

MARE Conference

People and the Sea VI

**Bridging science and policy for
sustainable coasts and seas**



programme & abstracts

July 6-9, 2011

Amsterdam, Netherlands

People and the Sea VI

Bridging science and policy for
sustainable coasts and seas

sixth international conference

centre for maritime research
MARE

venues:

roeterseiland complex
universiteit van amsterdam

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welcome.

Dear Participant,

The People and the Sea conferences have established themselves as one of the leading social science forums for debate, exchange of knowledge and experience on maritime and coastal research and policy since their start in 2001. This is now our sixth biennial event and we are happy to welcome you to the Netherlands as well as to the conference site.

The university buildings where we will be meeting over the next few days are located several metres below sea level. This is a grim reminder of the vulnerability of coastal zones the world over, especially as we are faced with sea level rise and climate change. The fact that we are able to take time and reflect academically on these and other environmental and anthropogenic challenges is, however, heartening. Reflection ultimately also finds its way into policy which aims to build resilience. This brings me to the conference theme: the 'bridging of science and policy for sustainable coasts and seas.' We realize the necessity of scientists and policymakers working together more than ever before.

This year's conference – which stretches out over four, rather than three days – has several themes: maritime life worlds, policies for marine resource use, coastal shocks and disasters, fisher wellbeing, and contrasting approaches and tools. Reflecting current societal debates, developments in the field of marine spatial planning are given special attention. The policy day, which is organized in conjunction with the Centre for Marine Policy (CMP) in Leeuwarden and precedes the conference by one day, is wholly devoted to this topic.

MARE views itself as a European organization, and we are therefore especially pleased that a representative of the European Commission (Directorate General Maritime Affairs) is here to open the conference. The four keynote speakers – one each day - come from different parts of the globe, and we expect that their geographical origins will colour their presentations to some degree. Their topics, however, are of global relevance to users of marine and coastal zones, as well as to the social science community, and we look forward to hearing their views.

The conference dinner on Friday, July 8th is open to all participants. Besides providing an opportunity for informal discussion, MARE will also present the biennial People and the Sea Award, co-sponsored by the Dutch Fish Product Board, for the promotion of awareness on maritime issues in the Netherlands. This is also the occasion for announcing the recipient of the Best Student Paper Award.

I conclude by thanking the sponsors of the People and the Sea Conference VI, and by wishing you an inspiring event.



Prof. dr. I.S.A. Baud,
Chair MARE

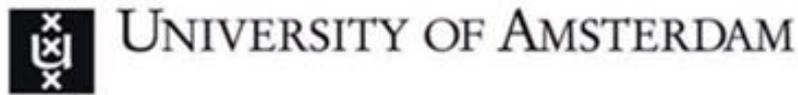
a thank you to our conference sponsors. . . .



KONINKLIJKE NEDERLANDSE
AKADEMIE VAN WETENSCHAPPEN



X Gemeente Amsterdam



C E R E S

RESEARCH SCHOOL FOR RESOURCE STUDIES FOR DEVELOPMENT



conference staff.

director. Maarten Bavinck

conference coordinator. Willeke Adriaanse

assistance. Eva-Maria van Straaten

conference committee. Sarah Coulthard (co-chair)
Simon Bush (co-chair)
Maarten Bavinck
Fabio de Castro
John Kleinen
Dik Roth

conference volunteers. Dedi Adhuri
Fiina Amakali
Stefan Askew
Ingrid van Beek
Linda van Bets
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programme book design ali brown

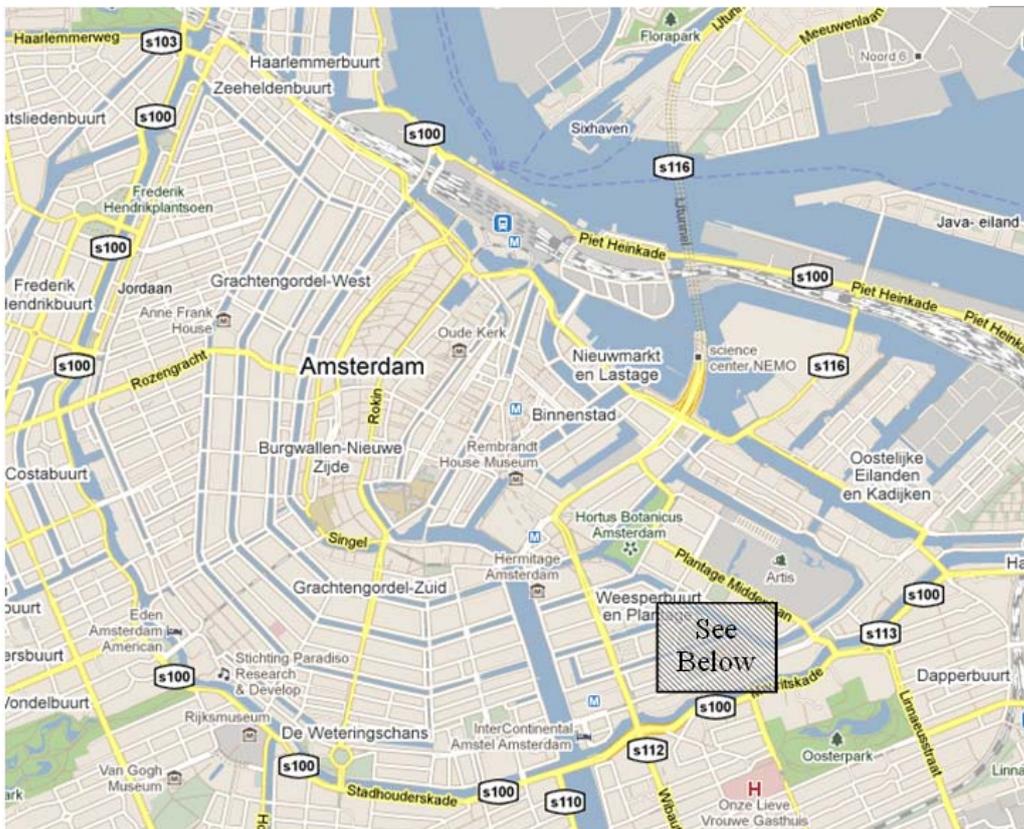
conference locations.

the venue

People and the Sea VI will be held at a central city location close to metro and tram stations and in a nice area of the city, close to the Amsterdam Zoo. The conference venue is part of the University of Amsterdam and the conference sessions will spread out over several separate buildings, all within easy walking distance.

The conference will be at 'Roeterseilandcomplex' in three separate buildings:

1. Building A, Roetersstraat 15
Opening Ceremony
2. Building M, Plantage Muidergracht 12
Keynote Speeches
3. Building E, Roetersstraat 11
Panel Sessions





Directions to the venue

From Centraal Station you can take the metro (subway), line 51, 53, 54, and get off at the third stop, called 'Weesperplein'. Take the station exit that is marked 'Roeterstraat.'

Alternatively, you can also hop on the tram at central station. Take the number 9, get off at 'Plantage Kerklaan' and take a right.

conference dinner.

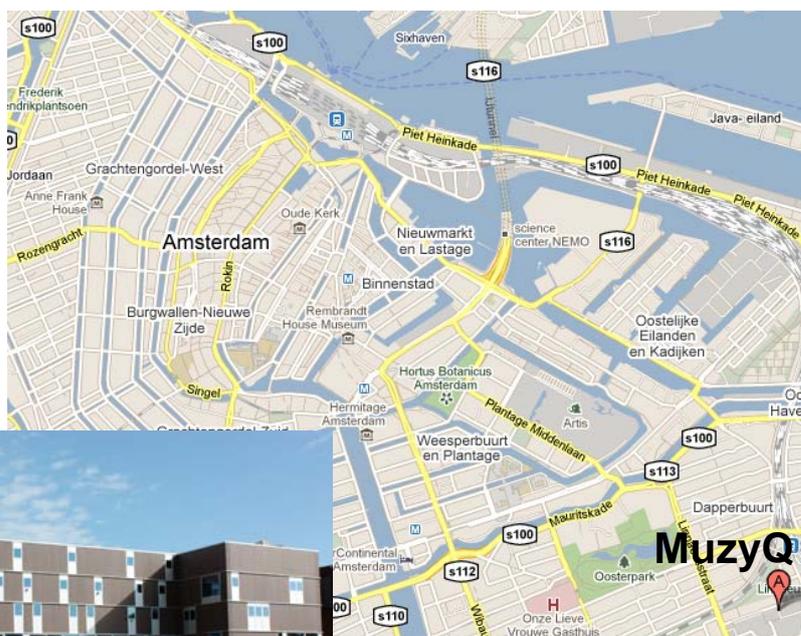
The conference dinner will be held at a separate location in the eastern part of the city at MuzyQ, a building designed specifically for musicians. The dinner takes place on Friday night, you are welcome from 19:00 onwards and we will start our first course at 19:30. Besides delicious food, we will present the best student paper and best student poster award as well as the MARE People and the Sea award.



MuzyQ
Atlantisplein 1
1093NE Amsterdam



For those who wish to go to the dinner location with a guide, we will meet at 18:30 in front of the E-building and walk to the location together (15 minute walk). For those who feel adventurous and would like to go to the venue by themselves, please find the address above and a map and picture of the building below.



wednesday events.

4 Tuoze Matroze



Before the opening ceremony on July 6th, 4 Tuoze Matroze will play a special selection of traditional Dutch songs. The quartet, begun in 1995 incorporates instruments like accordion and saxophone, electric guitar and upright base and has been influenced by a number of musical heritages, from Irish to Moroccan. 4 Tuoze Matroze has become known in the Netherlands and abroad as the epitome of current traditional Dutch sailor songs. They are a great live band to experience as their stage presence and energy is infectious!

Amsterdam's Locally-Made Libations

On Wednesday, July 6th there will be limited space available for a tour of Brouwerij 't IJ, located in the east of the city under a large picturesque windmill. Brouwerij 't IJ, or the IJ Brewery, was founded in 1983 by former musician Kaspar Peterson in a squatted building along the river IJ. In 1985 the brewery moved to its' current location where it continues to specialize in delicious organic and unpasturized ales. Open from 15:00-20:00 daily this is the ideal location to enjoy the summer weather and a *biertje*. Space is limited on this excursion so please sign up at the registration desk upon arrival. If the space fills it is also possible to go to the brewery without taking the tour and sit in the outside courtyard or the spacious tasting hall.



information & services. . . .

registration

On Wednesday July 6th you can register between 9.00 and 10.00 at the entrance hall of building A, Roeterseilandcomplex. On Thursday 7th and Friday 8th you can register, preferably before 9.00, at the information desk at the central hall of building M. Saturday July 9th registration will be in the central hall of the E-building.

information desk

An information desk will be open in the main hall of building E, throughout the conference, for any questions or information. Mare volunteers and staff will be available to answer your questions and are recognizable by their blue MARE badge.

money withdrawal

There is cash dispenser in the hall of building E and at the entrance of building A. Both should accept international bank cards.

lunch

Lunch will be provided in the E-building, in the central hall.

When registering you will receive lunch vouchers.

amsterdam.

Amsterdam draws in a large tourist crowd and is well known for its 17th century canal belt, which is now a UNESCO world heritage site. It is worthwhile just to take a stroll through the old inner city or along the canals and adjacent streets. Amsterdam also has a wide range of interesting museums, historical monuments and art galleries. For those of you who don't mind a bit of crazy traffic, explore the city by bicycle or, if you rather like sitting down while taking in the scenery, take a boat tour across the old city.

Museums

With over 40 museums, Amsterdam has a wide variety to choose from. Here is a selection of the best Amsterdam has to offer:

The Amsterdam (history) Museum: A museum that highlights the Amsterdam of the past as well as of today. It has a rich collection of art, objects and archaeological finds that offer a tangible link to the past. Besides the permanent exhibition 'the story of Amsterdam', the museum also organizes temporary exhibitions, like the project 'Buurtwinkels': the past and present of Amsterdam's local shops.

Address: Nieuwezijds Voorburgwal 357/ Kalverstraat 92

Upon registration you received a FREE ticket for this museum! You can use it during the conference days on the opening hours mon-fri 10:00-17:00, sat 11:00- 17:00

Van Gogh Museum: The museum contains the largest collection of paintings by Vincent van Gogh in the World. Open daily 10:00- 18:00 Address: Paulus Potterstraat 7

Het Rijksmuseum: The Museum is current under reconstruction but still offers exhibitions such as 'Masterpieces: Highlights of the Golden Age'. Open daily 9:00- 18:00 Address: Jan Luikenstraat 1

Het Stedelijk Museum: The Museum for modern art is showing 'temporary stedelijk 2', which focuses on the renowned collection of modern and contemporary art and design. Open tue-sun 10:00- 17:00 Address: Paulus Potterstraat 13

Anne Frank Huis: The house where Anne Frank went into hiding and wrote her world famous diary. Open daily 9:00-18:00 hrs. Address: Prinsengracht 267

Joods Historisch museum: History and culture of Jews in the Netherlands. Open daily 11:00- 17:00 hrs. Address: Nieuwe Amstelstraat 1

Public transport

It is convenient to travel within Amsterdam using the public transport system. The tram, busses or the metro can take you pretty much everywhere in the city. All public transportation uses the OV-chipkaart, an electronic travel card with a chip. You can buy the card from GVB info desks or machines at most train stations, and you can then charge the card with credit. If you only go with public transport once or twice, it is cheaper to buy a disposable chip card (valid for one hour) from the tram or bus conductor. The public transport company also offers 1-7 days unlimited travel through Amsterdam. A comprehensive list of OV-chipcards and prices, check www.gvb.nl

Bicycle rental

On a warm summer day there is nothing like cycling through the city, taking in the scenery and the summer breeze. Here are some options for bike rentals:

Macbike: Centraal Station, Leidseplein, Waterlooplein

Starbike rental: Behind Centraal station, on the right-hand side

Rent a bike: Damstraat 20-22

Taxis

Taxi central Amsterdam (TCA) is the largest taxi company and a reliable one. TCA can be reached 24 hrs. a day, telephone number 020-7777777 (that's 7x7). Taxi rates start at €7.50 and include up to two km. at this price.

Events in Amsterdam

If you are interested in what else is going on in Amsterdam, you will find a list of festivals, theater, music, exhibitions on the Amsterdam website: www.iamsterdam.com

people and the sea VI. . . .

'Bridging science and policy', the central theme of the 6th MARE People and the Sea conference, addresses how science can better connect with policy to support progress towards sustainable coasts. This builds on a longstanding ambition of the MARE conferences to encourage interconnection amongst different sciences, with particular emphasis on social science and trans-disciplinary contributions across the science-policy interface. As is often observed, science frequently remains fragmented and contested, particularly across economic, social and natural science domains. The field of policy is no less problematic. Disciplinary orientations are often reproduced in the sectoral organization of government agencies and their policies. Policy-makers tend to reduce complex problems to simple and seemingly manageable proportions. This often leads to contestations in which scientific activity and knowledge become a weapon legitimizing certain understandings of environmental-societal problems and solutions and discarding others, rather than being a neutral input for an uncontested societal activity.

The 6th MARE conference specifically aims to re-connect the myriad of disciplines which seek to promote sustainable coasts with processes of policy and decision-making. By doing so, we endeavor to provide insight into the different framings of complex problems, and to bridge the common gap between scientific and policy domains. The underlying assumption here is that joined-up science which seeks to engage with the policy process can facilitate progress towards workable and sustainable fisheries and coastal policies that are socially, environmentally and politically workable.

conference themes.

1) Maritime life worlds and culture

This theme continues a long standing attention of the MARE conference series to maritime anthropology and the cultural meanings that people associate with the sea and coastal zone. Papers in this theme may relate to occupational specializations, such as fishing, coastal tourism, aquaculture, or oil rig work. They may also branch into cultural ecology, history, film or literature analysis. Documentaries could be included in the programme.

2) Negotiating policies for marine resource use

This theme focuses on processes of governance giving particular attention to aspects of negotiation, consensus building, legitimacy, the role of science and interpretation of evidence, dealing with scientific uncertainty, and policy conflict. We are interested in how different policies in the coastal zone are deliberated, whose voices are heard, aspects of power, procedural justice, examples of good and bad practice, and consequences of policy contestation.

3) Coastal shocks, disasters and recovery

This theme gives focus to the reactions of coastal and marine systems to shocks and how science, policy and coastal communities deal with sudden change. As change may have natural (tsunamis, climate change, etc.) or social (policy, demographic developments, etc.), origins, contributors might address topics such as oil spills, fishing bans, resource collapse, the global recession or natural disasters affecting the coastal zone. Enquiries might highlight policy processes, law, power equations, the role of government, or of civil society.

4) Contrasting approaches and tools - Successes and failures in marine and coastal resource management

This theme brings together the different approaches and tools that are currently used in coastal and marine resource management, and seeks to contrast and compare their use across different contexts and disciplinary perspectives. We are particularly interested in articles which discuss management approaches, such as Marine Spatial Planning, Coastal Zone Management, Ecosystem based management, Wealth-based and Right-based approaches, and more specific management tools such as marine parks, ITQs, and quota regimes.

5) Fisher wellbeing and sustainable fisheries - challenges and opportunities

This theme addresses the challenges of poverty alleviation within fisheries in the context of diminishing resources, shifting access to resources, inequality and fast pace coastal development trends. How do these changes in fisheries affect the wellbeing of fishing dependent people and how can this be better understood and integrated into policy considerations? We encourage papers which address poverty in fisheries from across a north and south context.

general programme.

wednesday, july 6th

roeterseiland complex, UvA

09.00-10.00 registration and coffee

10.00-11.00 opening ceremony

music: 4 tuoze matroze

11.00-12.00 keynote speech: james r. mcgoodwin,

university of colorado

12.00-13.30 lunch break

13.30-15.00 panel sessions: series one

15.00-15.30 break for coffee & tea

15.30-17.00 panel sessions: series two

17:30-18:15 *optional: tour of the ij brewery*

**sign up at registration desk, see wednesday events section for more information about the brewery*

thursday, july 7th

roeterseiland complex, UvA

09.00-10.30 keynote speech: ussif rashid sumaila

fisheries centre, ubc

10.00-10.30 break for coffee & tea

11.00-12.00 panel sessions: series three

12.00-13.30 lunch break

13.30-15.00 panel sessions, series four

15.00-15.30 break for coffee & tea

15.30-17.00 panel sessions: series five

friday, july 8th

roeterseiland complex. UvA

09.00-10.30 keynote speech: megan caldwell

stanford law school

10.30-11.00 break for coffee & tea

11.00-12.00 panel sessions: series six

12.00-13.30 lunch

13.30-15.00 panel sessions: series seven

15.00-15.30 break for coffee & tea

15.30-17.00 panel sessions: series eight

19.00-21.30 conference dinner at MuzyQ

Meet in front of E Building at 18.30 to walk

saturday, july 9th

roeterseiland complex, UvA

09.00-10.30 panel sessions: series nine

10.30-11.00 break for coffee & tea

11.00-12.30 panel sessions: series ten

12.30-13:30 lunch break

13.30-14.30 keynote speech: julia guifang xue

ocean university, china

detailed programme, panel overview and locations.

wednesday, july 6th

roeterseiland complex, UvA

chair: doeke faber

- 09.00-10.00 registration and coffee. A Building, central hall
 10.00-11.00 opening ceremony. A Building, room AB40
 music: 4 tuoze matroze
 11.00-12.00 keynote speech: james r. mcgoodwin. A Building, room AB40
 12.00-13.30 lunch break. E Building, central hall
 13.30-15.00 panel sessions: series one
 1.1 resilience. E Building, room 003
 2.1 stakeholder knowledge. E Building, room 004
 4.1 science-policy interface. E Building, room 014
 2.9 scientific practises. E Building, room 020
 15.00-15.30 break for coffee & tea. E Building, central hall
 15.30-17.00 panel sessions: series two
 1.2 history and community. E Building, room 003
 2.2 stakeholder participation I. E Building, room 004
 3.1 reincorporating the excluded I. E Building, room 014
 4.2 ecosystem approaches to coastal
 governance. E Building, room 020
 2.10 building with nature. E Building, room 009
 17:30-18:15 *optional: tour of the ij brewery*
 **sign up at registration desk, see special wednesday events*
 section for more information about the brewery

thursday, july 7th

roeterseiland complex, UvA

chair: han van dijk

- 09.00-10.30 keynote speech: ussif rashid sumaila. M Building, room 101
 10.00-10.30 break for coffee & tea E Building, central hall
 11.00-12.00 panel sessions: series three
 1.3 deviance I. E Building, room 003
 2.3 fisheries policy. E Building, room 004
 3.2 reincorporating the excluded II. E Building, room 014
 4.3 spatial planning: europe I. E Building, room 020
 12.00-13.30 lunch break. E Building, central hall



- 13.30-15.00 panel sessions, series four
- 1.4 deviance II. E Building, room 003
 - 2.4 ocean governance. E Building, room 004
 - 3.3 south african fisher's rights. E Building, room 014
 - 4.4 spatial planning: europe II. E Building, room 020
 - 5.1 small scale fisheries, history and social science. E Building, room 009
- 15.00-15.30 break for coffee & tea. E Building, central hall
- 15.30-17.00 panel sessions: series five
- 1.5 coastal communities. E Building, room 003
 - 4.10 tuna in the coral triangle. E Building, room 004
 - 4.5 spatial planning: europe III. E Building, room 014
 - 5.2 perspectives on fishery agreements. E Building, room 020

friday, july 8th

roeterseiland complex. UvA

chair: michiel baud

- 09.00-10.30 keynote speech: megan caldwell. M Building, room 101
- 10.30-11.00 break for coffee & tea E Building, central hall
- 11.00-12.30 panel sessions: series six
- 1.6 tourism. E Building, room 003
 - 2.5 images and governance. E Building, room 004
 - 4.11 broadening perspectives for MPA's I. E Building, room 014
 - 4.6 management challenges of large and small MPA's. E Building, room 020
 - 5.3 value chain governance I. E Building, room 009
- 12.00-13.30 lunch. E Building, central hall
- 13.30-15.00 panel sessions: series seven
- 2.6 regionalisation of the CFP. E Building, room 003
 - 4.12 broadening perspectives for MPA's II. E Building, room 004
 - 4.7 social benefits of fisheries management. E Building, room 014
 - 5.4 value chain governance II. E Building, room 020
- 15.00-15.30 break for coffee & tea. E Building, central hall
- 15.30-17.00 panel sessions: series eight
- 1.7 recreational activities. E Building, room 003
 - 2.7 MSFD and regional seas in europe. E Building, room 004
 - 4.13 coastal communities. E Building, room 014
 - 4.8 challenges of ICZM. E Building, room 020
 - 5.5 fisher wellbeing. E Building, room 009
- 19.00-21.30 conference dinner at MuzyQ
Meet in front of E Building at 18.30 to walk

saturday, july 9th

roeterseisland complex, UvA

chair: to be announced

09.00-10.30	panel sessions: series nine	
	4.14 critical perspectives on management. . .	E Building, room 003
	4.9 rights based approaches to fisheries management.	E Building, room 004
	5.6 wellbeing I.	E Building, room 014
10.30-11.00	break for coffee & tea.	E Building, central hall
11.00-12.30	panel sessions: series ten	
	2.8 fisher strategies.	E Building, room 003
	4.15 roundtable discussion.	E Building, room 004
	5.7 wellbeing II.	E Building, room 014
12.30-13:30	lunch break.	E Building, central hall
13.30-14.30	keynote speech: julia guifang xue	M Building, room 101

keynote speakers.

Professor James R. McGoodwin
Institute of Arctic and Alpine Research,
University of Colorado
james.mcgoodwin@colorado.edu



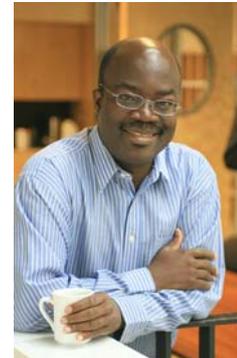
*The world's fisheries: yesterday, today,
and tomorrow*

Yesterday's concerns in capture fisheries were underscored by catastrophic declines and changed access regimes prescribed by the new Law of the Sea. From these phenomena a robust interest in fishing communities arose which explored the implications of various property institutions, as well as the roles fishing communities might play in management. The tendency to conceptualize fisheries as regions with certain marine species moved toward conceptualizing them as ecosystems, prompting new concerns about the impact of fishing practices, stocks straddling national boundaries, and sustainable fishing practices. And as management regimes increasingly limited entry and facilitated resource commodification, more holistic thinking about governance emerged. Now new challenges seem to be emerging which may become the prime concerns in the near future climatic and ecological change, the further extension of mariculture into the oceans and seas, and ever more engineering of the planet's last great wild domain.

Prof. Ussif Rashid Sumaila

Fisheries Centre, University of British Columbia,
Vancouver, B.C., Canada, V6T 1Z4.

Email: r.sumaila@fisheries.ubc.ca



How to make the fisheries of West Africa benefit the people

West Africa is an important region of the world when it comes to fisheries as its waters contain some of the most productive marine ecosystems and fishing grounds in the world. The region's fisheries play an important socio-economic function both domestically and internationally through fish trade. These fisheries supply not only the domestic market for fish but export a sizable quantity of their catch to the rest of the world. I review the current state of West Africa's fisheries and contrast this with their potential, both in terms of the catch that can sustainably be taken, and the amount of economic and social benefits that can be derived from them through time. I will then describe the challenges facing the fisheries of West Africa, first, in terms of ecological potential, and then with respect to using the region's marine fishes for the benefit of its residents. I will, in particular, discuss how the benefits from the marine resources of West Africa can better be distributed among fish workers through the wages they receive, fishing enterprises as measured by the profits they make, and society at large in terms of the resource rent or royalties received.

Professor Megan Caldwell

Executive Director, Center for Ocean Solutions,
Stanford University Law
megc@law.stanford.edu



“Taking Stock of Marine Spatial Planning Around the World: Major Challenges, Themes, and Breakthroughs”

Many common challenges occur within differing marine spatial planning efforts worldwide. These include the degree to which (and how) planning efforts specifically address ecological principles, cumulative impacts, land-sea interactions, fisheries management, climate change, or stakeholder engagement. Across this global marine planning landscape, several key “enabling” conditions can be identified: (1) a strong and clear legal mandate; (2) political support and leadership; (3) adequate funding; (4) firm deadlines; (5) willingness and capacity of civil society to engage; and (6) a thoughtful, transparent decision making process design and structure. Ongoing and future marine planning efforts can benefit from sharing innovations, including breakthroughs in process design, the “operationalization” of scientific concepts, and how best most effectively work with multiple sectors at once.

Professor Julia Guifang Xue

Director/Professor/Ph.D, Institute for the Law of the Sea, Ocean University of China,
Email: julioxue@ouc.edu.cn

*Laws and Regulations of China regarding Coastal Zone Management*

Effective coastal zone management is of great importance for the sustainable social and economic development, as half of the world population lives within the area. In China, coastal zones have been developed for economic growth and urbanisation. Industries involving in marine resource exploitation and tourism have led to the evolution of thriving coastal economies. However, over the years, the continuing intensification of coastal development and reclamation of wetlands and estuaries have resulted in emerging coastal issues in many aspects, such as declining coastal water qualities and nearshore fisheries, accelerated erosion and loss of habitats. The over-development of coastal zones resources and negative impact of ineffective management has roused growing concerns from the public to the degradation of coastal environment. The Chinese government has taken effort to implement various programs to protect the coastal zones. The paper reviews the progress of coastal zone management in China, discusses relevant laws and regulations in the area, highlights the similarities and differences between Chinese policy and other parts of the world, and underscores current status and existing barriers. It is suggested that more effective measures including the Integrated Coastal Zone Management should be adopted by the Chinese government to catch the complexity of coastal socio-ecological system and to deal with current and long term negative coastal issues. Meanwhile, the paper emphasises the importance of involvement of all social sectors for coastal zone management.

panel sessions and abstracts. . .

panel session, series one. . . . 13.30-15.00, wednesday

1.1 resilience. *chair: john kleinen*

Beyond hard protection – implications of emerging coastal protection practices in Aotearoa New Zealand

Friederike Gesing , PhD Candidate

International Research Training Group INTERCOAST – Integrated Coastal Zone and Shelf-Sea Research

University of Bremen (Germany) / University of Waikato (New Zealand)

e-mail: f.gesing@uni-bremen.de

While ongoing coastal development and climate change lead to increasing coastal hazard in Aotearoa New Zealand, hard protection measures are progressively discouraged by coastal scientists, planners and policymakers because of the high economic, social and environmental costs. Alternative approaches gaining momentum include innovative technological and policy approaches like soft engineering and development planning, but also community engagement and civil society responsibility. Coast Care programmes facilitating dune restoration and planting by local volunteers have proven very successful in both increasing the resilience of dune systems and in creating a sense of local ownership in the coast. In the presentation, this concept of responsibility as ownership will be contrasted with areas of conflict in regard to coastal protection and property: the request of beach-front property owners for publicly funded hard-protection measures and the ongoing discourse about the perceived implications of customary Māori rights to the foreshore and seabed for public ownership of the coastline.

Resilience? Local responses to changes in their social and natural environments.

Harald Beyer Broch

Professor, Department of Social Anthropology, University of Oslo, Norway

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This paper illustrates how North Norwegian small scale fishermen interpret and adjust to altered conditions affecting their livelihoods. Life quality is a phrase often mentioned when young men explain why they enter commercial fisheries and continue when they are growing older.

The fishermen not only observe environmental changes in the sea where the number of some marine animal species seems to be reduced and new ones are moving in. Current hegemonic discourses also address alternative ways of exploiting the sea and resources hoped to be there. Some argue that new alternatives must be sought to secure the coastal communities of the future. Tourist fishing, harvesting plankton, ocean windmills and drilling for oil are proposed to guarantee safe and sound maritime life ways.

The paper examines how fishermen view their own adaptation and continuation in the outlook of new proposals for maritime adaptation.

Exploring the social objectives and impacts of UK fisheries policy: preliminary findings from two Scottish case studies

Natalie Ross

University of Newcastle

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There is a growing argument that the ecological priorities of Europe's Common Fisheries Policy - to halt the depletion of commercial fish stocks - are not a straightforward solution to the problems currently facing international fisheries management and that social objectives need to be incorporated into policy (Symes and Phillipson, 2009). Existing literature that explores notions of 'dependency' and 'community' in fishing areas in Scotland (Nuttall, 2000; Nadel-Klein, 2000, 2003; Williams, 2008) leaves policy still struggling to address social and cultural issues in coastal areas. By investigating further concepts of 'community', 'dependency' and 'vulnerability' in three case study areas in Scotland this research highlights the extent to which there is a *scale* of dependency on fishing, and also that the 'fishing community' is not coastal town- or village-specific. In doing so this research hopes to broaden the potential meaning, justification and implementation of social objectives in UK fisheries policy.

2.1 stakeholder knowledge.

chair: edward allison

Fishers' Knowledge: an old or new approach to bridging the gap between science and policy for sustainable coasts and seas?

Dr. Brendan Flynn, Mr. Edward Hind (PhD candidate), Ms. Emma Martin (PhD candidate)

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This paper presents the concept of Fishers Knowledge as an innovative sociological methodology for systematically including fishers themselves in fisheries management. The intellectual origins and development of the Fishers Knowledge concept is explored. In particular, it is made clear that it is much more than an exercise in participation or consultation, but rather it should be seen as a means to render unstructured, qualitative and anecdotal observations by fishers into more structured and powerful inputs which can even be used to help natural scientists formulate and refine their natural science research agendas. More usefully, Fishers' Knowledge should be seen as a means to generate highly relevant and innovative management policy options. In particular, it is argued the key utility of Fishers Knowledge is good means to uncover a heretofore relatively unexplored area, that of Fishers' social, economic and technical strategies. It is argued that discovering these deeper rationales, provoking a reflexive engagement with the same, and building solutions tailored to fishers' strategies, all offer a good approach to more effective fisheries management. Finally, we distinguish the Fishers' Knowledge approach from the recent growth in Fishers' dependent data management practices. Whereas the latter merely sees fishers as providers of raw information, the former wants to value and privilege in more substantive way, their wider set of knowledge, experience and policy views.

Putting fishers' knowledge into use – Fishers as experts

Ann-Magnhild Solås

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Coastal zone planning is a challenging task due to the complexity of coastal areas. One possible measure might be to map ongoing activities and important resource areas to provide a better overview for managers and stakeholders alike. However, which activities and resources to include, where to find the appropriate knowledge and how to present the resulting material, are questions where answers are not given per se. This paper explores the process of the Norwegian Directorate of Fisheries' making of a GIS-database showing fisheries activities and marine resource areas along the Norwegian coastline. During this collection of coastal fisheries data, fishers were interviewed and asked to pinpoint important fishing grounds and marine habitats in their own fishing area. The discussion of this paper centres on the role of the fishers as providers of knowledge, the use of their knowledge and the potential for the integration of fishers' knowledge into coastal zone planning processes.

The Social in Change - Property Rights Contradictions in Finland

Pekka Salmi

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The concept *social sustainability* is occasionally used in fisheries political argumentation, but practical policies are typically guided by ecological and economic argumentation rather than the social. On the other hand, social justice and moral acceptability are general prerequisites for successful fisheries governance. This paper studies changing social dimensions in the Finnish fisheries where interactions between the water-owner-based management system and various user groups have produced enduring contradictions. Along with a shift towards recreational fishing the national and international levels of fisheries governance have largely replaced the local owner-based management system. Consequently, increasing number of new interest groups, rural-urban relations, management measures and governance institutions have become part of the fisheries complex. Contradictions typically culminate in fishing rights and the power to decide over access to fishing waters. The biodiversity and animal conservation measures have often underrated the social, as well as economic, aspects of fishing.

2.9 scientific practices.

chair: sarah coulthard

Panel description: Scientific knowledge is central in the development of ecosystem-based management approaches. This panel discusses scientific practices for ecosystem governance. This encompasses (1) the establishment of scientific fora or the reorganization of science with the turn to ecosystem-based management, and (2) the translation processes of scientific knowledge into regulations and policy instrumentation for ecosystem-based management.

Stakeholder views on data attributes and data use for management of marine protected areas

Eira Carballo Cárdenas

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The goal of this study is to explore stakeholder views regarding data attributes, such as quality, consistency, availability, accessibility and security, and how these attributes affect data use for decision-making in marine protected areas (MPAs). Research questions are: What types of data (bio-physical, socio-economic, legal) on the MPA exist and what are stakeholder views of data attributes? How do data collection and handling practices affect these attributes? To what extent are the different types of data used to guide decision-making? What factors are considered as critical to enhance data use? To answer these questions, a case study is conducted examining six multiple-use MPAs of various sizes, three in developed and three in developing countries. Interviews of key MPA stakeholders are the primary data source. Secondary data sources include management plans and scientific and grey literature. As this study is still underway, results and conclusions will be discussed during the conference.

Defining sandbanks, Defining science: The role of science in selecting Natura 2000 MPAs on the Dogger Bank

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Since 2002 the UK, Germany and the Netherlands have been working hard to determine where in their respective offshore EEZ the Dogger Bank begins to be a sandbank. The objective has been to define the boundaries of Natura 2000 MPAs for the protection of habitat type 1110 in the EU Habitats Directive: 'sandbanks slightly covered by seawater all the time'.

While policymakers, scientists and stakeholders have been defining the sandbank habitat and the boundaries of it on the Dogger Bank, they have also been defining science and its role in conservation policy. Comparing the UK and German approach and drawing on interviews and meeting observations, the paper explores these parallel processes of producing boundaries between what is and isn't sandbank and what is and isn't science. The paper concludes with a more general discussion of the

role of science for environmental policy. The work is funded by the EU 7th FP project JAKFISH.

Fisheries and Conservation of the Dogger Bank: The relationship between levels of stakeholder agreement and social networks

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The Dogger Bank is a permanently submerged sandbank that is situated in the Exclusive Economic Zones (EEZs) of four North Sea countries: The United Kingdom, The Netherlands, Germany and Denmark. Historically the Dogger Bank is known for its rich. As a submerged sandbank the Dogger Bank potentially qualifies as a special area of conservation (SAC), i.e. a Marine Protected Area (MPA) under the EU Habitats Directive. This has led to many discussions on the status of the Dogger Bank in the four involved countries in the past decade. The main discussion on future management of the SAC part of the Dogger Bank is if fisheries should be allowed and if so what types of fisheries and management are applicable.

In this study five stakeholder groups were surveyed on their views on fisheries and conservation of the Dogger Bank. The aim of the study was to measure agreement and disagreement between individual stakeholders on statements regarding different claims on fisheries and conservation of the Dogger Bank. Additionally a social network analysis was carried out to link these observations to relationships and contacts between stakeholders. This paper explores the effect of frequent contacts between stakeholders and agreement and disagreement on debated issues i.e. in this case study fisheries and conservation of the Dogger Bank. The findings of this study are discussed in the wider context of marine conservation and natural resource management.

4.1 science-policy interface

chair: jan van tatenhove

Mitigation of natural resource use conflicts as a management tool for sustainable coastal systems: Cases from the Swedish Coast

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High anthropogenic pressure on coastal ecosystems, competition for natural resources and climate change are major challenges on the way to sustainable management of coastal socio-ecological systems. Such problems are in focus in the international project “Solutions for Environmental Contrasts in Coastal Areas” from which we present cases of resource use conflicts in urban areas at the Swedish West coast. Success of coastal resource management requires transdisciplinary analyses and approaches to mitigate conflicting use of natural resources. We ask: How to integrate conflict analysis in strategies for sustainable management of coastal areas? How to deal with the competing approaches informing resource management in coastal areas? What is the role of local and managerial knowledge in the choice of mitigation strategies? A critical analysis of different types of knowledge used in resource management is a hitherto neglected component in research and practice.

The Regional Advisory Councils’ current capacities and unforeseen benefits

Kristen Ounanian

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The 2002 Common Fisheries Policy (CFP) reform introduced the Regional Advisory Councils (RACs) to enhance stakeholder involvement and correct one of the policy’s primary deficiencies, its lack of legitimacy. While some criticize the 2002 reform as not going far enough to alleviate the democratic deficit of the CFP, in certain ways the RACs represent an interim institutional stage, facilitating better information sharing and cultivating stakeholder relationships. Based on a survey of RAC participants, this paper illuminates the current capacities and functions of the RACs. The paper reveals that the RACs possess additional—often not sufficiently recognised—roles and values to the advice they produce as they facilitate understanding across and within sectors and interest groups and act as key purveyors of information. Additionally, the data also shows mixed feelings of impact among those participating in the RACs.

Bridging the gap between fishers and scientists? How the Norwegian Reference Fleet mobilizes fishers for management

PhD student Maiken Bjørkan; Professor Petter Holm

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In modern fisheries resource management, science has been the primary source of management relevant knowledge and expert advice. For different reasons, including the crisis in fisheries management and the development of more complex relationships between science and society, the authority granted to science in the context of fisheries management is increasingly being challenged. These challenges have resulted in attempts to broaden the knowledge basis for fisheries management. If the exclusion of fishers and other stakeholders as knowledge providers makes management decision less accurate and legitimate, ways to include them must be found. The Norwegian Reference Fleet (RF), a project run by the Norwegian Institute of Marine Research (IMR), is an arena where fishers and scientists cooperate in order to mobilize knowledge for resource management purposes. The RF is a practical example of an arena where non-scientists (fishers) are invited to participate in knowledge production for fisheries management in cooperation with scientists. In this paper, we examine how this cooperation works. To what extent, and how, is the RF actually broadening the knowledge basis for management? To which knowledge functions do the fishers get access to? Is the RF authorizing fishers as experience based experts? The paper addresses these questions on the basis of a long-term ethnographic case study of the Reference Fleet.

**Cognitive-Cultural dimension of Institution:
Discovering What's Taken for Granted in Fisheries**

Andrew Song and Ratana Chuenpagdee

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Institution is an analytical concept frequently mentioned in fisheries management literature. In light of recent interests in exploring a broader theoretical understanding of the concept, this paper first revisits how institutional thinking has been mainly employed in fisheries narrowly as rules and norms closely associated with common property theory and its subsequent fisheries policy implications involving the enclosure of the ocean. Drawing upon wider views of institution originating in sociology and political science, a broader conception of institutions that also emphasizes a cognitive-cultural aspect is elaborated together with what this expansion of institutional thinking means in fisheries. It is argued that many salient management issues and science-to-policy dilemmas of fisheries, such as the debate on the state of the world's fisheries, can be alternately explained in terms of the cognition/culture-based constraints that affect people's choices, constituting certain thoughts and practices as a taken-for-granted social reality.

panel session, series two. . . .

15.30-17.00, wednesday

1.2 history and community.

chair: jan hoorweg

Loss and salvage in a Cornish fishing port, UK: evoking the past, negotiating the future

Tim Martindale

Goldsmiths, University of London

Littoral environments provide rich contexts for examining processes of loss and salvage. The author has studied the recent reconstruction of a nineteenth century fishing boat as part of an ethnographic research project on social change in a coastal fishing region of Cornwall, England. The boat and her craftsman manifest a local struggle over the future direction of a fishing port experiencing steady decline. The project appeals to coastal tourism and also new European sources of funding for regeneration in the port. However it also brings into view a range of local visual and oral narratives associated with a 'bygone era' of informal economy, solidarity and a vital and visible maritime world. It therefore provokes debate about the meaning of sustainability and the role of the past in solving contemporary problems. The paper considers whether these ideas resonate with theoretical and UK government interest in regionalisation and resilience.

Changing Seascapes: A Coastal Sami Social-ecological History from Arctic Norway

Camilla Brattland, PhD Candidate

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In the coastal Sami fjord of Porsanger in north Norway things are not how they used to be. From the point of view of the local fishers, the fjord has witnessed major change in its social-ecological system. The paper discusses what caused this change, whether they are due to ecological or social factors, and to what extent the management system in itself must take the blame for a fishery in decline. The sources used for the analysis are Sami and Norwegian local ecological knowledge about the changing productivity and use of local fishing grounds over time. These data are compared with a recent marine habitat mapping, based on fishers' knowledge, by the fisheries authorities from the same area. It is argued that the use of traditional spatial knowledge and its documentation on maps both expands and sets limits for our understanding of social-ecological systems in ways that has implications for management.

2.2 stakeholder participation 1.

chair: edward allison

Who is who? Analysis of Actors involved in Galapagos Marine Reserve Use and Management

María José Barragán Paladines

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Galapagos Marine Reserve (GMR) is a famous MPA, where nature and society form a complex binary unit, influencing marine resource use, conservation, administration and management. Knowing who the key actors are and how they relate to each other are integral to marine resource management. Through an exploratory assessment the wide spectrum of actors, their interests and aims were identified within pro-conservation and pro-development sectors. Such analysis revealed the complexity, dynamics and highly conflictive scenario in GMR's case. Understanding the main interest groups in terms of their principles and positions enables us to describe the current status of issues happening in GMR. Unfolding the structure of GRM user's system and its connections to the political, economic and social trends will grant us elements to complete the painted image of nature and people in GMR.

A critical policy analysis: Comparing “Integrated Management” in two communities in Canada’s Bay of Fundy

Kate Bigney Wilner, MES

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Like all maritime nations, Canada must address coastal resource overexploitation and development while balancing the demands of multiple users – commercial and recreational fishing industries, energy, transportation and aquaculture industries, indigenous peoples, and citizens living on the coast, to name a few. To this end, Canada's *Oceans Act* (1996) calls for the federal Department of Fisheries and Oceans (DFO) to lead and facilitate “integrated management” (IM) of coastal and marine space. This paper presents the results of dissertation research conducted with the Coastal CURA project examining policy discourses around approaches to IM in two areas of Canada's Bay of Fundy: one community-driven, meagerly funded approach brokered by a trusted community organization, and a government-supported marine planning area.

Blending political ecology and policy studies, my research explores i) the roles of policy discourses and storylines in framing the options, participants, and knowledges that are included in natural resource policy, regulation and institutions (governance); ii) how power relationships are enacted and access to resources is structured in coastal resource governance, and iii) community resistance through alternative discourses and models.

Reflections on the Stakeholder Engagement Process in Marine Spatial Planning in the German Exclusive Economic Zone

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Germany is among one of the first European countries to draw up and implement Marine Spatial Plans for its offshore territory, for both the North Sea and the Baltic Sea. We present reflections and key observations of these pioneering plans regarding the stakeholder engagement process, and in particular the associated dynamics between the different sectoral interests. We provide an overview and analysis of the stakeholder engagement process as carried out by BSH, and we note the strength of some activities and interests, and the uneven representation of others in the process. We provide seminal empirical research from semi-structured interviews held with the stakeholders and comments from the written responses to the draft Plans and public hearings. We find that the responses reveal some tensions and a sense of conflict prevailing among certain sectors. We conclude by drawing together key lessons from this plan based on our observations of this innovative initiative.

3.1 reincorporating the excluded I.

chair: serge raemakers

Everybody loves a good fence: The making of conservation narratives over marine spaces in Orissa, India

Aarthi Sridhar

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This paper focuses on narratives of resource management in biodiversity rich Marine Protected Areas and examines the discourse generated over boundary enforcement in India's largest MPA - the Gahirmatha Marine Sanctuary (GMS), on the Orissa coast. The GMS - measuring 1435 sq km was declared in 1997 as the State's legacy of effecting conservation by means of extinguishing (resource use) rights for a greater common good (conservation benefits). Since then, protests over the restrictions in this sanctuary and other offshore turtle congregation areas have snowballed into an open but complex conflict between various entities. The compulsive arguments over the design of the GMS and its boundaries as biodiversity solutions are continually distorted, reflecting the complexity of representation among the typology of various actors concerned and the dynamic of their narratives. The paper amplifies the influence of these dynamics in the shaping of conservation problems forcing a re-think of ostensible 'win-win' solutions.

Perspectives on small-scale fisheries governance in South Africa: the need to ground-truth assumptions

Serge Raemaekers

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South Africa's inshore fisheries could face a bleak future if current mainstream governance approaches continue. Existing assumptions on the functioning of small-scale fisheries are often not ground-truthed, but merely derived from larger scale commercial fisheries management models, deeming resulting policies and management interventions inappropriate to local realities. As a result, fisheries managers, as well as politicians, make governance decisions that are often at odds with traditional or even more contemporary fishing practices. Even approaches that are sometimes promoted as being more progressive, such as "TURFs" or "co-management", fail in many instances because they remain essentially "target resource" focussed. Poorly conceived interventions create new problems, conflicts and perverse incentives amongst fishers, fishers' organisations, marketers and coastal communities. Drawing upon empirical research in 9 fishing communities this paper examines the realities of some inshore fisheries systems and assesses the extent to which the existing small-scale governance assumptions, policy mechanisms and management measures are appropriate. Cases are highlighted whereby e.g. state-driven market interventions aimed at limiting fishing pressure have drastically increased fishing effort; or whereby the allocation of various forms of access rights to the same inshore stock has created significant conflict within communities. It is

argued that, in a context of poverty, it is essential to ground-truth all the assumptions to the local realities in order to design and negotiate the appropriate small-scale fisheries governance approaches.

4.2 ecosystem approaches to coastal governance.

chair: bob pokrant

Sustainable coastal management/research and coastal adaptation to climate change: the international experience

Bob Pokrant

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Laura Stocker

Curtin University Sustainability Policy Institute (CUSP)

Richard Kenchington

Australian National Centre for Ocean Resources and Security (ANCORS)

University of Wollongong

This paper examines international experience of coastal management, focusing on changing approaches to coastal management, climate change, the knowledge-governance interface, and stakeholder and community engagement. It discusses models of community and stakeholder involvement in coastal management, identifies the perceptual/cultural models of the coast enacted by various social groups, analyses the successes and failures of a range of coastal management programs, especially as they relate to the knowledge-governance interface, and reviews, using recent case examples and contemporary theory, the contributions of new approaches to the knowledge-governance dialogue such as complex socio-ecological systems theory, transdisciplinary/interdisciplinary integrated research, inclusion of qualitative values, treatment of uncertainty with reflexive, iterative and adaptive approaches, incorporation of non-scientific knowledges, adaptive learning, community and stakeholder involvement and dealing with multiple scales. It analyses the effects that climate adaptation concerns are likely to have on future coastal management and research and generates recommendations for future research and professional practice.

Finding the “E” in LEK: exploring local ecological knowledge in coastal Nova Scotia and its utility for ecosystem approaches to management.

Alida Bundy

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Anthony Davis

Department of Sociology/Anthropology, Mount Saint Vincent University

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Marine resource crises have initiated a search for alternative approaches to resource assessment and management that has culminated in a global focus on ecosystem approaches to management (EAM). Here, the ecosystem extends to humans as drivers and recipients of ecosystem change. More specifically, attention is being paid to identifying specific qualities of local resource users’ experiences and knowledge that might productively inform resource management, while also providing local users

with substantial ‘voice’ in shaping new management policies and practices. Here, we evaluate the extent to which local ecological knowledge can provide advice for an ecosystem approach to inshore coastal management, based on the results of two comprehensive studies of coastal Nova Scotian commercial harvesters’ local ecological knowledge. We conclude that, while spatially explicit, local ecological knowledge displays strengths and limitations that must be explicated for it to prove useful for strengthening ‘voice’ and providing EAM inputs.

Reconceptualizing Ecosystem Complexity: A New Emphasis

Reade Davis, Ratana Chuenpagdee, Kurt Korneski*

Department of Anthropology, Memorial University

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* Presenter and corresponding author

Socio-ecological systems in coastal areas are locally connected and globally linked through movements of commodities and capital. This complexity perpetually undermines the best efforts of managers to understand and control these systems. Ecosystem-based management, integrated management and marine spatial planning are frequently cited as tools through which to better cope with the uncertainties inherent in the management enterprise, but these too have been plagued by a tendency to focus primarily on local dynamics and ignore broader structural forces and connections that link people and places together. We posit that a more thorough understanding of ecosystem dynamics requires a broadening of both spatial and temporal scale. Using the case study of Placentia Bay, a rapidly industrializing bay on the south coast of the island of Newfoundland which has been targeted for integrated management, we illustrate how the emphasis on the broader social and economic forces which have shaped coastal ecosystems and livelihoods can help to broaden our understanding of ecosystem complexity and open new avenues of inquiry.

Finding the “E” in LEK: exploring local ecological knowledge in coastal Nova Scotia and its utility for ecosystem approaches to management.

Alida Bundy and Anthony Davis*

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Marine resource crises have initiated a search for alternative approaches to resource assessment and management that has culminated in a global focus on ecosystem approaches to management (EAM). Here, the ecosystem extends to humans as rivers and recipients of ecosystem change. More specifically, attention is being paid to identifying specific qualities of local resource users’ experiences and knowledge that might productively inform resource management, while also providing local users with substantial ‘voice’ in shaping new management policies and practices. Here, we evaluate the extent to which local ecological knowledge can provide advice for an ecosystem approach to inshore coastal management, based on the results of two comprehensive studies of coastal Nova Scotian commercial harvesters’ local ecological knowledge. We conclude that, while spatially explicit, local ecological knowledge displays strengths and limitations that must be explicated for it to prove useful for strengthening ‘voice’ and providing EAM inputs.

Reconceptualizing Ecosystem Complexity: A New Emphasis

Ratana Chuenpagdee*, Reade Davis**, Kurt Korneski, Rodolphe Devillers
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Socio-ecological systems in coastal areas are locally connected and globally linked through movements of commodities and capital. This complexity perpetually undermines the best efforts of managers to understand and control these systems. Ecosystem-based management, integrated management and marine spatial planning are frequently cited as tools through which to better cope with the uncertainties inherent in the management enterprise, but these too have been plagued by a tendency to focus primarily on local dynamics and ignore broader structural forces and connections that link people and places together. We posit that a more thorough understanding of ecosystem dynamics requires a broadening of both spatial and temporal scale. Using the case study of Placentia Bay, a rapidly industrializing bay on the south coast of the island of Newfoundland which has been targeted for integrated management, we illustrate how the emphasis on the broader social and economic forces which have shaped coastal ecosystems and livelihoods can help to broaden our understanding of ecosystem complexity and open new avenues of inquiry.

2.10 building with nature. *chair: sarah coulthard*

Ecological reform in West and Central Africa Ports

Harry Barnes-Dabban

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Policy and decision making in seaports plays an important role in promoting sustainable oceans and coasts. Seaport activities increase pollution threats of both the maritime and coastal environment. West and Central Africa (WCA) ports acknowledge the need to integrate their economic activities with environmental considerations but maintain a strong commercial orientation. A gradual environmental reform is however emerging in the ports as their processes are beginning to be influenced by environmental concerns from civil society, collaborative relationships, market mechanisms and modern technologies. In this paper, Ecological Modernisation, seen as a conceptual interpretation of environmental reform processes in modern institutions is used as a frame to analyse the strengthening of the linkage between environment and commercial interests in eight WCA ports based on documentation, semi-structured interviews with key informants, and personal observation. It is concluded that they are modernizing ecologically but at the pace and direction of the ports' political, social and economic circumstances.

A Line in the Sand? Examining Climate Change Science Use and Communication for Shoreline Management in England and Wales

Piers C. A. Stanger

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Coastal defence is often a contentious issue. Local interests often run against the grain of economic and environmental concerns. Over the next century as climate change brings sea level rise and associated problems with erosion and flood risk, the need for effective management of the coast will become increasingly vital. The recent production of the second generation of Shoreline Management Plans (SMPII) in England and Wales offers an opportunity to examine the relationship between climate science and coastal policy at a strategic, regional level. This paper scrutinizes the conceptualisation and practice of climate change science use and communication during the production of the Severn Estuary SMPII, from initial central government guidance, through stakeholder and public consultation, to decisions on policy options. Comparisons are made with SMPiIs from other coastal groups in England and Wales. Implications for the integration of scientific evidence in

Building with nature in the network of marine infrastructure development: the Melbourne channel deepening project

Dorien Korbee

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Developing marine infrastructure alters marine and coastal ecosystems. The innovative approach ‘building with nature’ stresses the use of natural dynamics in the design of projects, resulting in an integration of nature and construction. The characteristics of the marine infrastructural project arrangements set the enabling and constraining conditions for the application of building with nature. In this paper we will address marine infrastructural projects as nodes in a global network, connected by global flows of information, techniques and finances, and (re)configured by ‘switchers’ and ‘programmers’. This governance setting defines how individual projects are linked to the network, but also the acceptance of different design principles, rules, techniques and standards. In this paper we analyse the channel deepening project in Melbourne. The central question is how did the Melbourne project arrangement affect the project designs, and the possible application of building with nature principles.

panel session , series three. .

09.00-10.30, thursday

1.3 deviance I.

chairs: iris monnereau

Socialising the Sea: A Criminological and Legal perspective on Maritime Piracy
Dr Richard Barnes & Dr. Simon Gren
University of Hull
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“Piracy may be characterised as both a response to a normative regime with weak institutions and social values, and an attempt to assert alternative forms of order (e.g. autonomous extra-legal reparations for lost fishing rights). This paper examines piracy from both a criminological and (international) legal perspective, showing how they provide incomplete or general narratives of piracy. Criminological research tends to rather crudely adapt existing theories and research about crime and punishment to the seas, whereas legal approaches are concerned with the creation of self-perpetuating regulatory frameworks by and for States it is ill-equipped to investigate and explain the more functional and social aspects of maritime piracy. The paper argues that piracy is not merely a consequence of the struggle to exercise effective jurisdiction at sea, but is a more fundamental consequence of the existence of an ‘under-socialised’ space where shared values, responsibilities and rules are absent or contested.”

Migrant Smuggling at Sea
Jasmine Coppens
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Huge disparities in wealth across the world, the denial of fundamental rights in some countries and natural disasters have resulted in broad population movements by sea. In some cases people are being smuggled. The United Nations Protocol Against the Smuggling of Migrants by Land, Sea, and Air defines the act of smuggling as an explicit and mutually beneficial arrangement between two parties involving illegal entry into a given country. States have to take all necessary measures within their domestic legal systems to criminalize the behaviour of the parties involved in the smuggling of migrants.

However, as the migrant flows consist of both victims of forced displacement and economic migrants, a primary challenge is to ensure that the rights of refugees and asylum-seekers are being respected. Moreover, under the law of the sea it is a legal obligation for States to render assistance to all persons – thus also including migrants – in distress at sea. Therefore, States should not forget that, although smuggling by

sea is a crime, human rights and the international law of the sea rules need to be taken into account.

Fishy crimes: the societal costs of poorly governed marine fisheries

Henry Allison

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The marine fisheries sector loses over USD 50 billion in revenues a year due to illegal, unreported and unregulated fishing. The cumulative global loss of economic potential from fisheries over the last 30 years is US \$ 3 trillion. This is just the tip of the iceberg. Inadequate governance, leading to lost revenues from the capture, sale and trade of fish, has costs to human security that extend well beyond the sector and its economic inefficiencies. These include the wider societal costs of food and livelihood insecurity, human rights violations, climate-change injustice, disadvantaged access to health care (including for HIV) and the consequences of fisheries' involvement in maritime crime: smuggling, drug-running and people-trafficking. This paper sets out an impact pathway showing how these circumstances and activities are all a partial consequence of under-investment in governance of the sector, and develops a conceptual framework for estimating their monetary costs.

2.3 fisheries policy.

chair: simon bush

Local Policy Maker-Academician Relationship and its Effects to Local Regulatory Rules

Rikardo Simarmata

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In Indonesia there has emerged a long tradition where many government agencies engaged university-affiliated academicians to carry out researches that were funded by government agencies. The tradition has evolved based on an assumption perceiving academicians as those who are knowledgeable about scientific research. It is believed that scientific research results that the academicians were produced can be used by government agencies to formulate a knowledge-based policy. However, when the engagement of academicians involves a political bureaucracy, and in addition there appears the strong influence of friendship ties, it very often leads to a situation where government officials neglect people participation in regulatory making process.

This article aims at describing how relation between the officials of Kutai Kartanegara District of East Kalimantan, Indonesia and local academicians has evolved. It focuses on relation in formulating local regulatory rules on fishery. This article examines prominent factors that have significantly influenced the evolvement and the extent the relation has affected local regulatory making processes as well as the substance of the local regulatory rules.

Fishing Rights for traditional line fishers : blowing against the wind or opting for alternative marine resource use?

Horst Kleinschmidt

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The fishery policy reform, introduced after the apartheid era that ended in 1994, promoted 'transformation' of the fisheries sector by redistributing access rights of marine resources from a small white owned and managed base to new entrants on a representative basis with a motivation that said: righting the wrongs of the past. The new policy had as a consequence that previously excluded groups (Africans and women) were receiving quotas to the exclusion of traditional fishers (often Coloured) leading to new contestations for access rights, to increased compliance transgressions and the devaluing of traditional knowledge and experience. Economic non-viability impacted negatively on sound resource management. Additionally this transformation process was not accompanied by institutional changes nor the adequate monitoring of the impact of the policy due to the adjustments.

The paper will give a summary of the process of traditional line fishers in their fight for

fishing access and quotas, the role of NGOs and political solutions proposed. The paper will also discuss the role of science, traditional fishers' knowledge and the scope for alternative marine resource use and management.

Shrimp Farming and Standardization of shrimp production: the Case of East Kalimantan, Indonesia

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The rising awareness in Europe and US about the environmental impact of shrimp ponds in producer countries has created a new 'battlefield of quality' which is placing increased pressure on producing countries such as Indonesia to demonstrate sustainability. Our analysis distinguishes three intersecting regulatory networks in Tarakan, East Kalimantan: WWF-private sector partnerships, government legislation, and Artisanal trade networks. We focus our attention on the ways in which actors in each of these three networks actively translate quality standards into regulatory practices. Our results indicate that the standardization of shrimp production is a highly negotiated process. Standards are largely expert driven and transferred from the international or national scale to local settings. They are developed as national, international, state or private sector regulatory standards, but they are not transliterated 'word for word' and accepted as such, but instead they are interpreted according to the knowledge and expectations of local actors. This means the official requirements of the standard to be met by the farmers contrast sharply with local conditions and practices.

3.2 reincorporating the excluded II.

chair: maarten bavinck

Bottom-up fisheries governance in the Palk Bay: a theoretical reconnaissance

Maarten Bavinck, Ajit Menon, Serge Raemakers and Merle Sowman

The Palk Bay – a large expanse of shallow sea between India and Sri Lanka – is heavily contested by fishers from two nations. This conflict has largely arisen due to an expansion of the trawl fleet during the Sri Lankan civil war. The fact that the Palk Bay is bisected by an international boundary line exacerbates the problems available, as does the fact that marine resources are degrading. Governance of the Palk Bay is the subject of a new project (acronym REINCORPFISH) that is funded by the Netherlands Organisation for Scientific Research (NWO). This paper formulates a framework for investigating and improving our understanding of its governance arrangements. Starting point is the political economy of fishing on both sides of the Bay, and its extension into plural legal regimes. Scholarship in the fields of legal pluralism, interactive governance and conflict resolution subsequently provides us with the basis for a processual model that bridges scale levels as well as various legal systems. The result aims to be useful for approaching complex realities of conflict over natural resources.

‘Fishermen fish where fish is available’: Thanks, but please keep away from our waters!

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The Palk Bay, a relatively shallow stretch of the sea between India and Sri Lanka, has of late been a contested fishing territory. The fishers of northern Sri Lanka who just came out of a long and protracted civil war find themselves in an unenviable position. Their fishing “space” has been occupied by Indian trawlers and small scale fishers. Their predicament is worsened by the fact that Indian fishers use fishing methods which are banned by the Sri Lankan government in ‘their’ waters. The Alliance for Release of Innocent Fishermen’s (ARIF) has recently attempted to facilitate a negotiation process to settle this ‘commons’ problem. This paper aims to analyse this process and understand the reasons for the current impasse through an enquiry into the politics of scale and legal pluralism. While the politics of scale helps to understand the relationship of the fishers to various social actors and their power to influence these actors across scales, legal pluralism helps understand negotiations and contestations between formal and informal legal systems.

Reincorporating the Excluded: An enquiry into the obstacles and opportunities of bottom-up governance for conflict resolution in the transboundary Palk Bay fisheries, South Asia.

Joeri Scholtens

University of Amsterdam & University of Ruhuna

In May 2009 the protracted Sri Lankan civil war came to an abrupt end. For the 30.000 fishermen in the North, this implied a process of resettlement and slow recovery of their fishing practices, after 30 years of displacement and severe fishing restrictions. For the trawler fishermen from India, berthed less than 100km across the Palk Bay, the end of the civil war had different implications though. The war had provided them with opportunities to transgress the international boundary line and harvest the stocks in Sri Lankan waters which, due to the decline of local fishing effort, were in far better condition.

The return of Sri Lankan fishers to the shores has, not surprisingly, lead to a clash between the two fisher communities, creating political dust on both sides. Precluded by Sri Lankan policy banning trawl technology, the Sri Lankan (Tamil) fishers are furious about the intrusion of the Indian trawlers, which damage their gears and catch 'their' fish. The net result is a politicized transboundary conflict over resource allocation: who is allowed to fish how, when and where?

Given the large stakes involved, both at the government and the community side, a wide range of state and non-state actors employ different strategies to steer the conflict towards their desired directions. In this light, we can observe different governance processes at play: fisher organizations pressurizing their governments to cover their interest, fishing communities from both sides engaging in dialogues facilitated by NGO's, and bilateral government committees urging for a diplomatic settlement of the conflict. In this complex arena of multi-level and multi-directional governance efforts, this paper closely monitors, reviews and analyses the strategies employed by Sri Lankan Fisheries Cooperative Societies and NGO's to steer the process from the bottom-up. Building on fine grained local level fieldwork, this research aims to contribute to a better understanding of a) implementation strategies of bottom-up governance approaches in natural resource management and factors that influence its success and b) conflict resolution on the basis of resource reallocation, participatory policy development and transboundary fisheries governance.

4.3 spatial planning: europe I.

chair: jan van tatenhove

Marine Planning: Institutional capacity building in a multi-level governance setting

Jan van Tatenhove

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In 2007, the European Commission launched its vision on an integrated Maritime Policy (IMP) to establish an all-embracing marine policy aimed at developing a “thriving maritime economy in an environmentally sustainable manner”. IMP requires an integrated multi-level governance framework and cross-cutting tools, such as marine spatial planning (MSP). It is expected that IMP and MSP will create a new playing field. The integration of sectoral maritime activities, dealing with different spheres of authority on multiple levels, the coordination of different juridical systems and rules, will demand innovative marine governance arrangements, in which new actors, discourses, resources and the possibility to change the rules of the game are included. The paper will reflect on the possibilities of institutional capacity building in marine planning, and the (possible) tensions between innovative marine governance arrangements and the institutional EU multi-level governance setting.

Informational governance on offshore wind parks

Hilde M. Toonen

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There are high expectations on the potential of offshore wind parks in the European seas. Although wind power is considered to be 'greener' than conventional energy sources, wind energy at sea is not without environmental concerns. Developing offshore wind parks entails a huge effort in terms of marine spatial planning, requiring an integrated approach towards economic development and environmental protection. Information is needed to address spatial conflicts, however information is often lacking and characterized by high uncertainties.

In integrated marine governance, a trend towards informational governance can be observed. Informational governance points to the central role of information in environmental decision-making, not only as a resource but also in (trans)forming governance practices. The paper presents a case study regarding the informational processes in the planning of offshore wind parks at the North Sea. It will show how information that is produced and used on the national level, affects the European planning process, and vice versa.

Multi-level fragmentation in implementing ecosystem based marine management in the European Union

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In 2008, the EU adopted the Marine Strategy Framework Directive (MSFD), which requires Member States (MS) to achieve and maintain Good Environmental Status (GES) of marine waters by 2020. With the MSFD and the Integrated Maritime Policy the EU chooses for an ecosystem based management approach for European seas. In this paper, we analyse the way in which MS define and implement GES in a context of institutional fragmentation and ambiguity. Institutionally, the MSFD is unprecedented as it requires MS to coordinate the implementation of the MSFD at the regional level (i.e. through the regional sea conventions). Different levels of government, EU, regional conventions and MS, are involved in the implementation of the MSFD. This paper will analyse the development of a multi-level institutional setting through which the MSFD will be implemented. A central question will be what constraining and enabling factors will be expected to occur in this process.

panel session, series four. . .

13.30-15.00, thursday

1.4 deviance II.

chair: seth macinko

Review of the causes of the rise of the illegal South African abalone fishery and consequent closure of the rights-based fishery

Serge Raemaekers, Maria Hauck, , Markus Bürgener, Angus Mackenzie, Genevieve Maharaj, Éva E. Plagányi, Peter J. Britz*
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The rise of organised illegal fishing and trade in abalone from the late-1990s destabilised South Africa's historically stable, quota managed fishery, culminating in its closure in 2008. The development of the fishery is described in a historical context, including the evolution of South Africa's science-based abalone fishery management system. The diverse suite of responses deployed to combat illegal fishing and the black market trade in abalone are reviewed, including;- fishery reform to expand rights to a greater number of previously disadvantaged fishers, a territorial user rights fishery (TURF) system, special compliance operations and courts, the CITES listing of abalone, and the serial reduction in the TAC, culminating in the controversial and legally contested closure of the fishery. The main causes of the rise of the illegal fishery are diagnosed as 1) the massive increase in the abalone price that occurred in the 1990s triggering an abalone fishing "gold-rush" and 2) the failure of the post-Apartheid fishery reform process to accommodate many traditional fishers in a legal fishing rights framework resulting in them operating outside the formal fishery management system. By contextualising the abalone fishery as a complex system, embedded in South Africa's socio-political setting, we show how the resource focussed fishery management system did not have the capacity to incorporate the powerful social, political and economic drivers determining fisher behaviour. We conclude with the need to revisit South Africa's abalone fishery management paradigm, and argue that a more integrated governance approach is required that takes into account the biological, socio-political and economic factors determining the fishery activities.

Imperceptible Property Boundaries and Improprieties along the Shore*Robert Thompson, J.D., Ph.D.*

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There is a long tradition that views rules for property as an important means for establishing the “proper” ordering of social and political life. Once boundaries are established and the land is owned, expectations for behavior can be set for that bounded land. In fact, we often figuratively speak about interpersonal relations in terms of “setting boundaries” and “crossing boundaries.” However, along shorelines and on the water, literally setting clear boundaries is not possible and claims of ownership are often contested. This paper argues that the beach and near-shore waters are often places where people engage in what would be considered improprieties elsewhere, in part, because concepts of property are so unclear and frequently contested along the shore. This paper will draw on popular culture, history, and law to demonstrate that the failed attempt to apply standard property law to coastal zones has essentially created contested areas that encourage impropriety.

2.4 ocean cogovernance.

chair: simon bush

Ocean governance in the Wider Caribbean Region: Communication and coordination mechanisms for states' interaction with regional organisations and projects

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Most ocean governance issues are transboundary and thus require regional cooperation among states. A state's arrangements for participation in regional activities determine the extent of consultation at the national level, and whether there is genuine representation of the full range of stakeholders (government, private sector and civil society) at regional meetings. We examined how states in the Wider Caribbean Region engage with regional organizations and projects that deal with transboundary ocean governance. Forty-four states were surveyed and eight were the subjects of detailed case studies. The study revealed a diversity of national level mechanisms. In some countries the process is entirely informal depending on personal communication among relevant partners. In others the feedback mechanism was formal but the preparation for engagement was informal. In a few countries, there were fully fledged mechanisms for engagement. In all but a few countries the mechanism was not well geared towards engaging civil society and private sector stakeholders. There is also the need for intersectoral integrating mechanisms at the national level.

Putting the Science-Policy Interface Into Context

Van Enst Wanda, Diana Giebels, Hens Runhaar, Arwin van Buuren, Peter Driessen and Jurian Edelenbos

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Where a fragmented science and policy landscape meets the need for sustainable development the call for more cooperation and thus effective interfaces has often been announced. However until now we do not know how contextual factors influence the effectiveness of these interfaces. Our paper will investigate the role contextual factors play in realizing successful science-policy interfaces in the Wadden Sea area. We compare two different contexts:

horizontal, unilateral governance networks around controversial but well-defined issues (like gas drilling or spatial investments); and fragmented, nested and multi-level governance systems around complex, wicked and ill-defined issues (like climate adaptation). Within the first context, we look at the different interfaces as they are present in the different phases of the policy process (agenda-setting; issue management; policy implementation; monitoring and maintenance). Within the second context we look at policymaking around the complex issues of climate change and ecological restoration. By going into the contextual details of the science-policy interface we are able to deliver promising insights for those who are faced with the challenge to bridge science and policy.

3.3 south african fishers' rights. *chair: horst kleinsmidt*

A Documentary on Fisher's Rights in South Africa

Pedro Garcia

Head of the South African United Fishers Forum

Documentary on fisher's rights in South Africa

4.4 spatial planning: europe II.

chair: stephen jay

The Spanish approach to marine spatial planning

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The coming into effect of Directive 2008/56/EC (Marine Strategy Framework Directive [MSFD]) will induce European Union member States to create mechanisms for managing maritime space in order to comply with the goals set out in this binding legislation. This leads one to think that marine spatial planning in various countries in the EU will be directed at complying with the Directive's environmental goals, as is the case in Spain, rather than undertaking proactive planning for developing the maritime sectors. To put the case of Spain into perspective, a review is conducted of the initiatives taken, especially in Europe and the European Union, exploring the correlations between the main focuses of the maritime sectors and the planning systems. The analysis of the Spanish initiative demonstrates how the maritime economy model and geopolitical factors explain the planning options for the marine environment. In other respects, with the coming into effect of the MSFD, a dual institutional course for marine spatial planning seems to be opening up in the EU: Integrated Maritime Policy vs. the Marine Strategy Framework Directive.

Mapping human activities at sea: An input for Marine Spatial Planning.

French examples.

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This is a truism to say that Marine Spatial Planning needs geographic data. But it is sometimes useful to remember because the needs are multiples: in order to (i) describe spatially and temporally the human activities and the ecosystems, (ii) to approach complex interactions between activities and the marine environment (impacts, incompatibility, conflicts...), and (iii) to propose simulations to test management scenarios. Most of the time, from a spatial point of view, little is known about the human activities at sea and, a fortiori, about the Nature-Society interactions. In this context, using French examples, this paper aims to show that it is necessary to use and build different kinds of data, responding to different aims, scales and stages in the Marine Spatial Planning process. Furthermore, this paper offers elements to think about the role of science (particularly geography) and its contributions to Marine Spatial Planning.

On the spatial management of small scale fisheries in the west coast of Baja California Sur, Mexico.

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Looking for possible management strategies for small scale fisheries in Mexico, we analyze the spatial and temporal distribution of landed catch of abalone, clams, snails, octopus, squids, lobsters, shrimps, blue crabs, sharks, rays and finfishes along the 349 km of the Gulf of Ulloa coast. Data registered by fishers, from 1998 to 2009, on catch volume and value per group of species and fishing localities, as well as the number of landing events, were used to define fishing zones and the relative importance of each fishery. Finfishes were the most important one in the region, but the others show relevant changes by zone that should be considered when establishing management goals and fishing rules, according to resources availability, fleets efficiencies, fish processing and commercialization of fishing products and distribution of profits.

5.1 small scale fisheries, history and social science.

chair: malcolm tull

Small Scale Fisheries in South-East Asia in the Twentieth Century: Insights from the History of Marine Animal Populations (HMAP)

Professor Malcolm Tull

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The marine capture fisheries of South-East Asia were transformed during the twentieth century as a result of demographic and economic growth, technological change, and the globalisation of trade in seafood and other marine resources. In the case of many of the region's small scale fisheries this transformation was especially pronounced, profoundly affecting the methods used by fishers, the social organization and economic conditions of fishing communities, and networks for trading marine resources. Drawing on selected case studies from the HMAP Asia project, which has examined fishing activity for marine animals as diverse as whales, sharks and shrimps, and across an equally wide range of marine environments, this paper considers the implications of the transformation for the livelihoods of small scale fishers and the future of traditional maritime communities. An attempt will be made to identify possible lessons for fishery management policy-makers.

Not just window dressing: The pivotal role of social sciences in Ecohealth research

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This paper discusses the challenges we faced in establishing a community of practice for ecosystem approaches to human health in three coastal communities in Latin-America and the Caribbean. The project emerged from our engagement with the Coastal Community Health Network (2003-2007) the objectives of which were to build transdisciplinary and intersectoral cooperation among the scientific community, policy makers and community groups; and to foster a collective capacity to address the social, economic, environmental and cultural impacts of modernization on marginalized coastal communities. In particular, we were interested in examining the inter-relationships between community well-being, environmental health and human health. Our experiences highlight the importance of including the concept of community well-being in ecohealth research and mainstreaming the epistemological perspectives of the social sciences.

panel sessions, series five. . .

15.30-17.00, thursday

1.5 coastal communities.

chair: marloes kraan

Marine fisheries and sense of place in coastal communities in southern England

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In addition to the economic impact that fisheries have, fishing is important for many coastal communities more broadly in terms of identity, place character and cultural heritage. The meanings that people attach to fishing places are representative of a range of social, historic, political and cultural processes and contribute to the construction of a particular sense of place. There is increasing recognition that fisheries and marine policy need to more explicitly incorporate social and cultural objectives in order to achieve sustainability of fish stocks and coastal communities. Using case study material from coastal communities in Sussex and Cornwall in southern England, this paper explores the contribution of marine fisheries to sense of place and the importance of place identity for both local communities and related industries such as tourism. The study draws on qualitative data from interviews with a range of stakeholders, including fishermen, fishing families, residents, artists, heritage providers, tourism providers and industry representatives. We argue that fishing is important for communities not just as a means of earning a living, but is a way of life with more deeply embedded cultural relationships.

***Cercos Flutuantes* in Ponta Negra, SE Coastal Brazil: The Political Ecology of Artisanal Fishing Practice**

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Adapted from the Japanese pound net, the *cercos flutuante* is a type of stationary fishing gear located along the coastline within small bays. We analyse *cercos flutuantes* in Ponta Negra taking into consideration their history, the ecological knowledge, power relations and institutions they entail, as well as the resources to which they provide access. Practice related to *cercos flutuantes* (including the use of fishing skills and ecological knowledge and the shaping and reproduction of social differentiation) both structures and is structured by social relations, local history and worldview. We consider data collected through participant observation carried out between May 2010 and

April 2011, combined with semi-structured and narrative interviews. To analyse practice associated with cercos flutuantes provides a lens to make explicit the complexities of artisanal fishing in Coastal Brazil, considering their social, cultural and political dimensions.

A Mexican Fishing Village and its Changing Household Compositions

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The village of Uvero is a mestizo fishing community in the state of Veracruz. Catching the Atlantic white shrimp on the lagoon side and seasonal fishery of the crevalle jack on the Mexican gulf side are of importance. During the strong cold northeasterly wind period from November to February fishermen intermittently cannot fish onshore, but they succeed in receiving material supports from the city council, political parties, or religious organizations. Nowadays, in addition, many villagers enjoy the financial benefits of the governmental social assistance program (*Oportunidades*). Such aids from the outer world and modern social practices lend new weight to their household compositions as well as daily life. Out of 308 households at this village, the nuclear family household numbers 148 while the common-law marriage (*unión libre*) one numbers 71. The latter case includes denuded family households, ones in which grandparents raise grandchildren, and so forth.

4.10 tuna in the coral triangle. *chair: simon bush*

Benefiting from innovations in Sustainable and Equitable Management of Fisheries on Transboundary Tunas in the Coral Triangle and Western Pacific (BESTTUNA)

Simon R. Bush, Paul van Zwieten and Arthur Mol
Wageningen University, The Netherlands

The BESTTuna programme is a research collaboration headed by Wageningen University to explore complex social-ecological interactions in tuna fisheries, and assess how existing and future governance arrangements can achieve sustainable tuna management in the Coral Triangle and Western Pacific. The project is premised on the ongoing challenges of sustainably managing slow growing and long lived Yellowfin (YFT) and Bigeye tuna (BET) in the region at the same time as nations are increasing their effort on currently underexploited Skipjack tuna. Juvenile bycatch of YFT and BET by purse seiners setting on fish attraction devices targeting Skipjack have been identified as a key source of overfishing. The problem is also one of equity and benefit sharing with distant water fleets, made up predominantly of large purse seiners, having access to an estimated 60% of the region's tuna catch, while juvenile and skipjack fisheries remain important for local food security and economies. There are therefore a series of trade-offs between setting goals for reducing fishing mortality of juvenile yellowfin and bigeye tuna while allowing the skipjack fishery to reach its full potential, as well as allocation issues between different fisheries fishing on different stages of the same species. The complexity of these fisheries, in terms of both the trans-boundary ecology of tunas, their interaction with FADs and high value in international markets, have meant that states have had limited impact on sustainable management. At the same time a wide variety of market-based governance arrangements, such as MSC, brand strategies, and stock allocation systems (e.g. vessel day schemes) have emerged in partnership or in parallel to state governance arrangements. Recognising the innovative role of these market based governance arrangements, the BESTTuna programme explores whether and how market-led initiatives provide adequate incentives to adopt fishing practices that reduce pressure on yellowfin and bigeye tuna stocks, as well as how benefits in global value chains can be more equitably distributed to encourage sustainable practices. In doing so the programme explores: 1. the ecology of yellowfin and bigeye tuna, and their relation with FADs; 2. the composition, behavior and interests of different fishing fleets, markets and related market actors (including fishers, canneries, retailers, consumers); and 3. The functioning of existing state and intergovernmental (RFMO) fisheries management arrangements in the region and their relation to market based mechanisms.

Standards for sustainability: hybridised regulatory governance in the European canned tuna market

Alice Miller

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The fisheries sector in Europe is paying increasing attention to issues of sustainability, reflected in the increase of both public and private sustainability standards and certification programmes. This paper looks at this form of governance for introducing sustainability into the European canned tuna market. It looks first at regulation in European fisheries in general, both in terms of domestic production and imported fish products. In doing this, the paper traces the shift from centralised policy-making around food governance towards hybrid public-private regulatory networks and the degree to which regulatory standards are representative of the Europeanisation of global fish regulation. This analysis is applied to imported canned tuna to Europe to test the hypothesis that there is a shift towards a hybridised regulatory governance framework for canned tuna. This includes an introduction to some of the private sector standards that are being applied to canned tuna, using the value chain to look at the global-local dynamics (producer-driven, consumer (retailer)-driven). Running throughout the analysis is the question of what is meant by sustainability and how is it framed within the different standards.

Exploring the Potential of ‘Tuna Credits’ to Incentivize Fisheries Management

Paul A.M. van Zwieten, Simon R. Busha, Marielle C. van Riel† and Arthur P.J Mola

Policy Group, Wageningen University

This paper explores the possibility for a ‘tuna credit’ system to incentivize sustainable fishing practices and funding transboundary management of the tuna fisheries in the Western and Central Pacific. Innovative approaches to promote sustainable management of tuna are increasingly being sought to address concerns about the overexploitation of bigeye and yellowfin tuna, and the by-catch rates of other pelagic species caught by in particular by purse seiners around fish attraction devices. Financing sustainable management of high seas fisheries also requires alternative funding sources. By drawing on the experiences of carbon, wetland, water and biodiversity credit systems we investigate whether and how a tuna credit system could supplement or even replace existing governance arrangements around fisheries management. After identifying six key issues with a range of considerations that need to be taken up in the design of a tuna credit, we reflect on whether such a system would be additional to existing management; can deal with the complex of fisheries, species and life-cycle interactions; overcome existing conflicts over stock allocation; create adequate incentives for sustainable practices; and ultimately create more equitable sharing of stocks or lead to wider inequities.

4.5 spatial planning: europe III. *chair: stephen jay*

Early experience in Marine spatial Planning: Planning the German Exclusive Economic Zone

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Recent initiatives in marine spatial planning include that of Germany, which has completed a plan for its federal offshore territory. We present an analysis of this pioneering plan and the consultation process, with an emphasis on the treatment of sectoral interests around which the plan was structured. This revealed the attempts to coordinate different demands at sea by means of allocation of areas and cross-sectoral considerations, but also the uneven representation of activities with certain interests gaining strongly and others marginalised. This study provides early evidence of the tensions involved in the attempt to adopt a spatial approach to marine governance. We situate this new domain for planning in the overlapping but distinct domains of marine management and spatial planning, and draw on the conceptual backgrounds of both in assessing the strengths and weaknesses of the plan and in suggesting how marine planning might gain from a more collaborative approach.

An ecosystem management perspective on the implementation of The EU Water Framework Directive in coastal areas

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In this case study from Stockholm archipelago, Sweden, we analyze some of the opportunities and challenges for a sustainable coastal zone management of the implementation of the EU Water Framework Directive (WFD), applying an ecosystem management perspective.

Water systems represent nested institutional and ecological systems, where the spatial dimensions of water management create needs for coordinating institutions. Water related ecosystem services, though often meeting needs expressed over large spatial scales such as the Baltic Sea region, are actually generally delivered at the local scale. The WFD adopts a holistic drainage basin approach to water management, including coastal waters. However, heterogeneity within drainage basins results in differences in management priorities affecting the coastal zone. To clarify scale linkages is crucial for empowering stakeholders to manage environmental assets in an informed way. Even so, there are still uncertainties regarding appropriate forms for participation, use and transfer of knowledge from the local level.

5.2 perspectives on fishery agreements. .

chair: alpina begossi

Protected areas, fishing agreements, and payments for environmental services within artisanal fisheries along the southeastern Brazilian coast
*Alpina Begossi**, Priscila F. Lopes, Luiz E. C. Oliveira, Renato Silvano, Valeria Vinha, Peter May

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Artisanal fisheries are of great importance in Brazil, as they represent more than 50% of the national fish production. This importance, associated with the necessity of conserving marine environments threatened by multiple competing uses, creates a need to establish mechanisms for the management of fisheries. Taking into consideration local conflicts between artisanal and industrial fishers, local rules of artisanal fisheries, and co-management between the government and fishers (in addition to other users of the resources), this study suggests policy and technical alternatives to manage the artisanal fisheries of southeastern Brazil with a focus on Ilha Grande bay in Rio de Janeiro. We show in this study, based on interviews and meetings with artisanal fishers in 2009, that fishers' current use of the marine space, along with their suggestions regarding management of fisheries access in Ilha Grande Bay (such as controlling trawlers), might provide information vital to improve management of the artisanal fisheries. We suggest that fishing agreements (FAs) and payment for environmental services (PES) could contribute to this process by stimulating and rewarding fishers who participate in conservation processes.

Éwara Tchoni Project: generating subsidies for the establishment of policy guidelines and development of a fisheries management plan in Amazonian Indigenous Lands

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The Tikuna people live almost 3,000 km from the sea, on the banks of the magnificent Amazon River, but has strong links with the fisheries and aquatic environments. With the growth of Amazonian cities and the increasing demand of distant markets, it also increased commercial fishing. After the demarcation of indigenous lands began a conflict between indigenous fishermen (who designed some of their production for sale) and urban fishermen (which has fish as one of their few sources of employment). This study examined the effects of the intensification of fishing due to reduced stocks, larger displacement where fishing is plentiful, longer time spent fishing per week, increasing access to outboard motors and fishing nets. The production landed was obtained mainly in Solimões River and lakes at indigenous lands. Small species caught in areas near the villages, earned

tens of tonnes of fish per year and guaranteed income and employment for indigenous and non-indigenous fishermen. The particularities of the local ecosystems and the cultural interactions between Tikuna and other societies (indigenous and national), call for new solutions to resource management and cultural interaction.

panel session, series six. . .

11.00-12.30, friday

1.6 tourism.

chair: jan hoorweg

Fishing and coastal tourism in Redondo Beach fisherman’s wharf

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The current paper aims to highlight the complex relation of fishing activity and coastal tourism in the Redondo Beach fishermen’s wharf, Southern California, USA.

The focus of this article is to describe the physical, economical and sociocultural influence of tourism on fishing activity. I did a fieldwork that applies standard ethnographic methods of observation and interviewing, history and analysis. Initially, the paper provides an overview of the actual situation in Redondo Beach, the local maritime life and culture. I will then emphasize the type of fishing activity vs leisure that make this wharf so particular. Finally, I will compare the Redondo Beach fisherman’s wharf to two Europeans fishing ports.

Northern Norway Responding to Change: Shifting from Traditional Small-scale Fishing to Marine Fish Tourism

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Northern Norway’s coastal culture has been dependent on sea fishing for thousands of years. Recently, however, marine fish tourism has emerged - a rapidly expanding sector in direct competition for the same marine coastal resources, and their profits. *Fishing camps* are now providing marine fish tourists with easy access to Norwegian coastal waters. Tourists are coming from as far as China, though primarily from several European countries. Regulations for foreigners are clear: 15 kg of cleaned fish fillet can be exported. However, those tourists who drive can be caught crossing the border with perhaps hundreds of kilos over quota. Media reports of confiscations have contributed to inflaming local conflicts between the traditional small-scale fishermen, and the fish camp owners.

Using interviews and a 63-question questionnaire (distributed in 12 languages), this project examines who the fish tourists are; how they view

Norway's resource management regulations governing marine fish tourism; and lends insights into how local communities are responding and adapting to a shift away from traditional uses of their coastal resources.

Sustainability and Cultural Heritage in the Catalan Coast

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This paper proposes to consider two questions that are being increasingly involved nowadays: sustainability and cultural heritage. That is, the relationship between the concern for a sustainable development of marine resources management, and the concern for the preservation of maritime cultural heritage seriously damaged due to the coastal tourism development. On one hand we observe the emergence of cultural discourses about nature (e.g. the case of marine protected areas) where the limits of natural and cultural heritage are blurred. On the other hand, we observe how the attempt for the preservation of certain tangible and intangible cultural heritage (e.g. traditional methods of catching fish, fishermen's ecological knowledge) is done on behalf of environmental sustainability. In this paper I propose a reflection and debate on this issue from some ethnographic examples of my current research on the central Catalan coast in Spain.

2.5 images and governance. *chair: svein jentoft*

The Communicative Turnaround in Fisheries Governance: Implications of “Reversing the Burden of Proof” for Stakeholder Interaction

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Svein Jentoft

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Current changes in European fisheries governance suggest speaking not only of a ‘communicative turn’ but a complete turnaround in the communication approaches that various actors will face. Recent reform attempts for stakeholder participation with *Regional Advisory Councils* and the idea to replace the burden of proof on the resource users (fishing industry) imply completely new ways of interaction between fishers and other stakeholders (e.g. NGOs), policy-makers and scientists. This paper addresses this shift from a traditionally rather linear science-policy interface towards a more interactive governance system with regard to the communication and negotiation strategies of different stakeholder groups. For example fisheries and NGOs would need the help of scientists to prove a particular management strategy workable while policy-makers and management agencies need science to prove that this proposal does or does not work. We also discuss novelties and challenges for a transdisciplinary science system that arise from this ‘communicative turnaround’.

Images of Fisheries Governance in the Carribean: Ruse of Reality?

Patrick McConney, Robin Mahon, Kemraj Parsram, Lyn-Marie Deane and Maria Pena

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Images are important in interactive governance. The governance of marine resources in the eastern Caribbean is associated with many different, often competing, images. We argue that some images of governance constitute a ruse projected for others to perceive institutional arrangements that do not exist. Images that reflect the principles of good governance are often in this category. The ruse may be malicious, expeditious or more simply an unfortunate case of self-deception. Take, for example, the faith-based foundations of co-management in which equitable participation and self-organisation of stakeholders are more assumed than evident. What then is the reality? In this paper we present some ideas on the images portrayed and discuss these in relation to the images of marine resource governance that seem to better describe and analyse the institutions of governance that are actually in place in the eastern Caribbean.

The image of the beamtrawl

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The beamtrawl is a controversial gear. It is highly effective in catching flatfish and (still) forms the backbone of the Dutch fishing fleet at the North Sea, yet it is heavily criticized by NGO's for its 'destructive' effect on mainly the sea floor. The traditional beamtrawl is a heavy user of fuel. With rising oil prices, it has become – in combination with dropping quota and prices for fish – a less profitable gear for fishermen. The combination of a deteriorated financial state of the Dutch cutter sector with the rising critique on the gear has lead the Dutch government to study a way out. This resulted in an advisory report in 2004 entitled 'Fishing with headwind'. A couple of trajectories were advised and have taken form in the Dutch fishing scene – cooperative paths in which the sector worked together with researchers, government representatives and NGO's.

This path – directed at improving the sustainability of the Dutch fishing sector – has gone hand in hand with a deteriorating image of the beamtrawl. The image basically is that the beamtrawl is a non-sustainable fishing gear and it seems as if the new goal of improving sustainability has become directed at - at least - getting rid of this 'destructive' fishing gear. Any attempts of the sector at improving the sustainability (people, planet, profit) of the beamtrawl seem to be useless as the negative image of the gear (expressed not only by NGO's in the latter years, but also by the government) is fixed. The beamtrawl is the gear non-grata and addressing a more sustainable future of the Dutch cutter fleet based on information and evidence seems to become more and more excluded due to this image lead process.

This paper will use the case of the beamtrawl to develop the idea of the importance of images in the interactive governance theory (see Jentoft, Chuenpagdee, Bundy & Mahon 2010) further.

Exploring tenure in lagoon social-ecological systems: Lessons from around the world

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Discussion on lagoon tenure is a largely neglected area as the existing literature on marine and terrestrial tenure tends to subsume tenure issues of coastal lagoons. This paper focuses on the key attributes of tenure and its governance in coastal lagoons with specific reference to three interrelated aspects. First, the distinct location of coastal lagoons at the interface of the sea and the land, and the resulting 'in-betweenness' character becomes a determinant factor. While laws and practices of the sea apply on one side;

cultures, norms and regulations associated with the terrestrial resource systems offer influence from the other. Second, an emphasis on the need to understand lagoons as complex social-ecological systems (SES) whereby interconnections and cross-influence among the SES attributes become important factors for how tenure is defined and governed. Third, using the SES context it is possible to understand lagoons as highly interconnected systems of human and environment which brings attention to relationships, interactions and connections between people and their lagoon environments as important factors for tenurial arrangements. Using a number of cases as example, the paper concludes with an emphasis that tenure in the context of complex lagoon social-ecological systems is not a static concept and, therefore, can be best understood as a process and its governance as continuous. Such a perspective has the potential to further our understanding on lagoon tenure and its governance in the face of multilevel challenges.

4.11 broadening perspectives for MPAs I' *chair: ratana Chuenpagdee*

Governability of MPAs: How stakeholder images determine what goals are

Ratana Chuenpagdee¹, Svein Jentoft² and Jose Pascual-Fernández³

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³ University of La Laguna, Ins. of Social and Political Sciences

In this paper we argue that more attention should be paid to the images that stakeholders have about what MPA are, what they aim to accomplish, and how they see themselves affected by them. These images are not homogeneous, and stakeholder conflicts can occur simply because of their different ideas about what an MPA is about. Second, we hold that goals and goal formation of MPAs should be empirically investigated, rather than taken as given, which is often the case. Finally, analyzing the success or failure of MPAs needs to take into account the 'step zero' process in detail, i.e. the initial stage when images are conceived and goals negotiated. The synchronization of images and goals are, we argue, central to the governability of MPAs. In this paper we present a methodology for investigating these issues as part of the GOBAMP project.

A model of MPAs? The cases of Lira and La Restinga marine reserves of fishing interest (MRFI)

Manuel González Ramallal, Raquel De la Cruz Modino,

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Marine protected areas in Spain have taken many different shapes. The La Restinga and the Sea of the Calms, in El Hierro, Canary Islands, has served as a model in other areas of the country. The MRFI of Lira in Galicia, for instance, took lessons directly from this case, by bringing local fishers from El Hierro to Galicia to explain their experience. Later, this MRFI of Lira served also as a model for other protected areas in Galicia. Not only these MPAs are considered as examples of success in terms of community empowerment; the fact that they are used, promoted and exported as a model for MPA initiatives in other regions of the country means that they have contributed to create a new image of the role of fishers in marine conservation in Spain.

MPAs in Costa Maya, México: Fish or Fun?

Julia Fraga (Cinvestav-Mérida)

MPAs, like other resource management systems, can present social dilemmas to fishing communities. The Reef National Park of Xcalak in the south of México, a 18,000-hectares marine park created in November 2000, is a case in point. After five years as a community-based MPA and six years in the development of a management plan, things came to a halt. Fishers are

putting pressure to the official institution that manages the area (National Commission of Natural Protected Area) to revise the content of that plan because many areas are now under tourism pressure. We employ the governability and step zero perspective to critically examine the possible outcomes of this dilemma. What are the visions of the people for their MPA? Can it potentially work to meet both fisheries and tourism goals? Will the co-governing solutions implemented in the last three years be sufficient to guarantee the success of the area?

4.6 management and challenge of large and small MPA's. *chair: stephen jay*

Toward transboundary marine protected areas in the Western Indian Ocean

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Transboundary marine protected areas (MPAs) can protect marine species and habitats straddling multiple countries. However, they are not appropriate for all levels of resource mobility, are not capable of tackling all threats, and pose various governance challenges. I assessed the adequacy of transboundary MPAs to protect one species and one habitat in East Africa, by examining their ecological characteristics, user groups, and institutional setting in two coastal border regions. This assessment revealed limitations of transboundary MPAs in the Mozambique-Tanzania and Mozambique-South Africa border regions to protect Indo-Pacific humpback dolphins and coral reefs, namely significant knowledge gaps, inability to tackle land-based pollution, and difficulties in law enforcement in remote areas. It also showed how transboundary MPAs can bridge analogous fisheries co-management institutions on both sides of a border. It is crucial that countries conduct similar reviews before committing to establish transboundary MPAs, and tailor their conservation regimes to on-the-ground contexts.

Locally Managed Marine Areas in Eastern Indonesia as ways forward to long-term involvement of small island communities upholding their Marine Conservation Principles

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Evading project-dependent conservation successes, and in that guaranteeing sustainable long-term commitment to conservation by local resource users, requires sensitivity and trust. Local NGOs engaging in several Eastern Indonesian fishing communities have booked considerable success through a Locally Managed Marine Area (LMMA) approach. The establishment of LMMAs can provide insights into how local strongholds for marine conservation may be achieved. The paper addresses marine conservation challenges across *community-conservation group* interfaces in terms of integrating customary and scientific-based knowledge institutions, understanding perceptions and cultural affinities, appreciating on-the-ground heterogeneity, activating local engagement and ownership, and achieving political recognition.

The research draws on two case-studies in Eastern Indonesia to show different involvements in marine conservation, and how these relate to multiple-scale conservation frameworks: (i) The island community of Tanimbar Kei in the Kei islands of S.E. Maluku Province, and (ii) The island community of Mios Mungwandi in the Padaido islands of Papua Province.

5.3 value chain governance I. *chair: simon bush;*

Shrimp Farming and Standardization of Shrimp Production: The Case of East Kalimantan, Indonesia

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Simon Bush, Environmental Policy, Wageningen University and Research, Netherland, simon.bush@wur.nl

The rising awareness in Europe and US about the environmental impact of shrimp ponds in producer countries has created a new ‘battlefield of quality’ which is placing increased pressure on producing countries such as Indonesia to demonstrate sustainability. Our analysis distinguishes three intersecting regulatory networks in Tarakan, East Kalimantan: WWF-private sector partnerships, government legislation, and Artisanal trade networks. We focus our attention on the ways in which actors in each of these three networks actively translate quality standards into regulatory practices. Our results indicate that the standardization of shrimp production is a highly negotiated process. Standards are largely expert driven and transferred from the international or national scale to local settings. They are developed as national, international, state or private sector regulatory standards, but they are not transliterated ‘word for word’ and accepted as such, but instead they are interpreted according to the knowledge and expectations of local actors. This means the official requirements of the standard to be met by the farmers contrast sharply with local conditions and practices.

Accessibility vs. Credibility in Seafood certification

Patricia Bianchi

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Fish has become the most traded commodity in the world. While the demand and consumption of seafood products continue to increase, about 32% of world fish stocks are over-exploited, depleted or recovering (FAO, 2010). The Marine Stewardship Council (MSC) is a certification program and seafood ecolabel that aims to transform the seafood market to a sustainable basis.

As a third party certification (TPC) program, the MSC has defined standards for sustainable fishing, procedures and requirements that independent auditors follow to assess compliance. TPC programs are considered more credible than first and second party (Hatatanka et al, 2005), as conflict of interest is avoided by separating institutions and functions. In order to enhance its credibility, the MSC is consistent with international best practices such as ISEAL and FAO codes, aiming at enhance the credibility of the certification process and thus the credibility of the MSC. However, in this

study I discuss how the institutional arrangements adopted to enhance credibility as TPC, have negative implications on the accessibility of fisheries.

This study concludes that the institutional arrangements defined to enhance credibility as TPC, can create accessibility hurdles, which are intensified further in the context of developing countries and small-scale fisheries. There are issues embedded in the scale and location of the fisheries such as organization, limited resources and social issues that affect the implementation of TPC and constrain the access to certification. In order to enhance equal access to certification, the particularities of scale and location, shall be taken into account. The MSC is committed to ensure that that fisheries regardless the scale and the location have equal access to MSC certification. Based on these results strategies to overcome accessibility hurdles will be presented.

The development of the Indian cultured shrimp industry: adaptation to a constantly changing international landscape

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The production of cultured shrimp in Southern India increased rapidly since the late 1980's. Although in its earliest stages it seemed that the industry prospered without many concerns, this changed drastically since 1995 when disease outbreaks struck many shrimp farms and hampered production. Since 1995 shrimp exporters and producers encountered an accumulation of challenges arising from the international market. It started in 1997-1998 with US and EU driven process standards, followed by increasingly stringent EU product standards, US anti-dumping duties, and EU 20% checks of Indian shrimp imports, and the rise of a new shrimp species. All these developments required private and public actors that have a stake in the sector to respond swiftly in order to maintain a strong competitive position in the international market. In this paper we analyze how these challenges have influenced the structure and dynamics of the Indian shrimp industry. Subsequently we make suggestions about what explains the different pathway of development compared to that of the industry in Thailand. Finally, we will draw our conclusion about whether international food standards function as catalysts or barriers to trade and development.

panel sessions, series seven.

13.30-15.00, friday

2.6 regionalisation of the CFP.

chair: jesper raakjær

Prelude: Panel organizer's introduction of the theme and background of panel

Jesper Raakjær, Innovative Fisheries Management, Aalborg University

In this brief introductory presentation the panel organizer provides some background on the panel, which is rooted in an EU 7th Framework research project MEFEP0 (www.liv.ac.uk/mefep0/), and its relevance with particular reference to the problems of the CFP related to governance and the distribution of responsibilities and rights etc. across the various organisational layers and actors of the system.

A History of the Process towards Regionalisation

David Symes, University of Hull
Poul Degnbol, ICES

Although regionalisation of the EU Common Fisheries Policy (CFP) has gained increasing attention over the last years, the discussion of regionalisation is not new. In this article one of the leading authors on regionalisation of the CFP, David Symes, takes on the task of giving a historical account of the development in thinking from the early days of the discussion up to where we stand today. To support David Symes Poul Degnbol contributes to this article as well. Poul Degnbol has until recently worked as a scientific advisor in the Commission, where he put regionalisation on the agenda as worthy of serious consideration.

Fishing for Reform: Perceptions of Benefits, Options, and Challenges of Regionalising the CFP

Troels J. Hegland, Kristen Ounanian & Jesper Raakjær;
IFM

Based on empirical data from interviews, observations and recent position papers, this article seeks to investigate the various perspectives on regionalisation, focussing in particular on what stakeholders and others with an interest in the CFP see as the benefits, options and challenges. The article reports also on a survey carried out with meeting participants from four Regional Advisory Councils. The survey reports on the perspectives of 139 participants (41% response rate) on regionalisation. In particular, the survey presented different models of regionalisation to the respondents.

Regionalisation and the Integration of Fisheries Management with Marine Management at Large

Luc van Hoof

IMARES, Wageningen UR

Judith van Leeuwen & Jan P.M. van Tatenhove

Centre for Marine Policy, Wageningen UR

A major challenge of future EU fisheries management is the integration of fisheries management with broader marine management. The focus on ecosystem based management, which is in itself one of the drivers of regionalisation, is also one of the factors that complicates regionalisation; in essence by making many of the conventional models of regionalisation potentially too sector specific. This creates the risk that the adopted model of governance is not durable even in the medium term. This article tries to tackle some of these issues by discussing specifically the implications of integrated management for regionalisation.

4.12 broadening perspectives for

MPA's II.

chair: jose pascual-fernandez

A model of MPA? The case of La Restinga and the sea of the calms marine reserve

Raquel De la Cruz Modino^{1,2}, Manuel González Ramalla²

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Marine protected areas in Spain have taken many different shapes. One of the Marine Reserves implemented in the Canary Islands, the La Restinga and the sea of the calms marine reserve in El Hierro, has served as a model in other areas of the country. Some marine reserves implemented in Galicia, for instance, took lessons directly from this case, by bringing local fishers from El Hierro to Galicia to explain their experience. They talked, for instance, about how factors like time, place, leadership, linkages between stakeholders, community identity, and the local institutions' support are as important as the natural characteristics of the protected area. Not only that this MPA is considered an example of success in terms of community empowerment, the fact that it is being used, promoted and exported as a model for MPA initiatives in other regions of Spain means that it is also an initiator of a collaborative process to create a new image of MPAs in Spain.

The perceptions of Scottish inshore fishers towards marine protected areas

Cristina Pita^{1,2}, Graham J. Pierce² and Ioannis Theodossiou¹

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²Institute of Biological and Environmental Sciences, University of Aberdeen, UK

Fishing is normally permitted within Marine Protected Areas (MPAs) in Scotland. However varying levels of restrictions imposed on different gear-users within MPAs means that the impact upon their fishing activity varies. Scotland will shortly implement, under the "Scottish MPA project", a network of more restrictive and controversial no-take MPAs. We undertook a questionnaire survey, prior to the implementation of these no-take MPAs, to investigate the perceptions about MPAs of Scottish inshore fishers operating different gear. The results show that fishers are not a homogenous collective. The different gear-users expressed significantly different opinions about MPAs as management tools, and MPAs' ability to protect stocks and to decrease conflicts between different gear-users. Given the important role MPAs will play in long-term conservation and fisheries management plans in Europe, understanding the variability in fishers' attitudes towards MPAs is essential to enable successful planning and governance of MPAs.

Linking science to management: the case of managing marine protected areas in East Africa

Nyawira Muthiga

Wildlife Conservation Society, Mombasa, Kenya

Coral reefs provide ecological, economic and social resources for millions of people in the East African region but anthropogenic disturbances and climatic change are creating challenges for their management. The extent to which management can influence the outcomes of climatic disturbances and the need to prioritize conservation goals based on a knowledge of the site-specific responses to climate and local environmental factors are explored in this paper. Key findings from a long-term coral reef monitoring program in Kenya and a regional level analysis of environmental and social susceptibility and the capacity to adapt to climate change are presented. National and regional policy options to enhance the ability of coral reef communities to adapt to climate change and the role of regional initiatives in growing the capacity for management in East Africa are discussed.

4.7 social benefits of fisheries management. *chair: edward allison*

Institutional Arrangements in Floodplain Fisheries Management in Bangladesh

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Seasonal floodplains under private and public ownership provide food and income supporting the livelihoods of millions of people in Bangladesh. Diverse forms of access and ownership complicate the management where floodplains that are leased to fishers groups are appropriated by wealthy and influential people, with the benefits from fish culture accruing to only a few members of the fishers groups. A fish culture project has effectively implemented benefit sharing arrangements. The paper gives an overview of the community-based fish culture in the seasonal floodplains under public and private ownership regimes. The institutional arrangements of 3 Floodplain Management Committees (FMC) are analyzed on the basis of research carried out in 2006-2009. This study results in an integration of qualitative and quantitative data, following the stakeholders representing the various institutions and organizations, like the Department of Fisheries (DoF), Department of Land (DoL), Floodplain Management Committees, land owning fishers, and landless seasonal fishers. Other important stakeholders are the lease holders of public water bodies in the floodplains, private landowners, seasonal and professional fishers, and poor people living in communities adjacent to the floodplains. The outcomes demonstrate a significant increase of benefits to the different stakeholders, including the poor, through the sharing of benefits derived from their involvement in the fish culture project. The willingness of people from different classes to work together, the adoption of a new technology, the benefits of cooperation, and the embeddedness of local institutions are shown to be important results for policy making purposes.

Wealth and welfare? Can fisheries management succeed in achieving multiple objectives? A case study of Lake Victoria, East Africa

Dr Fiona Nunan
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Contrasting approaches to the management of fisheries reflect different interpretations of the causes of overfishing and multiple objectives, as fisheries in developing countries seek to satisfy many demands. Creating employment, generating revenue for government and sustaining stocks and

biodiversity call for different management measures that may compete and conflict. The paper examines the case of Lake Victoria, where the three main commercial fisheries are seen to contribute to different objectives for the lake's fisheries. Insights from the debate between wealth-based and welfare-based approaches to fisheries management are drawn on to learn from the opportunities and constraints that exist on Lake Victoria, generating lessons for other inland fisheries in the developing world. Different interpretations of the causes of overfishing and overcapacity, as well as contrasting objectives, have led to extended negotiation and debate over the best way forward for the management of Lake Victoria fisheries.

5.4 value chain governance II.

chair: petra spliethoff

A Pilot study on ecosystem based management of the fish production chain

Petra Spliethoff

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This paper aims to challenge fisheries management systems in which fishing effort is regulated on the basis of scientific research and market prices are largely determined by supply.

In a pilot project in South Africa a participatory ecosystem management approach is studied in which *fisher's* understanding of ecosystem processes and how ecosystems respond to environmental changes, is taken as the entry point for the development of an ecosystem based fisheries production chain . Open access and non compliance *is* adjusted to adherence to principles of ecological sustainability and fishing effort as far as is possible, also keeping a balance with market forces by minimising the negative effects of fluctuations in supply and price. This is to achieve a better managed small-scale fishing sector that takes account of environmental as well as economic factors that impact on them. Understanding of cost effective in-put and out-put are to contribute to improved fishing enterprises. Fishers are being trained to understand how to address the complexity of production-supply processes , to recognize uncertainties arising in the production-marketing chain and be made conscious when to apply precautionary approaches, the very basis of co-management of fisheries.

A value chain analysis of fish trade in Pantar Island, eastern Indonesia.

Ria Fitriana

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In the remote islands in Indonesia, fish trade at the local level is important for fishers' livelihoods. It is a source of cash income and carbohydrate for coastal people as well as protein for mountain people through barter. However, fish trade at the local level is poorly recognized as one way to improve fishers' livelihoods. Almost all policy to improve fishers' livelihoods focuses more on the direct input of fishing. This paper presents a trade chain of fresh and dried fish in Pantar Island, eastern Indonesia. This paper explores the activities, value and challenges faced by trading actors through the value chain lens. The data was collected through focus group discussions with fishers and key informant interviews with local traders. Although the results of this paper

provide a local context-specific analysis, it shows the trade contributes significantly to family's food security. This paper provides an alternative perspective to enhance fisher's livelihoods.

panel session, series eight. .

15.30-17.00, friday

1.7 recreational activities.

chair: serge raemakers

The Shark Bay snapper fishery: a case-study of successful recreational fisheries management

Dr Joseph Christensen

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Dr Gary Jackson

Principal Research Scientist - Finfish – Southern WA Fisheries and Marine Research Laboratories, Australia

Marine recreational fishing in Western Australia attracts over 600,000 participants and generates AUS\$1.2 billion annually. Increasingly, the state's Fisheries Department is confronted by the challenge of restricting recreational fishing effort and controlling angler's behaviour in order to protect socially and commercially valuable fish populations. The Shark Bay fishery for Pink Snapper (*Pagrus auratus*), one of the largest recreational fisheries in Australia, provides a leading example of a recreational fishery where biological research and new management strategies influenced fundamental changes in fisher behaviour and attitudes, prompting the recovery of targeted populations exploited to the brink of collapse. This paper reviews the history of the Shark Bay snapper fishery, highlighting the value of non-traditional approaches to the management of recreational fisheries in affluent societies, and offering a case-study of the role of marine scientists and fisheries managers in encouraging change in popular attitudes to exploitation and sustainability in a coastal environment.

Spatial Patterns of Recreational Boating

C. Peter Keller and co-authors

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Attitudes and behaviours of the recreational boating community can be important consideration in marine zoning and coastal management. Understanding spatial patterns of recreational boating is important to managing the environment, safety and social impacts. The spatial behavior of recreational boating continues to be poorly understood because of measurement difficulties. This presentation introduces and discusses measurement options for capturing the spatial distribution of recreational boating before moving on to report on a study that utilized an on-the-water questionnaire to map recreational boating distribution in the Gulf

Islands' archipelago of the Salish Sea on Canada's West Coast. We report on interview of 519 boaters including capturing their vessel routes. We discuss data analysis using GIS and show resultant distribution and density of recreational boating space. The presentation concludes with lessons learned and recommendations for future studies interested in using a similar approach.

2.7 MSFD and regional seas governance in europe.

chair: katia frangoudes

The MSFD and regional seas governance in Europe

*Katia Frangoudes**, Malte Busch, Juan L. Suárez-de Vivero

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The Marine Strategy Framework Directive (MSFD) is the environmental pillar for the European Integrated Marine Policy (IMP). The core objective of the MSFD is to achieve a sustainable use of marine ecosystems. Member-States have to conduct an assessment of the initial state of marine ecosystems, to define Good Environmental Status (GES) standard and to adopt and monitor programmes of measures. As most EU environmental regulation (Water Framework Directive, Natura 2000,...) the MSFD stresses the need for a holistic integrated approach to the management of the environment and calls for the implementation of an Ecosystem Approach.

KNOWSEAS (Knowledge-based Sustainable Management for Europe's Seas) is an EU project financed by the 7th FP related to a specific call to conduct research in support of the implementation of the MSFD. Its main objective is to provide a comprehensive scientific knowledge base and practical guidance for the implementation of the ecosystem approach to the sustainable development of European Regional Seas. This involves not only specific data and information on Regional Seas but also the analysis of concepts from different scientific perspectives in the policy context of MSFD and with reference to the IMP.

Social sciences are part of KNOWSEAS project and contribute to the development of a conceptual model and methodological framework for the assessment of multilevel governance. The implementation of the MSFD by Members States and the definition of Good Environmental Status of regional seas require harmonisation of national legislations and the coordination of their action. The governance of regional seas calls for new interactions between national institutions, between transnational institutions and with international institutions. Governing of regional sea must be rational and this means verifiable facts and data, logical choice of instruments and actions routes. (Kooiman et al., *Fish for Life, Interactive Governance for Fisheries*, Amsterdam University Press, 2005)

Each institution and all actors involved in this process have their own image (goal, opinions, visions, norms and values) and the question is how all of them will form a collective image by sharing or recognising the differences. The formation of collective image needs communication and action between institutions. The use of comprehensive language and vocabulary is important for the understanding between institutions. Governors, in this case States,

should choose instruments for the implementation of maritime policies. All policy choices have a moral dimension and thus have to do with values. For example the “goodness” to which the GES concept refers is not a property that is intrinsic to nature but an extension of our human value system indicating an involvement of value judgement into the decision on GES of Regional seas. Actions undertaken by governors can also create conflicts between institutions or among stakeholders (users, civil society, etc) that may relate either to interests or values.

Knowseas project aims at establishing a methodological framework to establish governance profiles from regional to local levels in the different regional seas in relation to the implementation of the MSFD and other EU maritime policies. Three papers will be presented at this session covering different geographical levels:

4.13 coastal communities.

chair: tony charles

Movie Premiere:

Coastal Communities, ‘Integrated Management’ and Participatory Coastal Governance

Anthony Charles
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This Panel features the European premiere of the film “*Stories of the Sand, Sea, and Rivers: Communities, Coasts and Partnerships*”, produced by the Coastal Community-University Research Alliance (Coastal CURA: www.coastalcura.ca). The 30-minute film documents the inspiring efforts of communities and fisher organizations across the Canadian Maritimes to engage in grass-roots coastal stewardship, to secure their livelihoods, and to promote participatory co-management of coastal areas. The film also addresses the barriers faced by such communities to local-level empowerment, notably a lack of legal and policy space, and contrary policies at multiple levels. In addition, the session will include a report on and assessment of outcomes and insights from the recent international conference *People in Places: Communities Engaging in Integrated Resource Management*. That meeting, which took place in June 2011, brought together community, academic and governmental voices to explore past successes in, and current challenges facing, effective and equitable involvement of coastal communities in coastal governance.

4.8 challenges of ICZM. *chair: ratana cheungpagdee*

Cognitive-Cultural Dimension of Institution: Discovering What's Taken for Granted in Fisheries

Andrew Song and Ratana Chuenpagdee*

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Institution is an analytical concept frequently mentioned in fisheries management literature. In light of recent interests in exploring a broader theoretical understanding of the concept, this paper first revisits how institutional thinking has been mainly employed in fisheries narrowly as rules and norms closely associated with common property theory and its subsequent fisheries policy implications involving the enclosure of the ocean. Drawing upon wider views of institution originating in sociology and political science, a broader conception of institutions that also emphasizes a cognitive-cultural aspect is elaborated together with what this expansion of institutional thinking means in fisheries. It is argued that many salient management issues and science-to-policy dilemmas of fisheries, such as the debate on the state of the world's fisheries, can be alternately explained in terms of the cognition/culture-based constraints that affect people's choices, constituting certain thoughts and practices as a taken-for-granted social reality.

Linking Maritime Spatial Planning and Integrated Coastal Zone Management to improve the sea-land interface management: the French and Belgian experiences.

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Since Integrated Coastal Zone Management (ICZM) faces a major obstacle in integrating sea spaces, Maritime Spatial Planning (MSP) appears as a complementary approach which can bring the seaward perspective to the contemporary political agenda. The interest to link those two management approaches to improve the sea land interface management has been highlighted by the EU. However, the way to proceed remains mostly to be explored. Both France and Belgium developed their own processes to deal with this challenge. Based on their experiences, we will show how the two States can combine ICZM and MSP according to their specific geographic and institutional contexts. We will demonstrate that different ways to link both approaches do exist and leave room for both states to implement it according to their own method.

Science Education and Outreach to Increase Public Understanding of Coasts and Oceans

Eileen Van der Flier-Keller

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We care for and look after what we know and understand. Therefore, an improvement in public awareness of the science of our coasts and oceans should lead to greater connection with, and desire to protect and carefully manage, the planet's oceans. This paper examines a variety of collaborative initiatives in Canada which engage the public, and particularly school aged children and their teachers, in learning about the oceans. Key elements of these education and outreach initiatives include establishing relevance to students and their lives, hands-on or web-based activities and educational resources that are grounded in constructivist pedagogy, where possible a place-based or field approach, links with popular media, teacher professional development, and integration with the grade school curriculum.

5.5 fisher wellbeing. *chair: paul onyango*

Visualising Invisible Possibilities of Poverty Alleviation in Lake Victoria (Tanzania) Fisher Communities

Paul O. Onyango

Norwegian College of Fisheries Science, University of Tromsø, Norway
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This paper discusses the process that was taken in making a video on invisible presences from poor fishing communities in Lake Victoria Tanzania. The paper argues that poverty is a pervasive issue but it has been confined to certain areas we refer to as visible absences and has excluded other areas we refer to as invisible presences. The visible absences are those things that when you walk into a poor fisher community you cannot avoid seeing their absence. On the other hand the invisible presences are what the poor communities have but are not obviously visible. These appear to be the lifeline of the poor communities where all activities and behaviour are pegged. They appear to be the basis upon which poor communities generate meaning for life, ground, establish and operate their institutions and power system. The paper will therefore discuss challenges involved in capturing and visualising such invisible presences.

Navigating through heavy waves to managed access in the fisheries: Challenges in Ghana

Mark Fenn

USAID/Coastal Resources Center of Rhode Island University's *Hen Mpoano*
(Integrated coastal and fisheries governance-ICFG)
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Marine fisheries have long been a pillar of Ghana's economy. Catching, smoking, and distributing fish has been the major source of livelihoods in the shorefront communities. The wealth of protein provided by the fisheries has for centuries been critical to the diet and food security of Ghanaians, and to populations of neighbouring countries far inland in West Africa.

Today, Ghana's fisheries are in a crisis. The major stocks are overfished and many scientists fear the imminent collapse of critically important stocks as the efforts expended to harvest fish are spiralling upwards as competition among three distinct fleets intensifies and rules designed to protect the resource are flagrantly ignored.

This paper looks at the evolution of fisheries management in Ghana leading to the current crisis and discusses the challenges and opportunities for moving from open to managed access in this critical sector.

Fishing for what? Understanding fisher decision-making in southwest England

Kirsten E Abernethy

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To be effective, a fisher needs to make decisions based on experience and knowledge of the distribution of resources and potential competitors, against a backdrop of opportunities, constraints and hazards. We examine the strategic behaviour of skippers in southwest England, including the economic, psychological, cultural and social determinants of individual decision-making. A new framework for analysis is developed, drawing on the strategic management literature to define four strategic archetypes. This framework enables the integration of fishers' strategic choices with their individual characteristics, to explain what shapes their choice of where, when and how to fish, and why some fishers continue to exist while others don't. This approach encompasses previous and current thinking on how to define people's behavioural strategies. The ethics and implications of understanding the strategic archetypes of fishers are discussed for understanding fisher adaptation to changing conditions, integrating fisher behavior into management, and what society wants fisheries to look like in the UK.

panel sessions, series nine. .

09.00-10.30, saturday

4.14 critical perspectives on management. *chair: jan van tatenhove*

Periodic Harvesting in Solomon Islands; Securing Fisheries for the Future?

Philippa J Cohen, PhD Candidate

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Traditional marine area closures ('taboos') have long been practiced in the Pacific for a variety of cultural reasons including the death of community leaders and to protect sacred sites. The use of traditional taboos has declined, but contemporary initiatives to establish community-based management of marine areas promote their reinvention as closed areas of reef, subjected to periodic harvesting. In the Pacific, taboo area closures are a prominent feature of many community-based initiatives and are touted as being a successful traditionally-based measure for marine management. However, there is little evidence that such periodic closures will sustainably manage fisheries for a range of exploited taxa. At 5 sites in Solomon Islands I explore the social drivers and durations of area openings and the intensity and types of fishing permitted. I contrast primary data on exploitation with estimates of taxa-specific population recovery, alongside demographic projections, to assess implications of periodic harvesting for fisheries management.

"Steaming the Tides: A Political Ecology of the Canso Causeway, Its Ecosystem, and Fisheries Livelihood Impacts"

Ms. Lora O'Halloran

Research Assistant, Local Ecological Knowledge Research Program, Drs. Anthony Davis (Mount Saint Vincent University) and Alida Bundy (Fisheries and Oceans Canada), Co-Principal Investigators; and MA candidate, Social Anthropology; Dalhousie University; Halifax, Nova Scotia, Canada
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Addressing the strained relationship between fishing, development and policy, this paper investigates the fisheries and other impacts of Nova Scotia's Canso Causeway. Completed in 1955, the Causeway amounts to a fixed barrier spanning the Strait of Canso. Its construction radically transformed the ecological landscape and dynamics of the Strait and the bays it links. Marine harvesters insist that the Causeway has negatively impacted their fisheries,

causing detrimental ecological and economic outcomes. In this presentation I review the background to the Causeway's construction from the perspectives of government actors and business interests. I also present results from marine harvester interview data collected from 11 peer-recommended local ecological knowledge experts. Here I explore knowledge claims of ecosystem and livelihood impacts. I argue that their claims constitute important challenges to the province's assumptions about its development framework, raising critical issues concerning the political ecology of economic development.

Management – a threat to endangered species? A study of the Swedish management of European eel

Lena Gipperth & Henrik Svedäng

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The European eel (*Anguilla Anguilla*) stock is dangerously close to collapse (ICES 2008). In 2007 EU decided on a regulation (EC No 1100/2007) demanding all member states to prepare an Eel Management Plan with the objective to reduce anthropogenic mortalities so as to permit the escapement to the sea of at least 40 % of the silver eel biomass relative to the best estimate of escapement that would have existed without anthropogenic influence. This paper presents an analysis of the outcome of the Swedish Eel Management Plan and discusses reasons for implementation deficits in its ability to protect the endangered eel. The paper analyse the scientific base for assessing the effect of different measures, costs and benefits of measures as well as the possibility to legally implement the objective and enforce measures. The conclusions brings up a question about the benefits of the management from an eel perspective – would it not be better off without the management plan?

4.9 rights based approaches to fisheries management.

chair: anthony charles; tony.charles@smu.ca

Small-Scale Fisheries: On Rights, Trade and Subsidies

Anthony Charles

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This paper explores, in a preliminary manner, the interaction between, on the one hand, current debates over the nature and interaction of 'rights' within small-scale fisheries, and on the other hand, the relation of these fisheries to global trade, subsidies and food sovereignty. Specifically, the paper highlights (a) the applicability of linkages between fishing rights and human rights to discussions of the post-harvest sector (notably aspects of markets and trade), and (b) how these rights, together with Millennium Development Goals and food sovereignty initiatives, can inform global trade negotiations and fishery subsidy reform.

Honest Brokers or Stealth Issue Advocates? The Role of Economics in Fisheries Policy.

Seth Macinko

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This paper examines the role of fisheries economics and economists in fisheries policy from a framework adopted from Pielke's "The Honest Broker: Making Sense of Policy and Politics." Specifically, the role of economists in advancing so-called rights-based fishing, especially in the form of ITQs, is examined. A key point of analysis is whether the conventional economic advice results in increased or decreased policy options. Increasing options is associated with the honest brokering of policy advice whereas decreasing options is associated with, often hidden, issue advocacy. Implications for the role of science and scientists in the policy process hinge on this distinction.

The Tragedy of Enclosure. The Battle for Maritime Resources and Life-Modes: Contradictory cultural processes in a European local community context.

Professor Thomas Højrup

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To avoid the negative consequences of the privatization of catch quotas in 2006 the fishing community of Thorupstrand in Northern Jutland, Denmark, formed a common quota company including the crew fishers, and the company invested in sufficient quotas in a common pool to ensure the future fishing rights of the community – and to keep out outside investors trying to take over the quotas.

This example shows that on the basis of the share system and its culture, it is possible to build a common pool of quota rights attached to a single community and ensuring the community a share in the resource and provide fishers an interest in conserving this resource for future generations – legally as well as biologically.

But this experiment also reveals that the rapid rise in quota prices weighed down the community company with a vast debt, making it vulnerable to external factors such as the financial crisis and a generally low price of fish in Europe.

5.6 wellbeing I. *chair: derek johnson*

Bringing the Insights of Wellbeing to Bear on the Complex Challenge of Governing Small-Scale Fisheries

Derek Johnson, Edward H. Allison, Derek Armitage, Christophe Béné, Tony Charles, Ratana Chuenpagdee, Sarah Coulthard, Grant Murray, Ian Perry, and Nireka Weeratunge*

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This paper introduces the two associated panels on wellbeing and small-scale fisheries governance. It provides institutional and conceptual background to the *Governing Small-scale Fisheries for Wellbeing and Resilience* project that produced most of the papers in the two panels before highlighting the broad connecting themes that are taking shape from the collaborative work. It concludes with a reflection on the significance of the work and emerging ideas on how to take it forward.

Through the Well-Being Looking Glass: The Relevance of Well-Being Concepts to Small-Scale Fisheries

Nireka Weeratunge, Chris Bene, Rapti Siriwardane, Derek Johnson, Anthony Charles, Prateep Nayak, Marie-Caroline Badjeck*

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Considered as a notoriously slippery concept by its critics and the all-encompassing substance and goal of development by its advocates, well-being is a contested terrain. This paper will provide a broad overview of the different schools of thought and research clusters influential in shaping current thinking and practice on well-being, as well as key conceptual and methodological differences among these different interpretations of well-being. The well-being lens will be used to critically review a global body of literature discussing the social, economic and political dimensions of small-scale fishing communities. This review will attempt to understand the relevance and value addition of using well-being concepts in clarifying issues of gender, livelihoods, poverty, vulnerability, social capital, capabilities and identities in small-scale fisheries. While the theoretical debates on well-being are extensive, this paper poses the question of the extent to which a well-being approach could be useful to unravel complex social and economic dynamics within the context of small-scale fisheries governance.

Application of a Wellbeing Framework to Analyse Sustainability Trade-offs: Insights from a Fisheries Context

*Sarah Coulthard**, *Christophe Béné*, *Anthony Charles*, *Derek Armitage*, and *Allister McGregor*

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Conflicts between the social, economic and environmental goals of sustainability remain unresolved and create a barrier to achieving effective policies for sustainable resource use. These conflicts are fed by persistent assumptions about the nature of social development goals, and the dominant paradigm that economic growth (a frequent driver of over-consumption and environmental harm) is pre-requisite for poverty alleviation. Drawing from recent debates around social wellbeing, as a richer measure of development progress, we challenge these assumptions and query how doing so might enable a re-imagination of current contradictions within sustainable development. The paper starts by asserting the need for a deeper understanding of the neglected 'social' component of sustainable development, and the ways in which it relates to economic and environmental dimensions. We argue that the concept of social wellbeing may provide a more sophisticated approach to unpack the 'social' component of sustainability and the ways in which conflicts and trade-offs can be understood. We present a wellbeing framework to analyse some key trade offs between sustainability goals, and apply it to the context of fisheries, using 3 case study examples.

Fishing as an Undesired 'Way of Life': Governance Implications in Coastal Uruguay and Southeastern Brazil

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In Piriápolis (Uruguay) and Paraty (Brazil), as elsewhere, artisanal fishers view fishing as a "way of life", highlighting its flexibility and proximity to nature. However, for a variety of reasons fishers from both study sites identify fishing as an undesirable occupation for their children. In Paraty, despite a long history, fishing is increasingly being replaced by tourism, which fishers see as having several advantages. In Piriápolis, nevertheless, young and old fishers want to keep fishing. Given that children's wellbeing is a key component of fishers' wellbeing in both areas, in this paper we analyze the governance implications that this scenario may have, in contexts where participation is being promoted by the state. Since fishers do not want their children to work in the fishery, how interested might they be in participating in government initiatives for fisheries governance?

panel sessions, series ten. .

11.00-12.30, saturday

2.8 fisher strategies.

chair: alpina begossi

Blurred boundaries: livelihoods, informality and compliance in small-scale fisheries

Denis Hellebrandt

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Fisherfolk livelihoods require the negotiation of complex, often contradictory, values. Ways of living under such uncertainty are made possible through informal relationships, which are not sanctioned by formal institutions and may challenge formal rules. Moreover, informality is not only a response to absent or ineffective norms, but also the product of formal institutions, including those regarded as well established and effective. This argument is supported by empirical research carried out in estuarine fisheries in Southern Brazil between 2006 and 2008. Quantitative and qualitative methods were used to explore patron-client relations and non-compliance to regulations in urban and rural settings. The findings demonstrate how formal and informal relationships were closely entwined in the livelihoods of fisherfolk, and informality led to both increase and decrease in their vulnerability. A focus on understanding the boundaries between formal and informal could make fisheries governance better able to tackle issues of social justice and sustainability

Is There a Recruitment Problem in the Norwegian Fishing Fleet?

Signe A. Sønvisen

Norwegian College of Fishery Science, Norway.

Since the 1960s the Norwegian fishing fleet has become highly technological and extremely efficient. In addition, the majority of the fisheries have been closed and there are fewer active vessels. Thus, as there less room for fishers, we could expect an excess of labour and unemployment. It is therefore a paradox that a large number of actors in the fisheries sector are claiming recruitment to the fleet to be the main future challenge in the Norwegian fisheries. These claims are even more puzzling as we find that over 70% of vessel owners have not experience recruitment problems. This leaves us with a few questions: what do we mean with recruitment? And are the actors talking about the same phenomena? If not, what does recruitment mean to the various actors? And what implications does the various interpretation of recruitment have?

Fishers' strategies: A missing link between fish harvesting and fisheries policy in Ireland

Hind, Edward; Martin, Emma

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Fishers have an extensive knowledge of their lifeworlds, consisting of information about ecology, fishing operations, socio-economics, management and policy. Skippers process these interlinking types of information to formulate strategies that help them and their crew to operate as efficiently as possible within a fishery. However, these strategies are rarely discovered by the fisheries scientists and managers who drive fisheries policy. Therefore, policies that seem ecologically prudent are often compromised because they do not allow a skipper to carry out their fishing strategy. In some Irish cases this has meant fishers having to switch to strategies that are less efficient and which often involve fishing in a less environmentally sustainable manner. This study has used novel methods to discover the strategies of Irish fishers. Results show that by giving more consideration to these strategies, new fishing policies could be formulated which reduce fishing effort whilst allowing more fishers to operate profitably.

4.15 roundtable discussion.
chair: stephen jay

“Research directions for marine spatial planning”

5.7 wellbeing II. *chair: edward allison*

Examining the Contributions of Resilience and Wellbeing to Fisheries Governance

Derek Armitage, Edward Allison, Christophe Béné, Anthony Charles, Ratana Chuenpagdee, Sarah Coulthard, Derek Johnson, Grant Murray, Ian Perry*
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The paper examines the interplay and potential contributions of resilience and wellbeing concepts in fostering a social-ecological perspective that can be translated into fisheries governance and policy action. While resilience and wellbeing concepts have important differences (as reflected in their different conceptual starting points), they also intersect in ways that are crucial to better understand and apply a social-ecological perspective in a fisheries context. We examine several key points of interplay and their implications: 1) the challenge to optimality inherent in both concepts; 2) the different explanations of change and links between social and ecological systems generated by wellbeing and resilience perspectives; 3) the potential of wellbeing to illustrate the central role of values and to provide the normative context for resilience thinking; 4) the different but productive ways scale can be considered through social and ecological frames; 5) the insights on “controlling variables” provided by both a wellbeing and resilience perspective; and 6) the implications for integrated thinking about thresholds and boundaries. In this regard, the limitations of wellbeing are also examined. Our synthesis is exploratory and we seek to add value to current debates about fisheries governance, rather than propose an alternative framework.

Integrating Frameworks for Fisheries Governance: A Value-added Product

Ratana Chuenpagdee, Anthony Charles, and Derek Johnson*
Department of Geography, Memorial University, Canada

In marketing, a value-added product is created for competitive advantage by bundling, combining or packaging some features and benefits that enhance customer appreciation. Integrating existing frameworks like wellbeing, resilience, gender, and others to address policy questions and governance challenges related to small-scale fisheries is a way to create a value-added product. We see this as a positive contribution to fisheries discourse, especially in the climate where accusation of myths and fallacies in scientific research is fashionable. Using a matrix-based approach, we analyze what and how the different frameworks bring to the understanding of issues faced in fisheries governance, including governance failures. A list of criteria will be developed to assess the value-added contribution of these frameworks, exemplifying their main strengths. The actual assessment of these frameworks will be conducted using consultative process with expert judgment.

The final product is a guide for practitioners, managers and policy makers interested in creating their own bundle of frameworks, and their associated principles and tools, to effectively deal with their specific governance problems.

Using a Well-Being Lens to Evaluate Fishery Instruments

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Fisheries governance draws upon a large portfolio of available management instruments, often grouped into five main categories: input-oriented (e.g., territorial and access limitations, effort and gear measures), output-oriented (i.e., catch limits), technical measures (e.g., closed areas or seasons), ecosystem-oriented (notably marine protected areas), and economics-focused (e.g., market based measures and subsidies). There are also various 'approaches' to management – robust, adaptive, ecosystem-based, community-based, rights-based (use rights and management rights), market-based, and/or integrated management. Each of these instruments and approaches has its benefits and costs; assessing their relative value in a given fishery requires a broad-based perspective, one that goes beyond 'efficiency'. The concept of well-being provides this breadth, and the present paper explores the degree to which adoption of well-being perspectives in fisheries governance can inform implementation of specific fisheries management instruments. As each instrument impacts on well-being and resilience, it is crucial to assess comparatively the full extent of the impacts and to develop implementation strategies that maximize the net positive impacts. To this end, we examine (a) the key issues, and 'missing ingredients' with respect to key fishery instruments, from a well-being perspective, and (b) specific policy and management linkages to each of Material, Relational and Subjective well-being.

Wealth and Welfare: The Cyclic Flux of Northern Ireland Fisheries

Easkey Britton
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This paper explores the apparent contradiction of wealth-based fisheries and welfare-based fisheries driven by wellbeing needs (Béné 2010). Following from Béné's paper (2003) which has carried thought forward on the topic of poverty in fisheries and recent challenge by Bavinck (in progress) suggesting that fisheries should in fact rhyme with wealth, the paper argues that fisheries, in a Northern Ireland context, waxes and wanes in a cyclic flux through periods of wealth and poverty. This paper considers the 1970s and 1980s 'boom' period which attracted an influx of youth into the industry and the decline of the last decade with an exodus of youth leaving the industry to find work elsewhere (Tingley 2006, Brown 2008). The paper investigates what motivates fisher behaviour using a wellbeing approach and examines the

impacts of this flux between wealth-based and welfare-based fisheries on the identity of fishing households. From preliminary investigations the paper will present empirical data on how well-being tradeoffs are negotiated within fishing households, what influences and motivates fisher behaviour and the shifting wellbeing aspirations of those who 'weather the storm' and those who 'hang up their nets.'

Panel sessions					
	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Panel sessions 1 Wednesday 13.30-15.00	1.1 Resilience	2.1 Stakeholder knowledge		4.1 Science-policy interface	2.9 Scientific practises
Panel sessions 2 Wednesday 15.30-17.00	1.2 History and community	2.2 Stakeholder participation I	3.1 Reincorporating the excluded I	4.2 Ecosystem approaches to coastal governance	2.10 Building with nature
Panel sessions 3 Thursday 09.00-10.30	1.3 Deviance I	2.3 Fisheries Policy	3.2 Reincorporating the excluded II	4.3 Spatial planning Europe I	
Panel sessions 4 Thursday 13.30-15.00	1.4 Deviance II	2.4 Ocean governance	3.3 South African fisher's rights	4.4 Spatial planning Europe II	5.1 Small scale fisheries, history and social science
Panel sessions 5 Thursday 15.30-17.00	1.5 Coastal communities		4.10 Tuna in the Coral Triangle	4.5 Spatial planning Europe III	5.2 Perspectives on fishery agreements
Panel sessions 6 Friday 11.00-12.30	1.6 Tourism	2.5 Images and governance	4.11 Broadening perspectives for MPA's I	4.6 Management challenges of large and small MPA's	5.3 Value chain governance I
Panel sessions 7 Friday 13.30-15.00		2.6 Regionalisation of the CFP	4.12 Broadening perspectives for MPA's II	4.7 Social benefits of fisheries management	5.4 Value chain governance II
Panel sessions 8 Friday 15.30-17.00	1.7 Recreational activities	2.7 MSFD and regional Seas governance in Europe	4.13 Coastal communities	4.8 Challenges of ICZM	5.5 Fisher wellbeing
Panel sessions 9 Saturday 09.00-10.30			4.14 Critical perspectives on Management	4.9 Rights based approaches to fisheries management	5.6 Wellbeing I
Panel sessions 10 Saturday 11.00-12.30		2.8 Fisher strategies	4.15 Roundtable Research Directions for Marine Spatial Planning		5.7 Wellbeing II