

From: Lead Scientific and Conservation Officer

To: Kent and Essex Inshore Fisheries and Conservation Authority – 29 November 2019

Subject: Evaluation and schedule of planned research for 2020/21

Classification: **Unrestricted**

**Summary:**

This report details the scientific/research projects (both ongoing and new) for KEIFCA to undertake in the financial year 2020/21.

**Recommendation(s):**

1. The Authority is asked to **APPROVE** the planned research for 2020/21

This paper details information for members on each project for the coming financial year. The 2020/21 schedule contains a mixture of ongoing actions along with newly planned projects.

While this list is the current best estimate of projects which will be undertaken, it should be noted that the role of KEIFCA and the nature of our collaborative work can mean that predictions of workload up to 18 months in advance can be difficult. Work will continue on planning and incorporate Members' comments; a full research plan will then be presented as usual as part of the KEIFCA Annual Plan for 2020/21.

## **Shellfish**

### *Cockles*

The TECFO and outside permit cockle fisheries will continue to be conducted as in previous years. The TECFO fishery will again run from June through to October while a decision on the outside permit fishery will be taken following analysis of the stock survey data in spring 2020.

Stock surveys will be conducted in the spring from FPVs Tamesis and Nerissa, along with quad bike surveys of the Maplin Sands. An autumn quad bike survey

will be conducted on the Maplin Sands to assess summer growth, spatfall and pre winter stock conditions.

### *Oysters*

The annual oyster stock survey in the BCRC MCZ will be conducted from FPV Tamesis as in previous years. The spring survey will comprise the 99 sites surveyed in 2019, along with the extra sites where oysters were identified in the 2019 autumn wider MCZ survey.

Following the completion of her PhD studying native oyster stocks in the BCRC MCZ, KEIFCA will continue to work closely with Dr Alice Lown at the University of Essex in order to make best use of all native oyster survey data. In addition, KEIFCA will continue to work alongside Dr Lown to test the predictive power of the statistical stock model developed during 2019, a project jointly funded by KEIFCA and Natural England.

Following the success of the Native Oyster Workshop in June 2019 a number of new oyster projects will commence:

- The annual Native Oyster Report, discussed at the workshop and first drafted in 2019 will be reissued following the 2020 surveys.
- Initial development of a Habitats Regulations Assessment for the oyster fishery flexible permit byelaw. In the same way that an HRA is produced annually for the cockle fishery, this is a requirement for the oyster fishery flexible permit byelaw, as the activity will take place within the Essex Estuaries SAC.
- KEIFCA will work with local oystermen on two projects relating to the annual oyster survey. Having discussed the oyster survey procedure extensively at the June workshop, KEIFCA will work alongside local oystermen to train them in survey techniques in order to prospect/survey areas of the MCZ where oystermen believe there to be a high probability of native oysters, but which have not previously shown up during KEIFCA surveys. Sites to be included will be selected based on historical fishing knowledge from oystermen in combination with habitat mapping information suggesting native oyster habitat.

Work is also being carried out on native oysters within the Blackwater, Crouch, Roach and Colne MCZ by other parties. KEIFCA works closely with both the University of Essex and the Essex Native Oyster Restoration Initiative. Significant projects for 2020 include the continuation of the cultch laying experiment within the River Blackwater, run via ENORI.

The University of Essex and KEIFCA are collaborating on a project to assess oyster dredge efficiency within the BCRC MCZ. This project has been funded by Natural England and will offer a review of how dredge efficiencies taken from peer reviewed papers relate to 'on the ground' experience of dredging in the District.

## *Whelks*

A strong focus on whelks will continue in 2020 with the commencement of a PhD in association with the University of Essex. This PhD will look to expand upon the current knowledge base by exploring the following topics:

### 1. Life history characteristics

The aim will be to determine the life-history characteristics of the common whelk in the Kent and Essex district. Data obtained from 2018/19 will be analysed to determine the size and age at maturation of the common whelk, their reproductive cycle and other key biological and environmental variables which may influence their life-history. The project will also involve the continuation of this long-term data set.

### 2. On board fishing process

The aim will be to gain an understanding of: a) the catch and discard ratio of vessels in the district, determine the size/maturity distribution of discards, and explore how this can be used to establish future management indication systems and, b) analyse whether changes to fishing methods affect catch rates and determine the most effective sorting (riddling) process and design. This work will involve conducting riddle trials and onboard observations of fishing vessels in the district.

Effectiveness and efficacy of riddling is an issue that has arisen during 2019, and through this aspect of the PhD the intention is to create an adjustable rig to test technical specs of the riddling process in order to better support the enforcement of the whelk permit fishery in the district.

### 3. Spatial information on stock distribution

The aim will be to determine the finer scale spatial distribution of whelks in the district using a 7-year catch return and gear-sighting data set. The work will involve using GIS to map areas of whelk distribution and fishing intensity to identify any changes in their distribution or fishing effort over time, investigate possible causes, and predict future change.

### 4. Management and sustainability analysis

This topic will explore the current management and legislation and identify aspects that facilitate unsustainable exploitation. The current Marine Stewardship Council (MSC) sustainability criteria will be used as a lens through which to assess the sustainability of the whelk fishery in the district. Information gathered from the previous sections, and examples from other fisheries will be used to discuss alternative management measures to ensure sustainability of the stock.

### 5. Introduction of novel technology / data gathering protocols

This topic will explore the use of novel technologies in the providing data on discards to develop a predictive stock model and total allowable catch (TAC) limits. (e.g. video and auto balances combined with VMS).

The EMFF funded whelk population study will come to a close at the end of 2019, with the last round of monthly samples being delivered in December.

Monthly samples from the Kent and Essex coasts will be processed before the end of financial year 2019/20 and the final report for the EMFF project will be written and submitted by July 2020

The whelk genetics MSD project (MSc by dissertation) was completed at the University of Essex in 2019. KEIFCA, NT FLAG and the University of Essex will have a formal sign off meeting prior to the end of the 2019/20 financial year. The findings from this MSD will provide a sound evidence base, and will feed in to future whelk management decisions within the district.

## **Finfish**

### *Juvenile Fish Surveys*

The long-running small fish surveys in the River Medway will continue in collaboration with the Environment Agency. These continue to provide information for a long term data set. This work would not be possible for either the Environment Agency, or KEIFCA, to conduct alone, and the longstanding relationship between the two organisations continues to be a beneficial one.

The experience which KEIFCA has built-up by undertaking the small fish surveys in the Medway is also being put to use elsewhere in the District. Support and advice have been provided to both; Essex Wildlife Trust who are undertaking juvenile fish survey work on the Essex coast, as well as a University of Essex PhD which is looking at bass nursery areas in the Essex estuaries. Collaboration on such projects provides an important method to better understand fish habitat and nursery areas on the Essex coast.

### *SUMARiS Skates and Rays Project*

The Interreg SUMARiS project will come to a conclusion in June 2020. The final meeting of the group is scheduled for 29/30 April 2020. Following final reporting from this group, the Authority will be informed of the outcomes, and how best the knowledge gained during the project can aid the better management of skates and rays within the KEIFCA district and beyond.

### *Bass Research*

KEIFCA will engage further with the ongoing EMFF funded, Cefas led regional bass fishery management project. Bass continues to be a vitally important species within the KEIFCA district, being targeted by both the commercial and recreational sectors. KEIFCA is committed to working closely with Cefas to support measures to better understand and manage bass stocks at a regional level.

## **Marine Protected Areas**

With the designation of a third tranche of Marine Conservation Zones in May 2019, KEIFCA will assess fisheries activities and impacts on designated features.

- The Goodwin Sands MCZ will require assessment and consultation on potential management measures
- The Swanscombe MCZ will require assessment and consultation on potential management measures
- The T3 addition of Sabellaria to the Dover to Deal MCZ will require assessment and consultation on potential management measures.

These new designations will be incorporated into the management/monitoring of MPAs by the KEIFCA MPA Compliance Officer to ensure compliance with KEIFCA MPA byelaws.

**4. Recommendation:**

1. The Authority is asked to **APPROVE** the planned research for 2020/21