

Note of Aquaculture Common Issues Group meeting held at Billingsgate market, London. Tuesday 23 September 2014

For minutes and further information see:

<http://www.seafish.org/industry-support/aquaculture/aquaculture-groups/aquaculture-common-issues-group>

<http://www.seafish.org/industry-support/aquaculture/aquaculture-support/guides-and-information>

Attendees

| | |
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| Andy Hughes | BAQUA |
| Baujke de Roos | University of Aberdeen |
| Elaine Hayes | Seafish Board |
| Charlotte Maddocks | Tesco |
| Clare Blacklidge | Environment Agency |
| Craig Burton | Seafood Scotland |
| Daniel Lee | GAA |
| Dave Little | University of Stirling |
| David Jarrad | SAGB |
| David J Fletcher | RAS Aquaculture Research Ltd |
| Dawn Purchase | MCS |
| Elaine Connolly | Defra |
| Estelle Brennan | Lyons Seafoods |
| Faith Smith | BBSRC |
| Fiona Vogt | Cefas |
| Francis Murray | Stirling University |
| Greg Clifford | Pig Shed Trust |
| Helen Duggan | Seafish |
| Huw Thomas | Morrisons |
| Ian Pike | Consultant |
| Ingrid Lupatsch | Centre for Sustainable Aquatic Research, Swansea Univ |
| James Turner | Defra |
| James Wilson | Seafish Board |
| Jonathan Shepherd | Consultant |
| Jose Constantino | Welsh Government |
| Karen Green | Seafish (Minutes) |
| Katie Miller | ClientEarth |
| Keith Jeffery | Cefas |
| Liam Butterfield | ClientEarth |
| Mike Ford | Landfish Ltd |
| Murray Gardiner | NERC |
| Pete Southgate | FishVet Group |
| Richard Slaski | SARF |
| Robert Arthur | |
| Robert Whiteley | Natural England |
| Stacey Clarke | MMO |
| Stephen Craig | Shore Aqua Consulting |

2.2. Circulate details on the Multiannual National Plan (MANP), the Data Collection Framework and EU Multi-Annual Programme, the Seafish aquaculture review and the second Farm Animal Welfare Committee (FAWC).

- These were all circulated to the group.

2.3. Seafish to reconvene the English Aquaculture Working Group.

- This has happened and there will be a report later in the meeting.

2.4. To keep the group informed of latest developments re water quality and norovirus. To be covered at the meeting.

Water quality and shellfish issues

3. Environment Agency Consultation on proposed update to River Basin Management Plans (RBMP). Clare Blackledge (EA) and Elaine Connolly (Defra). http://www.seafish.org/media/1293717/acigsept2014_shellfishwaters_wfd.pdf

A consultation on the draft plans for a proposed update to River Basin Plans (first published in 2009) is due to be published shortly, and will last for six months. This will include shellfish waters. The consultation will set out the statutory objectives for the water environment to 2027 and the proposed actions necessary to achieve them. The plans are divided into four main areas – a compliance summary; shellfish water description and map; catchment description; and pollution management. Pollution management is one of the biggest, and one of the most difficult, areas to address. Shellfish waters are protected under the Water Framework Directive (WFD is about achieving the right environmental outcomes in shellfish waters, which are much bigger areas than individual harvesting beds, which therefore protects public health). They are protected due to their economic significance but designations are now part of the RBMP review process in six year cycles: 2015 – 2021- 2027 and mandatory standards for water quality are superseded by WFD parameters for ‘Good Ecological Health’. However a different economic cost benefit assessment is now explicit and will include costs for actions (e.g. water company/agric) weighed against benefits (e.g. value of shellfish produced, jobs supported etc). There will be a lot more opportunities to engage in planning and a baseline ‘no deterioration’ concept. The final plans are due to be finalised by the end of 2015.

Discussion

- One of the criticisms of the Shellfish Waters Directive (SWD) is that it seemed to be out of kilter with the Water Framework Directive. Is the WFD going to be applied consistently across all Member States? What is happening in Scotland – are they following this approach? A. There is no legal requirement to do so and information is not necessarily being shared. Scotland is adopting a different approach.
- The comment was made that there is no formal law in Europe and yet voluntarily we seem to be perhaps going beyond what will be happening elsewhere in Europe? Is good ecological health the same as good ecological status? A. We have always worked with a baseline. The SWD did sit alongside the Bathing Waters Directive, but now shellfish will no longer have its own Directive.
- How will the Commission assess success? A. With no law in place this is not known yet and it is difficult with nothing to assess against.
- Any cost/benefit analysis is not clear cut for a small industry such as the shellfish sector, and there are real concerns about good ecological status and that shellfish might not necessarily demonstrate well.

- The cost/benefit analysis should be quantitative and qualitative, and not just based on monetary aspects. As much information as possible is needed to create a full picture for each of the shellfish harvesting waters so that issues can be prioritised.
- There are concerns and reservations about the loss of the SWD which at least protected those waters under a specified Directive, which had to be adhered to. Even with the Directive the UK was unable to maintain good water quality standards for shellfish cultivation. Money has been spent but it has not been enough. Under the new proposal shellfish waters will be protected if the cost/benefit analysis supports this. The concern is that it won't and that protection of the environment and of shellfish waters will be compromised. The response was that additional information is crucial and that all data will be treated confidentially. It would be possible to look at wider economic issues.

Actions:

3.1. To circulate details on the consultation to the group when launched.

3.2. To see if it was possible to find out what was happening in other Member States.

4. Shellfish issues. David Jarrad, SAGB.

Water quality - With regard to shellfish aquaculture the main issue, for many years is one of water quality. The classification of shellfish harvesting waters has, for many years, been a thorn of contention to the SAGB and its members. Not so much the legislation itself but rather the manner in which it is administered in the UK in comparison with other Member States. The reliance on historical data, does little to protect the consumer and will only lead to the industry becoming frustrated with an ultimate statistical demise in results. We are seen as the 'dirty man of Europe' with less than 1% of our waters being grade A – in comparison to 30ish % in Spain, Ireland and France and nearly 100% in Holland.

The huge rainfall that fell during the winter of 2013, created significant flooding events, particularly in the SW. This in turn, unsurprisingly, resulted in poor microbiological readings at the time. However the decision to then downgrade these areas nine months later, placing businesses at serious risk, whilst not protecting the consumer was met with understandable resistance by the industry. The use of a wet weather waiver was not permitted, as the event was not cited as being a 1 in 5 year storm event – it was however a 1 in 300 year weather event. After much discussion the 2014 classifications were published earlier this month – with only one downgrade to C class, rendering the bed unusable. However the discussion has thrown up an issue of concern, that is that, it seems many discharges are occurring, due to breakage of water company assets. These are known to the water companies, but they are not being reported to the EA.

Norovirus - It has been reported at other ACIG meetings that DG Sanco have, over the past few years, been keen to develop a standard for norovirus in molluscan shellfish growing waters. The SAGB believe this to be an issue with the perception of illness from shellfish, rather than the number of confirmed cases. Earlier in the year the FSA successfully led a rebuttal of the need to create EU standards for norovirus, in the European Working group on virus, until further scientific evidence is available and improved detection methodologies found. Unfortunately the topic is on the agenda yet again next month as DG Sanco feels something must be done. The SAGB along with Bangor University and EMPA has convened a meeting, in Brussels on 29 September, to permit the industry across Europe to engage directly with DG Sanco, DG Mare, and possibly DG's Environment and Research. It is hoped this will allow them to understand the issues facing the industry if such a standard were introduced. It is believed

approximately 80% of the oyster production in the UK would be affected if a standard at the suggested level was introduced.

Oyster herpes virus – There has been another mortality in oysters, in the River Crouch in Essex. OshV has been identified so another containment zone is now in place restricting the movements of live shellfish from the area. This brings the number of UK infected sites to four. The containment area around the Blackwater, also in Essex, has been extended. The UK remains the only state in the EU attempting to remain disease free from this very damaging pathogen.

Pacific oyster – SAGB reported that the Pacific oyster was re-introduced into the UK by government 45 years ago. Its cultivation was supported by governments. Now the species has been identified as invasive non-native and this has created significant restrictive issues, with both the industry and the statutory nature conservation agencies. The SAGB had a secondment from Natural England last year and one of the outcomes was a review paper of this important cultivated species. The paper is called: *Review current status of Gigas crassostea in the UK*.

Discussion

- What impact will the European non-native species legislation have? Bangor University have identified three strains of genetic Pacific oysters in the UK – farmed stock, wild stock from the South East and wild stock from North West France.
- What is happening with the CSO text alert system? A. The aim is to roll this system out around the whole of the UK. SAGB has put in an application for EFF funding to employ a text alert manager. It was hoped this would start in July 2014 but there has been no response from the MMO.

Action:

4.1. Circulate link to Gigas paper when available.

4.2. It would be useful to get an update on the 29 September Brussels meeting.

Policy and research

5. Progress on Seafish Corporate Plan and aquaculture review. Tom Pickerell, Seafish.

The Seafish aquaculture review was discussed at the last ACIG meeting. The aim was to review the services provided by Seafish in relation to the UK aquaculture market to show how the role of Seafish has changed and developed over the years, to make recommendations on where Seafish should/could be focusing on aquaculture (both domestic and imported); make recommendations on how Seafish could most appropriately invest in aquaculture technical and information needs - and assess potential gains from such investments. The outcomes would feed into the discussions on the new Seafish Corporate Plan, which will run from April 2015 to March 2018, which details how the Seafish levy should be spent. The Seafish panels agreed that aquaculture should be included in the new Corporate Plan. The review has highlighted that most of the levy for this sector comes from imported warm water prawns and the Seafish legislation team and importers forum cover this important area. In addition Mandy Pyke currently covers issues surrounding molluscs and food safety. These services will be maintained. It was identified that Seafish should focus on the development of the domestic sector through supporting national strategies. Seafish is currently advertising for an aquaculture manager, to help support the growth of the industry in the UK.

Discussion

- I am delighted that Seafish is moving forward with this. The industry in the UK needs this support.

Action: 5.1. Circulate link to advertised position.

6. National aquaculture policies

6.1 England Aquaculture Working Group (EAWG) update. Karen Green, Seafish
There was a discussion about the renamed EAWG (formerly the England Aquaculture Consultation Group) at the Aquaculture Common Issues Group (ACIG) meeting in April and it was agreed that Seafish would re-convene the group. This group re-convened in July 2014.

The group was originally formed to develop an aquaculture strategy for England and to act as a hub. It was launched with a Defra-facilitated workshop in July 2010. This progressed to an Advisory and Development Group, which led to working groups formed to look at the different issues facing the industry. A consultation (12 January to 8 March 2012) set out a number of recommendations to support the sustainable development of the English aquaculture industry and invited responses. These responses were all supportive of the aquaculture industry – but raised a number of issues for consideration. This culminated in a workshop on 24 September 2012 to develop a strategy for the English aquaculture industry. This was the last real activity due to changing personnel.

A number of issues were discussed at the July 2014 meeting:

- Seafish Aquaculture Review.
- Cefas regulatory burden report. Cefas has been commissioned to look at this again and prepare an updated version. This is likely to be available in early 2015. Defra is also looking into information for regulators and new starters.
- Scottish Aquaculture Research Fund (SARF). The SARF model was discussed and questions asked about the possibility of establishing a similar model in England.
- Producer Organisations (POs) and Inter Branch Organisations (IBOs)
The new CFP makes provision for the development of Producer Organisations (POs) and Inter Branch Organisations (IBOs) and a funding stream under the European Maritime and Fisheries Fund (EMFF) to support this. EMFF comes on stream in January 2015 (but there could be interim funding available from the current EFF). There was some discussion on how the EAWG could develop in line with this and for the group to look at the legal parameters for setting up PO's for the different sectors such as trout, shellfish, salmon and algae. This is being investigated. These POs would then feed into a new English Aquaculture IBO with funding and a paid secretariat with the remit: to be an information hub; to offer marketing support; to be an advisor to Defra; to be a lobbying group.
- The new Seafish aquaculture post-holder could lead on developing the strategy to set this in motion. This new post was advertised on 16 September.

Discussion

- I have concerns over the process. Do we really need the bureaucracy? When the EACG was originally launched there was a lot of positive interest but for various reasons this enthusiasm effectively dissipated. We need an accessible structure.

Action: 6.1.1. To keep the group up-to-date with progress.

6.2 Welsh Government update. Jose Constantino, Welsh Government

There is already a national plan in Wales. Welsh Government wants to involve stakeholders and academia; to attract more industry; and improve the marine environment. A Strategic Action Plan in 2013 set some quite large targets. Welsh Government is talking to Defra about the Multi Annual National Plan and the aim is to set up an industry-led forum to advise Government.

Action: 6.2.1. To follow up on progress in six months.

7. BBSRC and NERC: Up-coming activities in Aquaculture. Faith Smith, BBSRC

http://www.seafish.org/media/1293720/acigsept2014_bbsrc_nerc_aquaresearch.pdf

This talk covered the BBSRC aquaculture strategy, the new webpage for strategy and activities and the BBSRC position statement for aquaculture. Two phases have been identified. Phase 1 - a capacity building call, launched w/c 8 September, and phase 2- industry linked activity. Over the next 12-months BBSRC and NERC plan to review the aquaculture sector's research needs to see what industry-academic collaborative tools or activities could support that need. A workshop is planned for spring 2015. BBSRC and NERC are talking with SARF, SAGB, Welsh Government, Marine Scotland, MMO.

Discussion

- Can you talk about the sustainable agriculture club and if this will work in the same way? A. Industry pays in to this – generally a 10% contribution (or an in kind contribution and NERC/BBSRC funds the remaining 90%. There are other clubs and there are different models for different clubs.

Action: 7.1. Links to be circulated.

New studies and industry news

8. FISH DISH study: Comparing the long-term health effects of eating two portions a week of Scottish salmon raised on traditional versus more sustainable feeds.

Baujke de Roos, University of Aberdeen.

http://www.seafish.org/media/1293714/acigsept2014_fishdish_salmonstudy.pdf

This study focussed on growing of two different types of salmon on feeds that differ in their omega-3 levels. HPUFA: high EPA/DHA levels in feed and in salmon fillets ~15% of total feed fatty acids, equal to wild salmon. SPUFA: 'sustainable' levels of EPA/DHA in feed and in salmon fillets ~6-8% of total feed fatty acids, similar to most Norwegian farmed salmon. This showed consumption of two portions of farmed salmon per week significantly raised the omega-3 index by >2% in healthy volunteers, and consumption of two portions of farmed salmon per week raised serum levels of 25OH-vitamin D3 in healthy volunteers. The beneficial effects on the omega-3 index and vitamin D status were similar in subjects consuming salmon grown on traditional high fish meal fish oil feeds, or those consuming salmon grown on feeds where part of the fish oil was replaced by vegetable oil.

Discussion

- There was no mention of the Omega 3:Omega 6 ratio. This used to be very significant? A. There has been a change of views regarding the Omega 3:Omega 6 ratio. It is now recognised that Omega 6 does deliver beneficial metabolites, and is not necessarily bad, however this study did not consider Omega 6. The health benefits are now seen to derive from the absolute level of Omega 3 and not the Omega3:Omega 6 ratio.
- Are these findings surprising? A. We would have expected a more significant difference in the results. However Omega 3 is more readily available from fish

than from supplements, and so with a balanced diet we may have reached an optimum.

- There has been a lot of emphasis on EPA and DHA, have you also considered blood clotting and platelets? A. We have a lot more analysis to do over the next six months ie blood pressure, gut health, inflammation, the immune system, platelet function.
- These are very encouraging results. This is good news for the fish feed and aquaculture sectors in terms of a move toward more strategic diets.
- Is there any indication that UK retailers would change their feed specifications in light of this research? A. This is being discussed based on the recommended intake of Omega-3 fatty acids.

Action: 8.1. Circulate link to literature review

9. A new research agenda. Dave Little, University of Stirling.

http://www.seafish.org/media/1293729/acigsept2014_researchhorizonsscanning.pdf

Dave outlined the forthcoming research agenda for the University of Stirling.

10. Aquaponics and the formation of the British Aquaponics Association. Andy Hughes, BAQUA.

http://www.seafish.org/media/1293726/acigsept2014_britishaquaponicassociation.pdf

Andy outlined the growth in the aquaponics sector, the formation of the BAQUA and the establishment of a new facility in Hereford. Aquaponics is a sustainable form of food production in which plants and fish are grown together in a closed, constructed system for their eventual consumption - aquaculture + hydroponics = aquaponics. It utilises the natural waste from aquaculture and combines the filtration properties of hydroponics. Currently the market splits as 50% domestic/DIY, 30% social/economic and 20% commercial.

Discussion

- There is an excellent example of vertical crop technology at Paignton Zoo. This is a large installation – 15 metres tall, inside a building, with large beds all growing different products.
- How much would it cost to set up a one acre site? A. It cost £100,000 to create the installation at Paignton Zoo, but this utilises all the best technology, and is the real 'Rolls Royce' of technology. A BAQUA system would cost £12,000 to set up. This would allow you to produce 1,000 kg of tilapia and 50,000 heads of lettuce.
- An aquaponic system does not use any heat and only a limited amount of energy to move the water around, most of it is moved by gravity.
- What species can be grown in an aquaponic system? A. Most freshwater fish. Carp, perch, tilapia and catfish all grow well but carp and tilapia are the most popular.
- Is there an annual cycle? A. In Hereford the facility operates 12 months a year with the addition of extra lighting. The addition of different plants and different feed can extend the growing period.

11. In brief

11.1. Scottish Aquaculture Research Forum (SARF) update. Richard Slaski, SARF.

http://www.seafish.org/media/1293723/acigsept_2014_sarfupdate.pdf

Richard outlined how SARF worked. SARF is a charity which was formed 10 years ago. There is a funding stream from Scottish Government. The trustees are industry,

Government, regulators and NGOs. The SARF model is based on relatively small projects. It has an annual budget of £300,000 – currently 20 projects are ongoing, tackling some of the big issues, with a value of £1million.

11.2. Seafood Ethics Working Group. Karen Green, Seafish.

The inaugural meeting was held on 17 July 2014 at Fishmongers' Hall, London.

Activities to date are:

- This first meeting talked about labour issues in general, but did focus specifically on issues with Thailand.
- There is a web page and a draft TOR for the group.
- Two Seafish briefings have been produced on Labour issues in Thailand's warm water prawn supply chain the Legal framework for working on UK fishing vessels.
- A news alert service has been set up highlighting the latest developments.
- Seafish has liaised with the Home Office to discuss bringing their Modern Slavery campaign out to the seafood sector.
- Seafish is currently working through and scoping work on ethics for the remainder of this financial year and is looking to define an action plan for the group and produce a letter from the collective group asking for a meeting with UK Government.

11.3. Certification update. Karen Green, Seafish.

A paper was tabled prior to the meeting with an update of the progress re the various certification schemes.

11.4 Sustainable Seafood Coalition. Katie Miller, ClientEarth

The two voluntary codes were launched in September (self-declared claims for sourcing and labelling). The next step is implementation (a one year deadline for implementation) and more work with the foodservice sector.

12. Any other business/next meeting

Aquaculture meetings are held twice a year to dovetail with the CLG. The next meeting is likely to be March/April 2015.