

The Grower

Newsletter for the Association of Scottish Shellfish Growers

January 2010



Top of the tops—the best shellfish in Scotland



A competition for the best shellfish producer in Scotland was a new addition to the programme for this year's shellfish conference held in Oban in October. Worthy winners were Douglas Wilson (Inverlussa Shellfish) for mussels and Andy Abrahams (Isle of Colonsay Oysters) for oysters. The prize was to be declared best amongst very tough competition but also to receive the appropriately decorated shellfish plate specially produced by Richard Bramble) seen above being presented by ASSG chairman (Walter Speirs). No one can have envied the task of the 3 judges in making their decision. More pictures from the conference on the back page and full report on page 8

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Peter Hoare

It was sad news indeed to hear of the sudden death in October of Peter Hoare, long term member and supporter of the ASSG. As one of the more stalwart correspondents to *The Grower* the "letter" page of this issue is dedicated to the memory of Peter and tributes received about him. He was sadly missed at the ASSG conference where many felt he might have felt well satisfied with the oyster standards on display. See page 3

Pest alert

The invasive carpet sea squirt (*Didemnum vexillum*) has been found in the Firth of Clyde. First reported in the British Isles near Dublin (2006) and subsequently in Wales (2008). For more information and advice see page 6

Photograph courtesy of Scottish Association for Marine Science (SAMS)



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Prospects and opportunities for shellfish farming in Scotland



As part of the study on the prospects and opportunities for shellfish farming being carried out by the University of Stirling David Scott and Anton Immink visited Shetland to talk with farmers, regulators and Seafood Shetland. Please see the full account of the project and how you can assist (if you have not already done so) on page 10.

Pictured above left;

Marvin Thomason with a fine rope of Shetland mussels.

Above right; Harvesting mussels at the farm of C and M Thomason, Basta Voe, Shetland.



***Pictured above—*Didemnum vexillum** the colonial sea squirt Photograph from Scottish Association for Marine Science

Bivalve Aquaculture Dialogue

The global steering committee met December 9-11th in Sydney, Australia to review public responses received on the draft standards during the first public consultation period. (As requested by guest speaker Colin Brannen pictured below at the ASSG annual conference in October). There will be another draft produced from these responses and deliberations, and then further consultation. One of the more controversial items that was discussed extensively led to the decision being made to remove the exemption for the growers in the Pacific Northwest allowing the continued use of carbaryl to control ghost shrimp until 2012 but even so this was not a unanimous decision but one that seems more in keeping with a standard for shellfish aquaculture.



Latest EFF awards to develop shellfish farming announced

Shellfish farms featured in the lists of EFF funded projects announced by Scottish Government in November. The ASSG received £36,740 towards 4 specific projects to reinvigorate the shellfish cultivation sector within Scotland. Loch Fyne Oysters had two projects funded; to construct new mussel processing building and to upgrade the current oyster grading shed and purchase and installation of a purpose built mussel processing line plus money towards upgrading their mussel and oyster farm, a total of £84,562. Hebridean Mussels of West Lewis were awarded £48,934 towards provision of plant and equipment to allow the adoption of New Zealand mussel farming methods (as described at the ASSG conference – see page 8). Shetland shellfish farms receiving funds for mussel farming developments were Demlane (£220,910) and Olnafirth Seafarm (£15,369) while Langsound Shellfish received £20,165 for a new shore station.

If this news inspires you to think about applying for developing your own business the first step is to go to the marine fisheries page of the Scottish Government web site and follow the links under grants.

(<http://www.scotland.gov.uk/Topics/marine/Fisheries/grants-subsidies>)

The grants team will also give informal advice enabling you to apply and will also look at draft applications without prejudice to any grant decisions and provide some advice. For further information telephone or email Gordon Hart at gordon.hart@scotland.gsi.gov.uk or telephone 0131 244 6089.

Peter Hoare – A Presence

An appreciation from Doug McLeod

It was hard to miss Peter Hoare at virtually any gathering – his love of life, his exuberant endorsement of issues such as oyster quality and his enthusiasm for progress and improvement on all matters shellfish, made him a presence difficult to ignore! Here was someone who was determined to ‘make a difference’!!

Quintessentially English, yet always bright eyed and enthused when discussing or describing his beloved ‘Tas’ and his years in Tasmania, where he really appeared to have found his niche. Memorable descriptions of cultivating oysters in pristine bays, albeit tinged with a touch of melancholy, as he’d been obliged to leave his life there as a result of health problems, problems which now appear to have returned and removed his larger than life presence from amongst us.

Although he left Tasmania several years ago, he was still remembered fondly, as I discovered on a recent visit to the island; his involvement in the Associations, and support for the local oyster cultivation sector, had left an impressive imprint on many of the growers.

I remember with fondness his congratulatory words and genuine pleasure on the announcement of my ‘engagement’ at the ASSG Conference Dinner in October 2007 to a ‘blonde Kiwi sheila’, as well as his encouragement to me to engage with the Australian oyster industry after I moved to Adelaide in 2008, even to the extent of passing on contact details and e-mailing Tasmania with positive words about this pommy interloper!

There is undoubtedly a noticeable gap, a silence, in the UK oyster industry, an absence that will be felt by all who came into contact with this barrel of energy, who was driven by passion and determination to improve our industry.

Martin Syvret writes with Tasmanian contribution by Barry Ryan, Chairman of the Tasmanian Oyster Research Council

Most of us knew Peter otherwise known as “Oggie” or “the Major” from his involvement in the UK shellfish industry and this was a passion for Peter that started following his move to Australia in 1991. I am indebted to Barry Ryan who supplied me with the following summary of Peter’s achievements during his time in Tasmania:

“Peter Hoare was an oyster enthusiast who worked hard for the industry in Tasmania, Australia. He arrived from the UK in 1991 and went on to help establish a successful business, producing oysters of high quality. During his time in Tasmania Peter became known as an industry leader. He was a Director of the Tasmanian Aquaculture Council and The Tasmanian Oyster Growers Association. But the role in which Peter made his greatest contribution was as a Director of the Tasmanian Oyster Research Council – an organisation heavily involved with the planning and execution of research for the industry. Deeply concerned with oyster quality as he was, Peter played an important part in the development of the Tasmanian Oyster Quality Assurance Program – later transformed into the Australian Oyster Quality Assurance Program – which has proved itself over the years in ensuring the supply of safe edible oysters for the market place.

Later, Peter was also a strong supporter of the Australian Seafood Industry company (ASI) and its selective breeding program. This breeding program is the envy of many international industries and its influence is a binding force for not only the Tasmanian, but also the Australian edible oyster industry. Peter loved Tasmania and he will be long remembered for the contribution he made here.”

It was after his ‘enforced return’ from Australia in 2001 that I first met Peter. I was at that time the manager of the then Abbotsbury Oysters and was approached by this obviously bored and disgruntled ex-oyster farmer to see if he could lend a hand. Needless to say I then received a first class education in oyster cultivation and Peter went on to reorganise and modernise the farm, eventually implementing an Australian system that can still be found in the Fleet Lagoon at Weymouth. It still makes me smile to remember the adventures that Peter had whilst managing the restaurant which he did from time to time, especially when the appliance of Army discipline met the unmoveable force of teenage waitresses. Needless to say Peter soon realised it was one battle he was never destined to win.

Over the following years I enjoyed many oyster related adventures with Peter during his campaign to educate both the industry and the Great British public on what he felt that oyster cultivation should really be about. It is certainly true that Peter felt strongly that if the industry in the UK was to progress and develop then the lessons learned in Australia needed to be implemented in the UK, especially those relating to breeding programs and quality control schemes. These schemes that Peter helped to implement in Tasmania resulted in increased and stabilised prices for growers and a quality product that their industry is still proud of. It will be interesting to see in the future if those lessons from Australia might one day be heeded.

Always a colourful, if sometimes controversial character, his knowledge, experience and straight speaking, mixed with a real sense of fun, gained him many friends in both hemispheres. He will be very much missed.

Chairman's Column

Happy New Year to you all, hope Santa was kind, and the hangover is a distant memory! The shortest day has now past, and snowdrops should be appearing any time now to remind us that spring is on its way once again.

Reflecting on 2009, consultation for the Marine Bill was probably the main event. As the process developed, it became apparent that there was not really going to be much change in the world of shellfish farming. Whilst not yet absolutely certain, it looks like planning matters will stay with Local Authorities, engaging with the same statutory consultees, the only change being that Fisheries Research Services have been renamed as Marine Scotland Science. However, being involved in the consultation has brought me into contact with a great number of people, who are, almost without exception, sympathetic to the challenges our industry faces. We have a lot of friends, which can only be a good thing when some support is required.

It soon became apparent that the Water Framework Directive, and the accompanying River Basin Management Plans were more significant in our lives than the Marine Bill. There was a lot of uncertainty about how standards for Shellfish Growing Waters were going to be applied under WFD, and there is still not total clarity. I am optimistic that we will get the protection we seek, and our waters will be Designated again. This may happen at EU, UK, or Scottish level. Either way, there is still a lot of work to be done on this.

Also under RBMPs came the threat to the growing of Pacific oysters, as it was/is proposed that they should be classed as an Invasive Non Native Species. As you probably know I have been challenging this at a Scottish level, and will continue to do so. I will be meeting with Scottish Natural Heritage early in the year to take it further.

I should mention that I have been working very closely with the Shellfish Association of Great Britain on both of the above issues, and also the European Mollusc Producers Association. Seafish have also been very supportive.



Walter Speirs, chairman of Association of Scottish Shellfish Growers

Our annual Conference was a great success again, and thanks must go to Nicki Holmyard for doing such an excellent job of organising it. Thanks are also due to our sponsors, The Crown Estate, SNH, Argyll and Bute Council and Highland Council. Without their help we would not be able to finance this excellent event.

We are fortunate to have been awarded an EFF grant, to help fund some work which otherwise we would not be able to carry out. I must stress that we still need subscription income to match fund this grant. Subscriptions are now due for 2010, so if you have not already paid yours, I would urge you to do so now.

Finally, the Scottish Government have set up a number of forums to help the development of the Aquaculture industry in Scotland. I chair the Shellfish Forum, which has already proved very useful. In addition to the Shellfish Forum, I sit on three of the other groups. I will provide a more detailed report on this for members soon.

Best wishes,
Walter

Dates for your diary:

Aquaculture UK2010

Aviemore

May 19-20th

Annual shellfish conference

Fishmongers' Hall, London Bridge

May 25-26th

Aquaculture Europe

Porto, Portugal

October 5-8th, 2010

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Marine Scotland kicks-off a SARF project on *Mytilus trossulus*

Joana Dias reports

The Scottish Aquaculture Research Forum (SARF) has recently approved a proposal by Marine Scotland to carry out further work on the management of *Mytilus trossulus* in Scotland.

The presence of thin-shelled, poor meat yield *M. trossulus* mussels in Scotland was first identified in 2005 following concerns raised by growers in Loch Etive. This led to a wider consideration of the potential presence and distribution of *M. trossulus* in other parts of Scotland. The similarity between *M. trossulus* and *M. edulis*, together with the ability of these species to produce viable hybrids, required the development of accurate DNA-based methodologies for species identification. Marine Scotland scientists have been working over the last few years developing and optimising efficient methods for the accurate identification of the two species and their hybrids in order to facilitate processing of a large number of mussel samples.

Research using such methods has revealed that:

- **M. trossulus* appears to be restricted to the south Highland and Argyll areas.
- **M. trossulus* and its hybrids are significantly more frequent in protected locations such as pontoons at marinas and on aquaculture ropes, suggesting these artificial structures may provide a favourable niche for their survival.
- *Although it is as yet unclear whether *M. trossulus* is a native species in Scotland (perhaps enhanced in recent years by the expansion of shellfish farming), or a non-native species (perhaps introduced by shipping or other activities), there is no evidence of it being an invasive species, i.e. that it poses a threat to natural populations of mussels.
- *Although the external appearance of hybrids is generally indistinguishable from that of *M. trossulus*, differences between the bulk and strength of these two similar types and *M. edulis* appears to be easily noticed by mussel growers, especially if they are alert to the problem.
- **M. trossulus* and its hybrids are significantly more frequent on ropes in the upper 3-4 m of the water column, suggesting that changes in cultivation practices to avoid settlement in these depths are likely to reduce *M. trossulus* production and proliferation
- *Differences in the spawning behaviour of *M. trossulus*, *M. edulis* and hybrids were investigated and they appear to be too small to allow for a “rope-dropping time frame” strategy that would avoid *M. trossulus* settlement
- *Any practical interventions towards minimizing the presence of *M. trossulus* on ropes (e.g. grading and resocking of mussels, fallowing or harvesting of affected sites) is likely to be more efficient if performed before the main spawning season for mussels

The recently approved SARF project will run from January 2010 for 18 months. Building on the knowledge gathered so far, Marine Scotland Science will work with the industry to develop a science-based approach to the practical control of this problem. In this sense, managing the impact of *M. trossulus* at both the regional and national scale is of fundamental importance in ensuring the long term sustainability of mussel production in Scotland.

At a regional scale, the SARF project aims to:

- *Support, evaluate and monitor coordinated efforts to eradicate (or limit the future presence) *M. trossulus* from mussel growing regions, using Loch Etive as a study site.

The detection of this species in other areas of Scotland raises the issue of a potential wider impact of *M. trossulus* at the national scale. However, current knowledge suggests a wider impact of *M. trossulus* might be controlled through the reduction of its presence at aquaculture units, and by managing potential stock movements and/or aquaculture practices that might promote its spread.

At a national scale, the SARF project intends to:

- *Identify strategies for limiting/eradicating the presence of *M. trossulus* at affected sites
- *identifying mechanisms to prevent distribution of the species within the wider industry
- *promote regular consultation and continued cooperation between the Scottish industry and other interested parties
- *translate knowledge into a code of good practice that will form the basis of an industry-lead control policy
- *develop and communicate recommendations and practical solutions

The combined experience and cooperation of the shellfish industry and Marine Scotland has led to the development of essential tools and much of the current knowledge within this important area. Your continued input to this project is important. If you have any comments, questions or suspect you might have *M. trossulus* in your area, please do not hesitate to contact us at Marine Scotland Marine Laboratory.

We are Mike Snow (Molecular genetics), Ian Davies (Aquatic Environment), David Fraser (Fish Health Inspectorate), Joana Dias (project scientist)

E-mail: j.dias@marlab.ac.uk Tel: 01224 295530

More good health reasons to eat shellfish

Janet H Brown and Kim Jauncey

The health benefits of the amino acid taurine as an additional food supplement are becoming increasingly apparent. These benefits are associated with protection against oxidative stress, neurodegenerative diseases and atherosclerosis. Since we have a limited ability to produce taurine within our bodies, external sources in our diet are very important.

In studies in Japan they found a correlation between eating fish and shellfish and the highest dietary intakes of taurine. This is not surprising in that fish does contain appreciable levels of this amino acid, from 27mg/100g in haddock (*Melanogrammus aeglefinus*) to 162mg/100g in Saithe (*Pollachius virens*). This may however be another area where shellfish really carries an advantage since levels in shrimp (*Pandalus borealis*) were measured at 220mg/100g while in mussels (*Mytilus edulis*) it was 510mg/100g.

The Shellfish Association of Great Britain has been doing a great job pointing out the benefits of shellfish for dietary sources of the w3 fatty acids particularly DHA and EPA. Here is yet another area where shellfish carries an additional benefit.

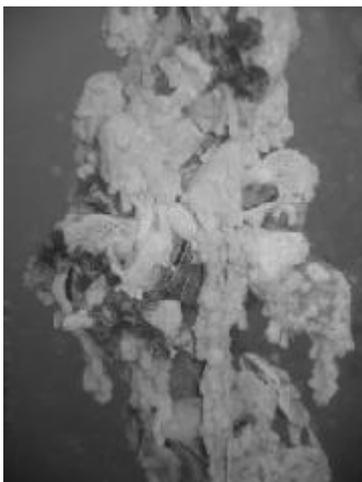
Keep eating the shellfish!

Facts taken from “Improving Farmed Fish Quality and Safety.” Edited by Øyvind Lie. CRC Woodhead Publishing 628 pp.

Threat to shellfish farms from arrival of invasive sea squirt

The invasive colonial sea squirt *Didemnum vexillum* has been found in Largs Yacht Haven on the Firth of Clyde. This is potentially a serious threat to marine aquaculture installations. To see what impacts this pest can have on mussel lines see the video shown at the ASSG conference a few years ago available at http://woodshole.er.usgs.gov/project-pages/stellwagen/didemnum/images/video/AC_SB2_NZvideo1.wmv (see picture to the right)

This species has been a problem in many parts of the world but was first spotted in the British Isles in 2006 near Dublin. At that time it was simply referred to as *Didemnum* spp. The taxonomy is now apparently sorted out but it remains a serious pest. For more information the site at Woods Hole is very useful (<http://woodshole.er.usgs.gov/project-pages/stellwagen/didemnum/>)



Didemnum is a pest because it reproduces very rapidly and can foul marine habitats such as mussel lines, oyster trestles, fish cages as well as ships' hulls which seems to be how it is spreading. The first sighting in Great Britain was in Holyhead Harbour in 2008 and now it is found in a marina in the Clyde.

SNH and Marine Scotland are clearly concerned about this and marinas in the Firth of Clyde and on the Argyll coast are to be surveyed by marine scientists from late January by the Scottish Association for Marine Science (SAMS) to investigate how widespread it has become. Meanwhile boat owners are being asked to make extra efforts to keep boat hulls clean and free of fouling to help prevent its spread.

Dr David Donnan, policy and advice manager at SNH said "We have been on the lookout for this species in Scotland as it was found in Holyhead Harbour in North Wales in 2008 and more recently in the south of England. This recent finding in Largs Yacht Haven is the first sighting in Scotland." Chris Beveridge of SAMS spotted the small colony of what she suspected to be the carpet sea squirt during a routine survey. She said: "This is one of our target species, so when I spotted a mussel on a pontoon, covered with a fawn coloured growth, I immediately suspected the invasive sea squirt."

She later found a larger colony on the marina's mooring lines. She added: "We carry out surveys of west coast marinas every year, on the lookout for a variety of non-native species that have the potential to reach Scotland. The sea squirt may have been brought into Largs Yacht Haven on the hulls of leisure craft which have travelled from Wales or Ireland, where it is already established. It could be a real menace for all users of the marine environment if it spreads up the coast, with considerable economic impact."

Carpet sea squirt is most likely to spread by attaching itself to the hulls of boats. It is a distinctive mustard, pale

orangey-yellow or beige colour and often appears as pale flat patches. Larger growths may look like wax dripping from artificial structures just below water level. Its surface has leaf-like veins with tiny pores and it has a spongy texture and a leathery feel to it.

David Donnan added: "It can be quite tricky to identify but top tips to help prevent its spread are as follows:

- * Keep hulls of boats clean, free of fouling and treated with anti-fouling paint
- * When hulls are cleaned make use of a closed-loop or filtered wash down facility and/or steam clean
- * Clean fishing gear and other equipment on a regular basis
- * Dispose of any fouling including weed carefully so that it doesn't go back into the water.

"People can find out more, including an identification sheet, by visiting the website www.nonnativespecies.org from 1 February. For more information on the carpet sea squirt call David Donnan on 01738 458664 or email david.donnan@snh.gov.uk For more information on potential aquaculture impacts of the carpet sea squirt call Dr Kenny Black, Scottish Association for Marine Science on 01631 559259/559342 or email kenny.black@sams.ac.uk

See also the photos provided by SAMS on Page 1 & 2

Marine non-native species; responding to the threat

Sharing good practice event at SNH

This event was held at Battleby at the end of October to bring together all those working in the marine environment to learn more about issues with non-native species and discuss responses to the threats. Presentations highlighted some of the problems and workshops allowed more detailed discussion and the opportunity for participants to raise particular concerns. These included the threat of *Didemnum vexillum* in Wales, (alarmingly now found in Scotland – see above), ballast water, information on eradication programmes such as for *Sargassum* and looking at biosecurity and best practice.

The "talking wall" is a new idea where ideas and concerns can be posted up at the end of proceedings. Participants were given categories to post under; "What I learned to day", "What I would change?" and "What one thing could improve overall biosecurity?" The responses and the summary of the events from what was an extremely useful day can be accessed at the SNH web site and this also includes links to other useful links in relation to this increasingly important topic.

<http://www.snh.org.uk/pdfs/sgp/Report%20Summary%20by%20Fiona%20Manson.pdf>

Second Dutch International Shellfish Conference Yerseke, East Sheldt, Zeeland 22-25 September 2009

Paul Shave reports

This very successful conference was staged in South West Holland in the heartland of the Dutch shellfish production and processing industry. The proceedings were facilitated by live translation. Farming and processing equipment manufacturers and research institutes were represented in an adjacent exhibition. A programme of industry visits had also been arranged so delegates were able to get an excellent picture of the Dutch industry and study international developments. The conference presentations can be seen on <http://www.shellfishconference.com> Some are in Dutch but they have good photographs.

Mussel growing in Holland

The necessity to cease dredging mussel seed for re-laying to meet EU legal obligations designed to conserve wild birds means that the Dutch industry is in a transitional phase, moving from bottom culture to rope growing. Seed dredging restrictions and growing area exclusions have caused production levels of around 100,000 tonnes to fall by half in the last ten years. They are now on their way back up again using the New Zealand system of hairy ropes for spat collection.

Besides helping to conserve diving duck, the switch to spat collector ropes has the additional benefit of enabling growers to focus on end product specification. Collector ropes are stripped and the graded spat re-tubed for on-growing on long lines or rafts. Starting the grow-out phase with spat all the same size means that size uniformity maintained.

The extensive shoal waters of the East Sheldt have prompted trials of other methods of spat collection using horizontal lines and nets

An experimental mussel hatchery is operating successfully but is as yet unable to produce spat at a price that will compete with natural spat fall. The hatchery has solved the technical aspects. Raising the live micro algae diet is the main one. It is now focussing on cutting costs and demonstrating the benefits of control over spatting. The 2008 price was €-60 per kg. In 2010 it is hoped to reduce this to €-30 and at this level it may become economically attractive. It is thought that €1 per kg. is the probable minimum cost attainable.

With the fall in production the Dutch share of the European market has decreased and processors are under utilised. However it still reaches critical size for a wide range of supporting goods and services facilitating vertical integration. For instance, mussel processors sponsor their road haulage which was all beautifully sign written and decorated with attractive pictures of shellfish. The transport was new, clean and looked the part for food handling. It ranged from vans to articulated lorries.

We were all very impressed by the scale of the Dutch industry, its co-operative effort, level of automation, focus on quality, range of live mussel products and investment. Essentially we were looking at the use of knowledge to develop a sustainable industry.

Co-operative effort was exemplified by Dutch generosity with information, the attitude being that everyone gets to hear about breakthroughs eventually so they are as well having the information right away and benefiting from it.

Holland has a very strong export trade to Belgium but their buyers require top quality. The focus on end product specification, scale of the industry and its level of vertical

integration makes it difficult for other producers to break into mainland European markets.



Industry visits – the Yerseke mussel auction

This auction house is the only one of its type in Europe and is located right where it is needed, on the quayside. It is a sealed bid auction, handling the entire production of Holland's 85-90 mussel growers, between 50 and 100,000 tonnes of mussels per annum. Entire mussel boat cargoes are traded on the data obtained from a 2.5 kg sample collected into a special lockable stainless steel bucket. The data comprises shell numbers, shell dimensions, weights, inclusions and percentage of cooked mussel flesh. Up to 30 lots per hour are traded and can fetch as much as €200,000 each.

The most impressive aspect was the automated sample processing to generate the data on which the cargo is traded. Removal of the cooked mussel flesh with a custom ground kitchen knife was one of the few manual operations. The measuring, weighing and counting machines were all linked to a database from which records were displayed in the sale room when the lot came up for auction.

Growers were very happy with the system and the industry justifiably proud of the facility.

Mussel processor Krijn Verwijs

This processor handles 12,000 tonnes of mussels a year and is one of around ten on this stretch of Zeeland coast. The scale of the operation was eye opening. Mussels are re-watered on intake for 25-30hrs in U/V treated sea water, de-clumped, cleaned, sorted, graded, cooled to 2°C in three stages and packed. Five multi-head weighers were operating, feeding five lines packing in cartons and a sixth filling sacks. Seven grades of mussel are packed ranging from 35 shells per kg to 150 per kg.

There was much emphasis on quality control, aiming for the high end of the market for premium prices. Sampling was being undertaken every 15mins and mussels were being cooked all day. A new quality control room was being built.

The bulk of the mussels were bottom grown but early and late in the year more rope grown are processed. For three months of the year there are no local mussels and so shells are imported. The company prefers Danish, having thick shells and being of high quality.

The machinery needs careful setting for different inputs. It requires re-setting for rope grown mussels after bottom grown.

IMARES

The IMARES aquaculture research facility was visited. Here the first of the new season oysters were sampled. One laboratory looks similar to another, what was impressive was having a dedicated research facility right where it was needed, in the heart of their industry.

Dutch mussel culture presents a vision of what the Scottish industry could look like. It is hoped that more people associated with the Scottish industry will have the opportunity to travel to this conference in future years and be as inspired by the Dutch industry as we were.

ASSG Annual Conference

Janet Brown reports

Once again Oban became a focal point for a truly international discussion on shellfish – with Sandy Shumway, (University of Connecticut) eminent shellfish biologist and Editor of Journal of Shellfish Research (*pictured top right*) opening proceedings with what she described as the preferred mode of “preaching to the choir” but giving her audience chapter and verse on some of the many benefits of shellfish aquaculture and its scientific basis to allow us all to spread the good news.

Aad Smaal, (*pictured middle right*) another eminent shellfish scientist, in this case from the University of Wageningen followed on by perhaps highlighting why we *need* this information on the benefits of shellfish aquaculture when he explained the conflicts that arise over access to traditional shellfish grounds which become blocked when NGOs with other agendas challenge these practices in the courts. He showed the impact this has had in the dramatic drop in production from the bottom cultured Dutch mussels in recent years.

David Palmer of the Scottish Government gave an explanation of how the marine Bill will work possibly worryingly following on from the previous talk since the participative element required will be demanding on personal time which is a great deal more easily provided by salary earners than the self employed.

Emily Howgate however argued persuasively that NGOs could be a positive help to shellfish farmers who should look more carefully at what market value could be offered even at no cost from organisations such as she represented, the Seafood Choice Alliance <http://www.seafoodchoices.org/home.php>. Mike Berthet was less placatory and more robust in his call for shellfish farmers to provide what the market demanded...He had to leave immediately after his presentation but one could be forgiven for wondering if he preferred to leave with questions unanswered!

In a far less controversial topic Dr Tom Pickerell, recently appointed Director of the Shellfish Association of Great Britain took us engagingly through the progress of SIDS (UK Shellfish Industry Development Strategy) being at pains to explain how although the initial work was directed at the industry in England its aim was for it to apply to the UK as a whole.

Joana Dias then gave a detailed account of the valuable work she has done as part of her Marie Curie funded PhD programme getting to grips with what species of mussel we actually have in Scotland and where and her studies to see if there were practical means of alleviating the very considerable problems the upsurge in numbers of *Mytilus trossulus* has caused in particularly Loch Etive. The first days talks were concluded by a noble Danny Pendrey, actually forgoing

a day's annual leave to come and present the annual survey results of Scottish shellfish farming.

The second day's programme was equally international with a detailed exposition of the mechanisation of the New Zealand mussel system as developed by Joe Franklin and introduced in various parts of the world. It is a bit daunting to see that spat collectors coming in with what to Scottish farmers are market size mussels but it is always useful to see practical applications and to have the opportunity to think how they can be applied in the Scottish situation.

Julia MacPherson gave an update on the River Basin Management plans which was very helpful but raised equivalent concerns as from the first day – the time needed to have one's say.

Helga Josupeit of FAO (*pictured bottom left*) gave a very illuminating presentation on the current world and European market and how slight changes can wreak major impacts; mussel meats imported from Chile affect the Spanish market which can then have carry on effects into French market.

Standards reasserted themselves with the two closing presentations. Grainne O'Brien talked about the work done to provide Irish shellfish producers with an Irish Quality standard and showed where it can provide a carrot type approach to improving practice; improved visual amenity in one farm can be of benefit to shellfish farming in general when nimbysism is such a potential problem. Colin Brannen of WWF had a tough call where the bivalve standards as presented so far in the Bivalve

Aquaculture Dialogue seem to have a number of serious vested interests embedded in them. Wholesale treatment of areas of the Northwest Pacific with carbaryl seems of little benefit – it may be a practice those producers find essential but can have no part in a standard. Colin Brannen asked that anyone who had strong objections to the code in its current form to express their concerns and arguments to him before the next stage of the process in Australia.

The first day was ably chaired by Robert Kelly and the second by Stephen Cameron. They both provided an excellent summing up of each day's proceedings.

Another highlight of the conference was the catering, the dinner was good but the lunches were memorable. Congratulations to Nikki Holmyard and her team once again for an excellent conference.



All the presentations can be accessed on the ASSG website www.assg.org.uk

Notes from Down Under

Doug McLeod

Readers may recall my previously voiced concerns over the Scientific Opinions of the European Food Safety Authority (EFSA) relating to marine biotoxins, which included recommendations (for the majority of toxins) to significantly reduce the current Action Levels. Thankfully, DG Sanco do not appear to have been convinced by the EFSA Opinions in terms of the Action Levels, and have requested the EFSA Panel to review the conclusions after taking into account representations from third parties (including a consultant's review on the PSP and DSP Opinions commissioned by the 'South Australian Research & Development Institute') and new data on portion size. Hopefully the EFSA Panels will reconsider their proposed swingeing reductions, and accept the 'if it ain't broke, don't fix it' approach to the current levels, which appear to most observers to be more than adequate to protect human health.

With regard to the EFSA recommendations concerning the substitution of chemical methods for the Mouse Bio Assay (MBA), the Commission proposed to Member States at a recent meeting of the DG Sanco 'Standing Committee on the Food Chain' that the Reference Method be changed from the MBA to LC-MS for lipophilic toxins. The proposal was endorsed, with only Spain voting against the change (and the Republic of Ireland the only abstention). Given this level of support, DG Sanco expects that the amendment of legislation reflecting this change could be in place by mid-2010. So it appears that after many years of analysis, debate and discussion, the MBA is finally starting to be eased out of its role as the only 'Reference Method' or ultimate arbiter of biotoxin contamination.

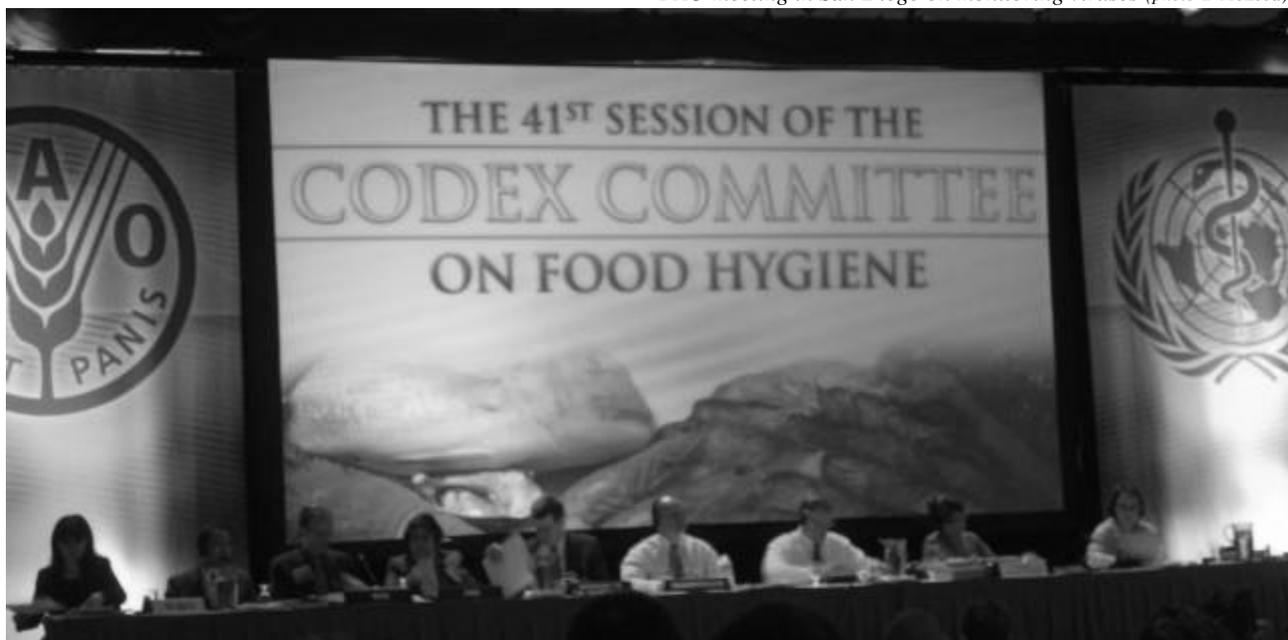
The uncertainties plaguing the aquaculture sector were illustrated for me last November, while visiting San Diego, California, when a proposal to create the first commercial scale fish farm offshore the US was "put on ice while Federal Agencies and Congress sort out

marine policies" (SD Union Tribune). The industry appears to always be in advance of legislators and regulators, and frequently suffers for this innovative dimension. Happily, from another part of the Pacific, evidence that sometimes advances eventually succeed in jumping through bureaucratic hoops – the proposal for a major mussel farm in Wilson's Bay, North Island, New Zealand, has received final approval after 9 years of effort!

My visit to San Diego was not as pleasant as John Holmyard's experience of a few months ago, as I was there for a meeting of the 'Codex Committee on Food Hygiene', a somewhat mind numbing event – 200+ delegates from 102 countries discussed a variety of shellfish related issues, including risk assessment for vibrios and concerns about monitoring for viruses. So more food hygiene monitoring is looming for our sector, although I believe that the *vibrio* issue is marginal for Scotland. The virus issue has been returned to the Expert Working Group (led by The Netherlands) for additional discussion.

Meanwhile, back across the Pacific, with the arrival of summer in South Australia, and a recent 10 day period of temperatures in excess of 40°C across the State, cool chain management for locally produced oysters and mussels has become more important, in order to maintain product quality. The combination of refrigerated trucks and widespread cold storage facilities appears to be more than adequate to keep the molluscs at a satisfactorily cool temperature, as confirmed by the use of data loggers to monitor temperature along the supply chain. During the European summer, the use of data loggers should perhaps be considered by Scottish shellfish producers, in order to ensure that the oysters and mussels carefully harvested do not suffer thermal abuse during transportation and storage!

FAO meeting in San Diego on monitoring viruses (photo D McLeod)



A study of the prospects and opportunities for shellfish farming in Scotland

David Scott and Anton Immink

Introduction

The Scottish Government have recently commissioned “a study of the prospects and opportunities for shellfish farming in Scotland”. Stirling Aquaculture, the consultancy unit at the Institute of Aquaculture, has been selected to carry out the study, under the management of a Steering Group chaired by Paul Shave of Marine Scotland. The study is expected to take 4 months and be completed by the end of February 2010.

Background and objectives of the study

Scottish Ministers want an aquaculture industry that is ambitious, thriving, growing, diverse, profitable and sustainable, in keeping with their over-riding objective of sustainable economic development. The former Minister for Environment, Michael Russell MSP, publicly stated his recognition of the shellfish sector's potential and his wish to see it expand. Roseanna Cunningham MSP is similarly committed.

Scottish shellfish farming currently produces around 6,000 tonnes a year (just over half from Shetland) with a total first sale value in excess of £7 million and it is believed there is potential to greatly increase production. However, government policy makers have little information about the industry beyond the bare statistics of the annual production survey and even less of its opportunities.

The fundamental purpose of the study therefore is to inform government policy thinking regarding the opportunities and constraints facing the shellfish farming sector, covering issues such as market size and location, market development, supply and distribution logistics, merchandising infrastructure, site availability, competitive production, water quality, and legislation. Prospects will be investigated in terms of strengths, weaknesses, opportunities, and threats, as well as the wider macro-environment in which the industry operates. The species to be covered will include mussels, oysters, scallops and alternative species where relevant.

The study will help to:

- develop policy thinking necessary to aid the implementation of a new Strategic Framework for Scottish Aquaculture
- provide evidence for the Strategic Framework Shellfish Sub Group
- develop policy priorities for European Fisheries Fund funding
- develop priorities for Research and Development.

assist businesses with their own development efforts by identifying where their own investment and grant aid can be used to optimal advantage.

Issues to be addressed

Some of the issues we are seeking to address in the study include:

The Scottish shellfish farming industry is considered to have great potential for growth, given Scotland's extensive coastline, abundance of potentially suitable sites, unpolluted waters, and highly regarded provenance. If so, how much growth is it capable of, and what is needed to realise it? What are the main constraints and how can they be overcome?

Will future growth of mussel farming come from existing producers, or from large well financed and well established sector operators in other countries, such as Dutch mussel processors, or other sectors, such as salmon farmers wishing to diversify and possibly with spare site capacity no longer suitable for salmon? What practical difficulties do producers face on a day to day basis that hinder expansion, or indeed threaten business survival, and what can be done to reduce their impact?

Where will any large scale expansion of mussel farming take place? How much scope is there from existing and prospective inshore sites, and if offshore development is the way forward, what difficulties are likely to be faced in terms of finding and testing sites, trialling technology, and attracting investment?

For oysters, a major industry constraint is the limited availability of seed, made worse by the current herpes virus disease crisis in France and Ireland. Some consider the Scottish industry too small to justify investment in a hatchery, but is this really the case? If so, what alternatives exist?

Is there market capacity for increased production, and if so will it arise through organic market growth or by taking market share from other competing suppliers? If the former, will increased generic promotion be necessary and if so how would such promotion be funded? If the latter, what scope does the industry have for reducing production costs in order to become more competitive? Can new production technologies or strategies help to reduce such production costs? If export markets have potential, what is needed to access those markets?

The industry feels the weight of ever increasing regulation and legislation, imposed at both EU and national levels. What progress is being made to meet such regulation, and how can regulatory procedures be improved to help rather than hinder producers?

The Scottish industry cannot be viewed in isolation. It is one of a number of producers in a global marketplace. How does it stand with regard to other industries, in terms of production cost, product quality, Government support, financial incentives, and regulatory burden?

Consultation with stakeholders

We are now in the process of consulting shellfish industry stakeholders for their input to the study, through face to face meetings and telephone interviews. Such stakeholders include producers, marketers, regulators, and suppliers.

Any stakeholders who have not yet been contacted and would like to make their views known are invited to contact David Scott, lead researcher on the project, to arrange for a phone interview or meeting. He can be contacted at dcbscott@tiscali.co.uk or on 07754 756145.



Aquaculture UK 2010

19-20 May 2010 at Aviemore

Now an established, major event, Aquaculture UK will be held again in May 2010. With visitors from 18 countries as far afield as Sweden, Chile and the United States, make sure you don't miss out on this opportunity to connect with buyers and decision makers from the aquaculture industry worldwide.

Here's what exhibitors said of the 2008 exhibition...



"The show went well for EWOS - our costs were much lower than Glasgow and we got the audience we wanted"
Douglas Low - MD Ewos



"Many thanks for delivering a very successful exhibition and return to Aviemore"
Alan Stewart - Director Landcatch.

"Aviemore was a good location and the show had a certain spirit which is always hard to create".
Guy Mace - MD Biomar



"The feedback regarding Aviemore seems to have been very positive and it had a much better atmosphere than Glasgow"
Will Jewison - Skretting



ASSG Conference 21-22 October



A trio of chairmen, *left* Robert Kelly chair for 1st day, *middle* ASSG chairman, Walter Speirs and *right*, chairman for 2nd day, Stephen Cameron

Above; Danny Pendrey of Marine Scotland forgoing day's leave!

Pictured right the judges enjoy a lighter moment as they see the end in sight for their difficult job in selecting the best of the best shellfish. They are from left John Ogden (Oban's Seafood Shack and Seafood Temple), Craig Ferguson, head chef at Barcaldine House Hotel, and Mike Berthet, Director, M & J Seafoods who can also be seen below with prize winner, Douglas Wilson, and conference organiser, Nicki Holmyard.



Pictured above editor of The Grower Janet Brown with visiting speaker, Professor Aad Smaal with the display of "Growers" prepared for the AGM which followed on from the conference.



Pictured above; the most important part of any conference—the audience!

All photographs from the conference are courtesy of Craig Burton of Seafood Scotland and are gratefully acknowledged here.