

**NWIFCA Technical, Science and Byelaw
Sub-Committee**

12th May 2015: 10:00 a.m.

**AGENDA
ITEM NO.**

5

SCIENCE REPORT
24TH JANUARY – 24TH APRIL 2015

Cockle and Mussel Fisheries in the NWIFCA District

Disappointingly there has been no sign of improvement in the cockle fisheries in the District (see Solway cockles in this report). IFCOs regularly report to the Science Team on the state of the beds and to date there has been no sign of any significant spatfall. These observations will continue throughout the year as the most likely time for seeing cockle recruitment is July onwards.

There is regular low level harvesting of size mussel in the Ribble Estuary. There has been no significant mussel recruitment on the West Kirby bed in the Dee or on the skears in the Solway. Morecambe Bay and Duddon mussels are covered in this report.

SURVEY AND FISHERIES WORK

This year does not see many large spring tides, which are needed to access some of the District's most important intertidal fisheries and therefore all days with decent tides are being used to the best advantage. Efforts to hire helicopter and hovercraft in order to inspect potential seed mussel at South America are on-going.

Marshside – Penfold Inspection

Science Officers and an IFCO carried out an inspection in the Marshside-Penfold area on 23rd April 2015. Very few cockles were seen over several beds inspected (including Penfold North, South Gut and Foulnaze), with no signs of spat. Birds were also observed feeding, presumably on tellins and worms, and roosting on the sands. Officers will keep an eye on the area and notify the Science Team if any spat is sighted.

Heysham Flat size mussel

The mussels on the lowest skears at Heysham Flat surprisingly persisted over the winter and have now reached size, or just under size. It is expected that a low level of fishing activity by Byelaw 3 permit holders may take place, although these skears are only accessible on the biggest tides. The condition to maintain the exclusion zone around the *Sabellaria alveolata* reef remains in place.

Heysham Flat *Sabellaria alveolata*

Science Officers and IFCOs surveyed the honeycomb worm reef at Heysham Flat on 23rd March. As previously described this area has undergone massive natural change in the past 24 months which continues. The 2014 mussel recruitment and mussel mud accretion smothered the worm reef which is a regular pattern, and left the reef quite damaged. There was little sign of worm settlement in March. Whether this has been delayed and the usual high level of recruitment and regeneration of the reef will occur this year remains to be seen. The main change on the bottom end of the skewer was that there was still a substantial amount of nearly size mussel remaining on the worm reef, in the area that had been designated as a 'No Go' area for the hand-gathering last autumn. This usually gets washed out. Whether the existence of this mussel affects worm recruitment remains to be seen, which would once again open up the question of whether it is preferable for the area to be harvested.

Foulney Mussels

The skear was inspected on 22nd April. There was a mix of mussel sizes across the bed, with no major sign of new spat but a fair amount of small mussel ~10mm growing in amongst larger mussels. The 'stunted' area at the top of the skear had mussel back on it suggesting that mussel had moved into the scoured out area after it had been washed away over winter. This mussel was around 35 – 40mm in length. There was some size mussel at the bottom end of the main bed. On the 'island' there was a large area of good size mussel. Meat content looked fair, and the sample taken did not appear to be pearled although it was in spawning condition. An abundance of seagulls revealed what was suspected - a large number of adult starfish feeding on the mussels.

The area between Foulney and the oyster frames was inspected and mapped for the low water line. There was no sign of any significant spat settlement. Most of the area is bare of mussel. The area back toward the 'Ditch' holds stunted mussel. At this time of year when there is not such an issue of bird prey resource and disturbance the Authority may consider authorising removal of a proportion of stunted mussel. This question will be brought up at the Bivalve Mollusc Working group (BMWG).

Duddon Estuary Mussels

Science officers and an IFCO carried out an inspection on the Duddon mussel bed on 22nd April 2015. Size mussels ~ 55-60mm remain, spread over the bed after a year of fishing activity, mixed in with large quantities of shell. About 20 hand-gatherers were working the bed on that day, although the number varies on a day to day basis. Gatherers report that the bed changes on a weekly basis with some parts that had been sanded two weeks ago now uncovered and workable giving an indication that the mussels are surviving under short-term burial in sand. It does appear that perhaps the thinning of harvesting activity may have assisted mussels to persist. All gatherers were using net bags to riddle out the shell. At present there is only one year class (and no spat) so no issues with enforcing the minimum landing size. About 20 eiders were seen loafing around, waiting for the tide to flood back in and feeding on the mussels to resume.

There was a small amount of rubbish in the car park, and Officers witnessed some gatherers sleeping in their vehicles. National Trust informs us that they will be putting a height barrier up on the car-park soon. A dog walker complained to Officers prior to us going on to the beach that (green) net bags were strewn all along the high water mark. They seem to have been spilled from a trailer on the drive out or back. Officers watched while on the bed but there was no evidence of bags getting lost while the men were fishing. The bags were collected by Officers on the way back and fishermen were asked to spread the word about being more careful, and that this kind of littering is not acceptable and not only can it harm wildlife, it brings the fishery into disrepute.

As ever on an occasion like this, Science Officers also engaged in PR with members of the public who were confusing activity with cockle fishing, and also making assumptions that it was damaging and not sustainable. It must be added that National Trust staff were also seen and heard to be getting across the correct message about the fishery.

As with mussels taken from the Foulney bed, the Duddon mussels are presently in spawning condition and therefore signs of recruitment can be expected over the coming weeks. Officers are not suggesting any closure needs to be enforced due to the low level of activity and the size of the bed and the distribution of the mussels over it.

Mersey mussels

The mussel bed in the Mersey is classified as 'Prohibited' due to level of contaminants in the Mersey, and it is unlikely that they will be classified for human consumption. However an inspection was carried out by Science Officers to gain an idea of the food resource available here to birds. The mussel present was a mix of size mussel and dead shell, at the end of two groynes. The two exposed

patches of mussels covered an estimated area of 0.688 hectares and 0.348 hectares but it is believed parts of the bed are sub-tidal.

Solway Firth Cockles

Officers have continued to research into the possibility of a suction dredge cockle fishery in the Solway Firth operating this year. Local shrimp fishermen have reported that they are still catching cockle in their nets when fishing in an area in the centre of the Solway known as Middle Bank.

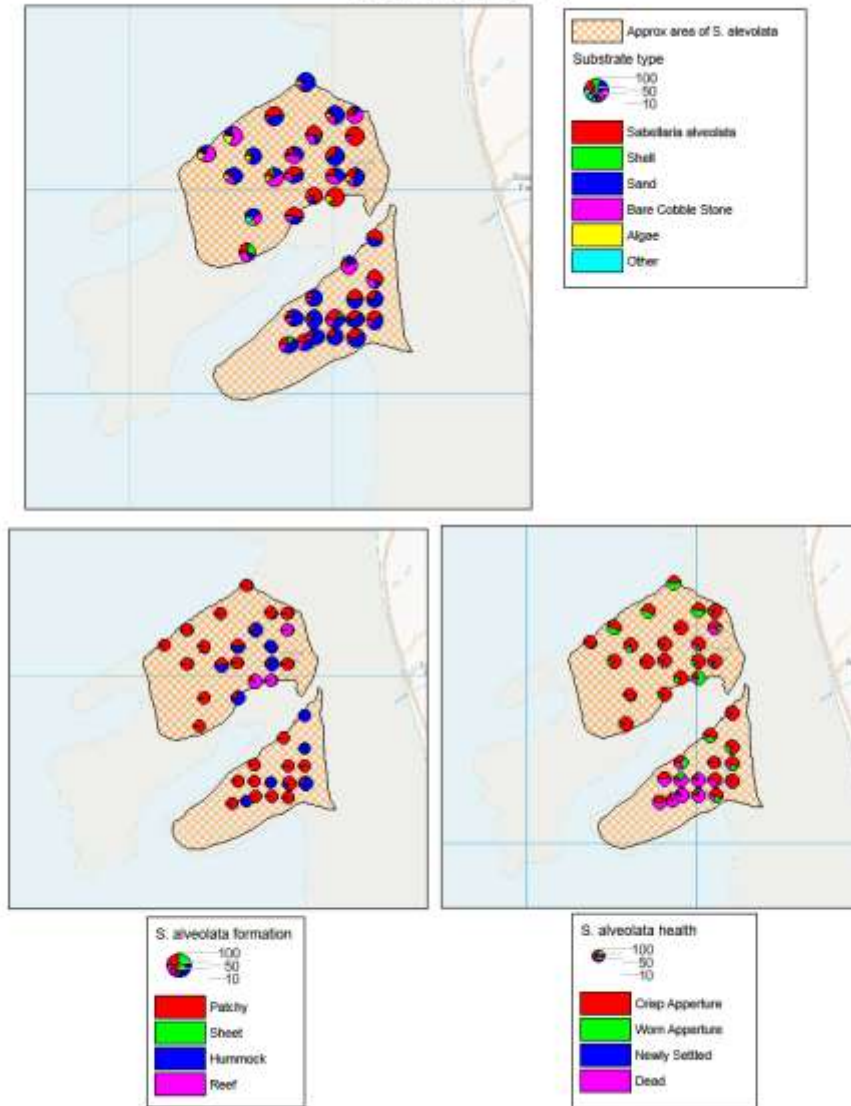
Literature reviews into the impact of this type of fishing on both cockle stocks and the wider environment have been completed in order to inform any future management and Habitats Regulations Assessments. Surveys of the bed using a local vessel fitted with suction dredge equipment have been planned for spring but have been hampered by equipment problems and unsuitable weather conditions. Officers now hope to carry out this survey at the end of May. The results from this survey will indicate whether cockles have survived the winter and whether there is sufficient stock to continue with investigating the possibility of a fishery opening this year.

Officers have also been in contact with Allerdale Borough Council in regard to the classification of these beds and the problems with sampling when the bed is not accessible with a quad from the shore. We await comment from Cefas and Allerdale on how classification may proceed.

Allonby Sabellaria

Officers surveyed the *Sabellaria alveolata* at Dubmill point on 24th March and 22nd April. This Sabellaria reef is protected from bottom towed gear by NWIFCA Byelaw 6 and also lies within the proposed Allonby Bay MCZ. Officers combined quadrat surveys (at 37 stations) with mapping of the extent of the Sabellaria. The area of Sabellaria here is extensive and in good health. Although much of the area has patchy coverage of small hummocks, a main area of reef is present in the north west. The Sabellaria to the south of the main reef was also surveyed. This area has not been surveyed previously. The Sabellaria in this area is also patchy and also of worse health, with a higher percentage of worn and dead tubes.

Dubmill Point Sabellaria alveolata Survey
24-03-15 & 22-04-15



Bivalve Mollusc Working Group

Following the last NWIFCA meeting in March the following amendment was made to Objective 2 of the Terms of Reference - To seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation.

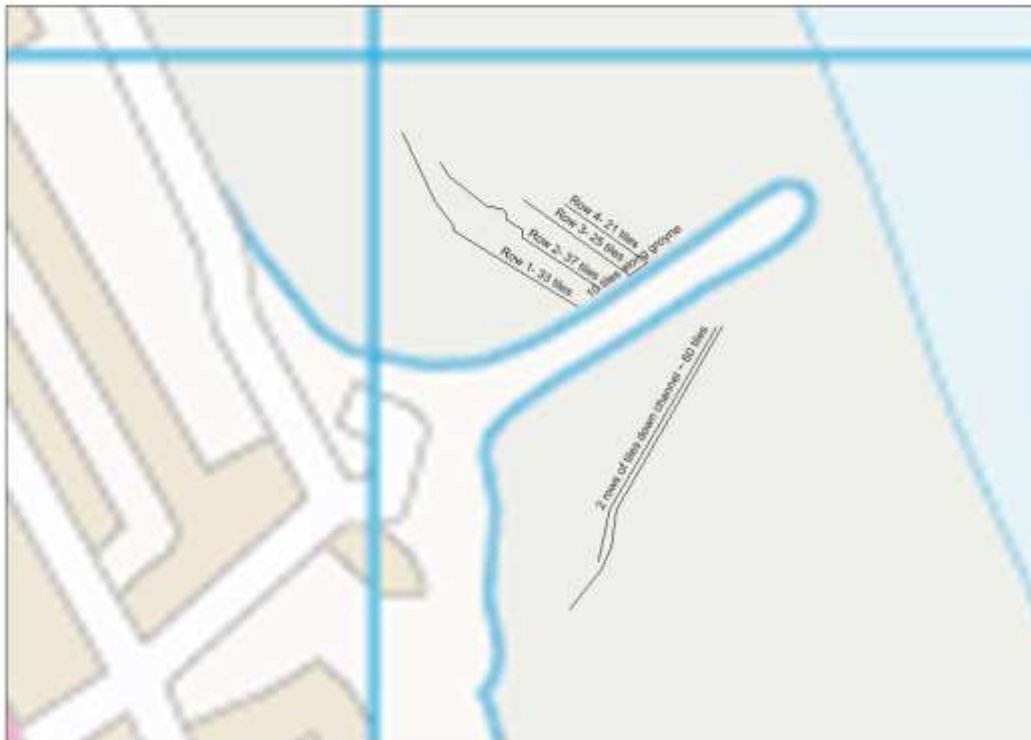
The Senior Scientist sent out a call for representatives on the Group to all sectors. After much correspondence and discussion it was agreed amongst parties to increase the number of representatives of both the Byelaw 3 permit holders and the seed mussel dredge fishery to three each. A Doodle poll was then circulated and date fixed for the first meeting of 30th April. The Management Plan drawn up for the Fishery Order has been redrafted and brought up to date and circulated as a draft to form the basis of discussion for this meeting. A verbal or separate written report will be provided to TSB.

Assessment of Fishing Activities in European Marine Sites

The Science Team is continuing to carry out assessments of fishing activities in European Marine Sites. Officers are awaiting feedback from Natural England for the final “Light” TLSE assessments. Literature reviews are underway for several activity types, and IFCOs are collecting activity information for their different patches to inform the assessments, including netting activity in the Dee and Mersey and Solway Firth.

Mersey Crab Tiles

On 20th April 2015 Science Officers surveyed the crab tiles on the Mersey and North Wirral foreshore with IFCOs. The survey gave the Science Team a good picture of the level of tiling activity occurring there, and mapping of the sites which we can now use to undertake the EMS Review assessment. Crab tiles in this area consisted of lengths of guttering and halved pipes inserted into the foreshore in rows. These areas provide a refuge for moulting shore crabs (*Carcinus maenas*), which are then collected and used as angling bait. We will continue to carry out surveys on this (for example crab tiling in the Walney Channel) and other activities across the district in coming months.



One of the Mersey crab tile sites, with rows of tiles on either side of the groyne.

MCZ Tranche 2

Defra's three months consultation on Tranche 2 MCZ sites began in January. Two sites within the NWIFCA District are being taken forward – Allonby Bay and West of Walney. Allonby Bay is an inshore site that stretches for approximately 9 km along the coast on the English side of the Solway Firth. It extends from Dubmill Point in the north to just north of Maryport in the south. The site extends from the intertidal zone to approximately 5.5 km off the coast to a depth of 6 metres. The total area of the site is approximately 40 km². The site has a 'maintain in favorable status' objective and therefore fits in to the 'low' priority work in terms of NWIFCA's Marine Protected Areas taskload. There are no management measures required at this present time.

West of Walney spans the 6 – 12nm MMO / IFCA jurisdiction and is co-located with the windfarm. Measuring 388 km², the majority of the site is inshore, but a small section crosses the 12 nm boundary. The depth range of the site is 15–33 metres, with muddy habitats, nephrops and associated communities (eg. seapens and burrowing megafauna) and is the first MCZ within the NWIFCA District with a 'restore to favourable condition' objective and will likely require some fisheries management.

A third site in the Eastern Irish Sea, Mud Hole which lies outside the 6nm, is not considered suitable for designation at this time. Further work will be carried out with local stakeholders to enable consideration of this or an alternative Irish Sea site for subsequent designation. There remains a regional gap in the network for mud habitats. However, this and other sites not going forward in Tranche Two are important nephrops fishing grounds and designation could have a significant impact on the fishing sector, particularly in Northern Ireland. Further work is being carried out with the fishing industry and other interested parties to review options to protect subtidal mud in the region, with the aim that any suitable sites will be considered in the third tranche.

Slipper Limpets and Biosecurity

Following a joint enforcement action at Liverpool fish market where IFCOs found slipper limpets (*Crepidula fornicata*) attached to live whelks being sold and also a sign advertising slipper limpets for sale as angling bait (though none actually available for sale at that time), Officers have investigated what is occurring in relation to this Invasive Non-Native Species in the angling community, other IFCAs and the MMO. Currently absent as far as known in the NWIFCA District, the Science and Enforcement teams consider it important to adopt measures to prevent its introduction in line with the 'prevention' measures in the NWIFCA Biosecurity Plan. The issue was brought to TAG in March and the MMO took forward an action to establish the current legal position. They subsequently posted a notice on their website prior to government purdah shut-down, and work has been on-going to communicate the position to anglers, angling retailers and others.

There is no (legal) order in place for the sale of slipper limpets and therefore it is not an offence to sell or advertise for sale. An offence would occur if the species was released into the environment. It would be difficult to prove either way that the use of fresh limpet resulted in the release of the species (as eggs/larva) resulted in a release. However as it is a possibility the MMO would advise not to.

The release of live limpets definitely would constitute a release. MMO officers can enforce, although it may be difficult to prove that the release resulted in the introduction of the species into the area for it to be considered detrimental.

POWER AND ENERGY

NORTH WEST COAST CONNECTIONS - NATIONAL GRID work on routing options for 400KV cables from Moorside nuclear power station

The Senior Scientist facilitated a well-attended meeting between fishers in Morecambe Bay and the National Grid team to discuss potential impacts on fishing activities before, during and post construction of the proposed tunnel under the Bay.

National Grid have not fully finalised their preferred options yet for the cable routing and there is always the possibility that the regulators will question the tunnel option over routing around the Bay due to its cost. A further meeting was attended where the over-riding constraints on locating it on land was examined further and the Senior Scientist feels it is vital that the NWIFCA keeps abreast of these issues in case it – or pylons or cabling across the Bay – come back on to the table.

A case in point is that the routing options around the Duddon Estuary are proving particularly problematic with again enormous constraints from environmental, heritage and landscape. While

initial discussions were underway to inform a way forward, it became evident that the whole of the route from Moorside down the Cumbria Coast via Ravenglass and across the Duddon to the Furness Peninsula needs further in-depth examination and some land-focused agencies are calling for the offshore option. The National Grid team is working hard to find an acceptable solution where realistic mitigation will keep impacts to a minimum, for a task that has to be completed.

Moorside Power Station

Moorside, on the west coast of Cumbria, has been identified as a site for the potential to develop a new nuclear power station. Nugen along with various technical partners plan to construct two Westinghouse AP1000® reactors to be online by 2024. As this is a Nationally Significant Infrastructure Project, Nugen will have to go through the formal Planning Inspectorate process in order to obtain a Development Consent Order. Consultation before an application is made in April 2017 will go through several informal stages. The first focuses on strategic issues and will include very general site plans, EIA scoping and a HRA evidence plan. This first report is due in May 2015.

Ms Leadbeater attended the first Moorside Technical Group meeting on 11th March. This group brings together all agencies and organisations with a stake in the development in order for them to feed into the wider consultation process. This meeting had a very broad remit (considering issues ranging from the suitability of the West Coast train line for transport to skills availability issues). Therefore, Officers have decided that the best way to input into this process is via more specialist technical groups. Ms Leadbeater will attend an EIA technical meeting for Biodiversity, Commercial Fisheries and Physical Marine Environment on 5th May. The main issues that will be of interest to the NWIFCA are the effect of warm water discharge to sea on the surrounding environment and the destination of spoil coming from the construction site.

West Cumbria Tidal Lagoon

After initial discussions in regard to the Tidal Lagoon project, Officers have continued to liaise with Tidal Lagoon Power in regard to the proposals to construct a Tidal Lagoon on the North West coast of Cumbria. Ms Leadbeater attended an Evidence Plan meeting which brings together statutory and knowledgeable bodies (e.g. Natural England, EA, MMO and Scottish equivalents) in order to agree the evidence required to carry out a Habitats Regulations Assessment for the project. This initial meeting defined how this group would operate and suggested more specialist technical groups. Tidal Lagoon Power are currently carrying out coastal process modelling in order to better define exactly where a proposed lagoon will be situated and further meetings will be held when this is completed (later in the summer).

Wyre Estuary Tidal Barrage

A further tidal energy project proposal has been put forward and a meeting took place between the Senior Scientist and Bob Long, the Managing Director of Natural Energy Wyre. Although Mr. Long stated that the proposal has wide-ranging support from Wyre BC and academics in Lancaster University there were no firm technical specifications available at the present time. The Science Team will remain engaged with this and other tidal energy schemes and report to Members on developments.

Cumbria Wildlife Trust Marine Trainees Partnership

Partnership work continues into its fourth year, with a new group of trainees to start at the end of May.

The standard of report for the *Sabellaria alveolata* reef at Heysham improves year on year, and the latest has been published on the NWIFCA and Wildlife Trust websites (<http://www.nwifca.gov.uk/contents/images/NEWS/Heysham%20Flat%20Sabellaria%20alveolata%20Report%202014.pdf>)

The scheme is proving successful in relation to providing high quality candidates for IFCA positions, with two of our own IFCOs having passed through it, and two other IFCA's having recruited staff from the pool of 12 who have completed the traineeship.

TAG – 2nd March – London

The Senior Scientist attended the IFCA Technical Advisory Group meeting and can supply details to Members on request.

Project Inshore

The final Stage Three reports were due for publishing at the end of March. Concerns were raised by officers and members about some of the remaining content of the NWIFCA report despite numerous amendments. It was agreed that the publication of our report should be delayed until these amendments had been incorporated. The launch of the overall reports and the other IFCA's Stage Three documents went live, although it appears to have received very little media coverage. The documents can be found here:

<http://www.seafish.org/industry-support/fishing/project-inshore/projectreports/stage-three-reports>

Morecambe Bay EMS Management Group

Morecambe Bay has had an EMS Management Group for many years, supported heavily by Morecambe Bay Partnership and with key agencies, including NW&NWSFC and NWIFCA Science Team, sitting on the group. Recent cuts in funding along with other pressures have resulted in a vacant chair. The Senior Scientist has agreed to take on this role for six months on a trial basis to assess whether it is possible to give it the time it requires in light of her existing workload.

Side Scan Sonar Training

Ms Knott and IFCO Sparks attended a two day training course on the use of, and analysis of data of, side scan sonar survey equipment set up for the IFCA's and subsidised by the Association. The equipment that was demonstrated was the shared IFCA equipment purchased with Defra underspend money last year and housed by Southern IFCA. It was a useful course, and provided an opportunity for better understanding and also contacts with other IFCA's with experience of side-scan in general and the equipment owned by NWIFCA in particular. It is hoped that in the coming months our own side-scan can be tested and used.

Multi-Beam Training

Ms Knott and Ms Temple attended a two day course in Barrow in the use of, processing and analysis of data of multi-beam surveying in conjunction with Natural England and Chris Heptonstall and his team of marine surveyors from AB Ports. AB Ports' vessel was used to steam out to Lune Deep in Morecambe Bay and collect multi-beam data. The issues around deployment, data acquisition, analysis and interpretation were investigated in depth. It is not envisaged that this is work the NWIFCA should aspire to undertake. It requires highly specialised (and costly) equipment and personnel. The Science Team have however benefitted from a deeper understanding of what the constraints in using this kind of data is, and how to assess confidence levels in data supplied to us, particularly in relation to the EMS review work. It was an excellent example of partnership working, and thanks are extended to AB Ports and Natural England.

Shale Gas Developments

Ms Leadbeater again contacted Lancashire County Council in regard to Shale Gas developments in the area, impacts on the marine environment and consultation with NWIFCA. Jo Turton (Chief Executive) reiterated that the Council only directly contacts statutory consultees and those that they

consider to be materially affected by any planning application. In the case of the current applications for shale gas exploration, the Council did not consider there to be any adverse impact on the marine environment due to the position of the development and the EA licensing conditions for contaminated water. If members are interested in this type of development they are encouraged to look out for local publicity. The new decision date for the current planning applications is 30th April.

Science Officers
27th April 2015