# Governing marine protected areas: social-ecological resilience through institutional diversity

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SEVENTH FRAMEWORK PROGRAMME

MESMA

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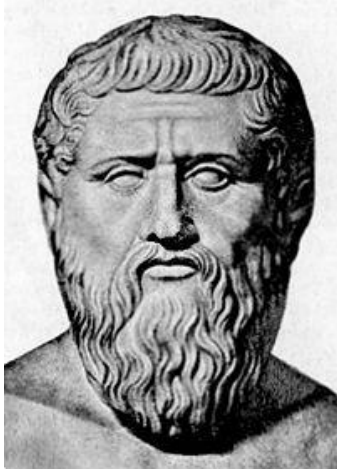
**Governance = steer of people and the society they constitute in order to achieve strategic collective objectives**



360 BC

**Resilience = capacity for stability in the face of potentially perturbing forces, *eg* climate change, population growth, globalisation**

**Where should the '*steer*' towards resilient social and ecological systems come from?**

**State control** – government and law

**Market forces** – capitalism and economies

**Public interests** – people and civil society

**State control** – government and law

Market forces – capitalism and economies

Public interests – people and civil society

**Growing recognition in governance debates that there is a need to move beyond ideological arguments as to which approach is 'best or 'right'**

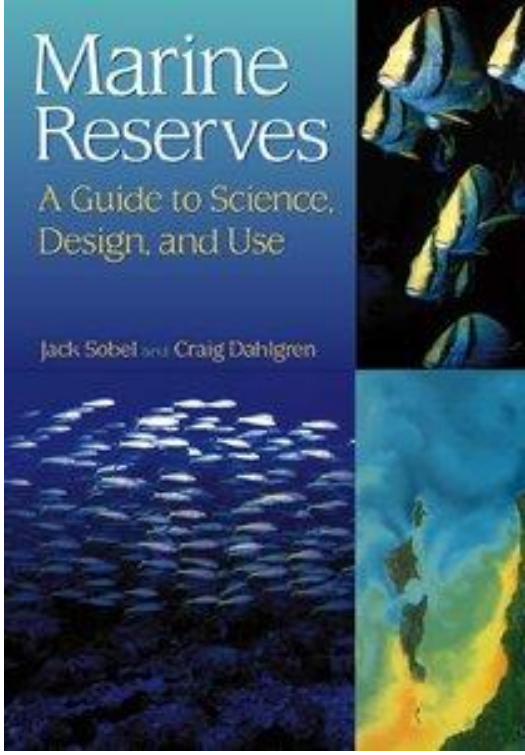
**: develop governance models, frameworks and approaches that combine the role of states, markets and people**

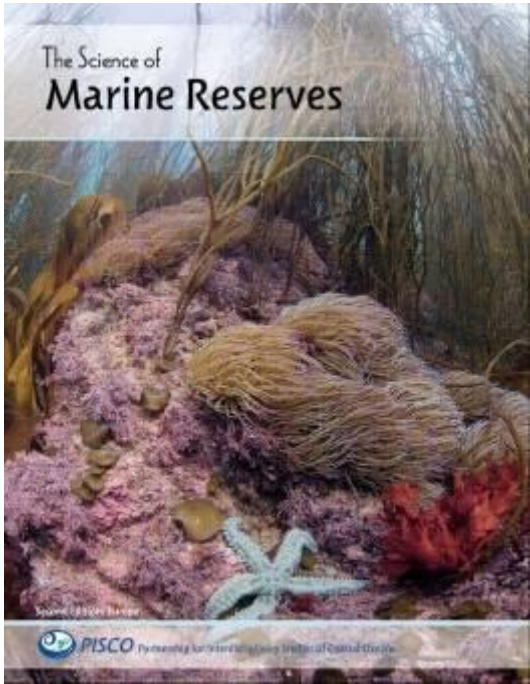
Marine protected areas (MPAs) are an ideal vehicle for exploring the effectiveness of different governance approaches

The need for MPAs to fulfil marine biodiversity and fisheries conservation objectives is now *quite* widely accepted

Debates are moving on to how we can design networks of MPAs, and the knowledge-base and guidance is rapidly developing

Also a need to develop knowledge-base and guidance on how to effectively manage or **govern** MPAs



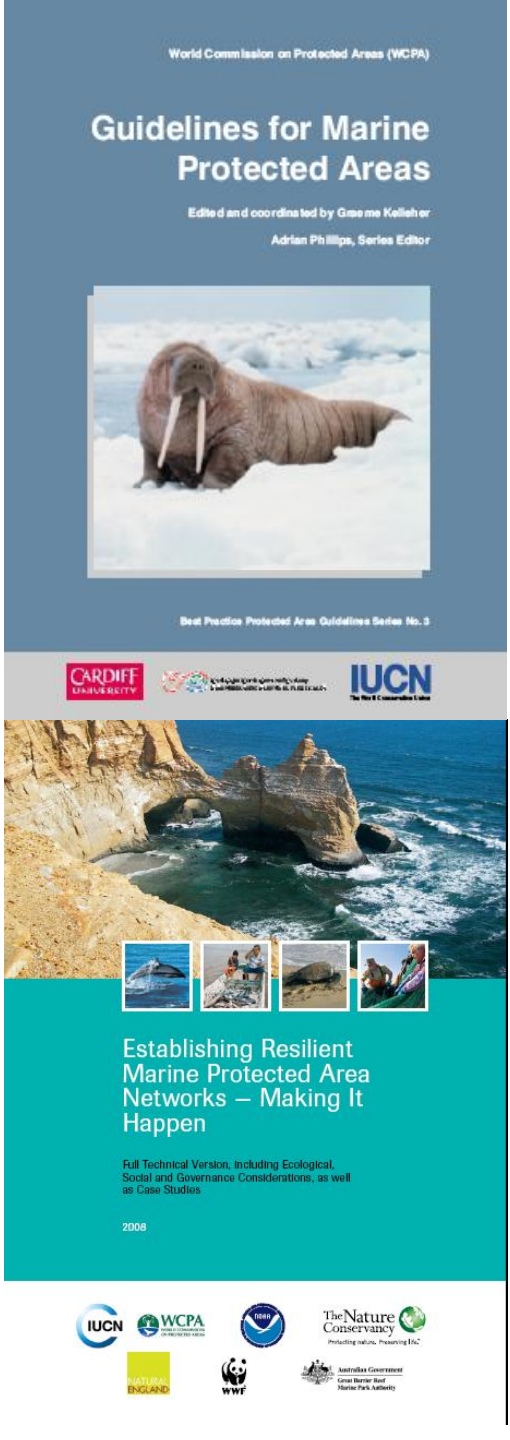
**Co-management is the recommended approach**

**IUCN MPA Guidance (1999)**
Combine top-down & bottom-up approaches

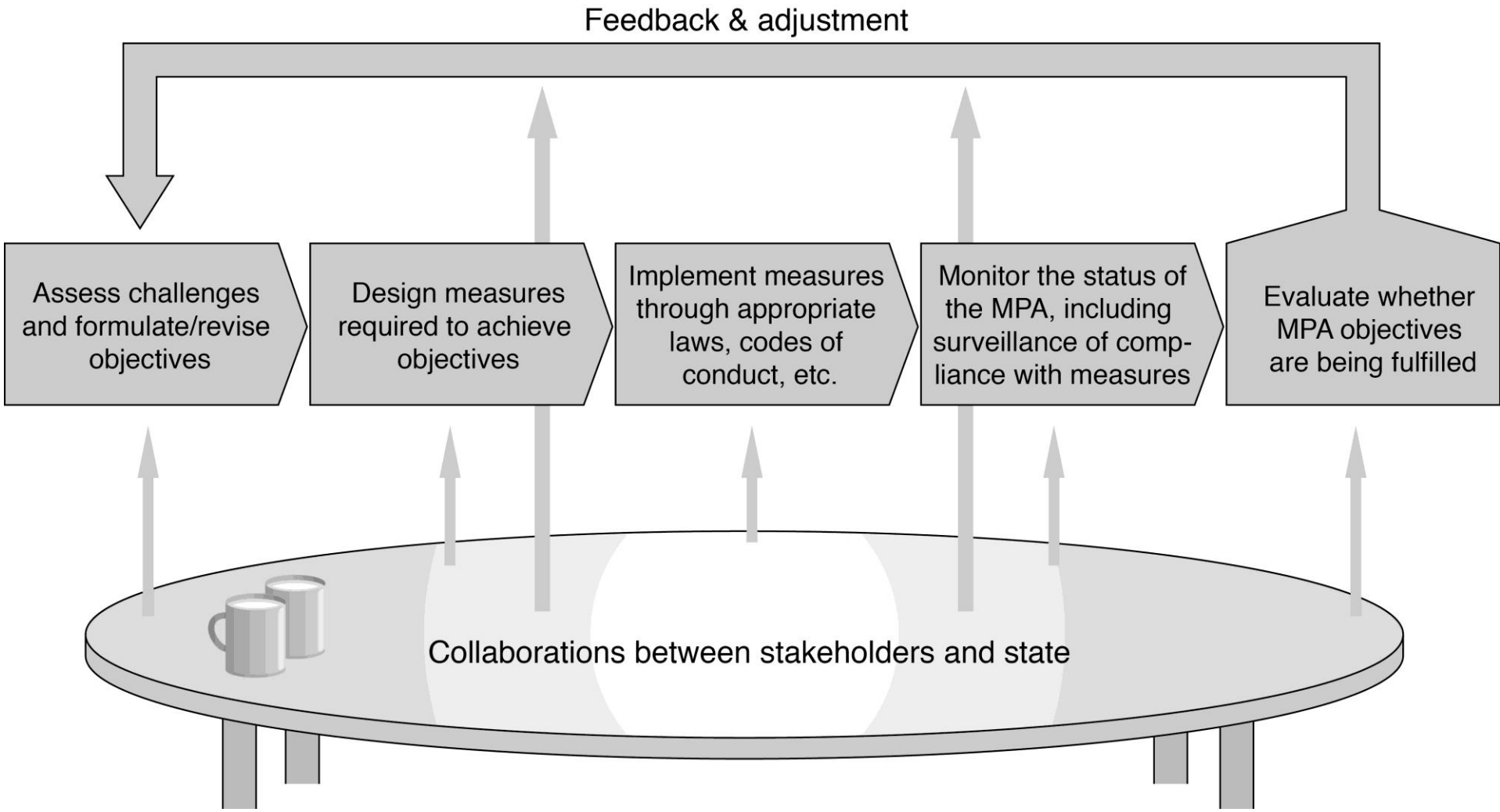
**IUCN MPA Network Guidance (2008)**
Recommends both top-down & bottom-up approaches

**… but what does**
***"design and management of MPAs must be both top-down and bottom-up"* (Kelleher 1999)**
**actually mean in practice?**

# Key question that the MPA governance project aimed to address through 20 case studies



# Adaptive co-management considered by many to be ‘the answer’



# Analytical framework for MPAG case studies

Systematic programme of case study analyses with the aim of:-

- identifying examples of good practice in terms of which **combinations of governance approaches** are effective in achieving conservation objectives;

- assessing their transferability to other MPA contexts;

- producing a guide to different approaches to governing MPAs and how they might be effectively combined or 'blended'

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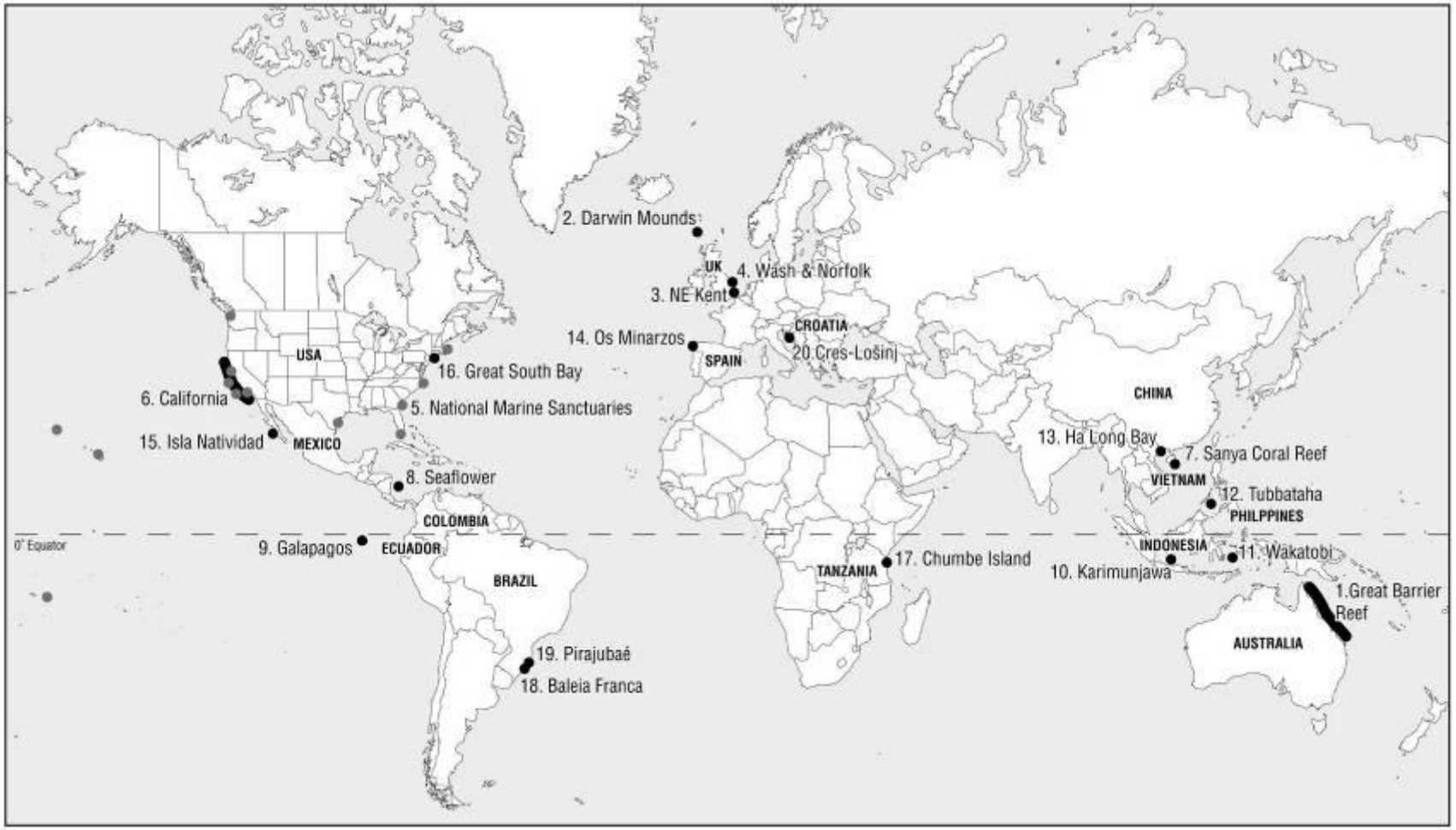


1: Great Barrier Reef Marine Park 2: Darwin Mounds Marine Special Area for Conservation 3: North East Kent European Marine Site 4: Wash & North Norfolk Coast European Marine Site 5: National Marine Sanctuaries (a network of MPAs with locations shown in grey colour) 6: California MPAs under the MLPA (a network of MPAs in California) 7: Sanya Coral Reef National Marine Nature Reserve 8: Seaflower MPA 9: Galápagos Marine Reserve 10: Karimunjawa Marine National Park 11: Wakatobi National Park 12: Tubbataha Reefs Natural Park 13: Ha Long Bay World Heritage Site 14: Os Minarzos Marine Reserve 15: Isla Natividad MPA 16: Great South Bay Marine Conservation Area 17: Chumbe Island Coral Park 18: Baleia Franca Environmental Protection Area 19: Pirajubaé Marine Extractive Reserve. 20: Cres-Lošinj Special Zoological Reserve

MPAG workshop
12-16 Oct 2009
Mali-Lošinj
Croatia

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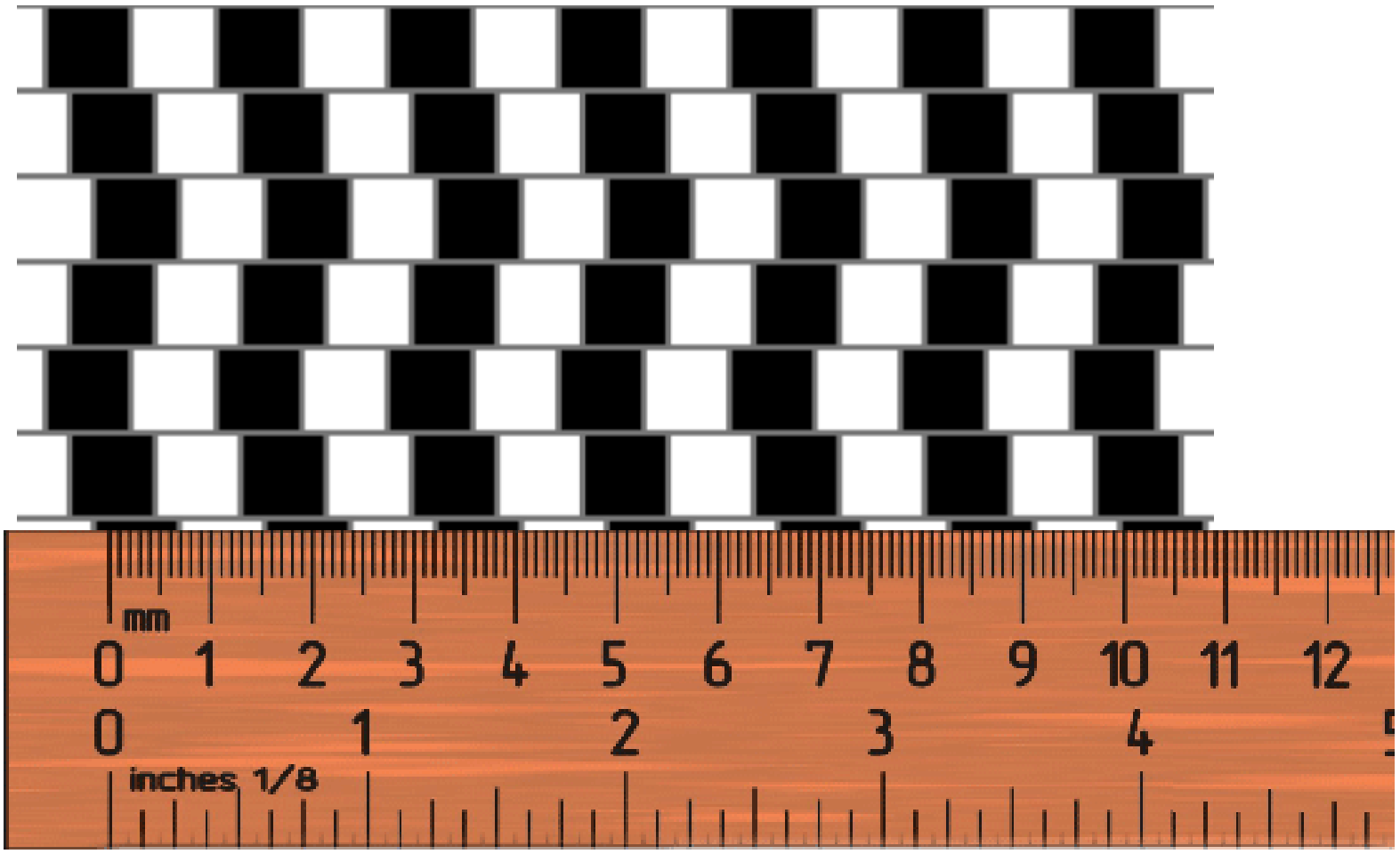
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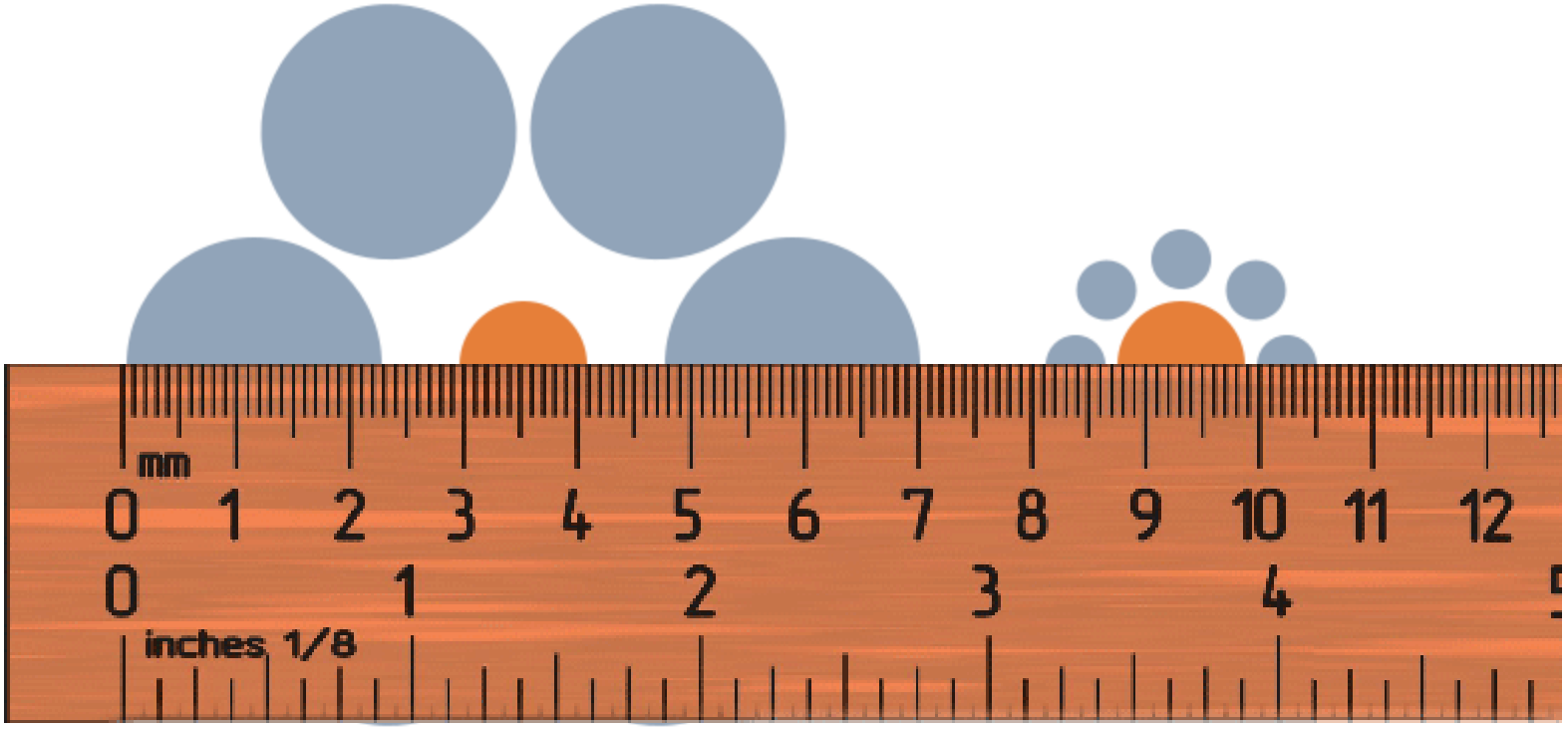
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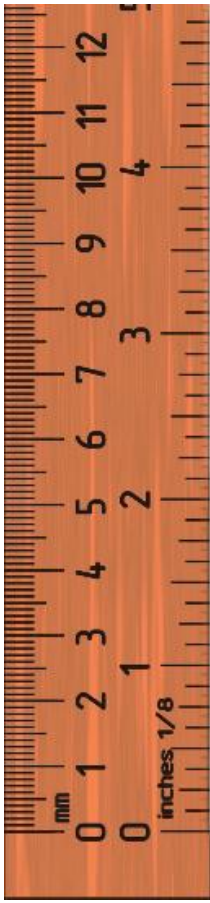
# MPAG analytical framework

- Context
- Objectives
- Drivers/Conflicts
- Governance Framework/Approach
- **<u>Effectiveness</u> (0-5)**
- Incentives **employed** & **needed**:

**Economic**
**Interpretative**
**Knowledge**
**Legal**
**Participative**



*: how incentives **combined**, relative importance, etc.*

- Cross cutting themes: role of leadership, role of NGOs, equity issues, etc.

# Case studies assigned to one of five 'governance approach' categories

| MPA governance approach | Case study MPA name | Country | Effectiveness[a] | National per capita GDP (US$)[b] | GDP annual growth rate (%)[b] | State capacity[c] | Human development index (world ranking)[d] |
|---|---|---|---|---|---|---|---|
| **(I) Managed primarily by the government under clear legal framework** | Great Barrier Reef Marine Park | Australia | 3 | 38,200 | 2.4 | 1.65 | 0.935 (2) |
| | Darwin Mounds Marine Special Area for Conservation | UK | 3 | 36,700 | 0.7 | 1.48 | 0.847 (26) |
| | North East Kent European Marine Site | UK | 3 | 36,700 | 0.7 | 1.48 | 0.847 (26) |
| | Wash & North Norfolk Coast European Marine Site | UK | 3 | 37,000 | 0.7 | 1.48 | 0.847 (26) |
| | National Marine Sanctuaries | USA | 3 | 47,500 | 0.4 | 1.36 | 0.899 (4) |
| | California MPAs under the MLPA (Marine Life Protection Act) | USA | Too early to assess | 47,500 | 0.4 | 1.36 | 0.899 (4) |

| MPA governance approach | Case study MPA name | Country | Effectiveness[a] | National per capita GDP (US$)[b] | GDP annual growth rate (%)[b] | State capacity[c] | Human development index (world ranking)[d] |
|---|---|---|---|---|---|---|---|
| **(II) Managed by the government with significant decentralisation and/or influences from private organisations** | Sanya Coral Reef National Marine Nature Reserve | China | 2 | 6000 | 9.0 | −0.47 | 0.655 (89) |
| | Seaflower MPA | San Andres Archipelago, Colombia | 1 | 9200 | 2.4 | −0.38 | 0.685 (79) |
| | Galápagos Marine Reserve | Ecuador | 1 | 7500 | 6.5 | −0.86 | 0.692 (77) |
| | Karimunjawa Marine National Park | Indonesia (Coral Triangle) | 2 | 3900 | 6.1 | −0.50 | 0.593 (108) |
| | Wakatobi National Park | Indonesia (Coral Triangle) | 2 | 3900 | 6.1 | −0.50 | 0.593 (108) |
| | Tubbataha Reefs Natural Park | Philippines (Coral Triangle) | 3 | 3300 | 3.8 | −0.48 | 0.635 (97) |
| | Ha Long Bay World Heritage Site | Vietnam | 2 | 2800 | 6.2 | −0.56 | 0.566 (113) |

| MPA governance approach | Case study MPA name | Country | Effectiveness[a] | National per capita GDP (US$)[b] | GDP annual growth rate (%)[b] | State capacity[c] | Human development index (world ranking)[d] |
|---|---|---|---|---|---|---|---|
| **(III) Managed primarily by local communities under collective management arrangements** | Os Minarzos Marine Reserve | Spain | 3 | 34,600 | 0.9 | 0.95 | 0.861 (20) |
| | Isla Natividad MPA | Mexico | 3 | 14,300 | 1.3 | −0.14 | 0.745 (56) |
| **(IV) MPAs managed primarily by the private sector and/or NGOs granted with property/ management rights** | Great South Bay Marine Conservation Area | USA | 2 | 47,500 | 0.4 | 1.36 | 0.899 (4) |
| | Chumbe Island Coral Park | Tanzania | 4 | 1400 | 7.1 | −0.29 | 0.392 (148) |
| **(V) No clearly recognisable effective governance framework in place** | Baleia Franca Environmental Protection Area | Brazil | 1 | 10,200 | 5.1 | 0.04 | 0.693 (73) |
| | Pirajubaé Marine Extractive Reserve | Brazil | 0 | 10,200 | 5.1 | 0.04 | 0.693 (73) |
| | Cres-Lošinj Special Zoological Reserve | Croatia | 1 | 18,400 | 2.4 | 0.38 | 0.765 (51) |

Economic incentives: using economic and property rights approaches to promote the fulfilment of MPA objectives (10)

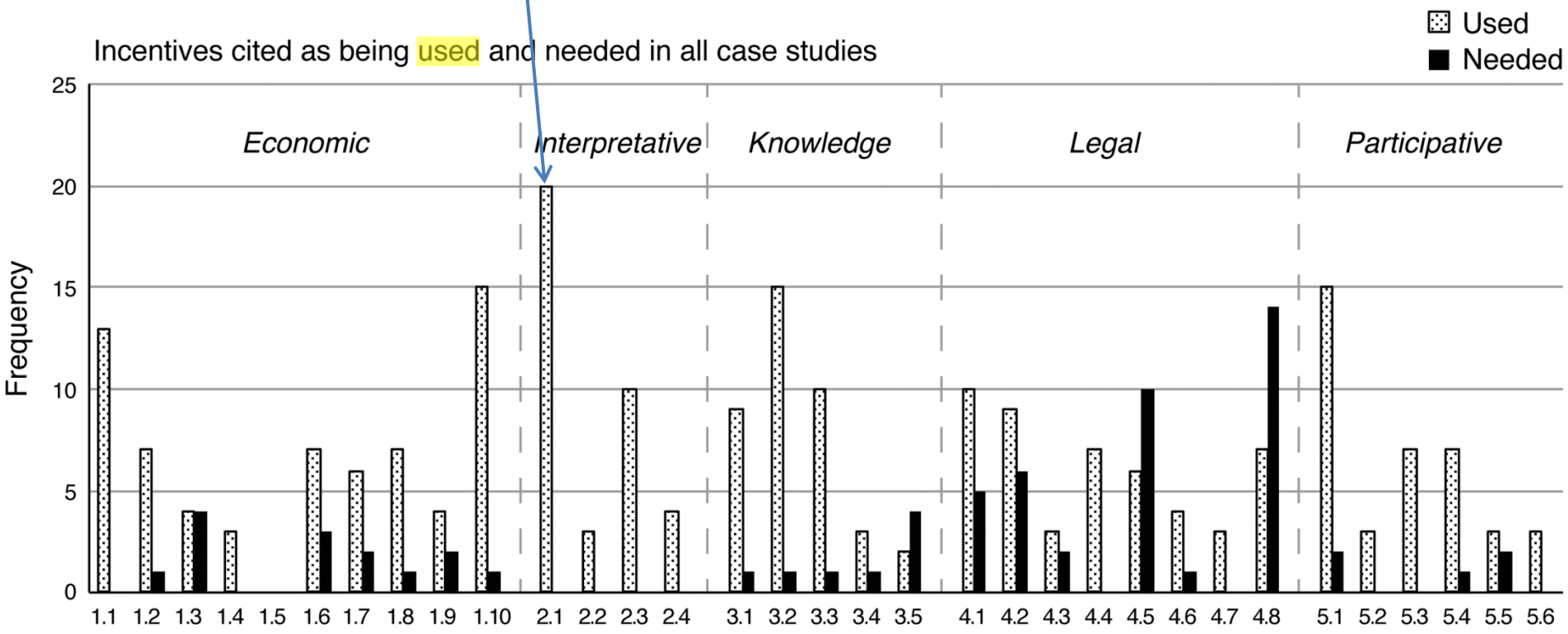
Interpretative incentives: promoting awareness of the conservation features of the MPA, the related objectives for conserving them, the policies for achieving these objectives and support for related measures (4)

Knowledge incentives: respecting and promoting the use of different sources of knowledge to better inform MPA decisions (5)

Legal incentives: use of relevant laws, regulations etc. as a source of 'state steer' to promote compliance with decisions and thereby the achievement of MPA obligations (8)

Participative incentives: providing for users, communities and other interest groups to participate in and influence MPA decision-making that may potentially affect them, in order to promote their 'ownership' of the MPA and thereby their potential to cooperate in implementation of decisions (6)

# Raising awareness

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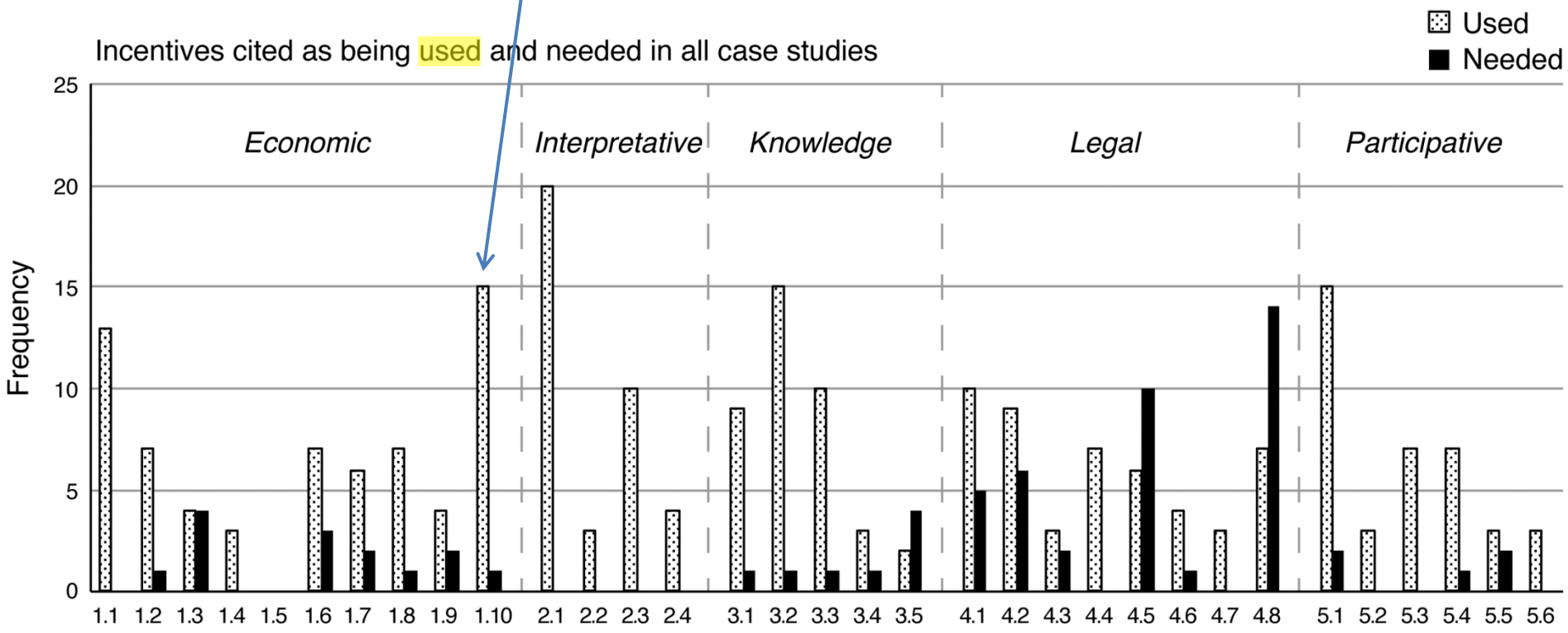
# Provision of NGO and private sector funding

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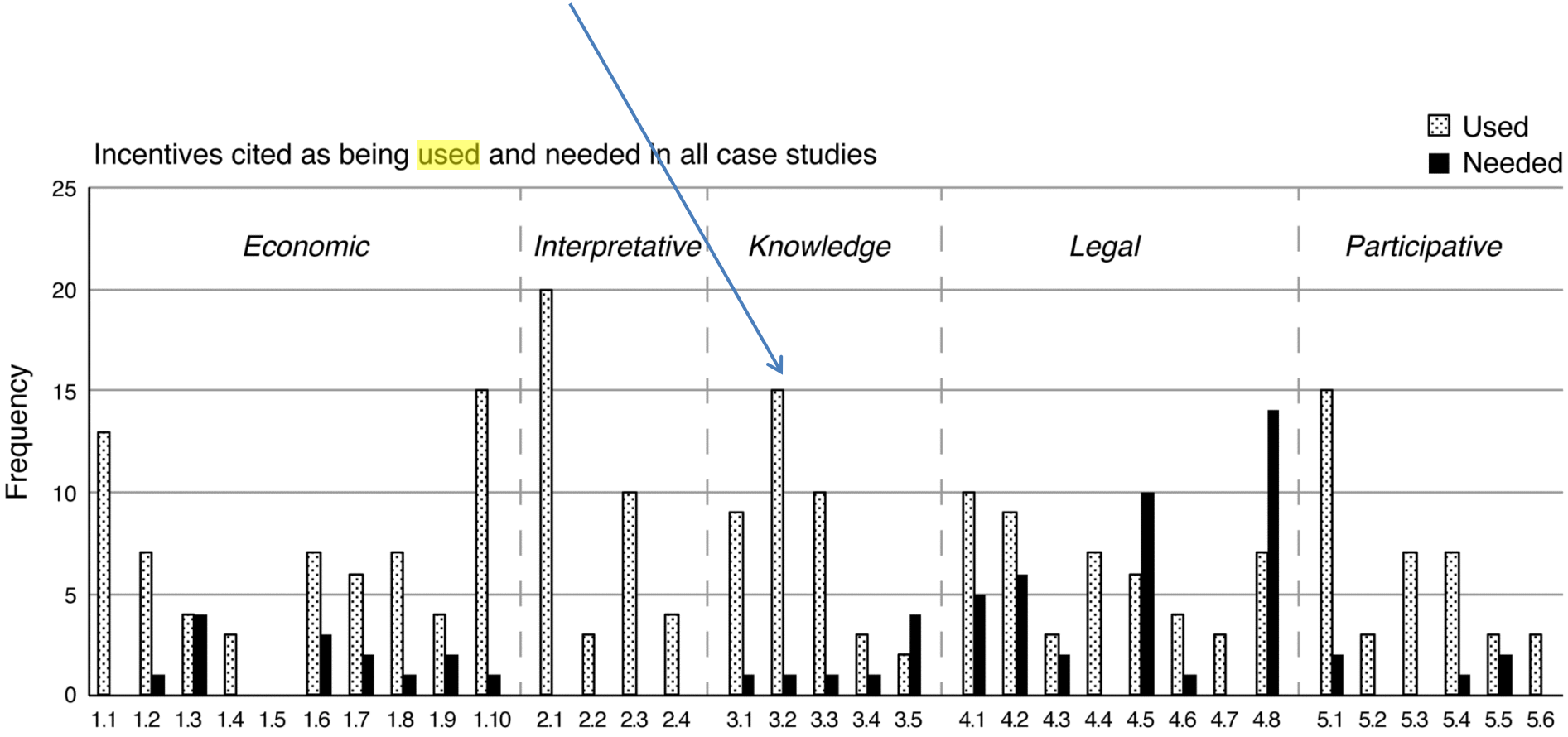
# Promoting collective learning to maximise knowledge

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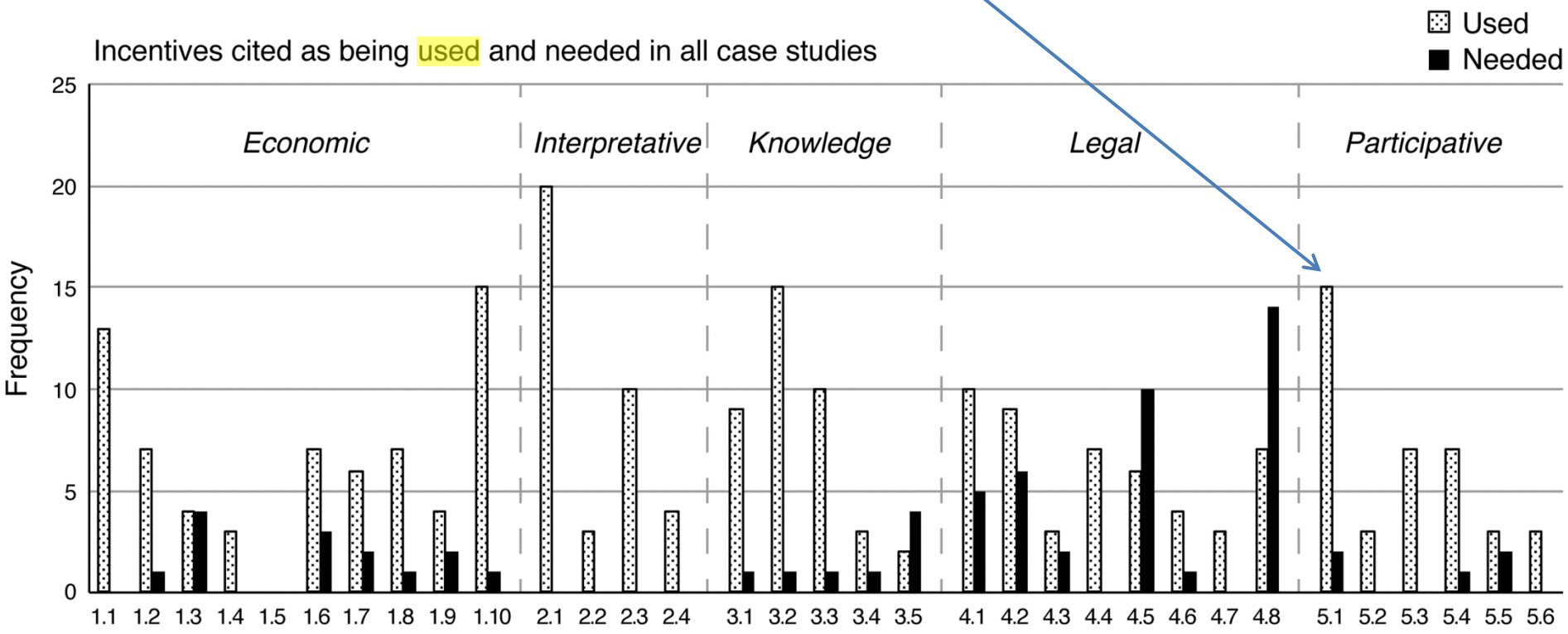
# Establishing collaborative platforms

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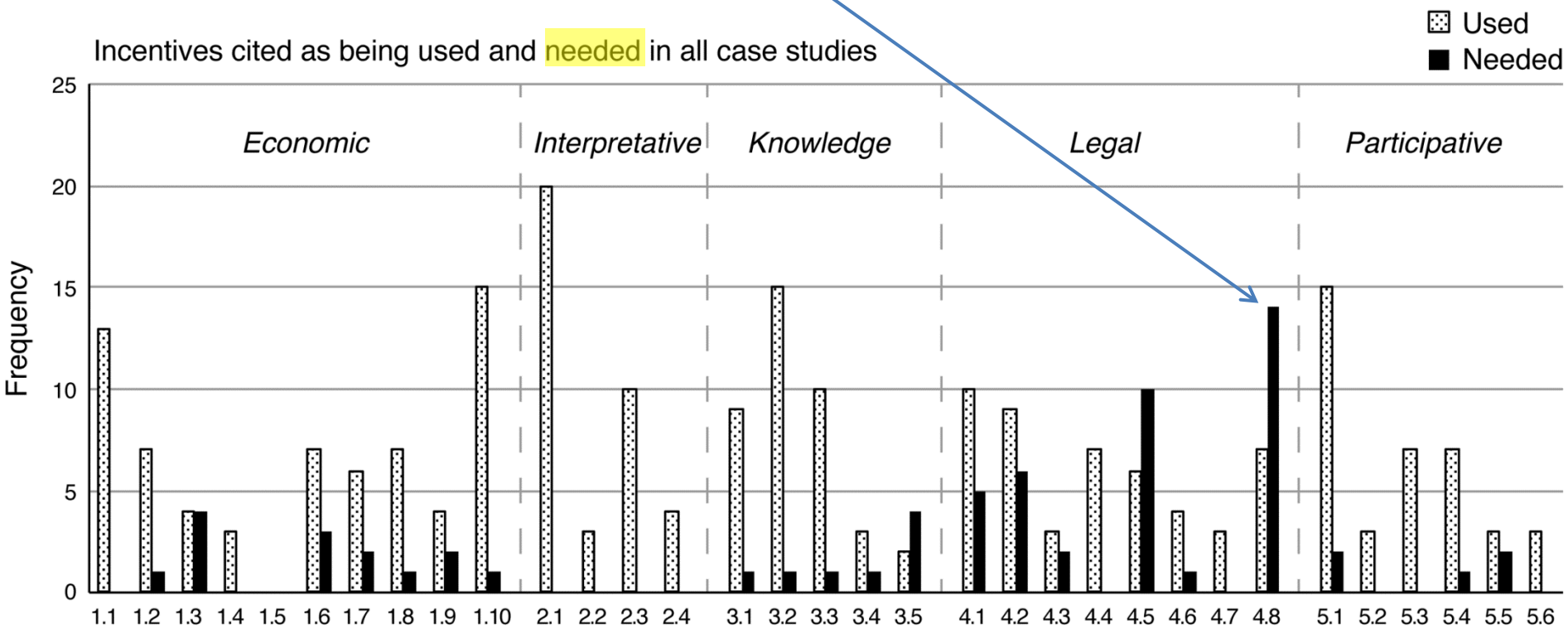
# Capacity for enforcement

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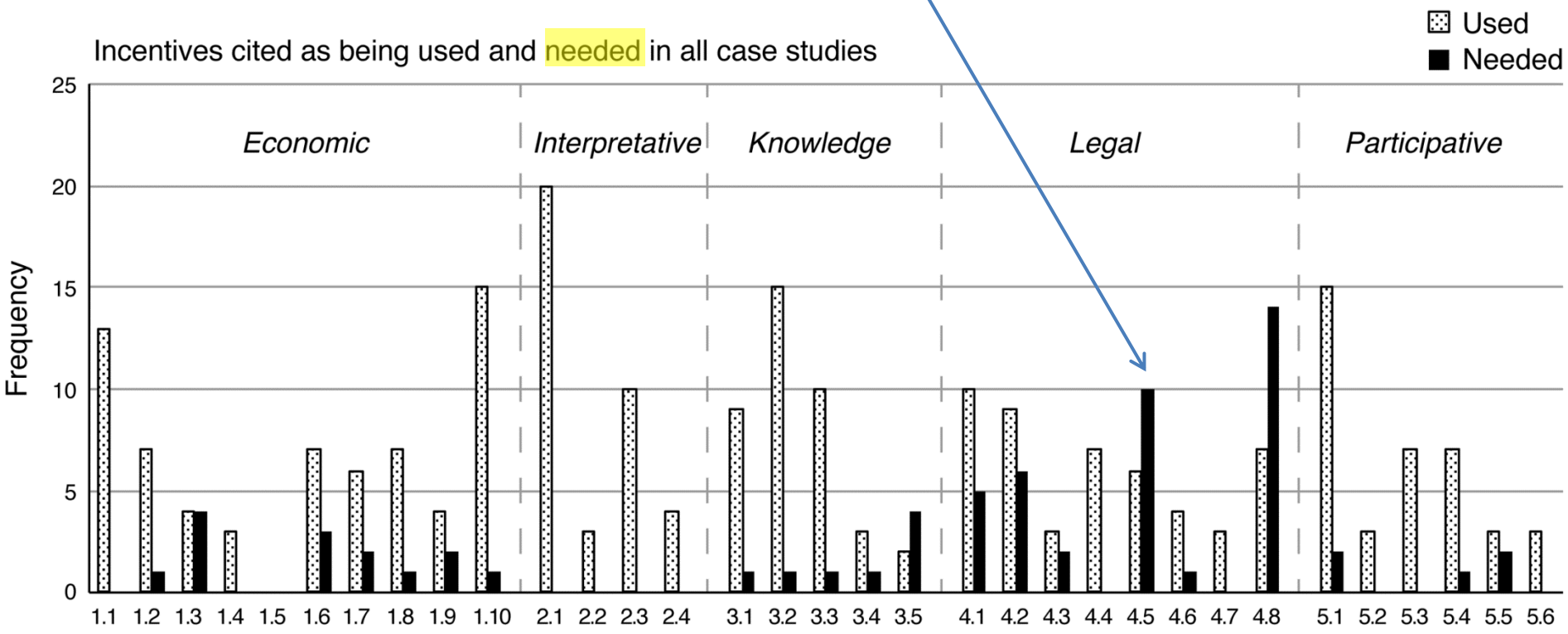
# Cross-jurisdictional coordination

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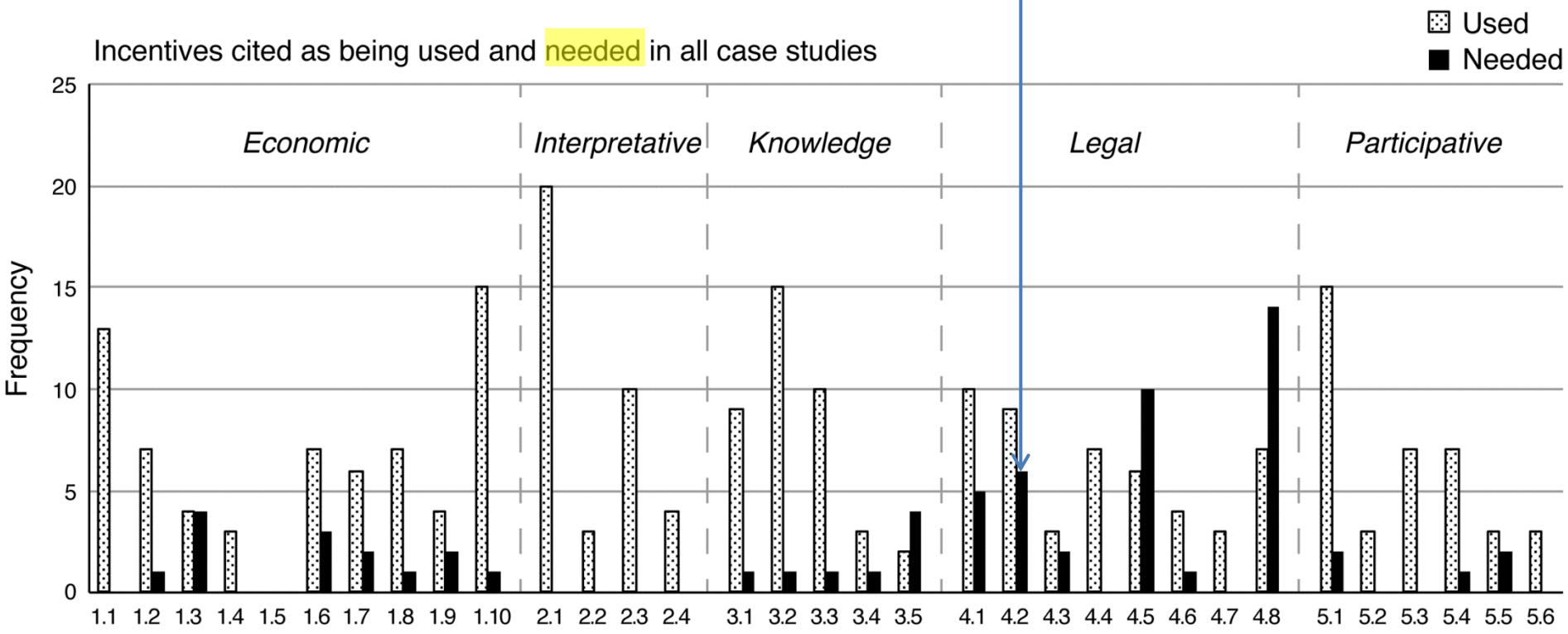
# Clear and consistent legal definitions

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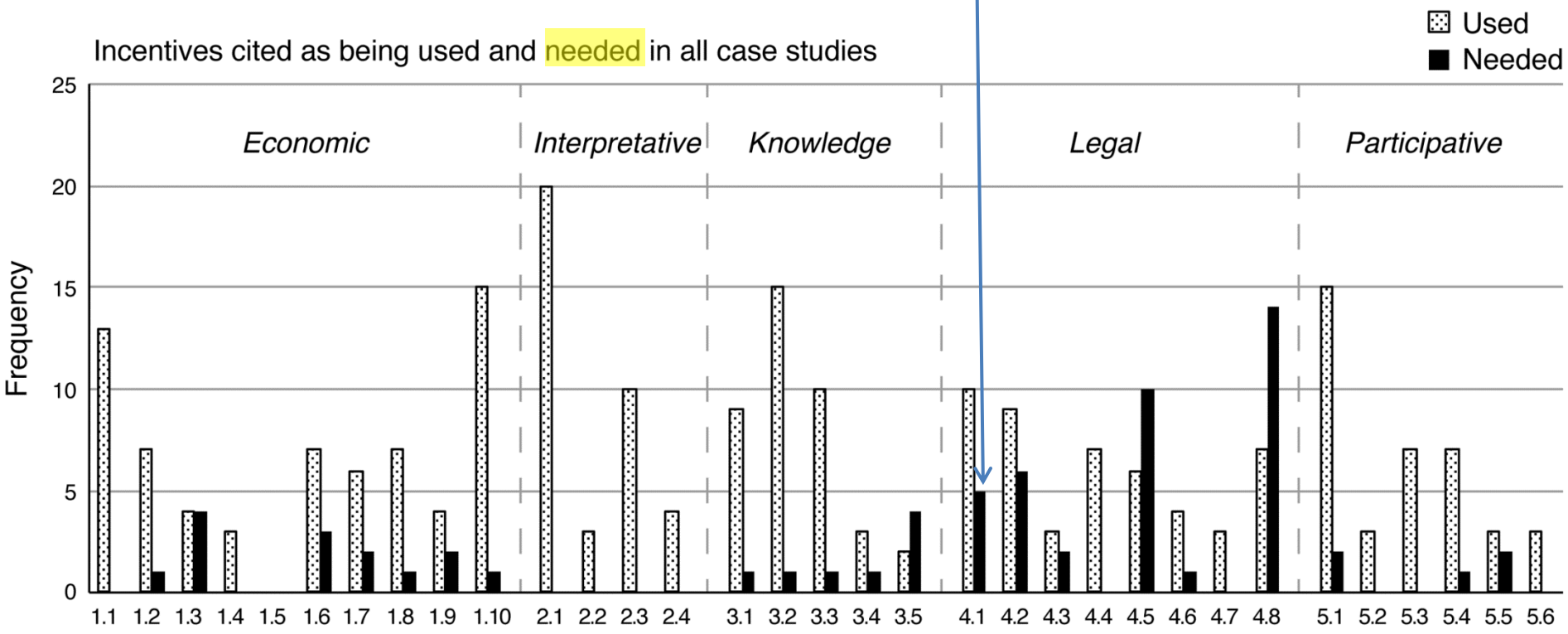
# Hierarchical obligations, including the potential for top-down interventions

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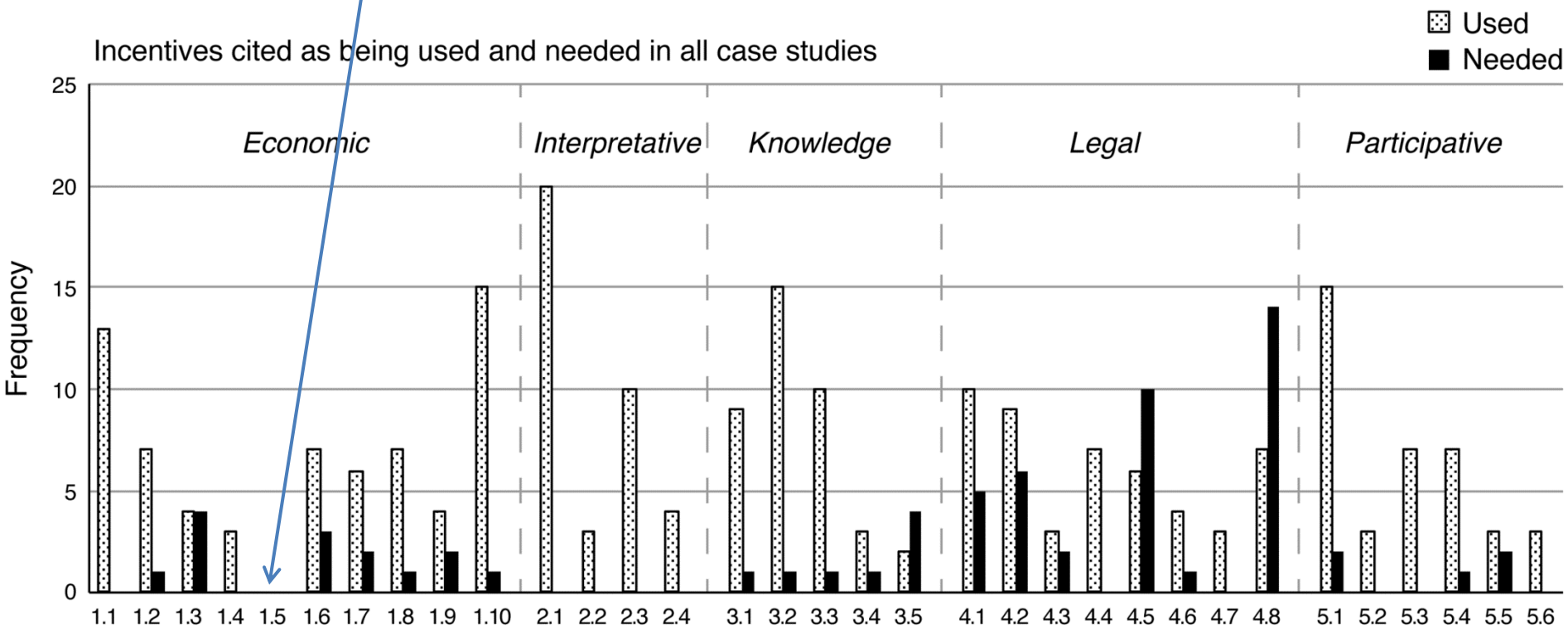
# One incentive not cited as used or needed

Direct payments for the flow of ecosystems services provided by the MPA through formal markets, i.e. marine equivalent of REDD payments

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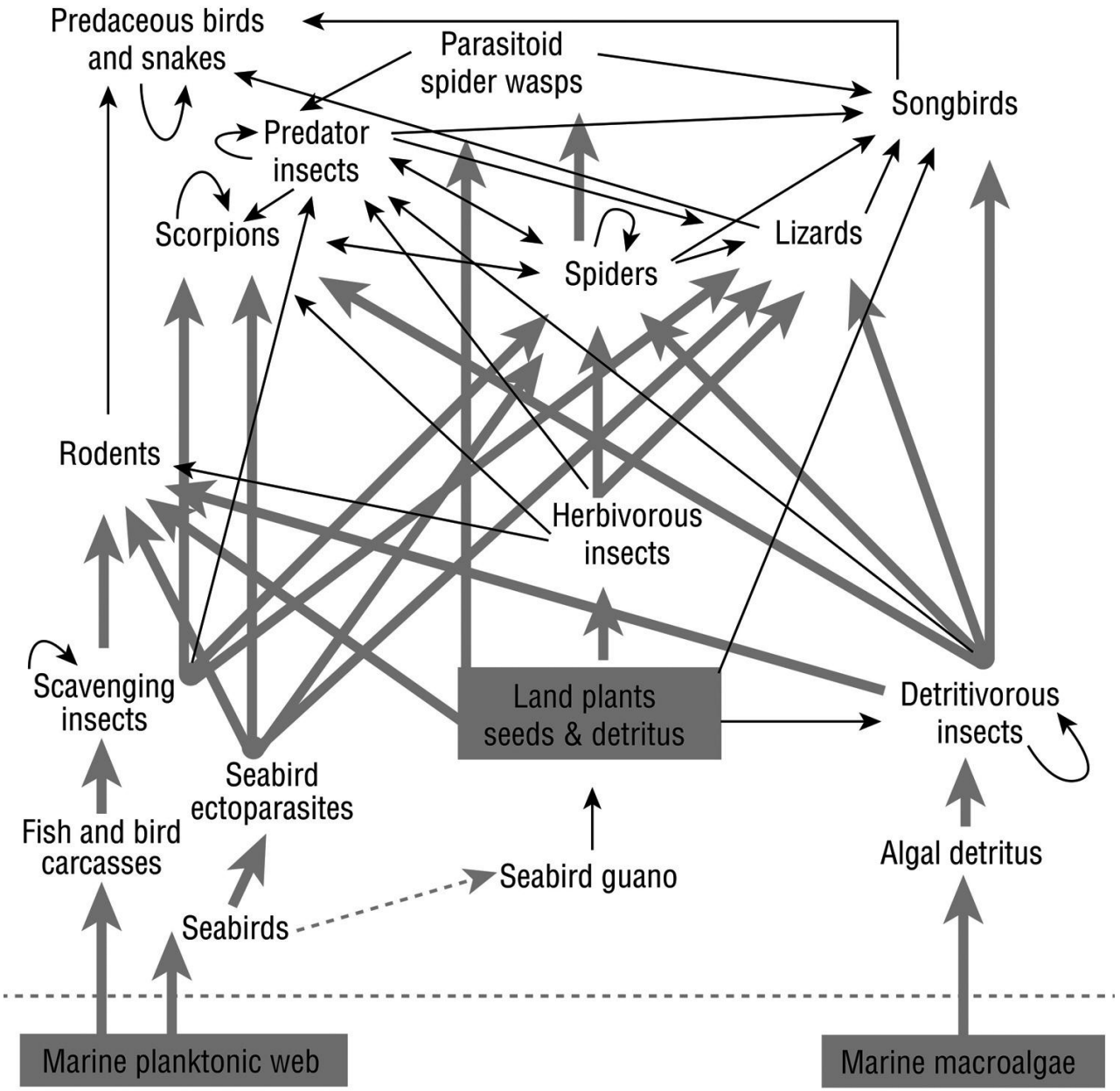
Mike Markovina/Marine Photobank

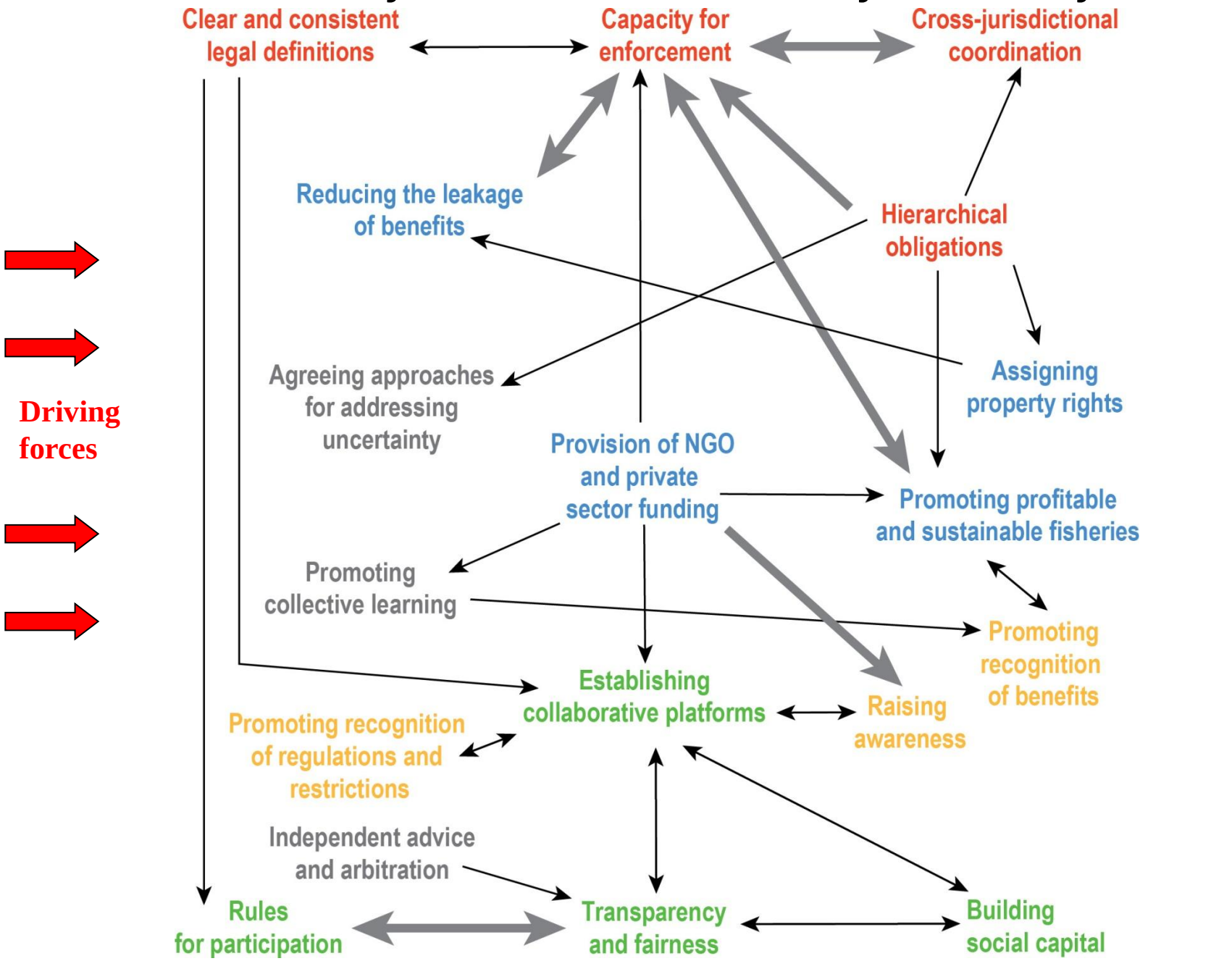
James Cervino

# What key attribute confers stability in ecosystems?




Polis (1998) *Nature* **395**(6704), 744-745

# What key attribute confers stability in social systems?

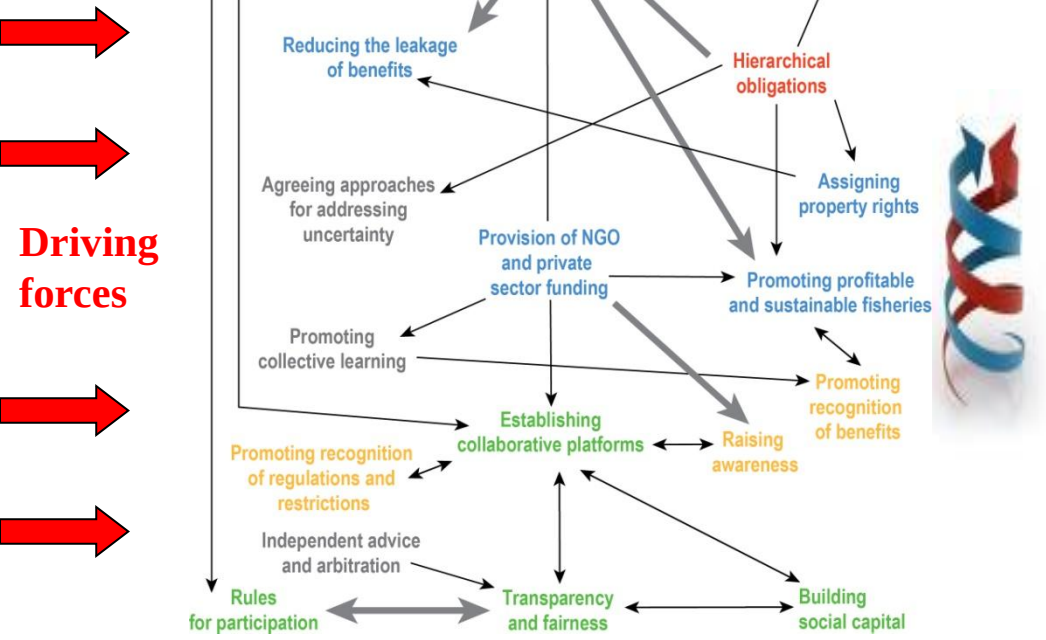


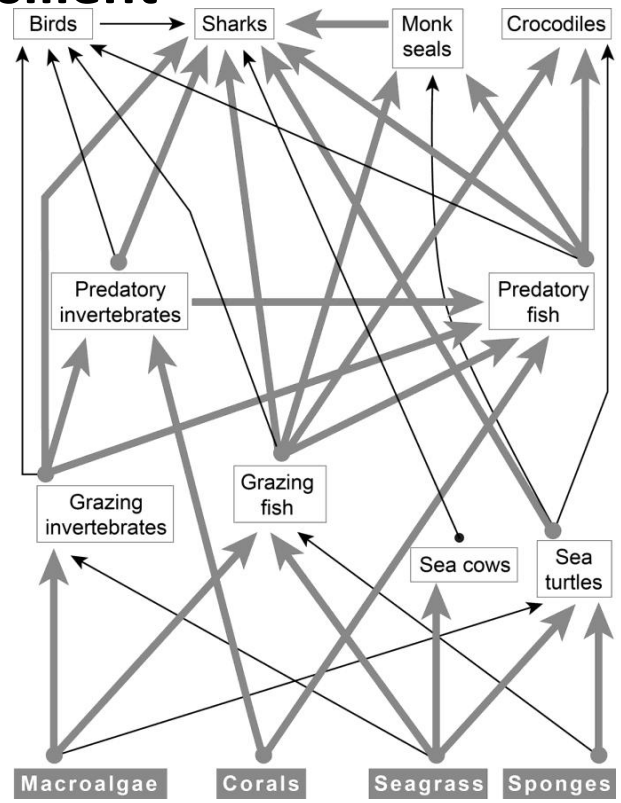
In the face of strong driving forces, the combined use of a diversity of inter-connected incentives makes MPA governance frameworks more resilient.

Resilience in MPA governance frameworks is therefore **woven by complex webs connecting incentives from all five categories**

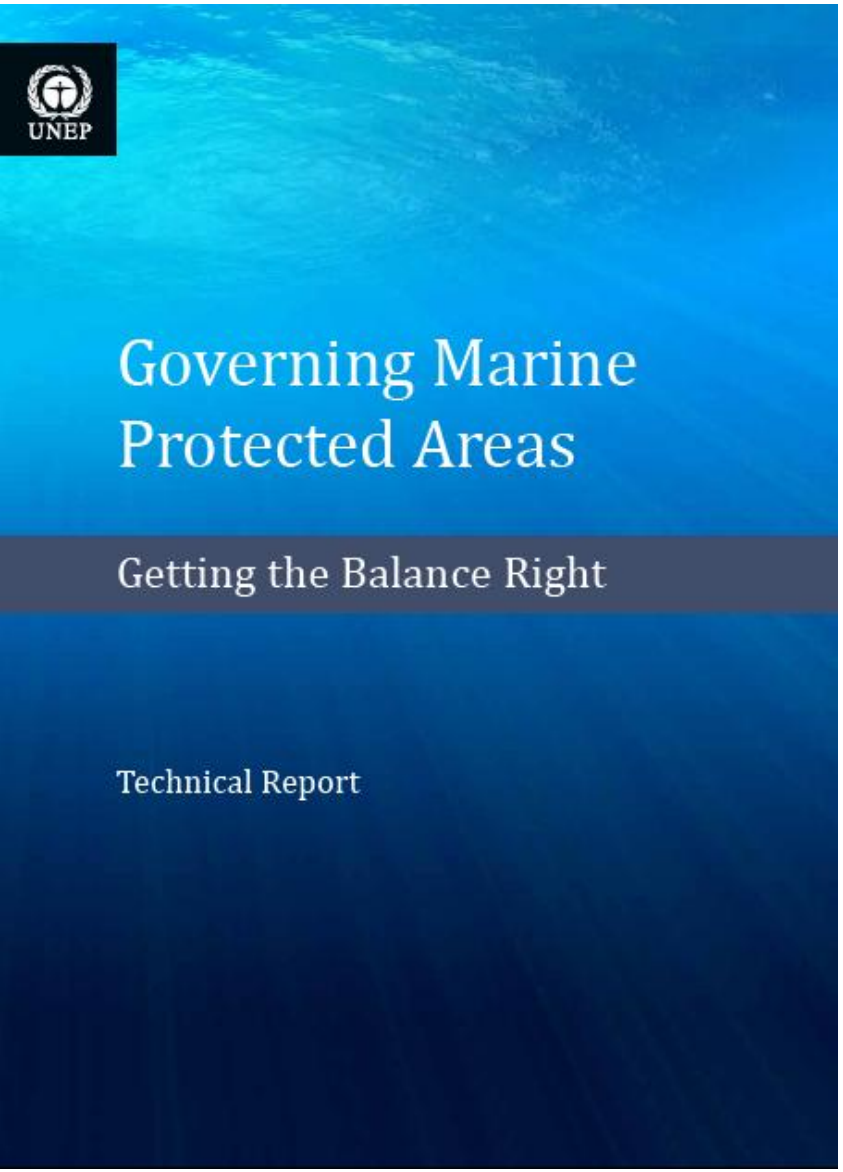
… but **without strong legal incentives to reinforce the MPA governance framework, it will not be resilient**

**Driving forces**




Jackson et al (2001) *Science*, 293, 629-638

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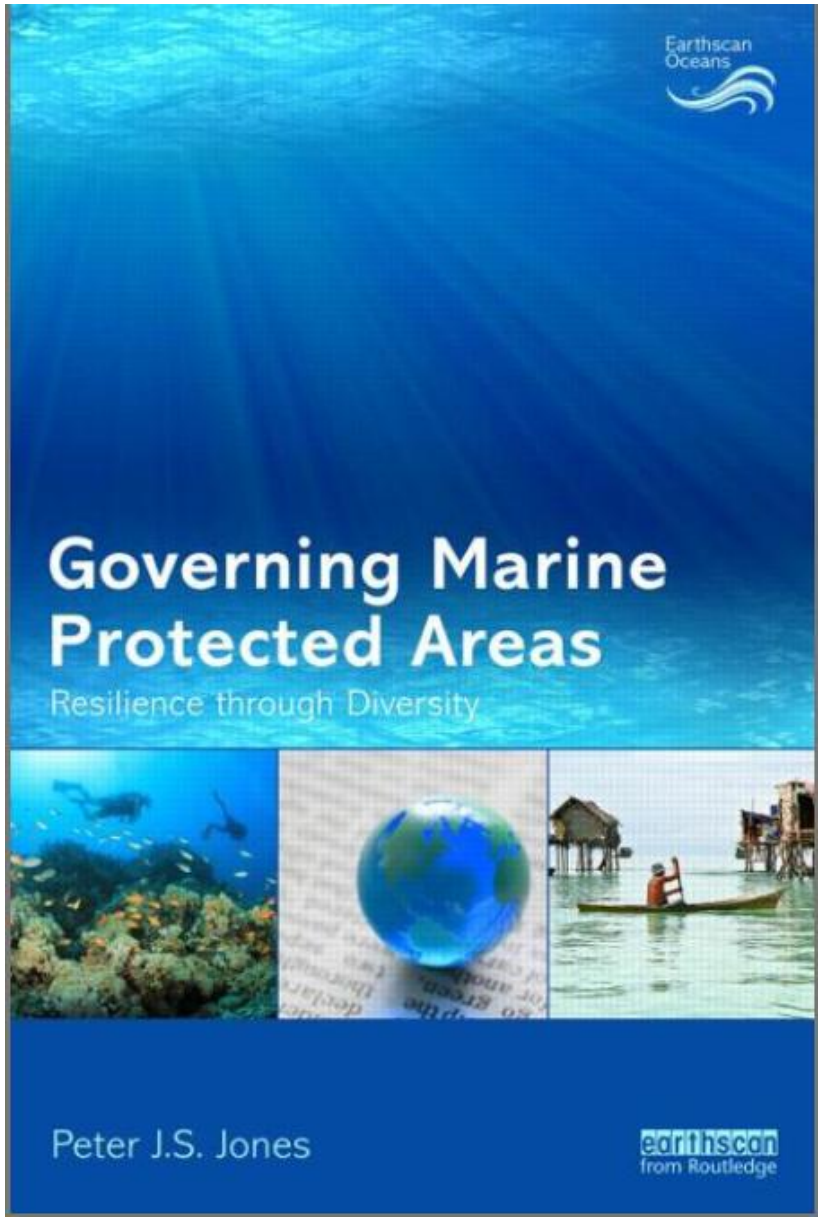
‘**Deconstructing**’ MPA governance into different categories of incentives and governance approaches

provides for the structures, processes, strengths and weaknesses of different forms of MPA governance to be **analysed in a more systematic way**

and for what appears to be ‘good practice’ in effective combinations of incentives to be transferred to other MPAs




MPAG analysis framework can be applied on a **meta-analysis** basis to a larger sample of MPA case studies, in order to further **develop and refine the guidance and the related theoretical and empirical framework**

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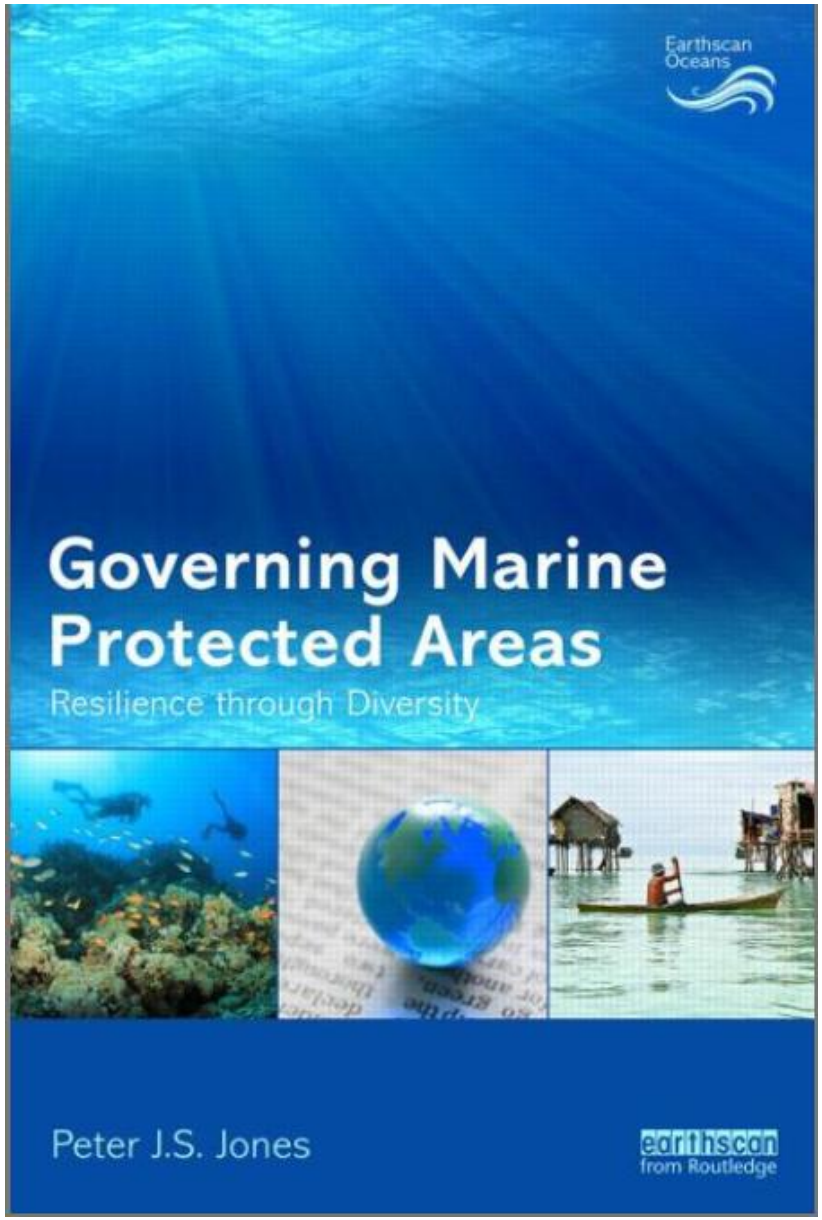


This empirical approach and theoretical framework provides for debates to move from which approach is ‘right’ or ‘best’, to studies of the **realities of governing MPAs**, recognising the **importance of combining different governance approaches**

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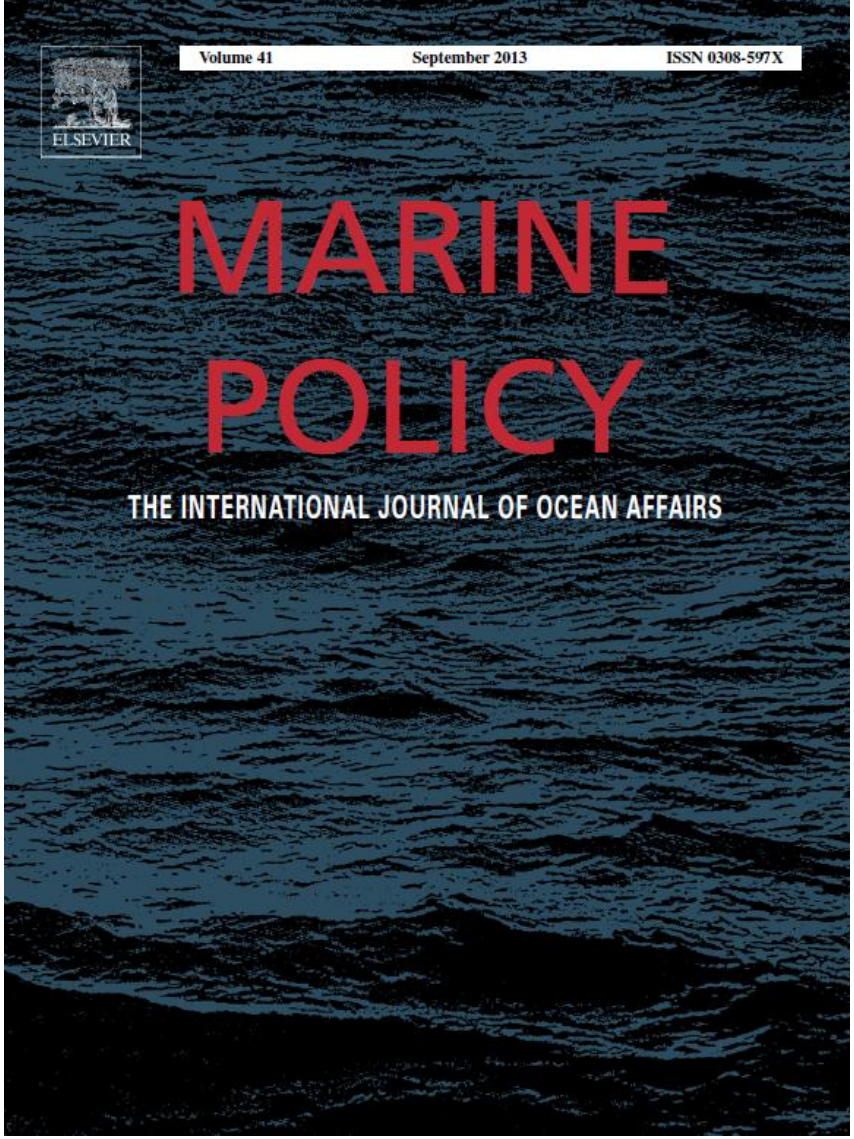


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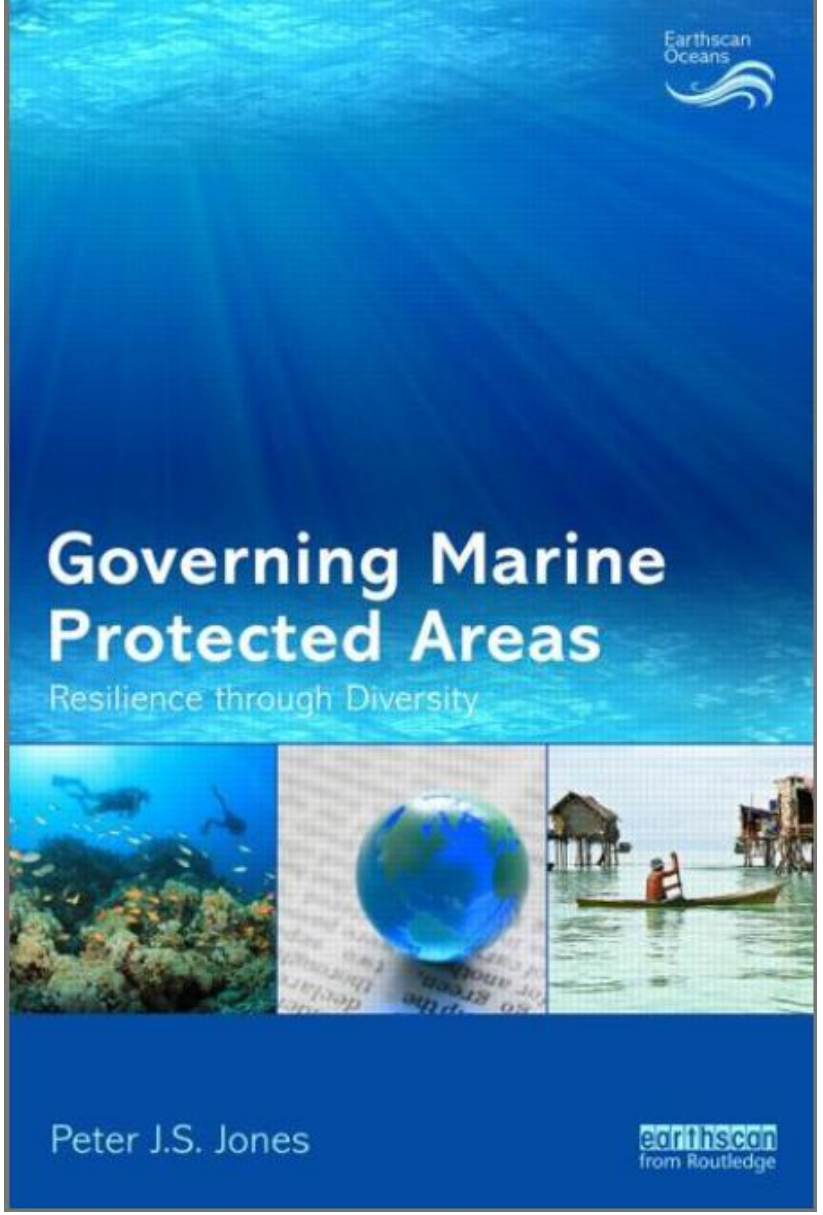
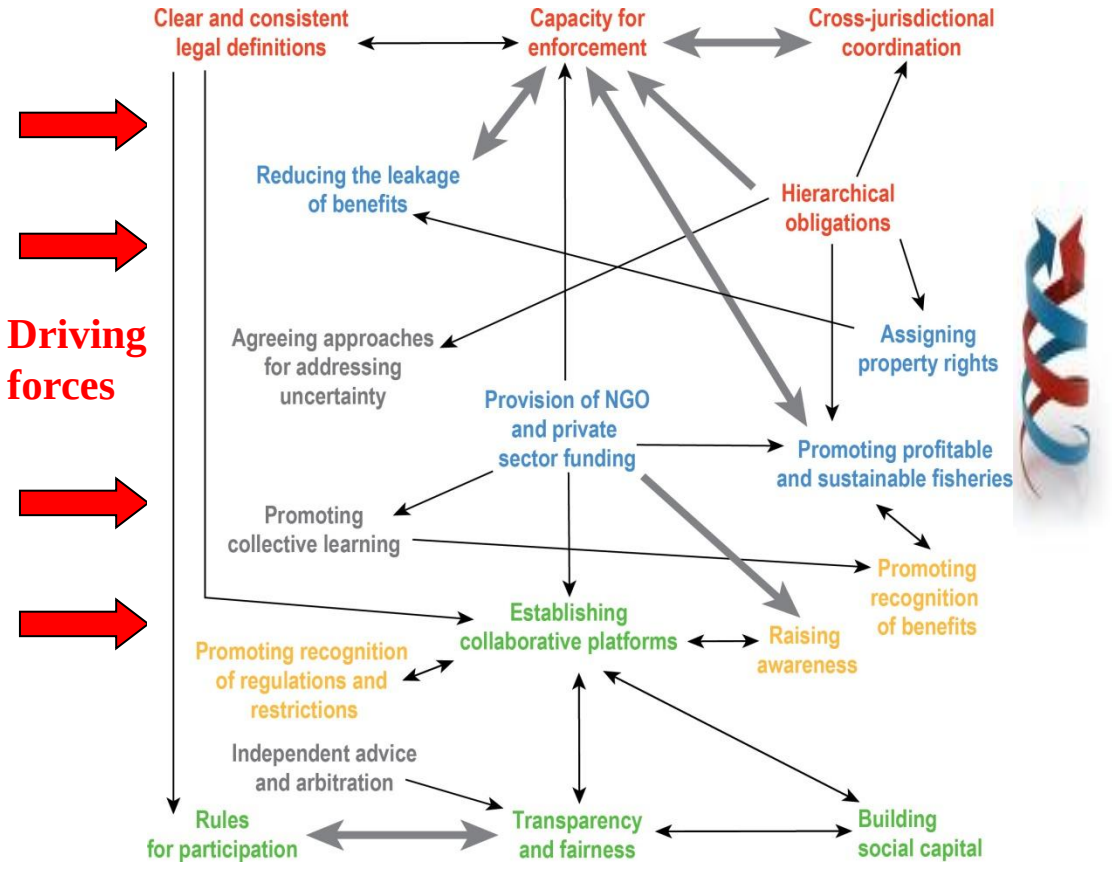
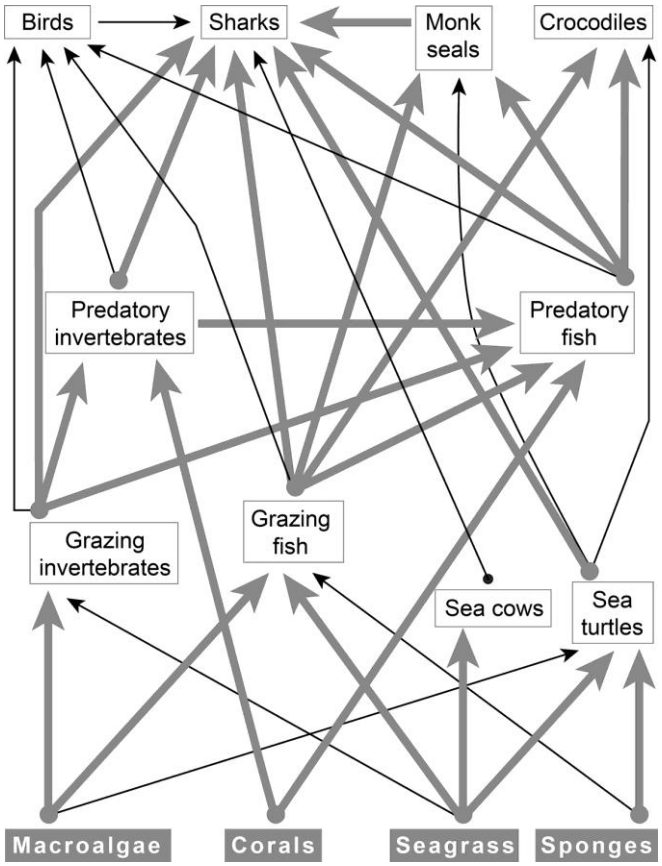
http://www.journals.elsevier.com/marine-policy




To be published February 2014
http://www.routledge.com/books/details/9781844076635/

# Diversity is the key to resilience, both of species in ecosystems and incentives in governance systems

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