



Fisheries & Conservation Science

European Fisheries Fund Project

Sustainable Use of Fisheries Resources in Welsh Waters

Science User Advisory Group Meeting – 2nd December 2013



Y Gronfa Pysgodfeydd Ewropeaidd:
Buddsoddi mewn Pysgodfeydd Cynaliadwy
European Fisheries Fund:
Investing in Sustainable Fisheries



Llywodraeth Cymru
Welsh Government



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Sustainable Use of Fisheries Resources in Welsh Waters

Science User Advisory Group (SUAG) meeting 2nd December 2013

The Cambria, Aberystwyth

Apologies: James Wilson, Mark Roberts, Sion Williams and Gareth Wilkington.
Roger Cooke will be arriving late.

Attendees:

Bangor University: Mike Kaiser, Lee Murray, Natalie Hold, Gwladys Lambert, Jodie Haig, Giulia Cambiè, Julia Pantin, Harriet Salomonsen, Jennifer Fox, Niamh Ryan, Kayla Williams
Industry: Brett Garner, Len Walters, Stephen De-Waine, Roger Cooke, Trevor Jones
Welsh Fisherman's Association (WFA): Carol + Jim Evans
Welsh Government: Leanne Llewellyn

Minutes taken by Harriet Salomonsen

Chair: Jim Evans

Introduction – Mike Kaiser

Thank you everyone for coming. Would like to introduce Kayla + Niamh who are working on the Cardigan Bay Fishing Association (CBFA) funded project looking at the prawn fishery. Also introduction of Jennifer Fox, working as a research assistant for the European Fisheries Fund (EFF) team in Bangor.

- Individual introductions
- Talk through the agenda
- Any other business to discuss? No
- After the close of the meeting there will be a discussion of the tender issues
- Roger Cooke arrives

Project introduction – Mike Kaiser

The project aims to provide the science to underpin sustainable fisheries in Wales so that government and fishers have the evidence to make management decisions. Bass given as an example to illustrate how important it is to have effective measures in place for Wales, evidence is needed for management plans.

The past year we have carried out a programme of sampling to start what should provide a long-term legacy for data collection. This relies on industry providing the data for the future. We are trying to push innovative techniques, doing things that more established bodies are yet to be doing, for example, using cameras on-board vessels to speed up data collection and to enable the collection of large amounts of data with limited resources. This is necessary for making robust future recommendations.

- Will be recording the science part of the meeting on phone, so it can be uploaded to the website later for those that have missed the meeting. Is everyone ok with this? Yes

Project team – Lee Murray

Slide showing the hierarchical structure of the Bangor University EFF team:

- senior academics, post doctorate researchers, the oceanographic modellers, post graduate research assistants, MSc students, temporary staff and volunteers.

Post doctorate researchers: Natalie focusses on Lobsters, Gwladys on habitats and scallops, Jodie on prawns, crabs and whelk and Giulia on bass.

The oceanographic modellers are working with us on the connectivity of stocks, looking at the movement of larvae.

Anwen Williams is our clerical officer.

We are linked to the CBFA project through prawn research.

There are PhD students working in fisheries at Bangor. Fikret Ondes is studying Brown crab in the Isle of Man (IOM), Claire Catherall is studying scallops in the English Channel, and Jenny Shepperson (PhD student with Cefas) is studying scallop fisheries.

We have been working in the IOM for 6 years now and have collected a lot of data; it is still ongoing and has been a success. We work with the inshore shellfish fisheries.

Q – Stephen De-Waine

how many PhD students are there?

A – Mike Kaiser

Just one in the EFF project in Wales, but there are others around the UK. It would be useful to have more in the future.

Q – Stephen De-Waine

Are PhD papers a mirror of the PhD work?

A – Mike Kaiser

All the science used for a PhD would be applicable to the project work. The PhD work has to follow the path of the current research. It can't go "off – piste".

Lee Murray cont....

The project has 5 work packages:

1. The fisher questionnaire – To understand the fishers' ecological knowledge and to see changes in fishing grounds and fishing practices.
2. Ecosystems/by catch/habitat – Lots of mapping has been done, especially in Cardigan Bay. The aim is to quantify the fishing impact, and potentially identify new fishing grounds.
3. Stock assessment – to look at changes in populations over time, the size structure, sex ratio and size at maturity of species. This is all useful for management.
4. Connectivity – Finding links between areas, sources and sinks of larvae. Focussing on scallops as Natalie has already carried out much genetic work looking at this species.
5. Management advice – evaluate possible strategies to achieve sustainable fisheries. This means profitable, sustainable and continuing into the future.

Project changes – Natalie Hold

Phase 1 was approved, Phase 2 there was not much money left in the pot so we have had to be restrictive. The project will continue until May 2015. Cuts are as follows:

- At the top level and the university will subsidize staff costs. The core ground staff will stay.
- Decreases in the amount of RV Prince Madog time. There will now be only 1 cruise to survey the stock recovery after the fishing experiment.
- Subcontracting. There will be no collaboration with Cefas for modelling management scenarios. This will now be done in house.
- Sample/video analysis. This will all be done in house now so the volume of samples will have to decrease as time consuming. Will try and cover with volunteers and focus the effort.
- Genetics. We don't have extra funding at the moment but hoping to find more funding in the future. For now the genetics will have a scallop focus continuing work from Natalie's PhD. There will also be genetics on lobster paternity. Aberystwyth PhD student is working on a similar project so we are waiting to see the outcomes.

Mike – The start of a project you have to set an outline, however it is possible for this to be re-juggled to receive the outcomes. For example, not working with Cefas. When we outlined the project we didn't realise the quality of applicants would be so high. Now it is not necessary to work with Cefas as we can just provide supplementary training of in house staff, so it is not such a worry not to have Cefas. The priority of the project is to have good relations with fishers and to collect good quality data, before we focus on modelling.

Natalie – Any questions or concerns? None

Lee – The work packages are all still in place.

Q – Steve

Are you hoping to complete all the goals by the end of the project or will it keep rolling?

A – Mike

The work could all end. We have targets to meet by May 2015, and after this there will be a handover to WG. But this could be tendered to another organisation and the data will be passed on to continue the programme of work. The assumption is that in June 2015 there will be a complete handover of datasets to the people involved.

Q – Steve

Are the goals realistic?

A – Mike

Yes, absolutely. The science needs to continue year on year to monitor the status of the populations, so somebody will have to continue the science. There is the potential for the programme to go into EMFF.

Steve – If that's the case then WG need to put aside EMFF money for the project so it's possible

Mike – I think it might be more flexible with future funding. For example, the current ERDF

funded projects are not allowed to work with fishing/aquaculture projects so we are not able to access the money, but in the future the funding will have more flexibility. EMFF has a large emphasis on underpinning sustainability. It is important that we leave the project in good order so it can be continued by anyone.

Len – Is one cruise after the experimental fishery going to be sufficient?

Mike – No, but we will be near to the end of the project then. There would need to be more cruises, but this is out of our control due to the project timescale.

Lee – There is a small amount of money available for vessel charter. We could carry out some of the work from fishing vessels.

Gwladys – The experiment is all happening later than we wanted. It happens in April with the summer to recover and then survey in October to look at recovery. Another survey the following summer would be good but the project will be finished, so the industry could keep going using the video sled. The data could be collected and then analysed at a later date.

Jim – We need to identify funding for the future.

Mike – We have to carry on with what we are doing and hope that we find a way of continuing at some point in the future. It's a timing issue with the fishery. We wanted to do this last Easter. The reasons will be explained later in the meeting.

→ Lee Murray introduces the science section.

Lobsters - Natalie Hold

There is a lot more information in the hand out available at the front.

Lobster tagging:

→ There were concerns that the tagging would cause mortality in the lobsters due to infections. We have held lobsters in tanks since June and there have been no deaths/infections. We are happy with this.

Graphs:

→ The lobsters tagged ranged in size 56-151mm and the recaptures 66-105mm, with the majority of recaptures 80-90mm. The larger lobsters were perhaps not re-caught as they were tagged further offshore so hard to recapture due to bad weather. They were v-notched once tagged so theoretically they shouldn't have been landed. Perhaps they were moving more than the smaller lobster? We should get a better idea next summer.

→ The average distance moved of the lobsters was 114m with the majority moving <200m. The smallest distance moved was 6m and one lobster moved 3.6km. We tried to release them as close as possible to the capture point and where it was different a GPS point was taken so we can tell how far they moved from the release site. The small distances moved are interesting from a local management point of view.

→ Next year we hope to collect growth data

Q – Mike

What period of time was this data collected?

A – Natalie

June – September due to the slow start to the season.

Q – Mike

When do you plan on sampling next year?

A – Natalie

Hopefully April. We would like to start in spring to get lots of tagging done. Possibility of chartering vessels and again in September to do two intense tagging/recapture programmes to try and get some growth and potentially abundance data.

Len – We find the lobsters move more than indicated here

Natalie – It might be the bigger ones that are moving further.

Len – We had a v-notching study and they were found to move 8-10 miles offshore.

Natalie – We would like to do 50% offshore and 50% inshore and see if location has an effect. Our data are mainly inshore, we need more offshore data.

Len – The notched lobsters move at some point because we don't see them again until the following year.

Natalie – We would like to do some stomach content analysis, perhaps they are eating differently in offshore compared to inshore areas.

Steve – Do you have a map of the areas?

Mike – We can't show in too much detail for data confidentiality reasons.

Natalie – The effort has been split between the North, Cardigan Bay and Solva. We would like to roll it out more intensively if the fishers are happy to tag and measure the lobsters themselves. It is just an issue of resources. We need a lot of people involved to be able to tag the numbers we need in lots of locations. We have tried to spread the effort north, mid and south.

On-board camera:

- The idea behind this is to get the cameras on boats so they can collect more data with better coverage than people resources allow.
- Validation work has been ongoing to measure the catch on-board vessel in person and also put it under the camera so the measurements could be compared and analysed. A comparison of video versus person.
- For lobsters the error was an average of 1mm, for 100 lobsters. So the camera is pretty good.
- For the brown crab the error was an average of 2mm.
- This is ongoing work, and they will be pooled into size classes anyway.
- The video analysis is time consuming as extracting the still images from the video takes time. We would like to get this automated. We are looking for funding as it was in the original project plan but had to be removed. The aim for the end of the project is to have a method that is useable. This will not be for our data as it is still in progress but hopefully at the end.

Mike – We can also get good information on by catch. Fishermen don't have to stop their normal activities, just turn the camera on at the start of the day and then off at the end and pass us the disc to analyse. We can get info for status of the stock, discards, by catch, whether fish are returned alive etc. Will be important data with the discards ban coming up. In a wider

context at the UK level this kind of system is likely to be rolled, the key step is automation.

Roger – Is there scope to get it automated? I have a useful wildlife camera that takes the photos only when it senses movement. Perhaps this would be a useful alternative to video and having to then spend time extracting snapshots?

Mike – It's a good idea, but there is more you can take from a video than you capture in still photos. In the video you can see if the catch was kept/returned, see if it's alive etc. Stills would be a useful additional though.

Natalie – The data is collected one time a month. Julia's PhD is also making use of this. Trying to get a month where the camera is used for every fishing trip, and then take random days and see if they are comparable. It would be useful to know how many days a month are needed to get a representation of that month's fishing.

Len – Are you taking lat/longs?

Natalie – There is a GPS but at the moment it's optional for data confidentiality reasons. In the future this would be useful.

Mike – The video/data file will have a time and date stamp and this can be linked to the ship's GPS to get the locations.

Natalie – We want to improve to have a GPS. We have temperature loggers as well so we can match the bottom temperature to the catch. There's scope for a lot of data to be gathered with the right technological input.

Mike – Having temperature would be invaluable

Juvenile crustacean survey work:

This summer we did a pilot study, next summer we would like to carry this out across the whole of Wales.

- Sampling crab and lobster as small as possible to see the peaks and troughs in recruitment, before they enter the fishery. This will allow us to predict future years and manage accordingly.
- We have used specially adapted prawn pots with an 8mm mesh size and a smaller entrance.
- We did catch small crab and lobster
- Limited people and boat time so we first wanted to identify the important habitats before we spread the study around Wales.
- We looked at boulder, cobble, gravel, mixed high (gravel/cobble/boulder), mixed low (sand/gravel/shell), mussel and sand.
- We found most lobster on the mixed high and boulder
- We found most crab on the mussel beds.
- We need to investigate other mussel beds to confirm if this is a habitat choice of brown crab.
- Initially we had to carry out a habitat mapping survey using the flying array, and then we had to design the pots. We focused on the by-catch, abundance and the size of the crab/lobster.
- Next summer we hope to have 4 students as well as Jodie and myself and the research assistants.

→ Jodie also had MSc students working on the shore looking at brown crab habitat/abundances. This will continue next summer in the North and South.

Q – Steve

What was the smallest lobster you found?

A – Natalie

40 mm CL. Perhaps the smaller lobsters don't come out into the open. If you have ideas how to catch the smaller we would like to hear.

Mike – In the IOM the <2yr scallops have other things that effect their mortality so assessments are based on >2yr.

Steve – the small lobsters are a sign of bad ground.

Natalie – let's talk more about this after.

Recruitment index:

- No undersized individuals included
- How much have they grown and how often do they moult?
- Kayla Williams (MSc now CBFA prawn fishery) studied this this summer.
- The pictures illustrate the different moult stages, and Kayla developed a method for analysing this.
- This spring we will get more data and try and see what proportion of lobsters moult at one time.

Lobster sexual maturity and reproduction:

There is a hand-out available that has lots of information about this and the methods tested. This information will be needed for determining minimum landing sizes, mating behaviour and sex ratio.

Mike – In the IOM the maximum landing size is based on the preliminary data from the Welsh programme.

Steve - This would be disaster for the Welsh fleet if the landing size was raised.

Mike – We will have to look at the impacts.

Steve – If there's too many big fish the small one won't enter the pots. The only ones will be the big fish. The only way is to allow small fish to move by catching them, we wouldn't see these small fish if the landing size was max 130.

Len – Between July-September 90% of catch is > 130

Mike – This is only recommended for females

Steve – There are no big fish, the recruitment is low as all the big lobsters have been stripped off. Active feeding fish will go into the pots and take the feed. Undersized lobsters will shell more often. The larger lobsters go to market. Pots provide an “open-ranching” system, bringing in undersized fish. I have been catching since 1984 and writing everything down.

Mike – We need to understand if it's overfished.

Steve – It is overfished. There are better boats, gear now.

Mike – We can make recommendations. Look at scenarios in consultation with industry. This is why the fisher questionnaire is important. Look at fishery, for example, in Maine where

there is a similar “open ranching” idea. We need to look at this and understand it. As scientists we need to look, we need to gather evidence to support ideas.

Brett – At first we caught lobsters of size in areas until we restricted the entrance. The small lobsters aren't caught in the normal pots, as there are no bigger lobsters in the specialised pots so they aren't deterred.

Steve – Are you finding small lobsters in prawn pots?

Natalie – We have only been targeting ground for juvenile lobsters.

Mike – It's been about looking for habitat for juvenile lobsters.

Natalie – <20m water so we can target the right areas for small lobsters. Would be different findings in adult ground.

Mike – In nursery grounds with virgin stock, no fishing, no exploitation for example, the only limitation is food availability, perhaps burrows. If all the niches are filled then the big lobsters would eat the smaller. So in virgin ground the number of juveniles might decrease, in exploited ground the number of juveniles might increase. There will be different habitat use by different sized lobsters, which is what we are interested in. Have to use pots to exclude the larger ones.

Steve – Smaller entrances exclude the larger ones.

Crabs/Prawns/Whelks – Jodie Haig

The on-board camera, Natalie has already covered this; Julia is using it currently for her escape gap studies. We will keep collecting data. The on-board observer also collects data – genetic samples/eggs/gravid crabs. We try and maximise the data collection for one day at sea.

Brown crab:

In the summer we had 2 MSc students looking at juvenile crabs on the shore, in North Wales and Pembrokeshire. Onshore 8-112mm CW. Not found on every shore, seem to be quite picky. What shore/where on the shore/presence and size of boulders all important factors. Food didn't seem to be a limiting factor.

Next we will look at size at maturity. Currently the only data on this is from Sweden 2008. We need to get more. Waiting for a permit from WG to collect this winter, if not next.

Common prawn:

Collected samples from May – present. Have just begun processing, looking at the sex ratio/size at maturity/size frequency distribution/habitat. We are also collecting tissue for future genetic work if we get funding.

In the summer we had 2 MSc students looking at the sex ratio of animals in shore in the north and Pembrokeshire. There is a report available on the website.

The inshore was dominated by females. Abundance was higher at the northern sites, few berried females.

We developed good methods for next year's work.

CBFA prawn fishery will use this experience and methods also for our project. This will create comparable data so it can be combined.

We will continue with adult (to get a full 14mth data set) and juvenile (only sampled in summer) sampling, hoping for another student next summer.

Whelk:

Tagging studies have been carried out in the lab in tanks over the last 2 months.

Zip ties (20% lost), thin + thick elastic bands (16% thin lost, 0% thick lost), tags attached with glue (0% lost), we will therefore use the tags with glue this summer.

We have processed 2807 whelks, collected from South Wales up to Anglesey between May and now. The sex ratio was 1:1, male: female, 50% maturity at 56-65mm total length.

Current landing size is 45mm.

The data was collected from 4 fishers.

Indicates we are currently landing a lot of immature whelks, but need to take into account the impact on fishers.

→ Any questions?

Mike – We need to see who would be most impacted.

Steve – Would be better if we just improved the riddling system, this would prevent the landing of undersized individuals.

Jodie – These are scientific pots we were fishing with, so all whelks were landed, they are un-riddled.

Steve – I understand

Mike – Whelks don't like being riddled.

Roger – Is it bad to take immature whelks?

Natalie – It's the proportion you take that matters. In fisheries there is a 50% guide. You can look at the population biology and adjust it. It depends on how many eggs and how the offspring survive.

Escape hatch study – Julia Pantin

CBFA lobster escape hatch study, separate funding.

There have been a few setbacks, but getting preliminary figures in now.

- X3 fishers, x8 days fishing, x110 pots
- Each fisher has x5 pots with escape hatches (45x80), x5 with escape hatches (47x80), x5 no escape hatch
- Graphs show the numbers caught and discarded with each pot type.
- You get more legal sized lobsters in the pots with an escape hatch.
- The abundance of velvets decreases with escape hatch, so the concern is losing the velvets with the escape hatches.
- More by catch with no escape hatch, more velvet with no escape hatch.
- Economically, what are more valuable? More lobsters of legal size or more velvets?
- Next, cameras in pots. What's happening in the pots? Are the undersized using escape hatches?

Lee – Good example of a study with different scenarios and economics.

Mike – Also it could be a seasonal problem.

Julia – Yes definitely you could have hatches only during certain seasons.

Mike – Cameras would be useful, looking at the sources of mortality, what is happening in the pots? Cannibalism?

Natalie – What about the spider crabs? Would be interesting to see if they are damaging things/fighting.

Steve – They only fight in confined spaces.

Mike – It would be interesting to have a look, and know what's happening.

Bass fisheries – Giulia Cambiè

We have collected data on 1300 bass between May and November with the most important source being from the processing industries (975 bass). The commercial sector gave us 280 samples and recreational 49. So this is not representative. Mainly commercial fisheries are represented here.

The trend of the size distribution of fish is similar between industry and fishers data so the processors provide a good source.

Looking at the length/frequency between the North and South shows a difference. Possible due to a difference in growth patterns of the different sample size we have. We need to gather a comparable sample size.

There were differences in the mean size between North and South. In the North the bass were on average smaller than in the South, possibly due to the different MLS. The MLS is bigger in the South. Could also be due to the size distribution as a result of fishing season/gear/environmental conditions where they were caught.

There was an effect of fishing gear. Gill nets caught bigger fish than line ~ 44cm, so the gill net is a selective fishing gear. The line caught fish were slightly smaller ~41cm. There was no difference seen between gears in the South, but this could be due to the bigger MLS.

Out of 390 fish, 315 were sexed in North and 75 in the South. We need more samples in the South. The sex ratio in the South was 76 male: 33 female, in the North 40 male: 60 female.

Size at maturity: Spawning in winter – May/June. This year we started collecting in May. We found ripe females, 70% mature. The sample size was too small but indicated the possibility of a decrease in size at maturity this would indicate stock over exploitation.

Size distribution: 44% N 45% S were under 45cm females. Almost ½ caught were under the size of maturity.

Recreational fishers:

MSc student in the summer looked at the distribution of effort around Wales. 53% of charters were in the south and majority of the clubs.

The Gower is a very important area for recreational fishers.

Shore and boat fishing has the greatest effort in the South and in summer.

The data was compiled from 2006-2013

Nursery area + recruitment index:

x10 areas looked at around Wales. Looking for the small (larval-juvenile) bass.

X4 sites in North, x4 in mid and x2 in South.

Species caught:

- N: sand eel, sprat, goby
- Mid: Goby
- S: Goby, bass, sprat

57 passes with the net, 966 individuals, and 11 species caught.

Bass – in the South only Swansea Bay and Lougher and Aberdovey. It was a bad recruitment year for the bass.

In 2014:

Scale analysis to look at the age structure. Preparing scales for stable isotope analysis to look at whether there was a connection between North and South.

Economic interviews: Speaking to fishers from all sectors around Wales, so far 45 interviews done. Collecting information to look at the economic performance of fisheries around Wales.

Mike – It is a worry this year due to the lack of bass recruitment for 3 years in a row.

Natalie – Swansea Bay has been sampled previously by John Lancaster and is known to be a good area for bass.

Scallop fisheries – Gwladys Lambert

Reports available at the front.

- The first map shows the location of video surveys for all welsh waters, within this project and before.
Data collected since 2009 by Hilmar Hinz, Mike Kaiser, and Marija Scibberas.
We are continuing with the time series. Monitoring the recovery.
Rest of the data needs to be analysed. NRW have habitat maps but we would like to improve on these.
- Second map: The Fishing experiment area.
Fishing intensity experiment – fishing at different intensity levels and look at the habitat recovery. This will be covered more later.
- Map of percentage cover of different substrate based on our video tows. (Shell, brittle stars, mixed ground etc.) Asking the question, is there any cobble? In all the videos we analysed there were very few. This was from 2009-2012 so even in a very dynamic area none were uncovered.
- We have been looking at the recovery of the closed area. The graph shows the species composition/abundance in the closed and open area. An MSc student this summer has carried out more work into this and his report is available on line. There is no difference in what is living on the sea bed between the 2 areas. This work will now be updated with the 2013 data, with the help of lots of volunteers to go through the analysis. In 4-5 years of being closed there has been no change, so either the scallop fishing has no effect or it takes a very long time to recover. We will keep going with these surveys for 5-6 years to see if it recovers or if this is the habitat.

- Scallop stock status survey July 2013. We will carry out a survey in Tremadog with Brett Garner next spring to see if there are scallops. This wasn't possible this year due to the density of pots. In the areas we surveyed we used scallop dredge (King and queen) and videos. We found queen scallops mostly to the North and the Kings in Cardigan Bay, and some off the Llyn. We need to sample further in shore here but again too many pots.
- We wanted to see how representative our sampling is so have done a comparison between queen/king dredge and the videos/stills. Found a good relationship between queen dredge + video and fairly good between king dredge + video, but miss some as the smaller king scallops slip through the net. Different estimates were found between the stills and Go Pro due to the smaller size of the images from stills, the continuous filming and wider field of view with the Go Pro.
- In Tremadog we want to carry out an experiment using divers to follow behind the video tow and do counts of scallops that can be compared with the video/stills. We will also carry out a depletion experiment. What exactly is on the seabed compared with what we catch? This will allow us to get a good method for estimating scallop stocks.
- Len Walters has already used this camera sled so in the future fishermen can collect this data.

Size distribution of scallops in Cardigan Bay SAC:

In the closed area there is a high density of scallops over 110mm. In the open area there scallops found were less than 100mm, so undersized. The open box is not good as far as size distribution/densities. In the closed area there are not many smaller scallops, it looks like older but not younger. Has it just been a bad recruitment? Are the big scallops taking up all the space?

Age structure:

Average age 5 years in closed area, whereas age 3 years in the open area, clear difference here. There will be a full comparison report out soon.

Gonads:

The gonad stages range from 0-7, virgin – spent, with spawning occurring at stage 6. There was a big difference found in the gonads between areas.

- Cardigan Bay most were stage 5, ready to spawn late July/early August.
- Liverpool Bay most had spawned or were about to, some were already filling.
- Llyn were a stage behind.
- Open/closed areas most were stage 5. The meat quality was not as good in Cardigan Bay, and empty gonads. So a timing difference was seen, perhaps a delay as a result of weather?

We wanted to carry out a gonad sampling project. We would have been collecting samples all summer so could have looked at linking gonad development with environmental factors e.g. temperature, but we did not get dispensation.

Len – Evidence that the no-take zone doesn't work from a fishers view point, why haven't the scallops moved in from the closed area?

Mike – It's encouraging as it shows a rotational management plan would work well. Scallops in the box would recruit into the box, some areas recovering. The rate of growth is high like on the IOM, much higher than the Western channel. The communities are changing with time in the closed area and open area. We would have seen a change between the two areas by now. In 3-5 years there has been no evidence of it which suggests that Cardigan Bay is so mobile that species are adapted to the changing environment, which makes it an ideal place for a scallop fishery. It is always difficult to demonstrate that there is no effect.

Gwladys – NRW said they weren't convinced by Hilmar's work about the sediment being dynamic. They think that if there were species it would make the sediment more stable and that these had been removed by fishing and that it is now unstable as a result.

Len – In the Grand Banks there was a similar pattern. If we can't fish, will the areas die as the scallops get to old? Senescence and parasitism?

Mike – This has been discussed in relation to Scotland, that scallops have a ripening age. Gwladys is looking at this.

Gwladys – Hoping to get dispensation for next summer so we should be able to look at fecundity with age of scallops.

Mike – Doesn't believe in NRW not thinking that Cardigan Bay is a mobile environment on the seabed. We will continue to gather evidence.

BREAK FOR LUNCH

Communications – Harriet Salomonsen

Described the communications we have set up – Twitter/Facebook/E-newsletter and Website. Asked for any advice or criticisms regarding communications.

Steve De-Waine suggested linking with Fishing News on Facebook/Twitter.

Dispensations – Lee Murray

The process for issuing dispensations in WG changed in May and has become more stringent. Before this it was very quick, sometimes with a 2 day turn around. Now it is a minimum of 12 weeks, it is a much longer process with NRW and WG minister. We have been told the timings are due to the transitions within WG and NRW and should improve.

The impacts for us:

- Summer sampling for scallops hasn't happened this year. We will have gaps in some other data sets e.g. whelks.
- Ray surveys – Nets were unpermitted 75mm so we had no data, now we have a smaller permitted mesh 70mm.
- Affects our ability to do responsive opportunistic science.
- Experimental fishery: Initial request June, deadline August, no decision, had not been sent to NRW so we had to postpone the experiment. We have re-submitted 15/10/13. We have had positive meetings recently and by mid Dec NRW are hoping to complete

their part of the work. We are planning to go ahead with the fishery in April. Next stage is for the request to go to WG lawyers. We need an answer by 31/01/14.

Mike – WG lawyers have taken a different response to the rest of the UK. David Tripp is now trying to streamline the process. WG inundated by these dispensations. Short term, opportunistic, data collection is very hard now, or impossible.

Natalie – 12 weeks is the absolute minimum wait.

Steve – Should only use the lawyers when they are needed, they are not experienced in WG.

Mike – This is what's going on, this is the situation, and we are in continuous dialogue with WG and NRW.

Steve – Is this costing extra money?

Mike – No but it is wasting/compromising money/time.

Natalie – Trouble is mostly with the undersized individuals.

Mike – Also taking video/sediment on seabed is difficult. Before x1 letter, x1 paper with permission, like in England. But this is not how it works now, and this is how it is, just being open about the situation we are dealing with.

Jim – Constructive meeting a few weeks ago. Frustrating but the process is a learning curve. Applications attract attention from NGOs. It's a transition period, looks like we are through the worst.

Steve – It's a broader issue. The entire fishing industry needs authorisation in the South. So the fishers are fishing without it. The legalities have gone wrong.

Leanne – Originally there were 2 sea fisheries committees with bylaws. WG took over and it is a long winded/stringent process. Leading the Common Fisheries Policy (CFP) reform science. WG still has to have dispensations, its generic, everyone has to do it.

Mike – Sure people are very focused on trying to streamline this.

Fisheries Science Conference – Mike Kaiser

By next May we will have more information for the whole industry. It would be a good idea to have an event that the whole industry will get a chance to be invited to.

1. Do you think this is a good idea? Should we have 2 venues, one in the north and one in the south? Open conference for fishermen across Wales
We would like a minimum of x50 people.

Leanne – An invaluable idea.

Mike – What are the industry driven science questions?

Steve – Think you would have to pair this with something else as well e.g. **Seafish gear technology show + the science meeting. Make a draw.**

Len – It's very important, but some unaffected will not be interested.

Mike – We are hoping that the people we are working with already will act as messengers.

Steve – Fishers are sceptical, don't want things going against them. Not everyone is looking on this positively.

Mike – Understand, it is a difficult perception to get past. A good suggestion to have a draw.

Len – In two places as fishers won't want to travel too far.

2. When?

Len – Timing difficult.

Brett – End of April/early May good time for me.

Steve - It's after the Easter markets as well, so a better time.

Len – I say May as well, fishing is quiet.

Brett – No one will come in June, good fishing. Best time is **May, Spring tide**.

3. Should we invite the minister?

Trevor – I think the minister should be there, absolutely. Needs to know what we are doing.

Len – Is it a good idea? There is a lot of anger around, could be dangerous.

Steve – There should definitely be a gear technology course, Seafish.

Mike – We did this on the IOM for a similar purpose and they do a good job.

Len – Yes in Brixham they had some good ideas.

Mike – Good. The minister could make a brief attendance? Think about it and then feedback to us. Feedback will be needed soon to get the minister lined up.

Len – Will Bangor get tarred by having the minister of the WG?

Steve – Needs to be a positive and sold well so the idea travels.

Natalie – If fishermen come to us with concerns about legislation, we can't answer. Do they want to have these conversations?

Mike – Agree with Len, it might be difficult, it's for science and industry to discuss and achieve an agreed goal to take to WG.

Roger – Need to widen the net a little. What happens after the project? Need to look at other requirements for the CFP and MSFD. Need someone acceptable to fishermen that can highlight the implications/drivers for future. People need to be aware, of why data is needed, why they should get involved e.g. MCZs. Need to use this to highlight the challenges to see the purpose of the science in the future because of policy drivers.

Steve – Conference should be about the current projects.

Mike – I understand Rogers point. He is right; it gives a context for the project. Stringent requirements to collect this information. It won't pass by. We are in an evidence poor situation; we need evidence so precautionary measures aren't applied. Both are right, we need space for this at the meeting, but also need a hook for fishers.

Roger – Project answers questions for future management, what do we need to know to answer.

Steve – the majority of fishers don't look that far ahead.

Mike – I recognise that but it's our duty to do this open meeting & need to attract as many as possible.

ACTION: Please encourage members to go. Think about the minister. Make the event as attractive as possible. Make people understand the importance. Industry to think of science questions, then we can think of ways to answer them.

WHEN – MAY 2014 SPRING TIDE

WHERE – NORTH + SOUTH

Experimental fishery – Gwladys Lambert

→ Map of the experimental design: showing the different gradient of fishing, up to x8 passes.

In the IOM x4 passes, in the Cardigan Bay scallop box probably more. The area is resilient.

We would like 6 boats to fish in the box.

There will be a before and after survey using the Prince Madog taking grabs, using the camera sled, and beam trawls (2 weeks per survey). Also a scallop stock status survey after. Fishing will occur in April for 1 month, should take 2-3 weeks solid fishing to get the area and intensities covered.

During the fishing month everything caught will be monitored with observers on some boats (1/2 fleet covered) looking at the catch and by catch. Also a depletion experiment.

→ Map of scallop density: extrapolation from data, working on a better map. Idea is to see how many scallops are in the area. Need to know to ensure there is money to pay all the fishers. In dredges x1-1.5 scallop/100m², from the videos/stills its x40 scallop/100m², data we have. So looks like lots of scallops but will be patchy, so need to be careful where to place the boxes.

→ Meetings: HRA should go through before Christmas. Next the tender document needs to be completed. Draft already completed. We would like to advertise in January. Need an application and selection process all before March. The HRA dolphin issue is sorted, the fishing area is not on a hotspot for bottlenose dolphin. Have it in writing that this is not a problem.

Mike – To have a rotational system we need to advise on the threshold of the fishing intensity.

Trevor – It's like the Cefas Red Wharf Bay project on beam trawling.

Mike – This is the end of the meeting. Is there any other business? How can we reach more people? When should we have our next meeting? Do we need a meeting to discuss the conference?

A – **FEBRUARY NEXT MEETING GET A DATE OUT QUICKLY.**

THANK YOU.