A Proposed Framework for Managing (Land-based) Marine Pollution Sources in the BCLME Region

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Presentation:

- Purpose of Project
- Overview of Management Framework
- Way Forward

Purpose of Project:

- Standardise on approach and methodology to manage land-based pollution sources in BCLME region

- Promote an ecosystem-based approach, rather than dealing with pollution sources individually

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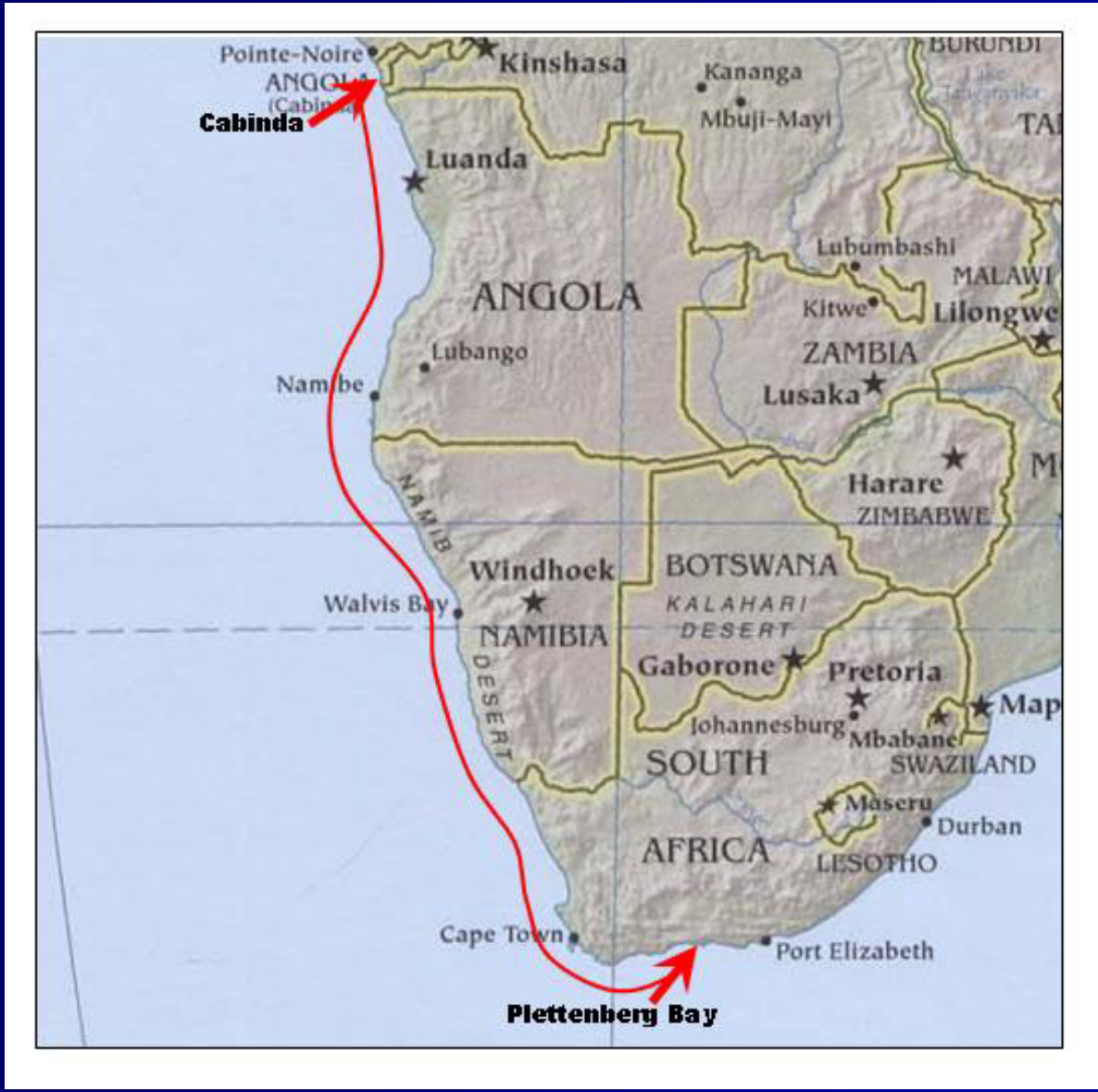
Purpose of Project...



Components of Proposed Management Framework:

Management Institutions and Responsibilities

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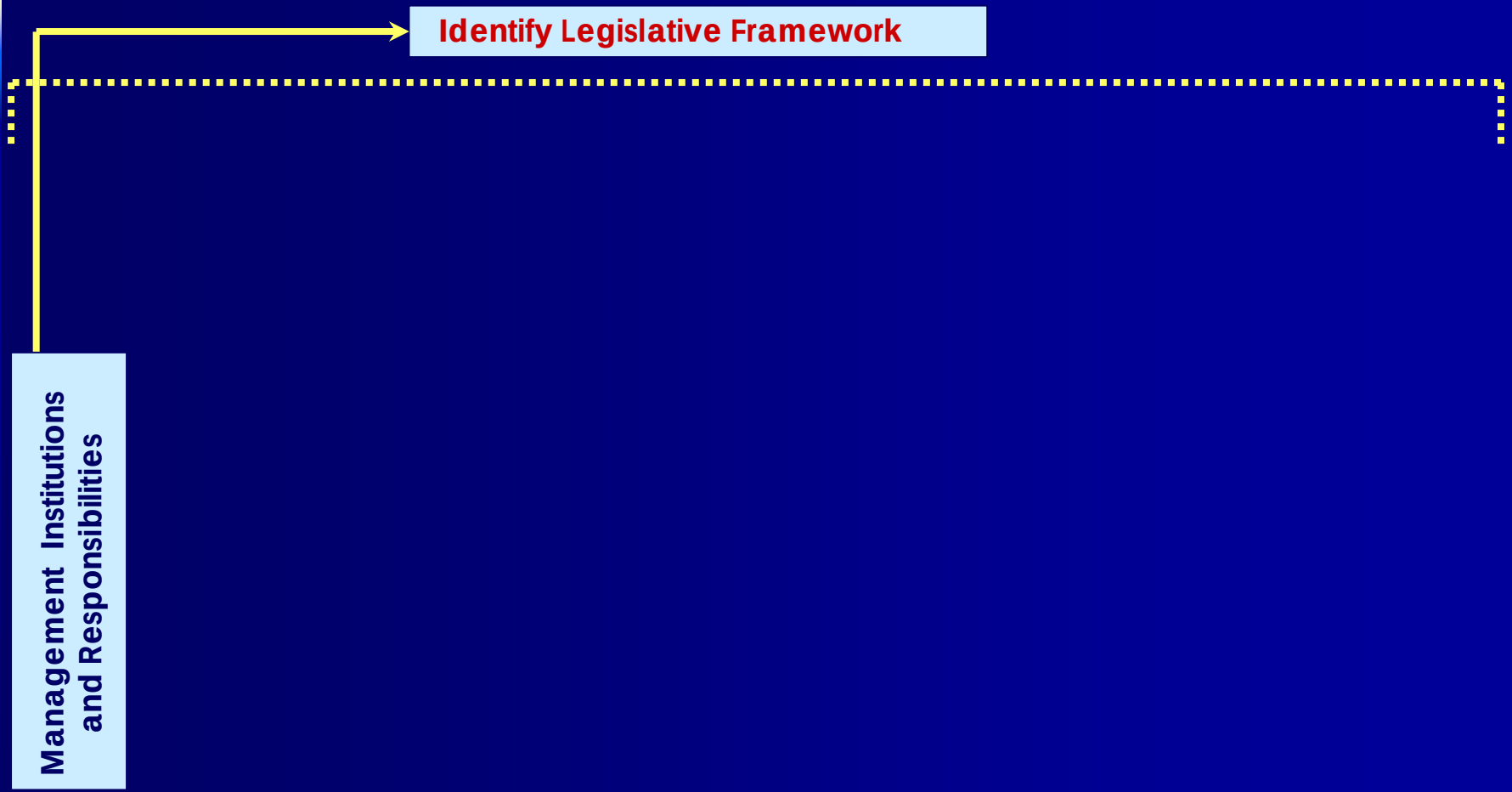
Management Institution and Responsibilities…

- Key ‘driving’ factor in successful implementation is establishment of appropriate management institutions - including roles & responsibilities
- Traditionally resided with responsible government authorities and (individual) ‘polluters’ – still NB!
- Joint stakeholder (local management) forums add great value - participatory approach
- Empower local stakeholders to partake - transparent, scientifically sound information base

Overview of Management Framework…



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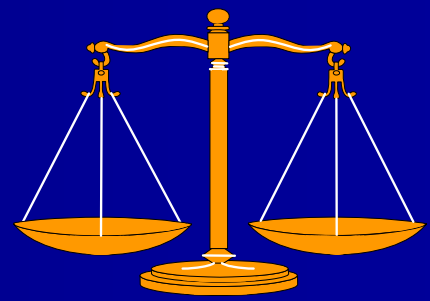
Legislative Framework…

Distil relevant legal ‘do’ and ‘don’t’ in terms of:

- **International Conventions & Treaties**
- **National Legislation**
- **Provincial/Local Legislation**



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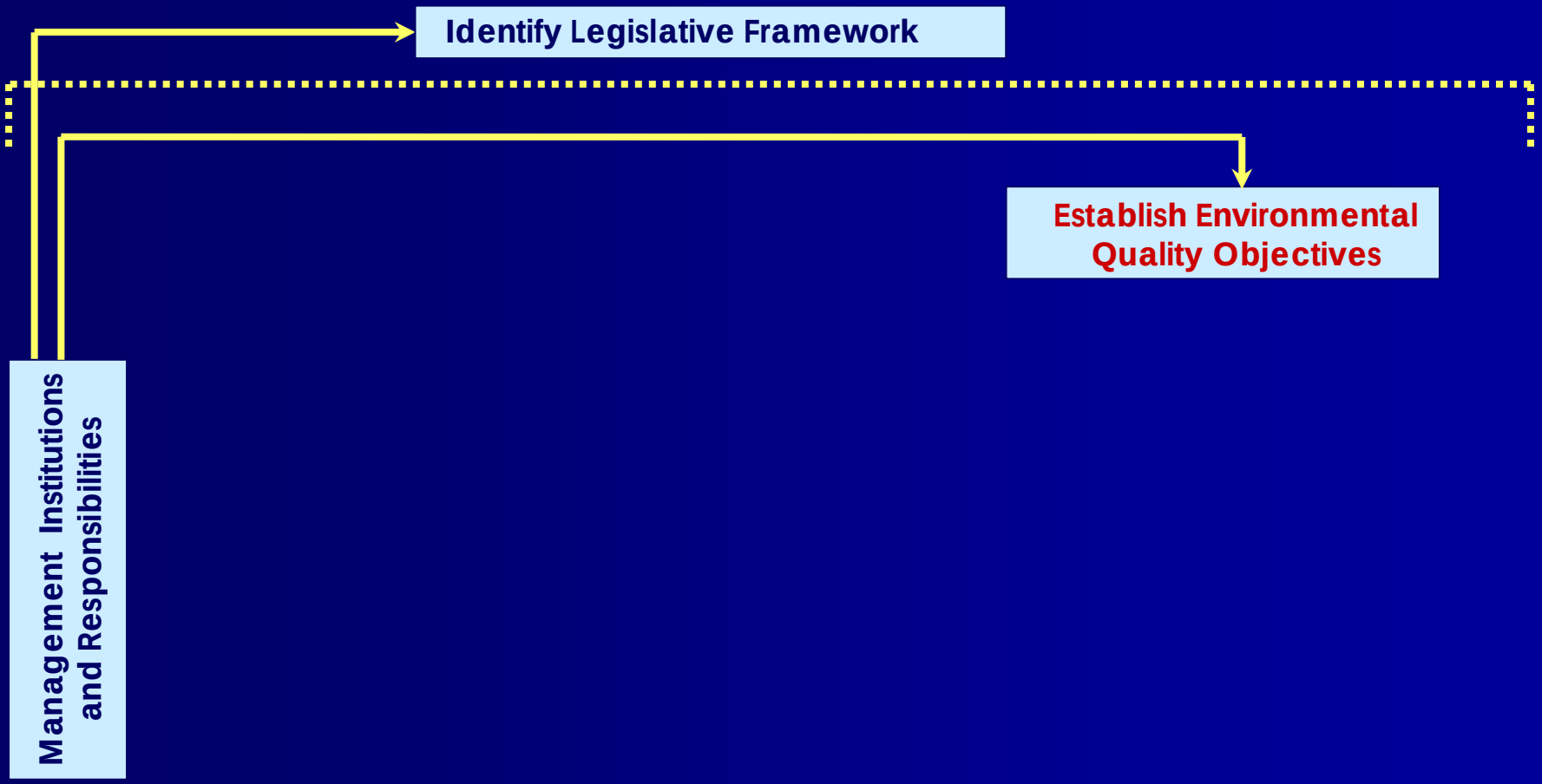

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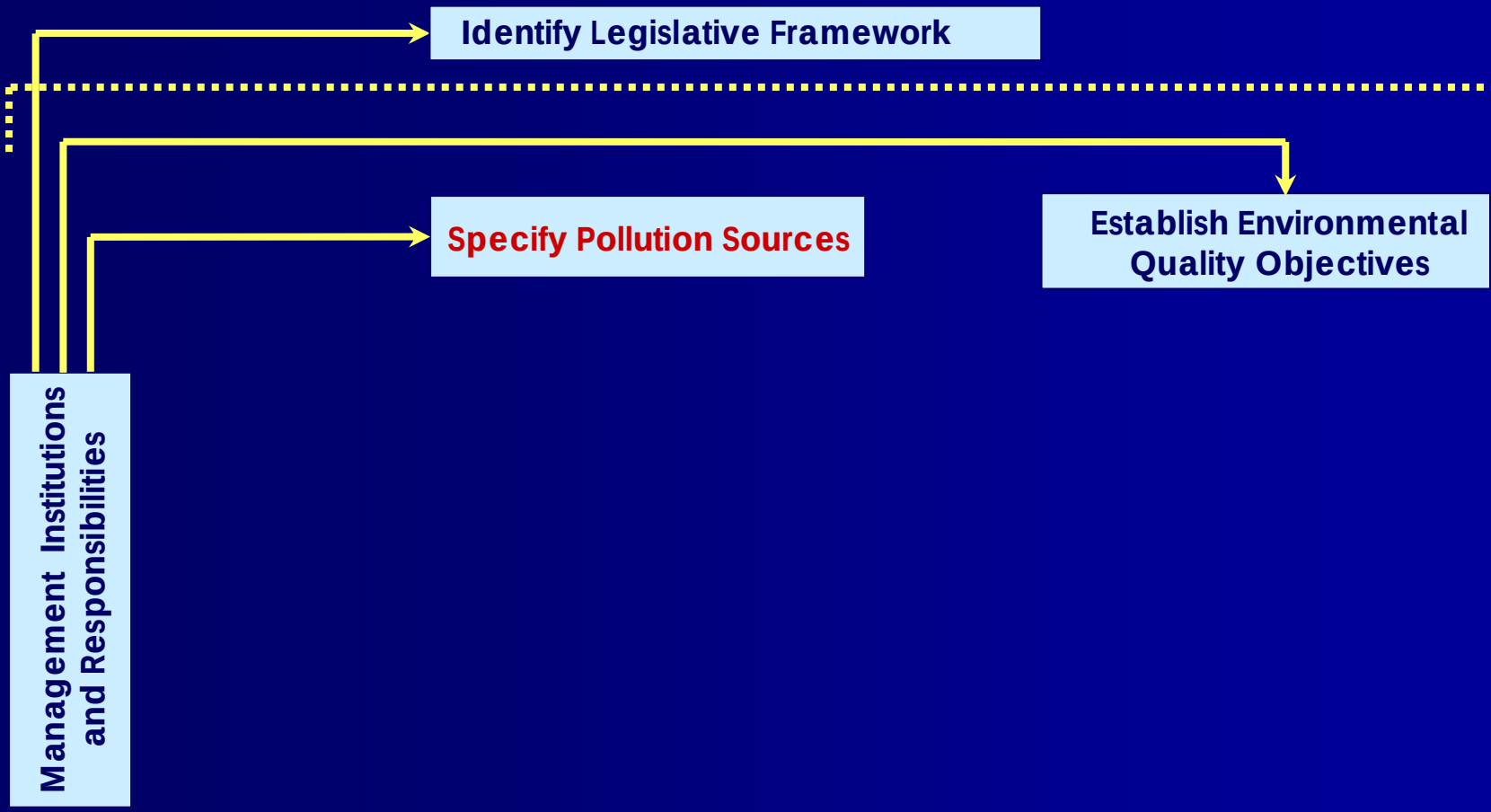
Establish Environmental Quality Objectives…

- Geographical boundaries of study area (considering both near and far field affects)
- Identify and map important marine aquatic ecosystems and designated beneficial uses (both existing and future uses)
- Agree on management goals for above-mentioned (through participatory approach)
- Set site-specific (measurable) environmental quality objectives for different areas to meet management goals

Components of Proposed Management Framework…



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Specify Pollution Sources...

- **Describe & map location of pollution sources (and other activities that may influence environmental quality)**
- **Volume of waste, e.g. flow distribution patterns**
- **Composition of waste, e.g. concentration of biogeochemical and microbiological pollutants**

NB: Management of land-based sources cannot be isolated from other sources, must consider potential interaction, cumulative and synergistic effects

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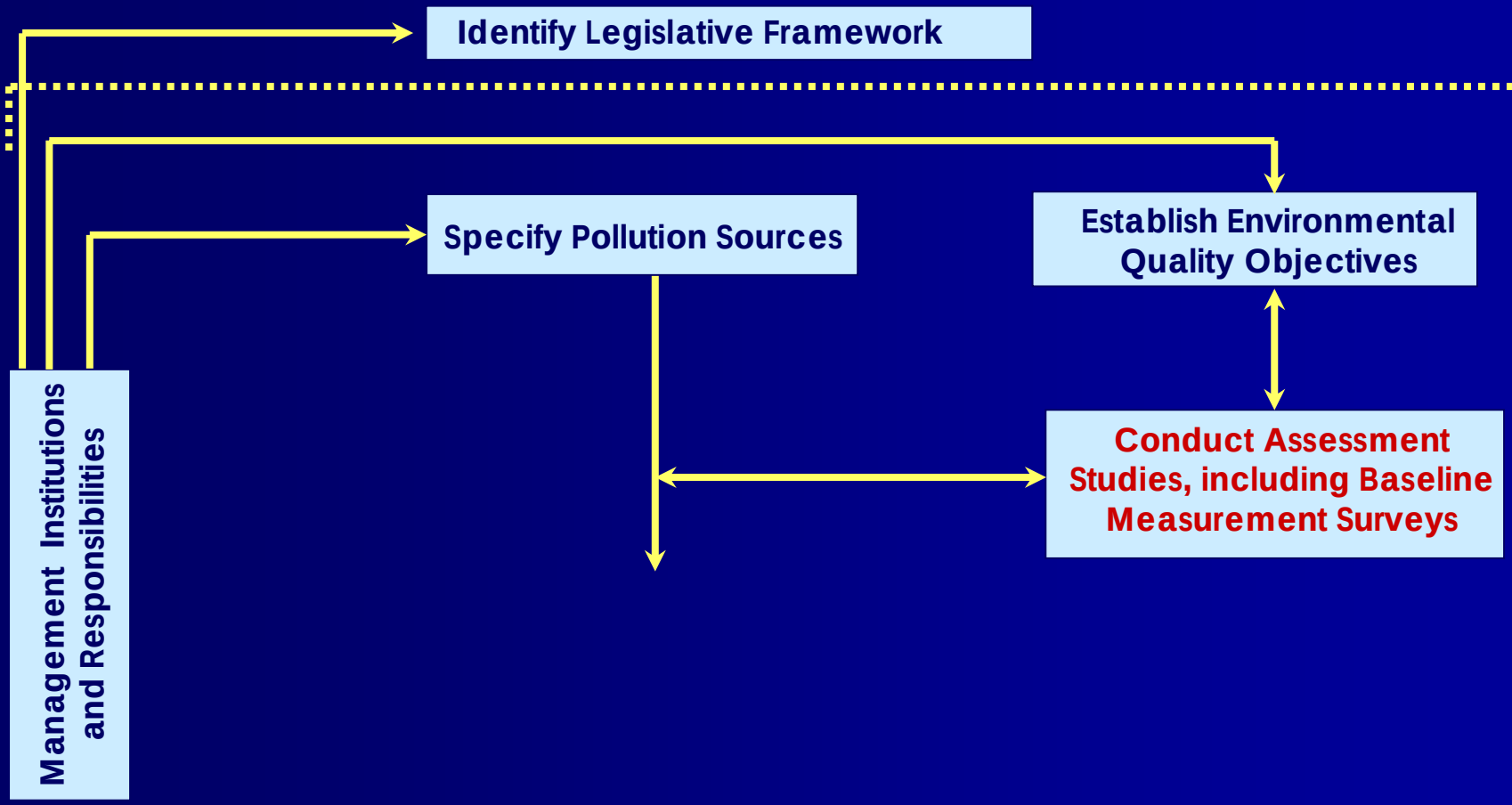
Components of Proposed Management Framework...



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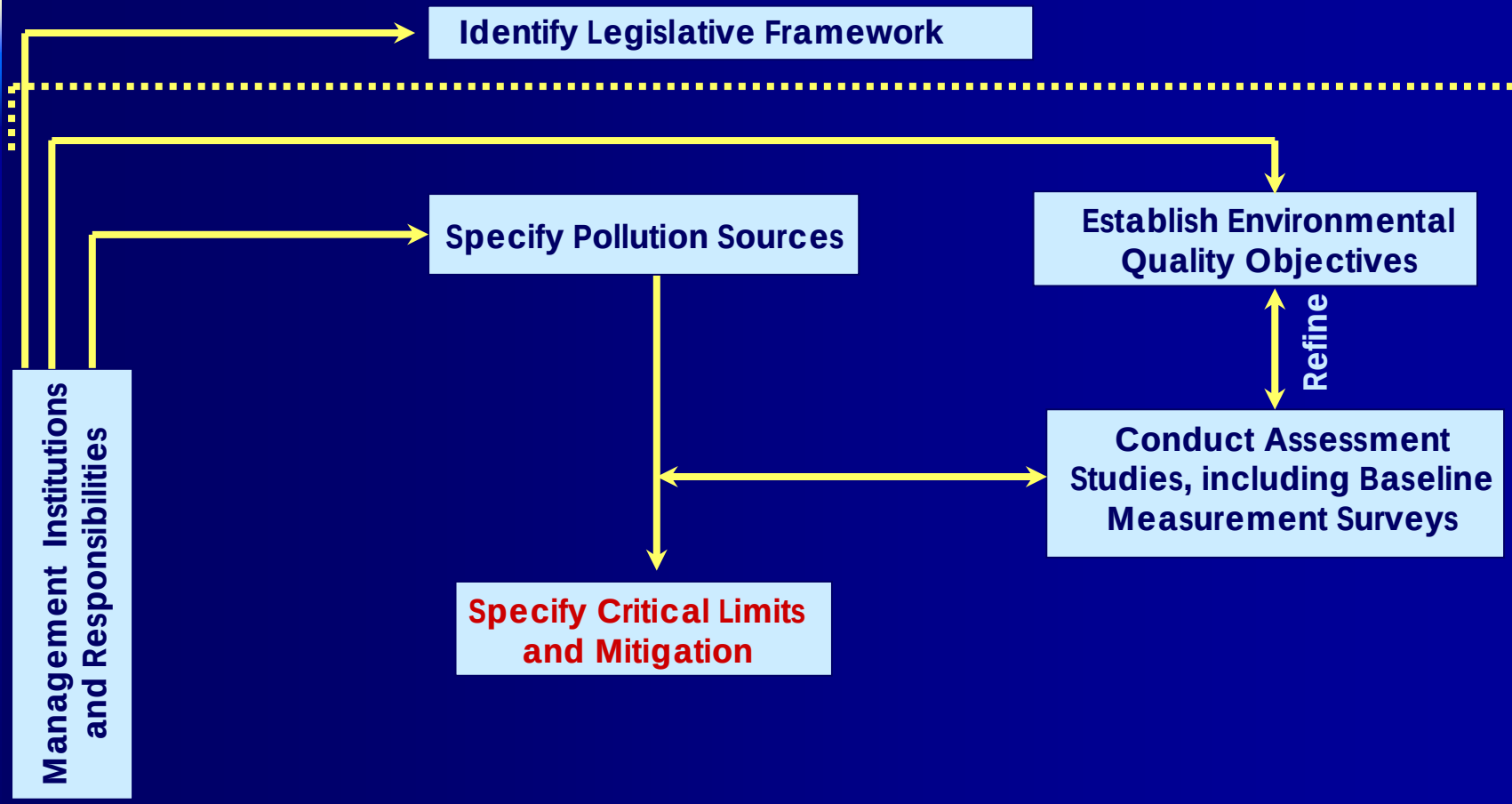
Assessment Studies …

- Baseline measurements to understand natural variability and process scales

- Together with data on pollution sources, baseline data are used to predict transport and fate of pollutant

- Calibrated numerical models proven powerful tools:
  - Effectively deal with complexities of ecosystems
  - Assist in defining temporal & spatial scales
  - Effectively synthesise and visualise information

Components of Proposed Management Framework…



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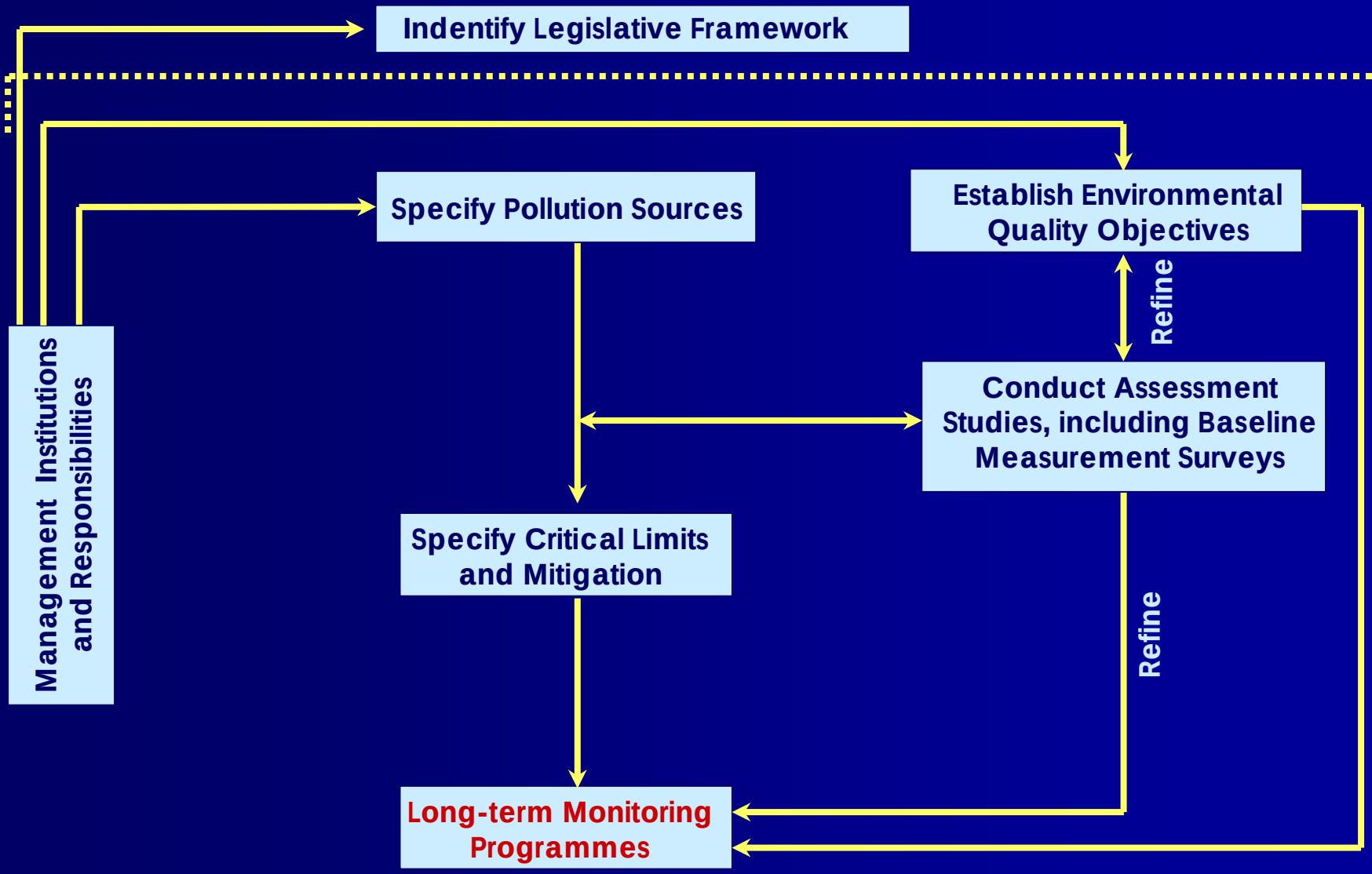
Critical Limits and Mitigations…

Outcome of scientific studies provide responsible authorities (in consultation with stakeholders) with transparent, scientifically sound information to make informed decisions on, e.g.:

- **Critical limits (e.g. wastewater emission targets – WET)**

- **Mitigating actions (and contingency planning) to minimize detrimental impacts**

Components of Proposed Management Framework...



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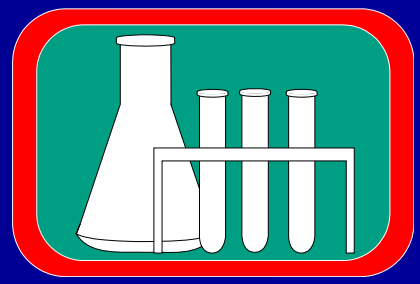
Long-term Monitoring Programmes…

Ongoing data collection programmes to evaluate:

- **Effectiveness of management strategies and actions**
- **Assess whether predicted environmental responses, made during the assessment studies, match actual responses**
- **Monitor trends/status of changes in receiving environment to respond, in good time, to potentially negative impacts**

Dynamic, iterative process to be adjusted continuously to incorporate new knowledge - adaptive management



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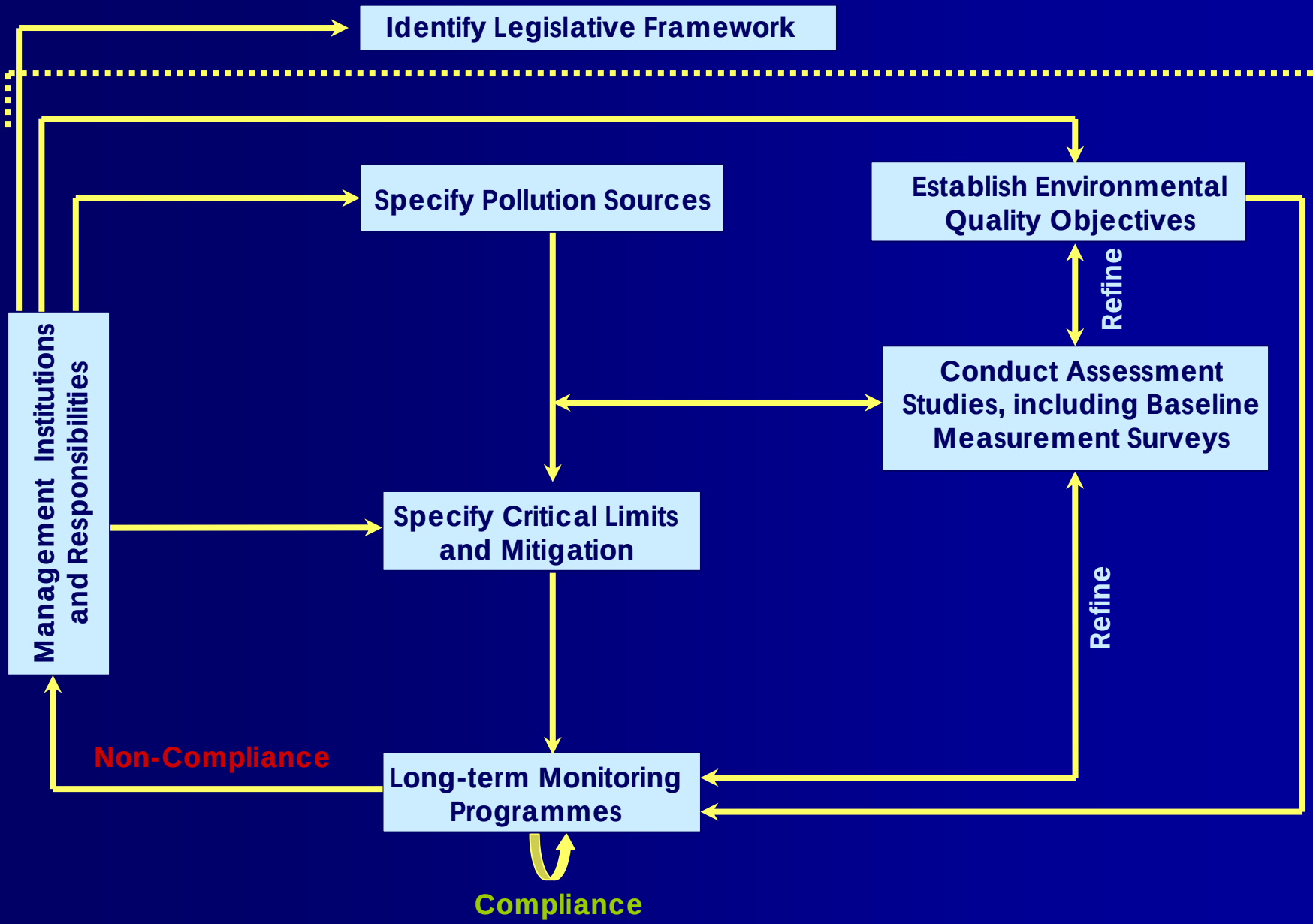

The Way Forward:

- Already adopted framework in Operational Policy for disposal of land-derived wastewater to marine environment (South Africa)

- Workshops planned in BCLME region to provide training to key stakeholders in application of framework (August 2005)

- Further capacity building/training:
  - Develop updatable web-based information system
  - Recommend inclusion in *Train-Sea-Coast/Benguela* training course

- Improve & refine Framework through 'adaptive management'

Thank you…


CSIR
BCLME
Benguela Current Large Marine Ecosystem Programme