
APPENDIX 3 MINUTES OF STAKEHOLDER WORKSHOPS HELD ON 3 AND 5 AUGUST 2011



Two key stakeholder workshops to refine draft site selection criteria for marine fin fish aquaculture development zones were held in Cape Town on the 3 August 2011 and in East London on the 5th of August 2011. The minutes from these meetings are provided below. At these workshops, the nineteen preliminary criteria to be used for ADZ site selection that were previously provided to key stakeholders in a Background Information Document, were presented and discussed. The preliminary criteria were either accepted unchanged, edited or discarded as consensus was achieved and several additional criteria/considerations were identified. Major changes to the draft selection criteria include:

1. Decreasing the water depth criterion to 12m minimum for traditional cage culture
2. Increasing the water depth criterion to 150 m and running a separate analyses to identify areas for deployment of new technology, submersible offshore cages.
3. Increasing the minimum vessel size to 15m in length.
4. Dropping the water temperature criterion, simply qualify identified zones in terms of the prevailing water temperature.
5. Combining upwelling cells, low oxygen water and HAB criteria with the result that the west coast north of Cape Columbine is excluded.
6. Altering the exposure criterion to area specific swell direction data (excluding areas that are exposed to 80% of the swells over 3.5m significant wave height as determined from SADCO VOB data), only using this criterion for identifying areas suitable for traditional floating cages, not for submersible cages.
7. Exclude areas around important archaeological wrecks
8. Exclude areas important to existing marine ecotourism operations (>15% of activity)
9. Exclude areas with known currents >1.5m/sec (traditional floating cages) >2m/sec for submersible cages.

Stakeholders are encouraged to please comment on these sites selection criteria and the minutes, highlighting any corrections that are needed. However, due to project deadlines and the need to finalize the GIS mapping comments received after the 14 September 2011 may not be taken into account. Please send any comment to Ken@anchorenvironmental.co.za

Proceedings of The Key Stakeholder Workshop Held in Tokai on 3 August 2011.

VENUE: Offices of Anchor Environmental, Steenberg Office Park, Tokai, Cape Town
TIME: 9h00 – 13h00

No.	Item	Discussion
 		Reference: 12/08/2011
		Circulation: All Compiled by: BM Clark
Document Type:	Minutes of a Stakeholder Workshop	
Title:	Strategic Environmental Assessment to Identify Potential Sites for Finfish Marine Aquaculture Development Zones in South Africa	
Date:	12 August 2011	
1.	Welcome and apologies	<ul style="list-style-type: none"> • Barry Clark welcomed the participants and thanked them for taking the time to attend the meeting. He explained the purpose of the meeting and what the project team hoped to achieve at the meeting. All participants were asked to introduce themselves and indicate their affiliations. • Dr Clark explained that not all participants had been able to make this workshop and that a second workshop had been scheduled in East London the next day to allow the project team to capture their inputs as well. • He also noted that a copy of the draft criteria to be considered in this workshop had been circulated prior to the meeting and that he hope that all participants had had an opportunity to study these.
2.	Attendance	<ul style="list-style-type: none"> • Asanda Njobeni DAFF • Michelle Pretorius DAFF • Zuko Nkomo DAFF • Trevor Probyn DAFF • Grant Picher DAFF • Barry Clark Anchor • Ken Hutchings Anchor • Sean Porter Anchor • Louise Maree van Zyl Cape EPrac • Gert le Roux Aquastel/Stellenbosch University • Marais Smith Blue Cap Trading Pty Ltd • Robert Landman I&J
	Apologies	Colin Attwood UCT Ingo Beckert Blue cap Trading Eleanor Yeld WWF

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3.	Presentation on background to the project	<ul style="list-style-type: none"> • Ken Hutchings delivered a MS Powerpoint presentation which provided information on the background to the study, project objectives and the purpose of this meeting. • Dr Hutchings explained that this project was focussing on the identification of potential MADZ sites suitable for fin culture in South Africa, and that 4 sites had been identified in the Eastern Cape for which the project team had been commissioned to apply for environmental authorisation. • He explained that the project had started with a review of the Strategic Environmental Assessment in which the four potential sites had been identified. The review had highlighted a number of important efficiencies in the existing SEA report including the fact that only one of the sites for which EIA were required was rated as being a primary MADZ site (suitable for finfish culture by multiple operators), criteria used in the SEA process were non-quantitative and thus could not be interrogated, and final selected sites did not seem to conform with the identified criteria. The project team thus felt uncomfortable going into a public participation process as they could not justify the selection of the sites or any alternative. DAFF had thus agreed to all the project team to redo the SEA within the framework of the project. • A suite of quantitative criteria had been identified by the project team for application in a GIS based SEA process that the project team wanted to workshop with key stakeholders from the mariculture industry. • Criteria were categorised as being primary or secondary in nature - primary criteria being used to determine whether or not a particular site is suitable for fin fish aquaculture and to rate the relative suitability of the site, and secondary criteria being used only to rate the relative suitability of a particular site and were only to be applied in areas that meet minimum requirements for all primary criteria. Criteria were also classified as being of a logistical, environmental nature or related to user conflicts.
4.	Criterion #1: Suitable port <ul style="list-style-type: none"> • Primary and Secondary Logistical criterion 	<ul style="list-style-type: none"> • It was suggested that a port that could accommodate vessels up to 10 m in length would be required within a minimum specified distance of any proposed MADZ site. Ports should also be ranked as follows: 10-15 m vessel capacity = 1 point, 15-20 m = 2 points, >20 m = 3 points. • Potential ports complying with these criteria included the following: Port Nolloth, Hermanus, Lamberts Bay, Gansbaai, Laaipek, Mossel Bay, Sandy point, Knysna?, Saldanha, St Francis, Table Bay, Port Elizabeth, Hout Bay, Coega, Simonstown, East London, Kalk Bay, Durban, Gordons Bay, Richards Bay • Gert le Roux noted that farms use a variety of vessels and that 10 m was the minimum size for a harvesting vessel. He suggested that the project team also consider vessel draft. • Robert Landman agreed that 10 m was a minimum size for start-up but as farms increased in size larger vessel would need to be

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		<p>accommodated</p> <ul style="list-style-type: none"> • Ken Hutchings suggested that this could possibly accommodate through a ranking system with ports that could accommodate larger vessels being allocated higher scores • Participants all agreed with this suggestion. Gert le Roux suggested that ports that were currently underutilised should also score higher. • Marais Smith also suggested introducing a weighting system for all criteria and that vessel size should be considered a low priority.
5	<p>Criterion #2: Distance from a suitable port</p> <ul style="list-style-type: none"> • Primary and Secondary Logistical criterion 	<ul style="list-style-type: none"> • It was proposed that 2 h running (or 15 km) should be considered a maximum viable running time to a site. This criterion should also include a ranking system as follows: 10-15 km = 1 point, 5-10 km = 2 points, 0-5 km = 3 points. • Gert le Roux noted that tuna farms in Australia are mostly located within 10-16 km from port, and suggested extending the exclusionary distance to 20 km • Robert Landman agreed with Gert le Roux, and note that in some instances operators moored boats on site for a period of time (e.g. during harvesting) or have permanently manned barges on site (e.g. in Chile, Norway, Canary Islands). He also noted though that economic factors dictated that sites should be located as close to a suitable port as possible especially given the high level of uncertainty for a new industry • Gert le Roux agreed that it was highly likely that a similar approach would be followed here in SA (i.e. barges moored on site).
6	<p>Criterion #3: Other port logistics (e.g. Offloading facilities, Cold storage/ice maker, Processing facilities, Fuel)</p> <ul style="list-style-type: none"> • Secondary Logistical criterion 	<ul style="list-style-type: none"> • It was proposed that this be considered a secondary criterion only and that 1 point be allocated for each availability of each service • Gert le Roux agreed that this was a “nice to have” but was of low priority. Should possibly also consider distance to airport, road infrastructure, and availability of land for support infrastructure as these are also important. • Ken Hutchings also noted that sea areas under control of Transnet NPA should also be flagged as there may be conflicts in respect of vessel traffic or anchoring
7	<p>Criterion #4: Water depth</p> <ul style="list-style-type: none"> • Primary and Secondary Environmental criterion 	<ul style="list-style-type: none"> • It was proposed that only areas between 20 and 60 m water depth be considered. Dr Hutchings explained that the rationale for this was to achieve a balance between minimum required water depth for flushing of wastes (i.e. 20 m minimum depth) and cost of mooring in deeper water (i.e. 60 m maximum depth). • Gert le Roux agreed that depth was an important consideration but noted that the minimum distance required between the bottom of the cages (nets) was 5 m to ensure minimal risks to the fish in the cages. As such he indicated that the minimum depth should be reduced to 15 m. • Trevor Probyn indicated he was in agreement with this based on international best practice • Grant Pitcher expressed concern that a 15 m minimum depth

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		<p>critera would exclude most of Saldanha Bay and queried whether this was realistic. He suggested reducing this to 12 m.</p> <ul style="list-style-type: none"> • It was agreed that this was acceptable to all provided a minimum distance of 5 m was maintained between the cage bottom and the substratum and would thus be suitable for small most likely experimental cages only. • Dr Hutchings then queried if the 60 m maximum depth criteria was realistic. • There was general agreement that this was the case given the increased costs of mooring cages in deeper water.
8.	<p>Criteria #5: Water temperature</p> <ul style="list-style-type: none"> • Primary and Secondary Environmental criteria 	<ul style="list-style-type: none"> • It was proposed that mean water temperature at a site needed to fall within the range 14-24°C. The rationale for this was that optimal for growth of likely indigenous fish species (the current DAFF policy) (e.g. silver kob, yellowtail, grunter), and that this had to be traded off against possible increased parasite/disease prevalence at higher temperatures. • Trevor Probyn agreed with this sentiment stating that there would likely be strong opposition within DAFF to the use of potentially invasive, non-indigenous species. The risks of introducing alien species into SA water was considered too high at this stage. • Gert le Roux expressed concern that such a policy would exclude salmon from being farmed in this country for which culture technology was well established. He noted that technology was also available to ensure minimum risk to the environment (e.g. farming with sterile triploid individuals). • Robert Landman noted that temperature requirements are species specific and that while the range proposed was considered optimal for species currently under consideration (i.e. silver kob, yellowtail, grunter) other species (e.g. hake, kingklip, white stumpnose, pompano, river gurnard, tuna) may be able to tolerate a wider or different range of temperatures • Dr Hutchings queried whether it was worth retaining this criteria then? • It was agreed that information on average temperature should be included as a layer in the SEA but should be used as an information layer only (i.e. not as a criteria for ranking sites)
9.	<p>Upwelling cells</p> <ul style="list-style-type: none"> • Primary and Secondary Environmental criteria 	<ul style="list-style-type: none"> • It was proposed that sites within the known precinct or vicinity of upwelling cells be excluded, the rationale for this being that temperature shocks will negatively impact growth rate and health of cultured stock. • Grant Pitcher noted that if this criteria was invoked that it would exclude the entire coast north of Dwarskorsbos and queried whether this was realistic. • Marais Smith agreed that this was probably realistic given their experience in respect of impact of temperature spikes on growth • Robert Landman agreed, noting that even their experimental cages moored next to PE harbour experienced severe thermal shock on occasion sufficient to impact on growth and the health

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		<p>of their kob stock but that this was not such a problem for yellow tail. He noted that it would depend on the rate at which water temperature might change.</p> <ul style="list-style-type: none"> • Grant Pitcher noted that spikes in the order of 10-16°C can be expected close to major upwelling cells • Gert le Roux acknowledged that such a spike would be a severe problem and suggested that one would have to rule out any areas where large temperature spikes occur but that it would probably be necessary to apply different criteria on the S and SW coasts as opposed to the W coast. He also noted thought that some species are probably resilient to fairly large temperature spikes, especially those (such as tuna) that undergo natural diel vertical migrations. • Trevor Probyn observed that cold newly upwelled water was also often deficient in oxygen which would also have a severe negative impact on fish stocks. • Grant Pitcher agreed and raised the concern that hypoxia and anoxia had not been included in the draft list of criteria for the SEA. • Barry Clark suggested that the project team map the known precinct of all upwelling cells in the country and that these areas be excluded from consideration. This would have to be done with expert knowledge as detailed information on temperature was not available at present. • There was general agreement on this suggestion
10.	<p>Point source pollution</p> <ul style="list-style-type: none"> • Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that all sites within 500 m radius or maximum known plume extent be excluded, the rationale being that pollutants may negatively impact growth rate, health and of marketability of cultured stock • There were no objections to including this criterion
11.	<p>Turbidity and river mouths</p> <ul style="list-style-type: none"> • Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that a buffer proportional to mean annual runoff sediment load be established around all river mouths the rationale being that decreased salinity and high turbidity in these areas may negatively impact growth rate and health of cultured stock • Trevor Probyn suggested that it may be useful to follow criteria used in dredging EIA where a level of 80 mg/l for silt is considered a maximum permissible level and that 20 mg/l a level where negative impacts can be anticipated. • Barry Clark noted that sediment plumes around the Orange River mouth had been well studied and could possibly be used to establish a relationship between flood volume, TSS levels and plume extent
12.	<p>Wave exposure</p> <ul style="list-style-type: none"> • Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that data on swell direction and size at positions around the coast be used to establish the extent of exposure along the coast and be used to identify suitably protected areas on the coast. The rationale for this was that exposure to storm sea conditions could damage cages and will decrease frequency at which cages can be serviced. Cages can thus only be located in sheltered areas.It

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		<p>was acknowledged that robust cage can be obtained but that these would probably be prohibitively expensive for a fledging mariculture industry.</p> <ul style="list-style-type: none"> • Gert le Roux acknowledged that most of the SA coast is prohibitively exposed and that they had experienced problems in achieving sufficient sea days in Algoa Bay right next to the harbor. • Other participant agreed that this was correct but indicated that it was difficult to conceptualize without actual data and an indication of the amount of sheltered habitat available.
13	<p>Harmful Algal Blooms (HABs)</p> <ul style="list-style-type: none"> • Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that areas where known extreme events occur with a frequency >1:10 yr be excluded from consideration as potential sites and that a weighting system be introduced in areas with less frequent events (1:25 y = 1 point, 1: 50 = 2, >1:50 =3). • Grant Pitcher expressed the concern that there are a lot of different species that are included under the name of HABs and that information on their impacts on fish is generally lacking. • Gert le Roux noted that HABs are a real problem for shellfish aquaculture as insurance companies would not provide cover for anyone operating in an area with known HAB occurrence. HABs can also cause fish mortalities. • Ken Hutchings asked if there was general consensus to drop this criterion? • There was general agreement that this criterion should be dropped but Gert le Roux suggested that it might be necessary to retain areas affected by black tides (i.e. hydrogen sulphide events caused by extreme HAB blooms). • Grant Pitcher suggested that it would make most sense to group the black tide events with hypoxia/anoxia. He noted that there had been only 1 black tide event in St Helena Bay in the last 30 yrs and that it was mostly localized to shallow water <10 m depth. Lobster walkout in this area mostly associated with seasonal anoxia rather than black tides per se. From Dwaskersbos northwards there is a narrow zone along the coast where black tide events are more common.¹⁴
14	<p>Bottom type</p> <ul style="list-style-type: none"> • Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that all areas with hard substrata (i.e. reef) be excluded from consideration, the rationale being that reefs are regarded as sensitive habitats likely to be more severely impacted by farm effluent than sandy substrate. • Dr Hutchings noted that there was limited information on substratum type for the whole country and that this would probably only be addressed when individual sites were assessed. • Gert le Roux noted also that it is more difficult to anchor on rocky ground and that it was also a logistical constraint. He explained that the mooring footprint of a cage was minimum 150 m for water depth in the range being considered (i.e. 12 m depth upwards). • Trevor Probyn noted that a 50 m buffer would probably be

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		adequate from an environmental perspective and as such the operational constraint was a bigger issue.
15	Marine Protected Areas <ul style="list-style-type: none"> • Primary and secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that all areas MPAs be excluded from consideration, the rationale being that MPAs fulfill numerous conservation, research and socio-economic roles and should remain as pristine as possible. The DEA MPA working group had taken a position that no mariculture be permitted within MPAs in South Africa. Dr Hutchings questioned whether this was official DEA/DAFF policy and whether it was necessary to distinguish between no-take and sanctuary zones. • Gert le Roux suggested that mariculture facilities can be an important tourist attraction (this was certainly the case in PE) and as such their inclusion in MPAs should be encouraged. • Grant Pitcher suggested that the project team consult with DEA on this issue to obtain an official position. • Trevor Probyn suggested that the public would most likely support the exclusion of mariculture from MPAs and the establishment of a suitable buffer zone.
16	Heritage resources <ul style="list-style-type: none"> • Primary or Secondary Environmental criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that all areas that include heritage resources (i.e. mainly important shipwrecks) be excluded from consideration. The rationale for this was that mooring/anchoring and deposits from fish farms may damage archaeologically important sites. It was acknowledged that while it would be ideal to use this as a primary criterion this may not be possible due to the sensitivity of such information. It might be necessary to use it as a secondary criterion – i.e. submit potential MADZ sites to SAHRA for approval rather than requesting information on all ship wrecks in SA water which they would be reluctant to release. The need for a suitable buffer around such sites was also acknowledged. • There were no objections to the inclusion of this criterion
17	Biodiversity hotspots <ul style="list-style-type: none"> • Primary Environmental criterion 	<ul style="list-style-type: none"> • Identified high biodiversity/conservation worthy sites/threatened ecosystems should be excluded from consideration based on information included in the National Spatial Biodiversity Assessment • Dr Hutchings indicated that the project team were waiting for this information to be released by SANBI. • Louise-Marie van Zyl suggested that the team should make provision to include it in the SEA at a later stage if necessary.
18	Fishing areas <ul style="list-style-type: none"> • Primary User Conflict criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that any area in which >5 % catch/effort of any documented fishery is expended be excluded from consideration. The rationale for this was that mariculture development should not unduly impact existing fisheries. • Gert le Roux expressed the opinion that it might not be necessary to exclude an entire area and that establishing a buffer zone around cages may be sufficient. • Ken Hutchings questioned whether this would give rise to security concerns for the farms and whether other vessels

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		<p>should not be excluded from the MADZ in its entirety.</p> <ul style="list-style-type: none"> • Gert le Roux confirmed that a 1km exclusion zone should be adequate for this purpose. • Barry Clark suggested using VMS data from DAFF to establish the primary fishing grounds and identify if any overlap exists between the primary fishing grounds and potential MADZs • Trevor Probyn noted that there was no legal basis for establishing an exclusion zone around the cages and noted that this had been a problem in Kleinbaai off Danger Point, with experimental cages erected in these areas • Barry Clark expressed the opinion that if this criterion was not retained that the fishing industry would not hesitate in taking DAFF to court if they felt that the establishment of an MADZ in a particular area was likely to compromise their rights or ability to catch fish.
19	Marine ecotourism <ul style="list-style-type: none"> • Primary or Secondary User Conflict criterion 	<ul style="list-style-type: none"> • In terms of this criterion, it was proposed that any area in which >15 % activity of any documented recreational activity is undertaken should be excluded from consideration. • Gert le Roux reiterated the position that cages are often an important tourist attraction rather than being considered a problem. • Ken Hutchings responded to say that this was not always the case, especially in the case of marine ecotourism (e.g. whale, dolphin watching). This issue caused a great deal of conflict in Mossel Bay for example.
20	Shipping Lanes <ul style="list-style-type: none"> • Primary User Conflict criterion 	<ul style="list-style-type: none"> • This criterion was related to the need to keep shipping lanes as indicated on the SAN charts adjacent to major commercial ports free from obstructions. • It was agreed by all that this was not really negotiable.
21	Mining and Military Zones <ul style="list-style-type: none"> • Primary User Conflict criterion 	<ul style="list-style-type: none"> • This criterion was linked to the potential need to exclude defined military and mining zones from MADZs due to user conflicts. • Barry Clark noted that oil and gas concession areas covered the entire EEZ and that most of the west coast was covered with diamond mining concessions. • Gert le Roux noted diamond mining activities were winding down on the west coast and that most of the concession holders were actively viewing mariculture as an alternative use for these concession areas. He acknowledged that this was mostly shore based concessions though. • Ken Hutchings suggested that existing mining infrastructure (e.g., well heads, pipelines etc.) be demarcated on the SEA maps along with the concession areas and that exclusion zones be established around these areas.
14	Strong Currents <ul style="list-style-type: none"> • Primary Environmental criterion 	<ul style="list-style-type: none"> • The need to avoid areas with strong currents >1.5 knots was raised by Gert le Roux as these can deform the cages particularly those with a hanging bag-type structure. • Grant Pitcher agreed with this sentiment but noted that there was little information on the position of such currents except possibly for the Agulhas current.

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		<ul style="list-style-type: none"> Ken Hutchings indicated that the project team would find a way to include this in the SEA
	Other comments	<ul style="list-style-type: none"> Trevor Probyn asked if the project team had considered user conflicts relating to other recreational activities and the potential loss of recreational amenity – e.g. sailing, boating. He suggested that it might be necessary to identify primary areas used by yachts and other pleasure craft (e.g. in the proximity of yacht basins and marinas) and establish a buffer around these areas Ken Hutchings indicated that the project team would look into this issue further Barry Clark questioned whether there was any requirement to take the SEA through a broader public consultation process. Assanda Njobeni indicated that he did not think there were any legal requirements per se but felt that it would be good practice to involve the public as far as possible in this process (not just in the EIA process for individual sites). Louise-Marie van Zyl indicated that she would take this up with DAFF after the meeting
	Closure	<ul style="list-style-type: none"> Barry Clark closed the meeting at 13h00, thanked all participants for the constructive inputs and invited them to partake in lunch before heading back to their respective offices.

Minutes from the Key Stakeholder Workshop Held in East London on 5 August 2011.

Present

Prof Tom Hecht, Advance Africa Management Services

Andre Bok, Pure Ocean Aquaculture

Rory Haschick, Eastern Cape Development Corporation

Ken Hutchings Anchor Environmental Consultants

Apologies:

Andre De Wet, Buffalo Bull Farming

Liam Ryan, Espadon Marine

Trevor Page, Itakane Aquaculture

Alan Carter, Coastal Environmental Services

Workshop summary

The workshop was held at the ECDC offices in East London at 12:30 on the 5 August 2011 and Rory Haschick is thanked for making this venue available. Ken Hutchings gave a presentation showing the draft site selection criteria with changes made during the Tokai workshop, edited the slides at the time and recorded brief notes on the discussion around site selection criteria. Comments are summarized in point form and are not attributed to individuals, but rather the consensus view that arose from discussion.

- It was agreed that each site selected as a possible MADZ should be categorized with respect to water temperature and suitable fish species.
- Upwelling sites on the SA east coast should only be used to rank sites, not exclude them, as for the west coast.
- The importance of monitoring anthropogenic pollutants at selected MADZ was highlighted. It was noted that to access export markets future operators would require an Environmental Management Plan that included monitoring of pollutants such as *E. coli*, heavy metals, PCBs, PAH,s, dioxins etc.
- A realistic scale of finfish mariculture operation for an economically viable farm was estimated to be the production of at least 1000 tons of fish per annum, with some participants feeling that around 4 000 tons was more suitable, and a workboat of at least 45ft (15m) was required. This point was raised during discussion about the suitable

minimum size work boat, where some participants at the earlier Cape Town work shop had maintained that smaller operations would not require large work boats. The East London workshop participants were of the opinion that defining a MADZ that could not grow to this minimum viable economic size was not worthwhile.

- The point was made that the preliminary depth and exposure criteria were applicable to traditional, floating finfish cages, and this should be specified. It was suggested that the analysis also be conducted using criteria applicable to new technology, offshore rigid or semi rigid submersible cages. This resulted in an additional water depth criterion of between 30-150m specific to offshore cage technology. The exposure criterion would then not be applied when considering offshore cages.
- It was noted however, that that current speed still needs to be considered and that this should not exceed 4 knots max for submersible cages. It was acknowledged that the spatial resolution of existing current data (particularly sub-surface) was not sufficient for the nationwide GIS mapping exercise, but that areas of known strong current e.g. The Agulhas should be excluded on these grounds.
- There was quite a lot of discussion about the issue of biofouling of cage structures, particularly about the extremely high rates of biofouling experienced at pilot sea cage fish culture projects attempted to date in temperate SA waters (Gan baai and PE). It was suggested that the use of copper alloy cages may be the most effective way to deal with biofouling and to address the high risk of predator impacts on fish cages.
- It was suggested that the reef bottom criterion only needs to be applied to cages moored in less than 120m of water using a traditional mooring grid. It was proposed that cages using single point moorings in water deeper than 120m would not have a significant negative impact on the benthos.
- It was noted that the currently underway National Spatial Biodiversity Assessment is mapping threatened ecosystems rather than high biodiversity/ conservation worthy sites. It was suggested that excluding the former was illogical, but excluding the latter was acceptable.
- There was strong consensus that existing commercial fishing grounds should be excluded.
- It was noted that there is currently exploration for natural gas underway in Algoa Bay and that this might produce useful data for MADZ site selection (on e.g. bottom type).

Participants were thanked for their time and the workshop was closed with lunch provide by the ECDC (many thanks!)

Andre Bok took Ken Hutchings on a tour of Pure Ocean Aquaculture's land based fish farm under construction in the East London IDZ.