



**North Western
Inshore Fisheries and Conservation Authority
Meeting 4: 30 September. 2011
Morecambe Town Hall, 10.30 a.m.**

Agenda Item 7: Annex 1

MORECAMBE BAY SEED MUSSEL FISHERIES UPDATE

Recommendations:

1. That members endorse the actions taken by Officers in managing this resource.
2. That the report be received.

South America and Falklands

1. The seed mussel at South America and Falklands skears was surveyed by hovercraft in May, and by helicopter in June. The extensive spatfall as reported to the Authority in May had persisted and may well have represented an extreme event with a potential biomass equal to if not in excess of that seen during the last extensive seed mussel fishery in 2006, when 7000 tonnes were fished. The mussel was looking extremely healthy and was growing on well, with some animals doubling in size in a month. Much of the larger 2010 mussel that had survived was starting to become smothered by the 2011 settlement. By June the seed in some areas had already put down substantial amounts of mussel mud and was starting to clump up, and the industry requested authorisations to fish it by dredge.
2. In the past, due to the nature of the market and the narrow window of opportunity for exploiting this type of stock, Officers have been granted delegated powers to issue the necessary authorisations to enable a fishery to take place provided certain criteria are satisfied. These criteria are that the fishery must be uncontroversial (either in fishery terms or from a conservation point of view), it must have been fished for seed before and the stock must be ephemeral.
3. South America/Falklands have been fished regularly for seed (undersize) mussels by dredge and had previously been managed under a Fishery Order (expired 2009). They are regarded as uncontroversial in terms of the Authority's policy for authorising undersize mussel fisheries, and the beds are inaccessible to hand-gatherers.
4. The other prerequisite for the authorisation of taking undersize mussels under Officers' delegated powers has been that the bed should be classed as ephemeral. This essentially means that the mussels there are inherently unstable and therefore much more likely to be lost to the fishery through natural processes such as tidal or storm action than to remain in situ and grow through to size. South America/Falklands beds have long been classed as ephemeral beds.

5. An assessment of the total area settled was made giving a total of 104 hectares with a total biomass of between 20,000 - 30,000 tonnes. Following consultation with Natural England, authorisation was given on 20th June to harvest a maximum of 12,500 tonnes. Five authorisations were requested and issued. The authorisation expired on 2nd September 2011.
6. In July, a Science Officer accompanied by Natural England made an inspection of one of the dredge vessels to monitor operations and by-catch. At this time a request was received to extend the authorised area by 100m to the west as an area of dense seed mussel lay just beyond the boundary of the authorised area. After consulting with Natural England, this extension was authorised on 5th August. The maximum tonnage to be harvested was not increased.
7. A further helicopter survey was undertaken on 31st August with officers from the NWIFCA and Natural England, along with an industry representative. By this time landings data submitted recorded 7760 tonnes having been fished which included around 840 tonnes which had been relayed in a trial aquaculture area in an intertidal zone in the Walney Channel known as Barrow I (see separate report). Two boats have been fishing the area on the majority of suitable tides, one boat has worked here occasionally, with a further one vessel having taken 20 tonnes during the first week of the authorisation only. The fifth authorisation has not been put to use as yet.
8. The aerial survey revealed that the northern part of the authorised area had been the most intensely harvested, although there was evidence of patches of dense mussel remaining. Percentage cover of residual seed mussel here was estimated at 20 – 30%. There is a generally held perception that 'thinning' the seed out presents further opportunity for growth (through less competition for space and food) and increase in biomass, although there is a lack of firm evidence to support this. Officers would take the approach that this northern area should not be fished further this year. This will allow officers the opportunity to attempt to assess the effects of thinning on the remaining stock, providing the work can be carried out prior to the washing out of the seed in the winter storms.
9. Within the southern half of the authorised area there still remains a substantial amount of densely aggregated seed mussel. Estimated percentage cover ranges from 70 – 100% and is deemed suitable for dredging. With the approach of autumn and the increased possibility of storms and the natural processes that will inevitably result in scouring and large losses of mussels from these settled areas, officers consider that further harvesting could continue with no adverse effect, either to conservation interests or to the fishery itself.
10. Following consultation with Natural England a further authorisation until 30th September 2011 was issued to the three vessels working the area. The boundaries of the authorised area were revised to exclude the most northerly limits. In order to ensure that there is no change to the likelihood of a significant effect on Morecambe Bay European Marine Site, either alone or in combination with other plans/projects, the total amount to be harvested remains at 50% of the total biomass estimated on 17th June 2011 i.e. 12,500 tonnes.

Heysham Flat

11. The seed mussel stock at Heysham Flat was inspected in June. There was no evidence of the extensive spatfall seen in recent years on this skear. However, there was one confined area densely settled to the north of the bed which may provide a minor fishery. This area was revisited on 30th August and Officers estimate the size of the area to be around 6.3 ha. The seed had persisted, had put on reasonable growth, and was beginning to form unembryssed loose clumps rendering the seed vulnerable to loss through wind and wave action.

12. Heysham Flat Skear lies in Morecambe Bay, which has been designated as a Special Protection Area (SPA), Special Area of Conservation (SAC) and a Ramsar site.
13. A full intensive survey of the honeycomb worm (*Sabellaria alveolata*) reef is currently being undertaken as a separate joint piece of work with a Marine Graduate from Cumbria Wildlife Trust. *Sabellaria* reefs are vulnerable to vehicular and trampling damage and are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as 'Habitats of Principal Importance' in England and Wales, and as a 'Priority Habitat' under the UKBAP (Biodiversity Action Plans) Annex 1 under the EU Habitats Directive. Initial findings show that the previously heavily eroded and degraded *Sabellaria* reef is undergoing rapid recovery across the western tongue of the skear (beyond 'Big Stone').
14. Unlike recent previous years, to date there has been no interest from Byelaw 5 permit holders to harvest the seed mussel by hand on Heysham Flat. Officers consider that should there be any interest in commercially harvesting the stock that, following an Appropriate Assessment and agreement of any necessary mitigation measures, authorisations should be given with specific conditions and restrictions imposed.

Foulney

15. This area has not developed in such a manner as to meet the criteria for authorisation as a seed mussel fishery and therefore no action has been taken. A low level of hand gathering persists for size mussel. The edges of the mussel bed are the subject of a bottom culture mussel relaying trial (see separate report on Barrow I seed mussel relaying below).

Barrow 1 Seed Mussel Relaying Trial

16. In August 2010 the North Western Sea Fisheries Committee received two separate applications to carry out mussel cultivation trials in Morecambe Bay. The two areas proposed for the trials are known as Barrow I - being along the west side of Foulney Twist adjacent to the Walney Channel; and Walney Meetings – an area in the Walney Channel to the north of the Jubilee Bridge at Barrow-in-Furness.
17. These applications were considered at the September 2010 NWSFC Committee meeting and approval given, subject the operators fulfilling three conditions:
 - a. work with the SFC and Natural England to carry out a GIS analysis of the proposed area and recent observations by the Committee's staff of mussel spatfall densities, and fishing activity;
 - b. determine a scheme of environmental monitoring for the 2 sites to be agreed with Natural England and SFC Officers. The scheme should ensure relaying on existing mussel beds does not occur;
 - c. undertake consultation with fishermen's associations and other shellfish operators likely to have an interest in the area.
18. In July 2011, in view of the substantial amount and good quality of seed mussel on the South America ephemeral mussel bed, Officers were approached to assist with making progress with the Barrow I trial. A site visit was conducted to look at areas where the seed could be relayed away from the hand-gathering beds and any areas with species or habitats identified by Natural England to be avoided.

19. Following consultation and agreement with both local stakeholders and Natural England of specific measures to be put in place, a revised map of relaying areas was drawn up (see below). It was estimated that this area would accommodate an overall total of 1000 tonnes at a density of 25 – 50 tonnes per hectare. If the trial is successful and the mussels grow on well they will possibly take 18 – 24 months to reach size. Another authorisation from the NWIFCA will be required to dredge the size mussel at this time.



20. During the helicopter survey of the South America seed mussels on 31st August, the area was viewed aerially. Around 840 tonnes had been relayed. Evidence from the fly-over showed that about 50% (industry estimate) had been washed out already. Science staff will regularly survey the area over the course of the trial and report back to Members.

Mandy Knott
Scientific and Morecambe Bay Fishery Order Officer
6 September 2011