za</a>
Dept of Agriculture, Forestry & Fisheries	DAFF	Michelle Pretorius	<a href="mailto:MichellePR@daff.gov.za">MichellePR@daff.gov.za</a>
Dept of Agriculture, Forestry & Fisheries	DAFF	Maxhoba Jezile	<a href="mailto:MaxhobaAJ@daff.gov.za">MaxhobaAJ@daff.gov.za</a>
Dept of Environmental Affairs	DEA	Debbie Muir	<a href="mailto:DMuir@environment.gov.za">DMuir@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Dee Fischer	<a href="mailto:DFischer@environment.gov.za">DFischer@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Simon Moganetsi	<a href="mailto:SMoganetsi@environment.gov.za">SMoganetsi@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Milicent Solomons	<a href="mailto:MSolomons@environment.gov.za">MSolomons@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Moses Ramakulukusha	<a href="mailto:MRamakulukusha@environment.gov.za">MRamakulukusha@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Livhuwani Nnzeru	<a href="mailto:Lnnzeru@environment.gov.za">Lnnzeru@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Nangamso Dyantyi	<a href="mailto:NDyantyi@environment.gov.za">NDyantyi@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Tintswalo Shirinda	<a href="mailto:TGdshirinda@environment.gov.za">TGdshirinda@environment.gov.za</a>
Dept of Environmental Affairs	DEA	Sibonelo Mbanjwa	<a href="mailto:SMbanjwa@environment.gov.za">SMbanjwa@environment.gov.za</a>



## Meeting Notes

Dept of Mineral Resources	DMR	Mpumzi Bonga	<a href="mailto:Mpumzi.bonga@dmr.gov.za">Mpumzi.bonga@dmr.gov.za</a>
Dept of Public Works	DPW	John Walaza	<a href="mailto:John.Walaza@dpw.gov.za">John.Walaza@dpw.gov.za</a>
Dept of Science and Technology	DST	Eric Watkinson	<a href="mailto:Eric.Watkinson@dst.gov.za">Eric.Watkinson@dst.gov.za</a>
Dept of Trade and Industry	DTI	Cliff Rasoesoe	<a href="mailto:CRasoesoe@thedti.gov.za">CRasoesoe@thedti.gov.za</a>
Ezemvelo KZN Wildlife	Ezemvelo KZN	Skumbuzo Kubeka	<a href="mailto:Skhumbuzo.Kubheka@kznwildlife.com">Skhumbuzo.Kubheka@kznwildlife.com</a>
Free State Dept of Agriculture and Rural Development	FS DARD	Siegfried Van der Merwe	<a href="mailto:Sieg@fs.agric.za">Sieg@fs.agric.za</a>
Gauteng Dept of Agriculture and Rural Development	GDARD	Dietana Nemudzivhadi	<a href="mailto:Dietana.Nemudzivhadi@gauteng.gov.za">Dietana.Nemudzivhadi@gauteng.gov.za</a>
KZN Dept of Economic Development, Tourism and Environmental Affairs	KZN EDTEA	Malcolm Moses	<a href="mailto:Malcolm.Moses@kznedtea.gov.za">Malcolm.Moses@kznedtea.gov.za</a>
Western Cape Dept of Agriculture	WC DoA	Ferdie Endemann	<a href="mailto:FerdieE@elsenburg.com">FerdieE@elsenburg.com</a>
Western Cape Dept of Environmental Affairs & Development Planning	WC DEADP	Liza Petersen	<a href="mailto:Liza.petersen@westerncape.gov.za">Liza.petersen@westerncape.gov.za</a>
Western Cape Dept of Environmental Affairs & Development Planning	WC DEADP	Mellisa Naiker	<a href="mailto:Mellisa.Naiker@westerncape.gov.za">Mellisa.Naiker@westerncape.gov.za</a>

### Apologies received from:

- Abigail Thabethe (DRDLR)
- Asanda Njobeni (DAFF)
- Ashla Gohell (GDARD)
- Dr Daphney Mayindi (DRDLR)
- Dr Leon Barkhuizen (FS DESTEA)
- Lumka Kuse (DWS)
- Mashikoane Mogodi (DPW)
- Mbali Mgingqi (DAFF)
- Pilot Nchabeleng (FS DARD)
- Sindiswa Dlomo (DEA)
- Takalani Nemarude (DEA)
- Zandile Khoza (DTI)



## Meeting Notes

### Agenda:

DATE	TIME	VENUE
Tuesday, 22 Nov 2016	08:30 – 12:00	Mountain View Seminar Room CSIR Campus, Stellenbosch

TITLE: Aquaculture SEA (AGENDA)

DATE: 22 November 2016

TIME	ACTIVITY/PRESENTATION	PRESENTER
08:30 - 09:00	Registration with tea and coffee	
09:00 - 09:10	Welcome and introductions	DAFF: Zimasa Jika
09:10 – 09:45	Overview of Aquaculture SEA – approach, impacts, objectives, scope & key outputs	CSIR: Lizande Kellerman
09:45 – 10:50	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
10:50 – 11:50	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)	CSIR: Luanita Snyman
	Approach to remainder of <u>Screening phase</u>	CSIR: Lizande Kellerman
11:50 – 12:00	Way forward & closure	DEA: Simon Moganetsi
12:00 – 13:00	Lunch	

### 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 that resources are most effectively utilised. 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.

Marine aquaculture includes offshore, inshore and land-based facilities. It was confirmed that the offshore open ocean component (typically defined as being > 3km offshore) is excluded from the scope of the SEA, the key reasons being that the offshore aquaculture and the subsequent South African market is not yet ready for this type of development, given the harsh sea conditions off South Africa's coast and that the necessary technologies needed to implement such a development are too expensive for offshore aquaculture. Andrea Bernatzeder and Ferdie Endemann concurred



## Meeting Notes

that new cost effective technologies might make this viable in the future, but it is not a current priority or business reality.

Andrea Bernatzeder suggested that the approach used by Anchor in the 2011 Marine Finfish SEA to identify inshore Aquaculture Development Zones (ADZs) be reviewed and verified as part of this SEA. Paul Lochner agreed with this, and added that this approach is also very similar to the approach used by the Plymouth Lab for the recent United Kingdom aquaculture site identification process.

The proposed exclusion of freshwater crayfish (marron and redclaw) from the scope of the SEA was discussed, because they are highly invasive and concerns were raised regarding these species in the Focus Group meetings. Ferdie Endemann explained that there are guidelines from Cape Nature in terms of freshwater crayfish and how to avoid invasion. Paul Lochner added that excluding freshwater crayfish from the SEA does not mean that the projects cannot continue, but that they follow the 'business as usual approach', given the concerns regarding them being highly invasive. Michelle Pretorius added that care should be taken every time a species is added as it complicates the project as risk assessments would need to be undertaken and adds another layer to the project. Since the available timeframe of the SEA is only 18 months these might not be covered in the scope of the SEA. Simon Moganetsi emphasized that the scope of the SEA should be set to enable the SEA process to move forward and finish in the 18 months' time period.

Andrea Bernatzeder agreed that if the study is made bigger challenges of risk assessment per species and species zoning are to be considered. The freshwater crayfish (marron) is complicated, but if there is scope, the study could look at a smaller zone around existing marron facilities in the Eastern Cape area (near Maclean) and look at the permit conditions around those specific areas, i.e. "case study" of how it operates.

Paul Lochner explained that processing is outside of the scope of the SEA, as it involves other legislative processes and departmental mandates. Andrea Bernatzeder mentioned, however, that live packaging on site could be considered (e.g. at an abalone farm).

Under marine priority species included in the scope of the SEA, Eric Watkinson proposed that "seaweed" be replaced with "macro and micro algae". Michelle Pretorius responded that seaweed was included for the purpose of small scale community projects. Eric Watkinson motivated that micro algae is an element of the aquaculture process that determines the success of a facility and that the SEA should consider local vs overseas reference labs strains of algae. Paul Lochner agreed to look at including this change and confirming this with DAFF. However, micro algae for biofuels purposes are outside the scope of this SEA.

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

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

- Release of biotoxins: Andrea Bernatzeder asked that this be unpacked. Lizande Kellerman explained that this was identified as being an issue linked to use of feedstock and biocides in



## Meeting Notes

freshwater aquaculture. Ferdie Endemann added that the biotoxins are not being released – they are a result of poor feed management, although this is not a key impact.

- Linking issues to specific species: Andrea Bernatzeder asked that it is indicated when impacts are limited to specific species – e.g. hybridisation is only associated with tilapia (and not trout). This helps to raise awareness and prevent the impact from being exaggerated. Ferdie Endemann added that catfish hybridisation may be an additional issue. Nature conservation is concerned with catfish, in this case African sharp-tooth, but Dutch strains could hybridise with local catfish. The hybrids could lead to higher production but must then be contained with certain systems.
- Andrea Bernatzeder requested that the “impact of aquaculture on the environment” is separated from the “impact of the environment on aquaculture”.
- Feedstock: Ferdie Endemann raised the issue of overuse of fishery resources as feed. E.g. in Mexico pilchards are fed to the blue fin tuna (a high value product), which disrupts the fish production value chain for the pilchards. This would probably not be an issue in South Africa, as formulated feeds are used. The efficiency of protein use is also an issue.
- Access to the coast: Moses Ramakulukusha raised the issue that aquaculture development must not result in restrictions in access to the coast (e.g. caused by pipelines and pumps).

Farm infrastructure: The issue of entanglement (e.g. in nets) of birds, mammals and other fish was discussed. Dietana Nemudzivhadi asked that the negative aesthetics and entanglement/injury/death of birds, mammals and/or other fish be unpacked. Ferdie Endemann responded that the study done by Nelson Mandela Metropolitan University (NMMU) has found the entanglement by infrastructure to not be a major issue. The most recent literature considering the latest technology must be used. Andrea Bernatzeder added that the NMMU study was a small pilot project and that entanglement is still a risk and must be considered but mitigation measures were available.

- Malcolm Moses: Habitat modification and loss is a reality and that needs to be captured, i.e. the footprint of the facility.
- Marine Protected Areas (MPAs): Milicent Solomons stated that impacts on marine protected areas must be stated. Andrea Bernatzeder responded that this impact would need to be unpacked, in order to understand what aspect of an MPA is being impacted upon by aquaculture. The impacts should also be linked to the purpose of the MPA. Skhumbuzo Khubeka said there are MPAs proposed by Operation Phakisa. Andrea Bernatzeder added that it may be outside of the scope of the SEA as the Operation Phakisa marine spatial planning initiative was looking at planning marine activities.
- Conflicts between aquaculture and other users such as conservation and recreation need to be unpacked.

### 3. Approach to future PSC & ERG meetings



## Meeting Notes

Paul Lochner asked whether the Project Steering Committee (PSC) and Expert Reference Group (ERG) meetings could potentially be combined, in order to make most efficient use of participants' time. Andrea Bernatzeder responded that there are situations when the mandated authorities can have a more robust discussion. Eric Watkinson added that the SEA should focus on what is expected from the participants and have a clear workplan. Government must constrain costs, and attending four meetings is expensive. Once the network is formed perhaps there are other ways to get work done. Dee Fischer added that the team is about to move into the next phase of the SEA concerning the more technical work, and then it is valuable to have a combined meeting with industry included.

The outcome from the discussion was the agreement to a best model approach of starting with a PSC meeting (e.g. 1 hour) to enable robust discussion amongst mandated government agencies; and then move into a combined PSC and ERG meeting for discussion on content of the SEA.

### **4. Key points from the roadshow and five Focus Group Meetings**

Lizande Kellerman gave an overview of the key points raised at the 5 Focus Group Meetings. Ferdie Endemann commented on the point of including decommissioned and failed/closed projects e.g. state-owned hatcheries in the existing aquaculture facilities mapping exercise, that many of the state-owned hatcheries did not "fail", but the operational policy changed (e.g. to stop trout hatcheries and stocking of rivers with trout) and therefore the facilities were closed down.

### **5. Phase 2: Screening, including data capture and mapping**

Luanita Snyman presented the approach to the national scale collation of data and screening to identify areas suitable for aquaculture<sup>1</sup>.

Mellisa Naiker informed the CSIR team that Western Cape government has a beta version of conservation planning data that is available from Cape Nature. Some local municipalities are currently busy with new updated Spatial Development Frameworks (SDFs). The SEA should include these in the assessment. Department of Water and Sanitation (DWS) are busy with catchment classification that could feed into the freshwater screening study (Barry Clark from Anchor). Other contact person for the water classification project is: Erik van der berg ([Erik.derberg@arecongroup.com](mailto:Erik.derberg@arecongroup.com)).

Grant Pitcher asked where the data is coming from and what efforts are made to collect new data. Luanita Snyman responded that the SEA is based on using existing data available and no new data will be produced or generated.

Dietana Nemudzivhadi commented that Gauteng has data that can be provided to the CSIR team, it also includes information on farms and a latest conservation plan. The latest Environmental Management Framework (EMF) for Gauteng is also available.

---

<sup>1</sup> At the date of the presentation no explicit location data for aquaculture facilities in the Free State had been sourced.



## Meeting Notes

Grant Pitcher suggested that an expert system approach may be best, where the SEA is based on the experience of experts who can, for example, identify the optimal areas for aquaculture. Dee Fischer responded that she agrees, but in addition scientific evidence is needed to be used to identify the best areas where aquaculture can be incentivised.

The determination of **criteria for identifying suitable aquaculture areas** was discussed. Andrea Bernatzeder said that when setting up the criteria there is a need to look at the criteria that are applicable to aquaculture access to market. DAFF has started a feasibility study looking at the suitable areas, as part of Operation Phakisa.

Andrea Bernatzeder asked when the screening categories/criteria will be defined. Luanita Snyman responded that the screening phase will run until end March 2017 during which time data criteria will be refined. Paul Lochner added the draft criteria will be available for review by experts from mid-January 2017. The approach to screening for marine aspects is clearer, and there are existing studies, but the approach to freshwater aspects is a big challenge. Dee Fischer added that there are criteria that have been identified in the other SEAs that can inform the CSIR team's methodology.

Andrea Bernatzeder suggested that the criteria will probably need to be split into the broad categories of Marine and Freshwater. Under marine, this might need to be split into land-based and inshore. Under Freshwater, this might need to be split into different species and different production systems.

Andrea Bernatzeder said that DAFF has commissioned various financial feasibility studies for marine finfish (dusky kob & Atlantic salmon), oyster and mussels, that includes identifying suitable areas. **Action:** Andrea Bernatzeder to send the results from these feasibility studies to CSIR (Luanita Snyman) to feed into mapping e.g. economies of scale, job numbers, etc.

Malcolm Moses: The criteria and screening should build in a risk variability and/or worst case scenario (e.g. wave height). Luanita Snyman responded that this is a desktop study and only existing data can be used, but it is important to work in a risk-based approach. When ready, the ERG will be asked to review the draft outputs.

Mellisa Naiker: Western Cape has developed coastal management lines for three District Municipalities. **Action:** Mellisa Naiker to provide this data to the CSIR team (Luanita Snyman).

Siegfried van der Merwe: Agree that processing should not be part of the scope of the SEA, but proximity to processing facilities should be a pull factor for aquaculture development. Data of existing aquaculture production and processing facilities from the Free State can be provided. There was an agriculture master plan done in the Free State recently to map certain areas suitable for certain commodities. The process which was followed can be a possible way forward regarding the identification of suitable areas for aquaculture. In the master plan development, criteria were developed for different enterprises which were then plotted geographically against natural resource, climatic and other data. Once that was completed it was presented to different stakeholders where adjustments were made with the inputs from the experts.



## Meeting Notes

Siegfried van der Merwe: Currently the data does not reflect the purpose of the facilities. Some facilities are for research, training and demonstration purposes and are not production facilities per se. The SEA should map research facilities (e.g. universities) and demonstration/experimental aquaculture facilities as pull factors.

Eric Watkinson stated that there is a need for the SEA to look at the disease risk. Disease risk data is available from the Agricultural Research Council (ARC) and should be included as this makes a big difference to the suitability mapping.

End of Meeting