



Office of the  
Environmental Protection Authority

## The Australian experience in writing and implementing EIA guidelines

*Anthony Sutton - Director, Assessment and Compliance  
Office of the EPA, Western Australia*

*15:15 -16:00 Tuesday 6 November 2012*



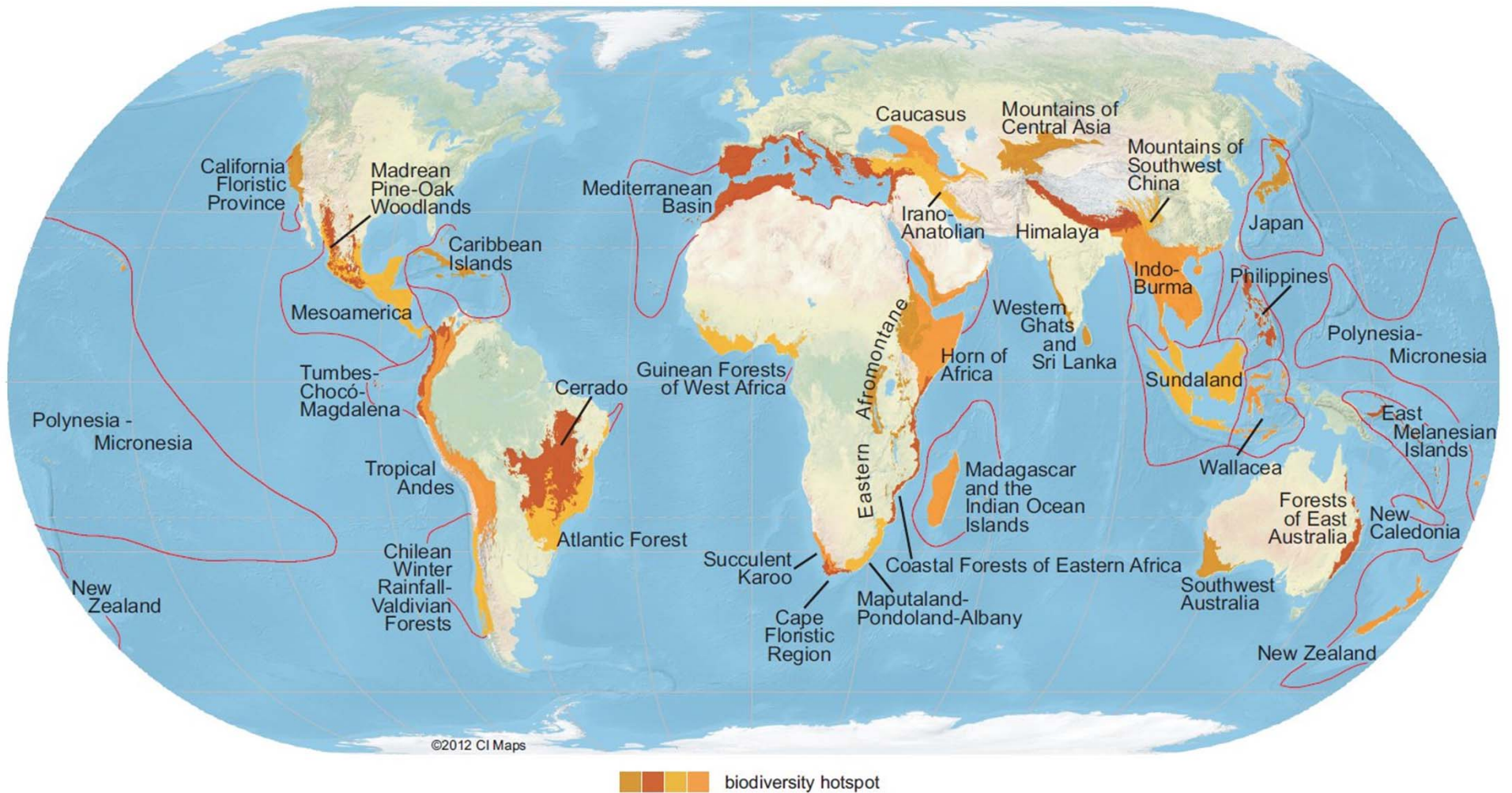
## Overview

### **The Australian experience in writing and implementing EIA guidelines**

- Context.
- Policy Framework.
- Developing and Writing EIA Guidelines.
- Implementing EIA Guidelines
- Learnings from recent case studies.



# Global Context



Ref: Conservation International 2011



# Australian Context



The hotspot covers an area of 356,717 square metres.

- One of the few parts of the world where large amounts of the landmass have not been covered by sea or glaciated for over 250 million years resulting in the preservation of ancient species
- Complex heterogeneity of low nutrient, low moisture soils that support a wide variety of plant life
- Number of known vulnerable, threatened or critically endangered species in Western Australia is 711





# Western Australian – biodiversity context

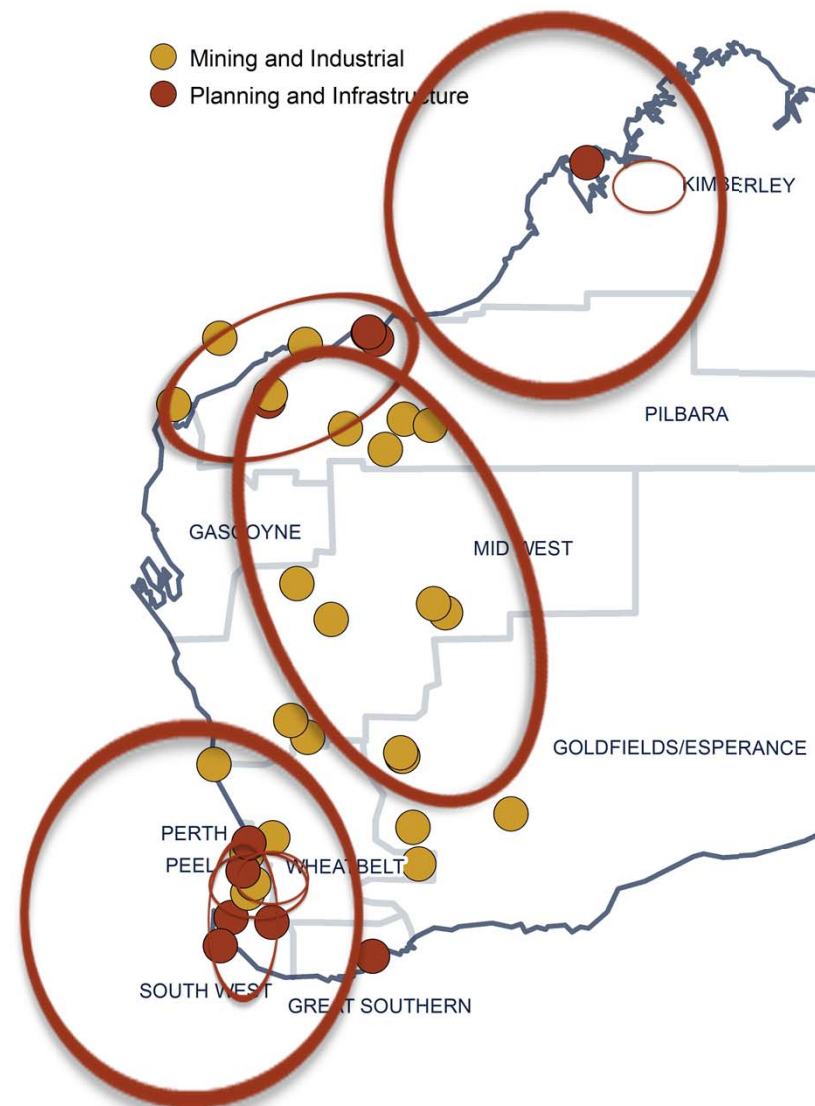
- Huge range of terrestrial and marine ecosystems – temperate to tropical
- Home to some of most unusual and unique biodiversity on the planet
- Frequent coincidence of unique biodiversity values with high mineral/energy resource values



# Western Australian – development context



- WA has 70% of Australia's CapEx on advanced energy and mineral projects
- \$180 billion of proposals:
  - Power plants
  - Aquaculture proposals
  - Desalination plants
  - Waste water treatment Plants
  - Ocean renewable energy
  - Port facilities (200 million cubic metres dredging - \$12 billion)
  - Iron Ore Mines

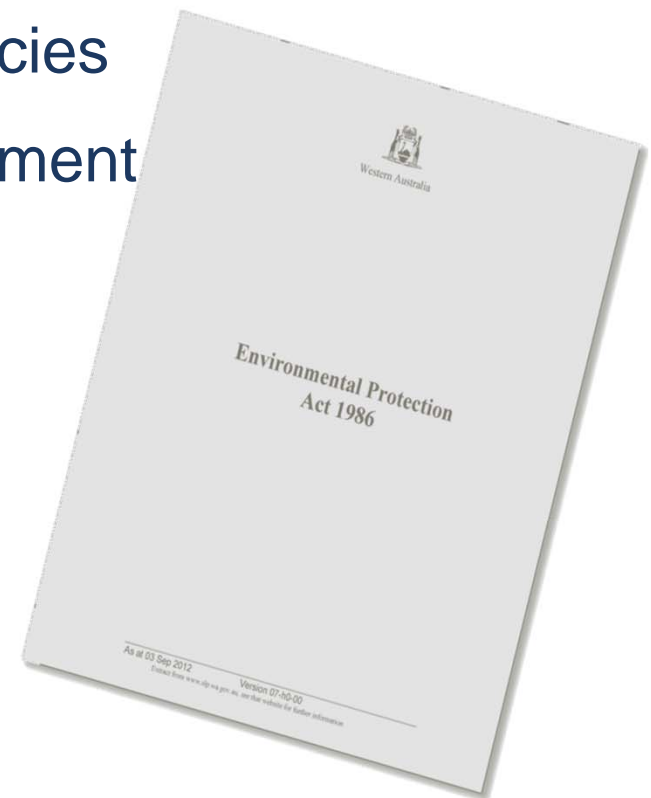




## Western Australian - legal context

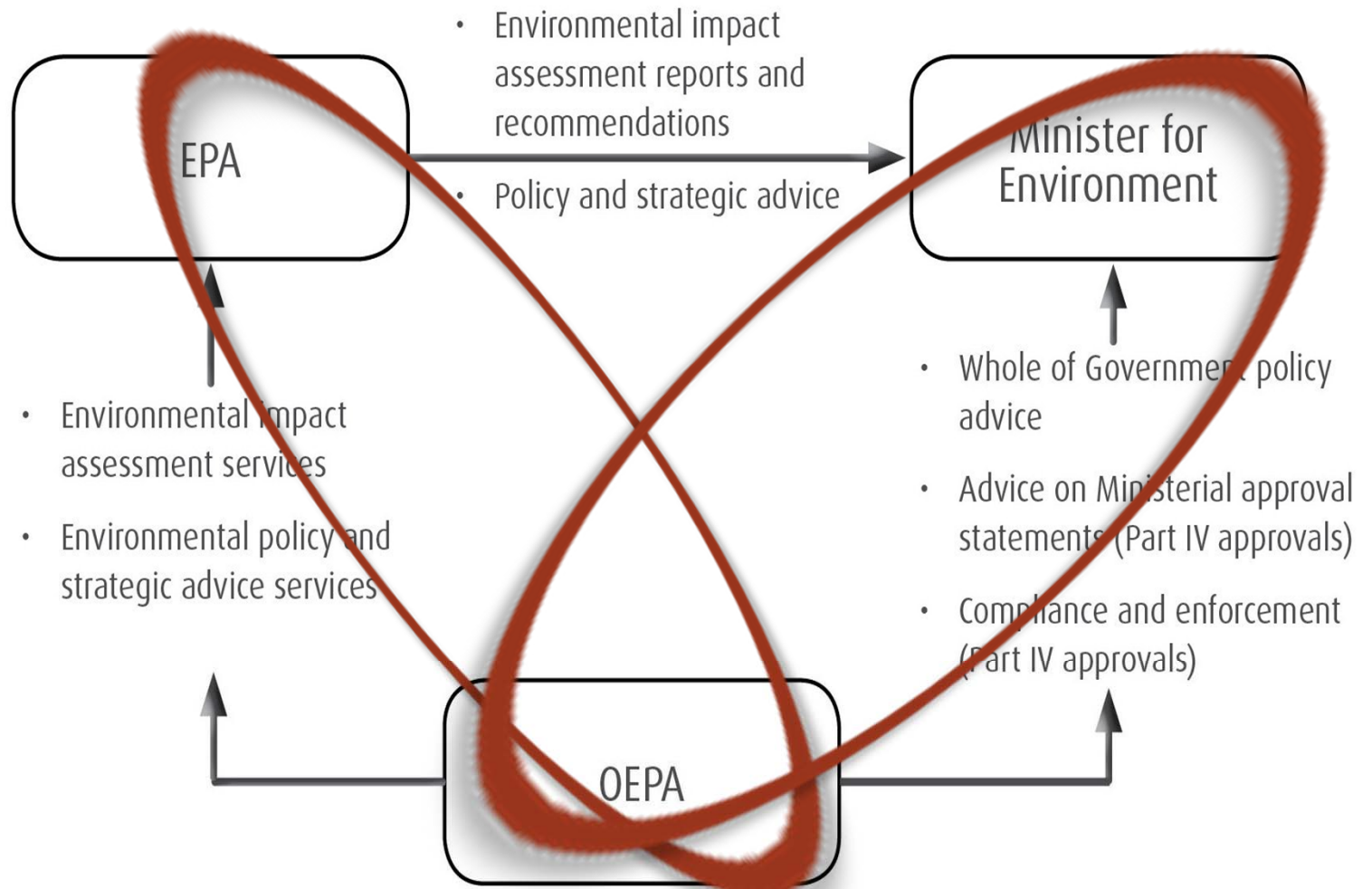
### *Environmental Protection Act 1986*

- i. Environmental Protection Authority
- ii. Environmental Protection Policies
- iii. Environmental Impact Assessment
- iv. Regulation
- v. Enforcement
- vi. Appeals





# Western Australian - governance context





# Western Australian – strategic context



# Western Australian – strategies 2010-13

1.

## **Provide early strategic advice and guidance**

The EPA will provide early strategic advice and guidance to Government and proponents to influence the achievement of better environmental outcomes. This will also deliver more timely and efficient assessments on individual proposals.

2.

## **Enhance the value placed by the community on the environment**

The EPA will place greater emphasis on informing the community about the State's environmental values, and explaining its decisions through bulletins, reports and community engagement strategies.

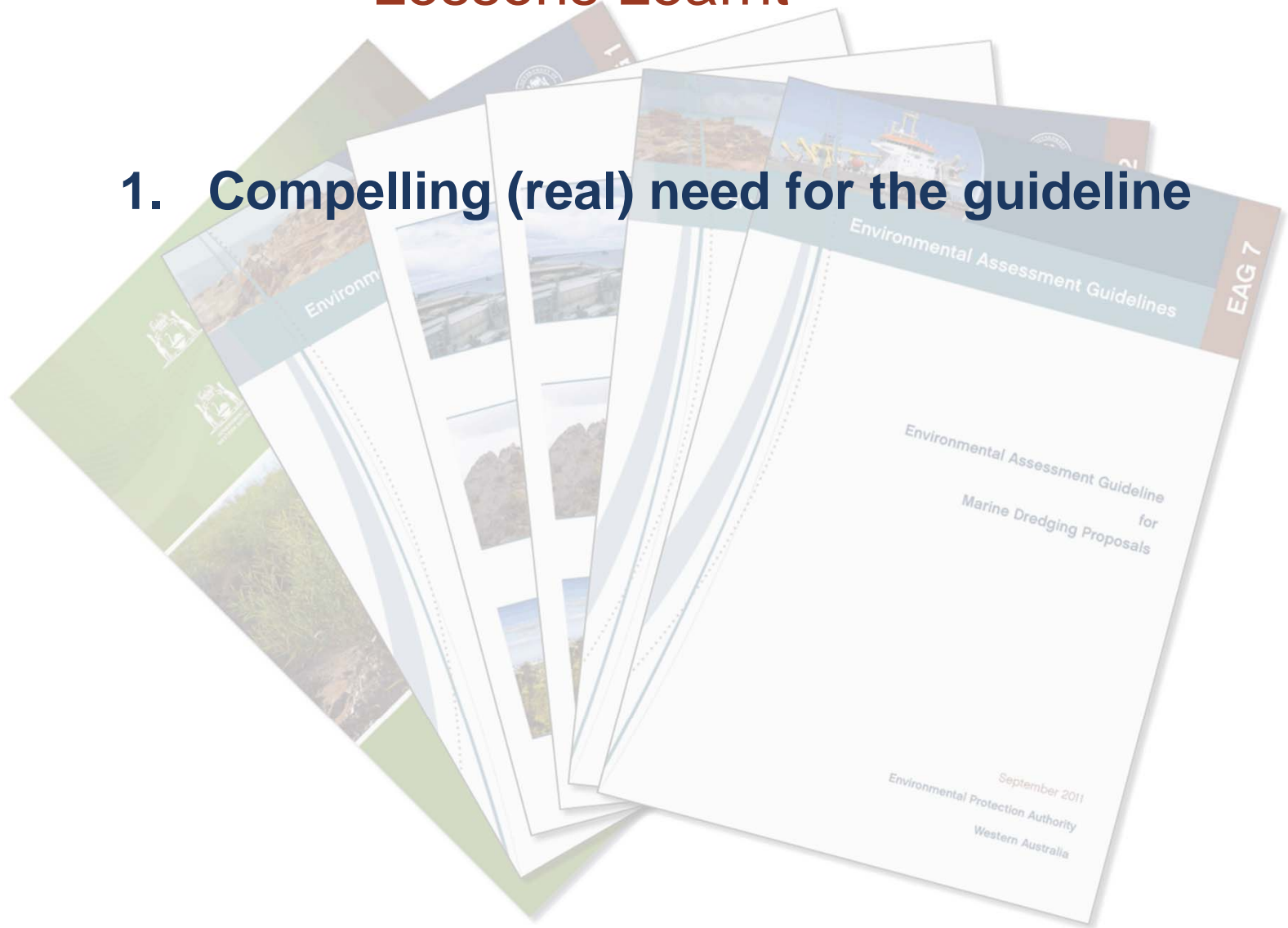
3.

## **Reform its business practices to improve certainty, rigour and timeliness**

The EPA will continue to implement the environmental impact assessment reform program and other initiatives to improve the rigour, policy settings and timeliness of its decision making.

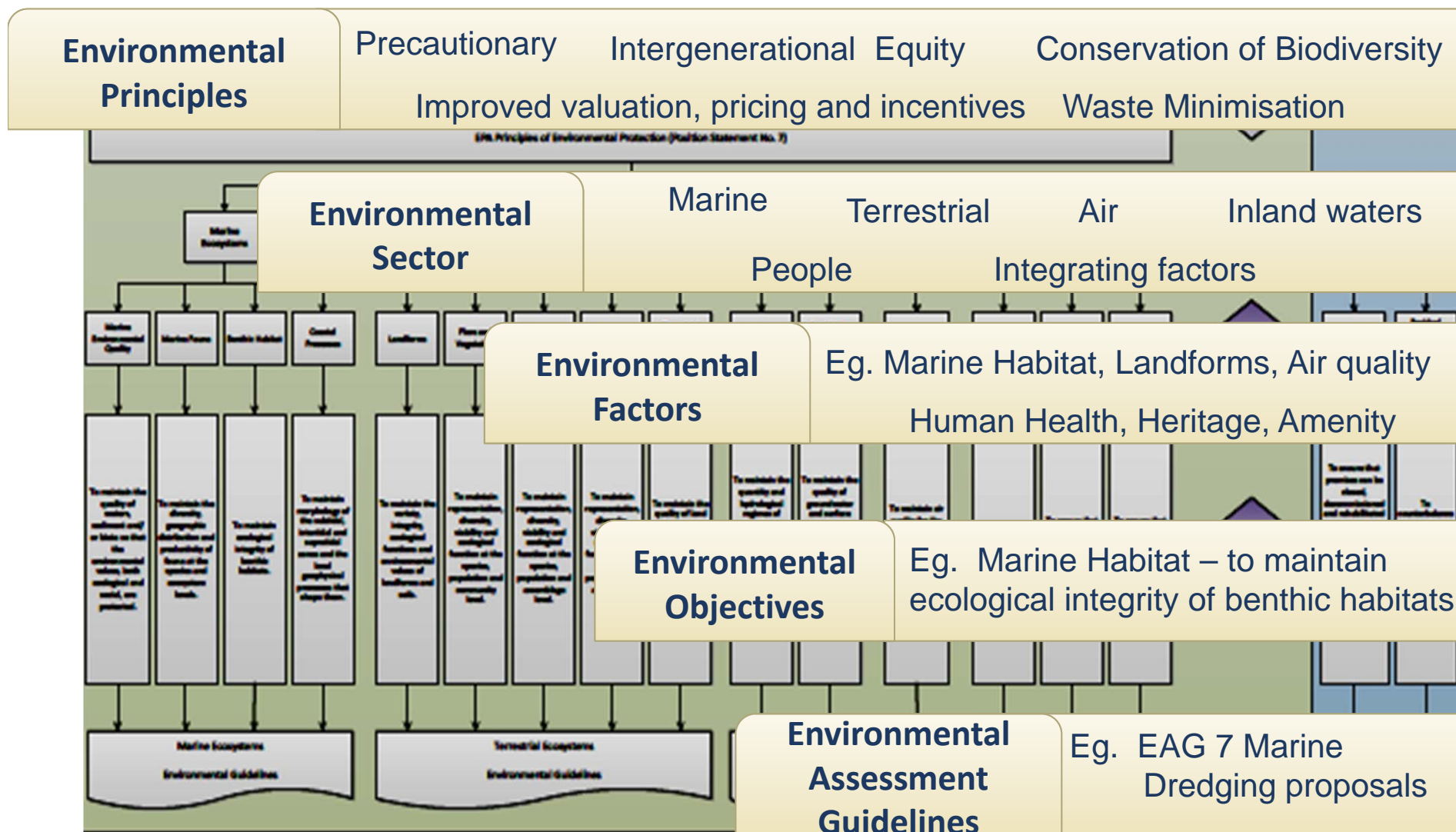
# Lessons Learnt

## 1. Compelling (real) need for the guideline





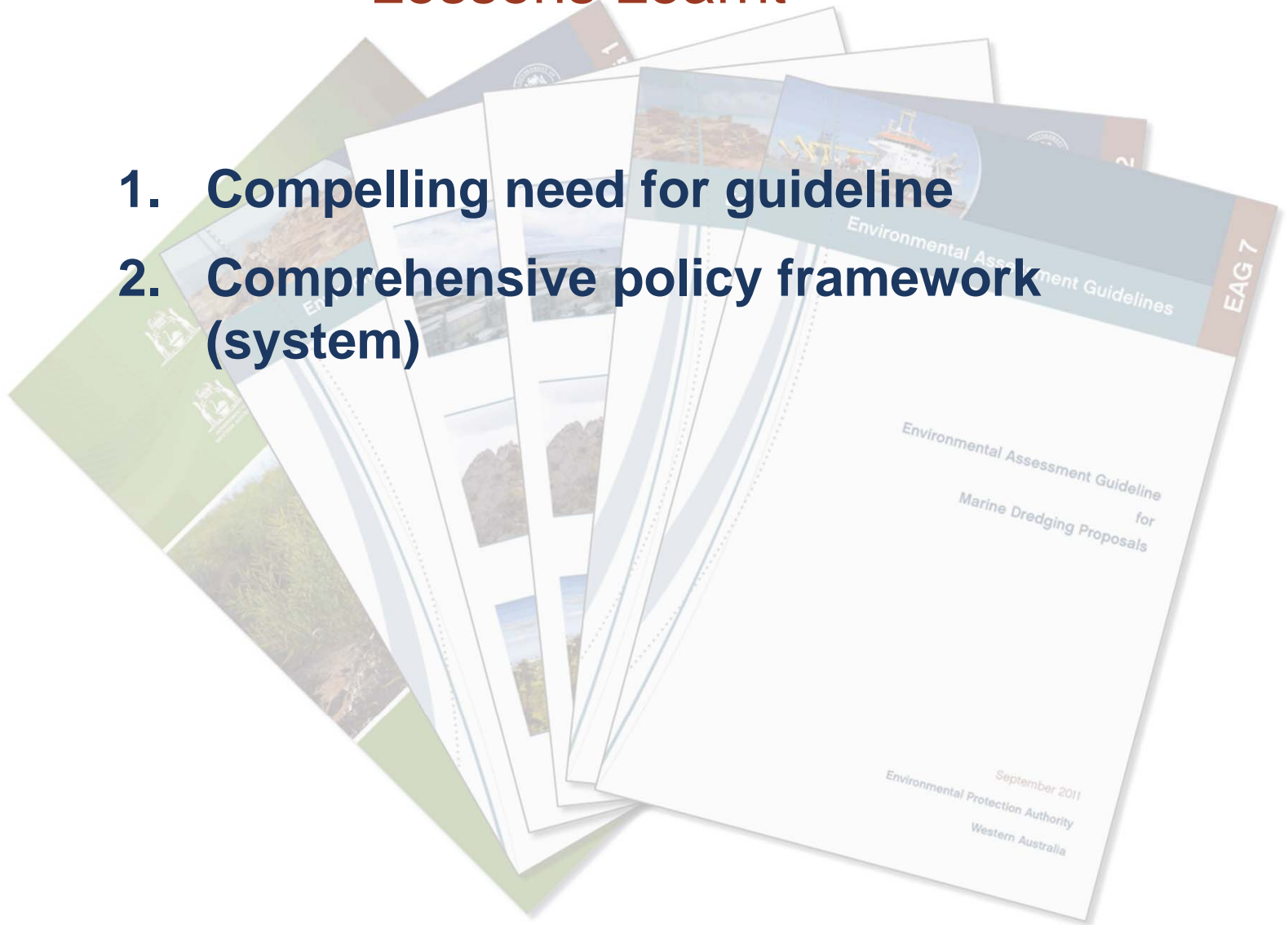
# EIA Policy Framework



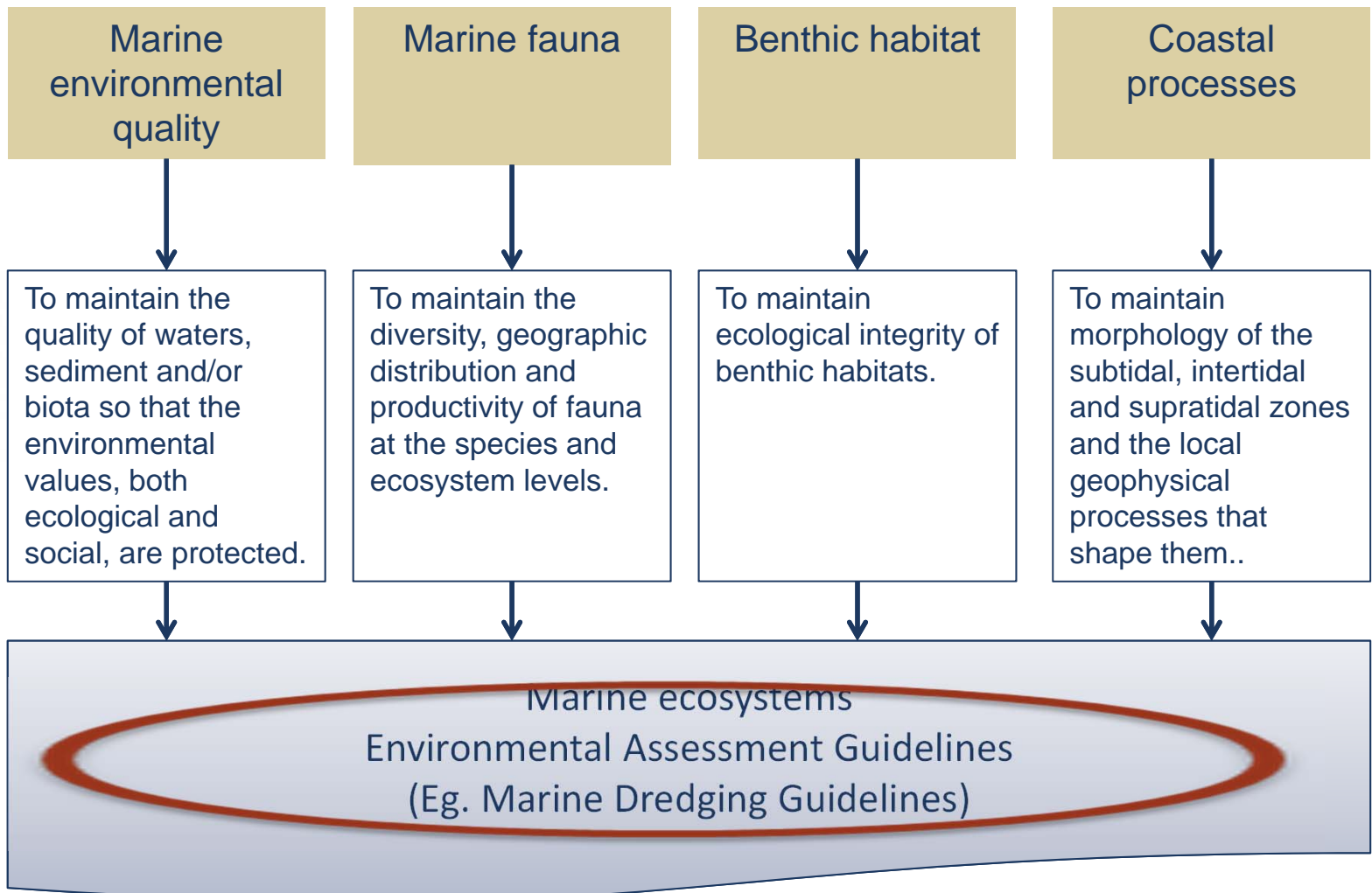


## Lessons Learnt

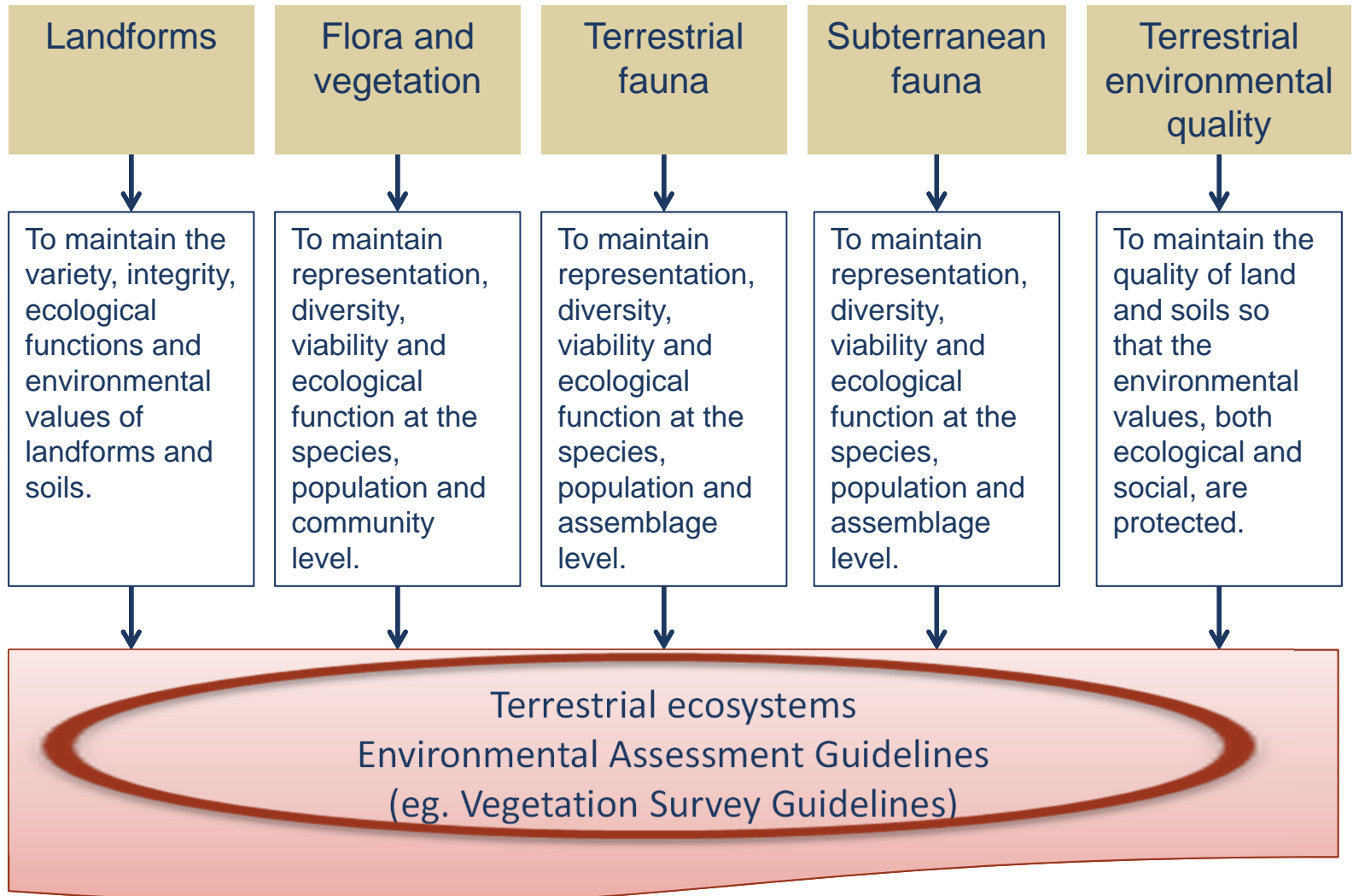
1. **Compelling need for guideline**
2. **Comprehensive policy framework (system)**



# Marine ecosystems



# Terrestrial ecosystems



# Inland waters



Hydrogeological processes

Inland waters environmental quality

To maintain the quantity and hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.

To maintain the quality of groundwater and surface water, sediment and/or biota so that the environmental values, both ecological and social, are protected.

Inland Waters  
Environmental Assessment Guidelines  
(eg. Sampling Subterranean Fauna in Caves)



# Air



Air quality



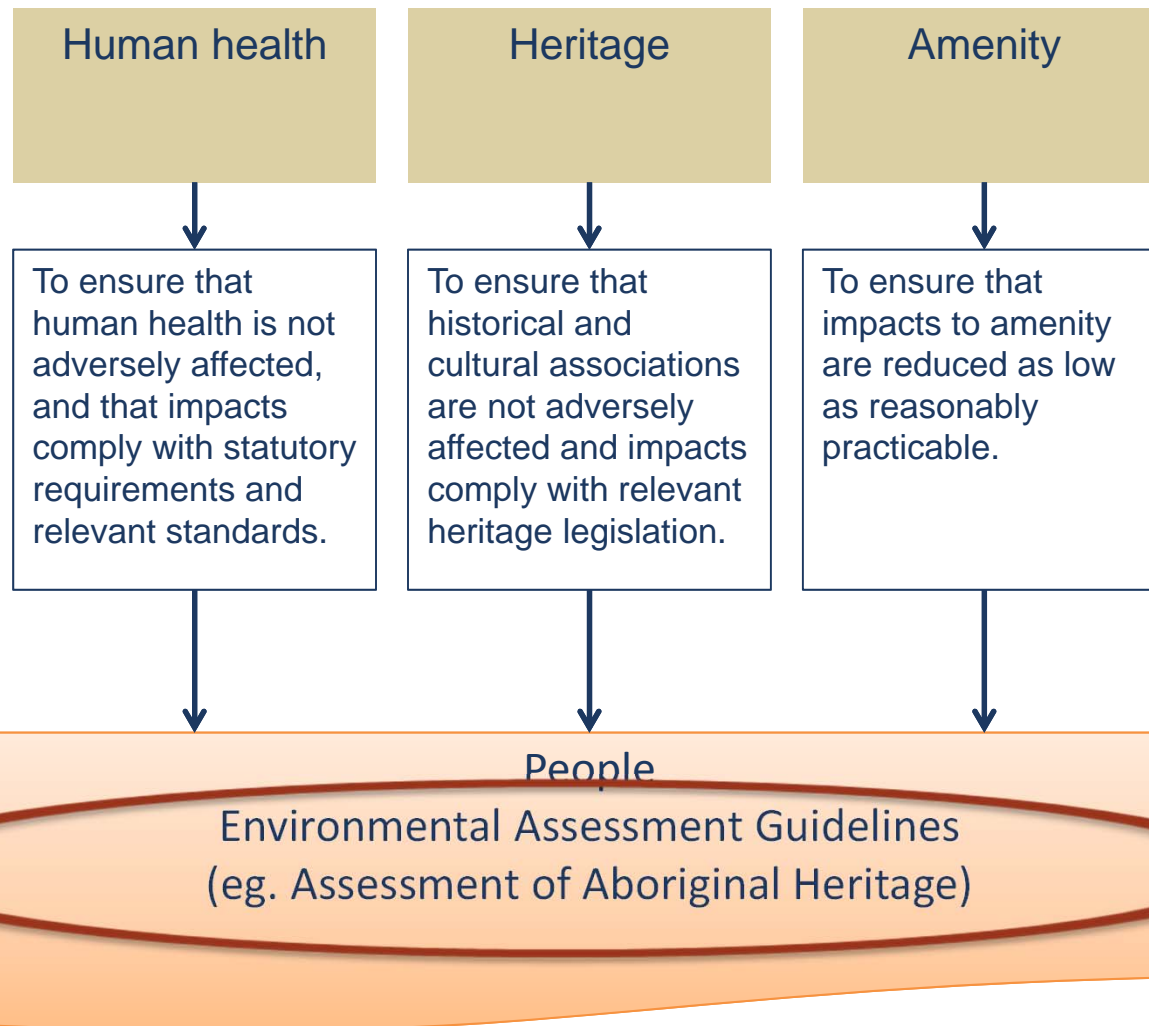
To maintain air quality for the protection of the environment and human health and amenity by meeting statutory requirements and relevant standards.



Air

Environmental Assessment Guidelines  
(eg. Prevention of Air Quality Impacts from Land Development Sites)

# People



# Integrating factors



Rehabilitation and closure

Residual impacts and risk management measures

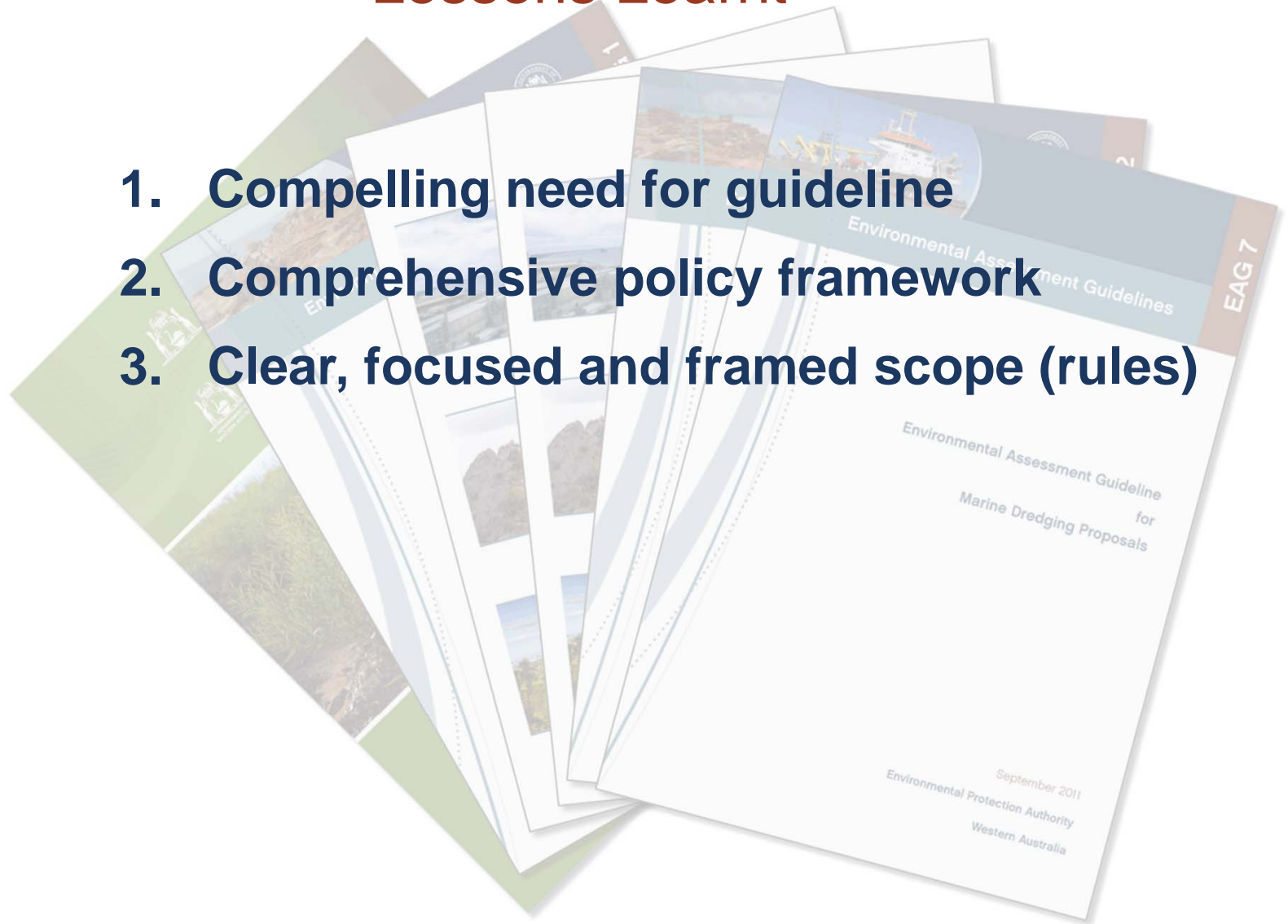
To ensure that premises can be closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed outcomes and land uses, and without unacceptable liability to the State.

To counterbalance the significant residual environmental impacts and risks through the application of offsets.

Integrating factors  
Environmental Assessment Guidelines  
(eg. Environmental Offsets)

## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy framework**
3. **Clear, focused and framed scope (rules)**





# Developing Guidelines – Landscape Approach

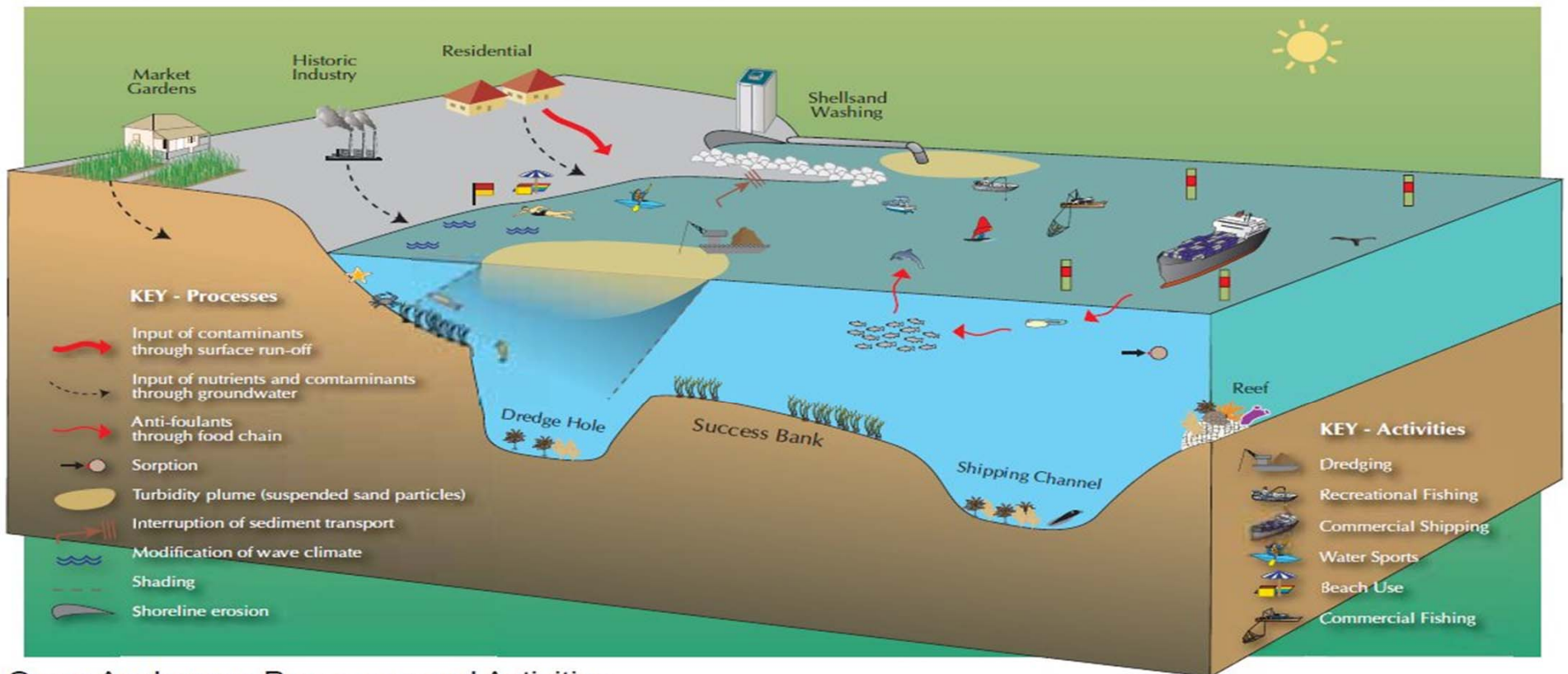
Integrating factors

Air

Inland waters

Terrestrial

Marine



Owen Anchorage Processes and Activities

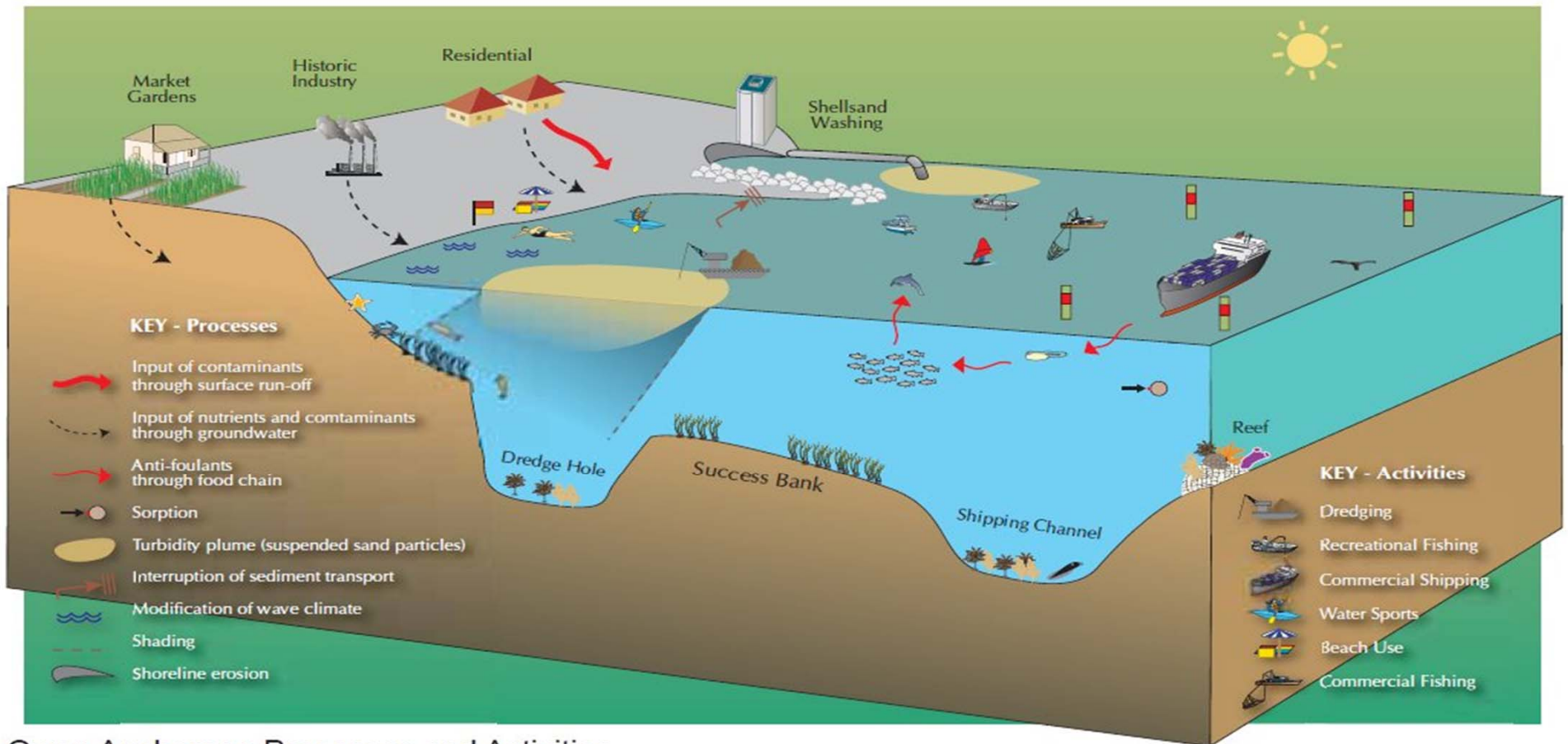
# Developing Guidelines – Conceptual Model

Cockburn Sound Environmental Management Plan (2002)

State Environmental (Cockburn Sound) Policy 2005

EAG 3 Protection of Benthic Primary Producer Habitat

EAG 7 Marine Dredging Proposals



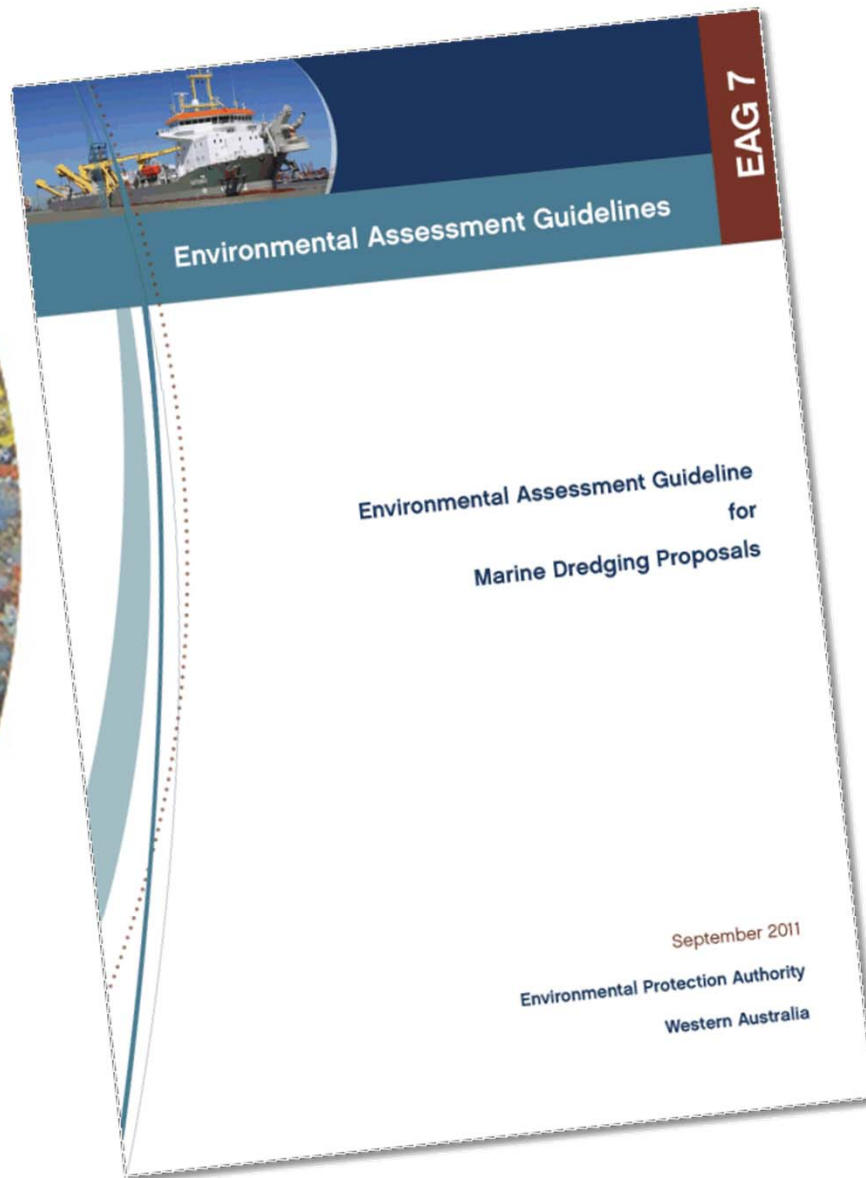
Owen Anchorage Processes and Activities

## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy context**
3. **Clear, focused and framed scope**
4. **Conceptualisation of guideline content  
(....a picture says 1000 words)**



# Developing Guidelines – Evidenced-based Approach



## Environmental Assessment Guideline for Marine Dredging Proposals



# Developing Marine Guidelines - Overview



- Spatial framework
- Accounting for predictive uncertainty
  - Targets
  - Limits
- Implications for conditions and monitoring
- Encouraging efficiency and continual improvement

# Developing Marine Guidelines - Approach



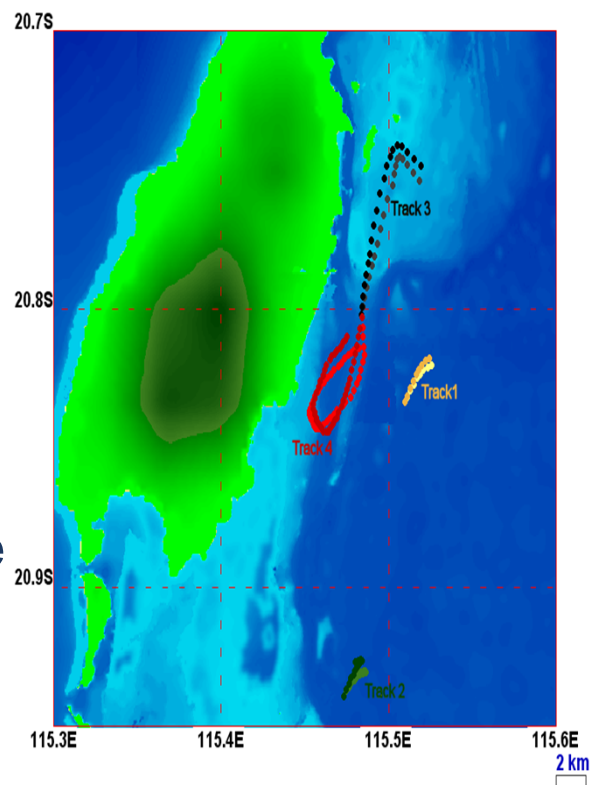
A 3-step approach

1. Hydrodynamic modelling
2. Transport modelling
3. Ecological impact modelling



# Hydrodynamic modelling

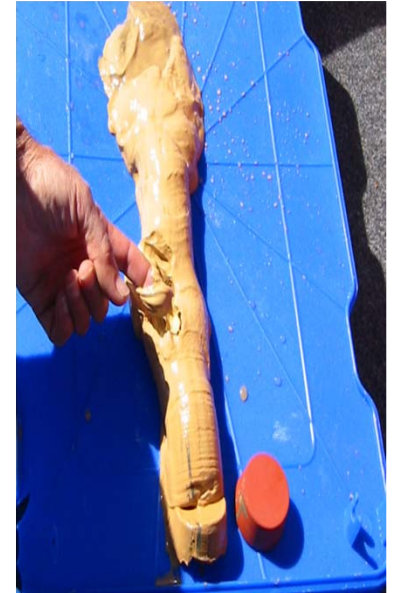
- Models well developed
  - require site-specific forcing data
  - good quality bathymetry at appropriate resolution
- Boundary conditions
  - waves, regional currents
- Current meter data from the site
  - for calibration to tune model
  - for validation to appraise 'confidence





# Transport modelling

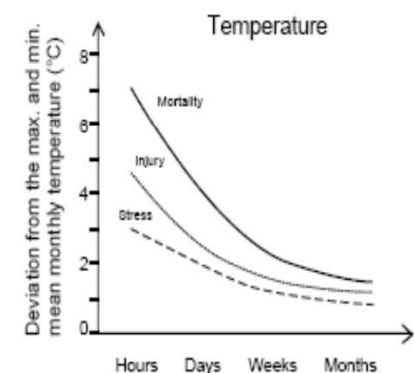
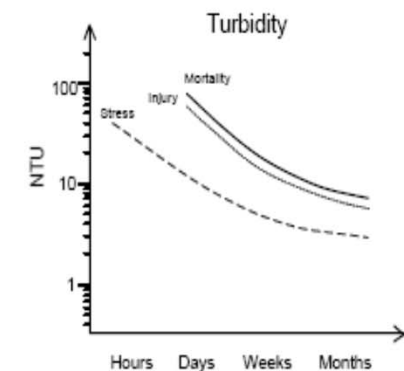
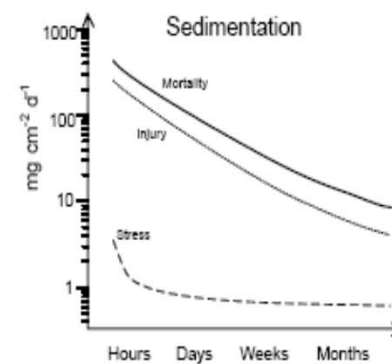
- Models less well developed
- Rely on sediment source characterisation
  - Geotechnical data for material to be dredged
  - Type of dredge plant
  - Mode of operation
- Sediment deposition and re-suspension
  - Particle behaviour
  - Aggregation
  - Waves and tidal currents





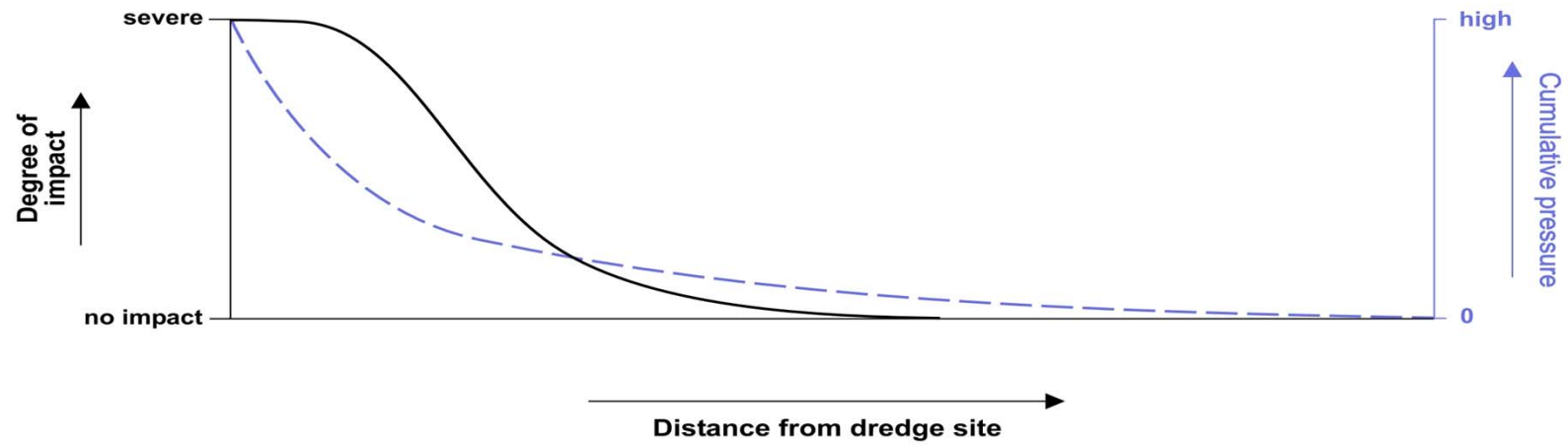
# Ecological Modelling

- Models **poorly developed**
- Rely on stress thresholds for key biota
- Many variables
  - Seasonality of impact
  - Severity and intensity
  - Vulnerability/resilience
  - Life stage(s)



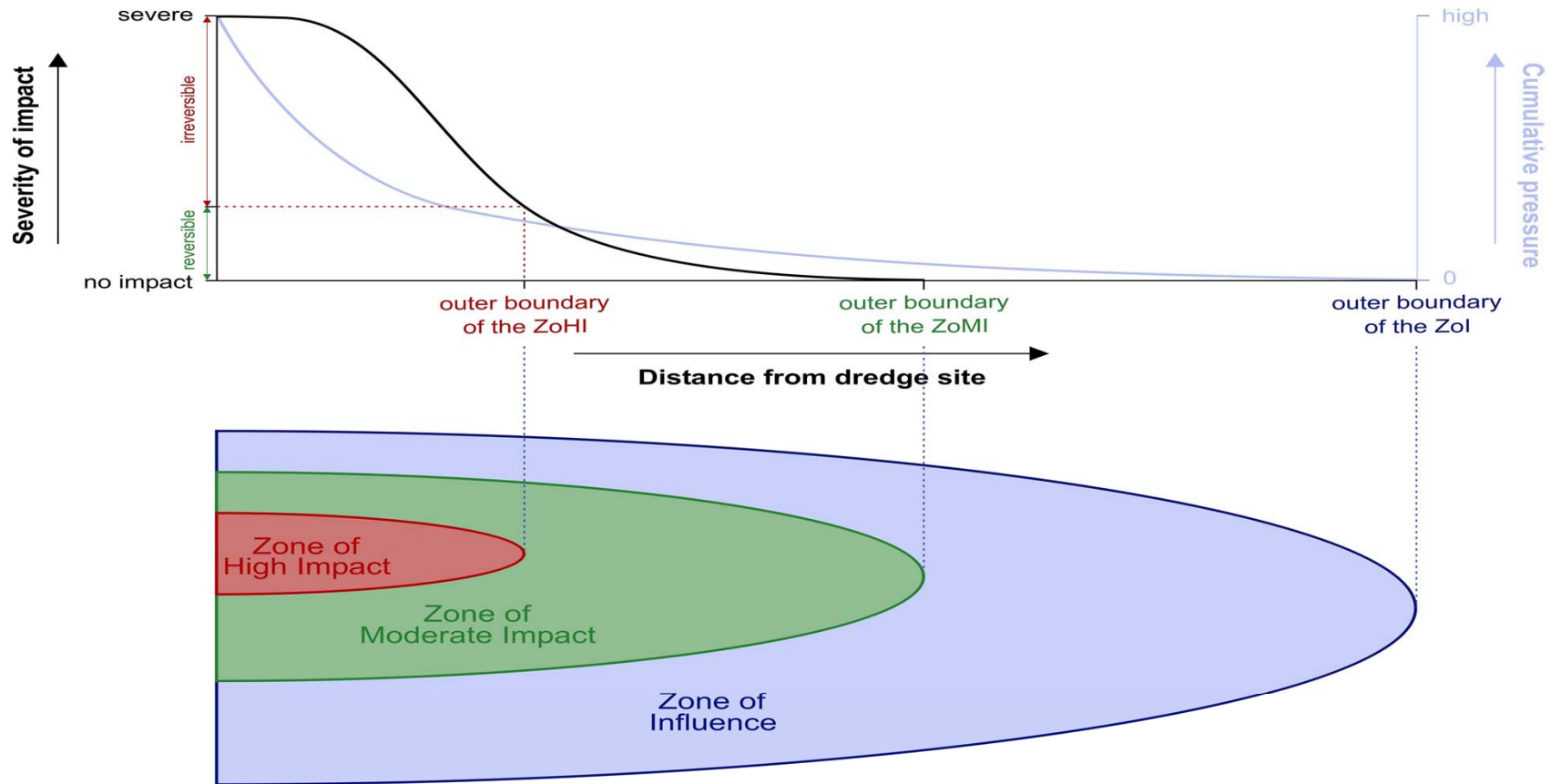


# Interpreting the framework





# Predictions of Impacts



# Spatial zonation framework

## Zone of High Impact

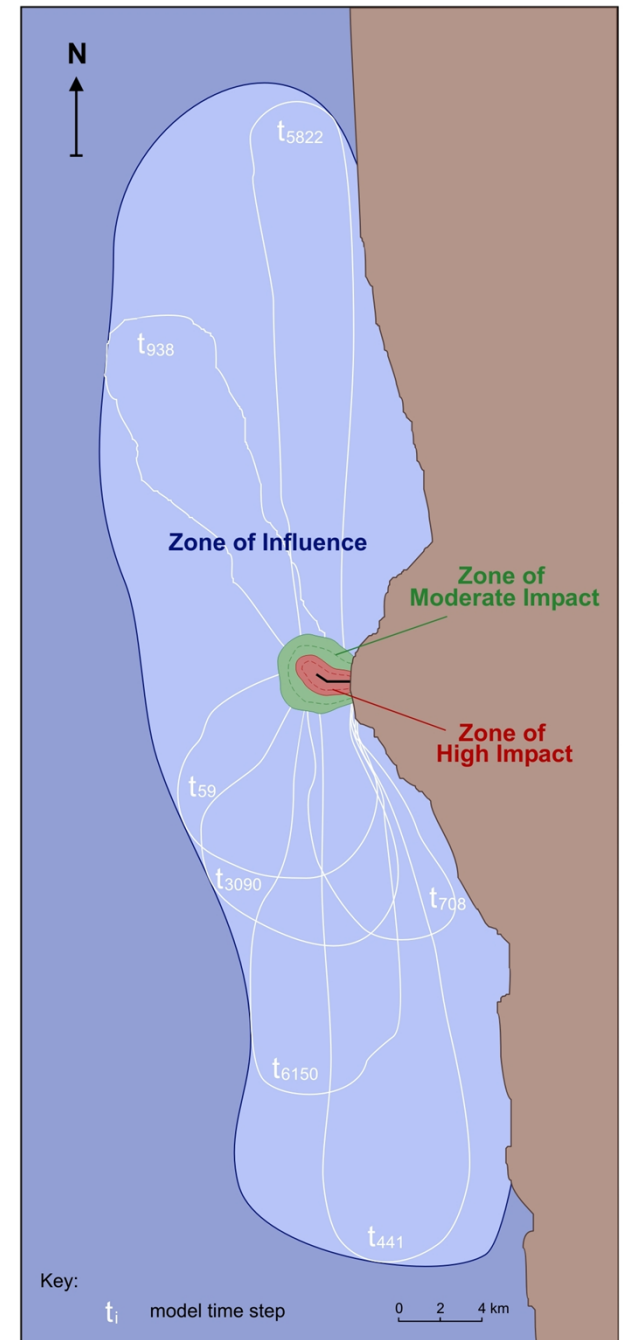
- Irreversible direct and indirect impacts

## Zone of Moderate Impact

- Reversible indirect impacts

## Zone of Influence

- Plumes but no effects



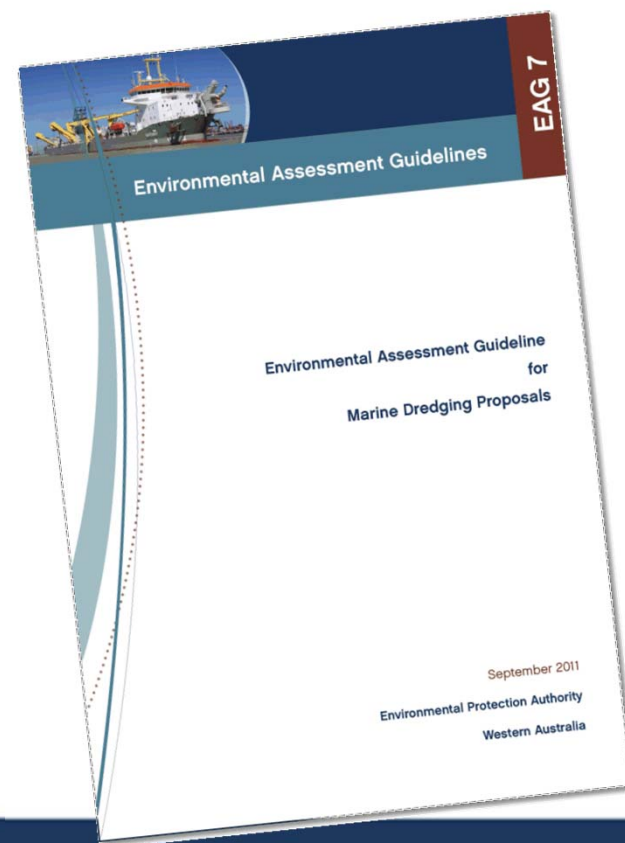




## Outcomes

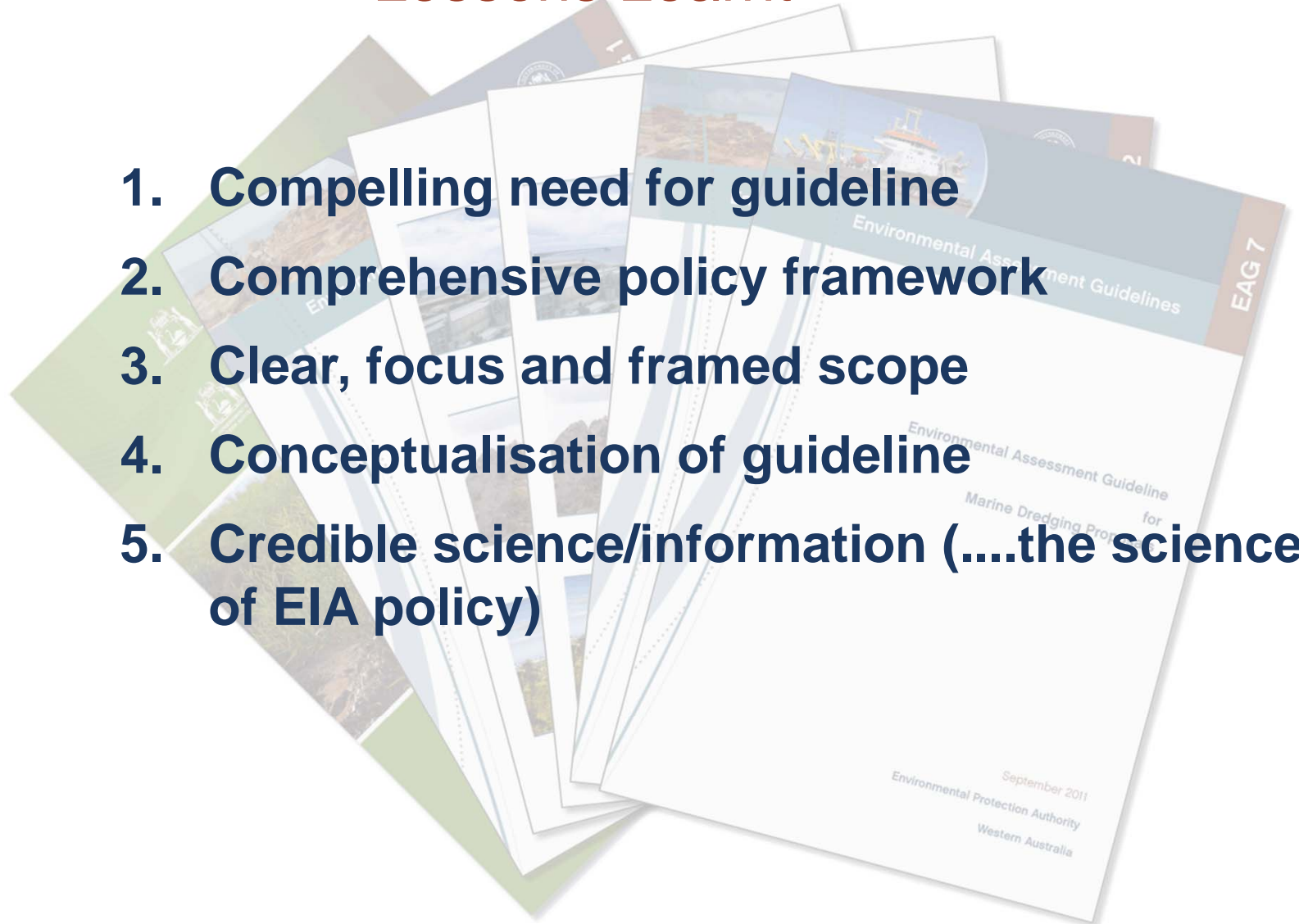
- Efficient and consistent EIA
- Clearly describes impact.
- Predictions readily translated into conditions.
- Sound basis for compliance and audit.

Uncertainty → Conservative approach



## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy framework**
3. **Clear, focus and framed scope**
4. **Conceptualisation of guideline**
5. **Credible science/information (...the science of EIA policy)**





# Developing Guidelines – Participation

Two distinct views on developing guidelines:

## 1. Science-focused view

- Good hard science is central to good policy
- Non-traditional sources of information have limited value
- Science is critical for a policy to gain credibility
- “Inform” or “Involve” on the IAP2 scale

## 2. Participation-focused view

1. A collaborative approach that involves shared decision making between stakeholders
2. Seeks to gain both stakeholder and political support
3. Deals with concerns that go beyond the science
4. Either “Involve or Collaborative” on the IAP2 scale

(Middle, 2010)

# Participation - IAP2's spectrum

*Increasing level of public impact* →

	<b>Inform</b>	<b>Consult</b>	<b>Involve</b>	<b>Collaborate</b>	<b>Empower</b>
<b>Public participation goal</b>	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solution.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
<b>Promise to the public</b>	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
<b>Example techniques</b>	<ul style="list-style-type: none"> <li>•Fact sheets</li> <li>•Web sites</li> <li>•Open houses</li> </ul>	<ul style="list-style-type: none"> <li>•Public comment</li> <li>•Focus groups</li> <li>•Surveys</li> <li>•Public meetings</li> </ul>	<ul style="list-style-type: none"> <li>•Workshops</li> <li>•Deliberative polling</li> </ul>	<ul style="list-style-type: none"> <li>•Citizen advisory committees</li> <li>•Consensus-building</li> <li>•Participatory decision-making</li> </ul>	<ul style="list-style-type: none"> <li>•Citizen juries</li> <li>•Ballots</li> <li>•Delegated decision</li> </ul>



# Participation - Tools used in writing and developing Guidelines



- Expert panels
- Technical workshops
- Trialling guideline approaches
- Reviewing case studies
- Stakeholder reference groups
- Community forums
- Community Councils
- Ministerial Working Groups
- Consultation Hub



# Participation - Stakeholder Reference Group

The EPA established a Stakeholder Reference Group (SRG) as an effective means of consultation with key stakeholders and peak industry bodies.

The core membership of the SRG is:

- Environmental Consultants Association
- Australian Petroleum Production and Exploration Association
- Association of Mining and Exploration Companies
- Chamber of Minerals and Energy
- Chamber of Commerce and Industry
- Conservation Council of WA
- World Wildlife Fund
- Office of the Appeals Convenor
- University sector
- Urban Development Institute of Australia
- WA Local Government Association
- Department of State Development
- Department of Environment and Conservation
- Department of Mines and Petroleum
- Department of Planning
- Western Australian Planning Commission

# Participation - Regional Community Council



	Representation	
Community (Chairperson)		Dept of Defence
Community (Environment)		Commonwealth Scientific and Industry Research Organisation (CSIRO)
Community (Recreation)		Dept of Mines and Petroleum
Community (Science)		Dept of Environment and Conservation
Conservation Council		Fremantle Ports
Rectis...est		Dept of Fisheries
WA Mussel Producers Association		Dept of Planning
Kwinana Industries Council		Water Corporation
City of Cockburn		Dept of Water
Town of Kwinana		Dept of Health
City of Rockingham		

# Participation – Consultation Hub



Citizen Space - Environmental Protection Authority Consultation Hub - Windows Internet Explorer provided by IT Operations

https://consultation.epa.wa.gov.au/

File Edit View Favorites Tools Help

Favorites Citizen Space - Environmental Protection Authority Co...

ENVIRONMENTAL PROTECTION AUTHORITY

ENVIRONMENTAL PROTECTION AUTHORITY

Consultation Hub Find Consultations

Manage: Departments Consultations Users Interests Audiences Areas Pages Saved Questions Analyse Consultations

## EPA consultation and public comment

Welcome to the EPA consultation hub

Providing opportunities for public participation and consultation is an integral part of environmental impact assessment and developing sound environmental protection policies in Western Australia. The EPA publishes all documents open for public comment on this consultation hub.

Don't think that you are only one voice and you won't make a difference. Just one well-reasoned submission that raises a valid concern or offers a constructive suggestion can be very helpful and important.

Forthcoming Consultations	
Title	Date Starts
Boonanarring Mineral Sand Mine, approximately 15 km North of Gingin	26 Oct 2012

Open Consultations	
Title	Date Ends
Aged Care Facility Development, Armstrong Reserve, Dunsborough – Cape Care	29 Oct 2012
Draft Forest Management Plan 2014-23	7 Nov 2012
Environmental Assessment Guideline for Environmental Offsets	21 Dec 2012

Closed Consultations   
No closed consultations at this time.

Citizen Space from Delib



[Accessibility](#) [Terms of Use](#) [Cookies](#) [Privacy](#) [Help / Feedback](#)

Internet 90%



# Participation – Consultation Hub



**ENVIRONMENTAL PROTECTION AUTHORITY**

Consultation Hub Find Consultations

### Introduction

Progress  Page 1 of 2

**1 What is your name?**  
Name

**2 What is your email address?**  
This is optional, but if you enter your email address until you submit it, you will also receive an address.  
Email

**3 What is your postal address?**  
Postal address *(Required)*

**4 Preferred option for decision by the EPA**  
More Information  
 More Information  
*(Required)*  
 Do not assess  
 Assess - no Public Review  
 Assess - with Public Review

**5 What are the reasons for your preferred option?**  
*(Required)*

Note - we cannot use your answers until you Submit  
Note - we will be unable to process your response

If you would like to save your response and complete it at another time, we will send you a link so you can return later.  
If you don't intend to complete your response, please also click the 'save response' button before you leave as this will prevent other users of this computer from seeing your answers so far.

© Citizen Space from Delib Accessibility Terms of Use Cookies Privacy Help / Feedback

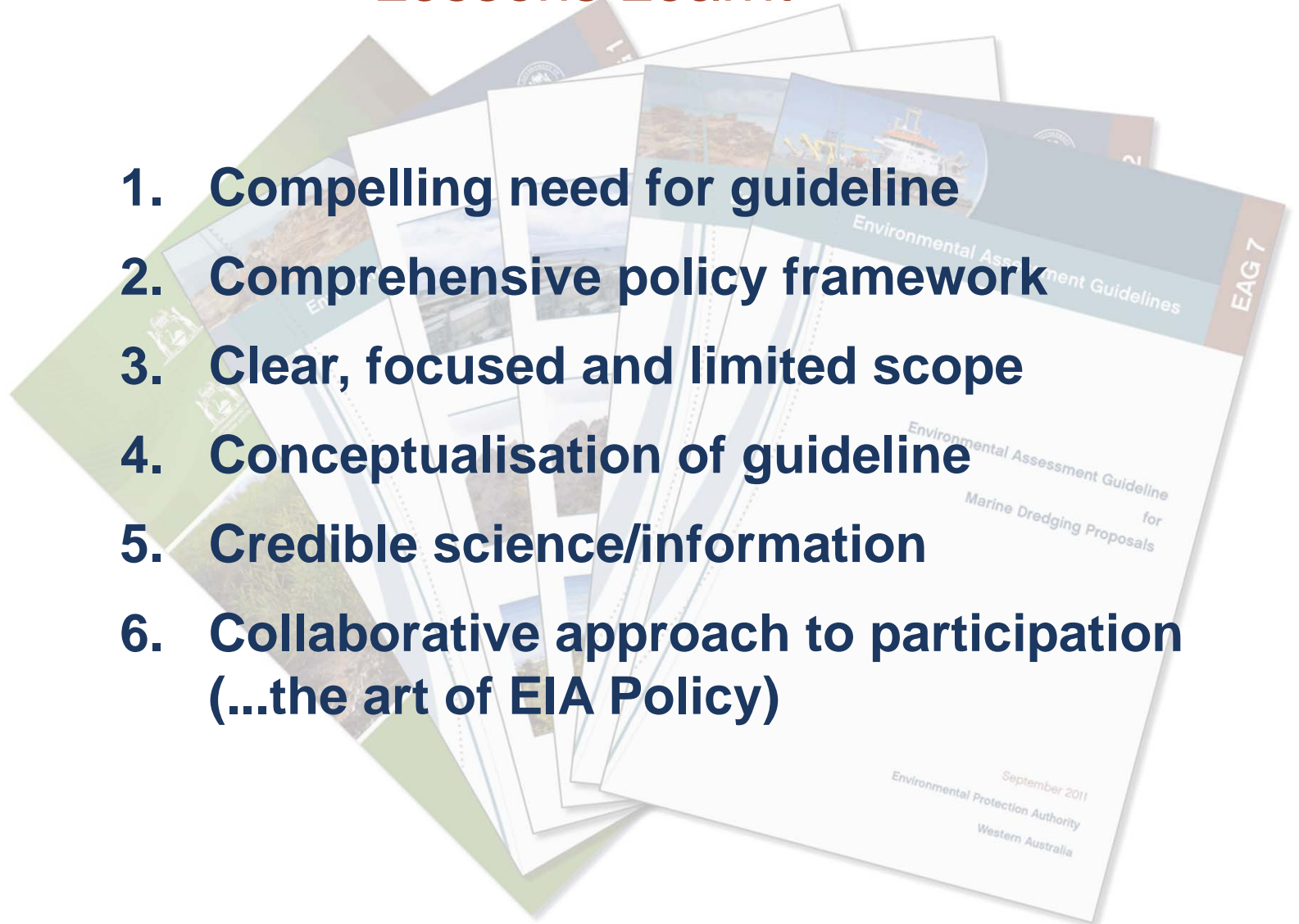
**ENVIRONMENTAL PROTECTION AUTHORITY**

**Give Us Your Views**  
[Online Survey](#)

© Citizen Space from Delib Accessibility Terms of Use Cookies Privacy Help / Feedback

## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy framework**
3. **Clear, focused and limited scope**
4. **Conceptualisation of guideline**
5. **Credible science/information**
6. **Collaborative approach to participation  
(...the art of EIA Policy)**



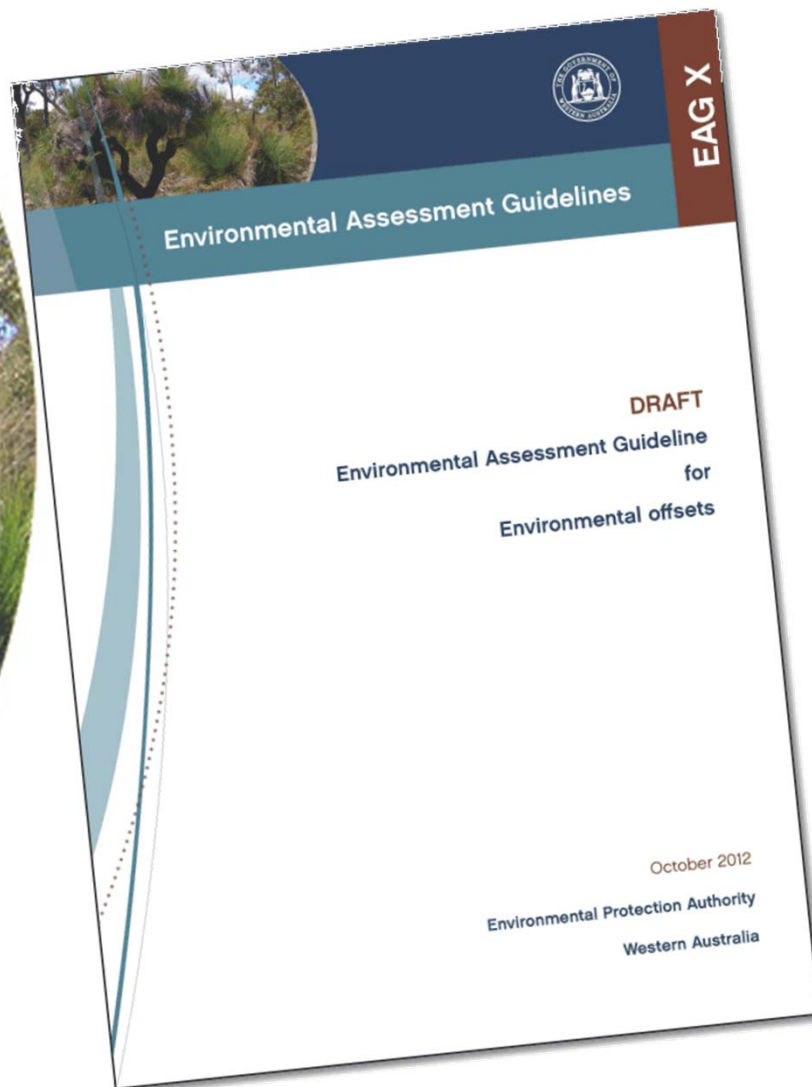
# Developing Guidelines – Communication with Target Audience



## Target Audience

- Consultants
- Proponents
- NGOs
- Assessment Staff
- Environmental Protection Authority
- Other decision making authorities
  - local, regional, State, and Commonwealth
- Academics
- Ministers

# Developing Guidelines – Offset Case Study



Draft  
Environmental Assessment  
Guideline for  
Environmental offsets

# Developing Guidelines – Workshops



## ECA/EPA OFFSETS WORKSHOP

18 October 2012 Technology Park Auditorium, Bentley

### WORKSHOP PROGRAM

#### 8.30 Registrations open and coffee

- 9.00 Welcome and introduction – Ian Le Provost
- 9.05 OPENING by WA Minister for Environment (Mr Bill Marmion MLA): The State Offset Policy.
- 9.20 EPA Chairman: Dr Paul Vogel: How the EPA has adopted new practice in light of the State Offset Policy.
- 9.45 OEPA Manager Strategic Policy: Naomi Arrowsmith: Outline the application of offsets through part IV of the Environmental Protection Act (assessment of significant proposals) and discuss the draft EPA guidance.
- 10.15 DEC Principal Environmental Officer, Native Vegetation Conservation: Jane Clarkson: Outline the DEC's approach to offsets through Part V of the Environmental Protection Act (native vegetation clearing permits).
- 10.45 Question time (15 mins)

#### 11.00 - 11.30 Morning tea (30 mins)

- 11.30 DEC Area Manager North, Environmental Management Branch: Nic Woolfrey: "Offsets to address strategic conservation priorities"
- 12.00 OEPA Director Marine Ecosystems Branch: Dr Ray Masini: Case study of a strategic approach to offsets –The WAMSI dredging science node.
- 12.30 Question time (15 mins)

#### 12.45 – 1.30pm LUNCH (45 mins)

- 1.30 CwIth Dept SEWPaC Regulatory Reform Taskforce Head: Kelly Pearce: SEWPaC expectations of consultants and proponents and demonstration of offsets calculator for mitigation of adverse impacts under EPBC Act Assessments.
- 2.30 Question time (15 mins)

#### 2.45 – 3.15 Afternoon tea (30 mins)

- 3.15 Consultant perspective: Darren Walsh, Strategen/ECA: consultant's role and perspective of the offsets process and expectations of regulators and proponents
- 3.45 Proponent perspective: Kane Moyle, Manager Environment, WA Chamber Minerals and Energy. The Proponents role and perspective of the Offsets process and expectations of regulators and consultants
- 4.15 NGO perspective: Piers Verstegen, Director CCWA NGO perspective and role in offsets process and expectations of stakeholders in delivery of suitable offsets.
- 4.45 Question time (15 mins)
- 5.00 Closing remarks: Ian Le Provost

#### 5.05 Sundowner (drinks and nibbles till 6.30pm)



# Developing Guidelines – Seminar Webminar



White Box Studio's Videos on Vimeo - Windows Internet Explorer

http://vimeo.com/studiovideos/videos

File Edit View Favorites Tools Help

Stakeholder Reference Grou... White Box Studio's Video...

40 Videos 0 Appearances 40 Total

Sort: Date / Alphabetical / Plays / Likes / Comments / Duration

**4. Jane Clarkson-HD 720p Video Sharing**  
19 hours ago

**Kayne Moyle - 'The proponents role and p...**  
1 day ago

**Feach Moyle - 'Expectations of consultant...**  
1 day ago

**Dr Ray Masini - 'Case study of a strategic ...**  
2 days ago

**Naomi Arrowsmith - 'Outline of the applica...**  
2 days ago

**Paul Vogel - 'How the EPA has adopted ne...**  
2 days ago

**BROWSE VIDEOS**

Here are all of the videos that **White Box Studio** has uploaded to Vimeo. Appearances are videos that White Box Studio has been credited in by others.

**Follow**

**ALSO CHECK OUT**

More stuff from White Box Studio

**40 Videos**

**2 Portfolios**

**6 Likes**

**1 Channel**

**29 Groups**

**3 Following**

**NEED HELP?**

If you have questions about what's on this page, look here first: [Help](#) / [FAQ](#) / [Video](#)

**Keyboard Shortcuts**

← Prev page → Next page  
⌂ Prev video ⌂ Next video

**White Box Studio's Videos**

[vimeo.com/51896578](http://vimeo.com/51896578)

Internet 100%



# Developing Guidelines – Building Relationships



(L-R) Anthony Sutton, Director Assessment and Compliance, OEPA; Dr Angus Morrison-Saunders, Murdoch University; Dr Paul Vogel, Chairman EIA; Ian Le Provost, ECA WA President  
Photo: Rosemary Griston, OEPA

## EIA process update forum

Nearly 100 environmental assessors gathered last month to discuss the effectiveness and efficiency of the environmental impact assessment process.

The EIA Process Update forum, organised by the EPA and the Environmental Consultants Association (ECA), also provided attendees with an opportunity to discuss and review the progress of the *EIA Administrative Procedures 2010*.

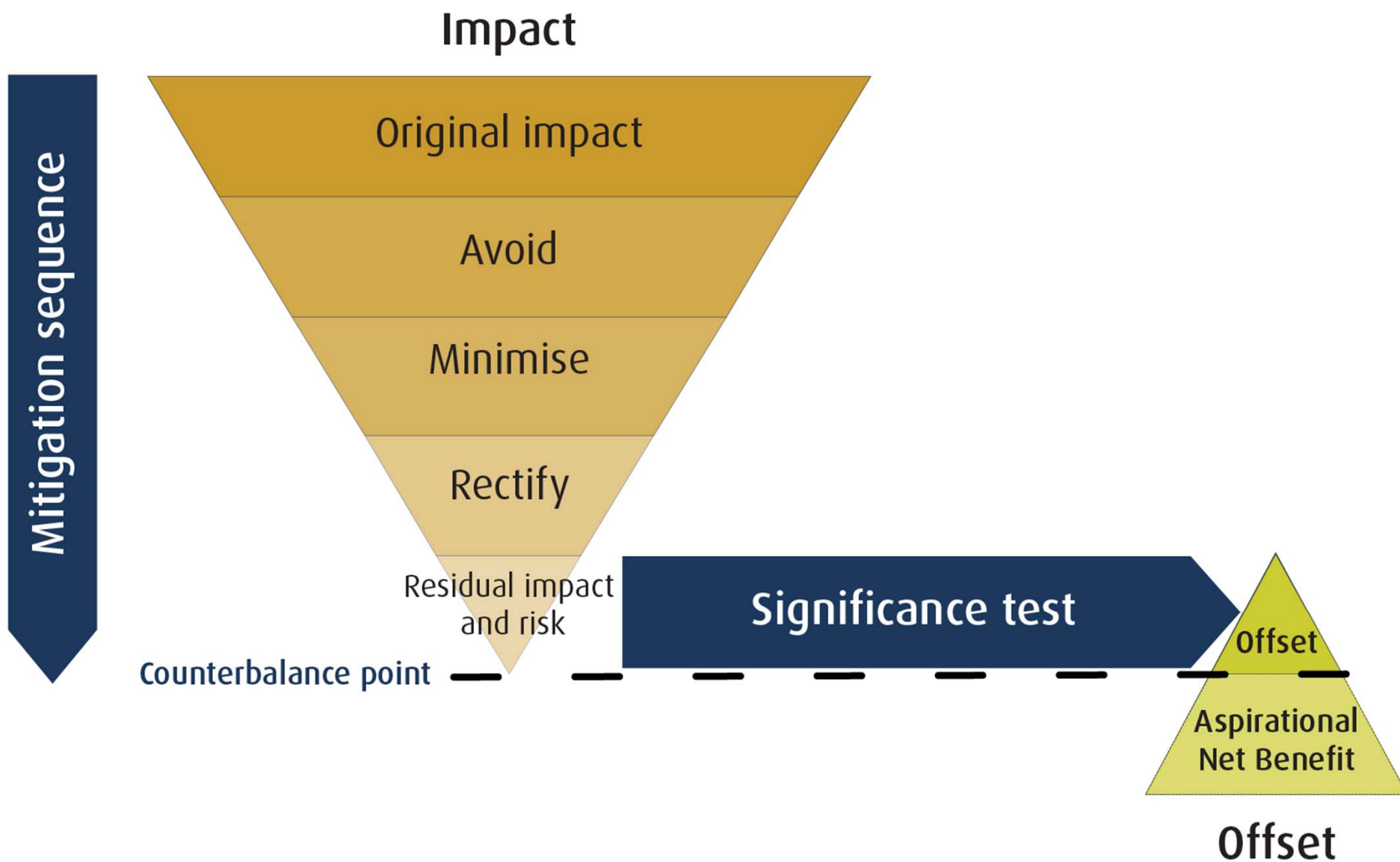
The half-day forum was aimed at improving and increasing cooperation, understanding, consistency and effectiveness in the delivery of an assessment under WA's current EIA process.

Chaired by independent facilitator Angus Morrison-Saunders, the forum featured a panel discussion including EPA Chairman Paul Vogel.

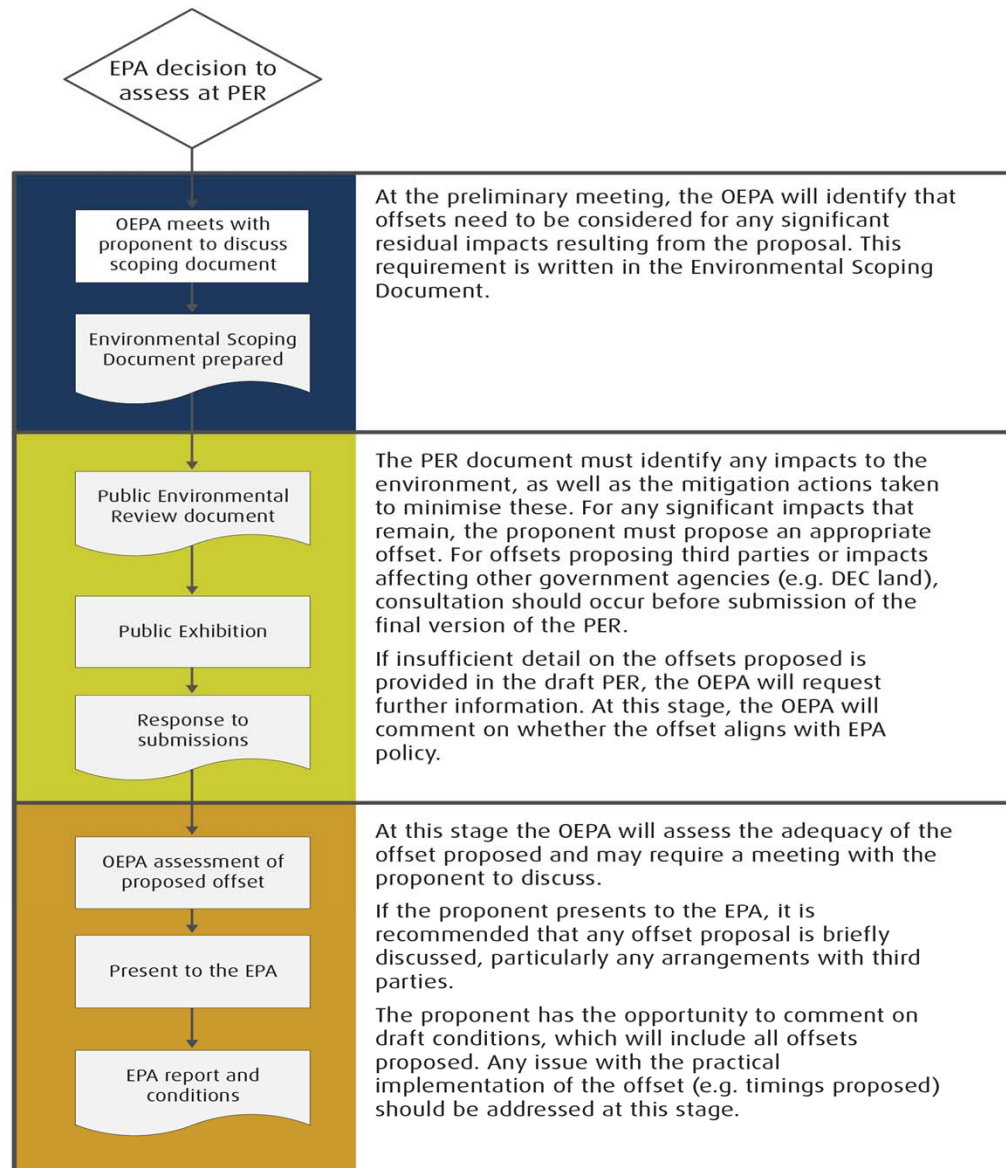
Dr Vogel said the main objective of the forum for the EPA was to obtain valuable feedback from consultants and proponents on their experience with the EIA process.

ECA WA president Ian Le Provost said, "The ECA received a number of congratulatory comments from those who attended, [p3](#)

# Developing Guidelines – Simplifying Process



# Simplified EIA process map for offsets





## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy framework**
3. **Clear, focused and framed scope**
4. **Conceptualisation of guideline**
5. **Credible science/information**
6. **Collaborative approach to participation**
7. **Champions of guidelines**
8. **Communication with target audience  
(....right message to the right people at  
the right time)**



# Implementing Guidelines – Outcomes & Costs



## KPIs for 2011-12

**408** referrals Public advice given on **120** referrals

**38** reports released

**55** compliance audits completed

**15** changes to conditions approved

**45** changes to proposals approved

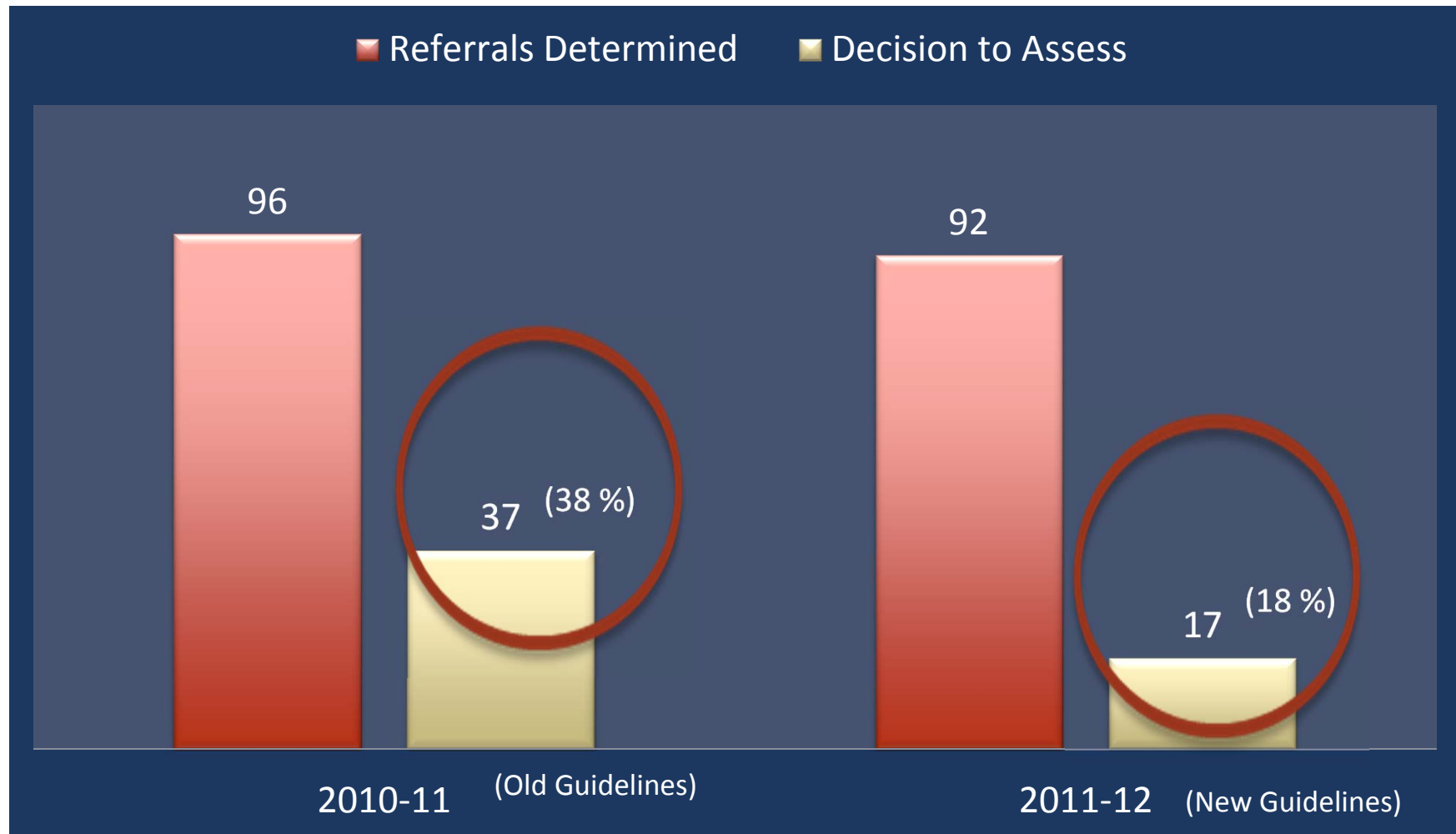
Accuracy of predicting environmental impacts **100%**

**87%** of audited projects met all environmental conditions

**80%** of assessments met agreed initial timelines

Average cost per assessment **\$40,688**

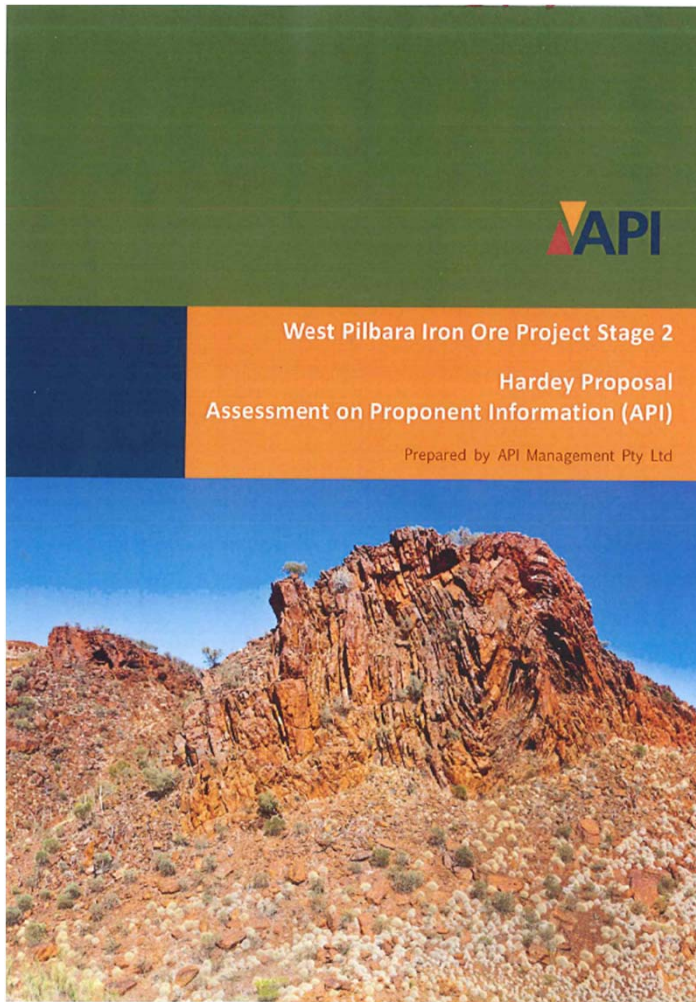
# Implementing Guidelines – Reduction in Formal Assessments



## Lessons Learnt

1. **Compelling need for guideline**
2. **Comprehensive policy context**
3. **Clear, focused and framed scope**
4. **Conceptualisation of guideline**
5. **Credible science/information**
6. **Collaborative approach to participation**
7. **Champions of guidelines**
8. **Communication with target audience**
9. **Cost effective and efficient (...focus on the things that matter)**

# Implementing Environmental Assessment Guidelines Case Study – West Pilbara Iron Ore Project



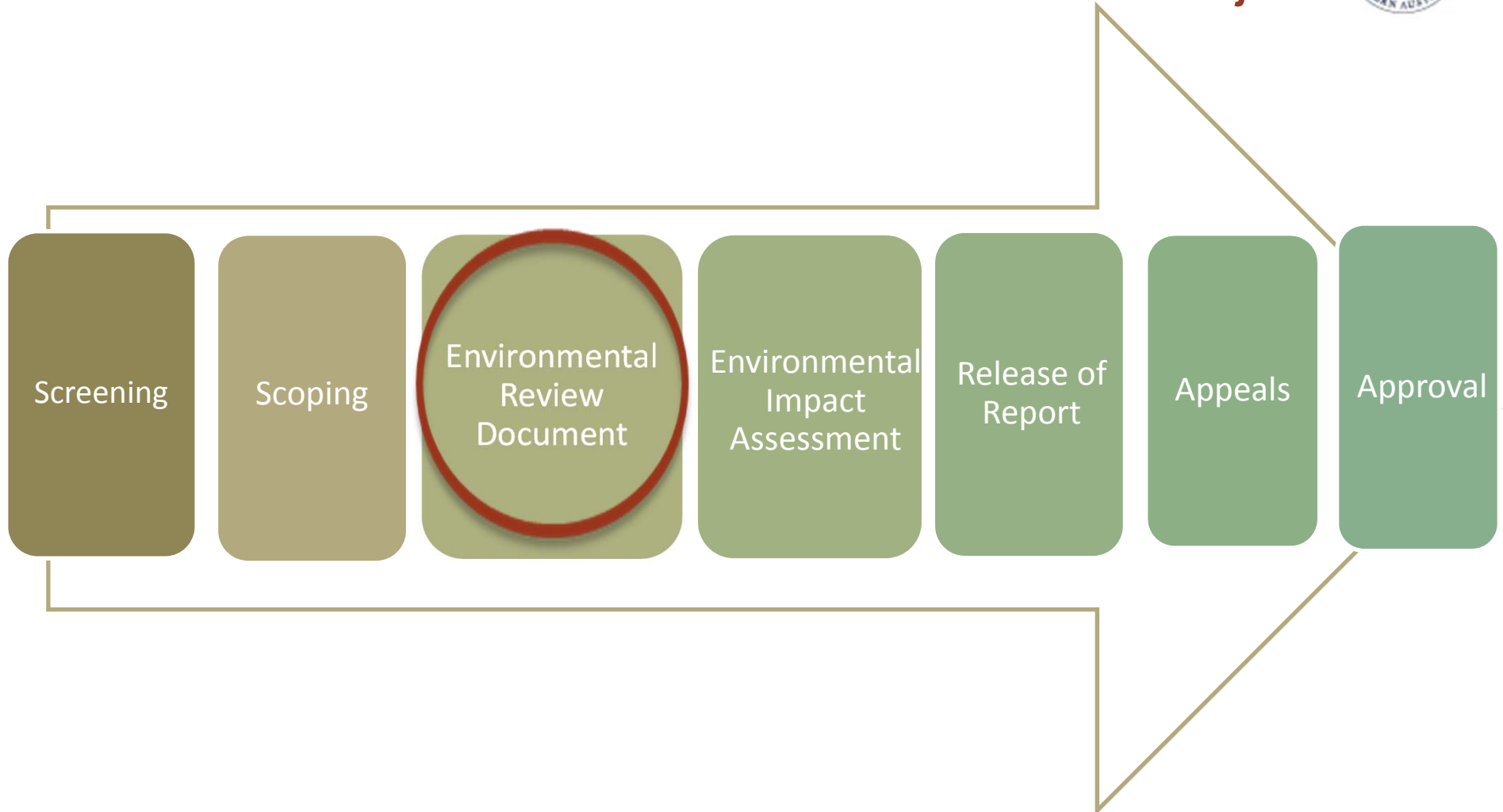
## Mine

- Mine life 10 to 15 years
- Resource 156 Mtpa Iron Ore
- Open Cut, blast and drill
- Dewatering 1.5 Glpa
- 650 hectares clearing vegetation
- Overburden - backfilling

## Infrastructure

- Railway 150 kilometres
- Maintenance road 150km
- Power station 18 MW gas
- Gas pipeline 40km
- Conveyors
- Sewage treatment
- Accommodation village

# EIA Process – West Pilbara Iron Ore Project



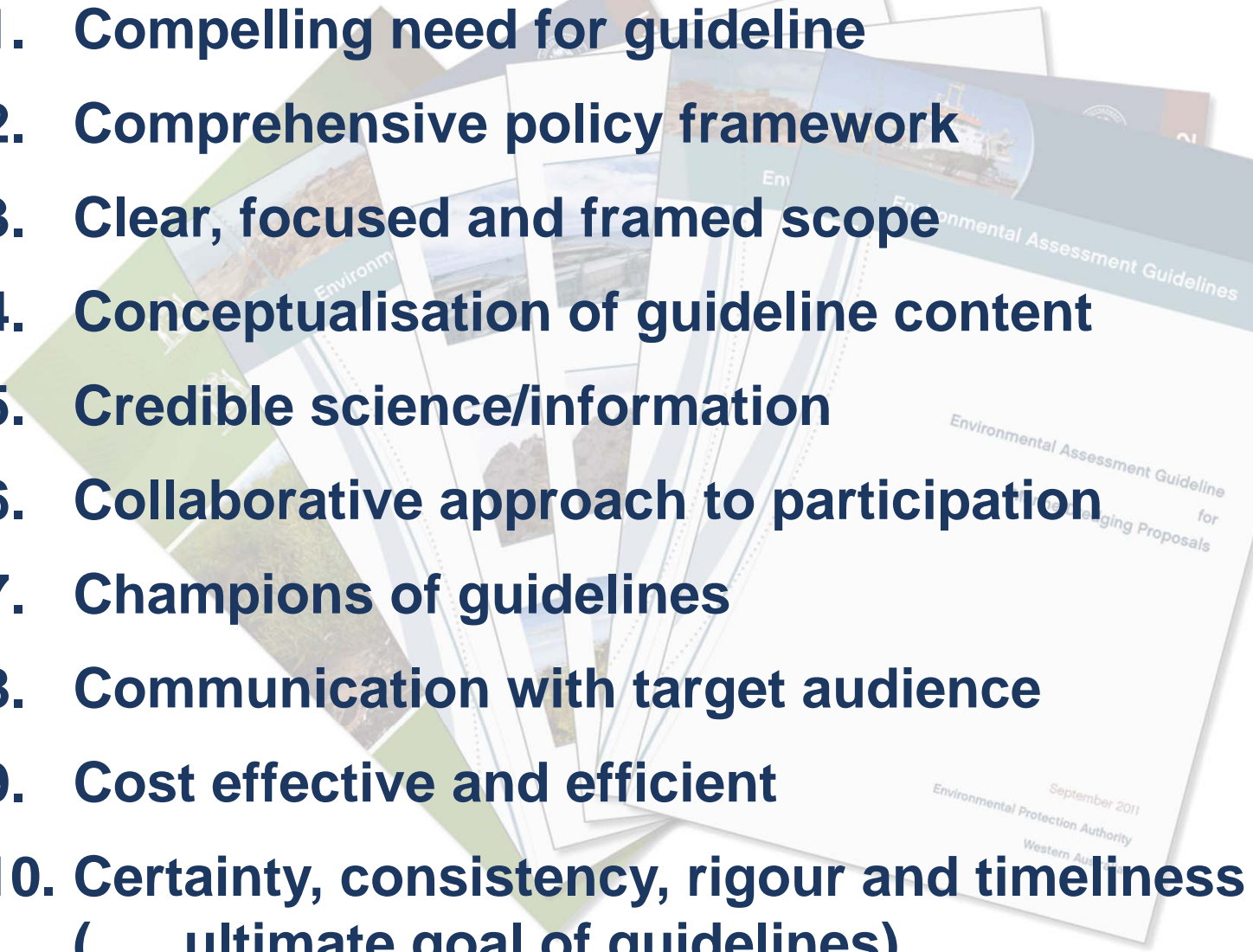


# Use of Environmental Assessment Guidelines - West Pilbara Iron Ore Project



EAG No.	EAG - Topic
1	Proposal Definition
3	Buffers Distances
6	Rehabilitation of Terrestrial Ecosystems
8	Environmental Noise
12	Minimising Greenhouse Gases
17	Site Remediation for Contaminated Soil
18	Air Quality
19	Environmental Offsets
20	Sampling of Short Range Endemics for EIA
33	Land -use Planning
41	Aboriginal Heritage
51	Terrestrial vegetation and flora surveys for EIA
54	Sampling of subterranean fauna in groundwater and caves
55	Implementing Best Mgt Practice in proposals submitted for EIA
56	Terrestrial Fauna surveys for EIA

## Conclusions and Lessons Learnt

1. **Compelling need for guideline**
  2. **Comprehensive policy framework**
  3. **Clear, focused and framed scope**
  4. **Conceptualisation of guideline content**
  5. **Credible science/information**
  6. **Collaborative approach to participation**
  7. **Champions of guidelines**
  8. **Communication with target audience**
  9. **Cost effective and efficient**
  10. **Certainty, consistency, rigour and timeliness  
(.....ultimate goal of guidelines)**
- 

# Conclusiones y Lecciones Aprendidas

1. Necesidad real de guías
2. Marco regulatorio y de políticas exhaustivo
3. Alcance claro, enfocado y enmarcado
4. Conceptualización del contenido de guías
5. Información técnica creíble
6. Enfoque colaborativo a la participación
7. Campeones de las guías
8. Comunicación con audiencia objetivo
9. Costo efectividad y eficiencia
10. Certidumbre, consistencia, rigurosidad, y oportunidad



## Summary

### **The Australian experience in writing and implementing EIA guidelines**

- Context.
- Policy Framework.
- Developing and Writing EIA Guidelines.
- Implementing EIA Guidelines
- Learnings from case studies
  - The Ten “C”s

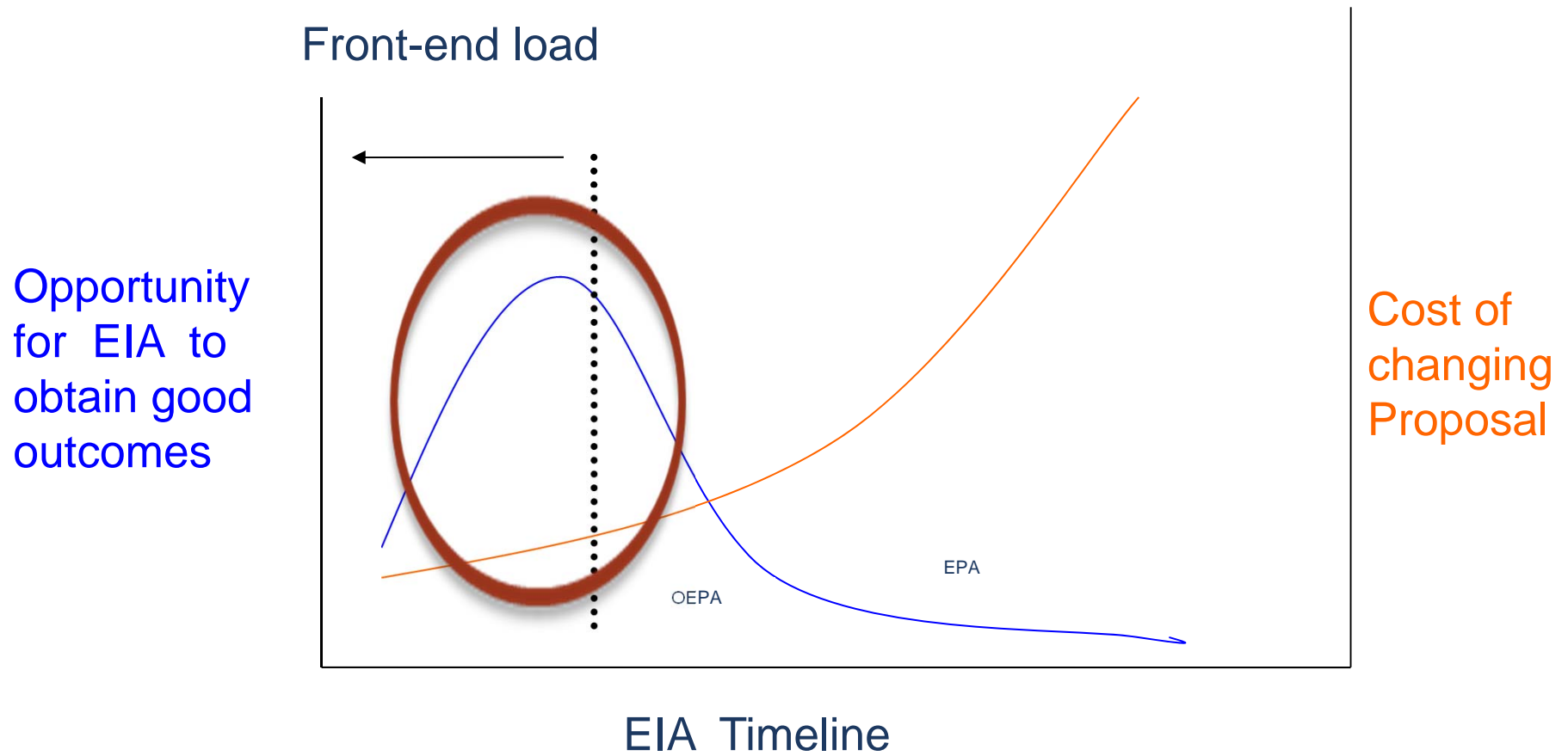


**Gracias por su tiempo !**





# Final Message – *Opportunity for the Future*





## Final Message – *Opportunity for the Future*

### Front-end Loading.....

- Government provides clear EIA guidelines and evaluation criteria from the start.
- Proponent engages in robust planning and design at the front end of a project, where the cost to make changes in design is relatively low.
- Opportunity for real economic and environmental benefits for proponents, Government and community.
- Resulting in greater certainty, consistency, rigour and timeliness (eliminating unnecessary delay and duplication).