

NWIFCA Technical, Science and Byelaw Committee

Extraordinary Meeting

4th August 2020- 2pm

Agenda Item

Sole Item

SOUTH AMERICA SEED MUSSEL REPORT

Purpose: To provide further information to members on the condition and abundance of seed mussel stock at South America, Morecambe Bay.

Recommendation: Members approve seed mussel fishery for hand-gathering and dredge harvest.

Background:

1. Members are aware of long-standing disputes between different sectors of the mussel harvesting industry over the management of the seed mussel stocks, particularly in Morecambe Bay. Hence the establishing of BMWG to remove arguments from TSB and provide a forum to attempt to find agreement between sectors.
2. BMWG has been running since 2015 and on the whole has been relatively successful. However this year, virtual meetings were held in May and June, and it has become apparent that views on how the stocks are managed are massively divided and the atmosphere in the meetings has been verging on aggressive. Whether this break down is a result of not being able to meet face-to-face due to coronavirus and the change in personal dynamics this brings is unknown.
3. NWIFCA's ability to physically inspect and survey the mussel beds lying 'offshore' in Morecambe Bay have been severely hampered by covid restrictions, particularly as the sand banks and channels have shifted and it is impossible to get to the 'Falklands' beds without a boat this year. Initially in May, a request was put to industry if they were able to access the three areas that had been identified: Falklands (including 'Small Island'), Trailer Bank (off the bottom end of Foulney), and South America, and provide evidence to the Science Team and BMWG then decisions could perhaps be taken on this.
4. It soon became evident following inspections by Trevor Jones on hovercraft and James Wilson on the vessel Mare Gratia, that there was a lack of trust in what was being provided. A decision was taken that no management decisions could be made without NWIFCA science evidence.
5. NWIFCA have not yet accessed the areas known as Falklands (Small Island) or Trailer Bank. Efforts are being made to gain access by RIB on large tides in mid-August. These areas have been reported by both sectors as holding size mussel that has over-wintered for at least one year if not two, and are therefore not the subject of discussion at this present time.

Current Position:

6. The area known as South America has been accessed by quad bike by Officers in March, June and July. The latter inspection (Friday 24th July) was carried out by the Senior Scientist and IFCO Dixon, who both considered the mussel to be in an unstable condition already

showing signs of being washed out. They both considered it to be suitable as a seed mussel fishery due to the homogeneity of year class and size range, and the level of soft mussel mud and the high likelihood it would be removed by natural events and not persist through to a size stock.

7. On returning to the top of the beach a discussion took place between the NWIFCA Officers and four byelaw 3 permit holders who had just finished gathering size mussel at Foulney, one of whom is a B3 permit holder representative on BMWG. The Senior Scientist explained the thinking and that a recommendation would go to TSB at the beginning of the following week for approval for the seed mussel fishery.
8. The permit holders said that they wanted to see the mussel themselves and would attempt to inspect it that weekend. Ms Knott explained that there would not be a delay in her making recommendation to TSB by email, and as the stock was showing signs of instability decision-making would be taken swiftly, and asked for views to be sent in over the weekend to prevent delay.
9. Nothing had been received on the Monday morning. The Senior Scientist wrote up the inspection report and sent that and her recommendation to TSB asking for approval for the fishery.
10. The recommendation and report was also sent to BMWG. Five objections were then emailed to the Senior Scientist, and it is understood that representation was made to some Members of TSB over the matter.
11. Chair of TSB contacted the Senior Scientist and suggested a virtual meeting to discuss the issues with all Members would be a way forward.
12. It is important to understand that the dispute between sectors is not only about who is permitted to fish the stock. It is a dispute over what the stock is doing, whether or not it is ephemeral or whether it will persist through the winter to grow to a size stock. Size mussel fisheries are open to Byelaw 3 permit holders all year round.
13. NWIFCA Science Team's opinion and recommendations have not changed on how decisions should be taken. The stock must be showing signs that it is ephemeral to be considered for removal as undersize mussel. The definition of ephemerality was reached by BMWG in 2017 and provided as Annex A.
14. It is acknowledged that the environment of Morecambe Bay is constantly changing and makes it problematic to predict eventualities and outcomes. Two areas that in the past have held ephemeral seed mussel have this year been shown to hold a substantial stock of size mussel, from a one or two year old year class. However the Senior Scientist and IFCO Dixon maintain their view that the stock on South America is about to wash out and evidence to support this view is provided below.

Inspection Reports:

15. South America Mussel Inspection (Quad) 13/03/20

Officers: ID, JH LW: 08:10 0.7m (Liverpool tides)

An area of cobble had been exposed in the South America area. The area was approximately 1km north of the area authorised for an undersized hand-gathered fishery in May 2018. The area was mapped and estimated at **5.8 hectares in size. The area had received a significant 2020 mussel settlement** as shown in Figures 2 to 4. **There was no other size class of mussel in evidence.**

Figure 5 shows an area to the south west of the exposed ground that had live *Sabellaria alveolata* which had mussel settlement on it. NB. Solocator app malfunctioned so photographs taken by JH are not georeferenced.

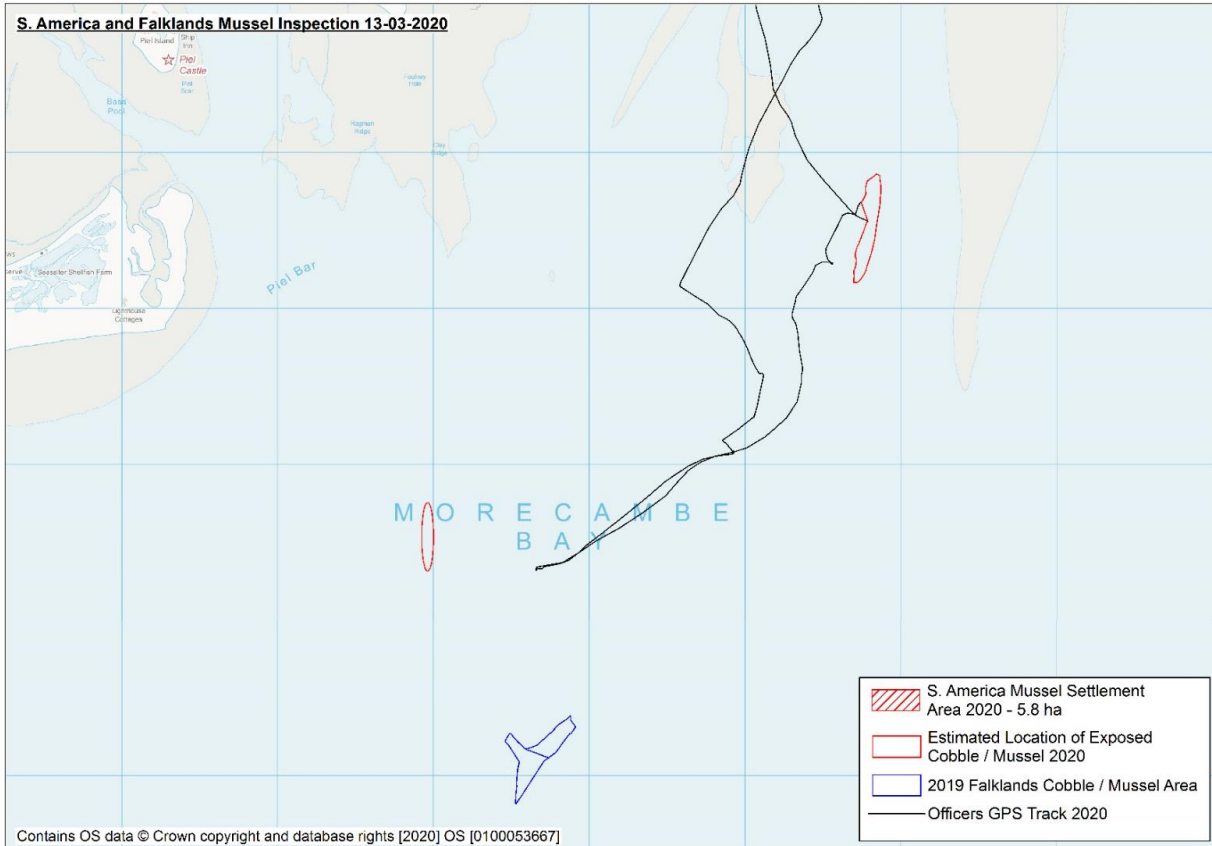


Fig. 1 Map of an area of mussel on South America, an estimated location of exposed ground in the channel and the 2019 location of Falklands.



Fig 2 – Overview of the area of mussel on S. America looking north 13/03/20



Fig 3 – Overview of the area of mussel on S. America looking south 13/03/20



Fig. 4 – 2020 Mussel Settlement on low lying *Sabellaria alveolata* on S. America 13/03/20



Fig. 5 – Live *Sabellaria alveolata* on the south west of the exposed ground 13/03/20

16. South America Mussel Inspection (Quad) 07/06/20

Officers: ID, JH. LW: 07:30 1.0m (Liverpool tides)

An inspection on the area of mussel that was previously reported in March 2020 that had received a significant settlement was completed. The area was of a similar size, estimated at **5.9 hectares** and ***the mussel had grown and was approximately 10mm***. The ***mussel is sat on a layer of muddy sand with very little exposed hard substrate*** other than where no mussel is present at the North end. The mussel extended into the water to the South and Southwest of the area mapped. Due to time limitation and the tidal height the full extent of the mussel could not be mapped. To the north and west the mussel did not extend into the water and to the west there was a sand bank present. Figures 6 to 10 show the extent and condition of the mussel. Figure 11 shows an area to the south of the area which had live *Sabellaria alveolata* present ***which is now covered by seed mussel***.

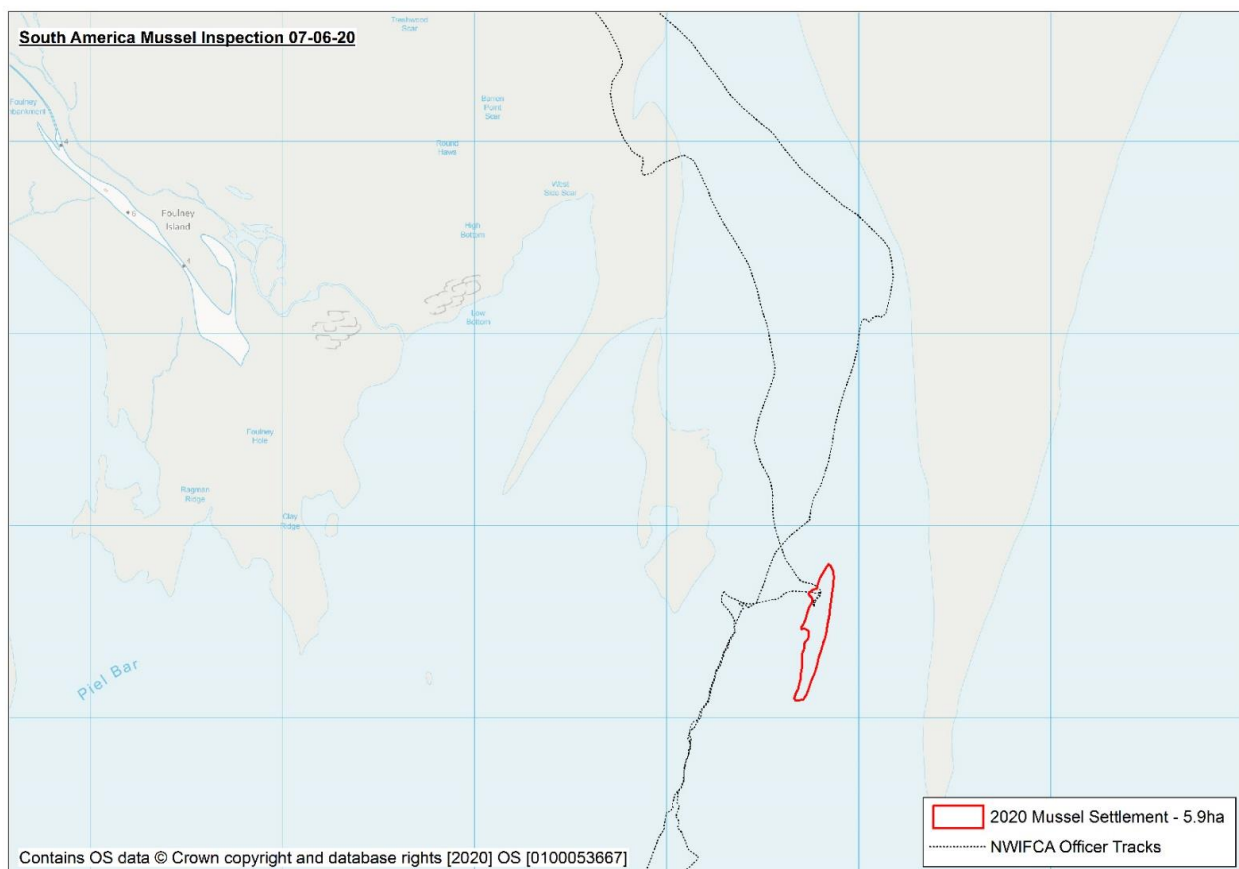


Fig. 6 – Extent of mussel on S. America and NWIFCA officers tracks 07-06-20



Fig 7 – Overview of the area of mussel on S. America looking north 07-06-20

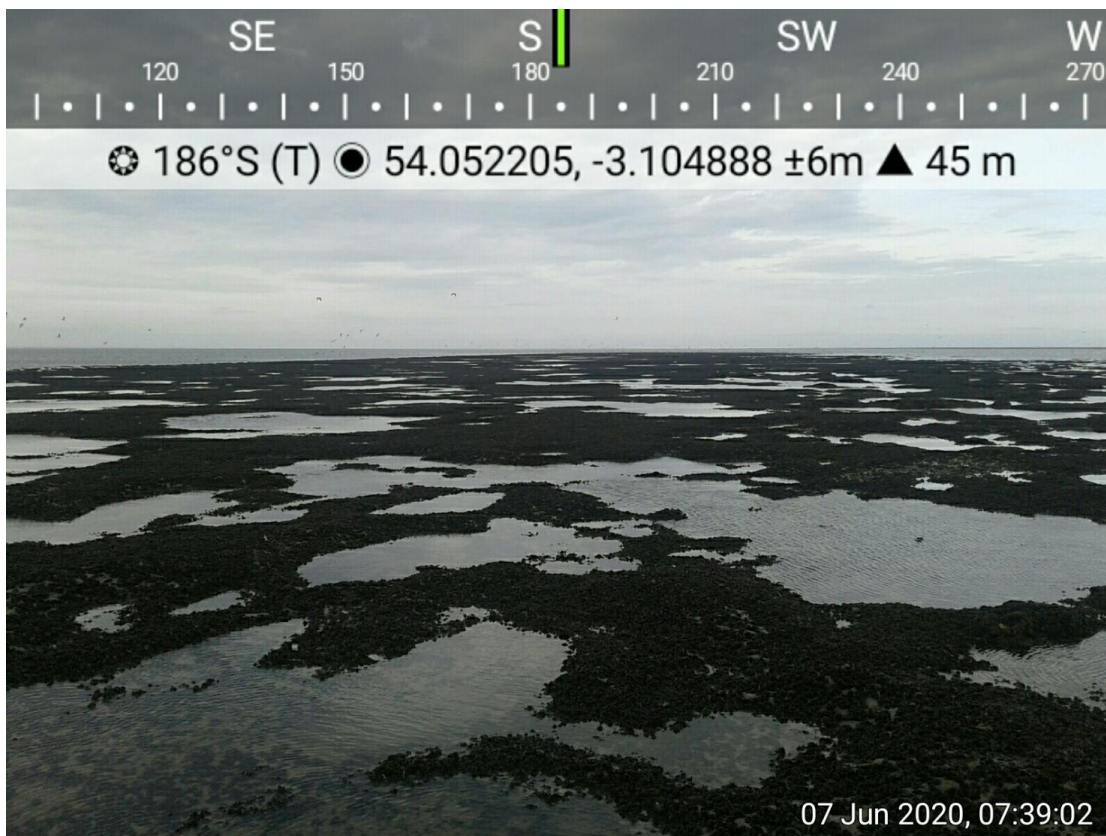


Fig 8 – Overview of the area of mussel on S. America looking south 07-06-20



Fig. 9 – South America Seed Mussel 07-06-20



Fig. 10 – South America Seed Mussel 07-06-20

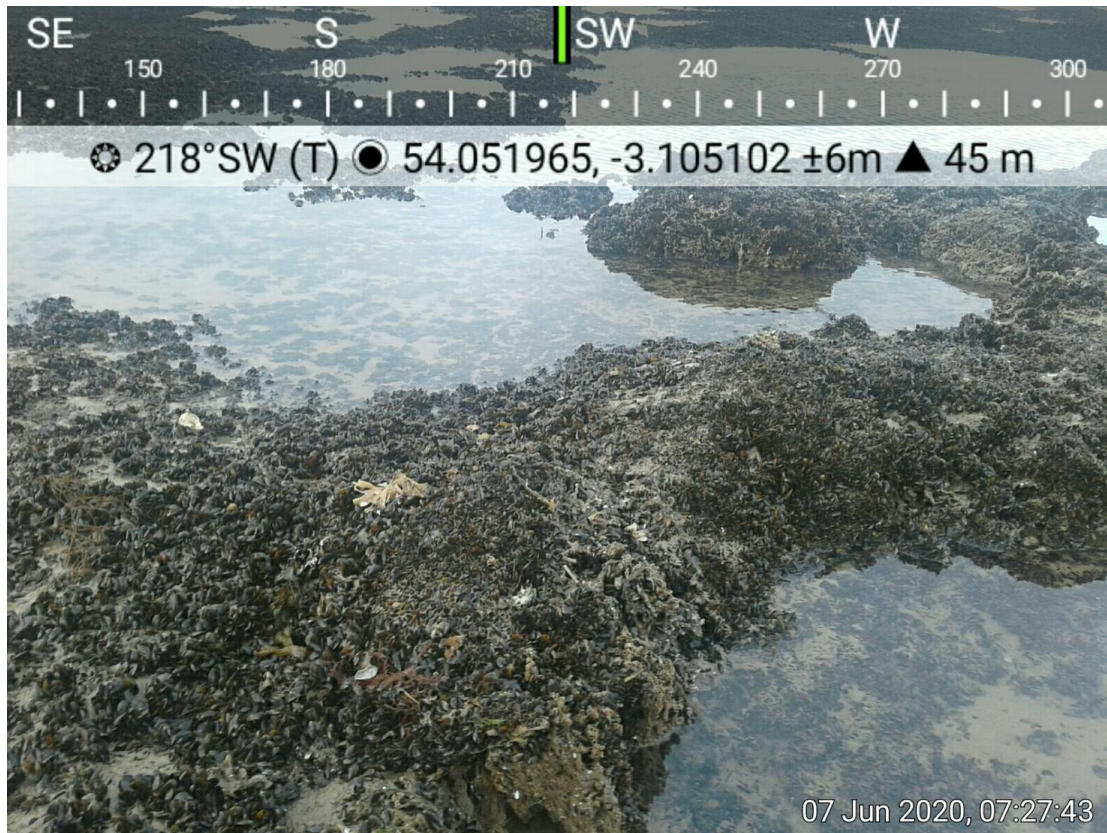


Fig. 11 –*Sabellaria alveolata* with a significant mussel settlement 07-06-20

17. South America Mussel Inspection (Quad) 24/07/20

Officers: ID, MK. LW: 10:15 1.1m (Liverpool tides)

Officers successfully accessed the South America mussel area indicated in the mapping below by quad bike, and carried out a foot inspection. **The ground was too soft to put the quad bikes on due to the layer of mud beneath the mussel.** One officer tracked round the outer perimeter of the mussel area while the other inspected the stock. **The stock area was estimated at 9.5ha** ie. the stock **had either spread out as it had grown** to cover a larger area than in March and June, or an **increased amount had 'come up' from beneath the low water level as the layer of mud increased.** IFCO Dixon immediately remarked on seeing it uncover that the area was larger than in the June inspection. The mussel area lay in a horseshoe shape with the middle section devoid of mussel and showing bare cobble. Due to time constraints of the tide only the outer fringe of the mussel area was tracked - the inner bare area, and therefore the total area holding mussel, has been estimated from observations and in mapping software (Fig. 12).

The mussel was consistent in size across the whole area - around 25mm. This mussel was sitting on a layer of mud ranging from around 25cm to 50 cm deep. shown in Figures 13 - 18, and 20. The mud was generally loose and difficult to walk over.

There was no size mussel evident. Starfish were rare. There was some **evidence of scour** in the northern area and the bed appeared to extend into the water to the east. As the tide ebbed off and revealed the western edge, this consisted of occasional mussel and mainly sand. One small clump of *Sabellaria alveolata* was observed which was struggling to compete with the surrounding mussel and

mud. The large areas of live *Sabellaria alveolata* observed in March was no longer evident. **The mussel was becoming loose and unstable.**

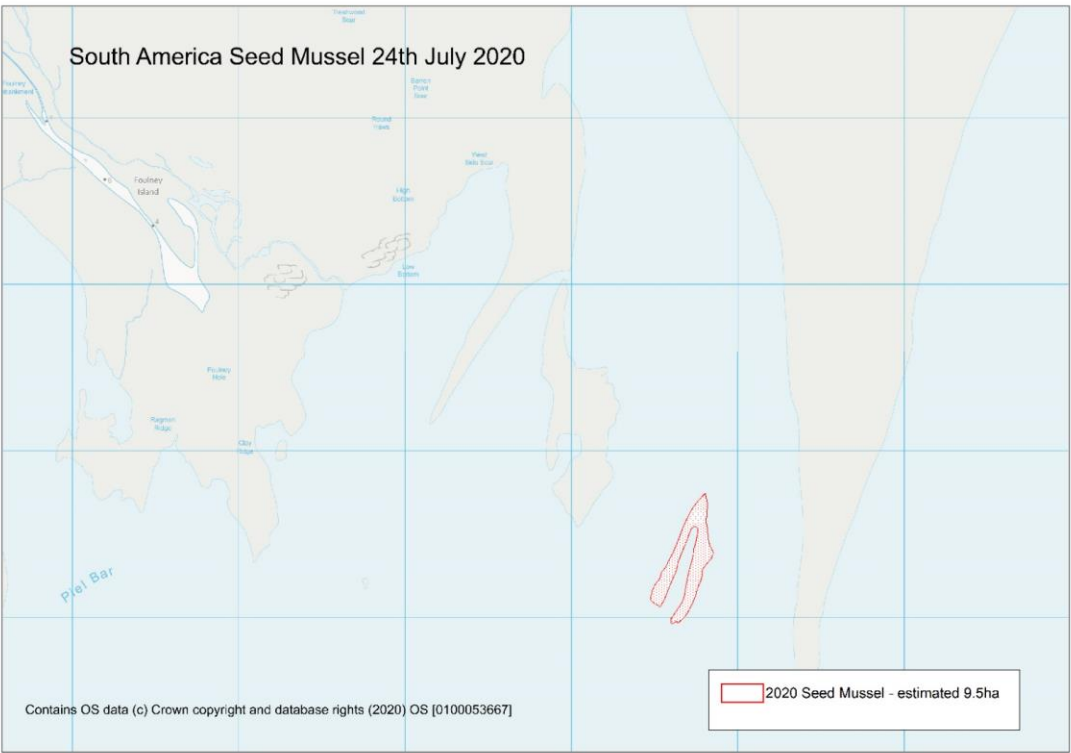


Fig. 12 – Estimated extent and position of seed mussel on South America 24-07-20

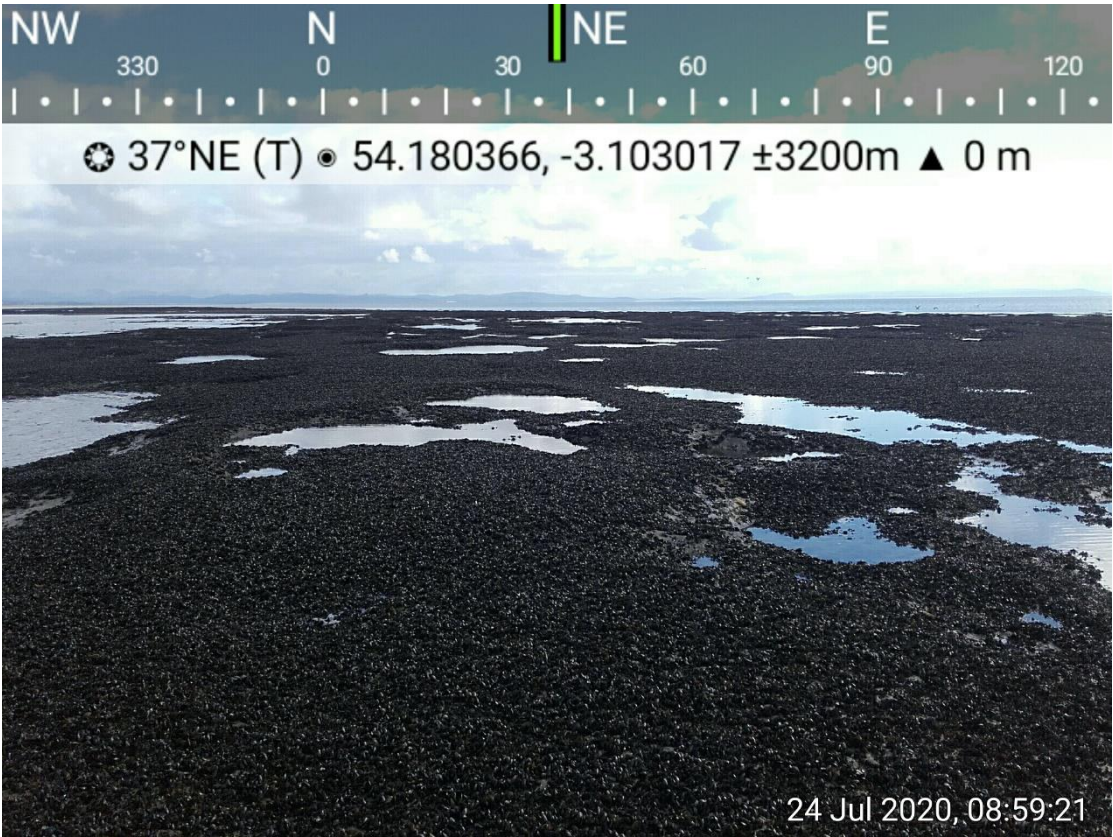


Fig 13 – Illustration of density and consistency of seed mussel 24-07-20

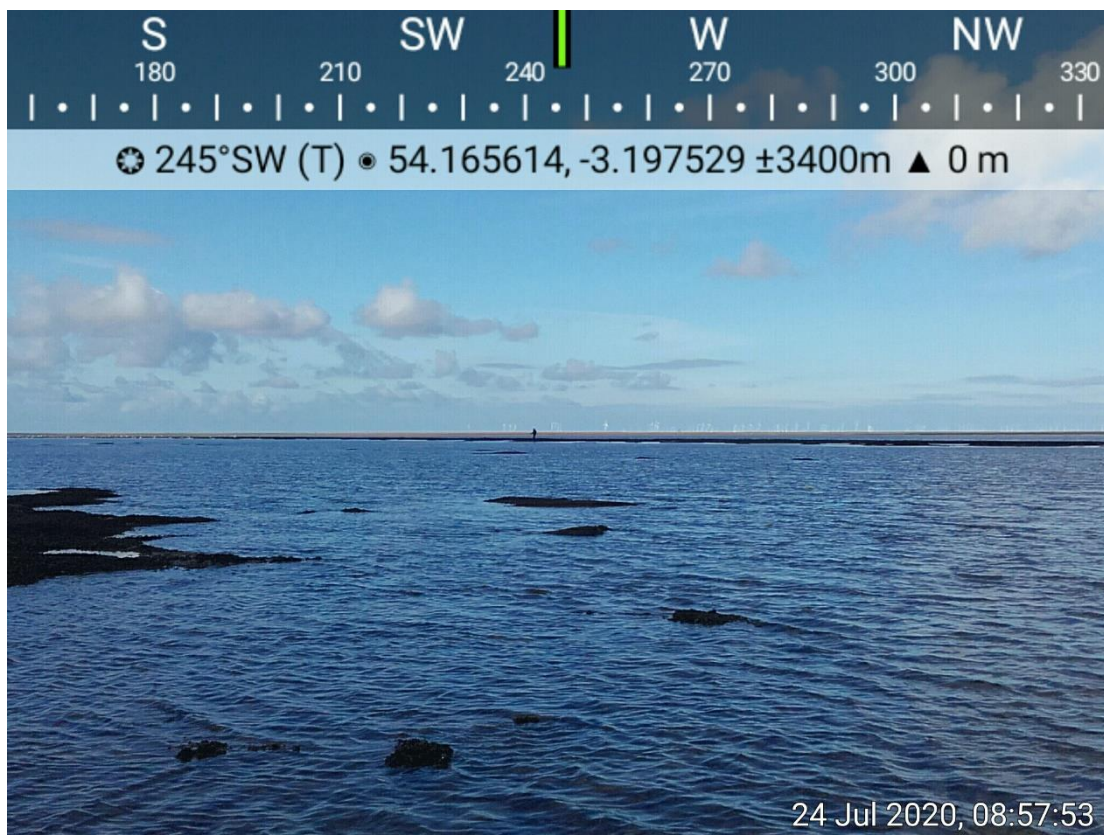


Fig 14 – Bare area in centre of horseshoe shape - officer can be seen in the distance
tracking round the southern edge 24-07-20



Fig. 15 – Bare cobble showing in the gap between the two sides of mussel area 24-07-20



Fig 16 – Evidence of thickness of mud layer beneath the mussel 24-07-20



Fig 17 – Evidence of scour 24-07-20

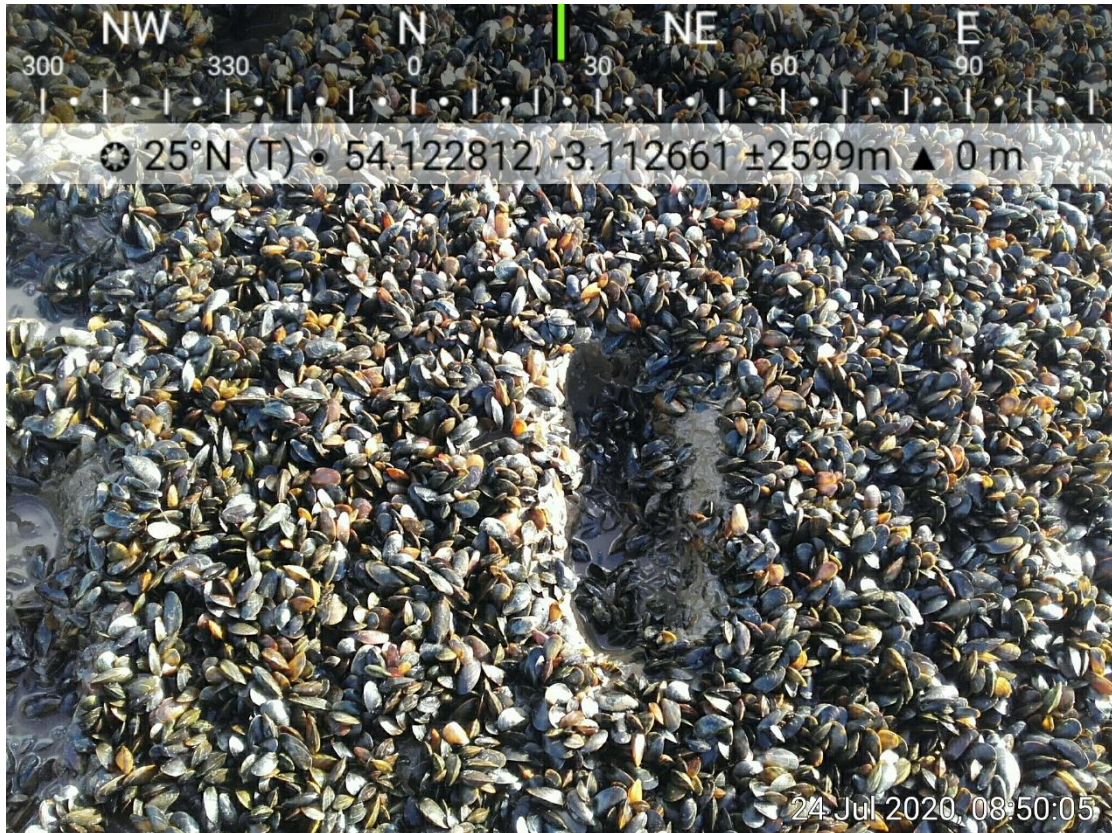


Fig 18 – evidence of typical looseness of mussel 24-07-20

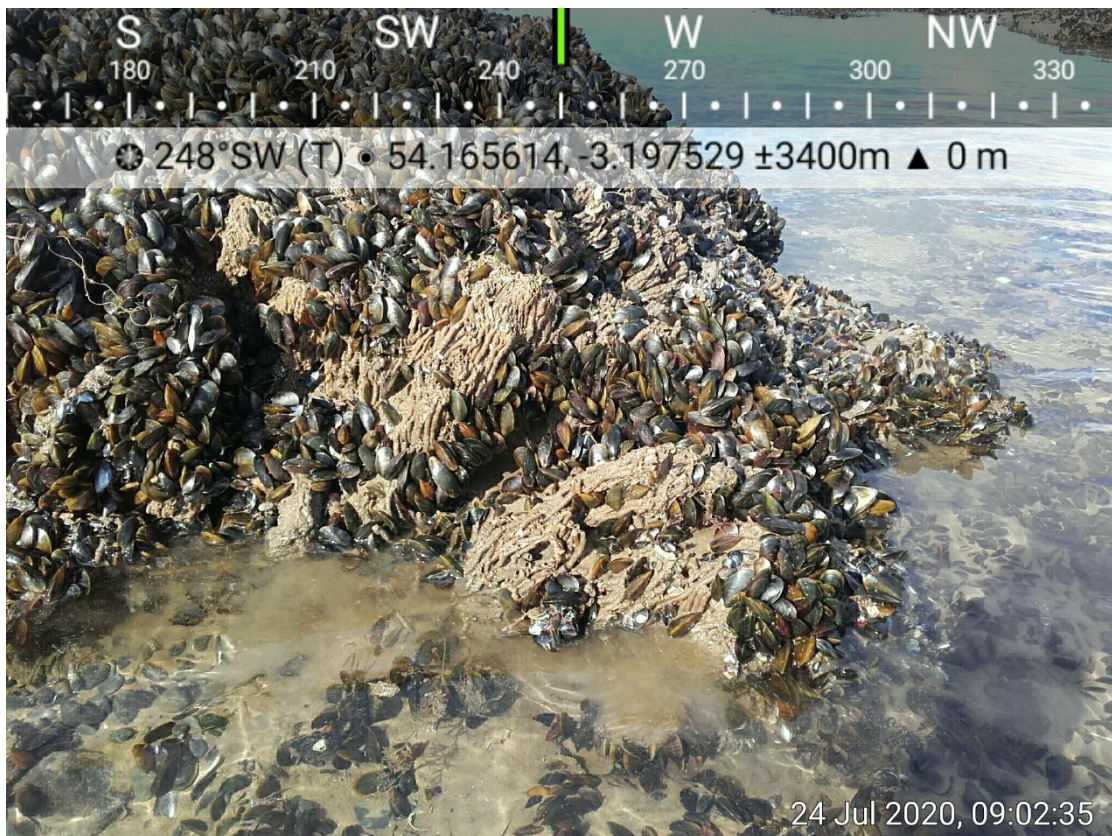


Fig 19 - one clump of *Sabellaria alveolata* observed, showing the competition between it and the mussel 24-07-20

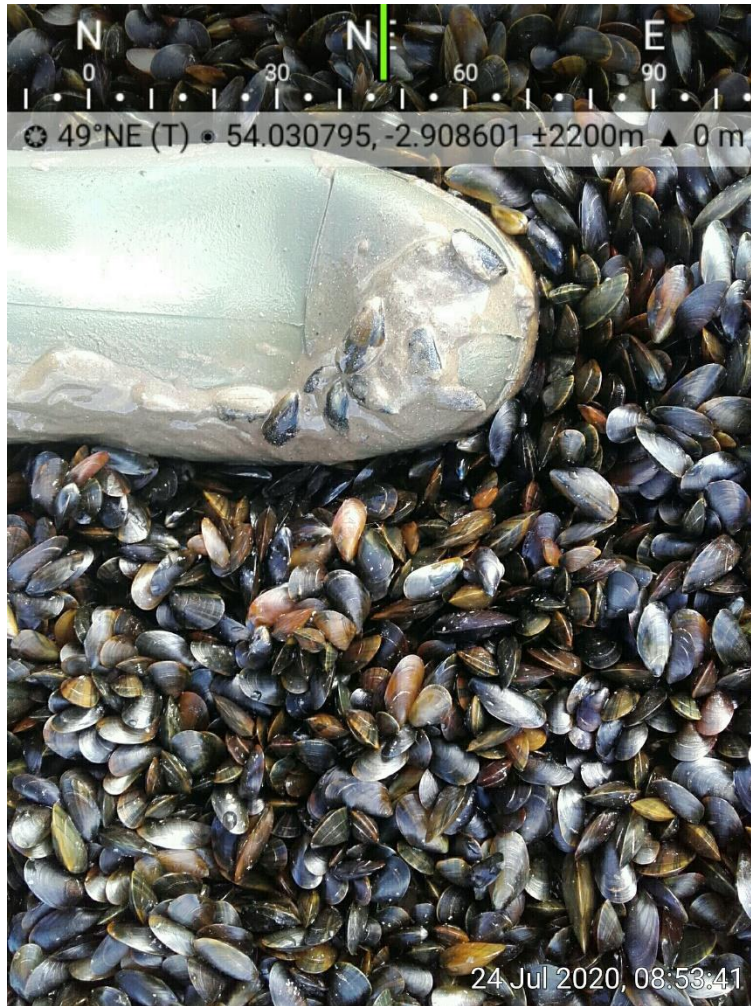


Fig 20 - illustration of size of the mussel against size 7 boot. 24-07-20

18. At the request of the north Morecambe Bay Byelaw 3 permit holders further photographs taken on 24th July 2020 are provided as Annex B.

North Morecambe Bay Byelaw 3 permit holders objections

19. Five emailed objections were received with the following point raised:
 - i. I had a look at South America yesterday and it looks very much the same as the seed on foully (sic) except growing faster and it is very easy to access , so I think it will be a good fisherie to hand gather good quality mussel;
 - ii. Regarding the proposed authorisation for the removal of seed from the South America skear by dredge and hand gathering, I would like to put forward that I strongly object this decision. Having been keeping an eye on it over the last few months and physically attending the skear on Sunday I do not in any way judge this skear to be ephemeral. The skear is between two sandbanks, reducing the risk of washing out. Although that there is signs of mud developing in places, this is no worse than what we have witnessed on the end of foulney, and that persisted through 3 significant winter storms in what I would class as a more exposed area.

Having worked the area in may 2018, for me in itself is a good enough reason to allow the area to make size mussel (as it did back then). Hand gathering of seed mussel is not financially viable for fisherman and it will be in all active mussel hand gatherers interest for this to be left to make size mussel, even if only a small percentage persists, it will still make a healthy fishery for hand gatherers.

Its looking likely to be our only option for mussels after the coming cockle season and for this to be considered for a dredge fishery is substandard.

- iii. I was one of 6 fishermen who inspected the seed mussels on South America Saturday morning. I was in the process in finalising a report to send out when I received an email from my son Tim.

The local fishing members of the BMWG have not had time to compose emails, as they were fishing this morning. We have put in a lot of time on this matter.

I am disgusted . I have 50 years mussel fishing in that area and in my expert opinion there is no danger of those seed mussels washing away, they are behaving normally building up mud and growing fast as do all mussels. They are in a sheltered area of the bay away from main channels. There is no evidence of them ever being ephemeral but plenty of evidence of them growing on to full size. Mandy Knott and Trevor Jones recent photographs showing banks of outer skears with 2 years old mussels packed on them.

South America is now the only fishery that has clean mussels and even if the majority get washed away there is still the prospect of a multimillion pound fishery in the Autumn of next year.

There have been false and misleading reports leading up to this, and I am going to request another investigation, the 3rd since I have been on the committee. I am asking the TSB members to hold off until a full inspection of the Skear is carried out in August, and recent reports of surveys by Trevor Jones and the Science dept can be scrutinised. This has all been rushed through by the back door. The idea that one person can look at some mussels and recommend them to dredgers, depriving the local fishing community of their tradition fishing grounds is absurd.

- iv. All the local fisherman went to look at South America and were very happy to see that the bed was doing well, and sheltered by 2 sandbanks either side of it and we all said that it's going to be the first mussels that get to size in our area.

The fisherman do not want this to be taken as seed and even if as little as half of it survives will create more than enough work for around 12 local fisherman after the cockle season finishes.

I'm sorry I've only just replied but we have been very busy all weekend, Can you send picture of the condition it was in last time you saw it cause we don't believe it will get washed away.

It is also easily accessible and the mud levels and mussel density aren't any different to the seed on the end of faulney before you get to the island.

- v. Please can you send pictures of the condition of the bed on the previous inspection? We can't see any more movement of mussel seed than would be normal for say the island on faulney area, no more mud either. We would like to have chance to look at it again on the next set of

tides, local fisherman expressed interest in the area and said they would like it left to grow to size and not taken as seed. Hence we didn't go and look at it earlier, we didn't think we would need to monitor it in this way. The pictures in the survey are not any where near enough evidence of scour and it needs to be re-surveyed next set of big tides before any decisions are made.

- vi. I am writing this email to you with regards to the dredging of mussels on the South America skear, I strongly object to the removal of seed mussel by dredge.

After monitoring and visiting the skear for a few months I feel this skear to be ephemeral, it's between two sandbanks reducing the risk of washing out, there's mud appearing in places but no worse than the beds on foulney.

I've worked the area and feel it should be an area to make for size mussel, hand gathering seed mussel isn't viable for fisherman and after speaking to other local fishermen it's in our interest it's left to make size mussel and make a good fishery for hand gatherers.

I hope our thoughts are taken into consideration.

History of the Fishery in the Area

20. South America lay within the Morecambe Bay Mussel Fishery Order (MBMFO) 1978 area, a 30 year Order that was established for the dredging of seed mussel within Morecambe Bay. The Order expired in 2009 - Figure 21.
21. A timeline of stock and fishing activity on South America for 2017 - 19 is shown in Table 1, and a summary of whether a fishery occurred is provided:

i. 2017 Decision / Fishery

Heliflight confirmed what had been seen on foot on South America that there was not sufficient stock and the condition of the stock and ground was not suitable for a dredge fishery.

ii. 2018 Decision / Fishery

Hand gathered: Undersize hand gathered fishery on South America and Falklands authorised at the request of Byelaw 3 permit holders, stock was mixed with some size and undersize. The larger mussel was evident in March and assumed to be overwintered 2017 stock.

South America and Falklands was open for 6 days on specific tides and was fished by 10 Byelaw 3 permit holders and 15 tonne of landings was reported.

Very little mussel remained on South America after fishing other than a new settlement around the edges of the exposed ground.

Dredge: Mussel did not put down mud and some cobble exposed - fishery not authorised.

iii. 2019 Decision / Fishery

Not sufficient stock for a dredge fishery. No hand-gathering took place.

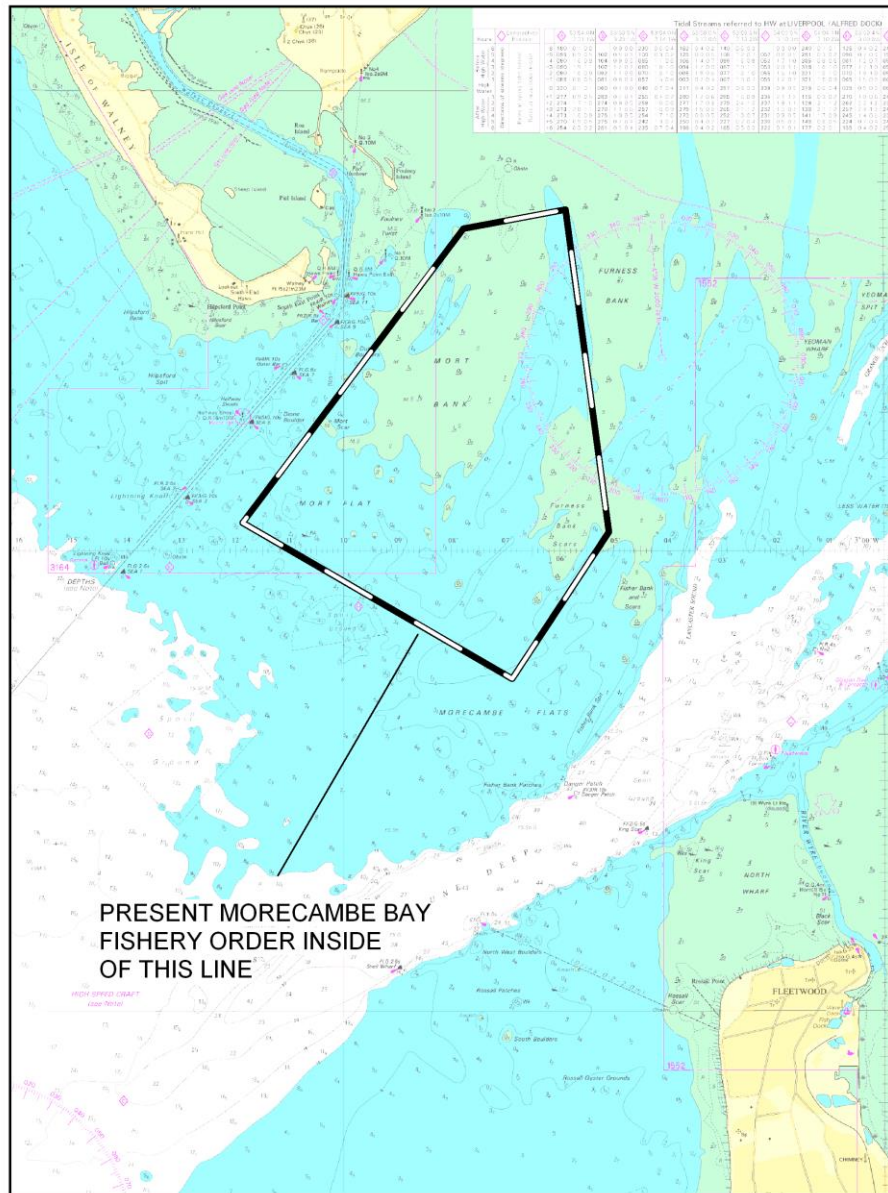


Fig. 21 - mapping to show the area covered by the MBMFO 1978

Table 1: timeline of stock and fishing activity on South America for 2017 - 19

Date	Method	Mussel	Area	Cobble/Mud	Starfish
Apr-17	Industry - Heliflight (NWIFCA present)	No observed areas			
May-17	Industry - Heliflight (NWIFCA present)	No observed areas			
Jun-17	Industry - Heliflight (NWIFCA present)	No observed areas			
Jul-17	Industry - Heliflight (NWIFCA present)	New area with dense spat			None reported
Aug-17	NWIFCA - Quad	30% coverage 25mm mussel	3	Mussel that remained on sand (10cm), areas of scour and mussel mud, some bare cobble	No

Aug-17	Industry - Quad	Images provided of mussel and substrate confirming information above from NWIFCA inspection although density looks slightly higher from images.		As above	None reported
Mar 18	Industry – Quad	<u>30-40mm mussel present</u> Signs of 2018 settlement			None reported
Apr 18	NWIFCA – Quad	<u>35-45mm mussel present</u> Signs of 2018 settlement		Sandy substrate	No
May 18	Industry – Fishery Report	<u>Thin shelled mussel 40 - 45mm, 26-30% meat condition. Around 70% now size.</u>			None reported
May-18	NWIFCA – Quad	Most of the mussel has been fished. Surrounding areas have a 2018 settlement		Sandy substrate	No
Jun-18	Industry - Quad	Images provided of mussel		Sandy substrate	None reported
Jul-18	NWIFCA - Quad	All undersize, mainly 20-30mm with 10-20% cover	0.5	Sandy substrate	No
Mar-19	NWIFCA - Quad	Area has sanded over			

22. Natural England requested mapping of the areas holding mussel since 2017, shown in Figures 22 - 23. This illustrates how the mussel (exposed) areas change year on year:

- i. The August 2017 area was inspected again in April 2018 but the extent of the mussel bed was not mapped as the tide did not ebb enough. The areas that were inspected were within the August 2017 area.
- ii. May 2018: South America was inspected but most of the seed mussel had been fished so no areas were mapped.
- iii. March 2019 inspection showed that the 2018 area had sanded over. There was no mussel visible so nothing to map around.
- iv. An inspection was carried out in June 2020 and the area of mussel was similar to the March 2020 area so has not been included in the map for clarity reasons.
- v. July 2020 - the mussel area had spread since the June inspection and the outer edge was tracked. The inner edge has been estimated from observations.

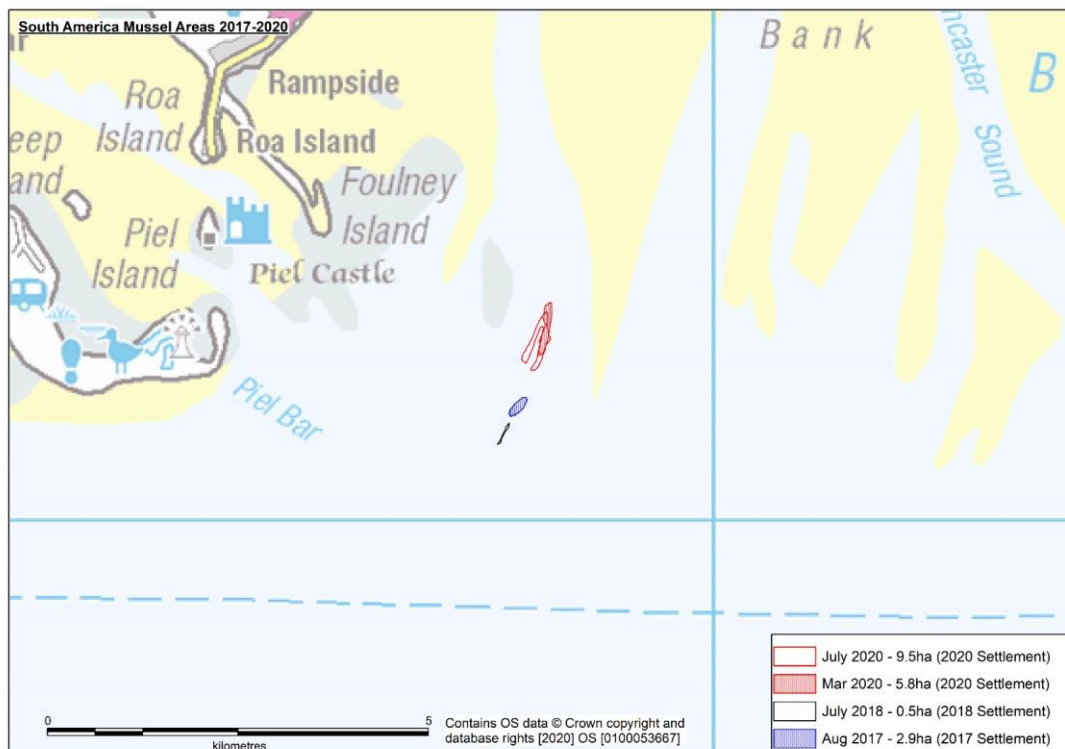


Fig. 22 - mapping to show what was categorised as South America areas with mussel 2017 - 20

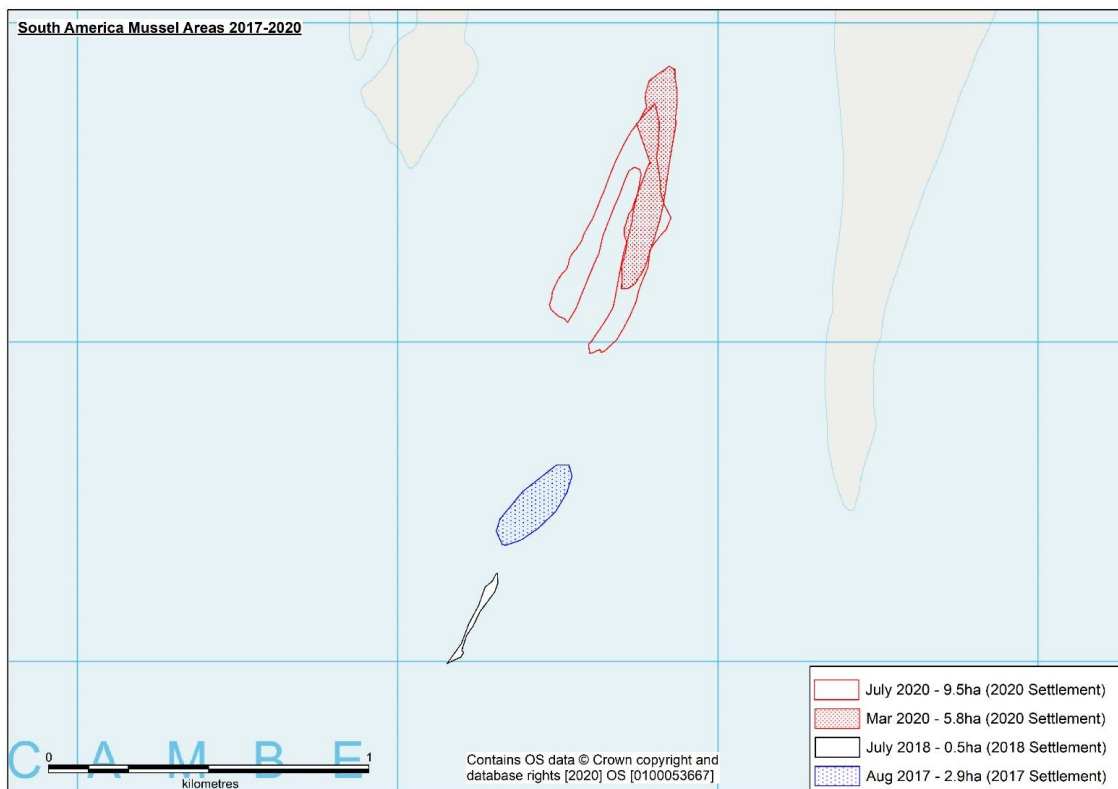


Fig. 23 - detail mapping to show what was categorised as South America areas with mussel 2017 - 20