

MACALISTER ELLIOTT AND PARTNERS LTD
CERTIFICATION SERVICES FOR SUSTAINABLE FISHERIES

**NORTH MENAI STRAIT MUSSEL FISHERY (*MYTILUS
EDULIS*)**

ANNUAL SURVEILLANCE REPORT

CERTIFICATE No.: MEP-F-002

SURVEILLANCE YEAR 1

Dr Jo Gascoigne (Team Leader)
&
Dr. Andrew Brand

NOVEMBER 2011

QA REF: 2090-R-07-A



MacAlister Elliott and Partners Ltd
56 High Street, Lymington
Hampshire SO41 9AH
United Kingdom

Tel: 01590 679016

Fax: 01590 671573

E-mail: mep@macalister-elliott.com

Website: www.macalister-elliott.com

Bangor mussels surveillance audit / extension of UoC

General Information

Fishery Name	North Menai Strait mussel fishery			
Previous Unit of Certification	Mussels from bottom culture (wild caught seed) from the northern Menai Strait, Wales, UK, grown by members of the Bangor Mussel Producers Ltd. (BMP Ltd.) with seed fished by mussel dredge from i) Morecambe Bay or ii) Caernarfon Bay.			
Proposed Extended Unit of Certification (see separate report)	As above, but also including seed fished from the estuary of the River Dee (Cheshire / N. Wales).			
Species	European / blue mussel <i>Mytilus edulis</i>			
Area	Seed fishery area: Current – Morecambe Bay, Caernarfon Bay; Proposed – River Dee (Cheshire / N. Wales) (see separate report) Mussel culture area: Menai Strait, north of the Swellies.			
Method of capture	Mussel dredge			
Client Address	Bangor Mussel Producers Ltd. - Myti Mussels Ltd., Extramussel Ltd., Ogwen Mussel Ltd and Deep Dock Ltd. c/o Deepdock Ltd Bwthyn-y-mor, Llanfaethlu Holyhead, Anglesey, LL65 4HD Phone/Fax: 01407 730075 mussels@deepdockltd.co.uk			
Client Contact Name	James Wilson (Deep Dock Ltd.)			
Client Telephone No.:	+44 (0)1407 730075			
Client Email	mussels@deepdockltd.co.uk			
Certificate number	MEP-F-002			
Certificate Issue Date	26 October 2010			
Certificate Expiry Date	25 October 2015			
Audit stage	Year 1	Year 2	Year 3	Year 4
Audit experts	Expert 1 (Team Leader): Dr Jo Gascoigne, Expert 2: Dr Andrew Brand			
Surveillance Audit Date	26-27 October 2011			
Conclusion	Certification should be maintained			

General Introduction

The assessment of the north Menai Strait mussel fishery in October 2011 had two purposes. Firstly, the MEP team carried out the first annual Surveillance Report for the fishery. Secondly, the team carried out an MSC full assessment to extend the Unit of Certification (UoC) for this fishery to cover an additional location for mussel seed fishing – the River Dee estuary. This report describes the annual surveillance audit, while the Public Comment Draft Report for the assessment for the proposed extension to the UoC will be published separately (after peer review).

First annual Surveillance Audit for Bangor mussel fishery

1. Introduction

This audit is the first annual surveillance audit for this fishery since certification, which was finalised in October 2010 (certificate number MEP-F-002).

In preparation for this surveillance audit, stakeholders were contacted by email on 11th August, 2011 and invited to submit comments. The notification of the surveillance audit was also published on the MSC website on 16th August, 2011. The audit was carried out at the University Management Centre in Bangor by the surveillance team consisting of Dr. Jo Gascoigne and Dr. Andrew Brand, on October 26-27.

2. General observations

There have been no significant changes to the fishery (operation or management regime) since it was certified. The new management system, put in place at the time that Welsh Government took over control of inshore fisheries in Wales, on 1 April 2010, appears to be functioning successfully. The new grantee of the Menai Strait East Fishery Order is the Menai Strait Fishery Order Management Association (MSFOMA). Since 1 April 2010, MSFOMA has met quarterly, although the frequency of meeting may be reduced as the new system beds in. MSFOMA produced an annual report for the year ending April 2011 (ref. 1), which describes their activities over the first year, as well as giving figures for the quantities of mussels re-laid and harvested.

The main issue of concern for the fishery at present is the detection in the last few weeks of *Bonamia* on European oysters at the southern end of the Menai Strait. These oysters were part of an experiment being conducted by Bangor University, and were obtained from Loch Ryan in Scotland, which was up till now thought to be *Bonamia* free. Mussels are not susceptible to *Bonamia*, nor are they carriers of the disease, but there is nonetheless a small risk that infected oysters could be transported with mussels. CEFAS is currently investigating the outbreak, and has confirmed that it is *B. ostrea* (the European strain) rather than *B. exitiosa* (an invasive strain). Nonetheless, the mussel fishery is currently in a control zone (stretching from the Great Orme to the south end of the Strait), and mussels can only be moved to other areas already infected with *Bonamia*. Luckily, this does not have a major impact on the fishery, although it is inconvenient.

The audit team concluded that this issue was being dealt with appropriately, and that it had no particular bearing on the MSC certification.

The fishing of seed mussels from the River Dee and the associated request for the addition of the River Dee to the UoC is dealt with separately (a separate report).

3. Progress on implementing Client Action Plan

The most important role of an annual surveillance audit is to check that the client is progressing with the implementation of the Client Action Plan, such that the conditions will be met in time for re-assessment after five years.

This fishery was certified with two conditions, as follows:

Condition 1 – PI 2.2.3 – By-catch species information

The team concluded that in order to meet SG 80, there was a need for more quantitative information on catches of the most significant by-catch species (green crab and starfish), either to conclude that they are not ‘main’ by-catch species (constituting more than 5% of the catch) or else to support a partial management strategy should that become necessary.

The fishery needs to collect quantitative or semi-quantitative data on starfish and green crab by-catch at each of the three sites, to show either i) that they typically constitute less than 5% of the catch (i.e. should be downgraded from main to minor by-catch species); or ii) so that the impact of the fishery on local population levels can be better understood and tracked over time.

Condition 2 – PI 3.2.4 – Research

The team noted that while the members of BMP Ltd. have an excellent record of supporting and participating in scientific research, there is no formal research plan as such, as required under SG 80 for this PI, although the team notes that the formulation of a formal research plan is an objective of the fishery (22).

The fishery should develop a formal, strategic research plan.

Here we review each condition in turn, considering the progress the fishery has made relative to Year 1 of the Client Action Plan.

Condition 1 – By-catch species information

PIs	PI 2.2.3 By-catch species information
Issue	The bycatch species in question are green crabs and starfish. While qualitative information is sufficient to infer that the fishery is unlikely to have any impact on these populations at each seed fishing site and in the Menai Strait, there is no quantitative information either on catch rates or on populations at any of the three locations.
Action Plan Year 1	<ul style="list-style-type: none"> • Identify information requirements and develop monitoring procedures • Implement monitoring procedures, record data
Actions by BMP Ltd. during Year	BMP Ltd. contracted Dr Michael Ehrhardt of Molecular Biology and Ecology Solutions Ltd. to undertake an assessment of the bycatch of the fishery in Caernarfon Bay and Morecambe Bay (ref. 2). Dr Ehrhardt spent three days

Bangor mussels surveillance audit / extension of UoC

1	<p>sampling at Caernarfon Bay and two days at Morecambe Bay on the mussel dredging vessels Valente and Mare Gratia. He performed detailed investigations of subsamples of the catch, as well as quicker searches of the entire catch, to identify mobile species and species at low abundance.</p> <p>Total bycatch (non-mussel catch) by weight as a proportion of the total catch was estimated at 3.66% in Caernarfon Bay, where 42 bycatch species were identified. In Morecambe Bay, bycatch was 2.28% by weight and comprised 27 species. The bycatch was predominately made up of green crab (<i>Carcinus maenas</i>; 76%) and common starfish (<i>Asterias rubens</i>; 9%). Catches of whelk (<i>Buccinum undatum</i>) - raised as a possible concern during the SICA assessment – were low (0.5%). No protected or endangered species were mentioned in the report (see Annex 1).</p>
Evidence provided	Dr Ehrhardt's report was provided to the audit team (ref. 2). A full list of the species found in the sampling is given in Annex 1.
Conclusion of audit	The audit team concluded that since total bycatch by weight is well below 5%, the fishery has no 'main' bycatch species. Therefore, SG80 is met for PIs 2.2.1, 2.2.2 and 2.2.3. <u>The condition is met.</u>

Condition 2 – Research plan

PI	PI 3.2.4 Research plan
Issue	This fishery in fact has one of the best records of funding, supporting and participating in research of any fishery known to MEP. However, in order to meet the SG80 level for this PI, a formal, written research plan is required.
Action Plan Year 1	<p>First part of year:</p> <ul style="list-style-type: none"> • Identify good practice from existing certified fisheries • Agree information requirements with managers of the Menai Strait, Caernarfon Bar and Morecambe Bay fisheries • Prepare strategic research plan identifying key research issues • Agree priorities for research <p>Second part of year:</p> <ul style="list-style-type: none"> • Publish research plan & circulate to interested parties • Commence implementation of plan • Commence dissemination of research results to interested parties
Actions by BMP Ltd. during Year 1	As noted in the Certification Report, BMP Ltd. has an extremely good record of initiating and supporting research, based on tackling issues raised by stakeholders in a pro-active way. A list of research priorities has been agreed, based on consultation, particularly with scientists from the School of Ocean Sciences. These can either be issues that might arise in the future ('horizon scanning') or issues that have recently arisen that are of relevance to the industry (such as the question of water quality). BMP Ltd. also note that the research currently underway reflects to a large extent where they have been

successful in getting joint research grants with the University – for example, two grant applications were filed for PhD research on invasive species, but only one was successful.

BMP Ltd. also note that the demise of the two Welsh SFCs in 2010 left a significant hole in research in inshore fisheries in Wales. It has up till now been difficult to see how best to fill this hole – this has been a significant part of their discussions with the University, as well as wider discussions in the region. However, they are confident that the immediate priorities are now becoming clear.

The list of agreed research priorities is the following:

- water quality
- mussel population dynamics
- seed mussel stock status
- non-target species
- ecosystem effects – particularly involving birds
- non-native species
- dissemination of information

This list of priorities forms the basis of a research plan, which was approved by MSFOMA on 31 October 2011 (after the audit but before the draft report was finalised).

Progress is already being made in implementing much of the research set out above. Ongoing research activities funded or otherwise supported by the fishery are as follows (in collaboration with the School of Ocean Sciences, Bangor University, unless otherwise indicated):

1. Water quality: The fishery has funded two PhD research projects on i) microbial water quality in the Menai Strait and Conwy Bay and ii) viral contamination in seawater, sediment and shellfish. An EFF proposal has been co-written to investigate interactions between human pathogens and shellfish in Conwy Bay, the Menai Strait and the Burry Inlet.

2. Mussel population dynamics: Seed mussels from Morecambe Bay and the Dee estuary are undergoing genetic analysis, as was agreed under the fisheries genetic policy (prepared as part of the MSC assessment). Due to illness, the results of this analysis are not yet available. In addition, a PhD project proposal is under development to investigate seed mussel dispersal in the Irish Sea.

3. Seed mussel stocks: i) Surveys of offshore seed resources at Morecambe Bay – including supporting participation by Natural England and the Northwest IFCA; ii) Surveys of the seed mussel stock at South Salisbury Bank in the Dee (further details below); iii) Caernarfon Bar surveys with ground-discriminating sonar and drop-down video (no seed found in 2011).

4. Non-target species: Study of bycatch at Morecambe Bay and Caernarfon Bar (see under Condition 1 above).

Bangor mussels surveillance audit / extension of UoC

	<p>5. <u>Ecosystem effects</u>: Discussions underway with Natural England and Cumbria Wildlife Trust on further research into eider ducks in Morecambe Bay (nothing yet decided).</p> <p>6. <u>Non-native species</u>: Fishery-funded PhD on the distribution, spread and impacts of <i>Crepidula</i> in Wales (submitted but not yet examined) (Note: ongoing monitoring in the Strait confirms that it continues to be <i>Crepidula</i> free). The fishery continues to work with CCW, Holyhead Harbour Authority and the University to try to contain or eradicate <i>Didemnum</i> from Holyhead Marina. So far, attempts have not been successful but a new attempt is being made this winter, for which the fishery has offered financial support. There have been extensive surveys for Chinese mitten crab in the Dee estuary (more details given in the PCDR for the UoC extension to the Dee, published separately).</p>
Evidence provided	<p>The draft research plan was provided to the audit team (ref. 3). The team also saw copies of the bycatch report (ref. 2) and the survey report for Chinese mitten crabs in the Dee (ref. 4).</p>
Conclusion of audit	<p>From the first set of actions (first part of year), all have been implemented except ‘identify good practice from existing certified fisheries’. However, it was the view of the audit team that in this context this would not be a particularly useful exercise, since the issues facing the fishery are very specific to this location and activity. The audit team concluded that the approach taken was appropriate.</p> <p>From the second set of actions (second part of year), paradoxically, the plan is being implemented and some results disseminated even though the plan has not yet been formally approved and circulated. The audit team was assured that the plan was due to be formally approved at a meeting of MSFOMA on 31st October, and have received confirmation from BMP Ltd. that it was approved. The audit team has received a copy of the formal letter of approval from MSFOMA to BMP Ltd. The audit team concluded that the <u>condition is met</u>.</p>

4. Tracking and tracing of fish products

As noted above, one issue arose for the tracking and tracing of products from the fishery – that of the mussels harvested from the River Dee in 2011, which are currently outside the UoC. This is dealt with in more detail in the separate PCDR report on this UoC.

Since there was only a tight window in which the harvesting could take place in the Dee without risk of the presence of mitten crabs, it was agreed between the fishery and MEP that the harvesting could go ahead before the River Dee was assessed under the MSC standard. However, it was agreed that these mussels would be kept on separate lays and not mixed with other mussels, so that in the event that the River Dee cannot be added to the UoC, they could be raised and sold as non-MSC mussels. This would obviously imply a change to the chain of custody requirements from the current situation where all mussels produced by members of BMP Ltd. are MSC certified.

The assessment of the River Dee is currently still ongoing. The preliminary recommendation from MEP is that the River Dee **does** meet the requirements of the MSC standard and therefore **can** be added to the UoC. However, this recommendation is still subject to peer and stakeholder review. **If the final decision is negative, this will trigger an immediate chain of custody audit.**

5. Conclusion of Annual Surveillance Audit, Year 1

Issues arising from the fishery: No issues were identified that have a significant bearing on the MSC certification, except for the question of the River Dee seed collection (described separately). Several significant issues arose and were dealt with appropriately, in the view of the audit team.

Condition 1: A well-designed study demonstrated to the satisfaction of the audit team that bycatch represents only a small proportion of the catch, such that no 'main' bycatch species could be identified. This condition is therefore met.

Condition 2: The first year of the action plan for PI 3.2.4 (research plan) has been met. The research plan has been agreed and approved by MSFOMA. Significant research is underway and results are being disseminated via published papers and talks.

6. Certification Recommendation

On the basis of the above conclusions, MEP concludes that the north Menai Strait mussel fishery **should** retain MSC certification for another year.

7. Recommendations of the Audit Team

The audit team did not have any particular recommendations.

8. References for surveillance audit

1. MSFOMA 2011. Statutory Annual Fishery Report for year ending April 2011.
2. Ehrhardt M. 2010. Bycatch assessment of the blue mussel (*Mytilus edulis*) seed harvest operation of Bangor Mussel Producers Ltd. on Caernarfon Bar and in Morecambe Bay in the year 2010. Molecular Biology and Ecology Solutions.
3. Bangor Mussels Producers Association Ltd. 2011. Research Plan.
4. Woolmer A. 2011. i) Standard Operating Procedures for screening seed mussel beds for the Chinese mitten crab (*Eriocheir sinensis*); ii) Chinese mitten crab (*Eriocheir sinensis*) assessment Salisbury Bank seed mussel bed (Dee estuary): dredge survey; Chinese mitten crab (*Eriocheir sinensis*) assessment Salisbury Bank seed mussel bed (Dee estuary): timed search foot survey.

Annex 1 – List of bycatch species

Note: None of these species are considered ‘main’ bycatch species. List taken from reference 2. Where species were found in the subsamples taken for detailed analysis, their proportion by weight of the bycatch is given in brackets. The total proportion of bycatch is given next to the site. Thus the overall proportion of, for example, starfish at Caernarfon Bar, would be 3.66% X 13.06% (=0.48%). The other species did not show up in the subsamples and were identified by a general survey of the entire catch (i.e. catch rate is too low to be quantitatively assessed).

Morecambe Bay (2.28%)	Caernarfon Bar (3.66%)
barnacle	15-spined stickleback
bass (1, released alive)	ballan wrasse (0.05%)
beadlet anemone	barnacle
blenny	black goby
brittle star	blenny
brown shrimp	brill
butterfish (0.40%)	brittle star (0.01%)
common prawn (0.24%)	brown shrimp
common starfish (8.73%)	butterfish (0.08%)
dab (2.00%)	cod (1, released alive)
European plaice (1.37%)	common dragonet
grey gurnard (1, released alive)	common prawn (0.02%)
green sea urchin	common starfish (13.06%)
harbour crab	common whelk (5.74%)
hermit crab (0.27%)	dab
lesser weaver	edible crab (4.92%)
long-legged spider crab	edible sea urchin
long-spined bullhead (0.05%)	European flounder
porcelain crab	European plaice (0.90%)
rockpool prawn	garfish (1, released alive)
sandy swimming crab (8.90%)	green sea urchin
shore crab (78.03%)	harbour crab
short-legged spider crab	hermit crab (9.49%)
short-spined scorpionfish	netted dog whelk
sole	lesser sand eel
three-bearded rockling	lesser spotted dogfish (3, released alive)
witch flounder	lesser weaver
	long-legged spider crab
	long-spined bullhead (1.40%)
	Manila clam
	Montagu’s seasnail
	porcelain crab
	rockpool prawn
	sandy swimming crab (3.86%)
	shore crab (58.51%)
	short-spined scorpionfish
	snake pipefish
	spiny spider crab
	squat lobster

Bangor mussels surveillance audit / extension of UoC

	three-bearded rockling velvet swimming crab (1.97%)
--	--