Agenda Item B5

By: KEIFCA Chief Fishery Officer

To: Kent & Essex Inshore Fisheries and Conservation Authority – 26 May 2022

Subject: **Goodwin Sands MCZ *Sabellaria* reef survey**

Classification Unrestricted

Summary:

This paper will provide Members with a synopsis for the continuation of the *Sabellaria* reef surveys in the Goodwin Sands MCZ in 2022 and provides a recap on the findings of first year's surveys (2021) which will be used to inform making a byelaw.

Recommendations:

1. Members are asked to **DISCUSS** the *Sabellaria* reef surveys in the Goodwin Sands MCZ and **AGREE** to the continuation of the *Sabellaria* survey being carried out in 2022.

KEIFCA is due to start the second phase of the *Sabellaria* reef surveys in the Goodwin Sands MCZ during late July 2022 to improve our understanding of the spatial distribution of these reefs within the MCZ. Knowledge of the spatial distribution of the *Sabellaria* reefs in Goodwin Sands MCZ is important because it will inform where KEIFCA implements a byelaw to close an area to bottom towed gear. Natural England have agreed to contribute £10,000 to support KEIFCA for a second year of *Sabellaria* surveys on the back of a successful first year of surveys.

Background and rationale for surveys

Sabellaria reefs are a designated feature of the Goodwin Sands MCZ with a conservation objective to recover to a favourable condition. *Sabellaria* reefs are tubes made from sand and shell bound with mucous by the Ross worm (*Sabellaria spinulosa*). Dense colonies of Ross worm first form crusts which then

quickly grow, and when in high densities over sufficiently large areas and when left undisturbed can form substantial three-dimensional reef structures (up to 50 cm high). It is this three-dimensional structure which has been shown to enhance the surrounding biodiversity and productivity of the ecosystem. Yet, these reefs are highly vulnerable to activities impacting the seabed, like bottom towed fishing gear. Consequently, it is important to gather information on the location of these reefs to identify spatial management measures, such as a byelaw that will prohibit the use of bottom towed gear in certain areas, to protect the *Sabellaria* reefs of the Goodwin Sands MCZ.

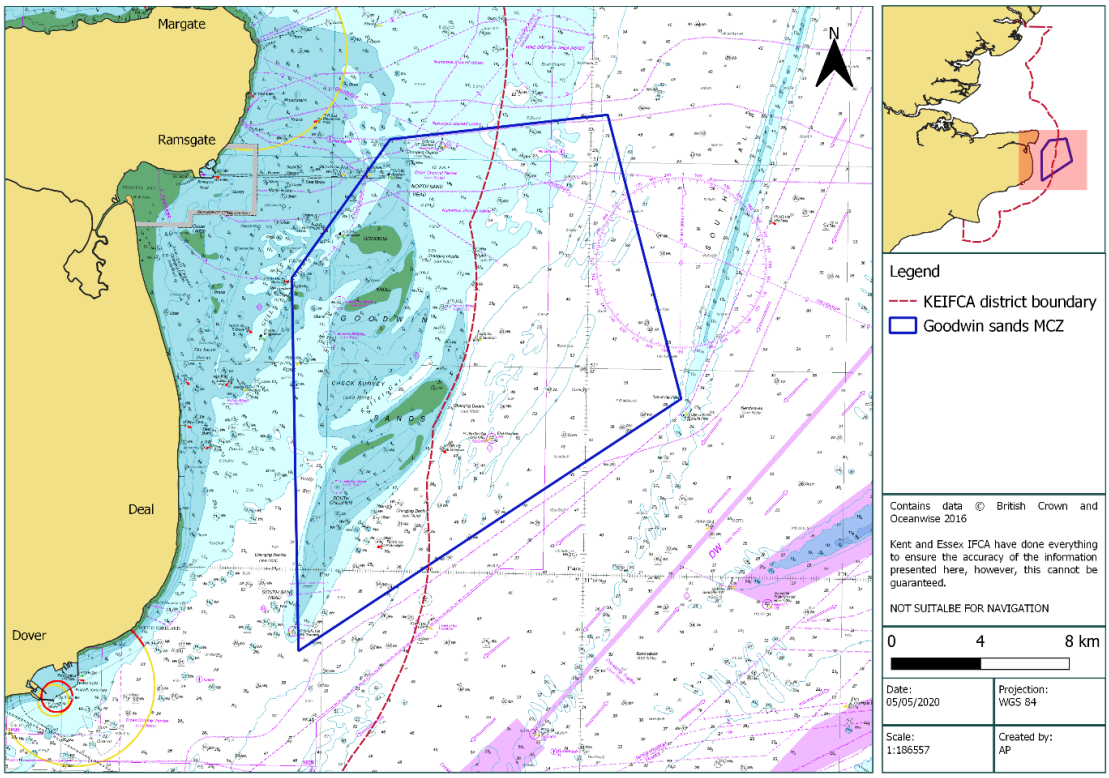

Figure 1. Map of Goodwin Sands MCZ (dark blue line) lies offshore from Ramsgate to Deal, showing the 6 NM line boundary (red dashed line), and the sand banks on the admiralty chart as background.

Figure 2. Sabellaria spinulosa *is a biogenic reef providing three-dimensional structure associated with increased biodiversity levels. Picture: Natural England*

In 2021 KEIFCA launched a project in partnership with Natural England to map out the distribution of reefs within the MCZ. Reefs were mapped using side-scan sonar and then an ARIS multibeam sound camera was deployed as a second source of data that increases our confidence in the side-scan sonar data.

2021 *Sabellaria* survey findings

To date this project has collected 43 one-kilometre side-scan sonar transects from the variety of habitats and depth zones which represents that of the Goodwin Sands MCZ (Figure 3). We collected 53 ARIS samples from nine survey areas, which overlapped with 18 side-scan sonar transects (Figure 4).

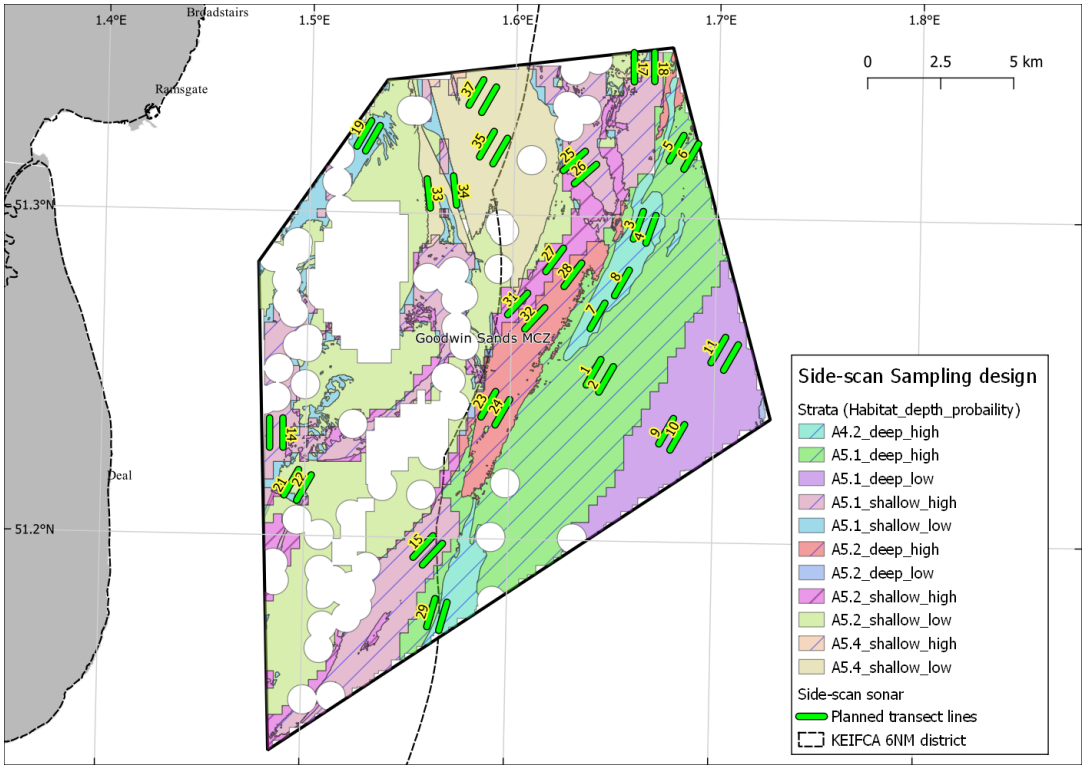

Figure 3. Map of side-scan sonar sampling design in Goodwin Sands MCZ off the Kent coastline. Green lines show the 38 planned transects in the 11 strata. Blank areas on the map were removed because they were too shallow or within 500 m from a shipwreck.

Significant areas of *Sabellaria* reef were found, both inside the 6 NM zone area, and outside (see Figure 5 for example of high relief reef). One section of medium relief *Sabellaria* reef spanned the entire side-scan sonar transect (1 km by 200 m wide) and is therefore a substantial *Sabellaria* reef. This information greatly expands on our knowledge of where the key *Sabellaria* reefs in the MCZ area and consequently our ability to provide adequate protection to the reef (See Figure 4 southern transect).

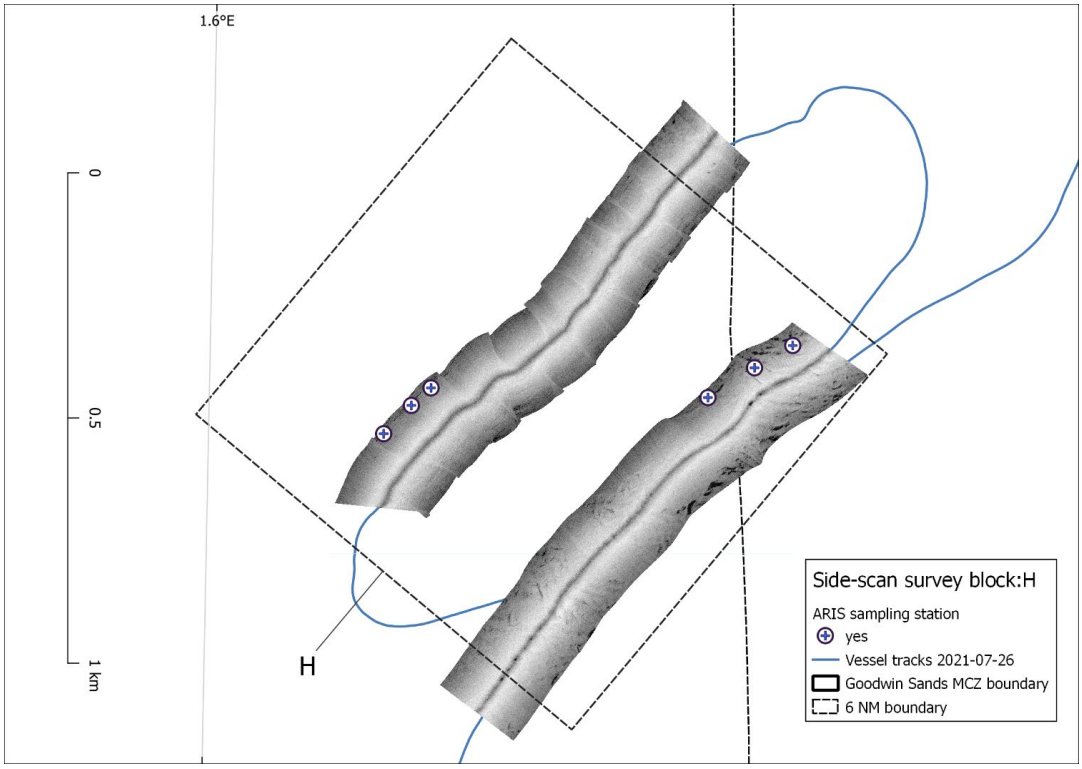

Figure 4. Three replicate ARIS samples (blue crosses) per side-scan sonar transect (grey background) with a minimum distance of 60 m between samples were collected.

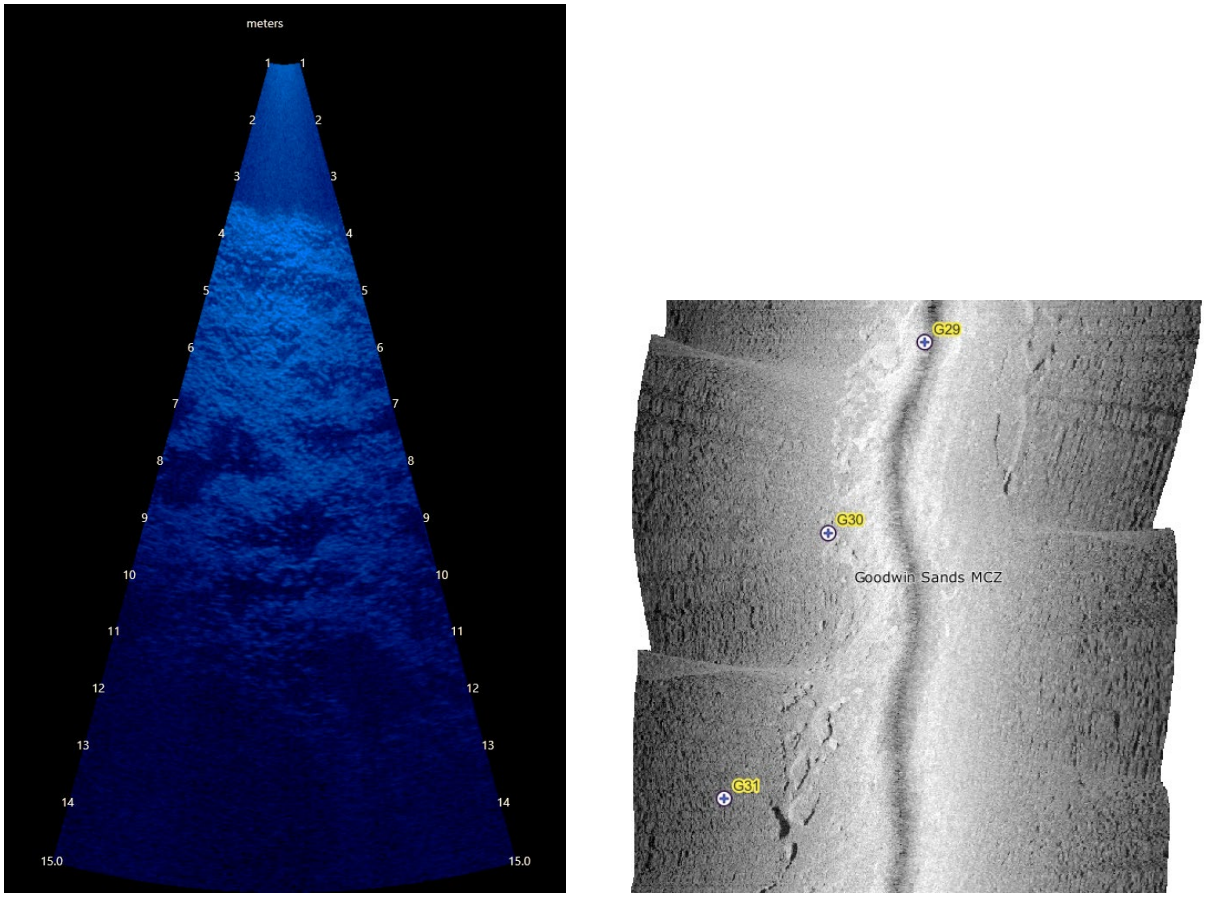

Figure 5. ARIS sound camera image (left) next to the side-scan image (right) of the area where structured three-dimensional Sabellaria reefs were found.

These results have been reported and presented to Natural England, The Authority (November 2021), Goodwin Sands Conservation Trust and to the IFCAs' Technical Advisory Group (TAG). These results have been met with significant enthusiasm for the project to continue and the results to be shared. The project strengthened the collaborative working relationships between us and NE, the MMO, Eastern IFCA and Goodwin Sands Conservation Trust (GSCT).

The GSCT recently invited KEIFCA (attended by Chief Officer Will Wright and LSCO Philip Haupt) to the unveiling of a Historic Information Panel in Deal by well-known, popular author Deborah Moggach. The Panel is located on the beach footpath close by Hut 55, the paddling pool and the Walmer Sea Scouts building (Figure 6).

Figure 6. Unveiling of the Historic Information Panel (information board) at Deal, near the Walmer Sea scouts Building along the public footpath.

Second phase of survey

The aims of the 2022 survey are to

1. Repeat transects where substantial *Sabellaria* reefs were found to build a temporal data series that allows for identifying areas of reef persistence.
2. Expand the area surveyed around substantial *Sabellaria* reefs found in 2021 to map out their full extents to inform management
3. Gap fill areas which were undersampled in between transects to increase our confidence in the data, in particular survey deep sites which had low confidence in 2021 surveys.

A side-scan sonar will be used to collect the data (echograms) in the study area (Figure 3), which will be analysed to provide more comprehensive spatial coverage to address the three aims set for 2022. The side-scan sonar equipment

will be deployed from the back of FPV Nerissa, using the existing gear hauling equipment, over a period of six to eight days. A crew of three to four including the skipper will man the vessel, to allow for safe and effective working at sea. Philip Haupt (Lead Science and Conservation Officer) will process and analyse the data, and report back on findings. The data will be ultimately used to inform and underpin management measure for the MCZ, as part of KEIFCAs MPA workstream.

Natural England have agreed to contribute £10,000 to support KEIFCA for a second year of *Sabellaria* surveys due to start in July.

Recommendations:

1. Members are asked to **DISCUSS** the *Sabellaria* reef surveys in the Goodwin Sands MCZ and **AGREE** to the continuation of the *Sabellaria* survey being carried out in 2022.