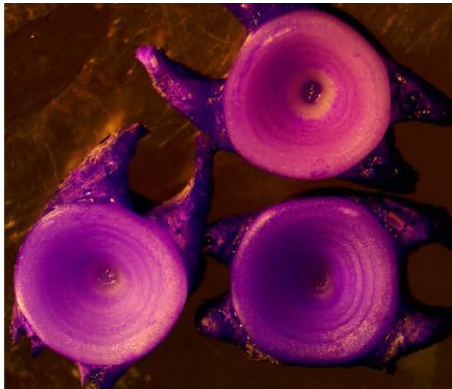




Pysgodfeydd
Cynaliadwy Cymru
Sustainable
Fisheries Wales

EMFF Fisher – Science Partnership for Sustainable Fisheries



Newsletter 5 October 2020

Welcome

Welcome to our fifth newsletter. Since our last update, the way we work has obviously changed dramatically. The team are now primarily working from home, and having to collaborate through video conferencing and over the phone. We know this has been a very difficult time for the fishing industry, so we thank all of you for continuing to help us with our science during such uncertain times. We have plenty of Covid-19 protocols in place to allow us to continue with field and at sea work safely, as well as to return to the laboratory to process samples. With forced increase in time spent doing desk-based work we have attempted to gather and uncover as much historical data as we can. This has included trying to find data and reports from the time of the sea fisheries committees, CEFAS held data, historical archives etc. We hope that these data will bring a depth to our studies as well as ensuring duplication of effort is reduced. If you know of any historical studies that may be of use to us, then please do let us know.

Ymddiheuriadau nad yw'r cylchlythyr hwn wedi'i ysgrifennu yn Gymraeg ar y funud. Bydd cyfieithiad Cymraeg yn cael ei bostio cyn bo hir.

Lobster size at maturity

The results of the lobster size at maturity study are almost ready for release, and will be available on the website soon. Results indicate that many of the female lobsters are protected until they have been able to reproduce by the 90 mm MLS. This is good news that the MLS is set appropriate for the fishery. We have also analysed alternative methods of monitoring size at maturity other than dissecting lobsters. This will save both time, resources and lobsters from ending up in a lab rather than a plate or the sea!



The Fisher-Science Partnership for Sustainable Fisheries is funded through the European Maritime and Fisheries Fund (EMFF) under European Structural and Investment

Lobster fecundity and egg quality

Covid-19 interrupted our plans for field work during Spring. We are due to initiate field work again this Autumn and will finalise in Spring 2021. We hope to validate a non-invasive method of determining fecundity where the female and her eggs can returned intact to the sea. We will then look at fecundity and how it varies over the egg-carrying season, with different sized animals and between years.



Lobster v-notching study

Many of you will be aware that we applied for additional funds to carry out a lobster v-notching programme during the covid-19 shutdown of markets. We are still awaiting approval of the funds from RPW, and due to the delay it is likely that this will now take place next Spring. Given the long-term outlook for Covid-19, we still hope that this will allow us to engage with the fishers to collect valuable data during a time when markets are less buoyant, thereby maximising both support for industry and data collection. Thank you to all those fishermen who have signed up to the scheme, I hope to have good news for you soon.

Crabs

Work is ramping up on edible crabs.

- **Size at maturity** research is the scientific basis for Minimum Landing Sizes-this usually looks for what size 50% of individuals are reproductively mature. Bangor University (led by Jodie Haig) did a [study](#) in 2014-2015 that confirmed males mature at a smaller size than females, and found variation between North and South Wales. As it is recommended that this work is repeated regularly to monitor any changes (e.g. due to fishing pressure or environmental factors), we are repeating this work this autumn. We are collecting samples, including undersized crabs (under WG authorisation) from both North and South Wales, and will be processing these in the lab over the coming months.
- **Brood grounds:** Tagging work we had hoped to undertake this spring/summer was severely impacted by lockdown and social distancing measures, on top of the very poor weather last autumn. There has been a very low return rate on the 300+ tags we deployed in 2019. As well as

compiling other data that might help, we are currently looking into other methods that are potentially much more efficient – such as plankton sampling - that would help identify key edible crab spawning areas.



We need your help to identify those areas where berried hens brood their eggs – knowing where these are could help protect crabs from developments like aggregate dredging or cable laying. Thanks to those of you that answered the questionnaire on berried crab at our events in February – however we are keen to boost numbers. If you are please able to complete and return the attached [questionnaire](#) (or contact a.moore@bangor.ac.uk to go through this on the 'phone) – this would be much appreciated.

Bycatch in crab/lobster pot fisheries: following lockdown we have now re-started observer trips to record fish and invertebrate bycatch (which will provide evidence for e.g. eco-accreditation schemes). We are really grateful to those fishers who continue to support us by allowing us out on their vessels to do this. We are, however, very keen to expand geographical coverage, particularly for mid-Wales/Cardigan Bay, and South Wales/Gower/Bristol Channel – so if you fish here and are willing to have one of us on board for a day, please get in touch (Alec Moore a.moore@bangor.ac.uk)

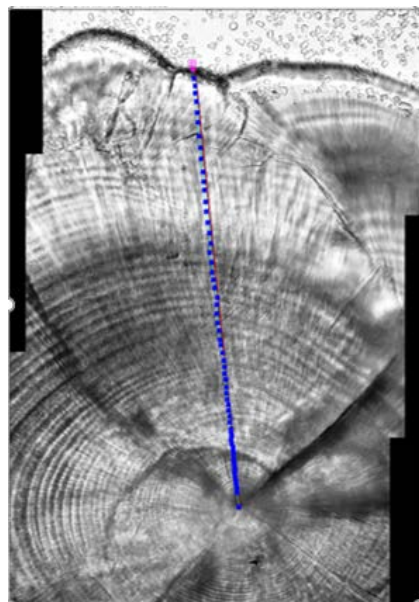


The Welsh bass and skate EMFF project have restarted the collection of bass samples from Welsh fishers. Due to Covid travel restrictions most of the progress has been in the north of Wales. We have dissected these bass and we have been aging the fish using their scales. We are hoping to receive some bass from the south and mid Wales fishers soon, if fishing is viable and of course safe, as well as obtaining government exemptions for mid Wales. We will use the data from the dissected fish to investigate their biology, including age and length at maturity, their sex, their physical condition and what they feed on. We also collect other tissues for stable isotope analysis including muscle tissue, eye lenses and scales.

We were very fortunate that some of our stable isotope data from bass and skates came back just before lockdown, therefore work analysing and writing the results of this is ongoing. Stable isotope signatures locked in layers of the eye lens laid down over their lifetime of each fish tell us about diet and feeding location. We have taken layers of the eye lenses so that we can look back through the life of an individual fish to determine changes in diet and where it might have lived. This is the first time this method using eye lenses has been applied to seabass and results suggest that the method is useful and gives us new insight into the ecology of bass.

O-group bass, Wales

The juvenile bass collected in six of the estuaries from north to south wales have now been aged. This is a long process involving the removal of their ear bones (otoliths), to count the growth lines (like tree rings) visible under the microscope. With these ages, we can now run our spawning model, to look backwards in time and see where the spawning events that produced these juveniles could have occurred. Results from the age readings indicate spawning to have occurred from late April to mid-May across Wales. Unfortunately, the survey we had planned for this spring to look for bass spawners was cancelled due to covid-19.



Counting the growth increments of a juvenile bass otolith to find its age.

Bass & thornback ray – England (Liverpool Bay)

Following a relaxing of lockdown, we were finally able to return to laboratories in September to process more bass collected in Liverpool Bay in May, to add to our preliminary study of autumn-collected fish from 2019. Preliminary results suggest that May is near to (but likely not within) the spawning season for bass there, and the study further confirmed that bass in the area are dominated by female fish (like was found for North Wales previously). Computer modelling of the most likely spawning location of tiny bass fry collected in the Wyre estuary in 2019 has now been done, using multiple different scenarios. Preliminary results suggest that they have been spawned locally within Liverpool Bay – an exciting and interesting result. We continue to work on these data and samples, and will issue a final report in the coming months.



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