Preliminary Seed Mussel Survey Report for Rosslare – 18 and 19/05/2021

Equipment: 400 kHz side scan sonar, 1 meter dredge

Area surveyed: The South Shear, east of Rosslare Europort

Survey summary:

The post fishery report issued in January 2021 (BIM - Aquaculture), following the survey carried out in October 2020, highlighted limited remaining biomass on the seabed in Rosslare South Shear. This biomass could potentially play a role in providing a larvae source for the 2021 settlement. However, it was also highlighted that survivability of this biomass could also be an issue. According to a study carried out in 2005 on intertidal seed mussel beds, unfished seed mussel beds have shown important biomass depletion over winter due to predation (Steenbergen, Baars, Stralen, & Craeymeersch, 2005).

The side scan sonar was deployed on the 2020 seed mussel bed area in the South Shear. The data showed a number of interesting features noticeably distinctive seed mussel bed pattern (Commito & Rusignuolo, 2000; van Overmeeren et al., 2009). A total of 16 marks were taken and investigated using the dredge. Four tows showed various amount of half grown mussels, mainly concentrating in the south side of the possible bed. Three tows (TR1, TR2 and TR3) showed small amount of recently settled spat (< 10 mm in length). However, TR2 contained 110 starfish Asteria rubens and TR10 showed very high mortality due to predation. This possible bed is comprised within the following coordinates:

Area coordinates (in Degrees, decimal minutes WGS84)

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>52° 15.149' N</td>
<td>6°  18.041' W</td>
</tr>
<tr>
<td>52° 15.185' N</td>
<td>6°  18.407' W</td>
</tr>
<tr>
<td>52° 15.417' N</td>
<td>6°  19.010' W</td>
</tr>
<tr>
<td>52° 15.578' N</td>
<td>6°  19.207' W</td>
</tr>
<tr>
<td>52° 15.842' N</td>
<td>6°  19.228' W</td>
</tr>
<tr>
<td>52° 15.955' N</td>
<td>6°  18.826' W</td>
</tr>
<tr>
<td>52° 15.225' N</td>
<td>6°  17.913' W</td>
</tr>
</tbody>
</table>
NOTE: The seed bed displayed on the attached map has been established following verification by ground-truthing of the side-scan sonar data. These coordinates represent the corners of a simplified polygon of the area of the settlement identified (green box on the map).

A total of 200 individuals were measured, and the average size was 34.82 mm (min: 23.33 mm; max: 49.38 mm), representing in average 281 pieces per kg. The tows containing seed were mostly clean, showing no starfish and no apparent mortality.

![Mussel Length Distribution for Rosslare - May 2021](image)

The average waste throughout the sample was slightly below 20%, and mainly comprised of small gravel, shells, and byssus threads. The mussel appeared to be in good condition and strongly attached. Visual observation of the flesh confirmed gonads ripeness (Chipperfield, 1953). No biomass has been estimated yet.

In addition to this survey, a vertical plankton haul was carried out outside Wexford Bar. The water temperature recorded in the water column (from 0 to 14 meters) was comprised between 11.6 and 11.8 degrees Celsius. The sample showed a significant amount of D Larvae, potentially of mussels.
Details of TR5 content

**Recommendations:**

Since 2019, Rosslare showed some overwintering mussel biomass even following fishing. However, the current population could be under threat from predation. Biomass estimation survey needs to be carried out on this settlement as well as monitoring for increased predation prior to further advice.

**BIM Aquaculture Technical Section**
**Seafood Technology Services Unit**


Preliminary Seed Survey Map of Rosslare South Shear - May 2021

Legend
- buoys: MFAWgs
- Category
  - other_species
  - seed
  - shells_stones
  - signs
  - side_scan_sonar_track
- INFOMAR_bathylines_5m

Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors.

Not to be used for Navigation