

Seed Mussel Survey Report for the Blackwater Area – 04/07/13 to 12/07/13

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 Blackwater Head to the Blackwater Bank going north toward Ballyvaldon.

Survey summary:

The area surveyed is known for historical seed mussel settlement, in 2012 a small bed was found on the shoulder of the Blackwater Bank; this location was the first to be checked for possible overwintered or new settlement. Nothing was found. Following this result the survey was relocated toward the shore where extensive side scan sonar coverage was carried out. Many interesting features were observed and investigated with dredge tows. Many patches of seed were found, mainly in good condition with low predation. Due to the nature of this settlement (small beds widely spread in the area), it is not practical to give coordinates of all the beds. The patches are located within the following coordinates:

Table 1: Area coordinates (in Degrees, decimal minutes WGS84):

Latitude	Longitude
52° 27.470' N	6° 16.388' W
52° 27.586' N	6° 15.900' W
52° 26.617' N	6° 15.189' W
52° 26.055' N	6° 15.262' W
52° 25.179' N	6° 17.379' W
52° 25.364' N	6° 18.118' W

The areas displayed on the map represent approximately 108 hectares with a larger settlement on the East side (covering 66 hectares approximately) which probably extend further (no coverage due to whelk pots, see map).

There is currently a large scale of size ranging from 3 to 24 mm with most of the population in the 12 to 18 mm. The average size is 13 mm at 5117 pieces per kilograms with 37% of waste mostly composed of gravel and byssus. The seed quality varies a lot between patches (see table 2 in relation to the map). The average density is just above 5 kg/m², again with variation within the patches (1 kg/m² up to an estimated 7 kg/m²).

Table 2: Biometric measurements (from samples)

samples	Average size in mm	Pieces/kg	% waste
TB34	11.38	6890	26%
GB5	11.45	6240	46%
TB31	11.7	6580	47%
TB20	11.98	4780	44%
TB6	12.36	5410	17%
GB6	15.08	3120	20%
GB4	15.13	4200	31%
GB3	15.26	3720	64%

Currently, the estimated tonnage of the area is comprised between 4000 to 5000 tons of seed. The seed bed extend may increase once the whelk pots are removed from the area, the feature on the side scan sonar seems to continue north on the larger patch.

Bottom type: fine sand with mud, gravel and small stones; the depth range from 10 to 16 meters.

Recommendations:

These settlements look in good condition and it is the view of the survey officer that those beds should not be fished at this time (due to the wide range of size). There is no apparent threat from starfish or other predators, nevertheless growth and predation should be monitored.

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Notes for the map and table 2:

TB stands for Tow Blackwater
GB stands for Grab Blackwater
dgd stands for dredge in the map legend
gb stands for grab in the map legend

