

Post Conference Report **South West Marine Natural Capital Conference 2017**

11th July 2017 – Exeter Racecourse



Organised by the Devon Maritime Forum

in partnership with

SWEEP, North Devon Marine Pioneer & WWF- UK SEAS

ANNEX A Reflections on Natural Capital Approach

<u>What was particularly interesting to you?</u>	<u>How can the Natural Capital Approach be implemented in the South West?</u>
Natural Capital Approach	
<ul style="list-style-type: none"> • Examples Tony gave put natural capital in context • How approach will be operationalised • Common sense • Empty tiger, going on anyway? • Winners/losers and arguments to help explain wider need. • Natural capital doesn't mean anything but people understand the concept. • May have power – natural capital paradigm – vehicle to move forward • Area of concern – we need a different view – new way of looking at things • Complex topic and application • Old way rational, logical scientific not set within the cultural context.... interface with social capital • Irritation 'new concept' - this way of thinking has been around for a long time. • Need to include looking at cryosphere in this too, as this is fundamental to climate change • Changing terminology to describe the same – linked to policy/government priority – risk of short termism • It is about making a choice • New ways of looking at something that we've known for a long time • High level support for natural capital • Is this really new? Isn't it obvious? • This concept has been around a while • If you have a resilient natural environment it saves money 	<ul style="list-style-type: none"> • Good engagement with Pioneer • Already lots of ideas through SWEEP • Need to think about scale – need to have large scale approaches as well as smaller scale (wheels on beam trawlers) • Use natural capital to determine trends • Use a simple example to clarify natural capital approach • Using existing activity and knowledge to continue Natural Capital Approach • Don't like the term natural <u>capital</u> – suggests it's a 'spendable' quantity
Natural capital and ecosystems services	
<ul style="list-style-type: none"> • Ecosystems services concept →wider issues to quantify • Clarity about ecosystems and natural capital • It's there but needs to be factored in – slide very relevant • How improving ecosystem can impact 	<ul style="list-style-type: none"> • Ecosystems have a value in SW
Marine natural capital	
<ul style="list-style-type: none"> • Much harder to apply natural capital in marine – bigger environment – useful concept but difficult to apply in marine. 	<ul style="list-style-type: none"> • Make marine environment more visible – make people more aware • MCZ uproar didn't exist. Fishermen see it

<u>What was particularly interesting to you?</u>	<u>How can the Natural Capital Approach be implemented in the South West?</u>
<ul style="list-style-type: none"> • Marine environment is hidden common 	<p>because they are gaining from spillover.</p> <ul style="list-style-type: none"> • Change the language to persuade the mussel farms → bass sprat fishing • Sustainable fisheries are key focus for natural capital approaches. • CWT: restaurants/fish processors really want to buy and promote BUT fishermen don't see the benefit. How do we value the more sustainable vs less sustainable? Communicate, value, acceptance of the full circle • Increasing number of marine ambassadors • Marine Conservation Zones - planning take place now • Dawlish – marine protection and stability – sand engine solution
Terrestrial natural capital	
<ul style="list-style-type: none"> • Top soil loss • Brexit means agricultural systems go back to what they were - concern that dairy relies on maize production (which is very intense and has lots of soil run off) → underpins so much • Lots of terrestrial examples • Terrestrial values all about 'landscape' 	<ul style="list-style-type: none"> • Trade-offs – trees vs value as timber
Land - sea interface	
<ul style="list-style-type: none"> • Numbers – money for marine restoration, more money in terrestrial – agriculture • Overall view – integration between land and sea • Importance of interactions - land/coast/sea • Marine/land intersection – the connects between them • Interesting demo upstream strategies. • Satellite images of coast shows links • Don't separate fresh and marine waters • Geological underpinning – consistently ignored/ not referred to • Limited geological involvement in conservation 	<ul style="list-style-type: none"> • Terrestrial and marine systems – good opportunity to link up in N. Devon • Rivers to coast catchment approach – integration • Upstream thinking seems particularly fitting here (in SW) • Severn Vision project – looked at Severn Estuary to shore land around estuary can become a natural asset. • Don't separate marine/freshwater – location convenient but doesn't make sense ecologically. This should have been done in Marine Spatial Plan, but limited success • Need to tackle source of silt in rivers but still a backlog of remediation needs (dredging)
Natural capital accounting	
<ul style="list-style-type: none"> • Capital = wealth and this makes us monetise assets – a cold and callous situation • Difficult to place a value on something that has gone - but difficult to find an alternative to money • Doesn't take into account long term benefits 	<ul style="list-style-type: none"> • Are you eroding the assets you've valued? Are you investing more in it, i.e. promoting the other capital (car parks, etc.) so people can use it? • Money as the comparator – but you don't have to refer to monetary 'value' – don't always need

<u>What was particularly interesting to you?</u>	<u>How can the Natural Capital Approach be implemented in the South West?</u>
<ul style="list-style-type: none"> • Uncertainty can lead to high values • Whoever leads valuation has bias • Hard to find consensus • At least monetisation gives us something tangible – common unit of comparison • This approach forces you to take value into account • Concerns over giving monetary values to intrinsic values • Friction between economic vs environment/ social – interested to learn more • Marine natural capital is complex to value • Interesting about cultural value having no ‘score’ • Liked bank account analogy • Renewable vs non-renewable resource • Banks have to undergo a stress test, similar for managing natural capital? Threshold below which we should go - data deficiency? We can do better than the banks • Capital vs resource • Invest? Should they value the trust’s assets? How do you apply it? What do you do when you’ve quantified the assets? • Torbay has valued trees re: flooding, economic uplift of properties but don’t know what to do with it. • Sea and landscape consistency • Concerned about economic argument • Not about accountancy it’s about the value of the asset. • Economic value (assigned) difficult • How you value - direct and indirect benefits • Analogy of environmental debt 	<p>£ value as a way to compare and talk about natural capital</p> <ul style="list-style-type: none"> • Naïve not to convert it into ‘money’ though • What about something like ‘health and wellbeing’ • Difficult to value • Valuation needs to be appropriately applied
Decision making/policy	
<ul style="list-style-type: none"> • Maintaining and enhancing natural capital does not fit into decision making at project level • Policy story • How will national, regional and local values/management practices be integrated • Timeframe of policy implementation • Happening at highest level is a <u>real</u> positive • Encouraging/worrying that the government are on-board – starting to think in a joined-up way • Example – Somerset levels wanted to look at dredging channels but didn’t look upstream • Encouraging treasury to be on-board • How can we get to the 25 Year Environment Plan? – a big opportunity – this should change things • Obstacles – general public – parish councils/town councils/ local government. 	<ul style="list-style-type: none"> • Environment Agency is using natural capital approach but not much guidance – would be really useful if this could be developed. • Decision making – how far can you go? Dependent on vested interest, lack of political will - barriers such as funding. Legal policy framework - flexibility? • How to inform planning • Opportunity to review subsidies for fisheries/farming • Improving communications/connections • Inclusive of land and marine planning • Connectivity between policy makers and academic and local government bodies • Adoption of natural flood risk management – shift in thinking • Planning decisions – extent considered

<u>What was particularly interesting to you?</u>	<u>How can the Natural Capital Approach be implemented in the South West?</u>
Growth seems to override nature	
Communication/engagement	
<ul style="list-style-type: none"> • Common sense approach – public resistance – vested interest • Academia over complicates and segregates • Education – linking knowledge – shared understanding • Having a ‘story’ • Social/governmental/environmental approach and communications between all three • Education engagement required • Scale down and make it relevant to them • Language between sectors – interpretation • Real challenge – rolling idea out nationally and getting public to understand marine aspect 	<ul style="list-style-type: none"> • Social – learning South West – shared understanding, speaking the same language. • Changing elitist perception - increased stakeholder engagement – anchoring surveys. • The press are problem – whinging fishermen or farmers make better TV (eg. MCZs/ ghost fishing) • <u>Communication</u> and <u>education</u> – promote good news, use the right language. • Stakeholder meetings – engagement • Clear message • Those who profit may have a louder voice (e.g., fish discards, waste processing) • To get it into reports and get it out to clients and stakeholders • Everything very isolated – how to get organisations to work together • Find the right people to go and communicate • Communication/engaging the public is crucial • Getting people involved – educate to engage – increase value help to increase natural capital • Pick places where people will most understand it.
Commercial/business/tourism	
<ul style="list-style-type: none"> • The Thatchers Cider investments • Examples –Thatchers – bottom up holistic approach – whole system • Our water is expensive here £5 per m³ €75 in Milan – most expensive in Europe due to cost of treating water due to sewage • Your water bill and people knowing its connection to bogs • Thatchers MD interesting – based on intuition • Work and leisure • Open door to insurance/pension funds (Actuarial approach – putting value on things) links from this approach to pensions 	<ul style="list-style-type: none"> • National marine park – Plymouth (university and National Marine Aquarium) at centre! • Businesses are good at realising assets • Pick key economic sectors – tourism, fishing, farming, water and build partnerships • Natural capital of business – what are my business ecosystem services – attract investors • SW tourism benefits and marine • SW water bill needs breakdown of expenditure to make drinking water • More examples of partnerships e.g. South West Water and Devon Wildlife Trust offsetting • Scale of approach more impact – e.g. chamber of commerce • Value of view in SW
Partnership working	
	<ul style="list-style-type: none"> • Work with overarching body, e.g. Environment Agency to span areas/districts, etc • NT project – outdoors and nature → work with farmers to de-intensify farming → can lead to less yield

<u>What was particularly interesting to you?</u>	<u>How can the Natural Capital Approach be implemented in the South West?</u>
	<ul style="list-style-type: none"> • A system of low costs and benefits are shared out
Other	
<ul style="list-style-type: none"> • Restoration limited by money available • Project money is time limited 	<ul style="list-style-type: none"> • Public respond to crisis e.g. flood events • Vulnerable people

ANNEX B - Questions for speakers

Notes prepared by Sarah Young (WWF)

(Names in upper case indicate to whom the question was directed)

Dissemination / timescales

- How will you ensure that findings from pilot areas will be more widely shared rapidly? Will there be interim outputs for other areas to use quickly? 5 years is too long to wait. – SWEEP
- How will projects coordinate their output dissemination? Is there a programme of dissemination (updates / drafts / interim reports)?
- How will you ensure on-going integration of 3 projects i.e. communication of results outputs / delivery / alignment of tools/toolkits? – ALL
- What are the timescales of these projects?
- How will the UKSEAS and Marine Pioneer projects run for? – JENNY / CHRISSIE
- Could you comment on the project timescales, deliverable outputs and evaluation? – ALL

Legacy

- What is it and who will use /adopt it going forward?
- What are you doing to ensure national commitment to on-going support and financial investment in these initiatives after they finish?
- Is this phase 1 of an extended endeavour? Will it stop in 5 years or is it part on an on-going framework? Project funding is project funding and very short-termism.

Scaling up

- Will the management tools for fishing be scaled up to relevant larger fishing communities e.g. Plymouth, Brixham, Newlyn? – ALL (SWEEP)
- How will outputs of the Pioneer projects be scaled up so there are more relevant nationally? – MEL
- How do we take what we learn in North Devon and integrate this to a National (etc.) level (specifically fisheries sector) - ALL

Boundaries

- How are you going to deal with the land/sea boundary and also Welsh waters?
- How will projects become integrated and maximise the research done? (marine versus land) (UKSEAS & ND Biodiversity) – ALL
- Would you be able to define the marine and land based differences and how this will be overcome? (finance and policy) i.e. the constraints and challenges versus the aspirations – CHRISSIE
- Why North Devon Biosphere Reserve when they are fisheries poor? How are you engaging with fishers?

Communications

- How do we communicate the Natural Capital Approach to wider stakeholders (public?) – Mel/Martin
- Also, how are you going to increase the public awareness and understanding of the projects and the natural capital valuation concept? – ALL
- How are you going to increase the public awareness and understanding of these projects? – ALL

Natural Capital

- How does Natural Capital Approach differ from life cycle analysis and how would I as a business implement this? - MEL

Outcomes

- How will these projects help us make choices between conflicting options for management? – ALL

- Are there any targets built into the projects in terms of biodiversity outcomes? Carbon / soil?
- How will projects quantify their results / outputs? - ALL

Data

- Why is SWEEP relying on existing evidence – isn't that a major limitation?
- Do we have all the data we need on marine biodiversity / MPAs - ALL
- How will assets with low / small evidence base be considered and valued within these projects? E.g.
- How do you value/prioritise well-being? – ALL
- How are the projects taking into account natural contamination? – SWEEP/ALL

Methods

- Heard a lot about the environment and the economy but the social aspects of the projects seems missing. NC has big social implications, what for example are you going to be doing on social values (as distinct from £ values)? - ALL
- What are the challenges of going from the vision to implementation in 3 years (££?) – CHRISSIE
- How do you move from aspiration to implementation? – ALL
- What are the downsides of the Natural Capital Approach? How will these shortcomings be acknowledged in the projects?
- What are these 'tool kits' and what are they testing?
- Geological and geomorphological systems underpin ALL ecosystems – so why do all speakers appear to be ignoring this fundamental aspect of the natural environment – ALL
- Would the projects have different requirements if based near larger populations – ALL
- What are the links between these projects and MPAs?
- Is there room for biodiversity enhancement? – CHRISSIE
- How does the MPA focus fit within the wider landscape? - JENNY

Financing

- What examples of sustainable finance does the UKSEAS Project have of innovative finance? – JENNY
- What are examples of sustainable funding? – ALL / JENNY
- How does natural capital relate to sustainable financing? - JENNY

Our Learning

- Are the projects looking back on lessons already learned and taking current planning / good practice into account? E.g. degree of integration or overlap with river basin management plans / MMO planning? All/JENNY
- How are projects taking account of evidence from Landscape and Seascape Character Assessment? – ALL

Engagement

- What are the mechanisms of engagement? – JENNY
- How do these projects intend to engage private (unwilling local beneficiaries) not just public bodies? – ALL
- How does MMO link with all organisations? – ALL
- How are the projects going to engage with the various sectors (fishermen, farmers and tourism)? All three are very diverse? – ALL
- Are you going to be using volunteers? Semi-retired people have expertise and are a good asset.
- Informing, communicating-with and making-aware-of are not engagement.
- How will you roll out with different stakeholders (different histories and positions) - JENNY

Coordination

- How will you manage the overlap between the projects? Especially the engagement with local people?
- A lot of talk about innovation, but this sounds like quite a traditional project-based approach – how will this actually be different from business as usual? – ALL
- What are Leeds doing? What's the relationship between them? - SWEEP

Other

- Doesn't monetizing it devalue it?
- Understand the principle but limited experience in practise
- Not confident using economic modelling
- Isn't it just repackaging ecosystem services?
- It's not filtered through into contract tendering – needs to be built in to have more commercial teeth

ANNEX C Natural Capital Workshop Summaries¹

Workshop Summary - WWF 'Financing for Marine Protected Areas'

Overview

Two workshops were held at the conference with around 30 participants in total. Delegates had the opportunity to find out about examples of alternative finance mechanisms for marine management from around the world and join a discussion on if/how these could be applied or adapted in a UK context. The examples were primarily drawn from a US report 'Protecting our marine treasures' produced by the Marine Protected Areas Federal Advisory Committee which can be found [here](#).

Delegates also found out more about WWF's planned work on sustainable finance for MPAs as part of the UK SEAS project. We will be looking to involve stakeholders in supporting our project in North Devon to develop sustainable finance options for MPA management. If you would like to find out more about this or get involved please contact Jenny Oates (joates@wwf.org.uk).

Results

Type of mechanism	Examples	Pros	Cons	Ideas/thoughts from delegates
Philanthropy	<ul style="list-style-type: none"> Corporate philanthropy Crowdsourcing Companies donate 1% of profits Special event funding 		Funders prefer new approaches rather than ongoing obligations, also impose certain conditions.	<ul style="list-style-type: none"> If you want people just to give money to celebrate MPA's they need much higher profile. Donations at petrol stations in coastal areas. Exe Estuary Partnership 'Friends of the exe'. Investigating willingness to pay to support MPA in exchange for a few events e.g. ornithology talks (Steph Clarke, Exe Estuary)
Bonds	<ul style="list-style-type: none"> General obligation bonds Revenue bonds 		Usually just for construction not ongoing costs like management	
Mitigation to support MPA funding	<ul style="list-style-type: none"> Blue carbon offsets Coastal power plant cooling systems 	Raises a lot of money and can substantially help the environment	Mitigation is difficult in open ocean. Not sustainable because it is funding people to do damaging activities but when they stop funding dries up. Location of benefits and costs could be	<ul style="list-style-type: none"> All infrastructure has some impact so it seems a good idea to leverage some money out of them to mitigate those impacts. Offshore wind farm companies are providing environmental and social funds > East Coast

¹ These summaries reflect the discussion points captured in the workshops and do not represent the views or opinions of the whole group

Type of mechanism	Examples	Pros	Cons	Ideas/thoughts from delegates
			different.	<ul style="list-style-type: none"> Opportunity to direct existing mitigation that is unachievable e.g. habs regs offsetting/habitat creation towards other options e.g. MPA management generally
Penalties and settlements	<ul style="list-style-type: none"> International Oil Pollution Compensation Fund sought money from Texaco to those affected by the Sea Empress oil spill, settled for £20m 	<p>Could be a significant source of money depending on severity. MPAs could plan in advance to be eligible for damage mitigation lists</p>	<p>Hard to figure out the value of compensation need, but would be much easier with ecosystem service assessments. Funds dependent on an accident. Long legal process which could be costly. Funds often restricted to specific things.</p>	<ul style="list-style-type: none"> Three ships in the last 10 year grounded in the South West, but we didn't get any money because we weren't on the list. Put the MPAs in for consideration for damage compensation.
Taxes	<ul style="list-style-type: none"> Use funds from local community taxes in a flood prone area to develop flood mitigation measures. 	<p>Steady revenue stream</p>	<p>Funds could be diverted or raided so need measures in place to ensure this does not happen</p>	<ul style="list-style-type: none"> The Crown Estate manages the seabed, charges a lot to use the seabed but doesn't spend that money on much environmental improvement Roof taxes only provide short-term gain and can be difficult to get out of companies as development companies often go bust or disappear after construction. There is also pressure to spend it quickly and without ring-fencing the money could also disappear.
Fees	<ul style="list-style-type: none"> Entrance/exit fees Dive fees- used in Bonaire, Saba to finance costs of managing MPAs. Could be specific to other activities e.g. fishing, boating etc. Or users of moorings (British Virgin 		<p>Unpredictable and determined by demand for permits. Also difficult to enforce in MPAs which are only accessible by boat.</p>	<ul style="list-style-type: none"> Paying for damage seems fair, paying for access seems fair, paying for paying's sake doesn't seem fair Paying for access makes it elitist. Spent years improving and ensuring access and don't want to go back on that now.

Type of mechanism	Examples	Pros	Cons	Ideas/thoughts from delegates
	Islands) <ul style="list-style-type: none"> Fees for services e.g. educational activities 			
Competitive government grants and funding	<ul style="list-style-type: none"> EMFF EU Life 			<ul style="list-style-type: none"> Heritage funds?
Tourism business supporting MPAs	<ul style="list-style-type: none"> Chumbe Island Lodge on Zanzibar- profits from ecolodge are reinvested exclusively in conservation of MPA. Tourism operators adding 'opt-out' contributions to their guests bills to solicit donations to specific projects 			Lizard Adventure Games gives 10% back to National Trust The National Trust also builds places to stay on their lands, which they charge for, to help sustain the area. <ul style="list-style-type: none"> Tourism providers resistant to even meeting let alone paying for coastal protection.
Tourism based taxes collected outside of MPAs	<ul style="list-style-type: none"> Hotel room taxes Airport tax 	People who enjoy and benefit from a place are frequently willing to pay fees or give donations.	Tourism can be unpredictable	<ul style="list-style-type: none"> There is lots of resistance from the tourism industry to a bedroom tax.

Workshop Summary - WWF 'Engaging the Public with the Marine Environment'

Overview:

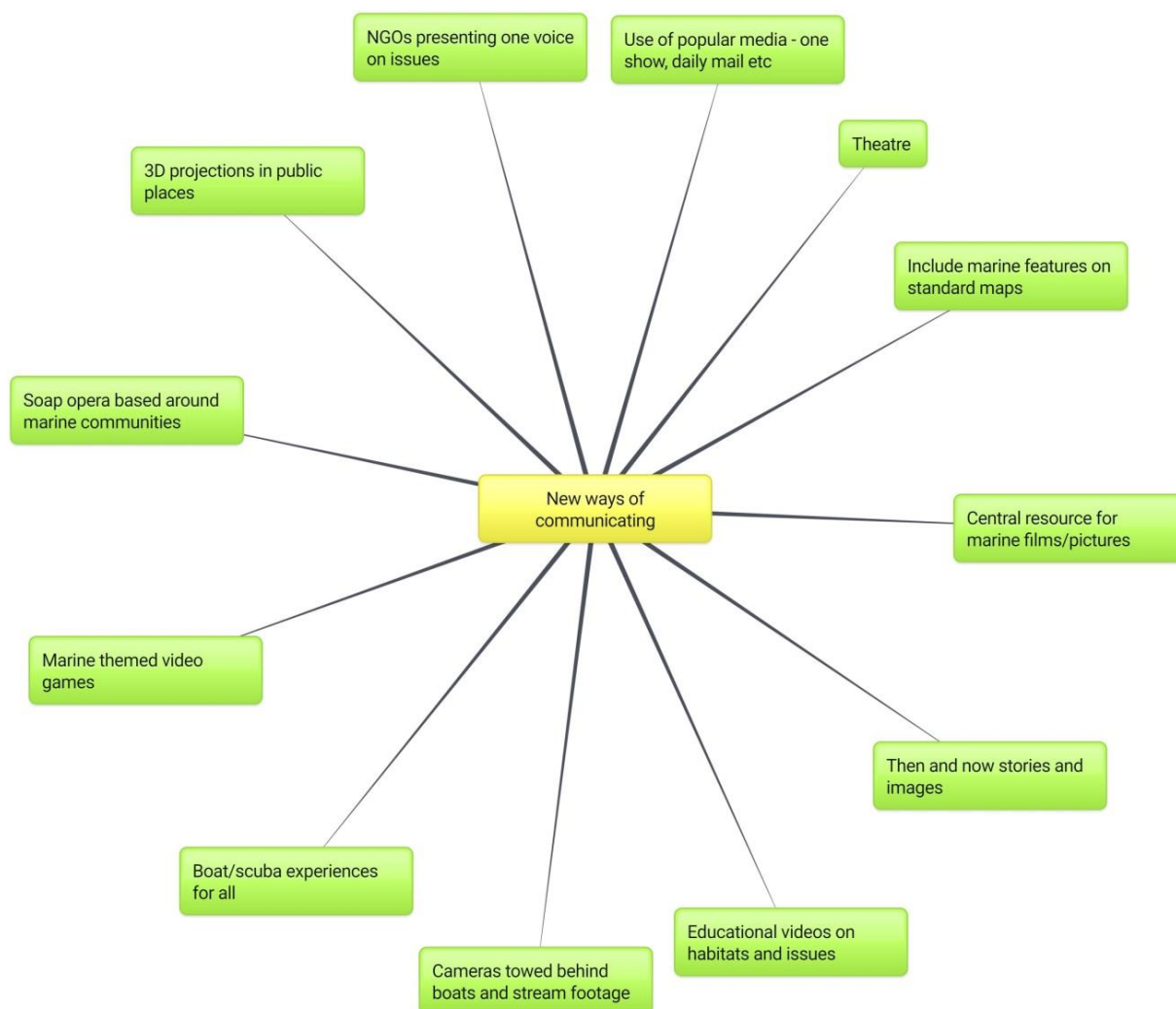
Four communication workshops were run at the conference and had 32 participants attend. The workshops looked at different communication materials produced by a range of organisations on different marine issues and asked the participants to think about who the materials were aimed at, and what worked well and what were the risks with the approach that was taken by the communication materials.

Although each different communication material which was looked at had different comments, some common themes have been picked out below:

- Lacking a call to action – what should the reader do?
- Simple graphics give a powerful message
- Photos are more emotive than cartoons
- Organisation logos alter how you see an image – depending on how you view that organisation
- Balance between attracting a large audience and actually making an impact with the audience
- The balance between presenting information and being overwhelming
- Images need to be relevant to the audience – i.e. a whale shark image isn't relevant for UK marine conservation

Some groups also discussed two animations, both looking at discards – but with very different approaches, and what the pros and cons were to the approaches.

The groups then moved on to discuss new ways of communicating that could be used for marine issues (assuming money and resources were no issue). Again it is not possible to provide all the ideas in this short summary, but a selection have been provided below:



Workshop Summary – ‘Evidence for Marine Planning’

Hosts: Mel Austen, PML, Neal Gray, MMO and Nick Boase, MMO
Note Taker: Natasha Simmonds

8 attendees

Questions to the Group (Mel Austen)

1. How important is the Natural Capital Approach in SW Marine Planning?
2. How important is evidence in SW Marine Planning?
3. What evidence do you think is important to include in SW marine Plans?

Marine Planning Summary (Nick Boase and Neal Gray)

- Twenty year plan is going to be put into place
 - Review processes will occur every 3 years
- Key points: coastal management and policy connectivity
- Regional approach, includes international connections
- There is a lot of scientific evidence to be used by MMO – SWEEP wants to make science available to policy makers.

Evidence Summary (Neal Gray)

- Issues & Strategies
- Marine Information System
- Delivery Plans
- MMO Sea Scape Baseline Visibility Study and Report

Importance on Evidence (Group Discussion)

- MMO uses evidence based decisions when possible, and can be prohibitive when evidence does not exist
 - Self-submissions
 - Use of the Marine Information System to allow public access and interaction
 - Marine litter data from PML

Questions to the Hosts

- How can we streamline coastal surveys and share information between academic bodies? How can we increase data sharing in general? (From Plymouth Coastal Observatory)
 - Marine Information System and increased connectivity (Nick Boase)
 - SWEEP workshops and project aims might be able to help to address this (Mel Austen)
- How can we keep natural capital at the forefront of several interlocking governmental bodies, which make decisions in our coastal environment? (Save Exmouth Seafront)
- Does the evidence-based methodology allow for trade-offs in industry?
 - For example: weighing up economic growth with environmental costs

Workshop Summary – ‘Natural Capital and Decision Support Tools’

There were 2 workshops on this subject, led by Tara Hooper from Plymouth Marine Laboratory (PML), which were well attended by a range of people from different sectors. Discussion was instigated with the following prompt questions:

- What are the decisions that are being made?
- Where is the greatest impact to be made from these tools?
- Do we need to better quantify and value outputs from models?

Using the Natural Capital Approach and decision support tools

- Using the Natural Capital Approach depends on the nature of the problem/question to be answered: it cannot be one-size-fits-all.
- Natural capital may not always be the right approach. For example, is it the best way to develop and appraise flood defence projects?
- Statutory consultees often need to comment on marine license applications, but have not yet thought if natural capital could be brought into these decisions, or how it would work in practice to use the Natural Capital Approach when giving advice.
- There needs to be justification of how decisions are reached. For example in defining exclusion zones to deal with issues of recreational pressure it is necessary to decide where zones are applied, taking into account trade-offs between conservation and recreational values and interests. Tools are needed that show the benefits fairly and transparently, and are understandable. Need to be able to visualise linkages.
- For tools to be useful in day-to-day work on licencing, they need to be quick and robust
- Tools also need to be appropriate to the scale of decision you are making. In licencing, the data that is expected with the application needs to be proportionate to the scale of the proposal.
- Natural capital approaches can be quite broad and involved. Conversely, they can also be applied relatively quickly and easily using existing data. It is not always possible to have monetary value on outputs, but it may be possible to qualify impacts to a better degree.
- The Natural Capital Approach provides more of an understanding of the bigger picture and a wider way of looking at things and so can help improve decision making. For example, factors such as human health do not feature in Environmental Impact Assessment and Strategic Environmental Assessment.
- Looking strategically at natural capital, and feeding into marine planning, is a stream of SWEEP.
- Regulatory bodies are well represented at the workshop, but is the Natural Capital Approach relevant to Small and Medium Enterprises? What other marine businesses and recreational user groups should be engaged? How have Local Enterprise Partnerships been involved?
- Offshore renewable energy companies already have a strong argument that their developments support natural capital, but they need help to de-risk investments. Tools have to be used early enough in the decision making process to support the public consultation phase.

Data capture and presentation

- There are different options for weighting data. Rarity value could be considered. Multi-criteria analysis can take into account a variety of data.
- Decision tools can accommodate existing data from different sources, but it is important to understand the local context.
- The presentation of information is important, for example in moving toward more use of spatial GIS data. Using different information layers for impacts allows risk areas to be easily seen. Interactive maps are good.
- SWEEP does not have the resource to fully map the marine environment; tools need to be used in a strategic way.

- The Natural Capital Approach can help aggregate information, in order to see things at a higher level.
- Tools need to be flexible and easily updatable, so they don't become immediately redundant - A 'Wikipedia' of natural capital.
- There is a long way to go in understanding how we can actually make the Natural Capital Approach work in practice. There is a strong steer from DEFRA, but better communication and understanding are needed.
- Start at the simpler end of tool spectrum: something to provide confidence to decisions makers that the Natural Capital Approach is valid.

Natural capital accounts and monetary valuation

- Terrestrial applications are strongly focused on natural capital accounting, but the approach being taken for marine areas is more focused on decision making. In an ideal world natural capital accounts and wider decision support tools would come together.
- It is difficult to monetise everything in order to do a full cost benefit analysis. This is more straightforward for terrestrial applications, but the marine environment lacks the same level of baseline data. We need to prioritise the things we are going to monetise in SWEEP.
- The Natural Capital Approach doesn't have to lead to putting a value on everything. There are concerns that valuations can over-simplify and under-value, and the wider context is always needed alongside monetary values. Some assets are irreplaceable (eg archaeology), and some natural assets are easier to put value on than others, especially if there will be a permanent impact.
- Monetary values have to be used sensibly as some aspects can be monetised, but others can't. There are lots of complexities to consider.
- Timescale is important to consider when valuing things, and there issues of fairness and equity that need to be considered. There is often a disconnect between people that benefit from environment, and others that suffer due to degradation.

SWEEP Timeframe and expectations

- SWEEP should start to deliver within the next 12-18 months.
- The project will go as far as possible with the resources and time available.

Workshop Summary - 'Natural Capital and Ecosystem Service Valuation'

Overview:

There were two workshops with 40 delegates attending. Sian Rees, from SWEEP gave a short presentation of how a Natural Capital Approach could potentially benefit the South West economy and used the Lyme Bay 'closed area' as an example; looking at the effects of the closed area on recreation, fisheries and economic, health and social wellbeing.

Delegates were asked to consider the following points

How are we progressing ecosystem service valuation through SWEEP?

How can this approach inform or support your work?

What outputs and information are most useful?

Discussion themes included:

Stakeholders:

- 'Stakeholders' are resource users - any plans to tweak definition of stakeholder users to include other coastal users? Would love to.... Masters students.
- Wider population benefits from coast not just resource users.

Ecosystem services valuation

- How do you value non productivity?
- Tension of using finances as a metric.
- What about non tangible aspects?
- Habitat also provides water purification services.
- Need to need to include well-being into calculations.
- Opportunities to bias comparisons between benefits/impacts to make results fit argument.

Fisheries

- How accurate are scalloping figures – is there under reporting of scalloping – not wanting to be banned.
- Small boats impacted the most by declining stock.
- Change needs to happen – difficult.
- ESA can bring together conservationists and fishermen.
- Q – any work with recreational users?
- If you increase number of MPA would this diminish the value of each MPA?
- Are there any details of assessment/ modelling tools to assess seagrass?
- Difficult for fishermen to invest in stock compared with farmers and land investment.
- What can fishers do to nurture stock?
- 'Stewardship' would be close to what we're talking about.
- Fishing sector fairly small - coast at capacity in terms of visitor numbers during the summer months.
- Wouldn't fishers/scallopers fish somewhere else outside zone (displacement)?
- Is the MCZ having a spill over effect in terms of scallops?

Natural capital investment

- What are we putting back/ taking out ...it's about 'investment'.
- Conference – what about building the natural capital back?
- There are other ways of making decisions.
- N. Devon investment in landscape but link hasn't been demonstrated to benefits in coastal/shellfish water quality.
- Can you demonstrate quality coastal benefits?
- No more government money – got to put it on industry – regulation is a broken model.
- Need to get industry involved – just tinkering with regulation.
- Can't use same land management principles in marine.

Seafood and marketing

- Seafood coast Torbay is a good example of local branding to improve sales and consumption of locally landed seafood.
- Incentivise buying local fish.
- Supply chain issues too.
- Marketing potential of MCZ
- Cuckoo wrasse take for salmon farms in Scotland but also lots are used for local bait.

Recreation/ tourism

- Tourism at capacity at coast.
- Recreational impacts on MPAs?
- Teignmouth – sprats and eels. There has been a cultural change in what people want to eat.
- What about other marine users?
- Health well-being- cultural services – more conversations with local groups.
- N. Devon saturated in terms of numbers but you could increase 'experience' density –and also work to extend the season.

Workshop Summary - 'Data and evidence'

These two workshops led by Sarah Clark, Deputy Chief Officer, Devon & Severn IFCA and Martin Attrill, University of Plymouth were attended by around 15 delegates. Sarah and Martin gave an overview of the data and evidence requirements to support management decisions for biodiversity conservation. The delegates were asked to focus on two questions:

1. What data is needed and what do we already have?	2. How do you collect data when there are limited funds to do so?
<ul style="list-style-type: none"> • We have European Marine Observation and data network EMODnet tells you about biotopes in the areas – a bit clunky but lots of data – also Marine Recorder • Too many different databases out there • Species data - National Biodiversity Network - NBN Atlas, also MEDIN (Marine Environmental and Data Information Network) need to sort out data access • Issue with commercial surveys not being available – not public information • What about <u>activity</u> in marine environment? <ul style="list-style-type: none"> ○ Recent survey in Plymouth Sound and Estuary ○ Divers and Anglers providing data – through Seasearch? • Been an investment in biological survey but <u>not</u> activity survey • Need economic data on divers- the economic value • Take concepts of estuaries to marine environment. Exchanges between systems estuaries – how systems interact (EA) • Eg, MCZs – species selected as 'rare', etc. if looking at these you know the <u>impact</u>, do not know the <u>values</u> of species in marine • Should we not focus on species for conservation – habitats? In UK marine = feature, except fish – so is habitat led • Could link habitat to commercial species life stages but there is not enough evidence • What are humans doing and where – need this activity data. 	<ul style="list-style-type: none"> • Make sure that the data that we <u>have</u> got is shared • Maybe bring in more beneficiaries to make data meaningful • Seasearch – anglers? • Cameras, etc., in fishing boats • Need all organisations collecting data so all in one place • Cornwall – get birders to collect other data, use fishing boats, kayakers, etc • Student workforce, cameras on kayaks but 'no idea who to give data to' • Small scale towed camera array? For recreation boats? • Has anyone looked at all data collection going on and made sure that there is no overlap? • Network – how to improve sharing • RYA working with Defra, etc, to use local people to report activity, etc • Fishing industry – could every vessel be a research vessel? But if data used to manage threat activity why would they do it? Same for recreational anglers and yachting • Seagrass initiative worked with boat owners quite well, got them involved taking measurements • Recreational boaters using go-pro cameras to film seabed? • Project used flickr to survey how many people were visiting a site • Could use Facebook, Instagram, etc. • Recreational boating • Use national(?) scheme for wildlife recording such as NBN • How do you assure that the data is of quality • Use social media more – online forum • Fishing industry data – last thing they want to do is share it.

Workshop Summary - 'Landscape Pioneer and how it Links to the Marine Programme'

The two workshops led by Amy Binner and Katrina Davis from the University of Exeter, were attended by around 20 delegates and were an opportunity to find out more about the aims and aspirations of the Landscape Pioneer and how it will link to the Marine Pioneer in North Devon. The aim of the Landscape Pioneer is to: overcome gaps in information and to understand the role the environment plays in delivering benefits to people; to test what a new, truly joined-up and integrated approach to delivery looks like, using a Natural Capital Approach - where the data, tools, evidence and analysis needs to be used in practice; and to identify and develop new funding opportunities for the natural environment.

Delegates were asked to focus on the following questions:

- What makes Devon a unique and worthy location for this Pioneer?
- What do people think are the advantages and disadvantages to a Natural Capital Approach?
- What are the inherent challenges to projects which involve large groups of stakeholders?
- Are there disadvantages to framing environmental improvements in terms of achieving socio-economic gain? Do these disadvantages outweigh the gains from this framing approach?
- What are the best ways to engage the private sector to develop new funding opportunities for the environment?
- What are the best ways to engage the community with their natural environment?

Discussion:

How to shape landscape pioneer to fit with the marine pioneer?

- Should be the land/sea interface that we concentrate on – where we don't know as much
- Two pioneer projects running together but marine started before landscape – community overlap between the two
- Consideration needs to be given to
 - Landscape Character
 - Historic environment
 - Sediment systems/geomorphological data
- Work with local businesses and local products
- Communication out to other areas (SW in particular) important to be successful in future
- Intereg bid - Biosphere (could link with geology)
- Ball Clay (local business)

Farming and the land/sea interface

- Farming futures
- Woodland enterprise
- Suggest partnership between UK and Brittany (Roberto Franceschini) agriculture and water quality
- Will pioneer be used in gov. policy for agriculture – this is the opportunity
- Environment Agency have been working for years on Catchment Sensitive Farming but there are still issues, even though improvements have been made

Taw and Torridge Estuary

- Lots of information available on the Taw Torridge Estuary
- Freshwater pearl projects in the Taw

Water quality

- Effects of run off on shellfish (mussels and oysters) on Taw and Torridge
- Bathing water affected by new water quality standards – emphasis on pioneer projects, hopefully issues will be highlighted
- Sewage works and outfalls still an issue

Workshop Summary - 'Natural Capital Approach to Regional Fisheries Management'

There were 2 workshops for this subject; participants included representatives from the fishing industry and also representatives from the environment and tourism sector. During the workshop discussion, participants were asked to give examples of who is doing what for regional fisheries management already, locally nationally and worldwide.

- Fisheries Improvement Project network (<http://fisheryprogress.org/>)
- Guidelines for fishing industry – science data collection (www.fishingintothefuture.co.uk)
- Fishers engagement with scientists - South Devon & Channel Shellfishermen (scientists attend SD&CS meetings)
- Scottish pelagic fishermen's association – 'science arm'
- Anglers being used for data capture – Westcountry Rivers Trust(?)
- Marine resource education programme – Maine fisheries, USA

Participants were asked: **how can a good ongoing evidence base be developed using local stakeholders that is credible, robust and transparent?**

- Fishers need to know that data capture is rational. As they frequently feel divorced from the regulatory process.
- Look at bottom up approach – valuing fishers input – but must be guided by end user needs (scientists and decision makers)
- Fishers need to identify data capture as a fishing opportunity – not purely science based
- Must have a collective understanding of what tools are for – communication must be clear and avoid jargon, i.e. 'natural capital'
- Show examples of the kinds of decisions that can be based on 'bad data' vs decisions based on 'good data'
- Be realistic about possible results of data capture (and timescales)
- Capacity is an issue – needs leaders who have the fisher's confidence already

Participants were then asked **what could the legal and governance structure be?** It was deemed by participants that it was too early to be asking a question such as this but they did respond with the following:

- Regulations for fishing industry are already well developed and this has been a gradual process – it didn't start with the current regulatory framework
- Fishers work in isolation by choice – need to think about how to get them engaged
- Example of crayfish on Individual Fishing Quota (ITQ) – non-transferable – needs to have very strong rules
- Example of scalloping days at sea
- Needs to have national competence, not devolved.

Other comments and ideas that came out of discussions with the participants were:

Look to other industries for ideas for fisher engagement, for example, grant led 'rewards' for good practice (agriculture) the more you do for the environment, the more money is made – make participants aware that for further stages (improvements) there would be further rewards/selling opportunities

Link fishers to other industries, such as, agriculture (food) and tourism - how do you fish, what is caught, where it's caught, and what 'greater good' activities are done. Fishers are passionate about industry – can be built on – a 'story' to communicate local practices and source funding

Look to develop communal interest – we are all fishers – these are our fish stocks – guardians of the environment - protecting for future – family heritage. This will enable fishing to continue for future generations or mean that fishers will be able to sell boat on retirement, through maintaining a viable fishing industry - working together produces increased income (i.e. branding).

If limiting income (through restricting fishing) look to other ways to produce income related to fishing - boat based tourism (i.e. here is the No Take Zone) show effects on fishing outside (i.e. spillover) how do locals fish, what do they do, what gear? – can be land or sea based.

Find ways of linking into tourism economy, local provenance of fish on menus (meet the fisher), events, linking fishing and farming, fish-themed festivals, etc.

'Add a pound to your bill' to support fishing research/activities – activities decided by a 'council of fishers + scientists' - will give a local identity to fishers and link them with their communities.

Workshop Summary - 'Coastal Processes'

Overview:

This workshop was attended by around 30 delegates. Tim Poate from Plymouth University gave an overview of SWEEP - expanding on Martin Attrill's presentation.

The Plymouth University contribution to SWEEP will be delivered through the Marine Institute and the Coastal Processes Research Group. Businesses, policy makers and organisations in the region have already invested £11m of their own funding in the SWEEP project.

Tim focussed discussion on the project '**Co-creating Operational and Strategic Modelling Systems to Reduce Economic and Societal Impacts of Coastal Hazards**', which will see the development of an operational real-time storm impact model designed to provide detailed forecasts of storm events and coastal hazards.

The aim of the project is to: Develop practical tools based on inshore wave forecasts for coastal flood risk, beach hazards and erosion. This will enable a step change in management of SW coastal resource systems, more effective targeting of resources and potentially save lives.

Focus points for discussion were:

- Data driven decisions, what we know, what we need; How we try to represent the complexities of the coastline to predict shoreline evolution and storm events
- Temporal and spatial coastal management; the relevance of short term changes and long term trends.

The team are actively looking to engage and work with businesses and organisations to ensure their output is tailored to be of the greatest benefit to all. Please get in touch to discuss possible projects and how the team can help you get the most out of the natural capital across the South West

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