

Title



Research challenges for the future to ensure sustainability

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FRDC - Who are we?

1. Banker
2. Politician
3. Banker
4. Investor





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Road Map

1. What is the community saying about us ?
2. How are we responding ?
3. Need to look beyond the environment – what are we doing to get the balance right?
4. Role of knowledge innovation

Environment ↔ Economics ↔ People

The message the community is hearing

SCIENCE • VOL. 279 • 6 FEBRUARY 1998 • www.sciencemag.org

Fishing Down Marine Food Webs

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Science, Vol 282, Issue 5393, 1383, 20 November 1998
[DOI: 10.1126/science.282.5393.1383a]

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How Pervasive Is "Fishing Down

In their report (1), and in an earlier paper (2), D. Pauly *et al.* fish stocks with the use of research data fitted to Ecopath with data on global fishery landings collected by the Food and Agriculture Organization (FAO). Although Pauly *et al.* are to be congratulated for giving this situation with their hypothesis a mean trophic level of marine life, the explanation is solely a result of *et al.*, substantiates such a thesis.

www.nytimes.com
The New York Times
ON THE WEB

letters to nature

Rapid worldwide depletion of predatory fish communities

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"Dirty Fishing" Empty Oceans, Experts Say

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Sharon Guymup
[National Geographic Channel](#)
August 11, 2003

SCRIPTING THE CASE FOR WAR

9 WORLD REPORT
U.S. News
JUNE 9, 2003

EMPTY OCEANS

WHY THE WORLD'S
SEAFOOD SUPPLY IS
DISAPPEARING

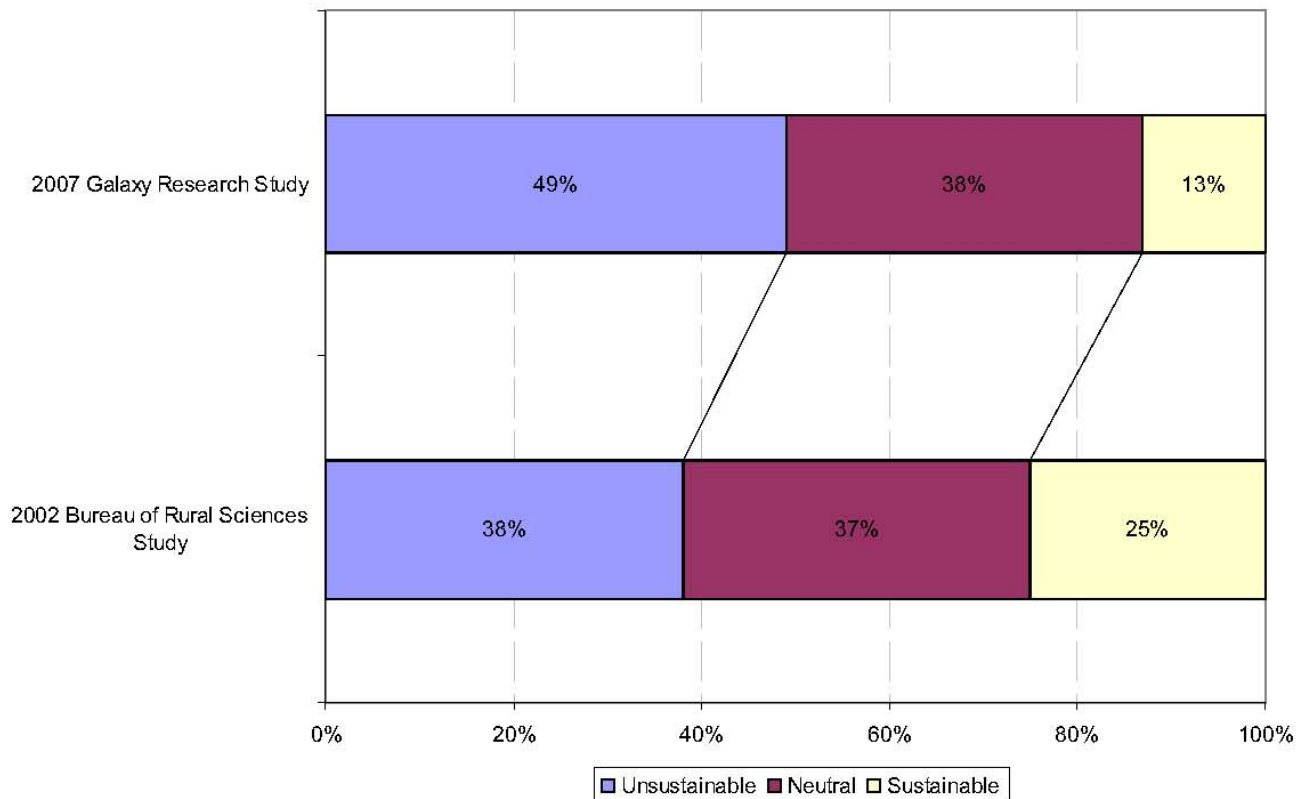
A SPECIAL REPORT

Source: FAO - Grimur Valdimarsson

Public perception – not improving

Main Findings

- ▶ Just 13% of Australians feel that commercial wild-catch fishing is sustainable in its current form, this figure is 12 percentage points lower than when this question was asked five years ago.



What are Australian regulators saying?

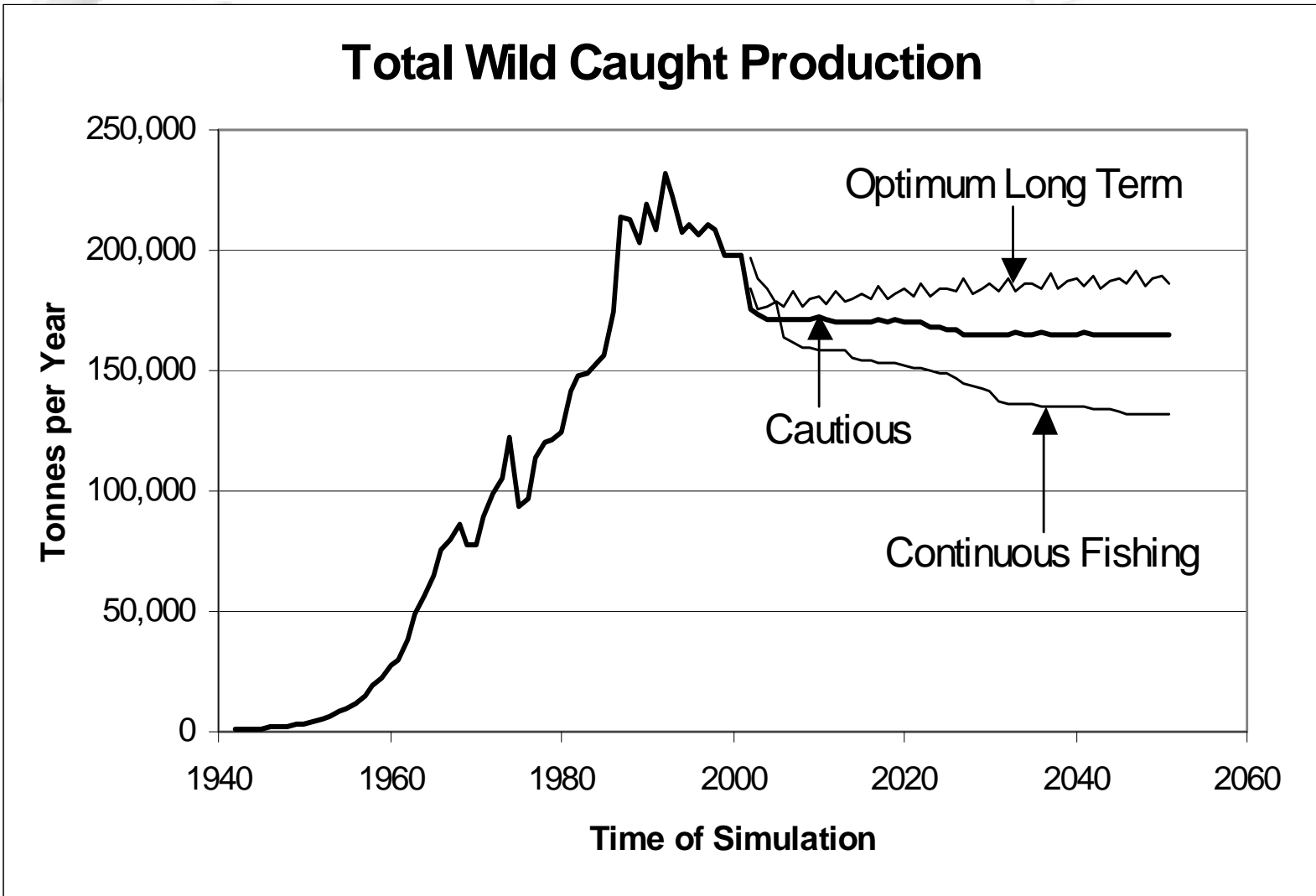
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- "Fisheries in Commonwealth-managed waters continue to be under pressure but, because of a lack of data, it is not clear whether fisheries managed by the states and the Northern Territory are also under pressure."

<http://www.environment.gov.au/soe/2006/publications/summary/progress.html>

2007 State of Environment Report

Australian Fisheries in 2050



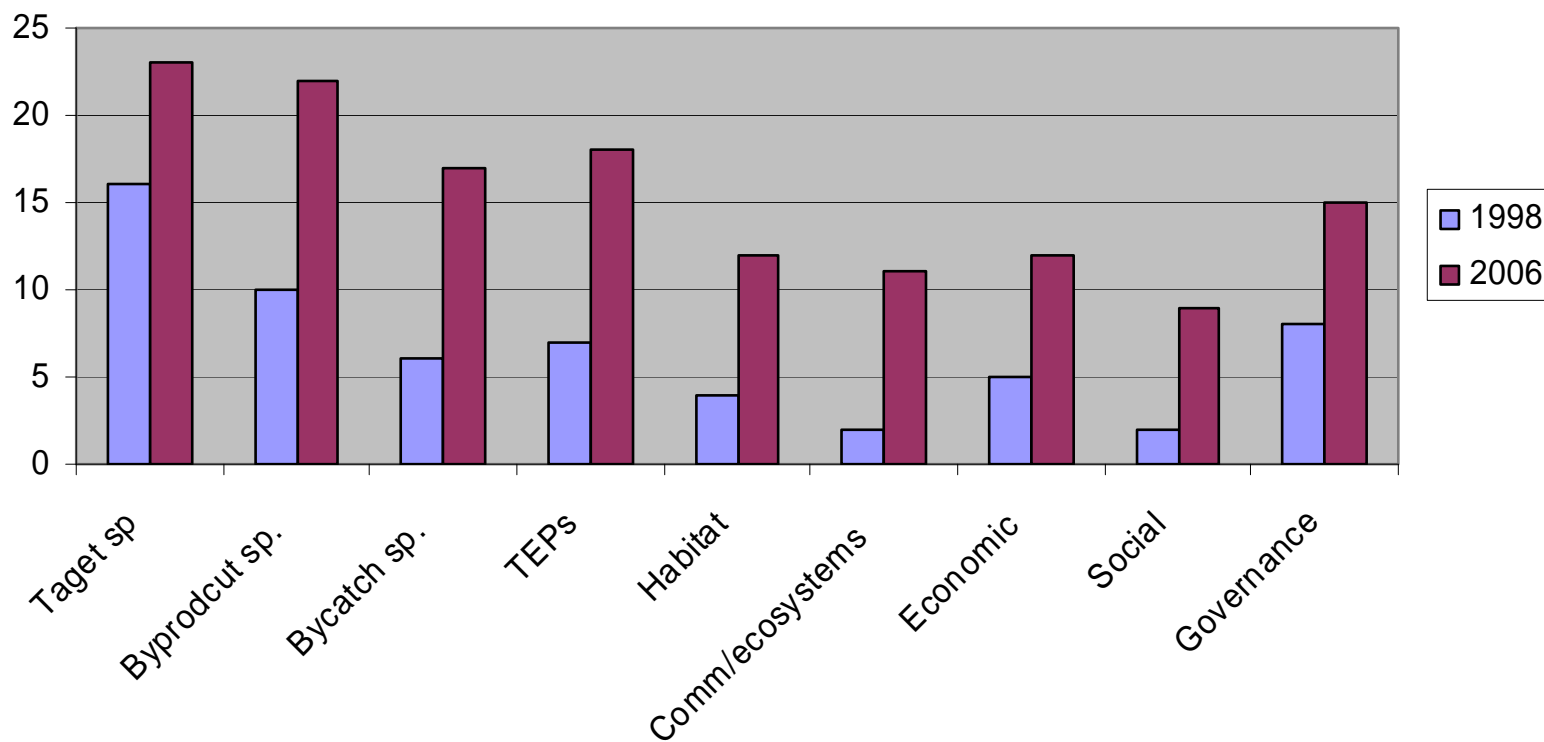
Source: Bob Kearney



CSIRO ESD 1998 review revisited



Use of performance indicators and benchmarks from 1998 to 2006



Source: Webb et al. CSIRO



Business environment

- EPBC Strategic Assessments
- ESD assessment and reporting
- Harvest strategies
- Management plan implementation
- Environmental management systems
- Ecosystem Based Fisheries Management
- Threat abatement plans
- Market: eco-labels, organics

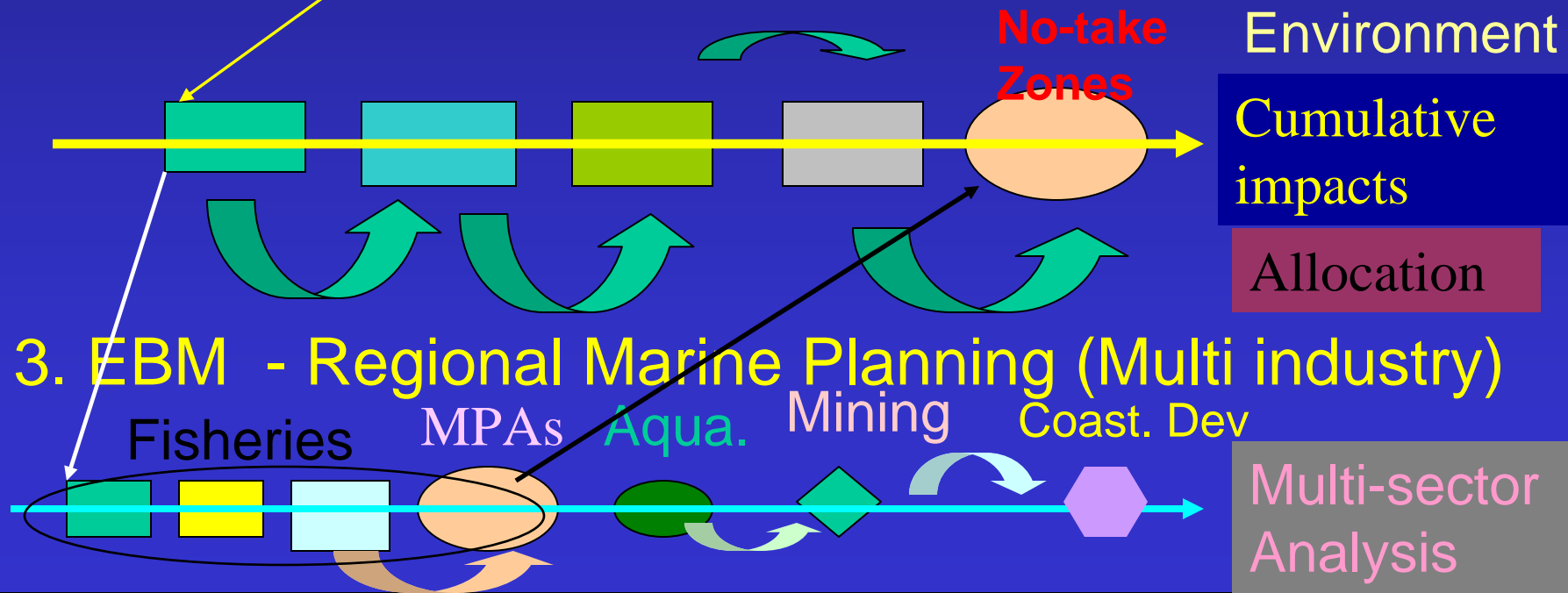
Demonstrating ESD – now requires meeting a mix of regulatory, community and customer needs

Sustainability Frameworks

1. Fishery Level – Management using ESD principles (single fishery)

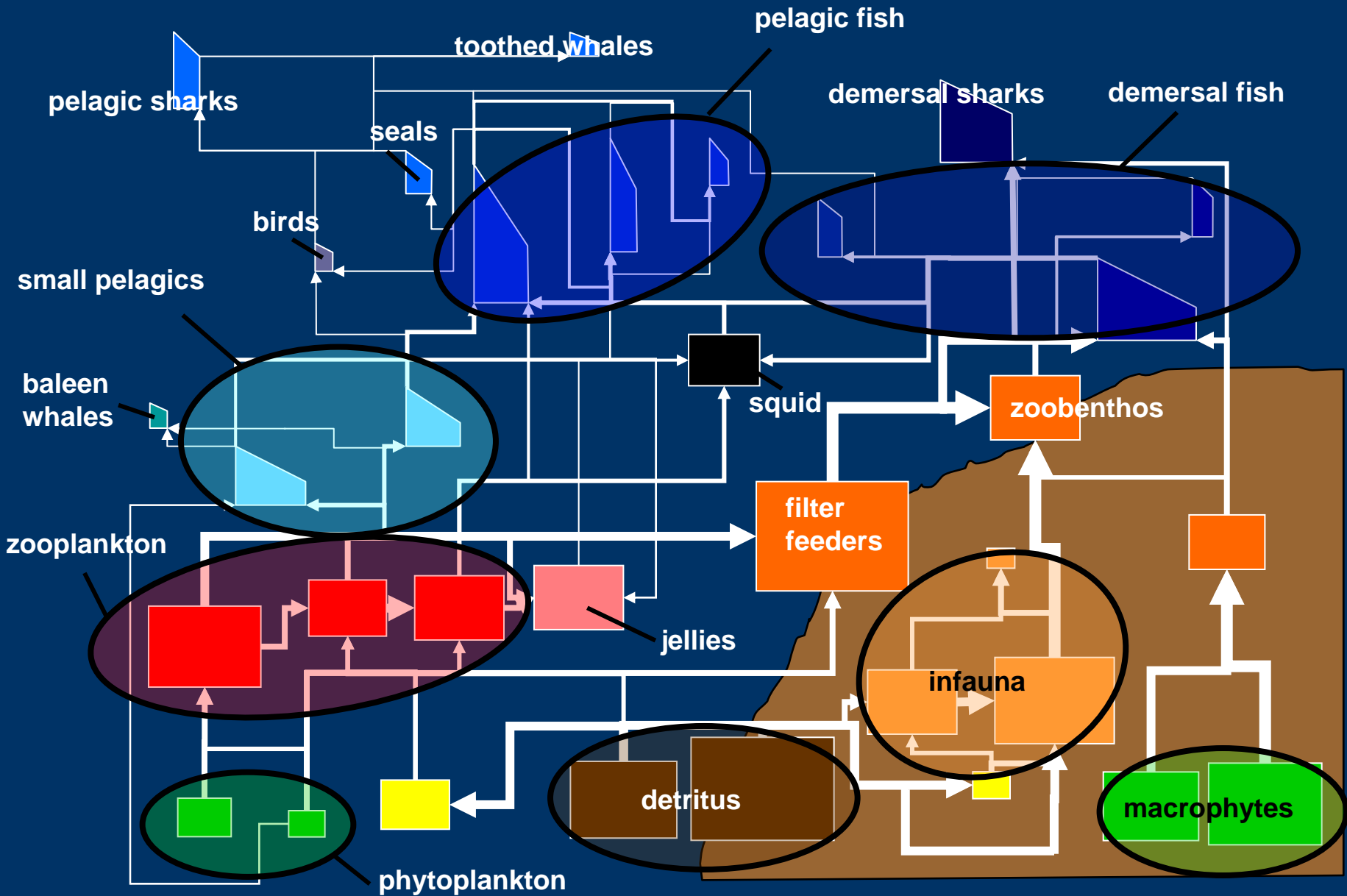
Source: Rick Fletcher

2. Ecosystem Based Fisheries Management (EBFM)
Multi-fisheries Assessment – Regional Level



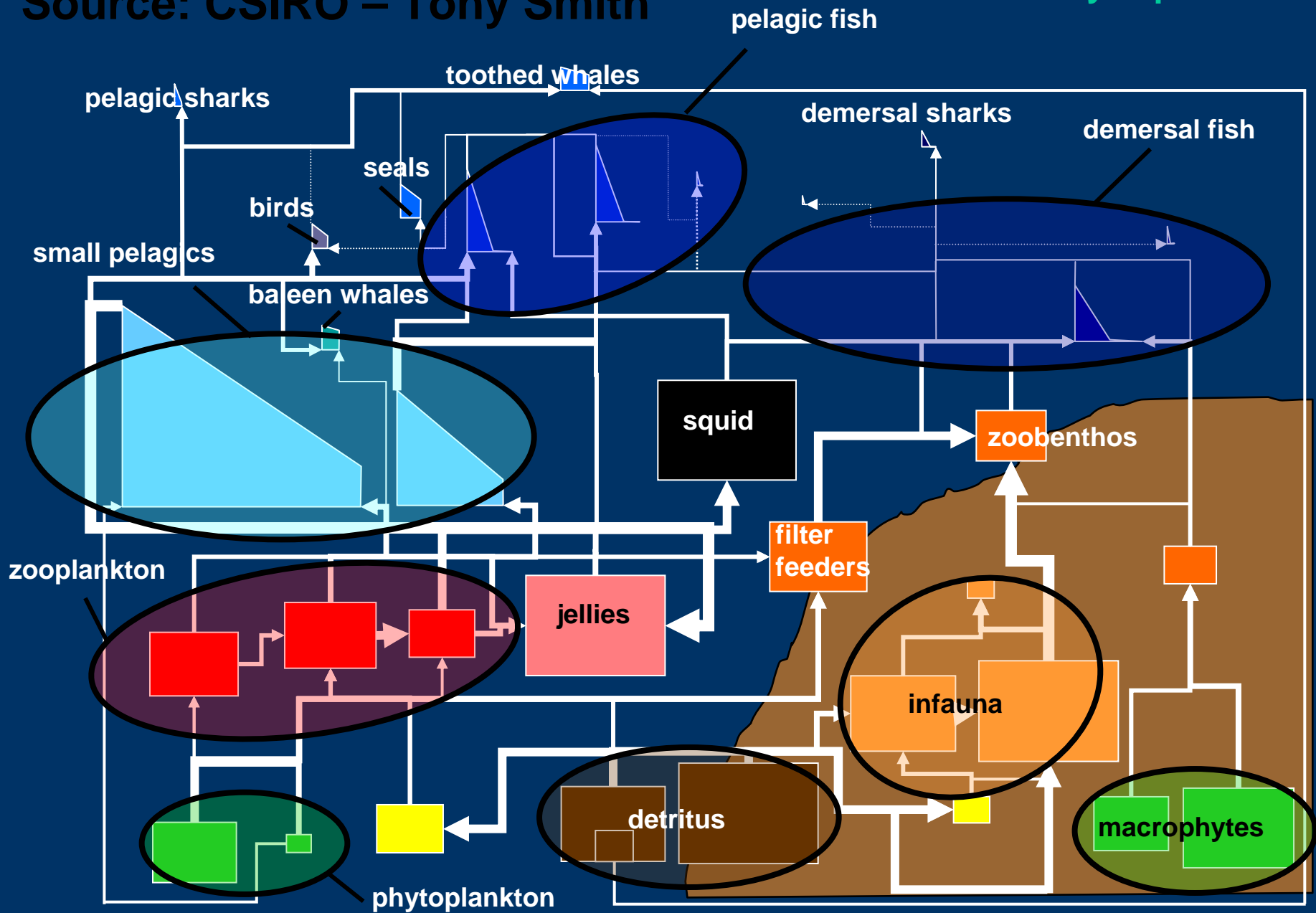
Source: CSIRO – Tony Smith

Unexploited



Source: CSIRO – Tony Smith

Heavily exploited





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Summary

Over the last 10 years we have invested considerable resources in demonstrating “sustainability”

Is this enough – what else?



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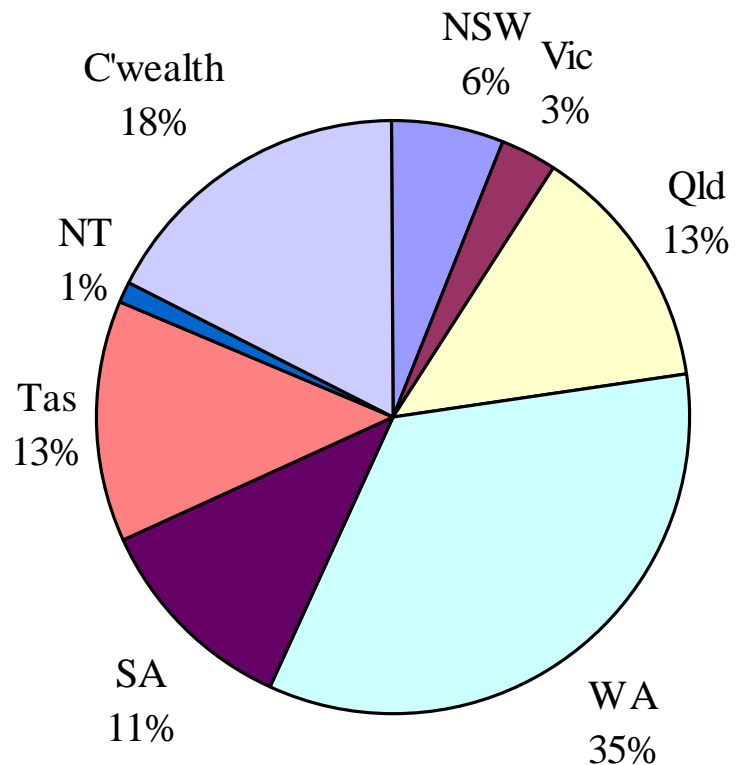
Sustainable businesses

Can we make a business out of catching and growing seafood?

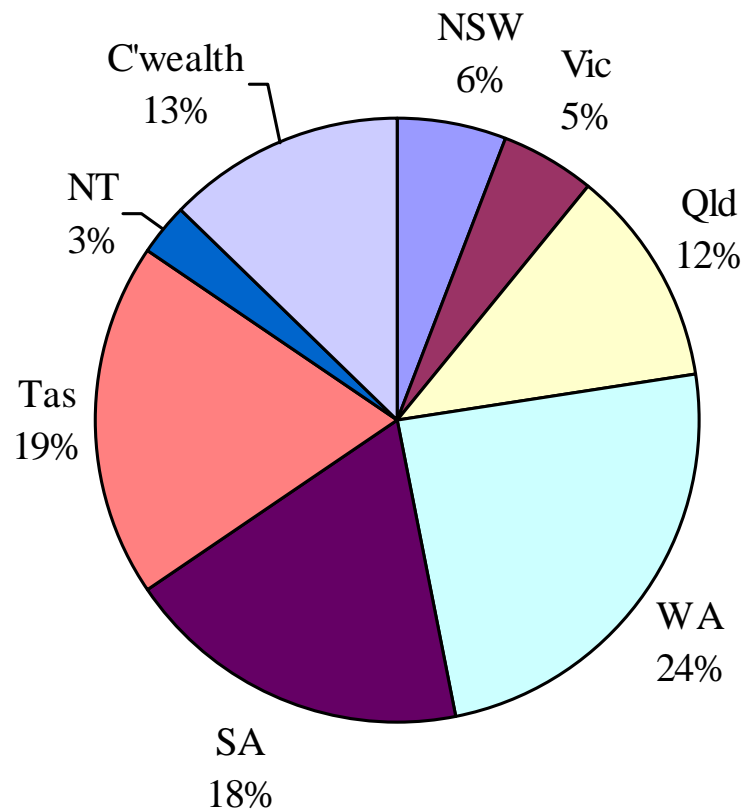


Value of Australian fisheries production, by location, in 2005-06 dollars

1996-97
\$2.18 billion



2005-06
\$2.15 billion

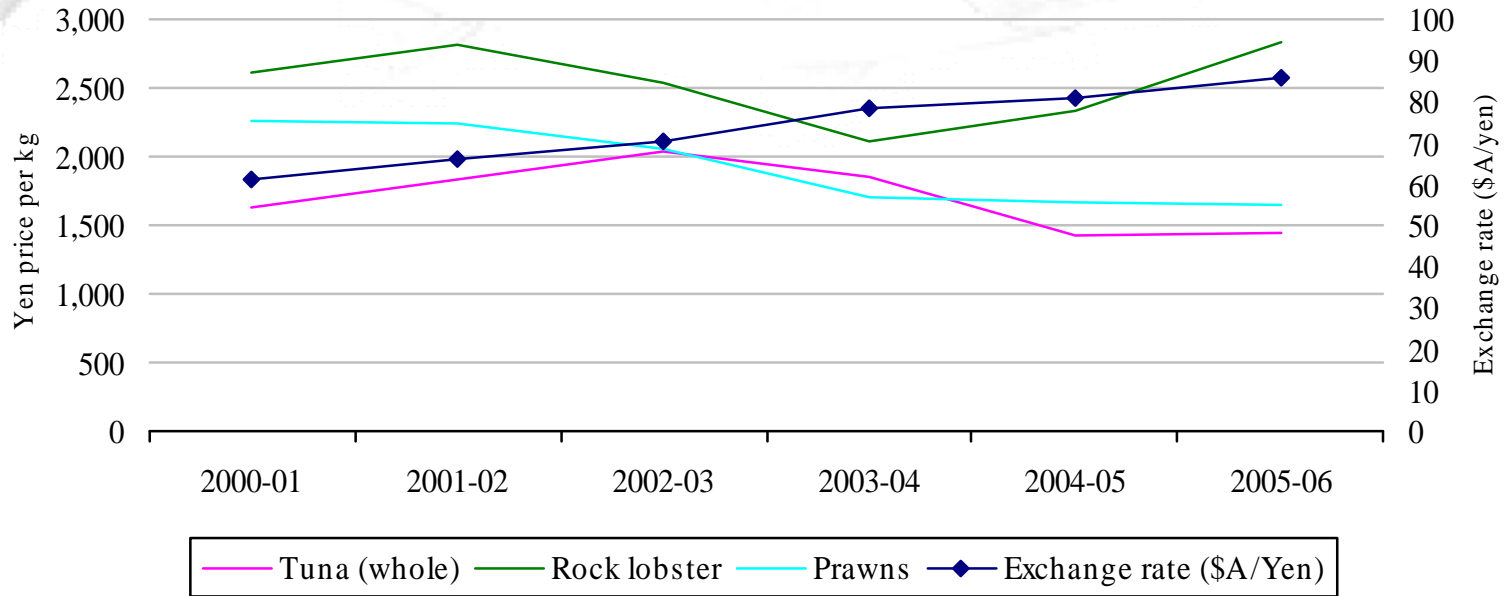


Source: ABARE



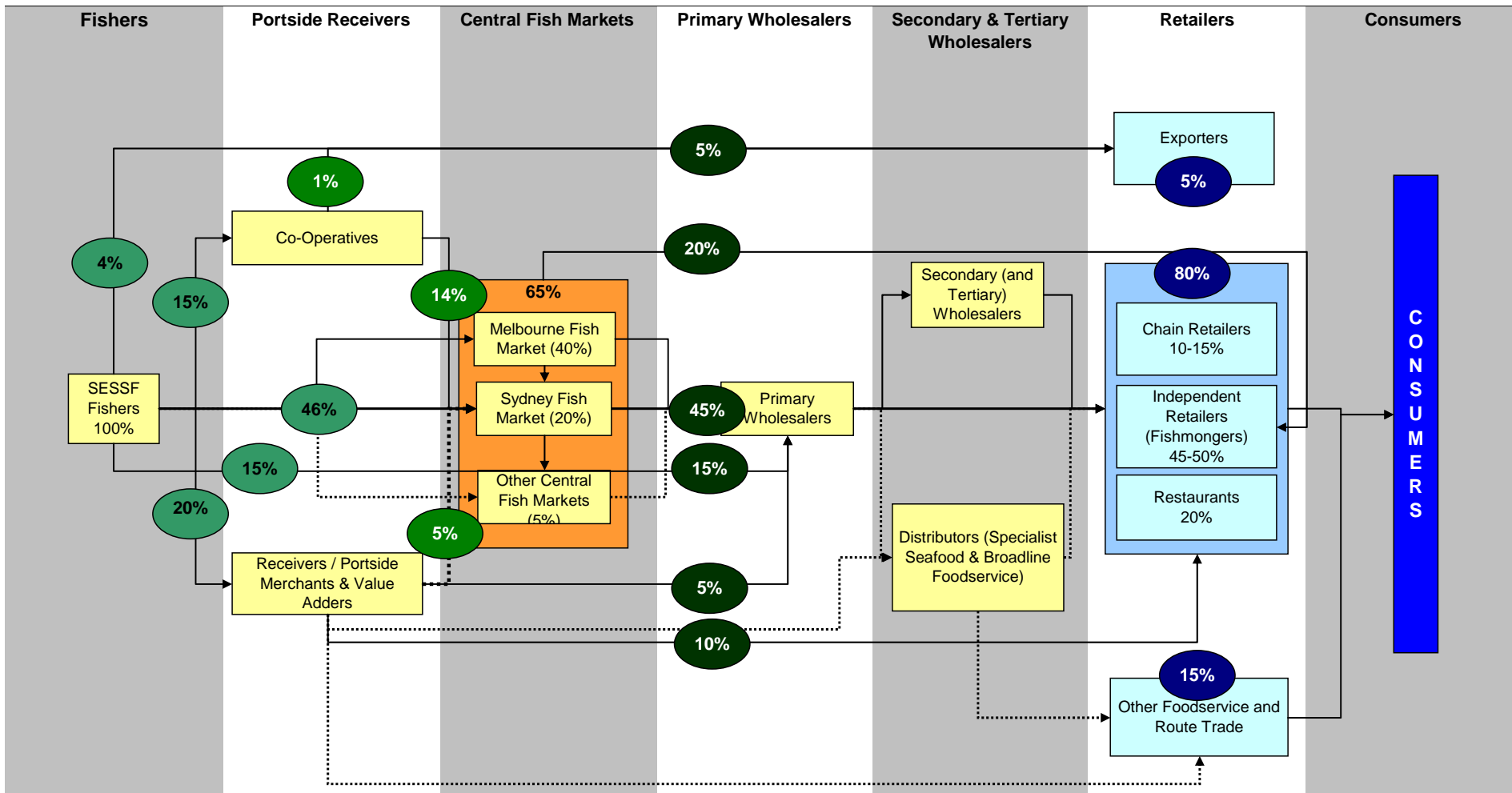
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Currency major driver for business sustainability



Source: ABARE

SESSF Supply Chains



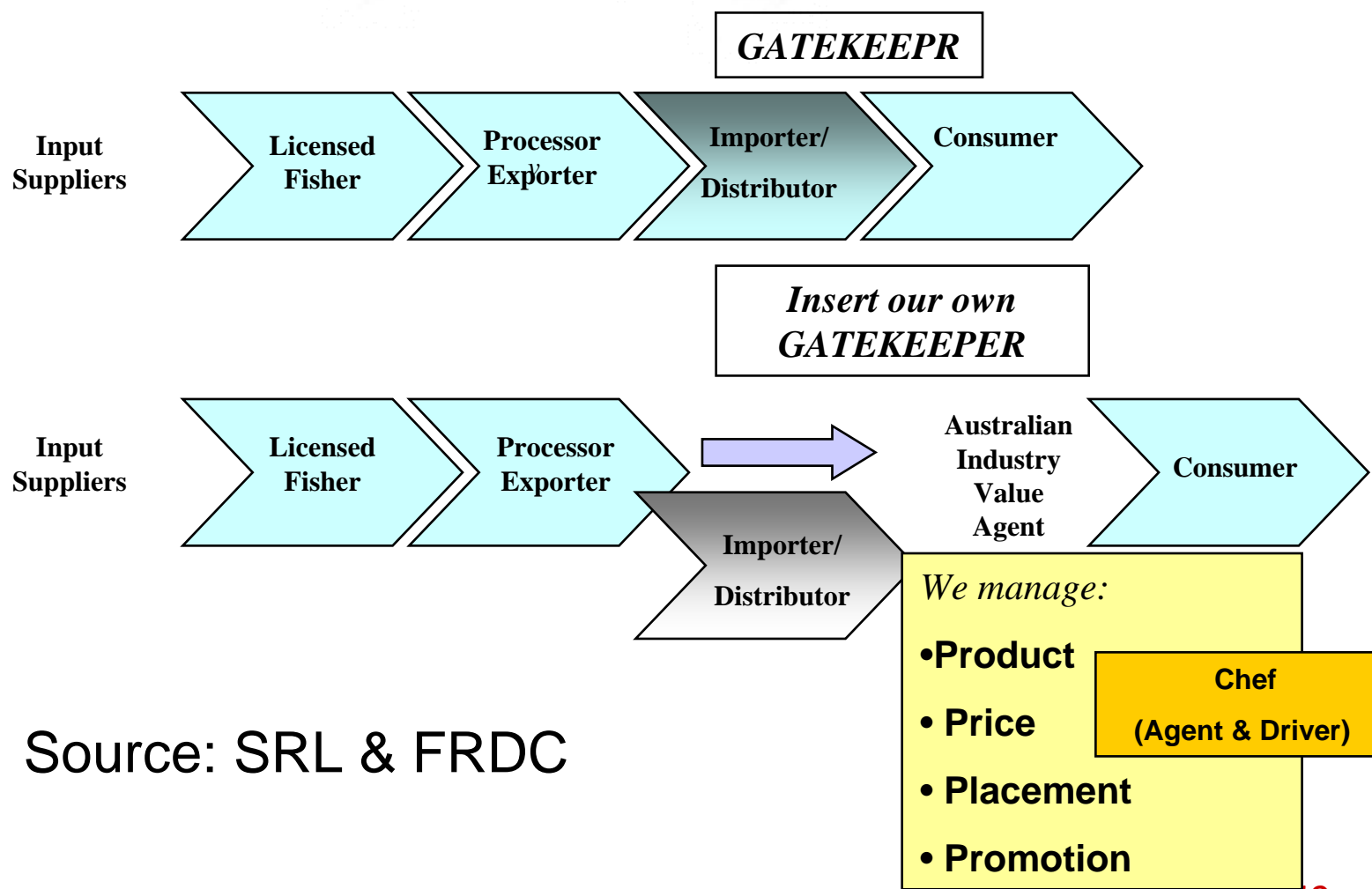
Source: CDI Pinnacle Management, 2007

Multiple SESSF Paths to Market

Chain / Channel No.	Fisher	Coop	Receiver / VA	MFM	SFM	Primary WS	Secondary WS	Distributor	Retailer / End User	Consumer	No. of Transactions
1	■	■		■	■	■	■		■	■	6
2	■	■		■	■	■		■	■	■	6
3	■	■		■	■	■			■	■	5
4	■	■			■	■	■		■	■	5
5	■	■			■	■		■	■	■	5
6	■	■			■	■			■	■	4
7	■	■		■		■	■		■	■	5
8	■	■		■		■		■	■	■	5
9	■	■		■		■			■	■	4
10	■			■	■	■	■		■	■	6
11	■			■	■	■		■	■	■	6
12	■			■	■	■			■	■	5
13	■		■	■	■	■	■		■	■	7
14	■		■	■	■	■		■	■	■	7
15	■		■	■	■	■			■	■	6
16	■		■		■	■	■		■	■	6
17	■		■		■	■		■	■	■	6
18	■		■		■	■			■	■	5
19	■		■	■		■	■		■	■	6
20	■		■	■		■		■	■	■	6
21	■		■	■		■			■	■	5
22	■		■			■	■		■	■	5
23	■		■			■		■	■	■	5
24	■		■			■			■	■	4
25	■		■					■	■	■	4
26	■		■						■	■	3

Source: CDI Pinnacle Management, 2007

Australian Southern Rocklobster Value Chain



Source: SRL & FRDC

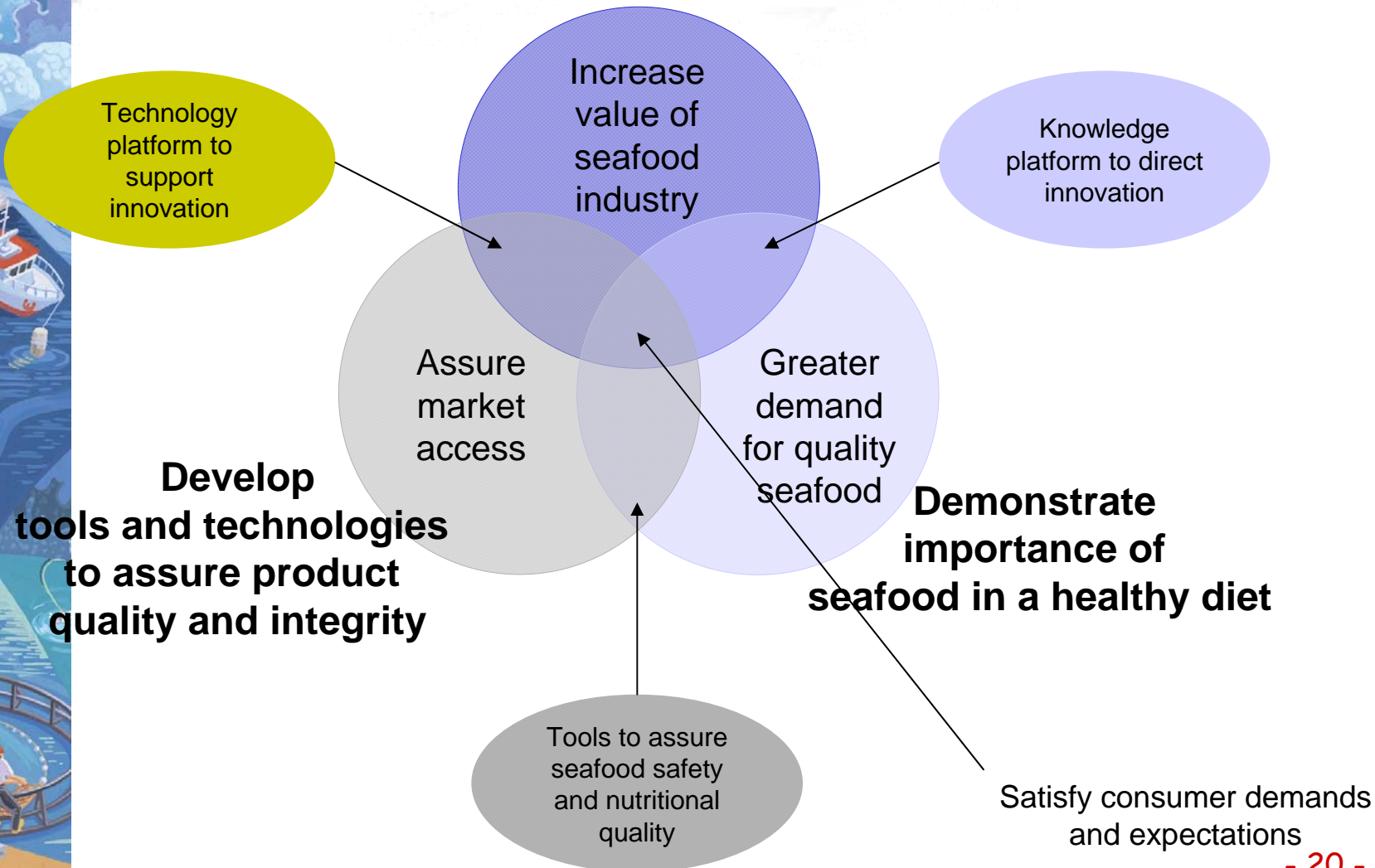


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Seafood FRDC/CRC

**Innovation in production and
process technologies to address
market needs**





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Summary

**Competing in a global seafood market
requires changes to the way we
utilise our supply chains**





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People

Investing in people development –

**who we are depends on what we
know and how we use that
knowledge**





Co-management defined

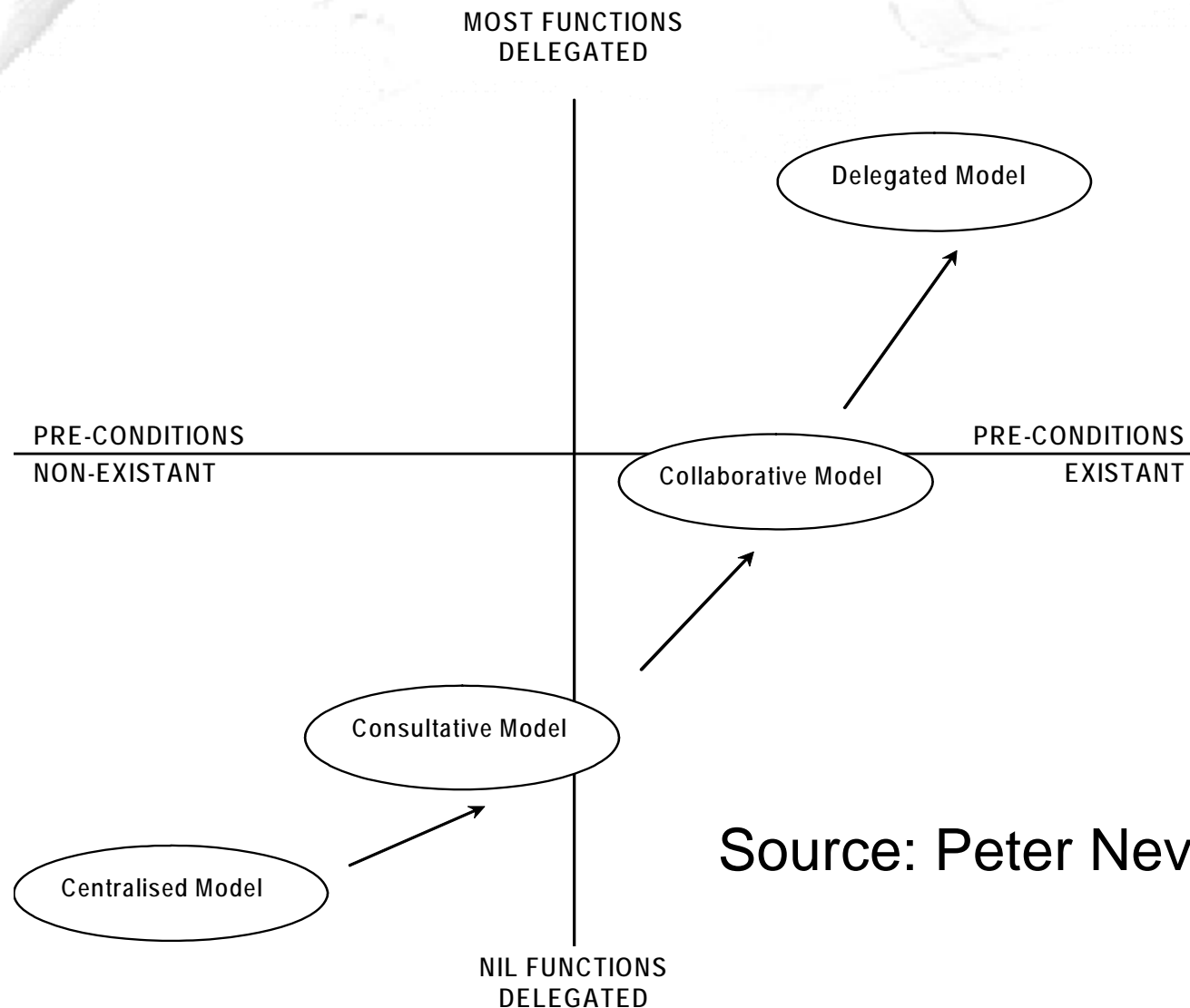
Co-management is best defined as “an arrangement where responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, industry and other stakeholders”.



Co-management – developing the science



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Source: Peter Neville et al.



Pre-conditions?

- A basic pre-condition is that the fishery is a stable, mature fishery, with evidence of a desire by fishers to have a greater engagement in the delivery of a range of management issues.
- The second pre-condition is that a significant majority of fishers in a fishery want co-management.

.....how high is the hurdle?



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Science – can we do better?

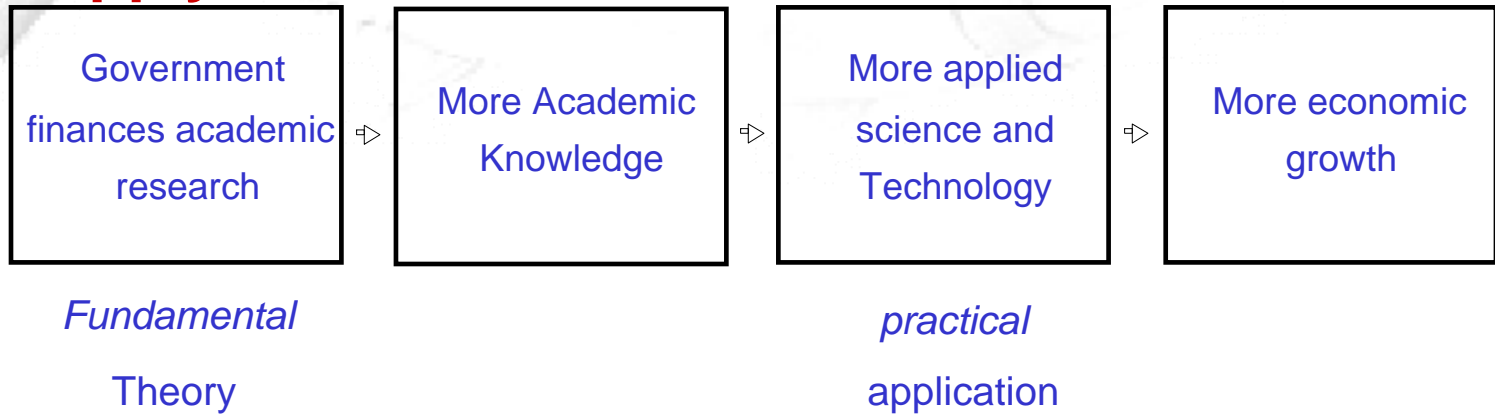


Do we have the right model for innovation?



Supply

Demand



Sticking points:

- *Cycle times of each step are vary*
- *Each step has other groups of actors with different payment mechanisms*
- *These groups also sometimes speak a different language*
- *The model is insufficiently demand-driven*
- *Academic knowledge on a pedestal: other knowledge disqualified*

Source: NFIS



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... innovation networks

Past	Future
Response	Anticipation
Knowledge management as a means of exercising power	Knowledge management as 'lifeblood'
Knowledge infrastructure as a hierarchy	Knowledge infrastructure as a network
Risk avoidance	Risk (innovation)-seeking
Self-supporting	Collaboration - cooperation
Knowledge locked away on 'islands'	Knowledge exchange
Discipline-driven	Innovation-driven
Control > rules and hierarchy	Control through vision and values
Organisational stability	Permanent flexibility.



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Conclusion

**More of the same will lead to more of the same –
to develop a sustainable seafood industry we need to invest collectively in industry development and people**



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THANK YOU

