



Plymouth Sound & Tamar Estuaries European Marine Site Workshop

Engaging research & monitoring with management practices Friday 29th November 2013 Marine Biological Association, Plymouth Notes of meeting

1. Present

See list appended.

2. Introduction – Keith Hiscock

- The Plymouth marine fauna book is an invaluable resource for any monitoring work for the area. Available online on the MBA website
- Comparison of recent surveys with sites surveyed in the 1986 Nature Conservancy Council survey show that most areas have had little change, although there are some notable differences such as the pink seafan extending its range further into the sound
- MBA website has a collection of Keith's archived photos of the Sound area available for reference

3. The Management plan for EMS and Challenges - Kaja Curry

Plymouth has a number of overlapping designations. The European Marine Site (EMS) stretches throughout most of the tidal waters excluding the River Plym. The habitats protected including subtidal rocky reefs, sandbanks and important species including allis shad.

The EMS is not a sterile nature reserve at the heart of the designation is people. Huge amounts of activities occur here:

Approximately 4000 boats

4 Port Authorities

Largest Naval port in Western Europe.

Question – How to encourage activities and protect environment?

The EMS is collaboratively managed with no single organisation in charge (15 organisations) TECF is funded through key organisations and provided through Plymouth City Council. Partner organisations want to focus on things that they have to do (statutory requirements). DPSIR approach?

Can this be a useful model to identify a suite of indicators?

Adaptive management – Would it be possible to match this to activities.

Large amount of monitoring in the EMS by lots of organisations – Can we bring all of these together to provide a snapshot of health?

Is it possible to have a simple approach?

4. Natural England's Monitoring Programme – Gavin Black

Natural England leads monitoring of site condition

NE has obligation to report on condition every 6 years for European sites.

The focus on monitoring may shift from solely inside EMS to outside as well.

Favourable condition at a site level is then used to show favourable conservation status of protected features at a national level.

- Objective of all English MPA's is to reach a 'favourable condition' using attributes from the JNCC common standards monitoring guidance
- Ecological attributes: Extent, biotope composition
- Environmental attributes: Water Clarity, sedimentation rate
- Targets relate to how the condition of the site was at/or near the time of designation

Considerations in targeting monitoring effort: -

- Risk from anthropogenic impact
- Age/quality of existing data sets
- Natural temporal variability
- Constraints/opportunities

The Plymouth Sound and Estuaries SAC has 8 designated features

- Sandbanks which are slightly covered by sea water all the time
- Estuaries
- Large shallow inlets and bays
- Reefs
- Atlantic Salt meadows
- Mudflats and sandflats not covered by sea water at low tide
- Shore dock
- Allis Shad

The Tamar Estuaries complex SPA has 2 designated species

- Little Egret
- Avocet

Tamar Estuary now a designated MCZ for the following features

- Intertidal biogenic reefs
- Intertidal coarse sediment
- Blue Mussel beds
- Native Oyster
- Smelt

The area has 6 designated SSSI sites

- Yealm Estuary
- -Wembury
- Plymouth sound shore & Cliffs
- St John's Lake

- Lynher Estuary
- Tamar Tavy

Recent Surveys by Natural England

2009 diving survey of seagrass beds 2010 intertidal surveys of Lynher and Tamar 2011 subtidal sediment grab sampling

2011 subtidal cobble communities video survey

2012 diving survey of kelp communities

2012 diving and video survey of seagrass beds

2013 diving survey of subtidal reefs

2013 saltmarsh survey

Ongoing informal assessment of Allis shad

Anticipated Future Surveys

2014 baseline conditions for MCZ features 2015 intertidal rocky shore survey

2016 estuarine subtidal sediment and reef survey

2016 subtidal sandbanks survey

2017 kelp forest survey

2017 seagrass survey

- Understand 6 years between surveys is a long time and that significant changes can occur in this time, however resources dictate survey efforts
- Determining causes are changes natural or anthropogenic? Reliant on other data to inform our assessment of condition, particularly activities data. Are we seeing whole picture?
- Opportunities for sharing resources and data
- Water Framework Directive (WFD), MSFD, Civil Hydrography Programme (CHP) and other statutory drivers all involve data collection
- Partnerships and other collaborations offer many opportunities Public sector: EA, Cefas, MCA, IFCAs, PCC, CCO etc Institutions and NGOs: Plymouth University, MBA, Seasearch etc
- Open Government License seeks to share data "Gather once, use many times"

Future Improvements

- Establish a continuous process for capturing feature exposure to activities
- Collaborative approach provides further opportunities to refine our approach e.g. allowing more frequent sampling
- Expand programme to include MCZs, SPAs, and SSSIs
- UK Marine Biodiversity Monitoring R&D programme will identify options for delivering integrated monitoring: inside and outside MPAs
- Prioritisation process will change, but should retain key elements of Risk Based Approach

Summary

- Scale of the task and limited resources force us to prioritise
- Makes sense to prioritise monitoring on those features subject to most risk for more frequent survey to detect deterioration & support adaptive management
- Collaboration with other marine agencies provides efficiencies and increased capacity
- Explore feasibility of a combination of periodic 'intensive survey' with more frequent, but less intensive sampling to better assess natural variability & detect deterioration / recovery

5. Authorities

Environment Agency – Tamsin Sutton

Monitor the following: -Water Framework Directive Bathing Waters Shellfish

Water Framework Directive

- 3 water bodies associated with Tamar estuaries
- Last one was in 2009
- Next one is due in 2015
- All elements in good or higher condition apart from dissolved inorganic nitrogen (moderate) classed as a fail, and TBT.

Transitional zone

- -TBT
- Benthic

Plymouth Sound

- Subtidal benthic invertebrates
- Phytoplankton
- Dissolved Oxygen
- Dissolved Inorganic Nitrogen

Plymouth Coastal

- Benthic Invertebrates

Bathing Waters Monitoring

- Occurs every year from mid May – September

Urban diffuse pollution

- Shellfish water monitoring
- 4 beds 2 on the Yealm

Fisheries

- No active monitoring in the Tamar
- -Salmon/sea trout monitoring at Gunnislake (fish trap)
- -Allis Shad and Sea lamprey counted when seen
- Also working with IFCA for agreement on net limitation order
- EA would be interested in any data on the condition and monitoring of Smelt

Marine Management Organisation - Neal Gray

Areas of work

- Management of fisheries
- Enforcement
- Licensing
- Defra has overall responsibility and accountability, MMO report quarterly to Defra.
- Fisherman in the area have overall been supportive of the recent MCZ designation
- No Direct monitoring of the EMS apart from infringements under the habitats regulations.

Devon IFCA Katherine Gray

- Mainly recreational monitoring in the EMS

Crab Tiling

Recent survey indicated 12,800 tiles in the Tamar estuary complex; this is an increase from 8,000 tiles recorded in the last survey in 2004.

Bait Digging

Recording where people are digging ragworm & lugworm, speaking to people how often they are doing it, how much they expect to collect.

Recreational angling

Involved asking recreational anglers what species they were catching, the numbers, if for private or commercial consumption, the socio-economic benefit/impacts

Cornwall IFCA

- Mussel bed monitoring
- -Survey work on native oyster planned for the future

MOD/DQHM - Kim Brown/Neil Trathan

Authority from seaward extent of SAC to tidal limit of the Tamar with three exceptions:

- Cattewater Harbour
- Sutton Harbour
- Millbay

DQHM

- Regularly monitor depth
- Hydrographic surveys

- Sound and Tamar surveyed for dredged areas every 6 months
- Breakwater surveyed Lidar surveys
- data passed on to UKHO

MOD

- Ecological surveys to support MOD developments only look at the footprint not the overall impact
- Benthic analysis
- Habitat mapping
- Bird disturbance
- Capital & maintenance dredging surveys
- Assessment of noise impacts
- Land quality assessments on MOD estates

6. NGOs

Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS - Gary Lewis

- Service level agreement with NE/EA allowing access to all data available at best resolution
- 4.5 million species records for the county
- Majority of data is terrestrial or intertidal, some pieces of data for cetacean sightings
- -Working with Devon Biodiversity Records Centre (DBRC) to provide easier access to data for cross boundary sites such as the Plymouth EMS
- ERCCIS welcomes any data from other organisations

Marine Conservation Society (MCS) - Dominic Flint

- Focus on sustainable fisheries and public engagement
- Not involved in much monitoring work but provide support for Seasearch
- Interested in how monitoring is going in the EMS and what future monitoring programmes will be occurring

National Marine Aquarium – David Gibson

- Mainly involved in public engagement and activity in local marine conservation
- Currently involved in Seagrass for Seahorses project which ranges from the Isles of Scilly to the Isle of Wight.

£0.5 million funding over 2 years – Targeting baseline monitoring of Seagrass beds and public engagement.

- All data received sent to Marlin.
- Currently has a 10 year obligation for monitoring the Scylla. Happy to share this data.

RSPB - Paul St Pierre

- Work in partnership with national bird surveys
- An evidence based organisation
- Would be useful to have survey evidence reports
- Interested in sensitivities and activities
- Currently have data gaps for the Tamar estuary

Cornwall Wildlife Trust/ British Trust for Ornithology - Peter Kent

CWT

Principle work involves landholding (leases intertidal from Kingsmill to Carl Green)

Not actively monitoring EMS

BTO

Conduct the Heronries survey – principally at Shillingham on the Lyhner. Next year there will be a more systematic Heronries survey.

Monitored passage birds last autumn

Cornwall Bird Watching and Preservation Society CBWPS

Has single bird records

Currently in the process of moving the recording system over to bird track which will be provided through the BTO and will allow people to submit straight into it.

Complete account of birds throughout the Lyhner currently underway.

Tamar Valley AONB – Corinna Woodall

- 200km² landscape designation & incorporates some of the rivers and estuaries in the Tamar
- AONB produces a management plan every 5 years
- 75% is funded by Defra
- Direct monitoring is mainly terrestrial
- Would be keen to receive any relevant data from other organisations to be able to enhance the AONB management report

Seasearch - Sally Sharrock

- All Seasearch volunteers go through rigorous training and assessment. All surveys conducted are verified and added to Marine recorder
- Records and survey data are freely available via the National Biodiversity Network
- For data purposes, anything surveys conducted in the Sound are classed as Devon
- All written reports available on the Seasearch website

Seasearch surveys in Plymouth include: -

- Eelgrass
- Fan shell surveys
- Breakwater fort (Including Pink seafan)
- Firestone Bay
- Wembury Bay
- Other reefs within the EMS

Welcome any other project suggestions

The Wetlands Bird Survey - Peter Reay

- Partnership between the BTO, RSPB and JNCC
- Provides total counts for non-breeding water birds, mostly by volunteers and local organisations on a monthly basis
- 12 Tamar web sections, also others around the Plymouth EMS such as Plymouth Sound
- Data quality has to be challenged due to the level of expertise of volunteers conducting survey
- Data available on the BTO website, in the WeBS section

Wembury Marine Centre – Catherine Andrews

- Large amount of time involved in educational activity at intertidal site around Wembury
- Involved in rocky shore survey work with School groups as well as the annual rocky shore volunteer survey

Follows 'shore thing' protocols, and all data is provided to the MBA.

7. Research Institutes

Plymouth University, Marine Institute – Martin Attrill

- Flying Array a non destructive video kit that floats just above the sea bed, therefore causing minimal disturbance (2 kits are available)
- Greatest resource is students. Hundreds of students are keen to do research projects
- Many are prepared to do voluntary/intern work experience

Plymouth University Marine Station - Alex Nimmo - Smith

- University is investing £4.65m in a new marine station
- Large amount of resources with a large potential for monitoring, however there can be problems with maintaining good standards. A good standards system needs to be agreed.
- Base for a fleet of vessels, ROVs, Sidescanners, core samplers, grabbers etc. Also base for HSE scuba training.
- Open to reciprocal data sharing eg. The university provides data, however in return organisations such as Natural England provide comparable surveys for students to use and compare data from.

Marine Biological Association – Harvey Tyler-Walters

- -36 separate long term data series spanning from 1902 to the present day
- 18 ongoing
- Rocky intertidal
- MarClim surveys
- Monitoring of fish space, use and marine renewable
- Shorething
- BIOBLITZ
- Zooplankton & fish larvae
- Data stored in DASSH (national data centre for marine species & habitats), accessible through the UK National Biodiversity Network

Plymouth Marine Laboratory - Tom Vance

- Highlighted that there is alot of data collected in the area that many organisations are unaware of, used for commercial purposes
- From current PML evidence, as a snapshot the general overview of the area looks healthy
- No major changes in species assemblages
- Most notable observation is a change in Kelp communities

Plymouth Coastal Observatory – Emerald Siggery

Data Collection surveys: -

- Topographic
- Bathymetric
- Hydrographic
- Aerial
- LiDAR
- Ecological

Western Channel Observatory – Tim Smyth

- -Sample every 6 months at Kingsand and Jennycliff
- Benthic grab sample

- -Analyse fluxes of gases
- Benthic samples every 2 months
- At same location, analyse sample every week, have been monitoring for 25 years
- Survey buoys also monitor every hour
- Very keen to share data and collaborate with other organisations

8. Workshop A – Birds and Intertidal group

1. To identify evidence gaps – what areas do we have less information on? What type of monitoring data do we need to focus on more (biology, sediment, hydrography)?

- Agreed Species/habitats are covered reasonably well

Recreation & Access (AONB)

- The public want more access. Currently no baseline data to measure for fishing activities, number of boats, number of sailing clubs, kayak groups and any other activities that increase disturbance
- Would like to gather more data on recreational activities so they know if they can/should be promoting more access to the AONB? Or if it will cause too much disturbance?
- Suggested that Westcountry Rivers Trust may have relevant data that could be beneficial
- Interested in economic growth impact and what pressures will drive these impacts
- A useful place to find data is the finding sanctuary report and the references for datasets/maps
- Local authorities have tight budgets, environmental budgets are being drastically cut, monitoring and evidence is affected by this
- The Tamar has a large amount of bird monitoring data, however the quality of some of it is variable
- Impression that there is a lack of fish monitoring data
- Need to consider monitoring birds outside of the SPA boundary also to include bird movements
- It seems to be more expensive to collect marine data in comparison with terrestrial data and monitoring, this needs considering for ways to improve cost
- The majority of bird data collected is by visual sightings in the daytime, therefore there is a lack of data for monitoring birds at night. Night time monitoring could show different patterns and how bird numbers are linked to pressures in the day

2. How can collaborations be formed to improve efficiency in monitoring?

- Noted there appears to be a lack of join up between Devon and Cornwall statutory decision makers and working together for in combination effects
- It is important to have data explained and in context so that it is interpreted correctly, as opposed to just making data available with no explanation. Meetings between decision makers are important to discuss different data.
- There appears to be a lack of socio-economic data. For example what is the value of areas in terms of financial cost if they are lost? More cost benefit analysis required.
- ESI in Falmouth is involved in some mapping, however very academic focused
- The European Centre for Human Health has done some studies into the impact of the environment on health, including health and well being monitoring in Plymouth
- A 'favourable' condition assessment for an overall site could be misinterpreted that all the sub areas of the site are in a 'favourable' condition, when many sub areas may be in an 'unfavourable' condition

- Different organisations and groups have different views/priorities on what issues are more important for monitoring due to their work area focus. This could cause misinterpretation and biased views for priority issues for a particular area
- Due to budgets cuts there has been a decline in private companies conducting monitoring and an increase in using volunteers
- Volunteers are extremely important and helpful for data monitoring, however their results need to be considered for variations and quality control in comparison with private companies hired for monitoring
- Defra divides 'a pot of money' across many different organisations involved in monitoring of the area, therefore important for organisations to have better join up and discuss monitoring collaborations
- Noted there are existing good working collaborations between the RSPB and Wildlife Trust and between Natural England and the Environment Agency
- The cost of collecting and storing data makes it difficult to share data with other organisations/groups. As staff time and resource is required to collate and analysis data and put into a format that can be made available for others. For example the AONB do not have the resource and budget to be able to interpret and use existing GIS data

3. What can we do to better share knowledge?

- The AONB is in the process of trying to secure some lottery funding for a rivers focus group, which could include some monitoring work
- Agreed focus groups between different organisations are useful, however there is the danger of creating a new group which already has the same members of an already existing group. Therefore the need to investigate what focus groups already exist and what organisations are in them is required to avoid duplication and waste of resource. Also secretariat duties and funding is a problem.
- If designated features are considered okay and 'favourable', it is difficult to get funding for other habitats/species that require funding in the SAC/SPA
- There is a lack of activity data for the area which needs more focus and sharing between organisations
- More clarity on who is involved in the TECF group and what they discuss is needed. For example meeting notes and actions available for organisations/groups

9. Workshop B - Hydrological/Oceanographic

Key points

Lots of activity within the port, can this be pulled together?

How do you identify evidence gaps without knowing what evidence we have got?

Can we use consultant's information?

Very poor access to met office data (have to pay)

Also some organisations have to pay for EA and Records Centres.

Who do organisations contact when they require data?

Sometimes there is a lack of coordination when organisations use external contractors who in turn then obtain information from other organisations.

If organisations knew who were originally requesting the data, it may be easier and cheaper to set up sharing agreements.

Contact lists needed for everyone ease communication.

Can we use students to help fill evidence gaps?

Possibly someone on a pHD basis, however this takes 3-4 years and still requires some funding.

Usually need a quick data turnaround

TECF would be the most suitable conduit so set up a data sharing agreement.

If data collation is to take place we only need processed data, not raw data.

Could we produce a metadata map for everyone to add to and use?

Group also interested in more future workshop events, however with a more targeted approach.

10. Workshop C – Subtidal

The following gaps in monitoring were identified:

0-6nm for non-natives (DASSH) due to difficulty surveying

Subtidal sediment (although a SAC subfeature, not much monitoring)

Activities data to assess priorities for monitoring i.e. focus on sites where impact could be greatest so change is more likely to occur

Types of data which need development:

Ecosystem Services (new reserach at PML soon?)

Water Quality data (EA data)

Analysis of existing data - trend analysis? Data from last 20-40 years in some cases

Activities data - levels and sensitivities

Fisheries iimpacts such as static gear, (IFCA) big gaps in knowledge on impacts of fisheries

Number of boats using port - (H T-W) must be recorded but is not inputting to management plan

Anchoring

Collaborations and sharing:

Can be confusing with lots of different local groups

Good to get small citizen science surveys engaging and sharing with MEDIN

NE & EA need to share monitoring data with MEDIN if possible – does this need to wait for final publication?

NE hasn't yet shared extent for MCZ features e.g. mussel beds, seagrass beds

Actions:

Data collation needed and a map of current data to identify gaps / unsurveyed areas

Potential MSc. Projects looking at trends in existing data and mapping existing data. Advice from UOP needed on structuring project questions?

Future project - Overlay activity intensity with habitats / substrates to highlight areas for more frequent monitoring

Dedicated website to allow groups to announce / communicate about their current / planned monitoring, and signposting to different organisations

Data Collation – NE and EA data should

11. Future directions and next steps

- All organisations/groups need to collate what data they have so together they can identify evidence gaps.
- A review of risk assessment tables and reviewing which parameters need measuring is required
- Produce a map which has the metadata of what monitoring has been done for the area for all organisations/groups so it can be seen what has been done, also to include confidential monitoring data.

- Produce a survey plan on an online calendar available to all so other organisations/groups can see what monitoring is going ahead and for the opportunity to share resources such as boats, equipment etc
- Send an email to all with a brief summary of what organisations/groups are involved in monitoring of the area and contact details, to encourage collaboration
- Make the Plymouth EMS workshop an annual meeting

12. Contact details for attendees

Organisation	Name	Contact details (where possible include general office number)
Cornwall Inshore Fisheries and Conservation Authority (CIFCA)	Sam Davies	sdavis@cornwall-ifca.gov.uk
Cornwall Wildlife Trust (CWT)	Peter Kent	peter.kent@cornwallwildlifetrust.org.uk
Devon and Severn Inshore Fisheries and Conservation Authority (DSIFCA)	Katherine Gray	k.gray@devonandsevernifca.gov.uk
Environment Agency	Tamsin Sutton	tamsin.sutton@environment-
		agency.gov.uk
	Jen Dyer	jen.dyer@environment-agency.gov.uk
Environmental Records Centre for Cornwall and Isles of Scilly (ERCCIS)	Gary Lewis	gary.lewis@cornwallwildlifetrust.org.uk
Marine Biological	Keith Hiscock	keith.hiscock@lineone.net
Association	Becky Seeley	bese@MBA.ac.uk
	Harvey Tyler Walters	htw@mba.ac.uk
Marine Conservation Society	Dominic Flint	dominicflint@hotmail.com
Marine Institute,	Martin Attrill	M.Attrill@plymouth.ac.uk
Plymouth University	Sophie Cousens	Sophie.cousens@plymouth.ac.uk
Marine Management	Neal Gray	neal.gray@marinemanagement.org.uk
Organisation	Beshlie Pool	beshlie.pool@marinemanagement.org.uk
Ministry of Defence	Kim Brown	DIOOpsNorth-PTS13j3@mod.uk; kim.brown505@mod.uk
National Marine Aquarium	David Gibson	david.gibson@national-aquarium.co.uk

Natural England	Gavin Black	gavin.black@naturalengland.org.uk 0300 060 2424
	Nick Hartley	nick.hartley@naturalengland.org.uk 0300 060 3874
	Trudy Russell	trudy.russell@naturalengland.org.uk 0300 060 0354 angela.gall@naturalengland.org.uk
	Hazel Selley	hazel.selley@naturalengland.org.uk 0300 060 1314
	Andrew Stanger	andrew.stanger@naturalengland.org.uk 0300 060 2183
	Hugh Tyler	hugh.tyler@naturalengland.org.uk 0300 060 0318
Plymouth Coastal Observatory	Emerald Siggery	emerald.siggery@plymouth.ac.uk
Plymouth Marine	Tom Vance	thva@pml.ac.uk
Laboratory	Tara Hooper	tarh@pml.ac.uk

	Samantha Garrard	saga@pml.ac.uk
Plymouth University	Alex Nimmo Smith	alex.nimmo.smith@plymouth.ac.uk
Marine Station		
Queens Harbour Master	Neil Trathen	DESNBCD-COB-DQHM@mod.uk
RSPB	Paul St. Pierre	Paul.StPierre@rspb.org.uk
Seasearch	Sally Sharrock	sally.sharrock@btopenworld.com
Tamar Valley AONB	Corinna Woodall	cwoodall@tamarvalley.org.uk
service		
Tamar Estuaries	Kaja Curry	Kaja.Curry@plymouth.gov.uk
Consultative Forum (TECF)		
Wembury Marine Centre	Catherine Andrews	info@wemburymarinecentre.org
Western Channel	Tim Smyth	TJSM@pml.ac.uk
Observatory		
Wetland Bird Survey	Peter Reay	peter.p.j.reay@btinternet.com