

NATIONAL
MARINE

SCIENCE

SYMPOSIUM

Theme 6 – Resource allocation

- Sub-title – decision support for sharing natural resources and environmental assets
- Coordinators – Terry Walshe and Tony Smith
- Contributions from:
U Queensland, FRDC, SRL Ltd, SARDI, IMAS, RDS partners, ANCOR, U Technology Sydney, U Adelaide, U Tasmania, Southern Cross University, Aquaculture Without Frontiers, U Western Australia, FRDC Indigenous Reference Group, APPEA, DEWNR (SA), GA, AIMS, CSIRO

Relevance

- Aim of resource allocation to ensure use of natural and environmental resources provides the greatest sustainable benefit to society
- Research broadly supports resource users and resource (including environmental) managers
- Estuaries, seas and oceans are increasingly crowded and contested spaces



Increasing competition among users

Pleas to protect WA marine life ramps up
COURTNEY TRENWITH
03 Aug, 2011 02:00 AM

PETROLEUM giant BP will spend \$1.43 billion on new offshore oil region in the Great Australian Bight

Don't come the raw prawn with us: fishing industry says
Daniel Bateman, Thursday, August 4, 2011
© The Cairns Post

Can you protect the environment while drilling for oil and gas?
by Crikey naturalist Lionel Eelmore

Fears towns to suffer under marine reserves

Kirsty Sexton-McGrath and David Lewis
ABC News

Marine security vital for coral reefs

June 23 2006 at 03:19am

Marine park plan slammed by conservation group

Lucy Rickard
August 23, 2011

Fears marine parks threaten prawn fishing industry

David Lewis and Stephanie Fitzpatrick
Posted August 25, 2011 09:08:11

Marine life not protected: scientists
August 5, 2011

No quick fix to find marine park balance
Western Australian Premier Colin Barnett says it will take time to find a balance between conservation and fishing off the coast

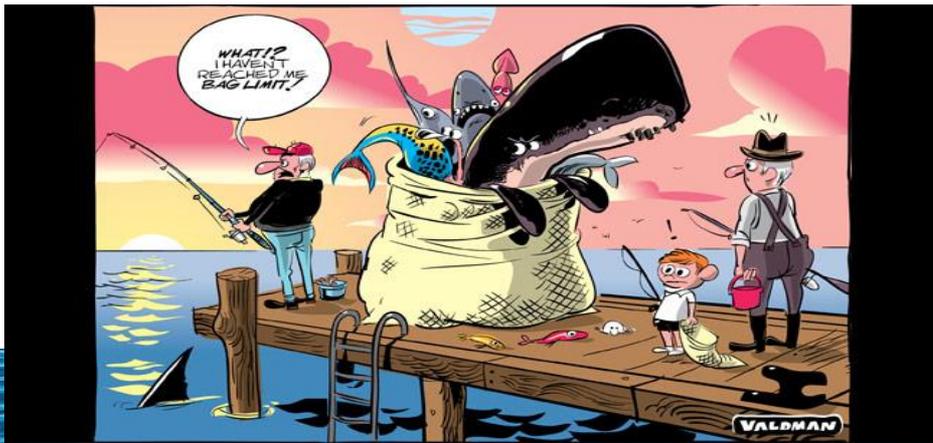
Unnecessary regulation fishing industry

Anglers fear for fishing future

Seabed Mining: plunging into the depths of a new frontier
By [Cole Latimer](#) on 10 August 2011

...will harm



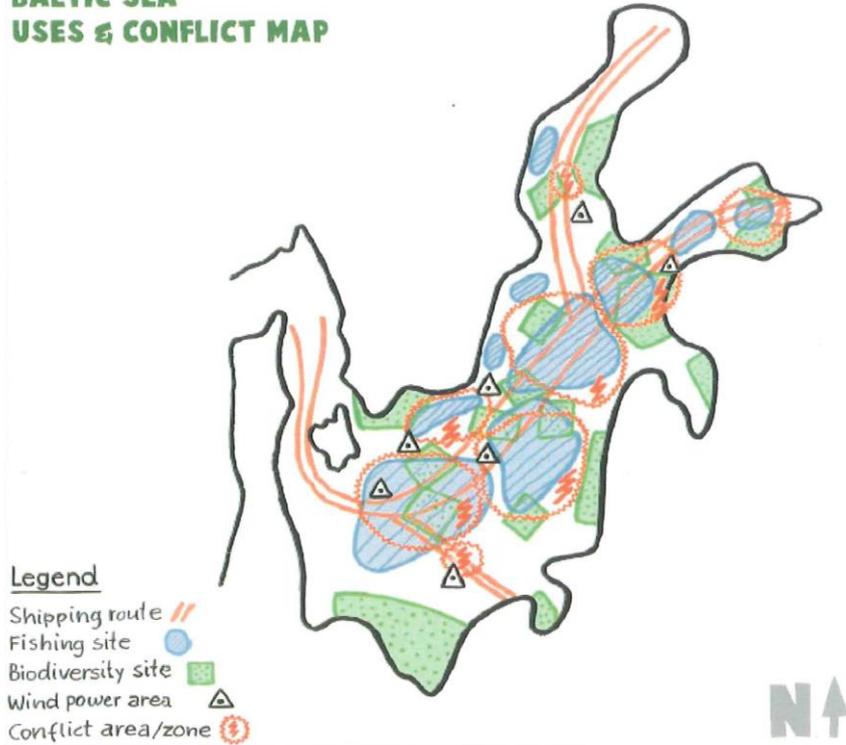


© Original Artist
 Reproduction rights obtainable from
 www.CartoonStock.com

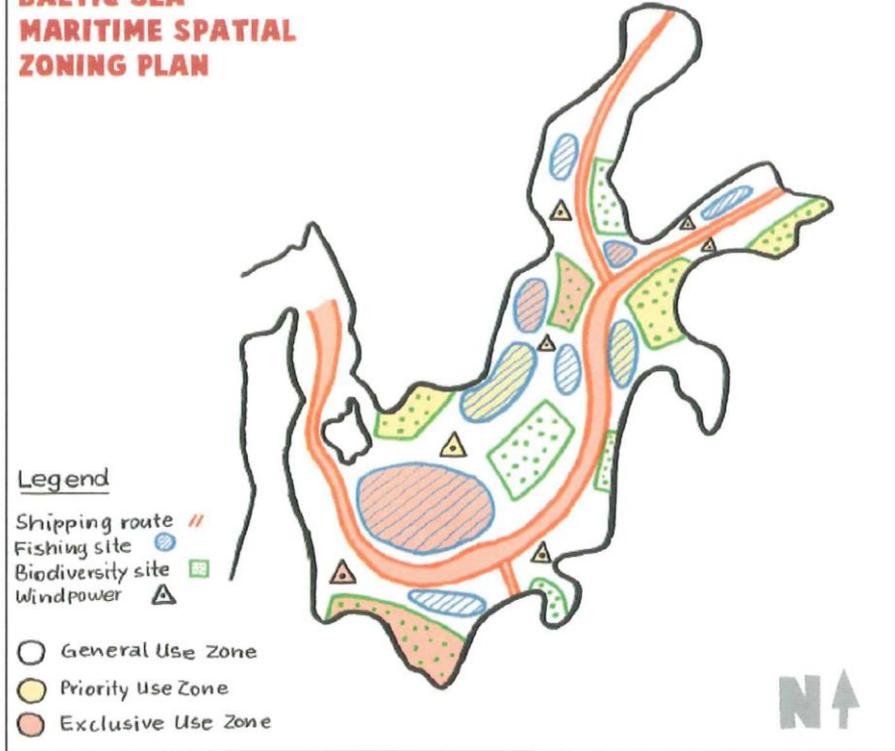
Maritime Spatial Planning

European
Commission

BALTIC SEA USES & CONFLICT MAP



BALTIC SEA MARITIME SPATIAL ZONING PLAN



Try to avoid this ...



And this ...



And this



Research environment

- Increasingly multi-disciplinary
- Marine focus in universities, federal and state agencies, some consortia, but often fragmented
- Research feeds into an uncertain policy environment
- Funding is fragmented and lacks coordination

Research needs

- Four challenges
 - Poor problem formulation
 - Complex social-ecological systems
 - Optimization or tradeoffs?
 - Inadequate governance structures

Problem formulation

- Resource allocation decisions require
 - Articulation of objectives and values
 - Consideration of alternative allocations across space and time
 - Predictions of consequences of alternative decisions and highlighting of tradeoffs

Problem formulation

- Research challenges
 - Elicitation of objectives
 - Including non-market values
 - Including social and cultural aspects
 - Recognising and including indigenous interests

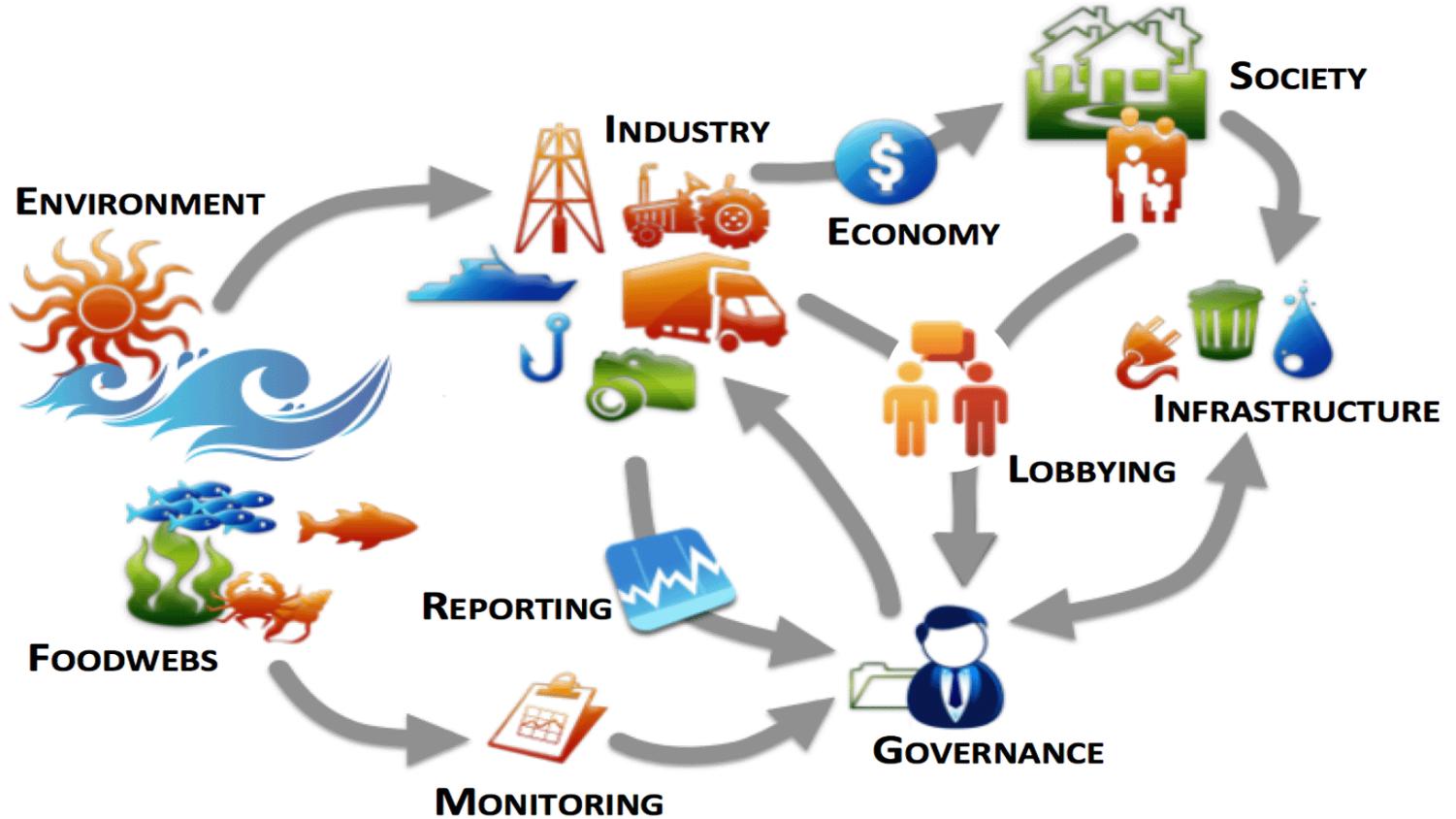
Complex systems

- Allocation of marine resources is a “wicked problem”
- Predicting human responses to allocation decisions
- Uncertainty as an excuse for vacillation, procrastination, or justification of status quo
- Costs of indecision and inaction

Complex systems

- Research challenges
 - Decision support under uncertainty
 - Identifying and prioritizing the information that will make a difference
 - Diversifying the predictive tools
 - Capturing chronic and cumulative impacts
 - Predicting social responses: socio-ecological system modelling

Socioecology



Optimization and tradeoffs

- Aim of resource allocation is maximum benefits to society
- But society diverse, winners and losers, not usually amenable to strict optimization
- Important to recognize all interests and be clear about tradeoffs
- Engagement and communication essential

Optimization and tradeoffs

- Research challenges
 - Methods to address the full suite of social, cultural, economic and environmental values
 - Improved methods for engagement across multiple sectors and uses
 - Assessing and communicating tradeoffs

Governance structures

- Sectoral governance arrangements are well established but multiple use governance is not
- Context of changing social values and priorities at the same time that pressures are increasing
- Simultaneous demands to reduce regulatory costs

Regulatory complexity



Governance structures

- Research challenges
 - Applied research into new participatory and consultative approaches to ocean governance
 - Fostering the necessary inter-disciplinary and trans-disciplinary tools and approaches
 - There are important international dimensions to governance

Realisation

- No clear appetite in government for “integrated oceans management”
 - But resource allocation issues remain
- Value in high profile case studies
- Need for closer collaboration
 - Across research providers
 - Across disciplines

National centre?

- NCEAS model? CRC?
- Continue to develop better tools
- Training in interdisciplinary integration, complex system thinking, stakeholder engagement, applied analysis
- National marine data – assets and uses

MUM, IOM, EBM

- Set allocation in the context of multiple use, integrated oceans management, ecosystem based management (and other current buzz words)

Managing Multiple Uses



Linkages

- Multiple use focus implies cross linkages to most other themes
- Common messages
 - Multi-disciplinary
 - Understanding socio-ecological systems
 - Information and data needs
 - Many tools needed in the toolbox

Summary

- Integrated oceans management remains elusive, scope in contention
- Big improvements possible in evidence-based decision making
- What is really new?

Contributions

- Ken Anthony, Ainsley Archer, Kate Barclay, Brendan Brooke, Michael Burton, Chris Calogeras, Simon Costello, Colin Creighton, Beth Fulton, Fiona Gibson, Bronwyn Gillanders, Quentin Hanich, Marcus Haward, Trevor Hutton, Sarah Jennings, Richard Kenchington, Carissa Klein, Keld Knudsen, Jonathan Kool, Tom Lewis, Aaron MacNeil, Bruce Mapstone, Gary Morgan, Ray Murphy, Roy Palmer, Sean Pascoe, Hugh Possingham, Abbie Rogers, Keith Sainsbury, Stephan Schnierer, Tony Smith, Patricia von Baumgarten, Michelle Voyer, Terry Walshe, Tim Ward,



My question is: are we making an impact?