

**NWIFCA Quarterly Meeting:
11th December 2015: 11.00 a.m.**

**AGENDA
ITEM NO.
11**

**SCIENCE AND SURVEY UPDATE:
29TH AUGUST – 27TH NOVEMBER 2015**

Purpose: To provide an update on science and related work

Recommendation: The report be received.

Introduction

1. This report is for information. No decisions from members are needed at this time.

Staffing and Recruitment

2. The Science Team has been strengthened by the recruitment of two new officers in the last quarter. Jonathan Haines was appointed Conservation and Environment Advisor replacing Abigail Leadbeater. We first met Jonathan back in 2011 when he was one of the first cohort of Wildlife Trust Marine Graduates and produced the Heysham Flat *Sabellaria alveolata* condition report. Since then he has worked as a benthic taxonomist for Thomson Unicomarine Consultancy, and he had an 18 month position with North Eastern IFCA as an Assistant Scientific and Conservation Officer. He is a welcome addition to the team.
3. Abi Carroll has a 12 month contract using Defra funding to assist with the EMS work. Abi completed her Masters in Marine Environmental Protection with a Distinction at Bangor School of Ocean Sciences in 2014, with a thesis entitled 'Population Dynamics of European Seabass in Welsh Waters'.

Bivalve Mollusc Working Group (BMWG)

4. There were meetings on 4th September concentrating on the immediate management needs of active fisheries (notes at Annex A), and 19th November to further develop the Morecambe Bay Mussel Management Plan (notes to be confirmed).
5. The Management Plan will be redrafted for the next meeting in January. An agreed draft Plan may be available for TSB in February. Before finally adopted, the Plan must undergo a Habitats Regulations Assessment (HRA) and could be used as a blueprint for other fisheries.
6. The first of these is likely to be potential cockle fisheries in the District opening in September 2016, should spring surveys show significant adult stocks post winter. A cockle plan has been commenced and representation on BMWG may require adjustment to properly address cockle fisheries.

EU proposal for further bass measures

7. New EU bass conservation measures are proposed including a ban for the first six months of 2016 on all bass fishing, and for the following six months a one tonne per month per registered fishing vessel TAC and a one fish per person per day recreational limit. Officers are extremely concerned about the impacts of these measures on the local fleet which relies heavily on bass income. Landings in this District comprise only a tiny proportion of overall UK landings and officers are concerned that the impact of these measures on

livelihoods would be disproportionate to the conservation value.

8. A joint AIFCA response to these measures reflecting the impact in the North of the UK is planned. The letter and a science report on Bass in the NW will be circulated.

Assessment of Fishing Activities in European Marine Sites

9. Work continues with carrying out the HRAs as shown in the table below. As previously reported, no new management measures are expected to be required for EMS in this District although this will only be fully determined when all HRAs have been completed.
10. HRAs currently carried out for derogated fisheries such as the seed mussel, must in future be carried out for all size mussel fisheries. This will create a significant extra burden of work for the science team in relation to stocks which have in the past been open without regular HRA.

	Expected total	Not yet started	Currently underway	Complete	Signed off by NE	On NWIFCA website and huddle
Non-occurring "Light" TLSE	14	0	0	14	12	13 th July 2015
TLSE	38	17	6	15	3	-
Appropriate Assessments	9	4	4	1	1	-
Totals	61	21	10	30	16	-

National meetings and training

11. One telecom on cross-boundary assessment and management of the Liverpool Bay SPA with MMO, Natural England, Natural Resources Wales and Welsh Government.
12. Ms Temple and Ms Knott attended one day training with Natural England on the new Conservation Advice packages. A new web portal to assist in finding and interpreting NE advice will be launched.

Use of a drone for survey work

13. On 30th September David Morris and Calum Booth from RSPB demonstrated to science team the practical use of a drone for surveys on Heysham Flat Skear at low tide over the mussel bed. The drone was a DJI Phantom II fitted with a GoPro that was linked to a hand held monitor for live video feed. The GoPro recorded footage and captured a still image every 5 seconds.
14. A report including costings and video footage was presented to TSB in November. Members agreed that this type of drone could assist the science team to assess mussel fisheries, provide monitoring data for features exposed to fishery pressures and for bird surveys in relation to fisheries assessments. Purchase of a drone was recommended by TSB subject to finances.

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

15. Senior Scientist facilitated dialogue between fishermen and National Grid over positioning of the ventilation / escape shaft for the proposed tunnel under the Bay. The tunnel is needed to carry high voltage cable from Moorside nuclear power station. Survey work was delayed during summer but then carried out at the crucial time when bass were running

and fishing activity increasing. The positioning of buoys in the channels blocked access to the fisheries and led to strong complaints from fishermen. National Grid were contacted but survey work has now been completed for this year. There are further concerns that National Grid will carry out surveys over the cockle beds in the north and west of the Bay as well as Heysham Flat, causing damage and disturbance to the mussel bed and honeycomb worm reefs for which Byelaw 6 has prohibited bottom towed fishing. Officers will remain vigilant on all the developments proposed for the coastal reaches of our District and to act to ensure fisheries interest are represented and not lost.

Moorside Power Station

16. Senor Scientists attended a meeting with fishing industry on 2nd November concerning the impact of the Marine Off-Loading Facility (MOLF) off the coast near Sellafeld. The MOLF will be temporary (up to ten years) and run perpendicular to the coast through prime *Nephrops* grounds. The geophysical surveys will also impact fisheries. This is of major concern to fishermen, who consider the proposals for displacement to alternative grounds are impractical for their small vessels limited in going further offshore.

Cumbria Wildlife Trust Marine Trainees Partnership

- 17 The Partnership project continues in its fourth year. Trainees assist with mussel survey work at Heysham Flat, surveying and reporting on the honeycomb worm reefs at Heysham Flat and a new project assessing bird disturbance from the hand gathered fishery at Heysham with RSPB.

Irish Sea Maritime Forum / Celtic Seas Partnership Marine Strategy Framework Directive Workshop, Belfast, September 2015

18. Science Officer Sarah Temple attended. The workshop explored how the Irish Sea marine scientists can support the delivery of MSFD using a rapid ecosystem services approach. It also considered guidelines for terrestrial planning and recommendations on trans-boundary governance of the Celtic Seas.

Halite Gas Storage in Salt Caverns at Preesall near Fleetwood

19. The area for which this development is proposed is a green field agricultural site littered with old brine wells from a previous ICI development. Members may be concerned at how the development is being marketed. The document: 'Northern Powerhouse Investment Pitchbook' contains a foreword from the Chancellor George Osborne and an aim to attract Chinese investment to the region. A sentence also states 'a high proportion of the subsurface and engineering work for the project has already been completed.'
20. This is incorrect and a letter has been sent to the Chancellor from the Protect Wyre Group Chair Ian Mulroy to address this and other issues within the document saying:

"If you or your advisors were to visit the site you would see that Halite has hardly put a spade in the ground. They are relying on old borehole data and upon being able to develop a shallow area of virgin layered salt which has been subjected to a limited seismic survey. There are no pipe tracks, excavations, buildings or anything else one might connect with a development of this magnitude and be considered as engineering work. There is no mention of the 'soon to be contested' Compulsory Purchase Orders which could blight the scheme for years to come."

Seal Deterrents in the Ribble Estuary

21. Ribble fishermen have requested advice on deterring seals which are taking a large proportion of their catch. Officers investigated and reported to TSB on the findings and MMO has explained the legal position.

Mussel Fisheries

22. Many surveys were conducted as reported to TSB before loss of daylight and spring tides curtailed work, as is usual at this time of year.
23. Mussel recruitment appears to have occurred late compared to most years which could be attributed to the weather. Some dramatic changes in sand levels and settlement areas have been observed. Monitoring will continue.
24. **West Kirby mussels:** There are no stocks at present, with the bed made up largely of dead shell. This area lies within the NRW Dee Estuary Cockle Order area, but was taken over by mussels which settled on to dead shell following a cockle die off. The area is monitored for any return of cockles.
25. **New Brighton:** A new area of seed mussel on the beach was reported by industry in August. However, it was scouring rapidly and being ravaged by starfish. The Bivalve Mollusc Working Group (BMWG) and local stakeholders had no objections so following HRA a limited fishery was opened to mussel dredging in September. Unfortunately fishing was unsuccessful as a result of starfish predation.
26. **Ribble Estuary, Seafield Road:** Following an HRA, a limited seed mussel fishery was authorised on the mudflats around the Seafield Road slipway at Lytham in May. Historical experience said that mussel in this area would not survive through the summer. Ten authorisations were issued and five of them worked. Although a 20 tonne TAC (Total Allowable Catch) was set as a precautionary measure, only 3 tonnes were harvested.
27. This area has undergone dramatic and rapid change since May. It has received multiple settlements of mussel in areas that are not normally subject to recruitment. In August industry agreed to leave the mussel, which appeared stable, to grow to size, and an application was made to the Local Authority to get the bed classified. This decision changed in September when following reports of die off and scouring a limited fishery was agreed
28. Officers have assisted LA Environmental Health Officers, Food Standards Agency and Cefas in selecting a suitable sampling point for classification purposes. However, following a high sample result of E.coli after heavy rainfall the bed was closed for public health reasons and to date (25th November) remains closed. Officers have today received notification of a sewage spillage in the week beginning 23rd November from Chorley WWTW which had a power outage and was discharging untreated sewage to the River Yarrow, which flows into the River Ribble.
29. **Ribble Training Wall:** Limited size mussel fishing continues on the Estuary outer walls. Approximately six Byelaw 3 permit holders have operated this fishery for a number of years.
30. **Fleetwood:** Inspections were made of the five skears off the coast at Fleetwood on 4th August and 29th September. Dredging for seed mussel off Perch Scar was authorised last year following a request from industry. All five skears had received some mussel settlement with varying densities and stability and it had been thought that a fishable resource might have developed. However, the September inspection of Perch Scar showed that much mussel had been lost to erosion or predation. What was left had not grown much and gone 'hard-in' (buried itself into a substrate hardened by weather conditions). Officers returned on the spring tides at the end of October and confirmed that this situation had not improved.
31. Mussel on Black Scar, Kings Scar, Neckings and Rossall Scar persisted but were not considered to be commercial in scale. Stocks are now suffering predation mainly by gulls.

32. **Knott End:** A low level of hand-gathering of size mussel has occurred on the mussel beds around Knott End slipway.
33. **Heysham Flat:** This fishery was reported to TSB in November. In summary, the mussel resource has been managed as an ephemeral resource since 2005 due to the way the mussel was putting down thick layers of soft mud, becoming unstable and getting almost entirely washed out during autumn and winter storms. However, in recent years there has been evidence that a proportion of the mussel is not ephemeral. It does survive winter and grow on to size. Management may need to be adapted to changed conditions.
34. As previously reported, Morecambe Bay appears to be undergoing a period of dramatic change. In the past two years, heavy settlements of mussel were recorded on the bottom skears at Heysham but sand is increasingly covering skears at South America and the Falklands in the north of the Bay. Over winter of 2014-15 the majority of mussel remaining on Heysham did not scour out but remained, growing on into spring. Early evidence suggests this pattern may be repeated this year with a sandy / muddy sediment layer developing in place of the soft mussel mud (pseudofaeces) which makes mussels less unstable.
35. In view of these changes the skear might not necessarily now be classed as ephemeral. If mussel overwinters, growing to breeding size, management should be adapted to allow this change. TSB therefore agreed that the hand-gathered seed fishery be closed and further investigation and monitoring carried out.
36. **South America and Falklands:** A limited seed mussel dredge fishery from the 'Falklands' area was requested in August and the area inspected on 1st September, on a 0.3m ebb. The area had a covering of dense bootlace weed (*Cora filum*). Attached to some strands were sparse pinhead mussel showing some settlement. However there was no spat on the ground, which was dominated by size mussel from 2014 year class. This was mainly 'hard-in' sandy sediment, with areas of cobble substrate between with associated macro-fauna and flora (anemones, red algae, kelps).
37. There were one or two starfish on the bed, and some crabs (shore crab, decorator crab and edible crab). It was possible to walk to the northern edge of the bed, cross a very narrow and shallow channel and continue on to the next sandbank. During previous fly-overs and hovercraft surveys this would not have been possible, again showing that the area is generally sanding over.
38. No mussel mud was evidence. Mr Jones agreed that the bed was not suitable for dredging this year. Ideally it should be monitored when tides allow to assess whether this single year class of mussels persists over winter, or if not whether it scours or is predated on by starfish and crabs. It is also surmised that this relatively large bed may become inundated with sand in line with the more northern beds of the South America area.
39. **Low Bottom:** (between Foulney and the Seasalter oyster farm): Following inspection on 27th October the area around the oyster frames was clear of mussel. Seasalter reported little settlement there this year, although a light settlement has since been recorded on 25th November. Low densities remain between the frames and Foulney Ditch which is growing on slowly. Mussel around the Ditch area is nearing size. A low level of fishing occurs here when size mussel is present.
40. **Foulney:** Large quantities of mixed size mussel are present nearing size at the bottom end of the skear. No late recruitment has been observed. It is anticipated that hand-gathering might re-commence on size mussel in the New Year with graders being used to ensure landings are MLS compliant. Many oystercatchers were observed suggesting a high level of predation. Work to ascertain whether they are feeding on mussels or other invertebrates in the mussel mud substrate would help to inform future assessments of fishery impacts.

41. **Duddon Estuary:** The mussel skear in the channel at Hardacre received a late dense settlement so all hand-gathering has ceased for the time being. Stock is growing slowly but still under 20mm, with some dead seed mussel observed.
42. **Solway Ellisons Scar:** The mussel bed was inspected on 1st October. Inner areas had very little patchy, old and barnacled stock among *Sabellaria alveolata* mounds. Middle areas had denser, cleaner mixed size mussel on which gulls were feeding. A partial Dutch wand survey indicated an area of approximately 9.4 hectares contained approximately 1300 tonnes of mussel. It was estimated that the total area of mussel bed covered 20 hectares. The outer bed uncovered but due to time limitations, the size of the whole area and the channel between the beds, it was not inspected.

Cockle Fisheries

- 43 Substantial settlements of cockle were observed in Morecambe Bay and at Leasowe (Wirral). The multi-sector Shellfish Liaison Group has been notified. Full surveys across the District will be conducted as soon as the tides allow in the spring to assess whether a potential commercial stock has persisted through the winter.
44. **Wirral:** During an inspection on 30th September on the North Wirral foreshore, Officers saw oystercatchers and knot feeding in a dense area of mud. Closer inspection found large quantities of fingernail size cockle present. A full survey will be carried out in the spring.
- 45 **Ribble:** IFCOs regularly inspect the sands on the Southport beds – Penfold Channel and South Gut, plus Foulhaze if it can be accessed on quadbikes, and the Lytham and St. Annes beds – Granny’s Bay, North Run and Mousehole. There does not appear to be any evidence of significant cockle settlement.
46. **Morecambe Bay:** As previously reported three surveys were carried out on the Leven Sands cockle bed following indications that a large cockle stock existed there earlier in the year. However all three surveys gave results indicating low stock levels.
47. There is now evidence of a late but significant cockle spatfall across parts of the Bay. It is possible many of them will not survive the winter, through natural die-off and predation. Much of it will depend on the weather and the amount of rainfall. However, cockles are able to move around and predicting survival rates is not possible. A full and detailed survey will be planned for the spring to assess the stocks at the earliest opportunity.
48. **Solway:** There has been no indication of any settlement.

Other Fisheries

- 49 In September Officers received a letter from the Dee Estuary Conservation Group requesting information on the regulation of fisheries in the Dee Estuary and reporting concerns around trawling activity for flounder there. Discussions with local fishery officers showed that this activity takes place mainly or entirely on the Welsh side of the estuary with little change over the years. Officers responded to DECG to this effect, along with an explanation of the regulations in place and stating that officers will record more detail of this activity on the English side of the Dee in future so that the scale of the fishery can be monitored.
- 50 **Crab Tiling and Mussel Beds:** At the June meeting a member raised concern that crab tiling in the Barrow area was interfering with mussel beds, and may be in breach of NWSFC Byelaw 12, para 3 (offence to dig in any mussel bed). Officers are not aware of any crab tiling in the commercial mussel beds in the Barrow / Walney Channel area. Crab tiling does occur in the channel on the mudflats. Mr Benson may have been referring to an area north of Jubilee Bridge in the channel outside Kingfisher’s depot which was the area authorised for a mussel relaying trial back in 2012. However this trial was not progressed

further and no mussel is fished commercially there. The tiles in question are on the mud north of Jubilee Bridge below the slagbank and not on the mussel bed. The level of crab tiling there will be monitored.

- 51 **Mussel Poles Solway Estuary:** 160 large wooden poles have been placed for aquaculture on Lonsdale Settled Estate land at Campfield / Cardurnock Marsh. They are 2-3m above the sand of solid Iroco 150x150mm, set out in a T formation, located about 1.2 miles from the shore. It is not considered that they are interfering with any public fishing activity, however concerns were raised about potential navigational hazard. The Estate confirmed that they had been buoyed and that any buoys lost will be replaced. Natural England have been involved from the conservation aspect of the Solway designated European Site and SSSI.

52 **Authorisations and consultations this quarter**

- a. Parton to Harrington Sea Defences
- b. Seacombe Ferry Terminal Building – Soffit Repairs and Structural Strengthening
- c. Garston Approach Channel and Docks Maintenance Dredging
- d. Glasson Dock Dredging November 2015
- e. Heysham Harbour 1 and 2 Dredging Activities 2015
- f. Heysham Power Station Cleaning Reactors 2016
- g. Heysham Power Station Cooling Waters Dredging 2015
- h. Maryport Harbour Dredging

53 **Meetings, workshops and courses attended**

- a. Shellfish Liaison Meeting and training
- b. Natural England meeting with Jonathan Burney and colleagues
- c. Presentation at Blackpool and the Fylde College
- d. RSPB Bird ID training
- e. Oceanwise Marine GIS Workshop (London)
- f. Celtic Seas England workshop (Bristol)
- g. Liverpool Bay SPA Joint Management tele-conference
- h. Professional Practices and Responsibilities Training
- i. VHF Training
- j. Personal Survival Techniques Training
- k. Towing Training
- l. MapInfo Foundation Training

Chief Executive Officer and Science Team
1st December 2015