



Seed Mussel Survey report for Castlemaine Harbour/ Cromane – 13/08/2013 - 14/08/2013

Vessel: local rib for side scan sonar survey and local punt for sampling, Skipper John Murphy, Survey Officer Nicolas Chopin.

Equipment: 400 kHz side scan sonar, small hand dredge.

Area surveyed: In the Channel between Rosbehy Point and Inch Point from the Bar to Jack's Pub.

Survey summary:

Following report from the industry of late spawning in the area, the seed survey took place later than usual. There was report of left over seed from last year as well.

The side scan sonar was deployed at first in the channel, on last year's bed location. Few features were observed just behind the bar. Lighter signs were found toward the East. A second deployment was made in the shallow waters in the front of Jack's Pub. More features were observed at that location.

A number of marks were made in the two surveys areas and investigated with the dredge. A total of 26 tows were made, 4 tows showed signs of large mussels (last years left over) and 12 tows showed large quantities of spat on the stones, shells, seaweed and hydroids.

Two spat settlement areas have been established. The larger one, in the channel, stretches on 56 hectares and the smaller one, representing 44 hectares.

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

Latitude	Longitude
52° 5.465' N	9° 59.517' W
52° 5.589' N	9° 59.541' W
52° 5.689' N	9° 58.525' W
52° 5.707' N	9° 56.173' W
52° 5.597' N	9° 56.098' W
52° 5.492' N	9° 56.567' W
52° 5.446' N	9° 57.548' W
52° 5.518' N	9° 58.377' W

Table 2: Area 2 coordinates (in Degrees, decimal minutes WGS84):

Latitude	Longitude
52° 6.730' N	9° 54.496' W
52° 6.361' N	9° 54.706' W
52° 6.054' N	9° 54.936' W
52° 6.253' N	9° 55.426' W
52° 6.377' N	9° 55.318' 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 simplified polygons of the areas of the settlements identified.

Table 3: Biometric measurements (from large mussel samples)

	Pieces/kg	Average size	% waste
TD4	246 P/Kg	35.8mm	62%
TD9	151 P/Kg	40.6 mm	45%
TD13	350 P/Kg	29.55 mm	54%

The large mussels are mixed with small stones/gravel, shells and coarse sand in large quantity (average of 50% of waste across the samples). The main size ranges from 36 to 44 mm (52% of mussels from the samples). The large mussels stretch over 1.5 km but are scattered on the seabed and spat was observed through the samples.

The spat is very small (<1 mm to 2 mm) but is covering every feature on the seabed. No measurement was taken due to the size of the spat. No grab was taken due to the seabed type (stones and pebbles).

Bottom type: coarse sand, shells and pebbles in the channel around Rosbehy; stones, seaweed, oyster shells and muddy sand for the smaller settlement.

Recommendations:

Those settlements are very recent and the large mussels are mixed with the spat, therefore nothing can currently be fished. A second survey should be carried out later in September.

Nicolas Chopin
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Aquaculture Technical Section

Note for the map:

TC stands for Tow Cromane
In the legend dgd stands for dredge

Updated Seed Mussel Survey Map for Cromane/ Castlemaine Harbour - 1/11/2013

