

Mr Campbell

zjc 16/4/18

Ms Geraldine O'Donovan AFMD

**Application by Donegal Ocean Deep Oysters Ltd. for licence to cultivate oysters on trestles at 3 sites in Loughros Mór Bay, Co. Donegal – addendum to MED report dated 16/8/11**

File ref T12/397

This aquaculture licence application originally dates from July 2009. MED's initial report to AFMD on the application was Grainne Duggan's report of 8/12/09 and in that report she recommended that the large single application area applied for be reduced and revised. The applicant subsequently revised the application to a set of 3 revised site areas 397A, 397B and 397C.

MED then reported on revised application – see Grainne Duggan's report dated 16/8/11 – copy attached to this report.

4 recommendations were made in that report as follows :

1. MED were not in favour of licensing such large areas for trial purposes,
2. The view of SFPA on the proximity of the proposed sites to a treated sewage outfall should be sought,
3. Appropriate assessment would be required due to location of proposed sites in an SAC,
4. The views of statutory consultees including Donegal County Council would be very important in this case.

The appropriate assessment for Loughros Mór Bay was completed in 2016. I carried out a detailed inspection of the Bay on 28/3/18. This current report is now submitted to AFMD as an addendum report to be associated with the earlier MED report of 16/8/11.

This addendum report will look in more detail at site size and sewage outfall proximity issues (recommendation 1 and 2 above).

Regarding recommendation #3 the appropriate assessment of aquaculture in SAC 000197 was completed by Marine Institute in 2016 and concluded that proposed licensing of oyster and clam cultivation is not likely to significantly and adversely affect the integrity of the SAC.

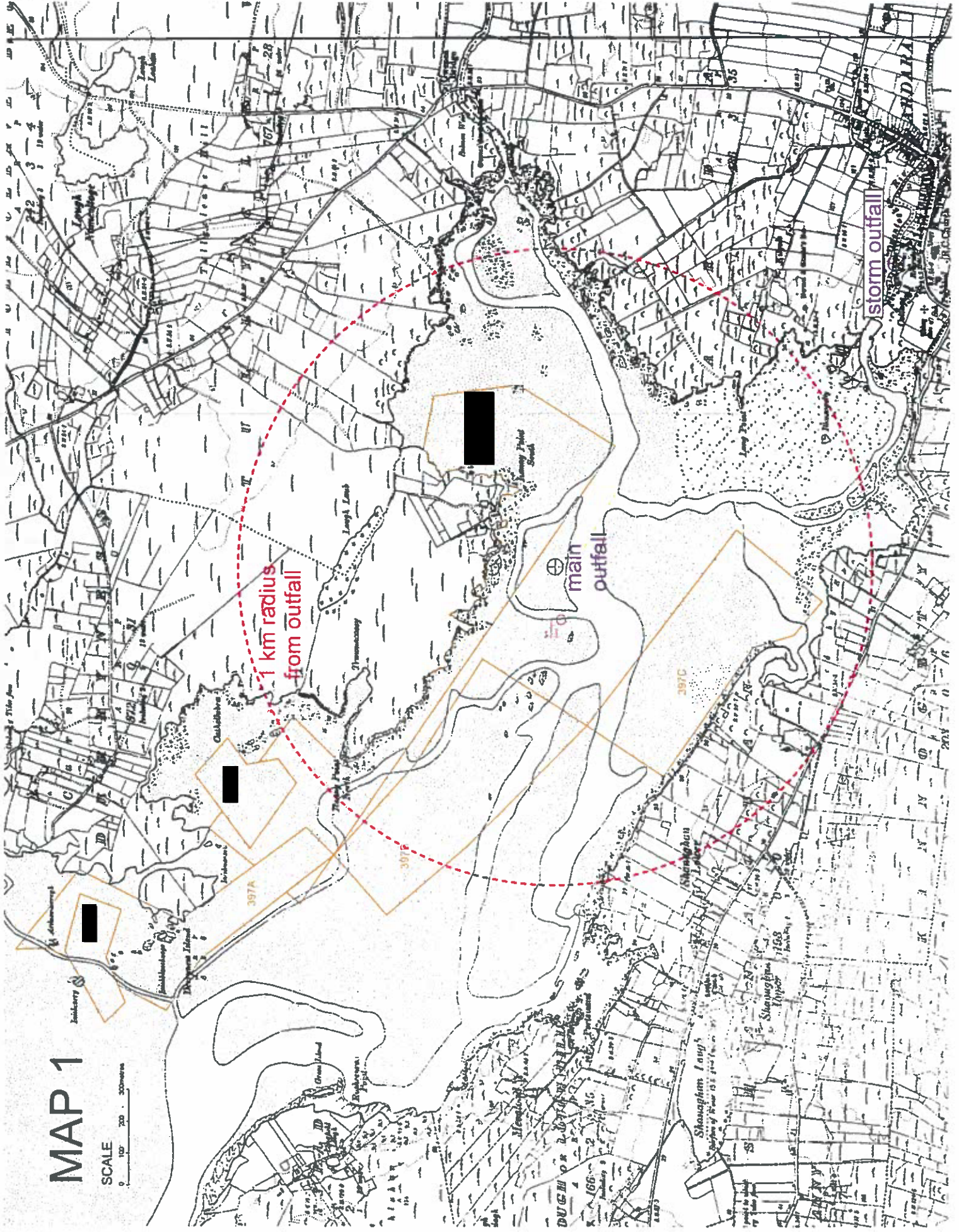
Regarding recommendation #4 the statutory agencies will be consulted as part of the consultation process due to start shortly on all aquaculture licence applications made for Loughros Mór Bay.

Application site size

The various application sites for Loughros Mór Bay are shown on MAP 1 in this report. Note that all of site 397C and most of site 397B are within 1 km distance of the sewage outfall from Ardara town.

# MAP 1

SCALE  
0 100 200 300 meters





Site 397A measures 16.457 hectares (excluding the overlap area with site [REDACTED]); sites 397B and 397C measure 25.457 and 22.413 hectares respectively.

These are very large areas in a Bay where there is not a current aquaculture presence.

The applicant has a long history in shellfish aquaculture and operates a large oyster farm in Mountcharles. I understand Loughros Mór Bay was chosen by the applicant in order to help diversify his operation geographically. In a meeting at the Department's Ballyshannon office on 24/3/14 the applicant Conor Reid indicated that the Bay was not a designated Natura 2000 area at the time of his application. He mentioned in discussion that the NW part of the Bay ( site 397A) was not great ground for oysters but that the centre and east parts ( 397 B and 397C) "should be ok".

The three application sites put forward by Donegal Ocean Deep Oysters Ltd. are shown outlined in red in two different aerial views - see MAP 2 and MAP3- in this report.

Site 397A varies from high elevation sand area at its north end to lower (and deep) subtidal channel at its western extremity. This part of the bay is less mobile than others with channel position being fixed by rock outcropping at and around Derryness Island. High elevation areas are unlikely to be viable for trestle based oyster culture - lower elevations closer to channel will be. It is noteworthy however that gradients near the channel are quite steep – subtidal foreshore falls off rapidly to deep water - and ground is ridged by wave and current action in areas. This may explain why the applicant was not sure about growth prospects on this site.



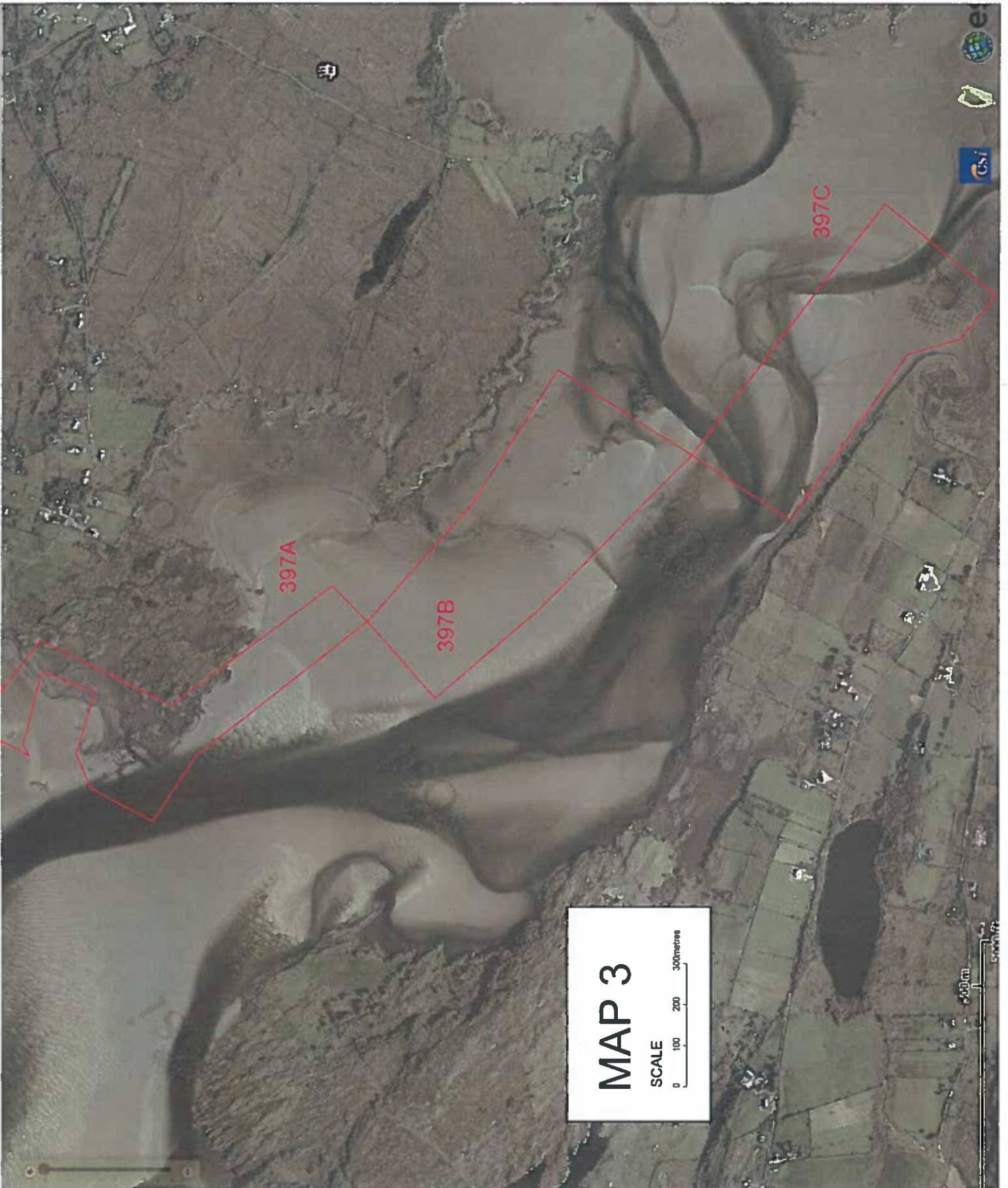
Northern section of site 397A

28/3/18

Site 397B is the site with the highest average elevation – levels close to high water were surveyed at site centre – these higher than expected levels at centre of site may be due to sand accumulation in the area. Areas close to the channel at eastern end of site and along a narrow (20m wide /steep gradient) band along its southern margin seemed to be more suitable in elevation terms being closer to low water elevation. Substrate was variable – ranging from firm to soft loose sand (near channel). Site 397B is largely clear with few rock outcrops on this site.







# MAP 3

SCALE  
0 100 200 300metres

397A

397B

397C

印

100m  
500m

CSI



es



South central portion of site 397B steep gradient to low water channel on LHS ; high elevation on RHS 28/3/18

Site 397C varies considerably in elevation also - from near HWM at its south end to low subtidal channel at west and east sides. Both the Owenea and Owentocker estuarine channels cross the site. Based on my assessment of current low water channel positions site 397C if fully developed could well obstruct both the low water channel of the Owenea river at its west end and the channel of the Owentocker river at its east end. Both channels are known to shift from time to time in this part of the Bay. Based on my site inspections I think the vehicle access route (from the north) proposed in the application is not a practical proposition due to deep low water channel and outfall line crossing the the proposd route. High elevation areas along southern margins of site are unlikely to be viable for trestle based oyster culture as oyster bags there would be exposed to air for long periods.



View from north of main outfall point - site 397C is in centre background (beyond low water channels)

28/3/18



The Bay is known for its shifting sands and channels. The position of low water channels in the Loughros estuaries displays considerable variation over timescales of years to decades (Burningham 2008).

From the site inspection carried out it is clear to me that much of the foreshore area applied for in all 3 sites has disadvantages – elevation, substrate, location in/near shifting channels. There are potential impacts on the fish migration routes through the estuary as well as on the morphology of the Bay itself – trestle placement can induce changes in the shore profile by promoting further erosion and deposition particularly in an area with significant amounts of mobile sand sediment such as Loughros Mór Bay.

There is also the important point made in the MED report of 16/8/11 that an application for a licence on a few small areas of foreshore would probably be more appropriate in this particular case where there is little or no history of oyster aquaculture in the Bay- a try out and see approach involving trial farms on smaller sized plots ( rather than the very large sites proposed) would be better from a development control perspective in my opinion.

Taking the foregoing considerations into account it may be possible to identify parts of each site which have a higher chance of being acceptable for licensing. I have studied the information on variable positions of the channels from aerial photos and maps and from the 2008 paper by Burningham and the level data collected on site elevation from my DGPS field survey of 28/3/18. I have identified sub areas within each site which I believe may largely avoid the low water channel areas where shifting tends to occur , lessen the potential interference with salmonid passage to the Owenea and Owentocker rivers and also retain a reasonably favourable elevation range for oyster culture.

These sub areas are not agreed with the applicant – they are simply my recommendations on reduced areas should there be a positive licensing decision taken on any of the 3 sites. They do not take account of water quality considerations which will be discussed in next section of this report.

The sub areas are shown on aerial view titled “Recommended site areas “ and on MAP 4 included in this report.

The coordinates and areas of these recommended sub areas are listed below

Reduced site 397A : area 4.4763 hectares

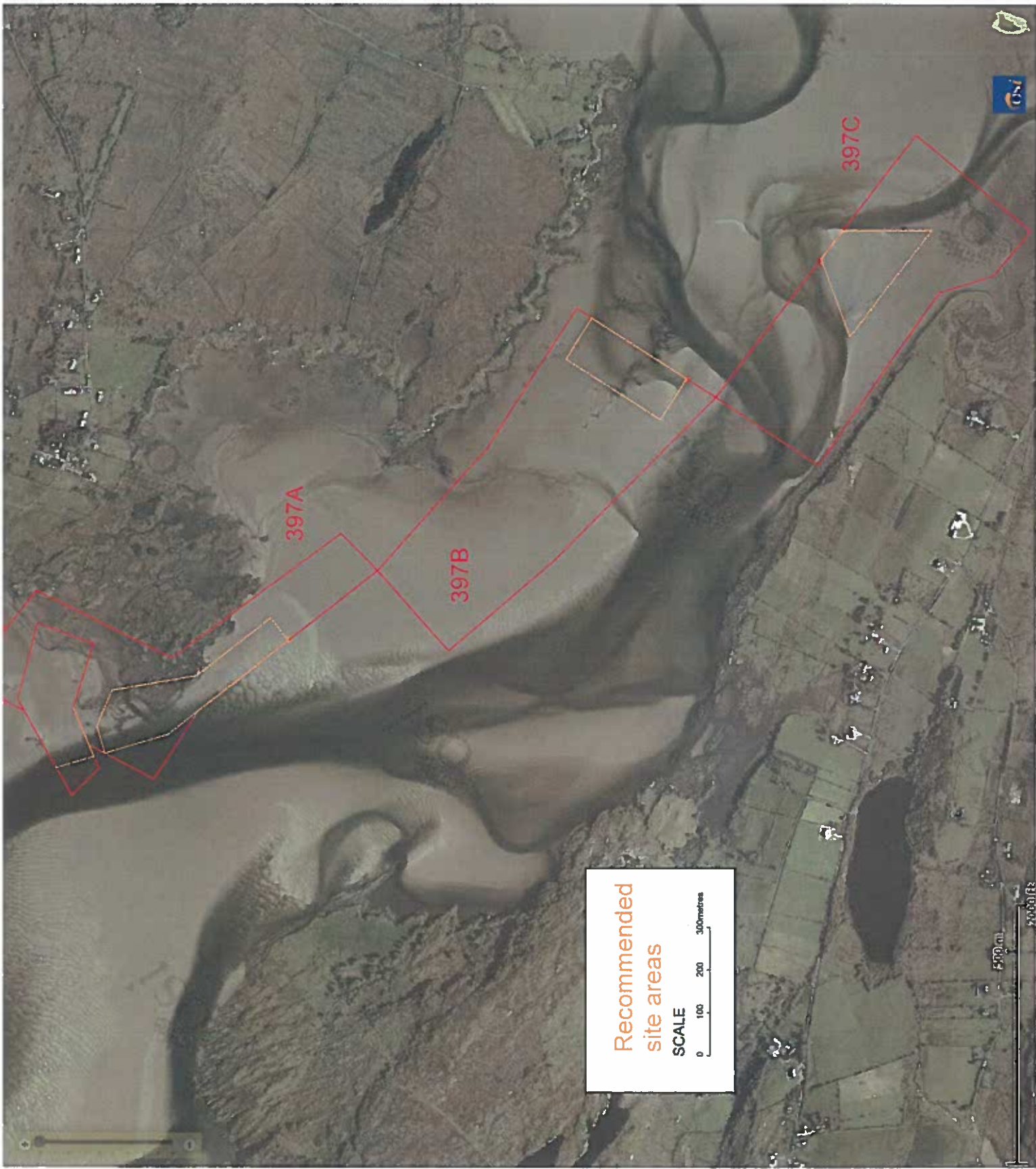
170866 , 393068  
170929, 393088  
171013, 393052  
171048, 392852  
171183, 392677  
171130, 392636  
170910, 392919

Reduced site 387B : area 3.0247 hectares

171790, 391983  
171886, 391922  
171745, 391698  
171648, 391759

Reduced site 397C : area 3.2694 hectares

171843, 391312  
172025, 391380  
172091, 391329  
172093, 391121



Recommended  
site areas

SCALE  
0 100 200 300metres

500m  
5000ft

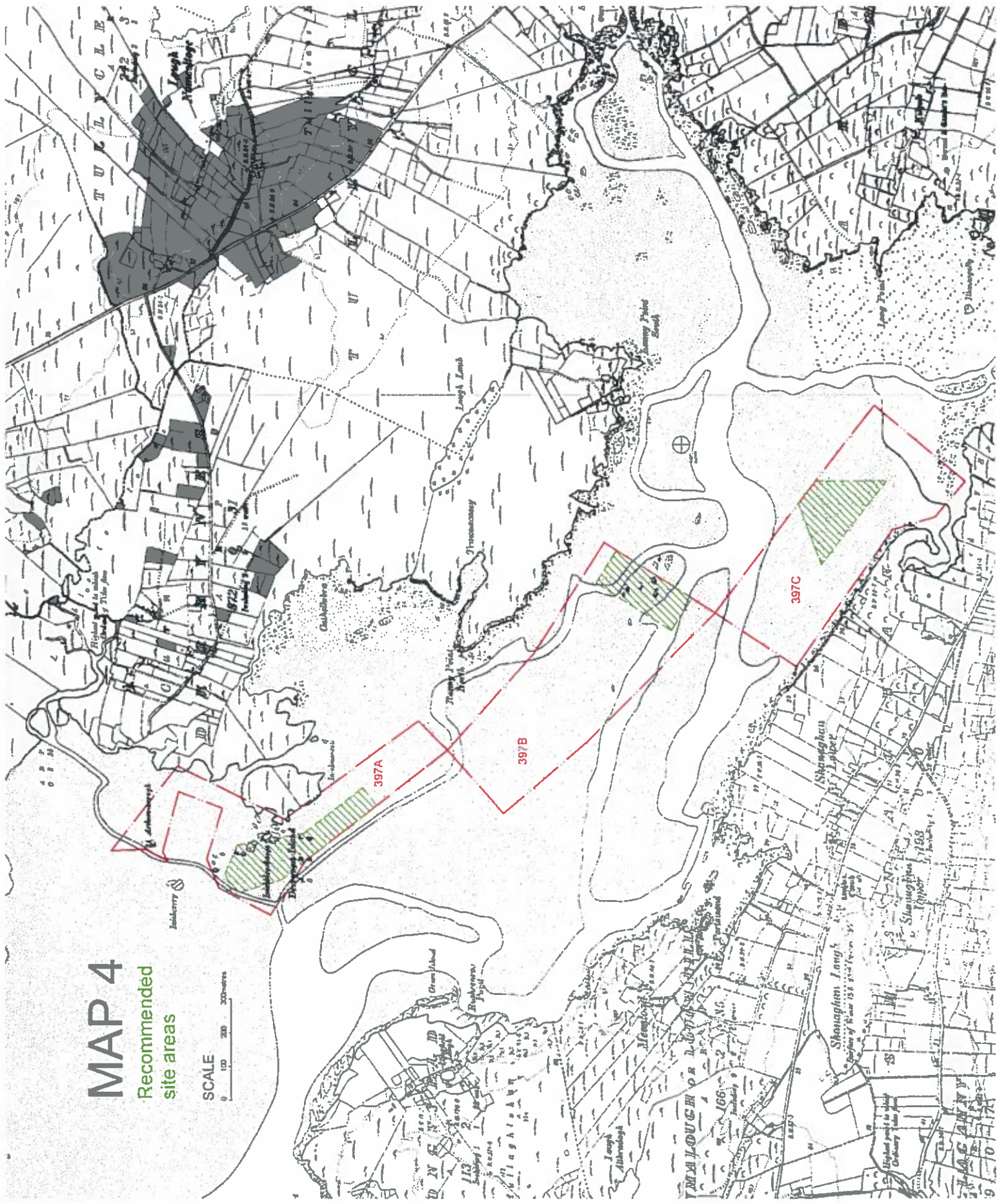




# MAP 4

Recommended site areas

SCALE  
0 100 200 300 metres



### Sewage outfall proximity and water quality

The outfall point from Ardara sewerage scheme is located 1125m from site 397 at its closest point and 2080 m at its furthest point; site 397B varies from 350m away at its closest point to 1215m at its furthest; site 397C varies in range from the outfall point 400m to 850m.

Ardara sewage treatment works discharges a secondary treated effluent of 25 mg/l BOD and 35 mg/l SS. While the oxygen demand and solids content of the effluent stream has been reduced since 2008 by some 85% by the provision of secondary treatment, the treated effluent will still contain a significant bacterial and viral loading. Until the discharged effluent is dispersed and diluted sufficiently it will represent a source of contamination for filter feeding shellfish growing in waters close to the outfall.

At the time of the Ardara sewage scheme proposal initial freshwater dilution for the proposed discharge was estimated to be around 22 (based on freshwater dry weather flows of Owenea and Owentocker combined). Further dilution achieved with distance from the outfall would be dependant on tidal flows and exchange in the Bay. There is some restriction on tidal exchange in Loughros Mór Bay caused by the constriction and submerged bar at the mouth (west end) of the Bay. It can be assumed that tidal exchange rate will be significantly lower than at an open sea site – water exchange time longer . Unless there is disinfection of the effluent it is likely in my opinion that bacterial /viral concentration in eastern and central parts of the Bay will be higher than desirable for shellfish growing waters. SFPA who are the competent authority on quality of shellfish growing waters quality should be invited to give the definitive view on this question of adequacy of water quality. I am not aware of what bacteriological water quality monitoring results if any are available from the area in recent years

At the time of sewage scheme installation there were no bathing waters or shellfish waters in the area that would require a higher level of treatment than secondary. There is provision made in the foreshore licence issued to Donegal County Council by the Minister of Communications, Marine and Natural Resources in September 2003 (site specific condition 5) that “ The Licensee shall ensure that Ultra Violet treatment facilities can be installed at the Ardara Treatment Works in the event that the Licensor so requires”. The reasoning at the time was that this provision might be availed of in event that molluscan aquaculture did start up in the Bay.

I note on the foreshore file for the Ardara scheme that as a general guide Sea Fisheries Control in the Department had advised earlier in 2001 that the effluent discharge point would need to be 800m from oyster layings if UV treatment is utilised and 2400m if no tertiary (disinfection/UV) treatment was to be provided. All parts of all 3 sites would fall within 2400m of the outfall (currently without UV treatment).

In the absence of UV treatment in the short term at least, I think it will probably be necessary to exclude the proposed oyster aquaculture from all areas of all three sites unless SFPA advise otherwise .

\* While the applicant propose to grow oysters from seed to market size at the Loughros Mór sites , it is possible that as a fall back measure the applicant might propose site usage on a part growth cycle basis ( as proposed some years ago at a Dungloe Bay site ( ref T12/408) )If the SPFA were willing to allow part growing at Loughros Mór sites followed by relaying for extended periods elsewhere this might be a solution ? But not proposed at this stage.



If the local authority *were* willing to provide for UV treatment it is possible that once UV was in place that all of site 397A and west part of site 397B would be viable from a water quality perspective. It seems likely that most or all of site 397C would still be too close to the outfall point.

The ground on west part of site 397B is not of suitable height however being too high relative to low tide. This leaves part of site 397A (specifically its lower elevation sections- refer to sub area of 4.47 Ha) as the main area with a good prospect of being acceptable for trestle based aquaculture *if* UV treatment of Ardara sewage treatment works discharge were to be provided.

The current opinion of the sanitary authority Donegal County Council might be sought by the Department in regard to the possibility of UV treatment installation – it did appear in the past that the council would not look on the proposal favourably given costs involved and were unwilling to fund an upgrade.

It would require the agreement of DEHLG (who have responsibility for the administration of the Foreshore Licence) to invoke site specific condition 5 and require installation of UV if that is the approach to be taken. The justification for UV installation may be weak though with no aquaculture in the area and much of the ground physically unsuitable for a variety of reasons – elevation, shifting substrate, potential interference with low water channels.

#### Adequacy of application documents

Layout drawing – no layout drawing is provided

Access map – the map provided shows access from north side of Bay only. This is not a satisfactory route for site 397C due to intervening channels and outfall pipe route; an alternative access route for that site would need to be proposed by the applicant if it were to proceed.

Oyster trestle drawing – none provided with application.

If the application is to go to public consultation the above documents would need to be provided.

#### Potential impacts on other beneficial usages

##### *Amenity*

The foreshore area in inner Loughros Mór Bay in the vicinity of sites 397A,B and C is little used for amenity purposes. The west side of 397A is closest to walking amenity area. I don't anticipate significant impact on amenity usage there.

##### *Fishing Zone of passage (migratory fish)*

This is a potential issue for large site areas as applied for. Sites as reduced should be suitable.

##### *Visual impact*

Sites as reduced would have low visibility and I anticipate that visual and landscape impacts that could arise would not be significant.

### *Navigation*

Impact on navigation should not be a major issue in this case with little or no navigation in the Bay (boat access is restricted by Bar at mouth) . Marking site corners by St Andrews Crosses may be appropriate as a precautionary measure.

### Conclusions

I refer to the conclusions of previous MED report of 16/8/11 regarding site size and water quality issues.

If any of the 3 sites applied for were to be considered favourably for licensing I suggest that smaller sub areas only be initially licensed in each case. Coordinates and areas are put forward in this report.

I have water quality concerns due to proximity of the sites to Ardara town sewage treatment plant outfall. UV light treatment of the effluent would probably be necessary to allow shellfish culture proceed and then possibly only at 397A. In the absence of UV treatment in the short term at least, it probably will be necessary to exclude oyster aquaculture as proposed from all of the three sites.

The opinion of Donegal County council and SFPA on advisability of shellfish culture in these areas of Loughros Mór Bay (with or without UV treatment of sewage) would be important in order to reach a definitive conclusion on the water quality issue that arises with this application.

*Paul O'Sullivan*

Paul O'Sullivan  
13/4/18



## Kelleher, Evan

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**From:** O'CALLAGHAN Tom [TomOCallaghan@dtas.gov.ie]  
**Sent:** 15 April 2019 13:03  
**To:** ODonovan, Geraldine  
**Cc:** neil.askew@irishlights.ie; louise.collins@bim.ie  
**Subject:** T12-397 Oysters bags trestles, Loughros Mor Bay, Donegal Ocean Deep Oysters Ltd

**CAUTION:** This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Ms O'Donovan,

This has no objections to this application.

- The three offshore corners of the site are required to be marked with a yellow special mark with topmark; the topmark to be visible at all stages of tide at a height of two metres above the water.
- Statutory sanction to be obtained for these marks from the Commissioners of Irish Lights ([www.irishlights.ie](http://www.irishlights.ie) [info@irishlights.ie](mailto:info@irishlights.ie))

Kind regards

**Tom O'Callaghan (Capt.)**  
**Nautical Surveyor**  
*Marine Survey Office*

—  
**An Roinn Iompair, Turasóireachta agus Spóirt**  
*Department of Transport, Tourism and Sport*

**Centre Park House, Bóthar Na Páirce Láir, Co. Corcaigh, T12 RKON**  
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Tá eolas sa teachtaireacht leictreonach seo a d'fhéadfadh bheith príobháideach nó faoi rún agus b'fhéidir go mbeadh ábhar rúnda nó pribhléideach ann. Is le h-aghaidh an duine/na ndaoine nó le h-aghaidh an aonáin atá ainmnithe thuas agus le haghaidh an duine/na ndaoine sin amháin atá an t-eolas. Tá cosc ar rochtain don teachtaireacht leictreonach seo do aon duine eile. Murab ionann tusa agus an té a bhfuil an teachtaireacht ceaptha dó bíodh a fhios agat nach gceadaítear nochtadh, cóipeáil, scaipeadh nó úsáid an eolais agus/nó an chomhaid seo agus b'fhéidir d'fhéadfadh bheith mídhleathach.

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02/10/2018

Jane O'Mahoney  
Aquaculture & Foreshore Management Division,  
National Seafood Centre,  
Clogheen,  
Clonakilty,  
Co.Cork.

Ref: T12-397 A, B & C (Donegal Ocean Deep Oysters, Rosslongan, Co. Donegal).

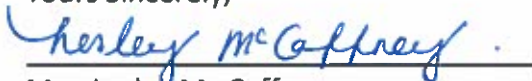
Dear Jane,

In reference to the aquaculture & foreshore licence application ref no T12/397 A, B & C (Loughros Mór, Donegal) please find below the findings of the Sea Fisheries Protection Authority (SFPA):

1. There are currently no other aquaculture operations in this area. Therefore there is no shellsan *E.Coli* classification or biotoxin monitoring programmes in place. If this application is approved these programmes would need to be put in place & classification assigned prior to commencing operations.
2. The SFPA would like to reiterate the importance of the responsibility of producer of the Live Bivalve Molluscs to produce safe food intended for human consumption.

Please contact me if you require any further information.

Yours Sincerely,



Mrs. Lesley Mc Caffrey  
Sea Fisheries Protection Officer.