

15th June 2010
Kings Lynn

Lincolnshire & The Wash
Regional Hub Meeting 2
MEETING REPORT

H Jackson
Net Gain

1. INTRODUCTION

This is the report of the Regional Hub meeting held in Kings Lynn on 15th June 2010. This was the second meeting for this particular Hub, one of four that were held during June to cover the whole of Net Gain's East coast area. Further Hub meetings will be held as work proceeds towards detailed recommendations to government for the location of Marine Conservation Zones (MCZs) in the Net Gain area.

The overall format was developed by the Stakeholder Engagement Team and Net Gain and incorporated feedback offered by participants at the earlier round of Hub and Stakeholder Advisory Panel meetings. The format of the meeting differed slightly from the Yorkshire and Humber Hub meeting held on the 9th June 2010 to take account of feedback received during, and following, that particular Hub meeting regarding the delivery of the sessions. In summary, the socioeconomic impacts and conservation benefits session was shortened and moved toward the end of the day to allow the group to get into the map work earlier and to have longer to consider options. The Hub event included:

- ⊕ **Evening briefing session**
- ⊕ **Welcome and introductions (to all)**
- ⊕ **Update on maps and the Regional Profile**
- ⊕ **Tools and guidance for interpretation and assessment**
- ⊕ **Group work - evaluating and developing draft proposals**
- ⊕ **Socio-economic impacts and conservation benefits**
- ⊕ **Plenary discussion of group work**
- ⊕ **Next stages**

2. BRIEFING SESSIONS

The evening session was designed for anybody new to the process to meet the Net Gain team, and to get up to speed on the project. Stations were set up showing various information with any questions and concerns being answered.

The full day session began with a briefing on the project work completed so far – highlighting the 30th June milestone when the progress made so far (the first iteration) is presented to the Science Advisory Panel (SAP). Work presented in each iteration subject to change subsequent to more information or guidance being made available. The group were advised that the outcome of the tasks would be passed to the SAP and Stakeholder Advisory Panel (StAP) for feedback.

3. BACKGROUND TO THE MAPS AND OPTIONS

Katerina Wojtaszekova and Stephen Donkor provided Hub members with an update on progress made in developing the Regional Profile. The Regional Profile is presented in three broad themes, abiotic (non-living features), biotic (live features) and maps of human activity. Particular emphasis was placed on describing the Broad Scale Habitat Map as this was a key piece of information for the map work.

After looking at the Regional Profile, Steve Barnard gave a presentation (see Appendix 1) on the tools available to interpret the data. This presentation included:

- Plain English version of ENG
- Gap analysis – what it is – how it will help our deliberations
- Marxan – what it is and what it does – rationale for developing draft sites through Marxan in advance of this meeting
- Levels of protection
- Draft compatibility matrix

4. WORKING ON MAPS

This session presented the first opportunity for Hub members to make their mark on the maps and start to look at potential MCZ sites. It was stressed that this was the first draft, and therefore likely to change when more information is available, but that the outputs marked a milestone for the Net Gain project so would need to be communicated to the SAP.

Each group was provided with:

- The Regional Profile – all the mapped data to date, with an emphasis on using the broad scale habitat map in this session.
- A Marxan analysis – based on the broad scale habitat map, existing MPAs, existing windfarm developments, and Vessel Monitoring Data (VMS – information on over 15m vessels).
- A grid – to assist in working out the size of potential sites.
- A table of targets – based on the ENG this detailed the area (in km²) for each broad scale habitat that the Hub members should try to cover in their proposals.
- The Ecological Network Guidance in summary format.
- A compatibility matrix. This is an interim document based on Finding Sanctuaries work which suggests which activities may or may not be compatible with each habitat.

Each group first decided if they wanted to use the Marxan analysis to kick start discussions or start from scratch with the broad scale habitat map. Using this as a base other maps from the Regional Profile could be layered to allow multiple datasets to be viewed together to try to find suitable locations for MCZs while taking account of socioeconomics where possible.

Using the grid for scale, and the table to inform the size of sites, initial, first draft proposals were drawn on the maps. For each site the groups indicated how well supported the site may be using a traffic light system (Red, Amber, Green).

Then, on flipchart paper, notes were made for each site explaining the habitat, any possible impacts, and the level of protection suggested. In many cases it was difficult to come to real conclusions on the protection levels as the information was incomplete. In these cases a default protection level of B (Seafloor protection) was assumed.

Outputs:

No overall consensus on potential sites was reached between the Regional Hub members present at the meeting. This was largely because of the limited time that was available for members to become familiar with the materials and approaches, and to physically undertake the planning work with the maps. However, members also felt that they did not have full access to the key requisite data sets and/or did not have full confidence in the accuracy of the data that was presented. In particular, Hub members were concerned at the absence of broad scale habitat data from the intertidal zone; the lack of Fishemap data and

the consequent need to rely on Vessel Monitoring System (VMS) data; the lack of full information from the Gap Analysis; and the absence of detailed information on features' sensitivity to various pressures and on the activities that may give rise to such pressures.

In addition, many of our stakeholders expressed a lack of confidence in some of the key data available to them at this time. This was especially true of the broad scale habitat data, but was also the case for the VMS data that was presented. Notwithstanding the fact that the VMS data is only applicable to vessels greater than 15m in length (and consequently, by effectively missing out on the majority of the inshore fleet, both under-represents and biases the apparent distribution of fishing activity across the Net Gain project area) it was felt that, as the data was collected in 2007, it may not be an accurate representation of the distribution of activity as fishing patterns may well have altered in recent years in response to economic pressures such as rising fuel costs. For these reasons the outputs from the mapping work and planning cannot be taken as being representative of potential MCZs but rather only as Broad Areas of Interest (BAIs).

Additionally, as the plenary session did not provide group consensus on individual areas identified during the mapping session, specific examples of BAIs do not at this stage have any indication of their overall level of support within the Regional Hub. Given this, and concerns surrounding the basis for their initial identification, it is not feasible to reproduce the outputs here. It was agreed with the Regional Hub members that their outputs (both maps and associated narratives) will be made available to them to help facilitate on-going discussions and debates with their wider sectors.

5. SOCIO-ECONOMIC IMPACTS AND CONSERVATION BENEFITS

When Net Gain makes the final recommendations on the proposed location of MCZs to Government on 1st June 2011 it must include a formal Impact Assessment detailing the environmental, social and economic impacts of designating the sites compared to a baseline situation if no sites were designated. As this is an iterative process, the impact assessment work is ongoing, and progress will be reported to the SAP along with the draft proposal at each iteration. In the early stages of the process the information provided to the SAP will be qualitative, or descriptive in nature. As more detailed information becomes available to the project the impact assessment will be more quantitative, with values attached to indicators as far as appropriate.

Net Gain's impact assessment work has just begun, and this session aimed to gain feedback and advice from Hub members on what impacts we should be considering. Hub members were asked to consider what indicators might be important to their sector to measure impacts should an MCZ be designated. The indicators in themselves are neutral, but can measure positive or negative change.

Hub members were asked to add to the list of indicators developed at the Yorkshire & Humber and North-East Regional Hubs, using their discussions from the map work to help inform their input.

The results of this exercise are shown overleaf.

Socio-economic indicators developed at Lincolnshire & The Wash Regional Hub

Changes in:

- Travel distance and fuel costs
- Time away
- New income stream
- Clients
- Port, suppliers, others
- Enjoyment / satisfaction
- Boat / equipment
- Income
- Staffing
- Emphasis of activities
- Cultural heritage
- Pressure on different species
- CO₂ emissions
- Level of port activities
- Throughput of commodities
- GDP for local communities
- Indirect social effects
- Displacement of effort from one area to another
- Distribution of activities
- Income for ports
- Skills, education, training, knowledge requirement
- Productivity of fishing grounds
- Health & Well being
- Resource Availability
- Change to target species
- Displacement costs – for example restrictions on aggregate dredging may mean that, because the displaced activity would be less efficient and more expensive, the commodity (e.g. sand and gravel) would increase in price. Equally if an activity is restricted the availability of the commodity would be likely to be reduced – traditional economic forces then increasing its market value.
- Management regimes would be 'tested' - there would be additional costs/strains put on management organisations post-MCZ designation.
- Carbon storage
- Climate change resilience
- Effects of Infrastructure – capacity(roads/parking)
- Regulation/Consenting
- More scuba diving
- More restrictions on local fishermen
- Too far to go to work grounds – recreational fishing and jet skis etc need to be close to land area
- Sense of well being from knowing that the sea is being protected
- Uncertainty over near future impact of cumulative restrictions e.g new SAC/SPA

- Understanding the absolute compatibility of activities with feature designations is critical to determining socio-economic impacts (management measures are not known)
- Displacement of effort from one fishing sector to another
- Enforcement costs at sea/technology (e.g. VMS)
- Certification of fish stocks "msc"
- Costs of monitoring MCZ features
- Increase in/stricter policing = better stocks for legitimate/licensed fishermen (+ve impact)
- Increase in tourism (increase in level of holiday bookings)
- Changes in fishing fleet characteristics and licenses (boat size as well as license)
- Future development cost/opportunities (MCZ likely to limit development opportunities or at least increase development cost (e.g. windfarm sites))
- Increased activities on non-designated areas = habitat degradation

Conservation benefits

- Increase in size and quality
- Maintain – reduce destruction
- No significant decrease from baseline
- Presence and abundance – range and distribution
- Productivity / overspill (to adjacent areas)
- Connectivity – especially for mobile species
- Whole / wider ecosystem benefits (e.g. mobile species / birds) e.g. California
- Provides reference
- Recovery
- Social / economic benefits
- Visitors
- Wider benefits than just biodiversity, including food, energy & climate
- Education & awareness
- Ecotourism
- Management regime opportunities
- Tourism – holiday lets / levels of bookings.
- Fishing tackle shop trade (as a measure of angling activity).
- Overall productivity of fishing grounds.
- Wider ecosystem functioning
- Increased understanding of sea use, users, habitats, species present etc (+ve impact)
- More underwater monitoring by amateur divers
- More fish-more fishermen
- Protection of spawning grounds
- Sustainability of fish species
- Research opportunities
- Rehabilitation of degraded habitats – increase from current and stability (e.g. Blakeney Point seals and terns trips – protecting the spectacle)
- Contribution to ecologically coherent network

6. PLENARY

Each group described the work they had done during the map session, commenting on any positives, practicalities of the session, and any difficulties they had in starting to plan the MCZs.

Table 1

- There are holes in the broad scale habitat data provided – e.g. on the chalk outcrops on the North Norfolk coast (simply not where it says it is - but is planned to be independently surveyed later this year) – critical concerns over habitat accuracy
- Worked stepwise through the list of broad scale habitats & their associated targets
- Where possible the group looked to tie in with existing trawling restrictions (to minimise impacts on ongoing potting activity)
- Recorded most areas as RED (potentially highly contentious) recognising that it was likely that someone would be likely to be affected by any subsequent designations
- The colour coding for habitats on the maps made it hard to differentiate between the different detailed habitat sub-classes (e.g. two 'green' groups: a dark blue-green and shades of lighter green)
- Used existing MPAs where possible, including potential/possible sites (i.e. those being considered but not yet designated)
- Scale of maps inappropriate for certain locations and needs to be altered – e.g. no detail available for within The Wash although it is known to be heavily protected; needs to be presented at a much larger scale
- Group felt that local information was key and therefore the net Gain project needs to think critically about how to ensure that local knowledge is available to help in decision making at future meetings

Table 2

- Comfortable with the focus on the 'representativity' aspect of ENG at this stage
- Work was very target driven (looking to meet the 'adequacy' targets)
- Started with attempting to meet the smaller broad scale habitat targets
- Began by using local knowledge to identify areas that would benefit from protection/designation
- Successfully identified a number of smaller discrete sites but had some concerns that they may be too fragmented
- Used the Marxan outputs together with the broad scale habitat maps to help identify potential sites – especially larger sites
- Most contention centred on fishing activity
- Felt there was too much inaccuracy in the broad scale habitat data to actually use it in decision making (both in the inshore areas, and in the open

offshore areas) – needs to be some means to undertake some ground-truthing of this data to give confidence in actual presence of some habitats (e.g. several shoals run NE from the Lincolnshire coast – these are shown on Admiralty charts but do not feature on the Net Gain maps at present - hard copies of generalized admiralty charts would be a useful dataset to have available as a 'starting point')

Table 3

- Felt that Marxan hindered the decision making process because of the limitations of the VMS data that fed into it (as VMS tends to show activity in offshore areas the inshore area is disproportionately 'loaded' in the Marxan outputs) – this would be addressed once inshore data is available
- Started with a bottom-up approach, working on the smaller targets first – this helped the group think through the process (especially the compatibility issues – e.g. static versus mobile gears – looking at building on existing no-trawl zones as starting point)
- Some contention regarding sand & gravel – extraction from some large sites (continuing activity at agreed/managed levels) might be an option
- The full range of 'real' or 'absolute' impacts (e.g. silt plumes resulting from dredging activity) needs to be followed through in discussions (with possible restrictions being tide-based rather than blanket)
- Want to try to keep potential sites simple in shape (management/clarity/etc)
- Group considered the need to retain multiple areas to support the continued existence of current activities (e.g. different areas might need to be retained to allow flexibility in allowing current activities to be continued given the impacts of different weather conditions) – consideration of Health & Safety issues relating to poor weather where (for example) fishermen may have to travel to areas further afield because of local closures/restrictions
- Group made (big) assumption that the habitat data was correct/accurate
- No concern given to replication in amongst the groups deliberations – but replication should be picked up at the larger (whole project) scale
- Didn't use all data layers – so outputs should be caveated (e.g. didn't use: pipelines, cables, oil & gas data; used mainly: fisheries and aggregates)
- Group was objective and worked their way through the whole Regional Profile - comments on behalf of all sectors were produced
- Reasonably comfortable with the range of people round the table – local knowledge was definitely beneficial in discussions
- Made an assumption that designation of larger areas would allow for easier management AND that larger areas would tend to have lower levels of restrictions (but acknowledged that smaller discrete areas within them may have increased levels of protection for specific species or habitat FOCI)

Table4

- Went for larger areas
- Operated a running total of the areas of broad scale habitat covered by initial sites to keep track of 'achievement'
- When discussing contention and concern each group member provided separate narratives
- Tried ,as far as possible, to provide replicates for habitat types
- Considered benefits of inshore sites for birds
- Tried to accommodate/take in existing MPAs
- Used Marxan as an initial starting point
- Working as a group was good – all around the table appeared to recognise each others needs
- Considered the interests of the sectors represented around the table; tended to ignore interests they were not sure about
- It was a small group (x4 members) – they felt that this helped in 'streamlining' and decision making

Wider discussion points noted

- Comments were made that the Balanced Seas MCZ Project had produced a form of words to convey the 'health warning' that would need to accompany any reproduction of initial draft suggestions for possible MCZ locations
RESPONSE – Net Gain will try to use a similar 'health warning' and will approach the Balanced Seas project accordingly.
- Worry that digitised versions of the outputs from the meeting may, because they look more 'official', assume a greater look of finality.
RESPONSE – this can be countered by use of 'health warnings' (see above) and also by using soft edges to delineate sites (helping to give impression of 'uncertainty' and future flexibility).
- Limitations on the use of VMS (Vessel Monitoring System) data where discussed.
RESPONSE – The site selection exercise was preliminary and would be revisited in the next meeting. Subsequently, more detailed information will be available from the Fishemap questionnaire process that our Liaison Officers are currently engaged in. Once collated and verified this data will supplement the VMS data that was used in the Marxan output examples tabled in the meeting. Subsequent rounds of planning will therefore be able to revisit any preliminary decisions made at this meeting and make decisions based on what we acknowledge will be more detailed and sound fishing activity data. Nothing from this initial planning exercise will be written in stone.
- It was felt that Round 2 and 3 windfarms should be included in all mapping exercises. It is important to bear in mind that windfarms can be decommissioned.

- Best sites with best conservation objectives should be the heart of the process, not commercial loss or gain, where do we draw the line?
- From the fishing industries point of view, we believe our activities have a minimal impact.
- Perhaps sites of biodiversity would be a better starting point.
- This is eco-based. Benefits of this are well known.
- People should go out into the field and check exactly what is there.
- Admiralty charts are needed to understand precise locations of shoals and sites. Without these charts it is very difficult to identify what is where. We know coasts through depths, these were not shown on maps as they start at 10m. With these charts fishermen could tell you exactly what is there – we see things differently. Please bring admiralty charts with dividers and rulers next time as it would make things easier.
- Scaling was difficult at times
- Downloading charts is a lengthy process, legends/catalogues proved slow.

7. NEXT STAGES

Next steps

- Would like URL for FTP site put onto main web site.
- Draft map outputs would be collated and digitised, and would be presented to the StAP (to provide an overview comment on how the Regional Hub's deliberations fit to the Net Gain project overall) and, by the end of June, the Science Advisory Panel (to provide comment on adequacy). It was agreed that any suggested possible MCZ sites would carry strong 'health warnings' in that they had been produced with reference only to limited, and in some cases incomplete or draft, datasets, and had not been discussed with the wider stakeholder community.
- A proforma will be circulated to help Hub members liaise with their sector for input before the next round of meetings.
- It was agreed that map outputs from the meeting would be made available through the members-only FTP site and that they would carry a similar health warning to the versions passed to the StAP and SAP.
- Next meeting was potentially scheduled for the w/c 20th September to allow for the southern Hubs to lead the next round of meetings.
- Feedback from the SAP is anticipated by the end of July.

PARTICIPANTS

The list below includes all invitees. We have also included those who sent apologies; they also will be receiving this report.

Net Gain Lincolnshire & The Wash Hub – invitees for meeting on 15th June 2010

Hub member			
First name	Surname	Sector	Notes
Ken	Bagley	Commercial fishing	Unable to attend this meeting
Trevor	Baker	Offshore renewables	
Bryan	Bowles	Landowner	Unable to attend this meeting
John	Casey	Yachting	Unable to attend this meeting
Katie	Critchley	Environment Agency	
Amy	Crossley	RSPB	
Laurie	Dawson	Recreational angling	
Bob	Garnett	Commercial fishing	
Paul	Garnett	Commercial fishing	
Tony	Hogg	Recreational angling	
Gordon	Jackson	Recreational angling	
Mike	Jones	RSPB	
Ivan	Large	Commercial fishing	Unable to attend this meeting
Paul	Learoyd	Wildlife Trust	Caroline Steel deputised this meeting
Simon	Letzer	Commercial fishing	
Bob	Lloyd	MOD	Linda Bourne deputised this meeting
Tom	Manning	Natural England	
Ian	Martin	Commercial fishing	
Chris	Pater	English Heritage	Unable to attend this meeting
Maria	Phipps	Coastal forums etc	
Paulo	Pizzola	Academic	
Andy	Roper	Commercial fishing	
Mark	Russell	Aggregates	
Ben	Southerland	Commercial fishing	Unable to attend this meeting
Cyril	Southerland	Commercial fishing	Unable to attend this meeting
Rob	Spray	MCS	
John	Stipetic	MFA	Unable to attend this meeting
Judith	Stoutt	SFC	
Martin	Wiles	Recreational yachting	Unable to attend this meeting
Steven	Williamson	Processing	

In addition to the invited Hub members, the following members of Net Gain staff were present:

- Φ Steve Barnard – Stakeholder Manager
- Φ Dani Sewell – PR & Communications Manager
- Φ Katerina Wojtaszekova – GIS Data Officer
- Φ Stephen Donkor – GIS Support Officer
- Φ Enock Bamusi - Economist
- Φ Becky Radford – Liaison Officer
- Φ Dan Davis – Liaison Officer

Slide 1



Slide 2



Slide 3



Today's objectives
- what we hope to achieve

- Provide updates
 - information available
 - work undertaken
- Provide understanding of available tools
- Production of initial list of potential MCZ sites
- Development of draft sets of socio-economic and conservation benefit indicators
 - delivery of first iteration - how & when
- Communication to wider community & feedback

Slide 4



Running order

- Introductions
- Data & mapping – progress update
- Tools for data interpretation
- Briefing on site selection (break)
- Group work evaluating & developing draft proposals (incl.lunch & break)
- Socio-economic indicators & conservation benefits
- Plenary
- Next stages

Slide 5

Agreements for a productive meeting



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- Allow us to keep us all to time and to task
- If it doesn't make sense – do ASK
- Maximise everyone's chance to participate
- Please speak one at a time
- Write clearly, fully, big fat pens
- All questions / queries will be written up and answered
- Mobiles off please (or on silent)
- Whole team approach

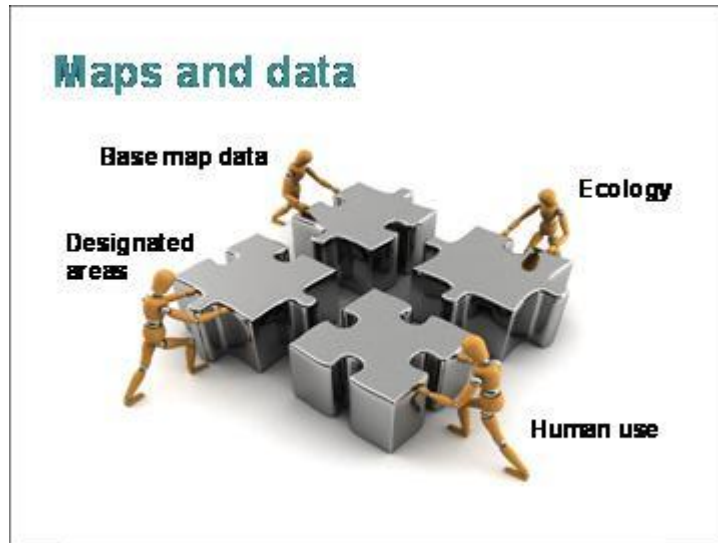
Slide 6

**Data & mapping
- update on progress**



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Slide 7



Slide 8



Slide 9



Outline

- **Ecological Network Guidance**
- **Data use / tools**
- **Gap analysis**
 - coverage by MPAs
- **Marxan**
 - use of outputs as initial options
- **Protection levels & compatibility matrices to inform debate**

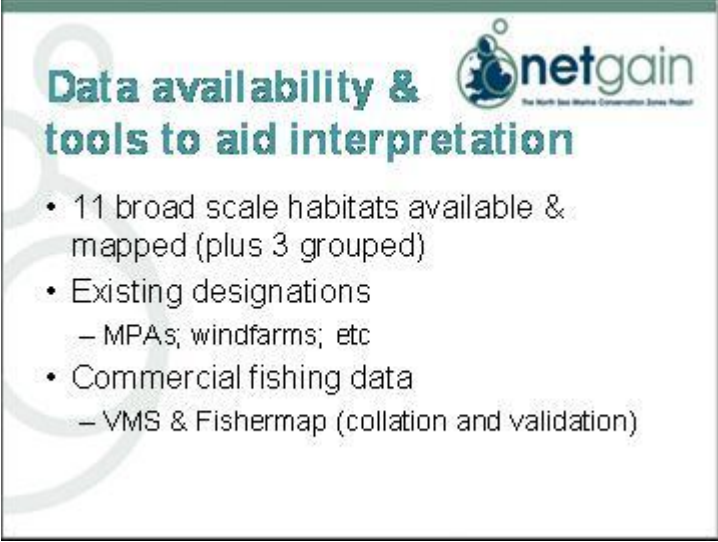
Slide 10



Ecological Network Guidance

- Seven guiding principles & additional design considerations
 - Representativity; Replication; Adequacy; Viability; Connectivity; Protection; and using Best Available Evidence
- Final version signed off
 - minor changes since last version
- Summary available on Net Gain website

Slide 11



Data availability & tools to aid interpretation

- 11 broad scale habitats available & mapped (plus 3 grouped)
- Existing designations
 - MPAs; windfarms; etc
- Commercial fishing data
 - VMS & Fishermap (collation and validation)

As Chiara has explained, information on 11 broad scale habitats is available and has been mapped.


This needs to be combined with other data sets as part of the planning process.

With this in mind I'd like to spend the next 15 minutes or so talking to you about how we can use the broad scale habitats data and other information, and what tools we can use to help make sense of it all.

Just to set the scene: in the examples I'll talk about I will, in addition to the broad scale habitat data, use information on existing MPAs (SACs, SPAs and SSSIs) and on the locations of developed areas such as windfarms.

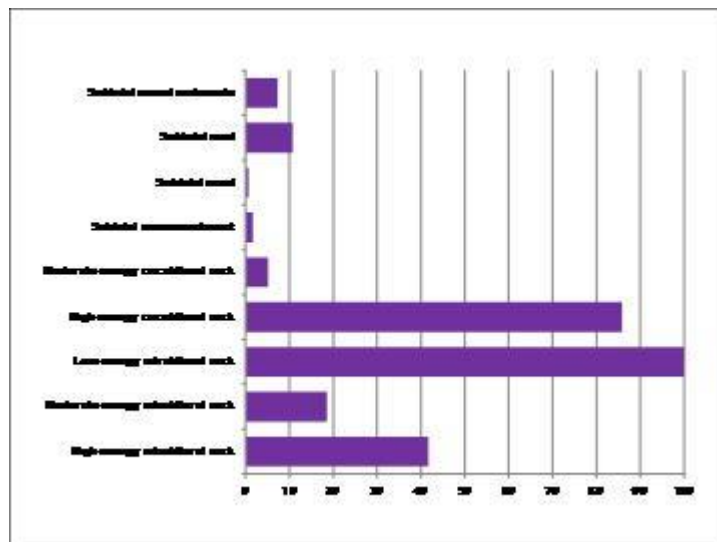
We are in the middle of collating and verifying our Fishermap data. As you will know, this is interview based information collected by our liaison officers from individual fishermen. This data will give use detailed information on fishing gear types, fishing locations and the relative importance of different fishing grounds. Unfortunately this data is not available to use yet and so, in its place, we have provided VMS data from the period 2006-7. I'll just say now that we recognise the limitations of this dataset (both in terms of its coverage and its level of detail) but it provides a rough surrogate for the more detailed information we will be using later on the project.

Slide 12

Gap analysis 


- Target areas from ENG
- Some potential for positioning MCZs coincident with existing MPAs - coverage?
- Initial gap analysis:
 - 9 broad scale habitats in Net Gain area coincident within designated MPAs
 - Varying percentage of total habitat covered
 - No detail on feature management within MPAs
- Phase II gap analysis due later this summer

Slide 13



Three habitats – high energy circalittoral rock, low energy infralittoral rock and high energy infralittoral rock – are all very well represented within existing MPAs. Indeed, if the management measures in place in these MPAs provide protection for these broad scale habitats then they already satisfy the requirements as laid out in the ENG. However, other classes of broad scale habitat are not very well covered by existing MPAs in the Net Gain area and will need to be specifically protected by new MCZs. More detail on this initial Gap Analysis is available in a briefing note.

Slide 14



Marxan

- IS a decision support tool to help guide the selection of conservation networks
- IS the most widely used conservation planning software in the world
- IS a way of showing how resources can be efficiently allocated across a range of different uses (conservation, commercial, recreation)
- IS NOT a way of providing 'the answer' - in most cases it will provide many good solutions to the problem at hand

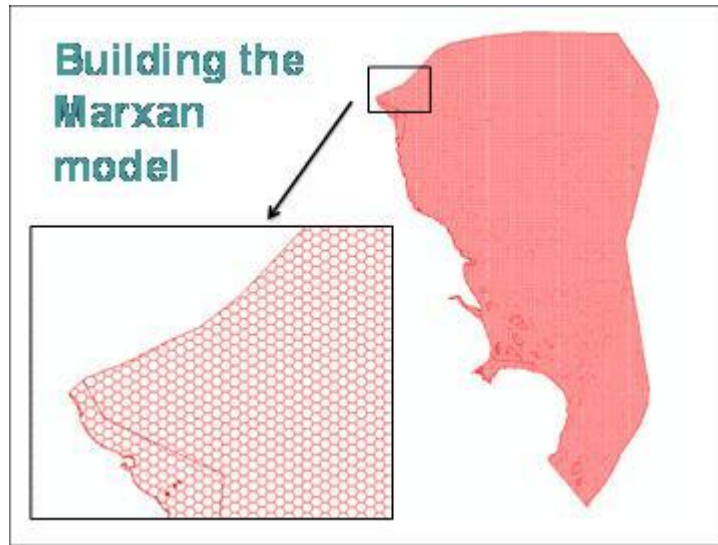
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In using Marxan we are not moving away from our original idea of not drawing lines on maps but instead are responding to ideas and suggestions from stakeholders. In part, its adoption is the result of suggestions made by members of planning groups in the other regional MCZ projects and from some members of our own Regional Hubs who called for some initial areas to be suggested and made available for debate.

As a project we need to develop a means by which you, the stakeholders, can come to terms with multiple sets of geographically coincident data and rationalise the placing of potential MCZs such that the resultant network meets the requirements of the ENG. This is clearly and enormous task and we believe that we can help you in this process by providing a form of starting point to kick start debate and discussion. At the end of the day however, we will not force the Regional Hubs to use Marxan outputs – it is simply an attempt on our part to provide you with another tool to help you in your deliberations.

I think that the use of Marxan will prove to be a useful way of looking at the data in the Hub meetings and with that in mind I'll walk you through how Marxan comes up with its initial options.

Slide 15



Marxan can be operated at different scales so if we want to be able to make use of inshore data at a more refined level we can do.

This might be because:

- our data is more detailed in the first place, and
- is where a lot of stakeholders activities take place.

But to simplify this initial Marxan example we have used the same resolution inshore and offshore (both 5km² cells).

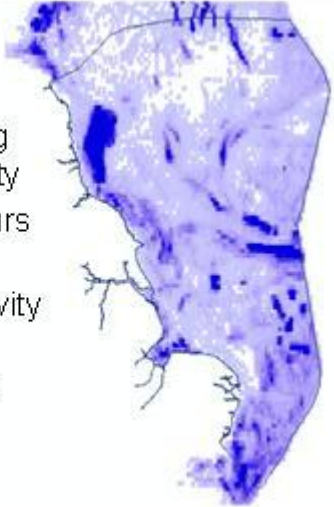
In the simple scenario presented here each cell in the Marxan model is checked against current data sets to see whether it is already within an existing MPA. Such cells would be automatically selected in any possible selection scenarios – in Marxan-speak they would be 'conserved'.

Conversely, areas that are, for example, under current windfarm developments will be excluded from the possible selection scenarios.

Slide 16

Fishing activity data

- Initial example using overall fishing activity
- Total number of hours per year (VMS)
- Areas of higher activity 'avoided'
- Lower activity areas 'preferred'

A map of a coastal region, likely the west coast of Scotland, showing fishing activity data. The map is color-coded in shades of blue and purple, with darker colors indicating higher activity. The activity is concentrated in the coastal waters and around the major river estuaries.

The example we have today is based on VMS data – an amalgamation of all gear types and all sizes of vessel – taken from the period 2006-7.

The actual units are, for this example, irrelevant – what is important is that the use of VMS in this way provides a measure of the relative intensity of fishing effort at any given site.

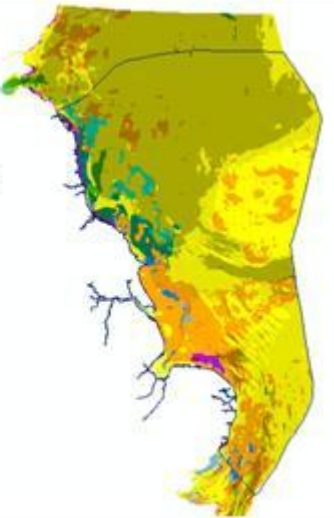
Once we have collated and verified a representative sample of commercial fishing data (derived from the fishermap questionnaires that our liaison officers are working hard to complete with commercial fishermen from across the area) then this data can be used to provide fishing activity data in far more detail. Such data would give a breakdown in terms of different gears for example.

The Marxan software uses this data on fishing effort to identify areas to be avoided, or areas to favour, when it comes to locating possible MCZs.

Slide 17

Habitat data

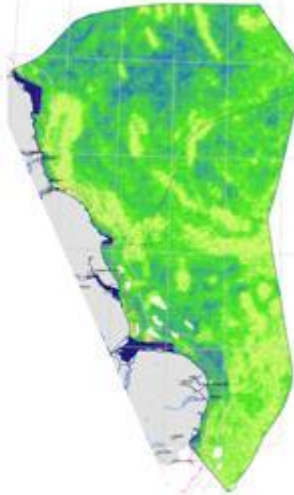
- This example uses broad scale habitat
- Also uses existing MPAs, existing windfarms
- Can also use:
 - habitats FOCI
 - species FOCI
 - geological features

A map of the same coastal region as in Slide 16, showing habitat data. The map is color-coded in shades of yellow, orange, and green, with darker colors indicating higher habitat value. The habitat is concentrated in the coastal waters and around the major river estuaries.

Slide 18

Selection likelihood

- Each Marxan 'run' consists of many thousands of trials
- Existing MPAs increase the likelihood of cell selection by the model
- High fishing activity or windfarm presence reduce likelihood of cell selection
- Multiple runs (100x) used to produce density map



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Initial selections

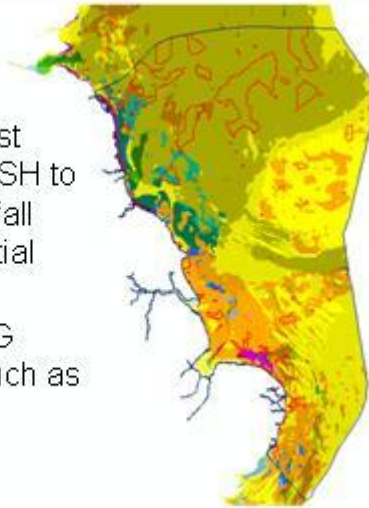
- Selection scores (density map) used to derive 'best' portfolio of areas for MCZ sites (shown in red)
- Can be used as initial starting point for selecting potential MCZs



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Selections by habitat

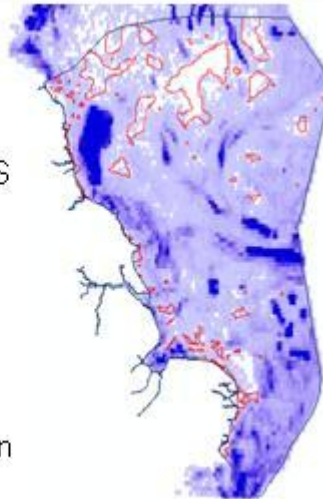
- Can overlay 'best portfolio' over BSH to see how BSHs fall into each potential site
- Apply other ENG requirements such as connectivity



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Selections by impact

- Overlay of 'best portfolio' with VMS fishing intensity
- Site options from Marxan
 - meet ENG requirements
 - seek to reduce potential impact on fishing activity





Protection levels
- an aid to discussions

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- Although not recommending management measures, stakeholders need to understand implications of site selection
- Ultimately will be provided with detailed matrix relating:
 - features to be protected;
 - sensitivities; and
 - pressures

It is the formal role of regional projects:

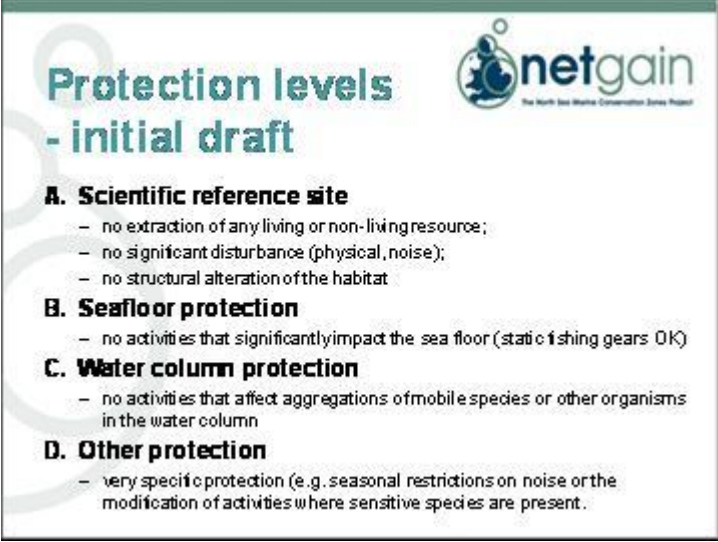
- to make recommendations on the size and location of Marine Conservation Zone (MCZ) sites (i.e. the boundaries of each site);
- to produce conservation objectives for each site; and
- to produce impact assessments.

It is not the role of the regional projects to recommend what management measures are required in order to achieve the conservation objectives. However, when developing an opinion on a proposal to recommend a given area or site as an MCZ, stakeholders need to understand how their sector, their activities and the features within the site would be affected.

This means that they need to be able to talk about the likely management *requirements* for a proposed site.

In its simplest terms guidance to support these discussions will need to relate 'what feature is being protected' to 'what processes could potentially affect the feature' and then relate these process to the activities that could give rise to them.

This guidance is being produced and will be available later in the year. However, because you need to have an understanding of the likely implications of site selection, there is the need in the mean time to provide some interim guidance on protection to help support discussions. An initial draft of four levels of protection has been produced to support this and is available to you all today to help in your discussions.



Protection levels
- initial draft

A. Scientific reference site

- no extraction of any living or non-living resource;
- no significant disturbance (physical, noise);
- no structural alteration of the habitat

B. Seafloor protection

- no activities that significantly impact the sea floor (static fishing gears OK)

C. Water column protection

- no activities that affect aggregations of mobile species or other organisms in the water column

D. Other protection

- very specific protection (e.g. seasonal restrictions on noise or the modification of activities where sensitive species are present).

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So we have provided you with an interim protection level framework (which has been adopted from the scheme developed and used by the Finding Sanctuary project). An alternative approach is to go the more detailed compatibility matrix. This is currently only in draft form (it doesn't provide the detail on sensitivities but just relates features – in this case broad scale habitats – to activities). To help with your deliberations today and to help you understand more about the tools that are available to help you I have supplied copies of this draft.

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Compatibility matrices

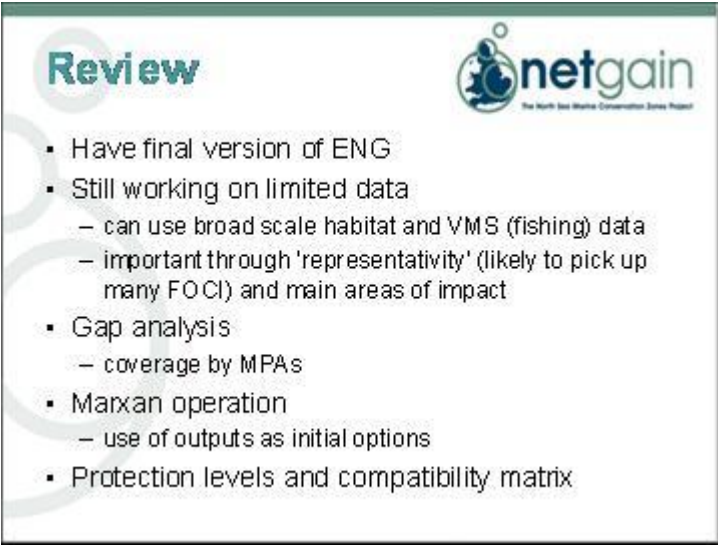
- Protection levels will be replaced by linked matrices detailing:
 - features to be protected;
 - their sensitivities; and
 - relevant pressures (activities)
- Draft for broad scale habitats available
 - traffic light colour-coding for compatible activities

Protection levels will be replaced by linked matrices detailing:

- features to be protected;
- their sensitivities; and
- the pressures (activities) that may have a bearing on the given sensitivities.

Draft for broad scale habitats available – has a traffic light colour-coding for compatible activities

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Review

- Have final version of ENG
- Still working on limited data
 - can use broad scale habitat and VMS (fishing) data
 - important through 'representativity' (likely to pick up many FOCI) and main areas of impact
- Gap analysis
 - coverage by MPAs
- Marxan operation
 - use of outputs as initial options
- Protection levels and compatibility matrix

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Maps
Option selection & assessment

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**Briefings &
Main mapping exercises**

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Main mapping exercise - suggestions 

1. Overlay Marxan with broad scale habitat acetate
2. Focus on which areas could be used to satisfy the ENG targets for broad scale habitat – mark these on chart with **black pen** - Give each possible MCZ area a unique letter
3. Indicate level of contention for each site:
 - **Green – broad support;**
 - **Blue – moderately contentious; or**
 - **Red – highly contentious.**
4. Starting with red sites complete impact/benefit table

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Socio-Economic Indicators

- Travel distance and fuel costs
- Time away
- Maritime stress
- Costs
- Fuel, supplies, others
- Employment / satisfaction
- Boat / equipment
- Income
- Skilling
- Employment of activities
- Cultural heritage
- Presence of different species
- CO₂ emissions
- Level of past activities
- Throughput of communities
- GDP for local communities
- Indirect social effects
- Displacement of other businesses or activities
- Distribution of activities
- Income for ports
- Skills, education, training, knowledge, equipment

Conservation benefits

- Increase in size and quality
- Habitat — reduce destruction
- No significant decrease from baseline
- Persistence and abundance — range and distribution
- Productivity / overyield (in adjacent areas)
- Connectivity — esp for mobile species
- Wildlife/public ecosystem benefits (e.g. mobile species / birds) e.g. Gulliforms
- Parasites reduction
- Recovery
- Eased / economic benefits

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**Evaluation &
feedback**

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Next steps

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Reporting / sector feedback
Future meetings
w/c 13th or 20th September

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