

Preliminary Seed Mussel Survey of Cahore Point (shore) and the Rusk Channel – 4/08/2016 to 12/08/2016 (Draft version)

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

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

Area surveyed: Along the shore in the front of Morris Castle and in the Rusk Channel from Buoy N.2 to the North Blackwater buoy.

Survey summary:

Following industry reports of a settlement in the Rusk channel, the side scan sonar was deployed in the area. Over 900 hectares were surveyed and a bed was found northeast of the Buoy no. 4 at the centre of the channel at a similar location than the 2014 beds. The settlement is approximately 74 hectares, 2.6 km long and over 350 m at its widest.

Table 1: Seed Mussel Settlement Coordinates (in Degrees, decimal minutes WGS84):

Latitude	Longitude
52° 31.828' N	6° 9.958' W
52° 30.854' N	6° 10.242' W
52° 30.610' N	6° 10.517' W
52° 30.633' N	6° 10.884' W
52° 31.594' N	6° 10.479' W
52° 32.039' N	6° 10.022' 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.

The seed is in good condition and appears to be in good density (from dredge content and underwater footage), 7 tows gathered 2/3 of the dredge or a full bag (TC6, 11, 14,17,23,24 and 26 on the map). Few starfish were found, mainly around the edge of the bed but they are not posing any urgent threat to the stock. The seed is well packed on the seabed.

Table 2: Samples summary (over 100 individuals per sample)

Tows	Pieces/kg	Average size	% waste
TC6	1100 P/Kg	21.88 mm	25%
TC11	1010 P/Kg	24.49 mm	35%
TC16	1865 P/Kg	18.06 mm	55%
TC23	1625 P/Kg	21.53 mm	11%

From the data collected (side scan sonar, dredge and video), the seed in the southern end seems denser, which would explain the smaller number of pieces per kilo on TC23. TC16 was taken on the eastern edge of the bed and showed more small seed within the sample. From the data analysis, 49% of the seed population is comprised between 20 and 26 mm. Nevertheless, there is more than 5% under 12mm.

Some scattered seed was found all around the settlement with more gravel and debris than on the main seed area.

Grabs were taken randomly on the settlement and the average weight across was 500 g of seed per grabs (varying from 190g to 950g of seed per grabs, see details on map). Therefore the tonnage has been estimated to be between 3500 and 4000 tons at the time of the survey. The density looked higher on the south part of the bed.



Table 3: Snapshot of the seabed between TC 23 and TC24

Bottom type: For most of the bed, sand and stone. More sand/mud on the east side close to the bank. The average depth of the settlement is 16 to 17 m.

Recommendation:

From consultation with the industry and the results of this survey, it would be in the interest of all to delay the opening of the fishery to the next set of tide. This would allow smaller seed to develop and therefore increase productivity on the various beds.

Nicolas Chopin
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Notes for the map:

TC stands for Tow Cahore

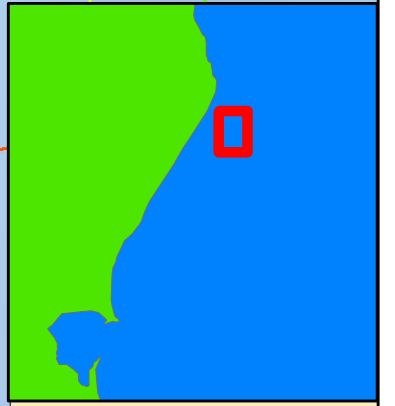
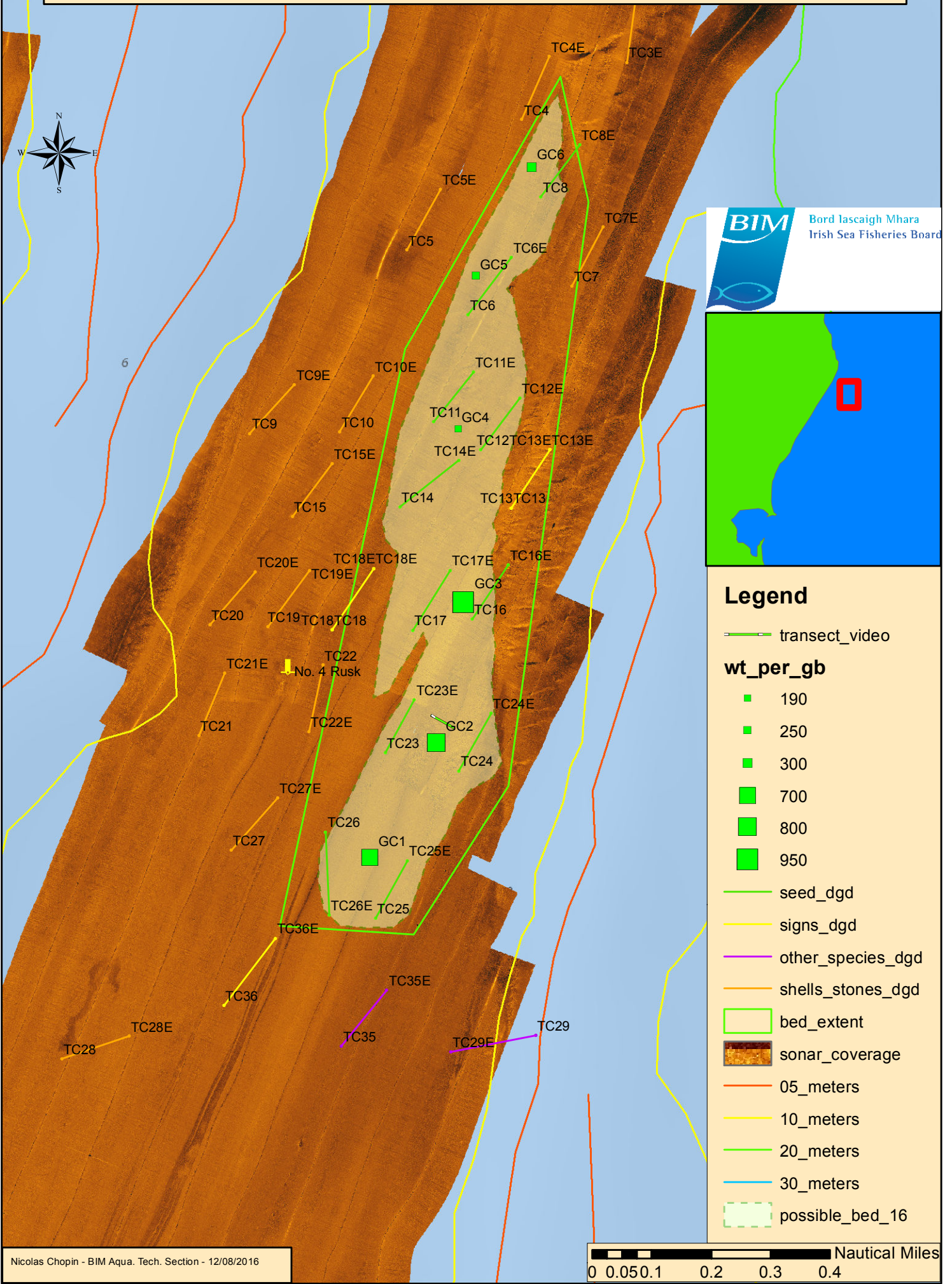
GC stands for Grab Cahore

Dgd stands for dredge in the legend

Gb stands for grab in the legend



Seed Mussel Survey Map for the Rusk Channel - BIM - 4/08/2016 to 12/08/2016



- ### Legend
- transect_video
 - wt_per_gb**
 - 190
 - 250
 - 300
 - 700
 - 800
 - 950
 - seed_dgd
 - signs_dgd
 - other_species_dgd
 - shells_stones_dgd
 - bed_extent
 - sonar_coverage
 - 05_meters
 - 10_meters
 - 20_meters
 - 30_meters
 - possible_bed_16