CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number
EAF/09/01

Title
IMPLEMENTING A PROCESS WHICH ALLOWS THE REVIEW (AUDITING) AND TRACKING OF AN ECOSYSTEM APPROACH.

Background
The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale
South Africa, Namibia and Angola are committed to implementing an Ecosystem Approach to Fisheries by 2012. To this end much good scientific information has been developed, but a poor understanding of implementation remains.

For the BCC to be successful in the implementation of an EAF a structured and measureable process that does not add extra burden to already limited resources is required. Although there is value in an annual audit, what is essential is the continuation of the existing process i.e. Ecological Risk Assessment and the regular reviews thereof.

Objectives
The specific objective of Project EAF/09/01 is to provide a structured framework of assessing progress in implementation an EAF. In this regards, the project aims:

a) To use the EAF tracking tool to undertake bi-annual ERA review
b) To conduct a Conservation Ecological Risk Assessments for the following Species groups e.g. Sharks, Seabirds, Turtles
c) To conduct an overview of EAF implementation in the region

Scope of Work

The Contractor is expected *inter alia* to undertake the following:

Design a framework that address ecological, social, economic and governance components of an EAF. This project should build on existing work undertaken in the region under the auspices of the BCMLE project and the accepted methodology of:

a) Conduct ERA  
b) Review regularly and measure progress  
c) Develop work plan  
d) Repeat ERA in an appropriate timeframe

Outputs/deliverables

The output / deliverables of Project EAF/09/01 are:

a) Comprehensive report on ERA of all major fisheries in the region  
b) Report of the review of bi-annual of ERA based on EAF tracking tool  
c) Comprehensive report on Conservation Ecological Risk Assessment for sharks, seabirds and turtles including management recommendations  
d) Comprehensive report on an overview of the EAF implementation in the region with concrete recommendations to inform management.

Project Team

Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully  
- Experience in EAF management  
- Knowledge of stakeholders in the region

Data Management Plan

To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.

Equipment Required

The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

Timeframe

- 2009-2013  
- Ecological Risk Assessments should be conducted every 5-8 years  
- Reviews should be conducted every 2-3 years  
- Overview of EAF implementation every 2-3 years, commencing in year 1.

Limitations

Note that South Africa and Namibia have already begun developing a working framework for the development of such a process in collaboration with WWF. The group identified the need for a project to be developed to
adapt the existing SA/Namibian framework to the Angolan situation (potential EAF Nansen funding)

**Monitoring/evaluation**
- A 6-monthly progress reports
- Annual report per country
- Workshop reports
- Overview reports
- Report at BCC Annual Forum

**Budget Limit**
Total budget US$ 100,000.00 (i.e. US$ 20,000.00 per year) would allow for an audit based on the essential underlying process of an ERA and reviews.

**Budget Breakdown**
Proposer to provide.

**Proposed routing**
Open Tender

**Capacity Building**
Capacity building and training is a high priority in the BCC agenda.

**Elements and Plan**
Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to building in-house capacity to facilitate Ecological Risk Assessment workshops.

**Linkages**
Closer collaboration should be established with projects:

- **EAF/09/02** Provide guidance on institutional arrangements which support an Ecosystem Approach to Fisheries
- **EAF/09/03** Development of tools which link the science to management advice for the implementation of an Ecosystem Approach.

**Bibliography**

CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number

Title PROVIDE GUIDANCE ON INSTITUTIONAL ARRANGEMENTS WHICH SUPPORT AN ECOSYSTEM APPROACH TO FISHERIES

Background The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, *inter alia*, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale There has been a general acceptance of the limitations of a single species approach and a global move and commitment towards implementing an Ecosystem Approach to Fisheries by 2012. This is will require modifications in the organisation structure and functioning both in terms of management and research processes and priorities.

Objectives The specific objective of Project EAF/09/02 is to provide assistance to the national fisheries institutes in any re-structuring needed to meet the requirements of an EAF.

Scope of Work The Contractor is expected *inter alia* to assess the requirements and needs of the institutions in respects of effectively implementing EAF management.

Outputs/deliverables The output / deliverables of Project EAF/09/02 are comprehensive reports to the national fisheries institutions with specific and implementable recommendations that would assist in the re-structuring needed to meet the requirements of an EAF.
Project Team
Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in EAF management
- Knowledge of stakeholders in the region

Data Management Plan
To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.

Equipment Required
The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

Timeframe
Once off, 4 months

Limitations

Monitoring & evaluation
- A report
- Report at BCC Annual Forum

Budget Limit
US$ 12 000 once off

Budget Breakdown
Proposer to provide.

Proposed routing
Open tender

Capacity Building Elements and Plan
Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to include student projects (e.g. collection of appropriate socio-economic data). Multidisciplinary research capacity should be developed.

Linkages
It is expected to establish links with projects

- EAF/09/01 *Implementing a process which allows the review (auditing) and tracking of an Ecosystem Approach.*
- EAF/09/03 *Development of tools which link the science to management advise for the implementation of an Ecosystem Approach should established.*
Bibliography


CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number  EAF/09/03

Title  DEVELOPMENT OF TOOLS WHICH LINK THE SCIENCE TO MANAGEMENT ADVICE FOR THE IMPLEMENTATION OF AN ECOSYSTEM APPROACH.

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, *inter alia*, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  The practical implementation of EAF principles in fisheries management protocols has proved difficult to achieve. Managers are grappling with the complexity of implementing an EAF and how to prioritize resources and management actions. Managers have also faced the challenge of balancing often seemingly opposing objectives (ecological versus social objectives for example).

Objectives  The specific objective of Project EAF/09/03 is to provide an avenue for the incorporation EAF science (natural and social science) into management advice by:

a) Developing management approaches and tools to balance multiple and conflicting EAF objectives.

b) Developing indicators for ecological wellbeing, human wellbeing and governance components on an EAF (this should build on and synthesis
c) Developing a conceptual approach to integrate fisher knowledge into fisheries management.

d) Addressing the challenges of trans-disciplinary research within science and across natural science, social science and humanities (to some extent this is an enabling condition to achieve an EAF and more specifically the previous objectives).

**Scope of Work**
The Contractor is expected *inter alia* to undertake the following:

a) Develop management approaches and tools to balance multiple and conflicting EAF objectives.
b) Develop indicators for ecological wellbeing, human wellbeing and governance components on an EAF (this should build on and synthesis existing work).
c) Develop a conceptual approach to integrate fisher knowledge into fisheries management.
d) Address the challenges of trans-disciplinary research within science and across natural science, social science and humanities (to some extent this is an enabling condition to achieve an EAF and more specifically the previous objectives).

**Outputs / Deliverables**
The output / deliverables of Project EAF/09/03 are:

a) Management support tools
b) Suites of integrated EAF indicators
c) Mechanisms to integrate fisher knowledge into fisheries management exist
d) Demonstration of concrete collaborations between natural and social science

**Project Team**
Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in EAF management
- Knowledge of stakeholders in the region
Data Management Plan
To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.

Equipment Required
The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

Timeframe
2009-2013.

Limitations
Not applicable.

Monitoring & evaluation
- Six-monthly progress reports
- Annual report
- Report to at the BCC Annual Forum

Budget Limit
Total budget US$ 150,000.00 (i.e. US$30,000.00 per year)

Budget Breakdown
Proposer to provide.

Proposed Routing
Call for proposals to address one or more of the objective or part thereof i.e. encourage sub-projects.

Capacity Building Elements and Plan
Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to provide trans-disciplinary skills and broadening of mind-sets as well as training/skills development for application of management support tools.

Linkages
Closer collaboration with Project EAF/09/01 Implementing a process which allows the review (auditing) and tracking of an Ecosystem Approach and to Project EAF/09/ and Provide guidance on institutional arrangements which support an Ecosystem Approach to Fisheries as well as to Project BEH/09/02 Land-breeding top predators: Monitoring, Management and Conservation in the context of EAF and Climate change.

Bibliography


CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number  EAF/09/04

Title  DEVELOPING A GOOD UNDERSTANDING AND HARMONISATION OF THE MANAGEMENT OF BY-CATCH AND GEAR INTERACTIONS THROUGHOUT THE BCLME.

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  The BCLME bycatch project identified that substantial and unsustainable numbers of vulnerable seabirds, turtles and sharks are caught each year in longline and trawl fisheries. It also identified that a number of simple, cost effective mitigation methods are available and should be implemented throughout the region. Where mitigation methods are in place, poor compliance exists as a result of inter alia poorly defined regulations, poor awareness and lack of skills to enforce or implement measures. It was further noted that for some species e.g. sharks and vulnerable finfish poor information exists. This should be addressed by filling data gaps and developing appropriately skilled observer programmes in the region. This project should aim to address these recommendations.

Objectives  The specific objectives of Project EAF/09/04 are:

a) To address data gaps in our understanding of vulnerable bycatch to augment existing knowledge
b) To identify bycatch species
c) Quantify the proportion of bycatch to target catch (as well as retained
versus discarded)

d) To assess and evaluate the importance of the bycatch species in the ecosystem
e) To harmonise the management of bycatch in the BCC through the implementation of global best management practise
f) To standardise data collection protocols (fisheries observers, logbooks etc)

Scope of Work The Contractor is expected inter alia to undertake the following:

a) Gather and assess / evaluate existing data from commercial fisheries (longline, trawl notably hake and shrimp, gill net and trap) and from scientific surveys to fill the data gaps of by-catch of vulnerable species (e.g. seabirds, turtles, sharks, marine mammals and some finfish and species that are the target of other sectors e.g. sharks, fin fish, crab etc.)
b) Conduct at-sea trials of mitigation measures for reducing / minimising catches of bycatch species
c) Provide training / skills to implement mitigation measures
d) Develop manuals on standardised data collection protocols
e) Assist authorities in policy development

Outputs/deliverables The output / deliverables of Project EAF/09/04 are:

a) Report on the assessment of bycatch and gear interactions of lesser known vulnerable species
b) Report of the investigation of management options and at-sea trials of mitigation measures
c) Report on the implementation and harmonisation of mitigation measures and appropriate management actions
d) Training and skills development to fisheries managers, fisheries observers, skippers, compliance officers etc to implement mitigation measures
e) Recommendations to enforce compliance with the regulations
f) Manuals on standardise data collection protocols
g) Establishment of a joint working group to share best management practise and lessons learnt

Project Team Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in EAF management, fisheries science and management
- Knowledge of stakeholders in the region
Data Management Plan
To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.

Equipment Required
The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

Timeframe
2009 – 2013

Limitations
Not applicable

Monitoring/evaluation
- 6-monthly progress report
- Annual reports
- Final report
- Report to the BCC Annual Forum

Budget Limit
Total budget US$ 190,000.00 (i.e. US$38,000.00 per year for 5 years)

Budget Breakdown
Proposer to provide.

Proposed routing
Open tender.

Capacity Building Elements and Plan
Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to build capacity within the region especially skippers and fishing crews, fisheries observers, compliance officers, fisheries managers and fishery technicians.

Linkages
Linkages with other EAF projects

Bibliography
Nel, D. C., Cochrane, K., Petersen, S. L., Shannon, L. J., van Zyl, B., and
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. EAF/09/05

Title DEVELOPMENT OF A HARMONISED PROTOCOL FOR AQUACULTURE DEVELOPMENT THROUGHOUT THE BCLME REGION.

Background The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, *inter alia*, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale The aquaculture industry is the fastest growing food production sector internationally. In the region, the aquaculture sector is rapidly expanding and relatively new. This presents an opportunity to implement best management practise from the outset. International experience has revealed the detrimental impacts of aquaculture on marine ecosystems. Thus there is a need to avoid mistakes made elsewhere. The development of a common protocol for a sustainable approach to aquaculture practices throughout the BCLME is needed.

Objectives The specific objectives of Project EAF/09/05 are to:

a) To develop a harmonised protocol for Aquaculture development throughout the region.

b) To facilitate the adoption of the abovementioned protocol into legislation of all three countries
**Scope of Work**  
The Contractor is expected *inter alia* to undertake the following:

- a) Review of EIA methodologies, benchmark international best practise and lessons learnt including the ‘WWF Aquaculture Dialogues’
- b) Review international best practices for legislation for the introduction of alien species
- c) Propose mitigation measures for genetic and disease contamination
- d) Review and propose spatial management (especially in light of limited protected bays where likelihood for conflict between various industries e.g. tourism)
- e) an analysis of the polluter pays principle.

**Outputs/deliverables**  
The output / deliverables of Project EAF/09/05 are:

- a) A desktop review and development of a protocol for Aquaculture.
- b) Operationalise output (a) and the adoption of a harmonised protocol by government agencies
- c) A report on international best practices regarding legislation of introduction of alien species for aquaculture
- d) A report on mitigation measures for genetic and disease control in aquaculture
- e) Fine scale spatial plan of potential aquaculture sites and evaluation of competing interests (stakeholder input)

**Project Team**  
Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in aquaculture, policy/legal matters
- Knowledge of stakeholders in the region

**Data management Plan**  
To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager

**Equipment Required**  
The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

**Timeframe**  
2009-2011

**Limitations**  
Not applicable

**Monitoring/evaluation**  
- 6-monthly reports
- Annual reports
- Report at BCC Annual Forum
**Budget Limit**  
Total budget US$60,000.00 (i.e. US$ 10,000.00 in 2009, US$ 25,000.00 in 2010 and US$ 25,000.00 in 2011)

**Budget Breakdown**  
Proposer to provide.

**Proposed Routing**  
Open tender

**Capacity Building Elements and Plan**  
Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to transfer skills to managers, staff and industry.

**Bibliography**  
- BCLME reports
- BCC Logframe
- BCC Science Plan
- BCLME project recommendations
- FAO Code of Conduct for Responsible Fisheries
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number  EAF/09/06

Title  ASSESSING AND MITIGATING THE IMPACTS OF TRAWLING ON BENTHIC HABITATS

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  The effects of bottom trawling on sensitive marine habitats have been widely recognised worldwide. Locally, some work to evaluate the impact of demersal trawl gear on soft bottom habitats has taken place. There is a need to implement recommendations from this preliminary work and to address data gaps including areas not included in this study e.g. hard bottom habitats and Angolan waters.

Objectives  The specific objectives of Project EAF/09/06 are:

a) To evaluate the effect of bottom trawl gear on other sensitive habitats
b) To investigate measures to reduce the impact of bottom trawl gear on sensitive habitats which could include, but should not be limited to consideration of spatial management (note this should link into the conservation planning project)
c) To implement best management measures and harmonisation of management throughout the region.
Scope of Work  The Contractor is expected *inter alia* to undertake the following:

a) Assess the impact of bottom trawl on both soft and hard bottom habitats
b) Test potential solutions to reduce the impact where it is found to adversely affecting the environment.
c) Recommend management measures that reduce the impact of bottom trawl based on best available practices

Outputs / deliverables  The output / deliverables of Project EAF/09/06 are:

a) A comprehensive evaluation report of the effect of bottom trawl gear on other sensitive habitats
b) An investigation report of measures to reduce the impact of bottom trawl gear on sensitive habitats
c) Recommendations and implementation of best management measures and the harmonisation of management throughout the region.

Project Team  Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in fishery science and management and environmental / and oceanoigraphy

Data management plan  To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager

Equipment Required  The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

Timeframe  2009-2012

Limitations  This project should build on existing knowledge and experience within the region.

Monitoring/evaluation  • Submission of 6-monthly reports
• Presentation at BCC Annual Forum
• Annual and final reports

Budget Limit  Total budget US$ 60,000.00 (i.e. US$ 20,000.00 per year)

Budget Breakdown  Proposer to provide
**Proposed routing**

Open tender

**Capacity Building Elements and Plan**

Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to involve national staff and students in the project.

**Linkages**

Closer linkage be established with project BCC/BEH/09/01 *Spatial biodiversity assessment and spatial management, including Marine Protected Areas*

**Bibliography**

- BCC Logframe and BCC Science Plan
- BCLME project recommendations
- Consult several global initiatives, including that of FAO, in the impacts of bottom trawling on the environment
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Number: EAF/09/07

Title: ASSESSING AND REDUCING VULNERABLE BYCATCH IN THE HAKE, MONK AND SOLE TRAWL FISHERIES

Background: The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focusing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale: Fishing by means of trawling results in large quantities of unintended bycatch, frequently of over-exploited, vulnerable species often targeted by other commercial fisheries. Given the importance of demersal fisheries in the BCLME, there is a need to improve our understanding of bycatch and the ecological sustainability of the fisheries, and to optimize fishing efficiency.

Objectives: The specific objectives of Project EAF/09/07 are:

a) To assess the bycatch of vulnerable species in the demersal trawl and longline fisheries of the BLCME
b) To investigate possible management options to reduce bycatch in demersal trawl fisheries (e.g. gear manipulations, spatial management etc.) and in longline fisheries
c) To implement the most appropriate management options throughout the region.

Scope of Work: The Contractor is expected inter alia to undertake the following:

Although the project as it stands focuses on the demersal trawl fisheries, a
similar issue exists in the demersal longline fishery and thus the project could be expanded to include both gear types across all three countries.

**Outputs/deliverables**

The output / deliverables of Project EAF/09/07 are:

a) An assessment report of the bycatch of vulnerable species in the demersal trawl fisheries and in longline fisheries of the BLCME.

b) A review report of possible management options to reduce bycatch in demersal trawl fisheries (e.g. gear manipulations, spatial management etc.) and in longline fisheries.

c) Development and testing of most appropriate management options throughout the region.

d) Implementation of the most appropriate management options throughout the region.

e) Skills development and understanding to implement management measures for all involved (including fisheries managers, fishers and compliance officers)

**Project Team**

Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in EAF management and fisheries management
- Knowledge of stakeholders in the region

**Data management plan**

To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.

**Equipment Required**

The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).

**Timeframe**

2009-2012

**Limitations**

**Monitoring/evaluation**

- Six-monthly reports
- Annual report
- Final report
- Report at BCC Annual Forum

**Budget Limit**

Total budget US$ 120,000.00 (i.e. US$ 40,000.00 per annum)

**Budget Breakdown**

Proposer to provide.
<table>
<thead>
<tr>
<th>Proposed routing</th>
<th>Open tender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Building Elements and Plan</td>
<td>Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to transfer and develop skills to raise awareness of the issue and to facilitate the implement of management measures</td>
</tr>
<tr>
<td>Linkages</td>
<td>Closer collaboration with Project EAF/09/06 <em>Assessing and mitigating the impacts of trawling on benthic habitats</em>; Project EAF/09/04 <em>Developing a good understanding and harmonisation of the management of by-catch and gear interactions throughout the BCLME</em>; and Project BEH/09/01 <em>Spatial biodiversity assessment and spatial management, including Marine Protected Areas</em> as well as link to demersal projects</td>
</tr>
</tbody>
</table>
| Bibliography | • BCC Logframe  
• BCC Science Plan  
• BCLME project recommendations |
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project Ref. Number  BCC/EAF/09/08

Title  THE IMPACTS OF H₂S AND LOW OXYGEN ON INSHORE MARINE SPECIES

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focussing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  The inshore regions of all three countries are impacted by the development of low oxygen conditions and the formation of H₂S (either linked to HABs or from benthic sources). These inshore regions contain important commercial, recreational and subsistence fisheries as well as a growing mariculture industry. The inshore region is also an important nursery area for many linefish species and is also used by commercial demersal and pelagic fish at various stages of their life history.

An important consideration is that while these low oxygen/ H₂S events are of short duration (therefore often missed in routine monitoring), their impacts can be extremely severe both biologically/ecologically and from a socio-economic perspective. A good understanding of the lethal and sub-lethal impacts of low oxygen/ H₂S on key inshore species coupled to a daily monitoring of key environmental indicators at selected sites in all three countries and evaluation/monitoring of low oxygen/ H₂S events, will provide key inputs for the sound management of important resources and ecosystems.

Objectives  The specific objectives of Project EAF/09/08 are:
a. To examine the lethal and sub-lethal effects of low oxygen/ H₂S on various life history stages of key inshore species (rock lobster, mussels, oysters, linefish for example). Could include important pelagic and demersal species if required.
b. To develop a daily monitoring system at key sites in all three countries.
c. To monitor impacts of low oxygen/H₂S events when and where they occur
d. To prepare contingency plans
e. To prepare inputs for management advice

Scope of Work

The Contractor is expected inter alia to undertake the following:

a) Daily monitoring of key environmental indicators at selected sites in all three countries
b) Laboratory studies: lethal and sub-lethal effects of low oxygen and H₂S on life history stages of selected species.
c) Assess impacts of low oxygen/H₂S events (visual survey and specific sampling)
d) Develop and prepare contingency plans
e) Prepare scientific inputs for management advice.

Outputs/deliverables

The output / deliverables of Project EAF/09/08 are:

a) Reports on monitoring of key environmental indicators at selected sites in all three countries
b) Report on laboratory studies: lethal and sub-lethal effects of low oxygen and H₂S on life history stages of selected species.
c) Report on the assessment of impacts of low oxygen and H₂S events (visual survey and specific sampling)
d) Contingency plans
e) Scientific inputs for management advice.

Project Team

Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in fishery and environmental sciences; biochemistry
- Knowledge of stakeholders in the region

Data Management Plan

- Standardized data protocols to be developed
- To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager

Equipment Required

The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs).
Time Frame 2009-2013

Limitations

Monitoring
- Daily monitoring of key environmental parameters at key selected sites in three countries
- Submission of 6-monthly reports to the Secretariat
- Annual reports
- Presentation at the BCC Annual Forum.

Budget Limit Total budget US$60,000.00

Budget Breakdown Proposer to provide

Proposed Routing Collaboration between regional fisheries organizations and universities.

Capacity Building Elements and Plan Capacity building and training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to involve national staff and students in this project.

Linkages It is recommended that links be established with projects:

1. OCM/09/01 Environmental Early warning system
2. WQP/09/04 Assess the impacts of Harmful Algal Blooms on the Inshore Environment
3. EAF/09/05 Development of a harmonised protocol for Aquaculture development throughout the BCLME region.

Bibliography
- BCC Logframe
- BCC Science Plan
- BCLME project recommendations
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project ref. Number  EAF/09/11

Title  BUILDING THE CAPACITY OF THOSE WHO ARE IMPLEMENTING AN ECOSYSTEM APPROACH ON THE GROUND

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focusing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  For responsibly managed fisheries, it is important to understand the dynamics of individual populations and the ecosystem as a whole. It is equally important to have appropriate policies and regulations in place which incorporate all aspects of an ecosystem approach, however, the fact that this is a necessary but not a sufficient condition is apparent. If the people on the ground like the fishers themselves, fisheries observers or compliance officers do not understand how and why regulations or management measures are in place there will be little or no implementation. Therefore it is vital that fishers who are at the coal face of fisheries management are empowered to understand the environment within which they work, the concepts that underpin
fisheries management and the thought process behind management decisions. Observers on the other hand require appropriate training to not only collect verifiable data on which management decisions are based, but are also inspired to raise the awareness and understanding of fishers at sea. Compliance officers, who enforce management actions, cannot do so effectively if they are not equipped with a thorough understanding of fisheries regulations, why the regulations exist and how to implement them. The training proposed in this document aims to address this need.

**Objectives**

The specific objective of Project EAF/09/11 is to equip fishers, compliance staff, fisheries observers and managers with the skills and knowledge to implement an Ecosystem Approach to Fisheries Management.

**Scope of Work**

The Contractor is expected *inter alia* to undertake the following:

Skill development of fishers, compliance officers, fisheries observers, managers on the following fisheries issues: bycatch, food webs, spatial management, impacts on habitats, pollution/entanglements, gear modifications, ghost fishing, dumping/wasteful fishing, management options/measures, how to fill in logbooks, what happens to logbook information, the role of observers, incentives for compliance, penalties for non-compliance, how to implement regulations, why regulations exist, the role of eco-labels etc.

**Outputs / and deliverables**

The output / deliverables of Project EAF/09/11 are:

a) Course adapted for major fisheries for South Africa, Namibia and Angola
b) Train the trainer workshops in each country
c) Roll out of training for all major fisheries in the region
d) Institutionalise training in each country to ensure its long-term viability

**Project Team**

Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in fishery sciences
- Knowledge of stakeholders in the region

**Data management Plan**

To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager.
Timeframe
Funding over three years 2009-2012

Conditions/
Limitations
This work should build on the existing training courses developed in South Africa and Namibia (in collaboration with NAMFI); this was recently accredited by SAQA. This course should be adapted for relevant fisheries and in particular Angolan fisheries. BCC Regional Training and Capacity Building Officer to be involved in this project.

Equipment Required
The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs)

Monitoring/evaluation

Budget Limit
Total budget US$ 65,000.00

Budget Breakdown
Proposer to provide

Proposed Routing
Open tender

Capacity Building
Elements and Plan
This is entirely a skills development project

Linkage
- Link to other EAF projects (such as by-catch, EAF tracking tools and guidance on institutional arrangements
- Link to biodiversity projects (spatial management/conservation planning and top predators)
- Link to food webs/dynamics projects
- Link to data management i.e. logbooks, role of observers

Bibliography
WWF Responsible Fisheries Training
CALL FOR PROJECT PROPOSAL: ECOSYSTEM APPROACH TO FISHERIES (EAF) MANAGEMENT

Project ref. Number  EAF/09/12

Title  A STRATEGY TO DEVELOP AND INTEGRATE THE HUMAN DIMENSION OF AN ECOSYSTEM APPROACH TO FISHERIES IN THE REGION.

Background  The Benguela Current Commission (BCC) is a multi-sectoral initiative by Angola, Namibia and South Africa to promote integrated management, sustainable development and protection of the environment using an ecosystem approach to ocean governance. It is focusing, inter alia, on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, socio-economics and governance and is striving to keep training and capacity building at the forefront of its agenda. The Science Plan for BCC is supported by Norway with substantial in-kind contribution from the three countries.

Rationale  An ecosystem approach incorporated both the ecological and social elements of fisheries management. Substantial resources have been allocated to the increase the understanding and incorporation of ecological knowledge into fisheries advice, but social elements have not received the same attention. This project aims to address this shortfall.

Objectives  The specific objectives of Project EAF/09/12 are:

a) To collate existing knowledge and identify data gaps and potential projects
b) To fill knowledge gaps
c) To collect relevant socio-economic data
d) To build social-economic expertise
Scope of Work

The Contractor is expected *inter alia* to undertake the following:

- a) Collation of existing knowledge and identification of data gaps and potential projects
- b) Filling of knowledge gaps
- c) Collection of relevant socio-economics data
- d) Building of socio-economic expertise and to incorporate such expertise in management

Outputs/deliverables

The output / deliverables of Project EAF/09/12 are:

- a) A report that defines a strategy
- b) Project to fill data gaps
- c) A report on application of relevant socio-economic to inform management
- d) Inter/trans-disciplinary working group in place

Project Team

Potential contractors would be expected to include nationals of the BCC countries or their residents in the team. Demonstrable capacity:

- To undertake the work successfully
- Experience in fishery sciences
- Knowledge of stakeholders in the region

Data management Plan

To comply with the data policy and general data management principles of the BCC. Specific data management plan(s) to be developed in consultation with the Data and Information Manager

Timeframe

Funding over three years 2009-2012

Equipment Required

The use of existing facilities and equipment at national level will be encouraged, additional ones will be budgeted for (i.e. PCs)

Conditions / Limitations

A current limitation of implementing an EAF is the lack of co-ordination and integration of human wellbeing projects. This project aims to address this shortfall.

Monitoring/evaluation Budget Limit

Total budget 75,000.00

Budget Breakdown

Proposer to provide

Proposed Routing

Open tender (institutional support and buy-in essential)
Capacity Building and Training is a high priority in the BCC agenda. Potential Contractor tendering for this project should indicate how capacity building and training will be addressed. In particular the contractor will be expected to develop skills and transfer those skills to the staff, managers and industry.

Bibliography

Ommer et al. Coasts under stress.

Skills development

Excellent potential for skills development and transfer