Preliminary Seed Mussel Survey Report for the Rusk Channel and Cahore – June 2025

Methodology: Acoustic data collection using 400 kHz side scan sonar, data processing on SonarWiz 6 and ground-truthing of acoustic targets with 1 metre seed mussel dredge (Van Lancker *et al.*, 2007; van Overmeeren *et al.*, 2009; BIM, 2016; Chopin, 2024) .

Area surveyed: In the area of the 2024 settlement in the Rusk Channel and along the shore south of Cahore Point (see maps).

Survey details:

Based on the 2024 survey findings, a small bed was found in the Rusk Channel. No biomass could be estimated as the mussels were too scattered on the seabed. The 2025 survey started in the location of that bed using the sonar. The sonar survey covered the width of the channel from Buoy No. 4 to the southern entry between Buoy No. 1 and No. 2.

Few relevant features were observed on the data within the boundaries of the 2024 bed. Further suitable features were also marked and investigated. A limited biomass appears to be remaining from 2024 in two distinctive patches (see map 2). Both patches are composed of large mussels presenting very limited mortality and no signs of predation. Mussels in the southern patch are slightly larger than those in the northern patch.

The extended survey also indicates that a new settlement took place in the Rusk Channel. Significant clumps of small seed attached to stones, shells and hydroids were found, mainly south of the southern patch of overwintered mussels (TC30 on the maps). Further scattered signs were found in the surrounding area.

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Forty-five tows were carried in the surveyed area and 13 presented significant quantities of mussels/seed, while traces of new spat and older mussels were observed in 8 tows (TC10, 34, 35, 37, 38,41, 45 and 48).

A further 8 tows were carried out along the shore in Cahore (within the location of previously known bed) and no seed or mussels were found (TC 20 to TC28 on the map).

Fig.1: example of seed mussel found in the Rusk Channel during the survey

Biometrics:

The two patches of overwintered mussels represented two distinct populations (see Fig.2): the ones in the south patch were marginally larger than the ones in the north patch. The average length for the south patch was 47.4 mm (min: 30.3 mm, max: 59.5 mm) while the average length for the north patch was 39.05 mm (min: 28.23 mm, max: 49.53 mm) (over 100 mussels per sample). The dominating size range for the south patch was ranged between 44 and 52 mm (50% of the mussels in sample) while the dominating one for the north patch was between 34 and 44 mm (81% of the mussels in the sample). This size difference was already highlighted in last year's report. A visual assessment of the flesh indicated that this population already spawned.

The new seed mussels average size was 14.33 mm (min: 4.49 mm, max: 27.97 mm). The sample presented two dominating size range: 36% of the seed were between 6 and 10 mm, while 28.5% were ranged between 20 and 26 mm (see Fig.3). This size distribution split could indicate that at least two settlement events occurred, and/or that the seed is growing at different rates.

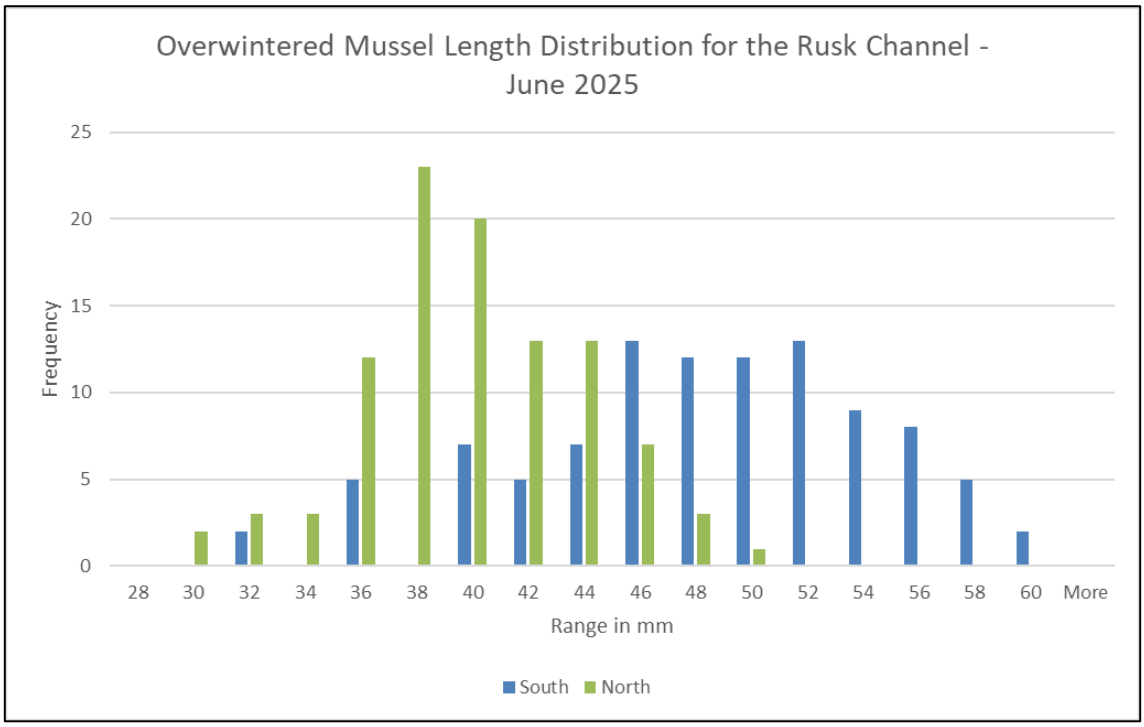

Fig.2: Overwintered mussels length distribution in the Rusk Channel

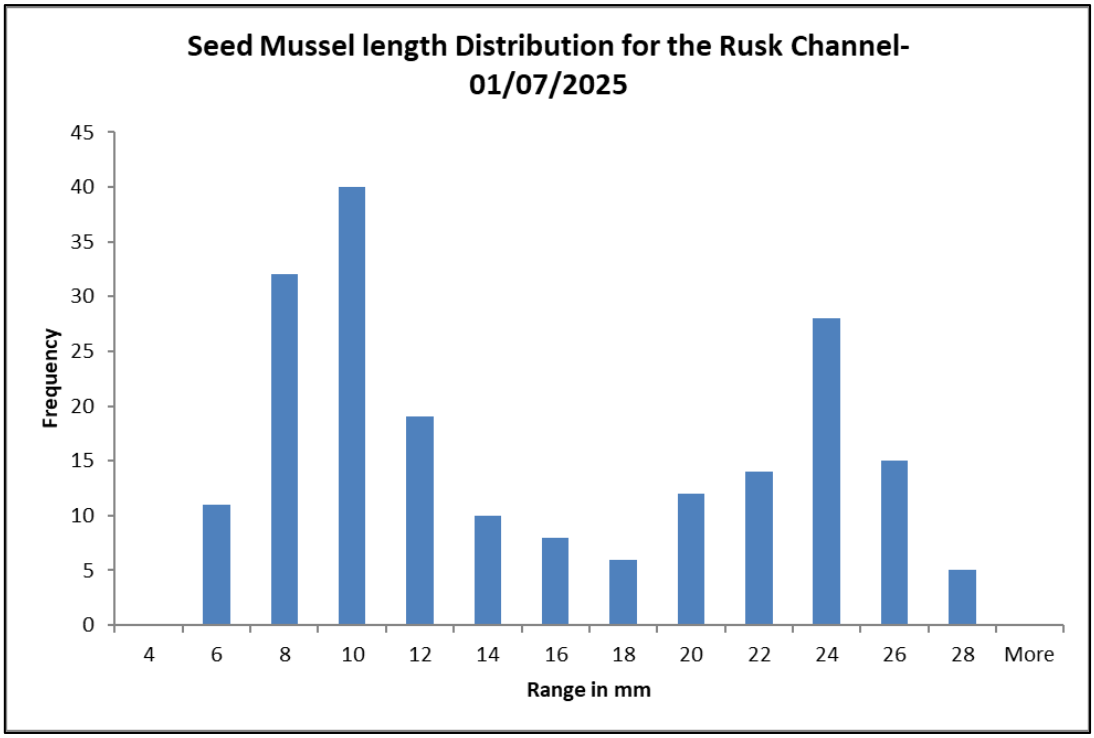

Fig.3: Seed mussel length distribution in the Rusk Channel

Summary:

There are encouraging signs of seed mussel settlement in the Rusk Channel. Different populations of mussels are scattered through more than **70 hectares between Buoy No. 4 and Buoys No.1 and 2.** There are at least two distinct populations within that area: overwintered mussels in two patches and newly settled seed mainly in the south part. Both populations are in good condition with no signs of predation or presence of starfish. A comprehensive biomass survey will be carried out at the end of July to allow the seed to spread and grow to a suitable size for a more accurate tonnage estimation.

BIM Aquaculture Technical Section

07/07/2025

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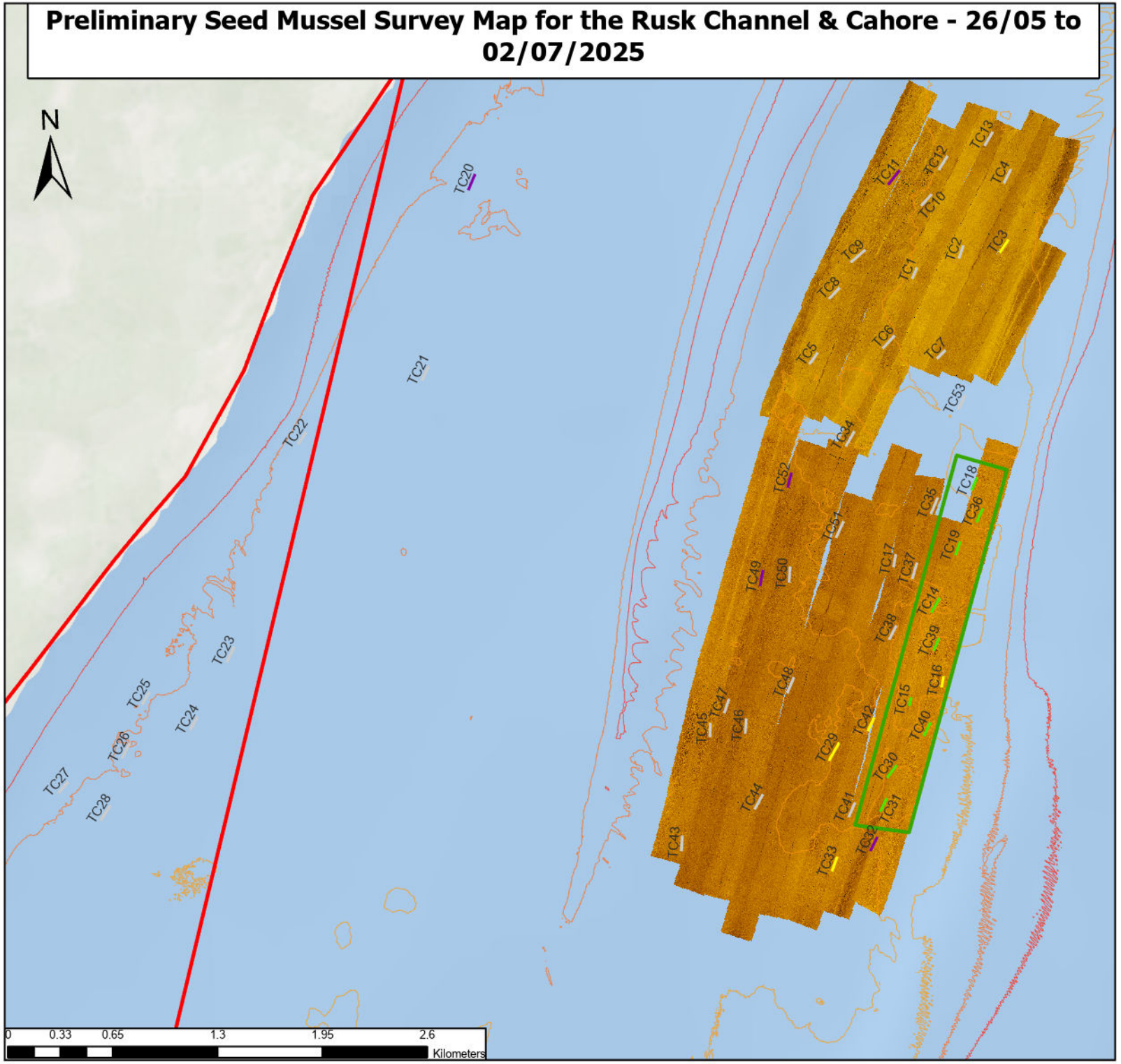
Preliminary Seed Mussel Survey Map for the Rusk Channel & Cahore - 26/05 to 02/07/2025



Legend

Tows

- seed
- other species
- shells stones
- signs

Side scan sonar coverage

MostSuitableFinal

Bathymetric contours in m

0.0

-65

possible_beds

Do not use for navigation
Map prepared by: Nicolas Chopin, BIM
03/07/2025
Credit bathymetry: INFOMAR 2022

Overwintered mussel patches details for the Rusk Channel - June 2025

Legend

Tows

- seed
- other species
- shells stones
- signs

Side scan sonar coverage

INFOMAR_bathylines_5m

Contour

-5

-75

possible_beds

patches_rusk

Do not use for navigation
Map prepared by: Nicolas Chopin, BIM
03/07/2025
Credit bathymetry: INFOMAR 2022