Assessing the health of estuaries: an Australian perspective

or ‘How do we catch up?’
Key principles

- Water quality is not enough
- Don’t reinvent the wheel
- No excuses
- Vision is crucial
The importance of biota (Water quality is not enough)

US Clean Water Act: ‘…restore and maintain the physical, chemical and **biological** integrity of the nation’s waters’

EU Water Framework Directive: ‘… achieve good chemical and **ecological** status by 2015’
Learning from others (Don’t reinvent the wheel)

Tier 1
Landscape-level assessment

Tier 2
Rapid condition assessment

Tier 3
Intensive site assessment

Multiple indicators

USA
(Nestlerode et al. 2008)

Europe
(de Jonge et al. 2006)

Diagnostic monitoring

Operational monitoring

Surveillance monitoring
South African pragmatism, European cooperation (No excuses)

**South Africa:**
- Large scale assessments: >190 estuaries across many bioregions
- Flexible approaches for data poor systems

**Europe:**
- Large scale assessments: transitional waters across 27 countries
- Sophisticated approaches to intercalibration

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![Map of South Africa](image1.png)

*Fig. 2. The distribution and relative positions of small closed estuaries, moderate to large closed estuaries, and predominantly open estuaries in the warm-temperate biogeographic region.*

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![Map of Europe](image2.png)

*Nicolas et al. 2010*
The legislative context (Vision is crucial)

- **Europe**
  - Water Framework Directive

- **USA**
  - Clean Water Act

- **South Africa**
  - National Water Act

Legal requirement stimulates innovation and rigour

- **Australia**
  - ?

- No legislation to drive innovation
- Vision and commitment required
Lessons

- Ecological and social indicators are essential
- Rigorous evaluation of existing schemes and adoption of appropriate tools
- Pro-active, ‘can-do’ approach
- Collaboration, vision, commitment are required