

The Highland Council

Ross and Cromarty Committee – 12 January 2017

Agenda Item	6
Report No	RC/004/17

Tain Common Good – Mussel Fishery

Report by the Director of Development and Infrastructure

Summary

This report invites Members to note the advice received from Herriot Watt in relation to the mussel fisheries and asks Members to agree that the mussel fishery be rested and the position reviewed in spring/summer 2017, the fishing licence be retained and that Highland Council be asked to approve the sale of the mussel boat.

1. Background

- 1.1 Members will be aware that over recent years the mussel fishery performance, due to a variety of factors, has meant that there has been insufficient income to cover the cost of the activity. In light of this situation in April 2016, the Committee agreed to cease operating the fishery and to seek to lease the mussel fishings to a 3rd party operator. The fishing boat and licence were to be kept until local interest was gauged and a programme of sampling and stock assessment be put in place. Originally the boat was to be moved and stored at Lochinver but stakeholders later agreed that a move to Helmsdale was more practical and cost effective, and that is where the boat is currently moored.
- 1.2 Professional advice and multiple surveys were required to take forward the agreed actions and this was procured via a tendering process where Herriot Watt University was the successful tender. At the time of the last Ross and Cromarty Committee Meeting of 25th October 2016, this professional advice was expected imminently and there was an expectation that, using the information from the report, the fishery could be advertised for lease. The Committee therefore gave delegated authority to the Director of Development and Infrastructure, in consultation with the Area Chair and Ward Members, to accept the best value lease offer and also decide whether or not the mussel boat should be repaired and an MCA inspection be requested.

2. The Current Position

- 2.1 The Herriot Watt Mussel report was submitted on 31st October 2016. The report and recommendations are attached at Appendix 1 for Members' information. Members will see that a very detailed study was done and the recommendations made in the context of key aims around ensuring a sustainable fishery and that the ecosystem function of the mussel beds is maintained. The report puts forward 2 management options:

Option 1 – to rest the fishery and reconsider in the autumn of 2017/18.
 Option 2 – to lease on the basis of an allowable catch of 738 tonnes over 2016/17.

Herriot Watt have confirmed they see the option of resting the fishery as prudent and they note that whilst it is technically possible to open the fishery stocks are at a low, with risks to sustainability.

- 2.2 In the light of the Herriot Watt report the mussel fishing was not advertised for lease and therefore the delegated powers not used. This report recommends that the way forward for the fishery and all aspects of the operation be reviewed in the light of the report and the views of local Members and The Royal Burgh of Tain Community Council.

Further detail on each key aspect of the fishery operation is outlined below for Members to consider. The written response of the Royal Burgh of Tain Community Council is contained in full at Appendix 2.

3. The Fishery

- 3.1 Local Members and the Tain Community Councillors have received and considered the Herriot Watt report. These stakeholders are of the view that the mussel fishery should be rested as recommended, along with the view to resurvey the stock as soon as practical and recommence the mussel fishings as a priority. The Committee is asked to approve this approach.

4. The Mussel Boat

- 4.1 Members will recall that the boat requires repairs and the boat's MCA inspection is due. Testing the interest this year in leasing the mussel boat for use associated mussel fishery has not been possible and if the fishery is rested for a further period, as recommended, this will remain the case.
- 4.2 Local Members, Royal Burgh of Tain Community Council and officer's view is that given the current context, the best course of action for the Common Good Fund would be to advertise the boat for sale. In this context it is also recommended that the lease of the pier at Meikleferry be terminated as it would not be required, providing an annual saving of £5,200.
- 4.3 Other options such as dry docking the boat would incur costs with no guarantee of return and this is therefore not recommended. Likewise it is recommended that the boat be sold as is – should the repairs be carried out there is no guarantee that the funds spent would be recovered in the sale price
- 4.4 Given the value of the boat as a proportion of the Common Good assets the vessels sale will require approval by The Highland Council. The Committee is asked to recommend this.

5. The Fishing Licence

- 5.1 The Common Good holds a fishery licence which is granted by Marine Scotland for the mussel fishings. This licence sets out what type of fishing can be undertaken and where. The licence is renewed every 2 years. Marine Scotland advises that the boat can be sold separately from the fishing licence and can be kept or “pocketed” for up to ten years without being fished. The current licence is classed a Category C but under proposed changes this category may be enhanced in 2017 which could increase the licence value and subsequently the rental value of the fishing lease.
- 5.2 The licence holder can transfer the licence to other vessels to fish, so retention of the licence could also allow the Common Good Fund to apportion the licence to other operators which could generate additional income.

6. Implications

- 6.1 Resource:
- 6.1.1 There are significant resource implications in relation to the mussel fishery operation.
- 6.1.2 Members agreed to cease the in house mussel fishing operation in favour of leasing the fishery to a 3rd party operator in order to reduce the level of risk to the Common Good whilst still allowing the potential for income to be generated in the future. It was always recognised that there would be set up costs in relation to this change in terms of advice needed which will impact on the Common Good and reduce reserves. Funds have been committed to procure the professional advice required and this will impact on the balance of Usable Reserves which stood at £237,082 on 31 March 2016.
- 6.1.3 If the mussel boat is sold this would generate a capital receipt. The Community Council have requested that this be ring fenced for use in connection with the mussel fishery.
- 6.1.4 The retention of the licence keeps open the potential for income generation via a 3rd party operator, there are no known risks associated with the retention of the licence.
- 6.2 Equality, Climate Change/Carbon Clever, Legal, Gaelic, Risk and Rural:
There are no equality, climate change/Carbon Clever, legal, financial, Gaelic, risk or rural implications.

Recommendations

The Committee is invited to agree that:

- the mussel fishery be rested in accordance with the associated professional advice and the position reviewed to recommence the fishings as soon as practical in 2017;
- the Highland Council be asked to approve the sale of the mussel boat by open advertisement; and
- the fishing licence be retained for the purpose of benefitting the Royal Burgh of Tain Common Good.

Designation: Director of Development and Infrastructure.

Date: 16 December 2016

Joint Authors: Frank Scott, Area Surveyor, Development and Infrastructure
Helen Ross, Senior Ward Manager, CSER
Tony Usher, Harbours Manager

APPENDIX 1:

1 FISHERIES MANAGEMENT RECOMMENDATIONS

31/10/2016

1.1 Ecosystem-based fisheries management approach.

A social-ecological system (SES) model of ecosystem-based fisheries management is a management approach that recognises the need to consider the socio-economics of coastal communities in managing the marine environment. This approach attempts to balance the requirements of resource use (fisheries), the socio-economics of society and communities with those of environmental protection and conservation.

Fisheries management needs to balance a variety of socio-economic, ecological and biological drivers to achieve a sustainable outcome for any given stock.

The Food and Agriculture Organisation of the UN considers that the purpose of an SES approach to fisheries is:

“..to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardising the options of future generations to benefit from the full range of goods and services provided by marine ecosystems..”¹

In the context of the Tain mussel fishery we consider the key drivers are:

- Establishing a sustainable fishery yield that will result in,
 - additional income to the Tain Common Good Fund, and
 - employment to local fishing and associated businesses
- Ensure that the fishery does not negatively affect the long-term viability of the mussel stock either within the fishery (Forestry Bank) or more widely in the Dornoch Firth
- Ensure that the supporting habitat (the scalp) is not negatively affected by the action of the fishery
- Ensure that the ecosystem function of the mussel beds are maintained
- Address any risks to sensitive conservation features within the Special Area of Conservation

1.2 Best practice in mussel fishery management

The biological principles underpinning a sustainable fishery are straightforward:

1. Sufficient mussel stocks should remain after the impacts of fishing operations, both direct (fishing mortality) and indirect (bycatch and habitat disturbance), to support ecosystem function and allow the recovery of stock levels via recruitment of juveniles.
2. In the event that recruitment is poor and unable to replace current stock levels for extraneous reasons (non-fishery), there should be sufficient remaining stock to maintain ecosystem function and enable the long-term recovery of the stock; and

¹ The Ecosystem Approach to Fisheries. FAO Technical Guidelines for Responsible Fisheries 2003 – p.121

3. Management should be sufficiently precautionary to provide adequate margin for error to minimise the risk of 1. or 2. not being achieved.

The importance of stock reserves in the Tain fishery

Removal of all fishable biomass in one season is to be avoided for three primary reasons:

1. The production of future recruitment to the mussel beds is dependent on the existence of a spawning stock.
Recruitment is highly variable between years and current fishable stock may be the main or sole source of larvae in future years. Although we currently have no information on the mussel stock-recruitment relationship in the Tain fishery, given the standing adult biomass, it is unlikely that larval supply is the key limiting factor in the Tain fishery. However there will be a minimum stock level below which larval production is compromised.
2. The mussel beds/scalps represent a unique habitat in the soft sediment landscape of the estuary. These beds/scalps are necessary as settlement sites for future recruitment. It is necessary therefore to ensure that sufficient areas are left undisturbed.
3. The ecosystem role of the Tain mussel beds extends beyond provisioning of the fishery to a variety of water quality and biogeochemical cycling services, centres of biodiversity and as supporting resources for waders and water fowl.

1.3 Management approaches in similar UK fisheries

Mussel fisheries similar to the Tain mussel fishery occur around the UK. Although managed by different administrations using a variety of powers and legislation there are some fundamental approaches that can be drawn upon to inform management here.

Management Action	Aim	Explanation
Total Allowable Catch	<ul style="list-style-type: none"> • Establish sustainable fishery take • Conserve spawning stock • Protect ecosystem services • Protect mussel settlement habitat 	<p>Traditional approaches to establishing a TAC in estuarine shellfish (cockle and mussel) fisheries in sites such as the Solway, the Wash and the Burry inlet has been on a rule of thumb where the commercial fishery took 33% of estimated fishable biomass.</p> <p>This rule of thirds assumes that the remaining mussels represented sufficient biomass for breeding stock reserves and to provide essential ecosystem services provision such as bird prey. This approach has been demonstrated to minimised fishery impacts on shellfish stock impacts in the Burry Inlet where the site is designated for over wintering birds that rely on the shellfish stocks (Bell et al., 2001). Similar approaches have traditionally been applied in the Wash and the Solway where the rule of thirds have been used to maintain a fishery and support conservation aims.</p> <p>It is likely that under normal circumstances adequate stock levels, that this level of exploitation is sufficiently precautionary to provide sufficient stock reproductive output to fulfil both the conservation objectives for bird prey and fishery management.</p>

<p>Minimum Landing Size (MLS)</p>	<ul style="list-style-type: none"> • Ensure that mussels have opportunity to reproduce before fishing • Ensure maximum economic yield 	<p>A basic principle of good management for commercial species including cockles is to set a minimum landing size (MLS) in order to prevent animals being captured before they reach maturity.</p> <p>In general, bivalve shellfish including mussels, have a fecundity directly related to size; the larger the individual the more larvae it will produce. Establishment of an appropriate MLS should consider this relationship to ensure that reproducing capacity of a stock is not compromised.</p> <p>Market demands affect the selection of a MLS as different markets may have a preference for a particular size.</p> <p>Although there is a potential tension between the two key drivers, in reality there is a natural compromise where markets generally require a product of between 45 – 50 mm and above, a size at which reproductive output of the stock is not compromised. Minimum Landing Sizes from other estuarine fisheries in the UK reflect this;</p> <ul style="list-style-type: none"> • The Wash 50 mm • The Solway 45 mm • South Wales 51 mm (variable) • Poole 50 mm
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<p>Bycatch return rules (Ensure that undersize mussels and dead shell matrix is returned to Skalp)</p>	<ul style="list-style-type: none"> • Conserve essential fishery habitat and small year classes 	<p>Our own experience of mussel fisheries has shown that unsustainable practices on mussel beds can lead to a failure to recover over a number of years. This has been the case in some of the South Wales estuaries where removal of all year classes and underlying shell debris resulted in the degrading of a number of mussel beds. Colleagues in Ireland have attributed similar impacts on seed mussel beds to the repeated recruitment failures that have had serious economic impacts on their fishery.</p> <p>Straightforward harvest rules can address this risk should it exist (multiple year classes). <u>Where practical</u> undersize mussels and shell debris should be redeposited back on to the mussel bed or scalp after grading. Some vessel are able to grade at sea during fishing other may return all fished stock to land for grading.</p>
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1.4 Summary options and recommendations

Mussel fisheries similar to the Tain mussel fishery occur around the UK, although managed by different administrations using a variety of similar approaches. There has been a significant decline in the sublittoral mussel beds in the Dornoch Firth, and the main resource is the Forestry Bank area. Figure A1 shows landings data that illustrates variations in mussel populations as well as market demand. There are two management options:

1. **Rest the fishery** and reconsider for the autumn / winter of 2017/18 and not re-open for winter 2016/17. Given the declines in landings over recent years (Figure A1), it would seem prudent to allow the stock to recover to the levels seen in 2005 / 2006 before fisheries activity restart. Given the presence of remnant small mussel beds as well as the persistent and potentially brood-stock Forestry Bank bed, natural recovery should be able to take place. A rapid spring / summer survey could provide an indication as to whether stocks are set to improve (ie settlement and low starfish counts).
2. **License fishery.** The current estimate stock greater than 45 mm in length is conservatively estimated to be 2237 tonnes. Using 33% extraction as a guide this would make an allowable catch of 738 tonnes over the 2016/17 period.

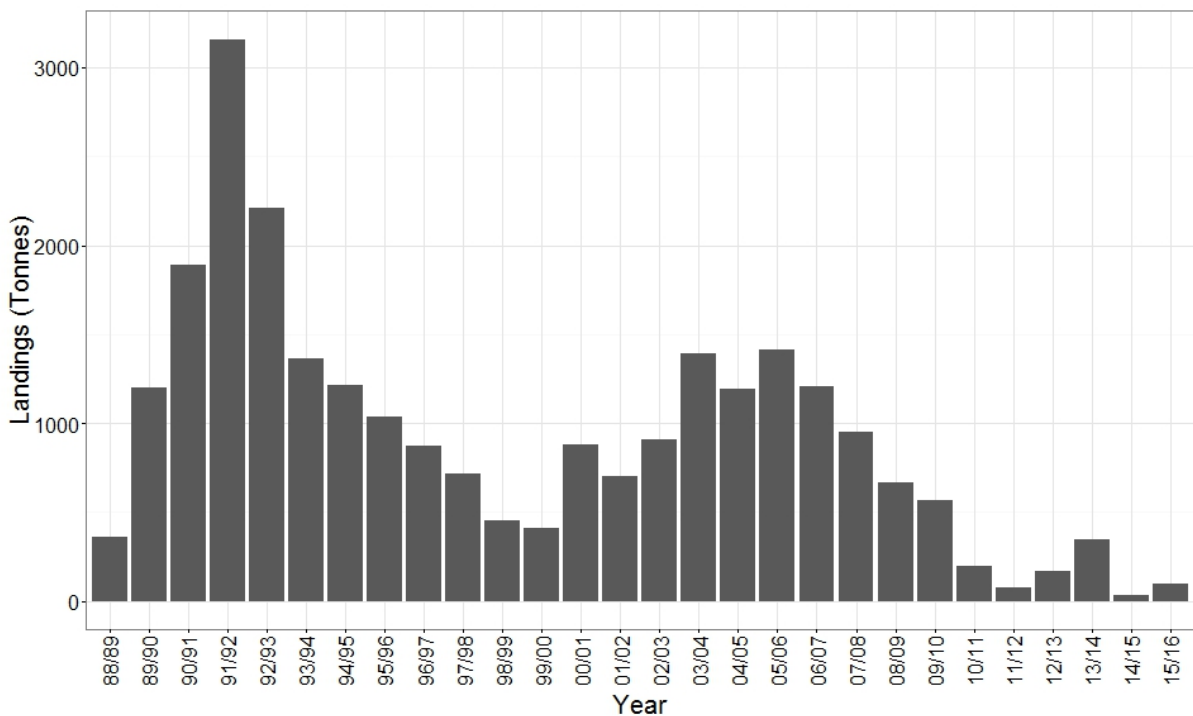


Figure A1. Landing of mussels in tonnes from the Dornoch Firth mussel fishery from 1988 to 2016.

Additional technical requirements if option 2 is selected:

- A. A total allowable catch of 738 tonnes
- B. Where practical undersize mussels (<45mm) and shell debris should be re-deposited back on to the mussel bed or scalp after grading in order to conserve essential habitat

- C. TAC in combination with additional spatial restriction would be best e.g. easternmost 50% of scalp only or westernmost. This would have to be agreed in discussion with the skipper to understand any operational constraints but the purpose would be to leave some areas undisturbed.
- D. The areas of horse mussel bed and fragile sponge communities identified in the 2015 and 2016 surveys are a sensitive conservation feature that should be avoided in dredging operations (Figure A2). Given the 2016 stock survey, there is no commercial importance in this area but it is still worth stipulating this additional consideration. Recommend avoidance area would be inside of square formed with the south west corner at ($57^{\circ} 51.0336\text{N}$, $4^{\circ} 0.9041\text{W}$) and the north east corner at ($57^{\circ} 51.3578\text{N}$, $03^{\circ} 59.0218\text{W}$).
- E. The two Shellfish Waters classification within the Dornoch Firth are currently dormant, however these could be quickly re-instated due to the quantity of historic data available and its recent active status (May, 2016). If the fishery were to re-instated, it is likely that only one classification covering the Forestry Bank area would need to be reinstated. Sampling to reclassify may only take one sample from the Forestry bank, but this sampling would need to be coordinated with Anne Hurst (Shellfish officer at the Highland Council) AND FALLS OUTSIDE OF THE EXISTING CONTRACT BETWEEN HWU AND THC.

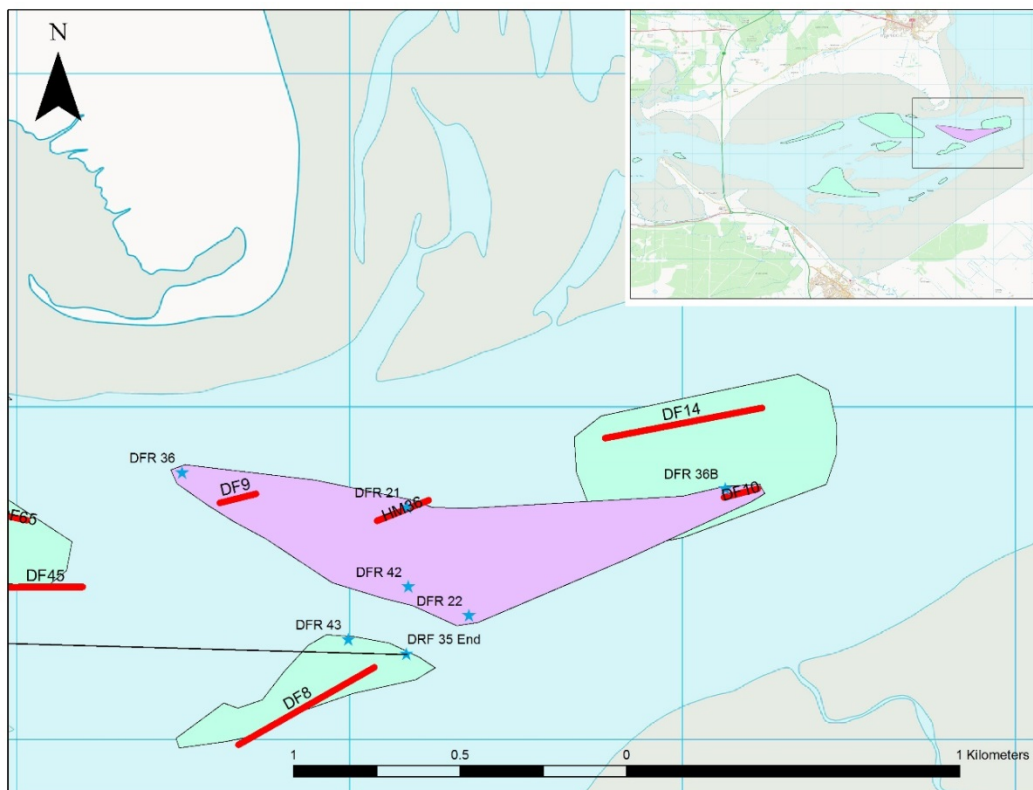


Figure A2. Estimated area of Horse mussel bed and fragile sponge habitat (purple polygon) based on spot dive data from 2015 (blue stars) and drop down video footage (red lines), Estimated extents of blue mussel beds from 2010 are shown as green polygons.

Tain Community Council's response:

1. Given the circumstances, we agree the sale of the mussel boat to be a sensible way forward. We would request that monies received from the sale be ring-fenced within the Common Good Account for Mussel Fishery use only, certainly for the foreseeable future but accepting this caveat could be subject to review in consultation with the Community Council.
2. We must insist upon the retention of the fishing licence for without it the community's historical right to the mussel fishery will be rendered meaningless. This asset should not be classed as disposable. We would ask the Council to confirm its current status and validity as a matter of urgency and in due course explore its potential as a tool to raise income for the Common Good Fund. The prospect of the Licence becoming a Category A licence in 2017 is intriguing and we would welcome ongoing news of that change.
3. Given the content of the Heriot Watt stock assessment, we consider the only responsible approach for the foreseeable future is to follow the guidance in their Option 1, namely to rest the fishery until 2005 levels of stocks are reached again, but to take up their offer to conduct a rapid Spring/Summer survey to assess the likelihood of regeneration. Whether this is to be done in 2017 or 2108 can be a matter for discussion.