

Note of workshop on joint data and research priorities

Berwick Youth Hostel

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Present:

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Apologies:

David Feige (Northumberland County Council), Malcolm Fraser (SNH), Duncan Hutt (Northumberland Wildlife Trust), Stuart Pudney (Northumbrian Water), Fay Hiatt (River Tweed Commission), Andy Tharme (Scottish Borders Council), Christine Bell (Eyemouth Harbour), Doreen Bell (Scottish Water), Natalie Wallace (NIFCA), Simon Lee (National Trust), Andrew Craggs (Natural England)

1. Aims of the workshop

The aims of the workshop were:

- To find out more about what data/research already exists
- To identify priority knowledge gaps and research questions for the partnership
- To identify actions to address these knowledge gaps/questions

2. Summary of workshop sessions

Workshop session 1: Reviewing existing data collection and monitoring

The first workshop session looked at what data and monitoring activity is currently taking place. A list of current activity was presented which was annotated and corrected by attendees. The modified list is given in Annex 1.

Workshop session 2: Knowledge gaps and research needs

The second workshop session looked at knowledge gaps and research needs.

Prior to the workshop a list of potential research questions was sourced from Marine Nature Partnership members. Attendees reviewed these questions and provided comments and annotations. The original list of questions and the comments received are shown in Annex 2.

Participants then produced their own list of their top 3 research questions on post-it notes. These were then grouped into common themes and discussed. The main theme clusters identified were around:

- Disturbance
- Fishing and hand-gathering
- Coastal ecosystems and coastal change
- Engagement and communications

A small number of research questions were also received around novel monitoring techniques (UAVs etc), marine litter, and opportunities for habitat enhancement.

A summary of the discussions around each the four main clusters is given below:

Disturbance:

Need a better understanding of:

- What constitutes disturbance?
- How disturbance can be demonstrated?
- How disturbance be best managed and regulated?
- Locations of hotspots for disturbance

Particular interest in developing a better understanding of the impacts of disturbance on:

- Terns
- Kittiwakes
- Guillemot
- Eider
- Purple sandpiper
- Turnstone

Fisheries and hand-gathering

Need for baselines against which to measure impacts

Need better understanding needed of:

- The impacts of trawling, especially of local impacts on mud features and reef
- Impacts of hand-gathering activities (particularly periwinkle)
- The environmental impacts of the use of bait to support potting activities
- The link between impacts of hand gathering and site accessibility
- The extent and impact of crab tiling (especially where it involves the use of tyres)
- How best to enforce/regulate if impacts found

Coastal ecosystems and coastal change:

Horizon scanning needed on likely future coastal change and its impacts on habitats, species (including non-native species) and ecosystems. Also need to look at how change can be monitored and managed.

Better understanding needed of the ecosystem services being provided on the coast, including mapping and quantifying of ecosystem services. Potential for linking work on ecosystem services to people engagement.

Need for baselines against which to measure impacts

Engagement and communications:

Need for baseline data to support monitoring of effectiveness of Codes of Conduct and other interventions

Need better understanding of:

- What constitutes an effective Code of Conduct?
- What tools work best to communicate with stakeholders?
- Effective techniques for building wider engagement with nature

3. Next steps

A common theme throughout all the discussions in Workshop 2 was the need to develop baselines against which changes or impacts could be assessed. This would appear to be an area of joint priority for members of the Marine Nature Partnership. Action to address this is likely to require mapping and mobilisation of historic data and could include elements of public engagement.

There was insufficient time remaining for a full discussion of next steps and potential joint activities. NB will convene a further meeting to identify what further actions are needed.

Annex 1: List of monitoring or data collection activity derived through workshop session 1

Monitoring or data collection activity	Organisations who collect information	Details
Monitoring condition of N2K sites	SNH	
	Natural England	
	National Trust for Scotland	Seabird monitoring on St Abbs SPA
Monitoring condition of MCZs	Natural England	baseline monitoring on Coquet to St Mary's MCZ Aln Estuary monitoring in partnership with NIFCA - monitoring of hand gathering/bait collection and fish surveys
Monitoring condition of SSSIs	SNH	
	Natural England	
Monitoring of Grey Seals	National Trust for Scotland	Annual counts of SSSI/SAC beaches
	National Trust	Annual pub counts on Farne Islands
	Sea Mammal Research Unit	Sea usage maps on website
	Natural England	Condition monitoring
Habitat mapping	St Abbs and Eyemouth VMR	Seabed mapping project
	NIFCA	Broadscale habitat mapping with multibeam sonar during patrols
	Defra (CEFAS/EA/NE)	Possibility of North of BNNC SAC mapping, historic BNNC SAC and MCZ data
Extent/condition of sea-grass beds	Natural England	Monitoring at Lindisfarne NNR
	NIFCA	2017 survey
	EA	Annual survey at Lindisfarne
Extent/condition of mudflats	Natural England	Monitoring at Lindisfarne NNR and Tweed Estuary SAC plus shallow inlets and bays
	EA	Macroalgae surveys at Lindisfarne
Location/condition of sea caves	SNH	Surveys to assess the condition of the sea cave feature of the Berwickshire and North Northumberland Coast SAC
	Natural England	NE monitored littoral sea caves in 2016. SNH will then monitor sub-tidal sea caves

Extent/condition of rocky reef	SNH	Surveys to assess the condition of the reef feature of the Berwickshire and North Northumberland Coast SAC
	Natural England	Intertidal reefs last surveyed in 2014 Subtidal reefs last surveyed in 2010
Extent/condition of Saltmarsh	Natural England	As part of SSSI condition monitoring
	EA	WFD monitoring at Holy Island/Budle Bay/Coquet and Aln
Extent/condition of mussel beds	NIFCA	Annual surveys at Lindisfarne and the Blyth estuary
	EA	Annual surveys at Holy Island, Blyth and Tyne for bioaccumulation for WFD
Extent/condition of subtidal sediments	SNH	
	Natural England	MSFD project in Coquet to St Mary's MCZ and BNNC SAC with Newcastle University and NIFCA
Fish species/numbers	NIFCA	Twice yearly surveys of the Aln Estuary MCZ Previous surveys at Long Nanny and Druridge Bay
	River Tweed Commission	
	EA	Autumn TraC fish surveys on Tweed with seine and fyke nets
	St Abbs and Eyemouth VMR	Wolfish project (Citizen Science)
Water Quality	SEPA	WFD monitoring and bathing water quality monitoring
	Environment Agency	EA also carry out nutrient monitoring at Holy Island and on the Coquet catchment
	Northumbrian Water	Combined sewer overflow annual spill data (event duration monitoring) Bathing water quality data (Cullercoats) Geology info for bathing water and WFD
Presence of Non-Native Species	Natural England	
	Environment Agency	MSc project with Newcastle University in second year
	Scottish Natural Heritage	
	Marine Scotland	

Aircraft Disturbance to birds	National Trust	Aircraft disturbance at Long Nanny tern colony logged by seasonal wardens
	RSPB	Record keeping at Coquet Island?
	National Trust for Scotland	
Monitoring of breeding seabirds	Natural England	Monitoring of shorebirds at Lindisfarne NNR
	National Trust	Monitoring of breeding bird numbers and the productivity of selected species at Farne Islands and at Long Nanny
	National Trust for Scotland	Monitoring of seabird numbers at St Abbs Head and the productivity of kittiwakes and shags
	RSPB	Monitoring of seabird numbers on Coquet Island Seabird tracking data on RSPB open data portal
	Coast Care	Breeding ringed plover (Lindisfarne to Howick) `
Monitoring of wintering bird numbers	BTO	Wetland Bird Survey
Beach Litter/Marine Litter	Marine Nature Partnership	
	St Abbs and Eyemouth VMR	
	Coast Care Northumberland	
	Marine Conservation Society	
	Northumbrian Water	Beach clean survey data - annual trends and sources
Recreational usage of the coast	Newcastle University	Data from Coastxplore app (CoCoast) Paula Lightfoot research project
	National Trust	Records of visitor numbers to the Farne Islands
	St Abbs and Eyemouth VMR	Pressure mapping of activities with the VMR (mapped using survey 123 onto GIS/Epicollect)
Recreational disturbance	National Trust	Recording of disturbance at Long Nanny tern colony
	National Trust for Scotland	Work with local Universities on studies into impacts of disturbance
Anchoring	National Trust	Recording of numbers and locations of vessels anchoring around the Farne Islands
Boat launching	?	Historic data from Beadnell collected by Claire Hedley
Dead or stranded marine	The Scottish Marine Animal	

mammals	Stranding Scheme	
	The UK Cetacean Strandings Investigation Programme	
Dead seabirds	North East Beached Bird Surveys (NEBBS)	Northumberland/North Tyneside only NIFCA carries out NEBBS surveys on Druridge Bay and Beadnell Bay
	National Trust for Scotland/RSPB	Beached bird survey every February
Fisheries	NIFCA	Lobster stock assessment Escape gap survey Permit holder catch returns Brown crab data collection from 2019 Hand gathering/bait collection data collected Sightings of fisheries activity recorded
	River Tweed Commission	Fish catches on the Tweed catchment
	St Abbs and Eyemouth VMR	Population dynamics of brown crab and lobster
	CEFAS	Nethrops monitoring in Farnes Deep
Water chemistry and temperature	Marine Scotland	Temperature, salinity , and water chemistry data collected at St Abbs
	North East Coastal Group	Temperature data from buoy at Newbiggin
	St Abbs and Eyemouth VMR	30 temperature loggers on creel pots throughout the reserve
	EA	Offshore water quality samples taken by national team
Shoreline Monitoring Programme	Environment Agency	Bathymetry data etc. on NECO website
	Local Authorities/RFCC	Coastal erosion monitoring
Other	National Trust	Volunteer archive group collating past data
	Marine Life/NECP	Monitoring of cetaceans and seabirds in the North Sea
	St Abbs and Eyemouth VMR	Annual ecological surveys: towed underwater video baited video 360 degree video biological sampling
	NIFCA	MPA assessments and monitoring of fishing impacts on protected features

Annex 2 - list of potential resource questions sourced from MNP members. Additions/annotations from workshop are shown in red

Activities and Impacts

- What are the impacts of periwinkle collection from the coast?
Not monitored, as far as I know, along the Berwickshire coast (LC)
Potential to look elsewhere in the country. Cockle fisheries in North West and in the Wash. Would be good to quantify the scale and extent of activity (NIFCA)
Possibly ID a target area, e.g. Lindisfarne National Nature Reserve, for a focused project (CS)
NIFCA evidence gathering: amounts of periwinkle harvesting; hotspots in activity (NIFCA)
Study: Quigley and Frid 1998 (online); PhD study Ashleigh Tinimm McKenzie 2017 (NIFCA)
- What are the impacts of cockle raking at Lindisfarne?
- What are the impacts of scallop dredging on benthic habitat (comparing an area closed to dredging with an adjacent dredged area)? + recovery times. There are contentious studies on this in Cardigan Bay marine SAC 'Kaiser Box' (GP)
- What are the impacts of light otter trawling on subtidal mud in a dynamic environment?
- What is the extent and impact of crab tiling (tyres, tiles and any other material put down to create shelter for peeler crab) on the coast? EA would be interested in this - waste management implications
- What impact is marine litter having on wildlife and habitats along the Berwickshire and Northumberland coast?
Historic analysis of marine litter, sources, types and quantities and recommended actions (JMc)
Impact of microplastics in the marine environment. Prof. Richard Thompson Plymouth University - papers and ongoing research (JMc)
St Abbs Marine Station has students looking into microplastic effects on wildlife and habitats (JR)
- What areas of the coast are most sensitive to disturbance and to recreational pressures?
St Abbs Head (LC)
Lindisfarne NNR, Low Newton, Farnes (CS)

Pressure mapping recreational users within the boundary of the VMR:

- Divers
- Anglers
- Dive boat operators
- Recreational fishermen (VMR)

Disturbance effects of marine traffic on protected species in Northumberland Marine SPA (NIFCA)

Sightings of bait collection activity: potential to map for patrol effort and ID hotspots (NIFCA)

- Where are the key areas for certain management pressures, e.g, anchoring, bait collection etc?
- Which areas suffer the greatest level of disturbance and how does this changes across the year?

St Abbs Head (LC)

Lindisfarne NNR, Low Newton, Farnes (CS)

Coastal change

- How is the habitats and species of the Berwickshire and Northumberland coast likely to change in coming decades?

Declines in seabirds - local and global impact (LC)

Changes in species composition (GP)

Assessment of historically held data by the National Trust, NTS, NE, St Abbs VMR with focus on climate change indices to establish baselines, e.g. seabirds, seagrass, saltmarsh (CS)

- What features of the current network of marine protected areas are likely to be particularly vulnerable to future coastal change?

Seabirds (LC)

- Are new management actions needed to address or pre-empt future coastal change?

Use of coastal change projections to feed into Shoreline Management Plans (GP)

Increase in recreational use

Species, Habitats, and Ecosystems

- How are key species currently distributed along the Berwickshire and Northumberland coast?
What do you mean by "key"? (CS)
Pipefish. What are they doing? (GP)
Factors affecting the abundance of pipefish/sandeels/herring
Sandeels !!!!
Citizen Science projects - wolfish spotting mapped locations on GIS. Time, location, temp, how many, habitat description (VMR)
- How does habitat use by key species change across their lifecycle or across the year?
- Location of seabird feeding areas + wind farms! (LC)
- What is the extent and condition of key coastal/marine habitats?
Historic and current
Should NE be doing this - statutory obligation?
Saltmarsh at Aln and Coquet post 4Shores project. EA are doing first survey since 2011
- How can emerging concepts (essential fish habitat, natural capital, ecosystem services, ecosystem based management) be applied to the North East of England and South East of Scotland coast?
+ 'rewilding our seas' (GP)
- What ecosystem services are being provided by our inshore MPAs?
- How resistant/resilient are ecosystems to anthropogenic/non-anthropogenic change?
- Are the numbers and extent of non-native species increasing along the Berwickshire and Northumberland coast?
NCL Uni MSc project: Long term monitoring of marine invasives in Northumberland
- What opportunities exist to create or restore new coastal or marine habitats?
Are some habitats more likely to be created or restored than others?
REMEMARE project (EA) - managed realignment schemes (saltmarsh)

- What opportunities exist to improve the quality of grey infrastructure for marine and coastal species?

See “Estuary Edges” techniques, e.g. habitat diversity by using different textured materials

- Can UAVs/remote sensing be used for quantifying the intensity and extent of intertidal activity (e.g. bait collection/hand gathering) and for intertidal mussel bed surveys?

Yes if used sensitively. There are, however, difficulties in using this type of research. Drones - currently looking into use for seal pub surveys (NT) and cliff nesting seabirds (RSPB Bempton) (GP)

Public Perception and Understanding

Codes of Conduct - consistency across the MNP (LC)

- To what extent do the public understand the importance of our MPAs and the pressures that they are under?
- How do we engage better with stakeholders to get across the importance of the environment? (CS)
- What methods work best for raising awareness among the public of our local marine environment?
Understanding of coastal change - perceptions, awareness raising (GP)
What data does the public have? Bird photographs? (CS)

Other?

- Location of potential nesting sites for terns and ringed plover (NCC/AONB)
 - Habitat mapping/risk matrix for little tern (GP)
- Location of high tide bird roosts (NCC/AONB)
- Vulnerability assessments of different areas of shore to disturbance (NCC/AONB)
- To understand the squid fisheries in the south east of Scotland (VMR)
- Marine pollution - impacts of PCBs on orcas, seals etc in inshore waters
- What is the effect of baiting of creels in the local ecosystem on the Berwickshire coast - possible ranching of lobster (VMR)