

Seed Mussel Survey of the Rusk Channel – 29 and 30/07/2015

Vessel: MV T'Burke (BIM), Skipper John Murphy, Survey Officer Nicolas Chopin

Equipment: 400 kHz side scan sonar, 1 meter dredge, 0.1 m² Day grab

Area surveyed: from the first set of channel buoys (No.1 and No.2) to buoy No. 4

Survey summary:

Good indications of a spat fall were found earlier in May in the Rusk Channel, unfortunately, latest reports from the industry showed a very large amount on starfish in the settlement location.

The side scan sonar was deployed in the area and the extent of the bed was identified. The dredge was also deployed to ground truth some of the markings observed on the side scan. The bed represents a long narrow stretch in the middle of the Rusk Channel. The area covers approximately 51 hectares (3.5 km long and between 200 and 90 m wide).

Table 1: Area coordinates (in Degrees, decimal minutes WGS 84):

Latitude	Longitude
52° 30.394' N	6° 10.979' W
52° 30.362' N	6° 10.825' W
52° 29.624' N	6° 11.369' W
52° 28.471' N	6° 12.044' W
52° 28.631' N	6° 12.103' W
52° 28.902' N	6° 12.052' W

NOTE: The areas displayed on the attached map have been established following the side scan sonar data verified by ground truthing. These coordinates represent a simplified polygon of the area of the settlements identified (bright green border on the map).

The tow tows made in the seed area showed a lot of large starfish and starfish damage is already visible; a lot of the larger mussel shells are empty.

The grab was deployed 10 times in the settlement and again, it showed large quantities of large starfish (4 to 3 individual per grab for the first 4 grabs). The amount of starfish in each grab indicates that there are over 40 individuals per m², particularly at the south end of the bed.

The density of seed on the seabed varies significantly (see green squares on the map) but the average density is approximately 34 tons per hectares (average across the grab data), which represents a little over 1700 tons at this.

The size and the quality of the seed are also varied; from 3 to 5 mm on the south part (where the starfish damage has been observed) to 5 to 15 mm for the northern part. There is a lot of mud where the density is high (CG 2 and CG 3 on the map) but the seed seems cleaner going north where the seabed is mainly composed of gravel.

Bottom type: small stones, mud and gravel (average depth from 13 to 16 meters)

Recommendations:

This survey was conducted following a part of the industry's request, highlighting the immediate threat from predation. In 2013, a large settlement in the same condition was totally depleted in 4 weeks (from June to July) between the Lucifer Bank and the Long Bank.

Although the seed is small, an early transplant is needed if these stocks are to be saved from predation.

Nicolas Chopin
Inshore Survey Officer
BIM Aquaculture Technical Section

Notes for the map:

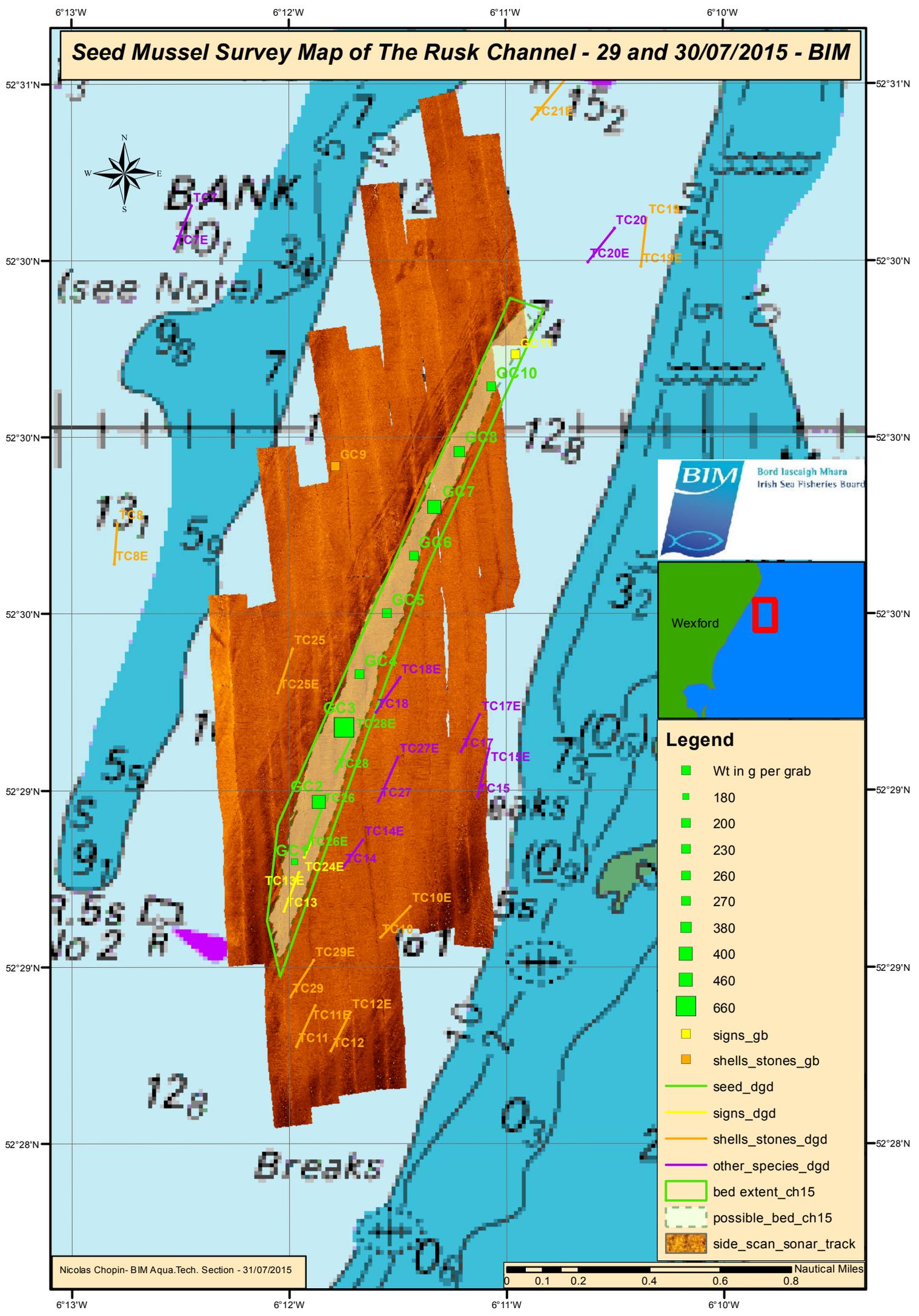
TC stands for Tow Cahore

GC stands for Grab Cahore

In the legend Dgd stands for Dredge

In the legend gb stands for Grabs

Seed Mussel Survey Map of The Rusk Channel - 29 and 30/07/2015 - BIM



Legend

- Wt in g per grab
 - 180
 - 200
 - 230
 - 260
 - 270
 - 380
 - 400
 - 460
 - 660
- signs_gb
- shells_stones_gb
- seed_dgd
- signs_dgd
- shells_stones_dgd
- other_species_dgd
- bed extent_ch15
- possible_bed_ch15
- side_scan_sonar_track

Nicolas Chopin- BIM Aqua.Tech. Section - 31/07/2015



6°13'W 6°12'W 6°11'W 6°10'W

52°28'N

52°29'N

52°30'N

52°30'N

52°31'N

52°28'N

52°29'N

52°30'N

52°30'N

52°31'N