Fishing without Borders: Ocean Governance and Transboundary Fisheries

Benjamin Gallant
Joey Macdonald
Lawson Spicka
Big Laws, Small Catches: Global Ocean Governance and the Fisheries Crisis

Edward Allison
Outline

• Summary
  – Overfishing
  – UNCLOS
  – Soft Policy
  – CCRF

• Critique
  – Canada’s Ocean Governance
  – China’s contribution
  – Pacific Tuna
Overfishing

- FAO - food and agriculture organization of the United Nations
  - Estimated 23 percent of world's fish stocks currently overfished, depleted or recovering from collapse.
- 50 percent are fully exploited.
- Estimated 30-40 percent overcapacity in global fishing fleet. Prolonged through government subsidies.
- “too many people chasing too few fish”
Overfishing-Examined

• Artisanal fisher folk catch on average 2 tonnes of fish per capita per year vs. a small trawler which can capture the equivalent amount in a single day.
• 1990 - estimated 28.5 million reliant directly on fish production and capture. 24 million of which are artisanal fisher folk in Asia. 120 million involved in activities relating to capture, processing, and sale of fish.~95 percent of which are in developing countries
• **Indiscriminate fishing** ~ 1/5 global production from capture fisheries of fish brought onto a fishing vessel are discarded at sea.
• In long term has socioeconomic as well as potentially irreversible environmental degradation.
Other Issues

- Globalization of seafood markets leading to net transfer south to north.
- Food availability for fish 2x greater in developed countries.
- Aquaculture causing displacement for subsistence fisher folk, Fish meal production from wild captured fish puts further pressure on stocks.
- Production oriented development neglecting sustainability issues
- Management and development plans fail to account for natural availability of resource productivity.
Table 1. Summary of proposed reasons for the failure of fisheries management. Many or all of these may apply to any individual fishery

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<th>Description</th>
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<td>1. Access and ownership regimes unsuitable or poorly defined, leading to ‘Tragedy of the Commons.’</td>
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<td>2. Lack of political will to limit fishing, due to the minor economic importance of the fisheries sector in most countries.</td>
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<td>3. Conflict with other uses of the ocean, principally as a ‘common sink’ for discharge of pollutants and degradation of key coastal habitats (e.g. mangroves, coral reefs) leading to habitat degradation affecting fisheries.</td>
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<td>4. Inadequate financing and capacity to enforce states’ fishery and ocean laws, allowing circumvention of management aimed at sustaining stocks.</td>
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<td>5. Prevalence of production-orientated ‘development’ paradigm, leading to neglect of sustainability issues.</td>
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<td>6. Subsidized over-capacity in fishing fleets; subsidies mask signals of resource scarcity.</td>
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<td>7. Failure to manage the consequences of rapid technological and political change.</td>
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<td>8. Failure to specify long-term management objectives to allow for rational sector-wide planning and development.</td>
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<td>10. Inadequate or incorrect scientific advice on sustainable harvesting levels and a management system that is over-reliant on that advice.</td>
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<td>11. Insufficient consideration of social, economic and political dimensions of fisheries by fisheries advisory services.</td>
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<td>12. Value of marine ecosystem services not taken into account in the prevalent single-species management approaches.</td>
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<td>13. Mobility and transboundary nature of fish stocks—fish move through governed spaces.</td>
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<td>14. Management and development plans fail to adequately account for natural (climate-induced) variability in resource productivity.</td>
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UNCLOS

• Is an international treaty that provides a regulatory framework for the use of the world’s seas and oceans, *inter alia*, to ensure the conservation and equitable usage of resources and the marine environment and to ensure the protection and preservation of the living resources of the sea.
• UNCLOS also addresses such other matters as sovereignty, rights of usage in maritime zones, and navigational rights. As of January 10 2014, 166 States have ratified, acceded to, or succeeded to, UNCLOS
• Classifies waters into several zones; internal, territorial, archipelagic, contiguous, each of which set limits on state enforcement and rights to resource use.
Soft Policy

• FAO developed the CCRF with direct involvement of member states, as well as input from IGOs and NGOs.
• The code is applied on a voluntary basis. It is aimed to provide policy direction for creating more detailed legal frameworks.
• Provide more clearly defined social and economic policy involved in fisheries management
• Promote involvement of local communities, fishers in the management process.
• Allowing for local/traditional knowledge.
FAO CCRF objectives

• Provide structure for fishers and investors
• Maintain/ restore fisheries benefits
• Increase supplies to meet future demands
• Increase economic efficiency by reducing overcapacity, eliminating subsidies, promoting free trade
Figure 2. The main features of UNCLOS¹ (from Andrews, 1999)
Canada’s Ocean Governance

• Canada’s Ocean Strategy – 2002
  – Principles
    • Sustainable Development
      – Integration of social, economic, and environmental aspects
      – Ocean development does not compromise future generation’s needs
    • Integrated Management
      – Commitment by decision makers to consider all factors needed for the conservation and sustainability of marine resources for themselves and others
    • Precautionary Approach
      – Duty to prevent harm when information is uncertain, unreliable, or inadequate
Canada’s Ocean Governance

• Canada’s Ocean Strategy Cont.
  – Objectives
    • Understanding and Protecting the Marine Environment
    • Supporting Sustainable Economic Opportunities
    • International Leadership
Canada’s Ocean Governance

• Canada’s Oceans Action Plan – 2004
  – 4 Pillars
    • International Leadership, Sovereignty, and Security
    • Integrated Oceans Management for Sustainable Development
    • Health of the Oceans
    • Ocean Science and Technology
Canada’s Ocean Governance

• Canada’s Ocean Action Plan - Phase I
  – 2005 Budget provided 28.4 Million over two years
    • International Leadership, Sovereignty, and Security
      – Gulf of Maine, Artic Marine, NW Atlantic overfishing, Continental Shelf
    • Integrated Oceans Management for Sustainable Development
      – 5 Priority Areas – Placentia Bay & Grand Banks, Scotian Shelf, Gulf of St. Lawrence, Beaufort Sea, Pacific N. Coast
  • Health of the Oceans
    – Marine Protected Areas, Ballast water & marine pollution, birds & oil
  • Ocean Science and Technology
    – Oceans Technology Network
Additional Legislation

- Fisheries Act (1985)
- Oceans Act (1996)
- Species at Risk Act (2002)
- Coastal Fisheries Protection Act (1985)
Governance Shortcomings

• Funding – Phase II? (4)
• Length of action (8)
• Focus on economic prosperity (2)
Figure 1. Landing in oceans world wide in catch per million tons per year. From: Mallory (2013)
China’s Ocean Catch

• Chinese per capita fish consumption double global average.
• 8-53% increase each year in distant water fisheries between 1986-2010.
• 30% of global illegal unreported and unregulated catch expected to be China.
• Illegal harvest by Chinese boats have been reported in Guinea, Sierra Leone and Liberia.
Successful: Tuna in the pacific

• Leveraging areas within domestic waters of WCPFC for international waters in eastern high seas.
• Restriction agreed to by 8 international fishing superpowers.
• Based off of prior actions by Britain in Indian ocean excluding economic fishing.
• Happened in 2011
• Seen as the first time a reversal of open ocean fishing and fish conservation (Daniel Pauly).
Open Ocean fish farming?

- Lowering numbers of Tuna have created idea of creating pens carried by ocean tides
- Currently Open Ocean pens exist for some fish on the East coast but most be protected by companies setting them up.
- Overall development is slow and unsuccessful
Open ocean issues

- Hard to track fish numbers
- Not important to economy of nations so not government funded
- Dangerous in open ocean, at times can be difficult to track

Figure 2, effects of exploitation on a model fish community.
From Worm et al. 2009.
- Physiology
- Behaviour
- Population ecology
- Ecosystem ecology
- Habitat data (limnology, oceanography)
- Life history

- Fisheries exploitation data
- Applied life history data
- Human dimensions: socio-economic data

- Protecting populations & habitats
- Restoring populations & habitats

- Harvest regulations
- Managing fisheries & habitats
Questions

• What political instruments should Canada use in terms of international ocean fisheries?
• How does ocean fisheries governance compare to other resources?
• Would deep sea exploration and governance be expanded if marketable fish were found?
Questions

• How can political instruments be used to redistribute fisheries resources?
• Should we, and if yes how can we, help developing nations manage and govern their fisheries?
• Could an expanding Artic Ocean lead to a race to explore and claim?
• How Can we structure policy frameworks to reduce the devastating effects of indiscriminate fishing?
References

• Mann, C. 2004. The oceans of the world are being overfished. The solution: roaming robots that bring fish farming to the open seas. Wired 27-31.
• Morato, T., R. Watson, T. Pitcher and P. Daniel. 2006. Fishing down the deep. Fish and Fishers 7:24-34.