

PROJECT

# Archaeological Impact Assessment

PREPARED BY

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# 1. Introduction

## 1.1 General

This report comprises an Archaeological Impact Assessment of fifteen aquaculture sites in Bantry Bay, Co. Cork. Mizen Archaeology was commissioned by Bord Iascaigh Mhara to undertake the assessment. Nine of the sites relate to applications for new licenses while the other three relate to renewal of exiting licenses.

## 1.2 Scope of Assessment

This assessment explores the archaeological context of the proposed aquaculture sites in Bantry Bay. The aim of the assessment was to determine the significance of the known archaeology, identify any previously unrecorded archaeology on the footprint of the aquaculture sites, and to recommend mitigation measures to minimise negative impacts on any archaeological remains.

# 2. Location

The study area is located in Bantry Bay, Co. Cork one of the largest and deepest inlets in Ireland. The proposed sites are concentrated in the outer reaches of Bantry Bay, close to Bere Island.



Figure 1: Site Location Map.

### 3. Consultation

Consultation took place between *Mizen Archaeology* and the Underwater Archaeology Unit (UAU) of the Dept. of Culture, Heritage, and the Gaeltacht regarding the scope of works and the geophysical data.

### 4. Methodology

A range of archival and documentary sources were utilised to assess the potential impacts of the proposed rope mussel cultivation sites on the cultural heritage of Berehaven/Bantry Bay. The most useful of these were the record of monuments and places and the Shipwreck Inventory of Ireland.

#### 4.1 The Record of Monuments and Places

The Record of Monuments and Places (RMP) compiled by the Archaeological Survey of Ireland comprises lists, classifications of monuments and maps of all recorded monuments with known locations and zones of archaeological significance. The monument records are also accessible online from the National Monuments Section (NMS) of the DAHG at [www.archaeology.ie](http://www.archaeology.ie). These were used to establish the wider archaeological context of the site.

#### 2.2 The Shipwreck Inventory of Ireland

The Shipwreck Inventory of Ireland is principally a desktop survey of information gathered from a broad range of cartographic, archaeological and historical sources, both documentary and pictorial pertaining of shipwrecks around Irish shores of which there is an estimate 15,000.

#### 4.3 The Record of Piers and Harbours

The Record of Piers and Harbours is a draft unpublished document compiled by the National Monuments Service. It draws on various historical sources dealing with historical piers and harbour development in Ireland.

#### 4.4 The Excavations Bulletin

The Excavations Bulletin and its online database which contains summaries of all archaeological excavations (marine and terrestrial) carried out in Ireland, was also examined ([www.excavations.ie](http://www.excavations.ie)).



#### 4.5 Cartography

Several historic maps and charts were examined to trace the development of the harbour and assess its archaeological potential. These including the 16<sup>th</sup> Century map by Willem Janszoon Blaeu, 17<sup>th</sup> Century map of the Down Survey, 18<sup>th</sup> Century Admiralty Charts and MacKensie's maps and 19<sup>th</sup>/20<sup>th</sup> Century Ordnance Survey Maps.

#### 4.6 Aerial Photography

A variety of low and high altitude aerial photography (vertical and oblique) was examined. Infra-red aerial photos undertaken by the Marine Institute were also examined as well as the aerial orthophotos from the National Monuments web site, [www.archaeology](http://www.archaeology) (see references below for full list).

#### 4.7 Documentary sources

Several sources were examined. Of particular use was Ted O Sullivan's '*Bere Island, a short history*' published by Inisgragy Books in 1992. For a full list of all sources examined see Bibliography below.

#### 4.8 Side Scan Sonar survey

A sidescan sonar survey, complying with the National Monuments Service's guidelines was undertaken by Nicolas Chopin, Inshore Survey Officer of BIM. The data was recorded at high resolution of 1250 kHz using an Edgetech 4125P side-scan sonar tow-fish. The recorded data was processed using SonarWiz5 software. The survey encompassed eight of the fifteen sites T05/484A, T05/502A, T05/532, T05/586, T05/587A, T05/607, T05/591 and T05/602.

## 5. Results

### 5.1 Archaeological and Historical Context

#### Prehistoric Period

The Record of Monuments and Places (RMP) maps for Bantry Bay attests to extensive prehistoric activity in the areas surrounding the aquaculture sites. A pointed stone tool belonging to the late Mesolithic Period was recovered from Berehaven during dredging works for scallops.

Surviving prehistoric remains in the region are dominated by Bronze Age sites. These include numerous standing stones, megalithic tombs, and fulachta fiadh. Standing stones can be found on Bere Island at Ardagh, Ballynakilla, and Greenane and the northern shoreline of Berehaven at Derrymihin West, Rodeen and Ballard. A stone circle is located c. 100m to the west of the exiting an aquaculture stie in Adrigole Harbour (T05/84B). A wedge Tomb is located at Ardagh on Bere Island while megalithic structures are recorded on the mainland at Derrymihin West. A fullacht fiadh is recorded on Bere Island at Derrycreeveen and close to the shoreline at Thornhill on the northern side of Berehaven.

#### Early Medieval Period

Early Medieval coastal settlement in Berehaven and Bantry Bay is best exemplified monumentally by ringforts. Ringforts and souterrains have been recorded on Bere Island at Greenane, Ballynakilla, Ardagh, Cloonaghlin West, and Derrycreeveen. Most of the coastal townlands along Banrty Bay also contain ringforts.

Lonehort Harbour on the south-eastern side of Bere Island provides archaeological evidence for Viking activity in Berehaven. A naust or artificial boat shelter used for the repair or storage of Viking boats was cut into the gravel seashore on the NE side of Lonehort Harbour. The size of the structure indicated that it would have originally accommodated an average-sized coastal boat, probably with a beam of just over 3m. A regular area of beach clearance led SW to a jetty near the low-water mark (National Monuments Service on-line database). The proposed aquaculture licence for T05/508 is located within Lonehort Harbour.

#### Medieval Period

The town of Castletownbere developed around Castle Dermot which is said to have been built

by Dermot Donn MacCarthy around 1474. By the 16th Century the O'Sullivan Lordship (sub-lords to the McCarthy's) encompassed the areas of Castletownbere and Bere Island. The O'Sullivans maintained their power primarily by controlling the harbour. They presided over the importation of goods to the region by patrolling the anchorages and landing places, and guarding the fishing grounds. Taxes were levied on every ship and boat coming into to the harbour with goods. Like other Gaelic maritime lords they also partook in piracy, attacking passing ships.

In 1601 Donal Cam O'Sullivan Beare was part of the confederation of Gaelic leaders who, with the help of the Spanish, rebelled against the Crown. Within the terms of their surrender after the Battle of Kinsale in 1602, the Spanish garrisoned Dunboy Castle in Beara. O'Sullivan managed to overthrow the garrison, but later that year the Crown sent a troop of 5,000 to Dunboy under the command of Sir George Carew. Carew's ships included the *Trinity* of Waterford, the *Merlin* and another hoy type ship (O'Sullivan, 1992, p.15). The English forces bombarded the castle from land and sea and reduced it to ruins within eleven days.

Published in 1633, *Pacata Hibernia* contains a description of Berehaven written by Sir George Carew in 1602;

*'The haven of Beare is situated twelve miles to the northward of that promontory or foreland, of Myssenhead or Carronhead. That which wee properly call Beerehaven, is the sea which entreth between the great Island and the maine, or countrey called Beere, or O'Sullevans Countrey. AT the Great Island; being entred, the tydes are slack, good anchorage and convenient places to bring ships on ground, smooth water, five fathoms deepe at low watermarke; towards the north ende it groweth much lager, at the least a league over, and of capacitie sufficient to contain all the ships - of Europe.*

*The great Island and the maine as aforesaid makes the haven, which island is seven miles in length, at the south end whereof it joyneth with the bay of Bantry. 'When Donboy was unruined, it commanded this spacious and goodly Haven, which affords no small profit to Osullevan Beare, whilst his castle was standing: for the coast yeels such abundance of sea-fish, as few in Christendone doe the like, and many ships, whereunto at the season of the yeare (I meane at the fishing time) there was such resort of fishermen of all nations, as Communibus Annis (although the duties which they payed unto Osulevan was very little) yet at the least it was worth unto him five hundred pounds yearly.'*

The waters of Berehaven and Bantry Bay was the scene of a naval battle in 1689 during the *nine years' war*. The engagement which lasted for several hours took place mid-ways between Bere Island and Whiddy Island. The French fleet of twenty-four ships led by François Louis de Rousselet was endeavouring to supply King James II with weaponry and supplies in Ireland for his attempt to re-establish his throne. The French managed to land the supplies and inflicted severe damage to the English fleet of nineteen ships commanded by Arthur Herbert.

#### Post medieval Period

During the post-medieval period fishing continued to be the main industry in the Berehaven region. A fishery was established at Rosmackowen in Berehaven c.1700 by a Huguenot named Jacques de la Fontaine. He established a settlement, transported colonists, and constructed the necessary infrastructure including a fish palace. Fontaine was also appointed Justice of the Peace for the area. He abandoned the fishery enterprise within the first decade following a number of confrontations with smugglers and privateers in Berehaven. (T. D. Sullivan, 39).

In 1796 a French fleet of forty-three ships transporting 15,000 troops, accompanied by Wolfe Tone sailed from Brittany into Bantry Bay in an attempt to supply war material for an Irish uprising. They were unable to land due to severe gales, and returned to France, leaving behind a long boat from one of the French frigate.

The attempted French invasion of 1796 led to a rush to defend the bay against any further invasions. The means chosen by the British was the Martello Tower, with four such structures completed on Bere Island in 1805 (O'Sullivan, 1992, 57). In addition to the Martello Towers, a signal tower, a barracks, a quay, and storehouses were also constructed. In 1898, the military fortifications on Berehaven were expanded in order to protect the British Fleet at anchor in the bay.

In 1837 four decked boats of 20 tons' burden each, twelve hookers of 12 tons, and fifty-one yawls of 4 tons, operated out of the harbour at Castletownbere where up to four hundred fishermen were employed. Timber, iron, and local goods were also traded from the harbour (Lewis, 1837). A pier had been built at Lawrence Cove on Bere Island affording protection to the sixteen hookers of 12 tons and ninety yawls of 3 or 4 tons each, belonging to the island, and employing about one thousand people exclusively in the fishery (Lewis 1837).

## 5.2 Shipwreck Inventory

The Shipwreck Inventory of Ireland includes all known wrecks for the years up to and including 1945. It is principally a desktop survey with information gathered from a broad range of cartographic, archaeological and historical sources, both documentary and pictorial. The inventory includes over hundred wrecking events for the Bantry Bay. The precise location for many of these is unknown.

There are no shipwreck sites recorded on the footprint or in the immediate vicinity of T05/084A,B,C, T05/484A,B, T05/502, T05/508, T05/538, T05/586, T05/587, T05/591, T05/602, T05/606, T05/607.

The national inventory of shipwrecks lists two shipwrecks (W11270 & W11269) within site T05/532 and another close-by to the northeast. The only details available for these wreck sites are that they were identified by Ciara Herron on a previous side-scan sonar survey.

## 5.3 Geophysical Data

Three sites were the subject of a hand-held metal detection survey; T05/084 A & B in Adrigole Harbour and T05/606 in Mill Cove. A side scan sonar survey was undertaken on eight sites; T05/484A, T05/502, T05/532, T05/586, T05/587A, T05/607, T05/591, T05/602. Due the presence of existing structures and rock outcropping it was not possible to undertake a geophysical survey at T05/484B, T05/502, T05/538 and T05/607A.

An examination of the data by Julianna O'Donoghue in consultation with the National Monuments Service revealed a small number of anomalies of potential archaeological significance.

Anomaly No.	Licence No.	ITM Co-ordinates
1	T05/502	E467011.33, N543948.34
2	T05/502	E466981.83, N543717.11
3	T05/532	E472069.02, N545116.29
4	T05/532	E472473.9, N545173.51

## 5.4 Impact of the proposed aquaculture activity on the recorded and potential archaeology of Berehaven and Bantry Bay.

### 5.4.1 Adrigole Harbour T05/84A, T05/84A and T05/84A

T05/084 A and B are located on the inter-tidal zone in Agrigole Harbour. The historic 6-inch Ordnance Survey map (1840) illustrates several islands within the Harbour, three of which are named; Illancreagh, Carrigboy and Orthon's Island. There is no harbour infrastructure illustrated on this map. The historic 25-inch map (1886) includes the annotation of Bull Rock as well as a pier and slip associated with Reen Lodge at the north western end of the harbour.

**T05/84A** is an application for a renewal of a licence to continue the cultivation of oysters in the lower intertidal zone of Adrigole Harbour. This area consists of foreshore subject to tidal waters. Consultation of cartographic and archaeological sources as well as a walkover and metal detection survey did not identify any known archaeological sites on the foreshore. The upper stratum of the foreshore consists of silt. To the south of the site the remains of very small copper fastened clinker vessel are scattered as well as other modern debris from fishing vessels. Given the nature of placing the short legs of the trestles directly onto the surface of the foreshore, there will be minimal disturbance to potential buried archaeological sites, structures or features. While the passage of tractors or other vehicles to and from the cultivation area may compress upon unknown buried archaeological remains, the route is a well established access way has been in use for many years. The potential negative impact is classified as **imperceptible**.

Similarly, **T05/84B** is an application for a renewal of a licence to continue the cultivation of oysters in the lower intertidal zone of Adrigole Harbour, involving the placement of mesh bags on trestles. The archaeological assessment of this site consisting a desktop study, walkover and metal detection survey did not identify any known archaeological sites on the foreshore.

The upper stratum consists of compact sand, with inclusions of stone and shell. Rock outcropping is visible on the southern end of the site. The metal detection survey produced a small amount of modern debris including rebar. Given the nature of placing the short legs of the trestles directly onto the surface of the foreshore, there will be minimal disturbance to potential buried archaeological sites, structures or features such as fish traps and shipwrecks. While the passage of tractors or other vehicles to and from the cultivation area may compress upon unknown buried archaeological remains, the routes are well established access ways have been in use for many years. The potential negative impact is classified as **imperceptible**.

T05/84C is an application for renewal of a licence for suspended mussel cultivation in the outer reaches of Adrigole Harbour. The site is located in sub-tidal waters and will use 21 longlines and 42 anchors. The area was not covered in the geophysical survey due to the existing structures. There are no known archaeological sites in the vicinity. The potential negative impact of the is classified as low.

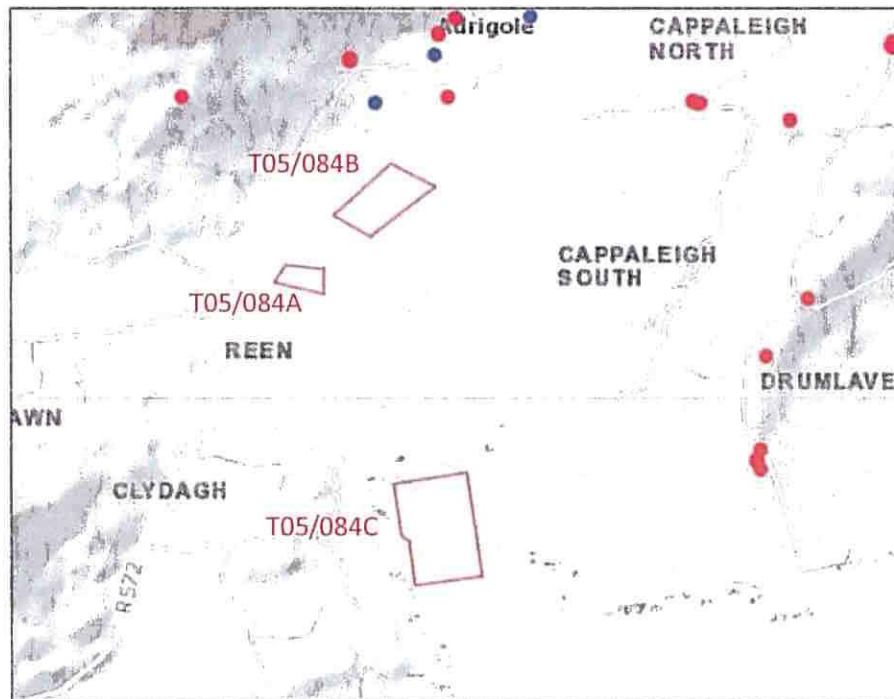


Figure 2: Extract from National Monuments Service database showing archaeological sites close to Adrigole Harbour.



Figure 3: Site location map showing T05/84A, B and C in Adrigole Harbour.

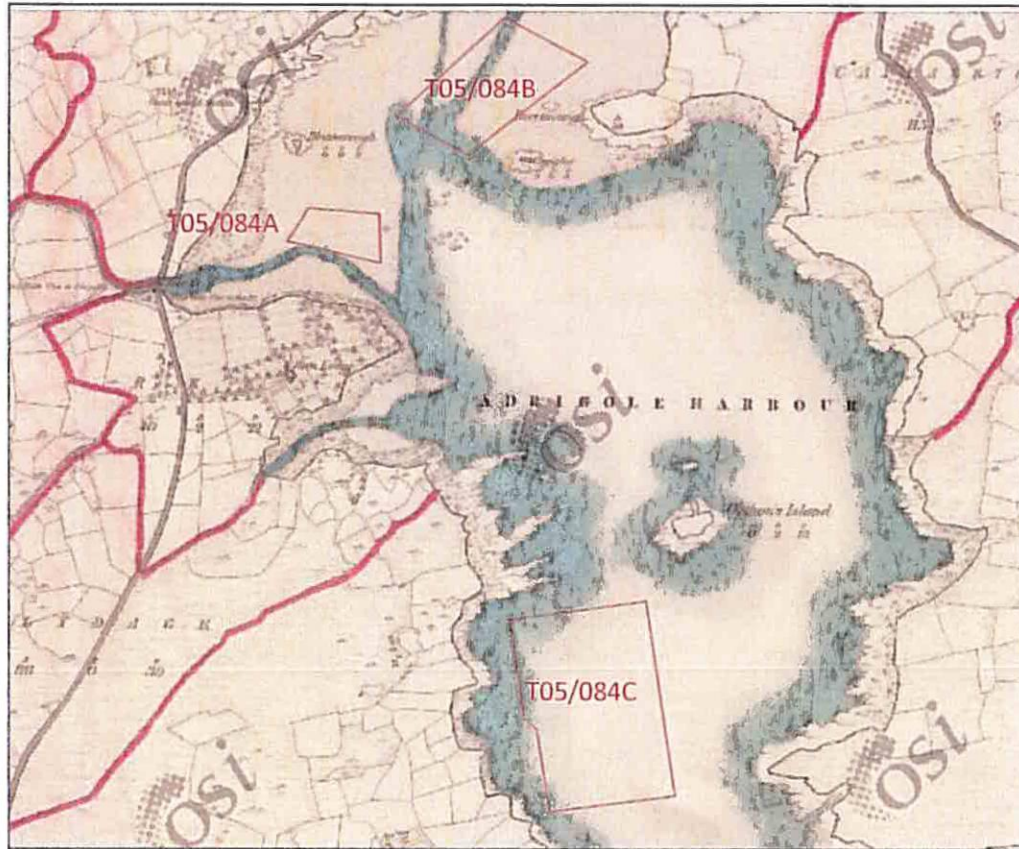


Figure 4: 6-inch Ordnance Survey map (1840) of Adrigole Harbour.

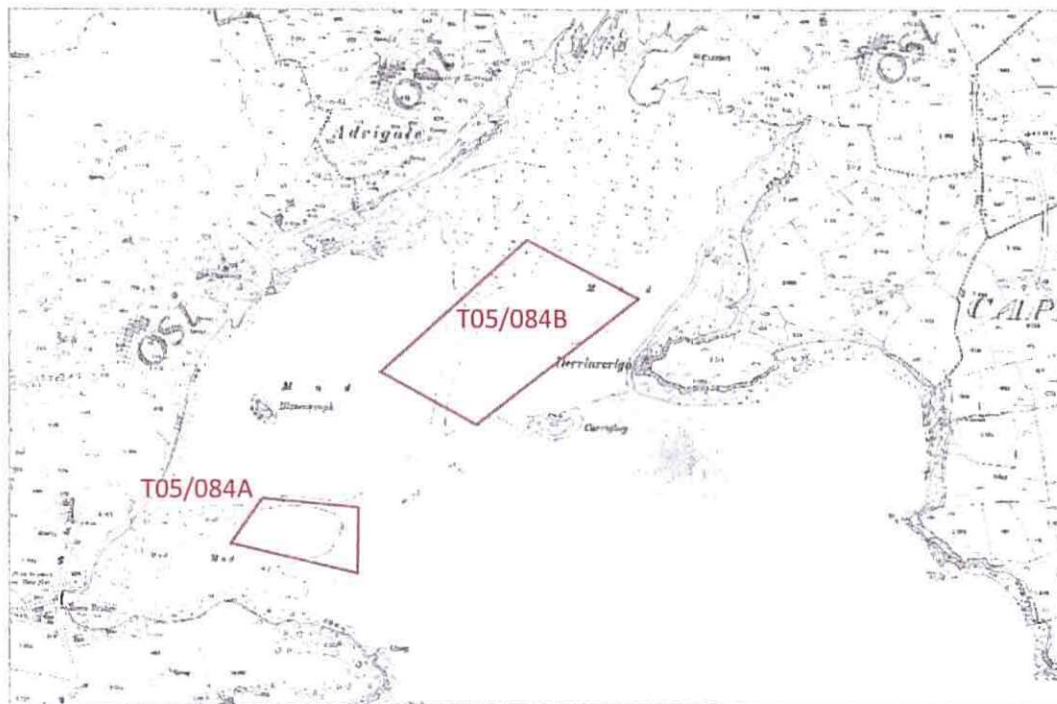


Figure 5: 25-inch map (1886) of Adrigole Harbour.





*Plate 1: View of T05/084A, Adrigole Harbour, taken from south.*



*Plate 2: View of T05/084B, Adrigole Harbour, taken from west.*

#### 5.4.2 Lawrence's Cove, T05/484A and T05/484B

**T05/484A** is an application for a new licence for the cultivation of scallops and sea urchins. The site is located in sub-tidal waters adjacent Ardagh Point at the entrance to Lawrence's Cove on the northern coast of Bere Island. The cultivation involves the placement of netting on the seabed to fence off the area and no dredging is required. Nothing of archaeological potential was noted on the side scan data for this area. The potential negative impact is classified as **imperceptible**.

**T05/484B** is an application for a new licence for the cultivation of scallops and sea urchins. It is located close to T05/48A at the entrance to Lawrence's Cove on the northern coast of Bere Island. The cultivation involves the placement of netting on the seabed to fence off the area and no dredging is required. It was not possible to complete a side-scan survey of this area due to the presence of rock outcropping. The site is located within the zone of notification for a burial ground (CO115-133) on Turk Island. The potential negative impact is classified as **low to medium**.

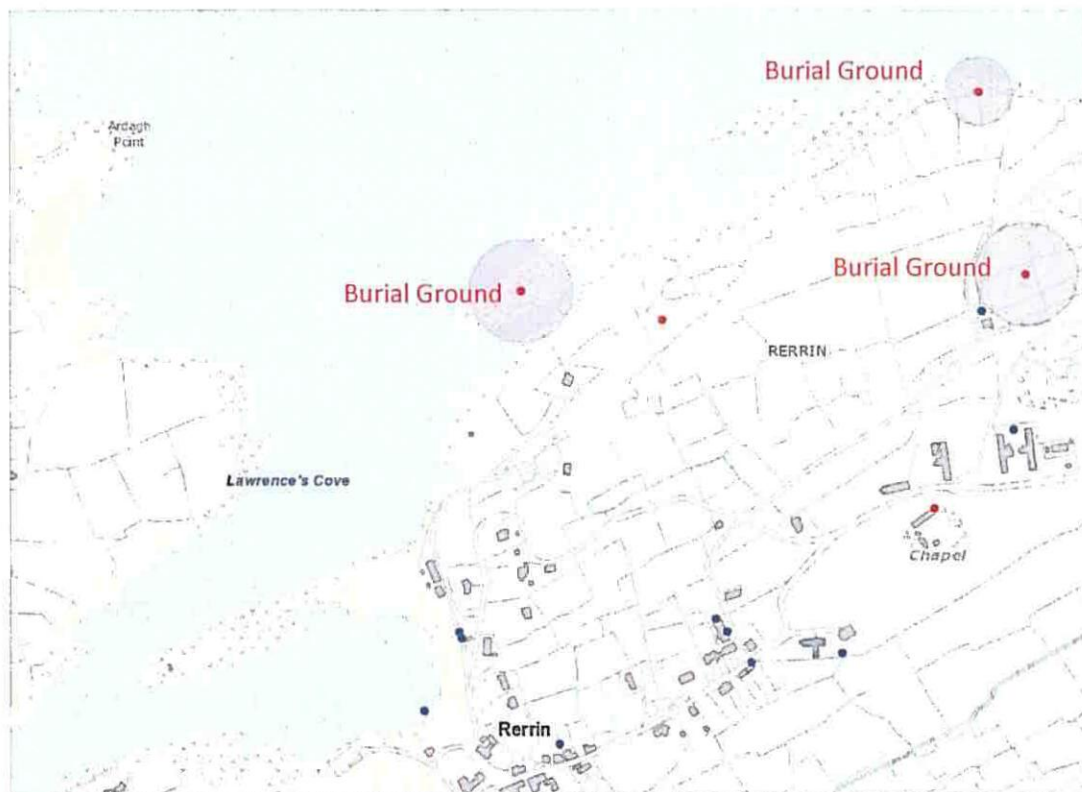


Figure 6: Extract from National Monuments Service database showing archaeological sites in the vicinity of Lawrence Cove.



Figure 7: Site location map showing licence areas T05/484A&B at the entrance to Laurence Cove. The proposed aquaculture licence areas are highlighted in purple, the side scan sonar coverage in brown and the archaeological sites in red.



Figure 8: Side scan sonar image of T05/484 at entrance to Laurence Cove, Bere Island.

#### 5.4.3 Dunboy, T05/502 and T05/538

**T05/502** is an application for a new licence for the cultivation of scallops. The cultivation involves the placement of netting on the seabed to fence off the area and no dredging is required. The site is located to the east of Dunboy, the scene of the 1602 siege of Dunboy (for historical context see section 5.1 above). Several recorded archaeological monuments are located on the adjacent headland, though their zone of notification does not extend into the proposed licence area (Figure 10). A review of the geophysical data indicated two anomalies of potential of archaeological significance. The potential negative impact is classified as medium.

**T05/538** is an application for a new licence for the cultivation of oysters at Traillaun Harbour to the north of Dunboy. It is adjacent to site T05/502. Several cannon shot have been recovered from the inter-tidal zone in Traillaun Harbour (C. Kelleher, 2018, pers. comm.). The cultivation requires 27 floating bag lines with 54 ½ ton anchors in the sub-tidal area and 60 x 10 bag trestles on the intertidal zone. This area was not covered on sides-scan survey. The potential negative impact is classified as medium.

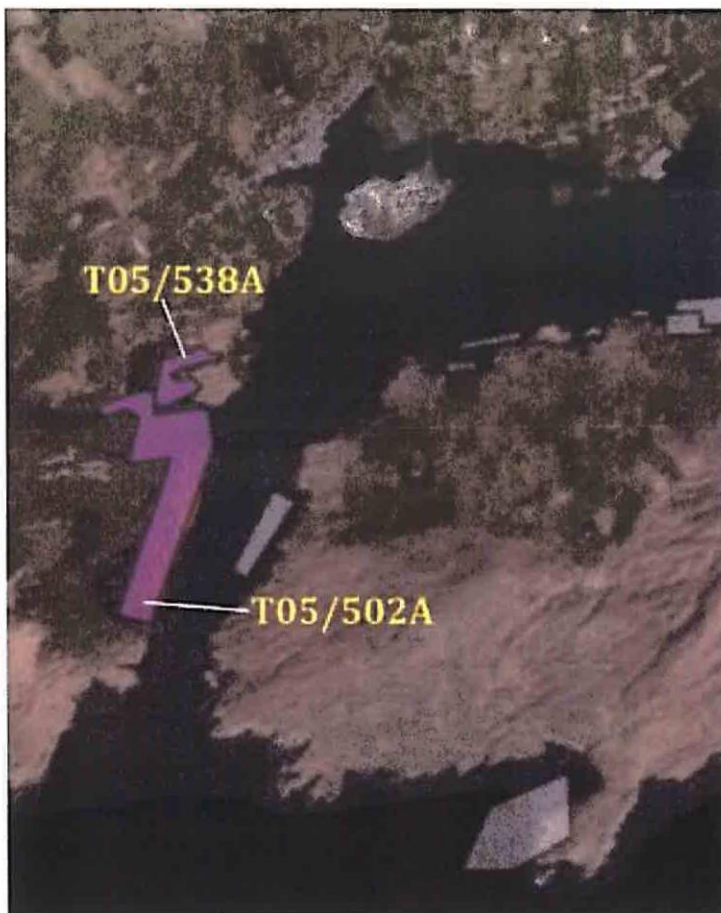


Figure 9: Site location map showing licence areas T05/502 and T05/538 close to Dunboy, Berehaven. The proposed aquaculture licence areas are highlighted in purple, the side scan sonar coverage in purple and the archaeological sites in red.



Figure 10: Side scan sonar image of T05/502 and T05/538 close to Dunboy, Berehaven.

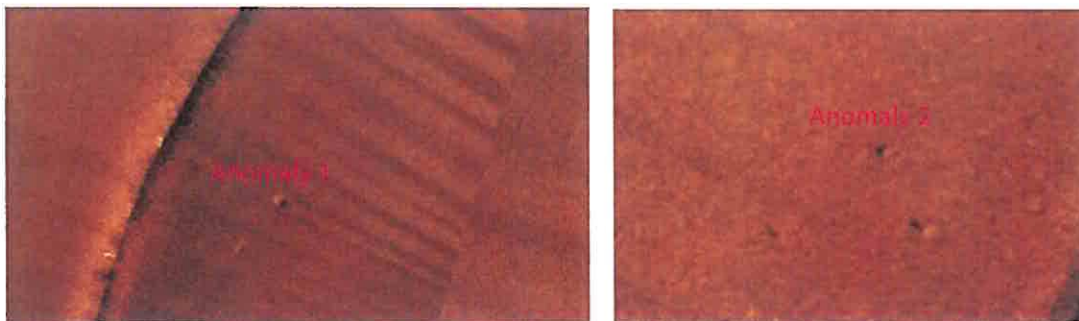


Figure 11: Close-up view of anomalies 1 and 2.

#### 5.4.4 Mill Cove; T05/606A

The historic 6-inch Ordnance Survey map (1840) illustrates the presence of two streams entering Millcove, both marking townland boundaries. Milcove Estate is located to the northeast of the cove and Seapoint House is located on the southeast. Both houses are linked to the Castletownbere – Bantry road via a minor roadway which skirts the eastern shore of the cove. A limekiln is shown on the grounds of Seapoint House. The land to the north of the foreshore is shown as uncultivated rocky ground. An unnamed island is illustrated in the northwest of the cove and in the outer limits of the cove Illanboudane is annotated. Two structures are shown on the foreshore to the east of Seapoint. The results of land improvement works in the lands surrounding Mill cove are evident on the historic 25-inch map (1886) whereby previously uncultivated land has been developed. The layout of Milcove Demense has changed slightly and the layout of Seapoint Demense have changed greatly with the formal gardens removed and the demesne changed to an enclosed field system.

T05/606A is an application for a new licence for the cultivation of oysters in the inner area of Mill Cove. Trestles will be used in the intertidal zone while a hanging system with 12 anchors resting on the seabed will be used in the sub-tidal area.

At least 70% of this area was subject to a walkover / wade survey with metal detection. There are no known archaeological sites in the vicinity of the cultivation area.

T05/606A is an application for a new licence for the cultivation of oysters in the inner area of Mill Cove. Trestles will be used in the intertidal zone while a hanging system with 12 anchors resting on the seabed will be used in the sub-tidal area.

At least 70% of this area was subject to a walkover / wade survey with metal detection. There are no known archaeological sites in the vicinity of the cultivation area.

The proposed site is located to the south and east of two unnamed islands situated in the north-western corner of Mill Cove. Two stone landing areas are located on the northern shore outside the limits of the proposed site. The shoreline is protected by drystone revetment walls and newer boulder revetments associated with the golf course to the east.

The site lies within the intertidal and sub-tidal zone. Sediment on the western half of the intertidal zone consists of soft silt, while the eastern side comprises firm compacted silt, gravel and stones. Much of the stony area is draped in seaweed. Debris noted within proposed site

included golf balls, components of modern vessel, and a small quantity of 19th/20th century pottery. Tree trunks/branches were also noted within proposed site particular in the northeast corner. Nothing of archaeological significance was noted during the visual and metal detection survey of the proposed site. The potential negative impact is classified as imperceptible.



*Plate 3: View of Millcove T05/606A, taken from west.*



*Plate 4: View of Millcove T05/606A, taken from east.*

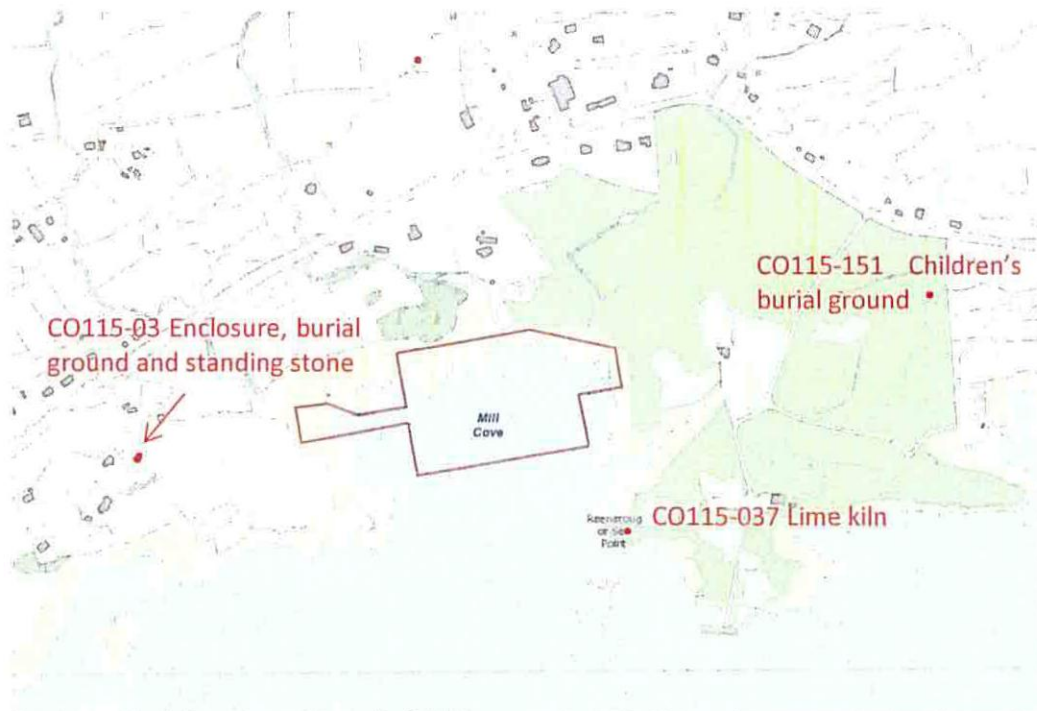


Figure 12: Site location map showing T05/606A in Mill Cove.



Figure 13: Site location map showing T05/606A in Mill Cove.



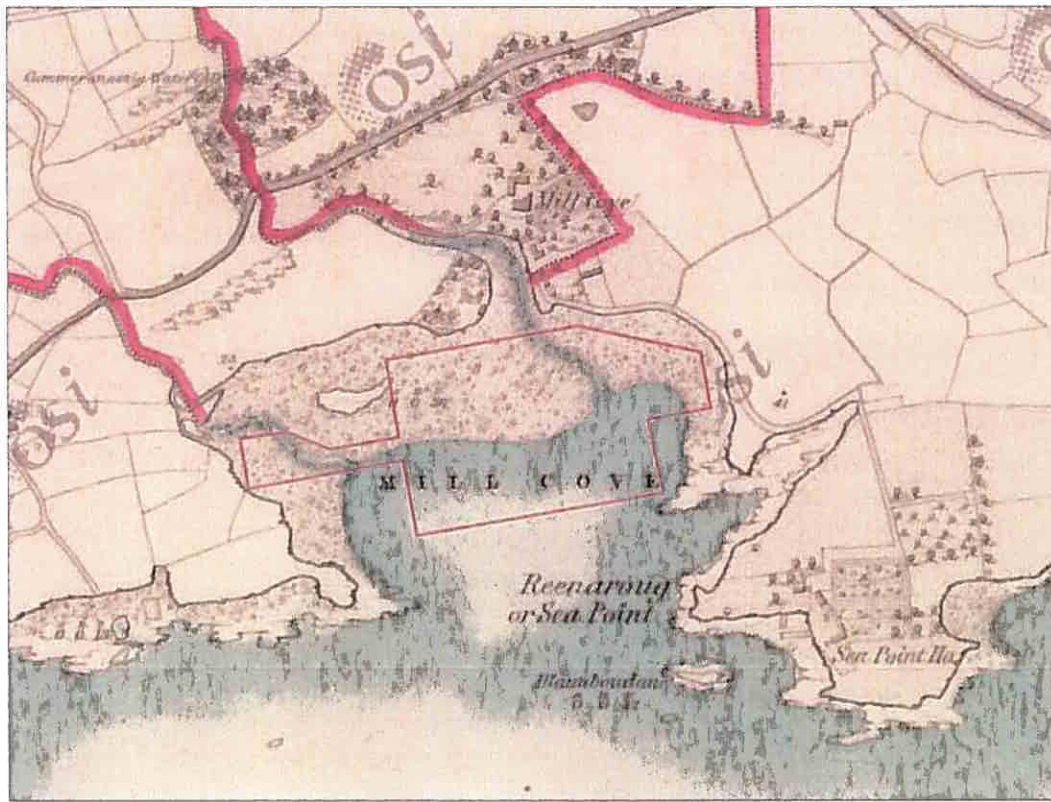


Figure 14: 6-inch Ordnance Survey map (1840) of Mill Cove.

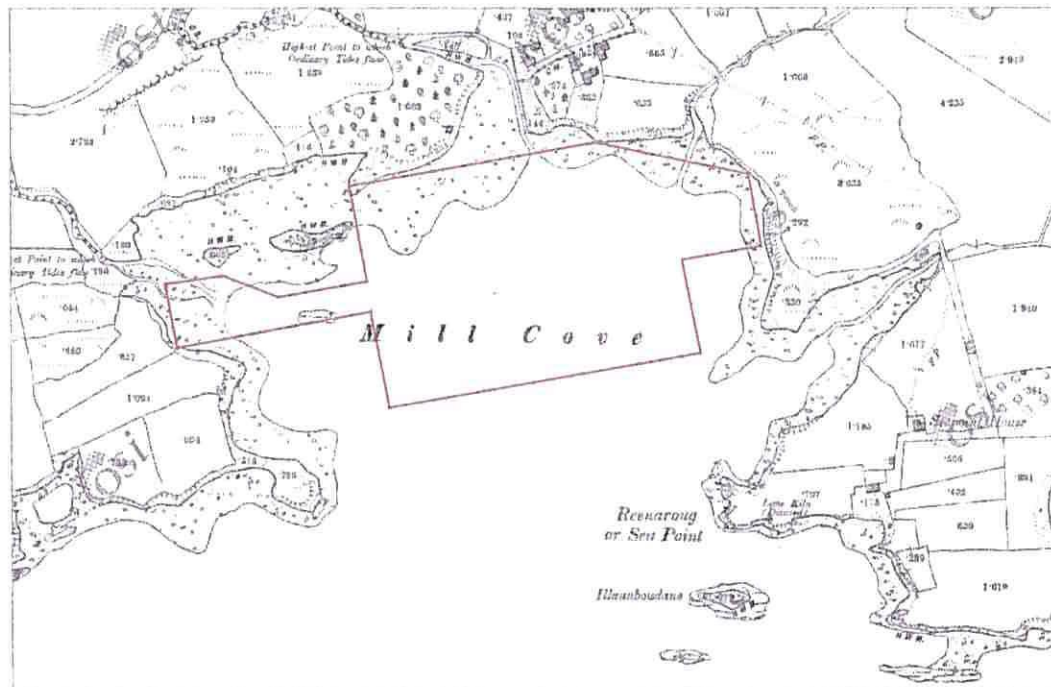


Figure 15: 25-inch map (1886) of Mill Cove.

#### 5.4.5: Lonehort Harbour; T05/508A

**T05/508A** is an application for a new licence for the cultivation of clams in Lonehort Harbour. The cultivation requires 3 longlines and 6 anchors in the sub-tidal areas and the intertidal clams will be dredged. This area was not covered in geophysical survey. The harbour is the site of a viking naust (CO116-041002), a breakwater (CO129-022) and a pier/jetty (CO116-041001). The potential negative impact is classified as significant.



Figure 16: Proposed aquaculture site in Lonehort Harbour, shown in purple.

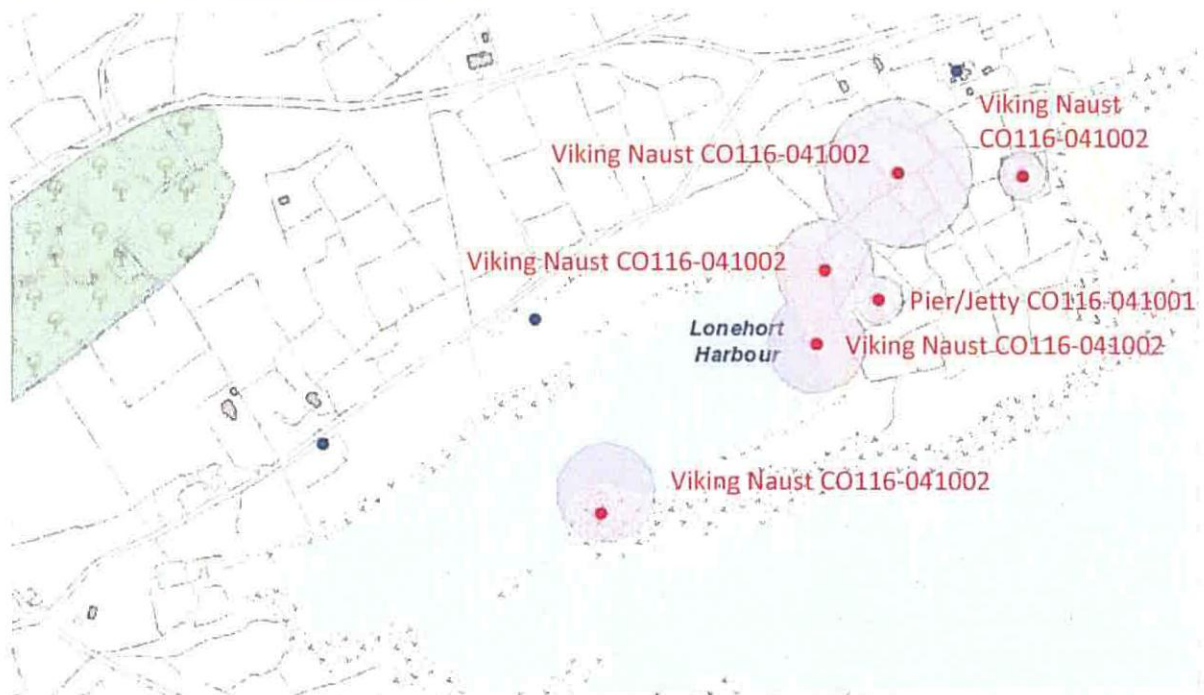


Figure 17: Extract from National Monuments Service database showing archaeological monuments in the vicinity of Lonehort Harbour.

#### 5.4.6 North coast of Bere Island T05/532

T05/532 is an application for a new licence for suspended mussel cultivation on the northern coastline of Bere Island. The cultivation requires 15 longlines with 30 associated anchors. The closest archaeological monument on Bear Island lies c.600m to the southeast at Ardagh (Standing stone CO115-130005). The national inventory of shipwrecks lists two shipwrecks (W11270 & W11269) within site T05/532 and another close-by to the northeast. The only details available for these wreck sites is that they were identified by Ciara Herron on a previous side-scan sonar survey. The recent side scan sonar survey undertaken by BIM did not reveal any evidence of cultural activity at site of the two listed shipwrecks. Two other anomalies of potential archaeological significance were noted on the BIM The potential negative impact is classified as significant.

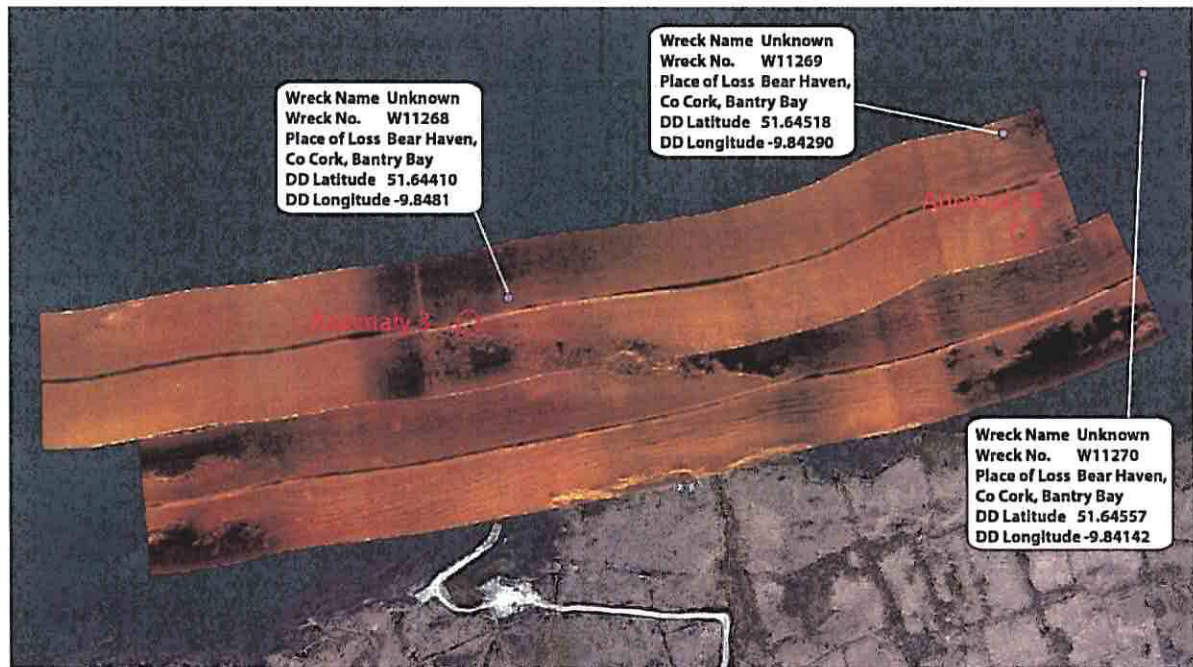


Figure 18: Image of side scan sonar data from T05/532 with locations of anomalies 3 and 4 highlighted as well as data from the inventory of shipwrecks.



Figure 19 & 19: Close-up view of anomalies 3 and 4.

#### 5.4.7 Seaweed cultivation to the west of Adrigole Harbour

This is a group of four new applications for the cultivation of seaweed to the west of Adrigole harbour. The proposed sites are located in sub-tidal waters. There are no recorded archaeological monuments, structures or wrecks within these areas. The side scan sonar survey covered areas T05/586, T05/587, 591A and most of T05/607A. Nothing of potential archaeological significance was noted on the side-scan sonar data. The potential negative impact is classified as imperceptible.

- T05/586 requires 19 longlines attached to 38 anchors.
- T05/587 requires 30 longlines with 60 associated anchors.
- T05/591A to the south of Bank Harbour will require 2 mooring grids and 20 anchors.
- T05/607A requires 13 lines and 10 anchors.

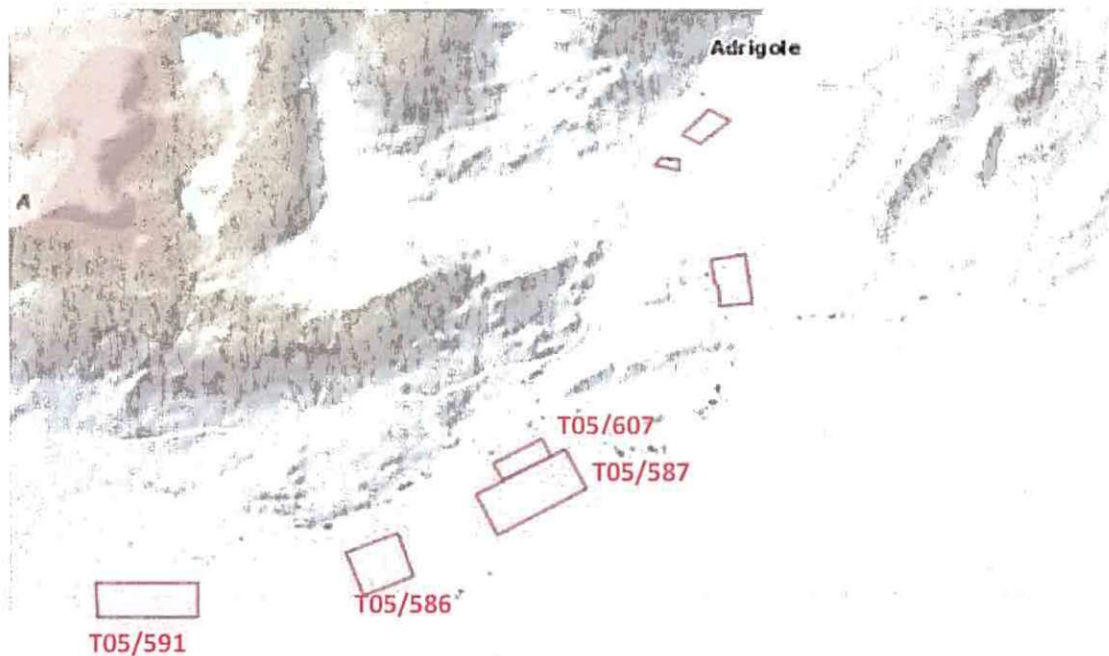


Figure 20: Site location map showing T05/586, T05/587, 591A and T05/607A to the west of Adrigole Harbour.

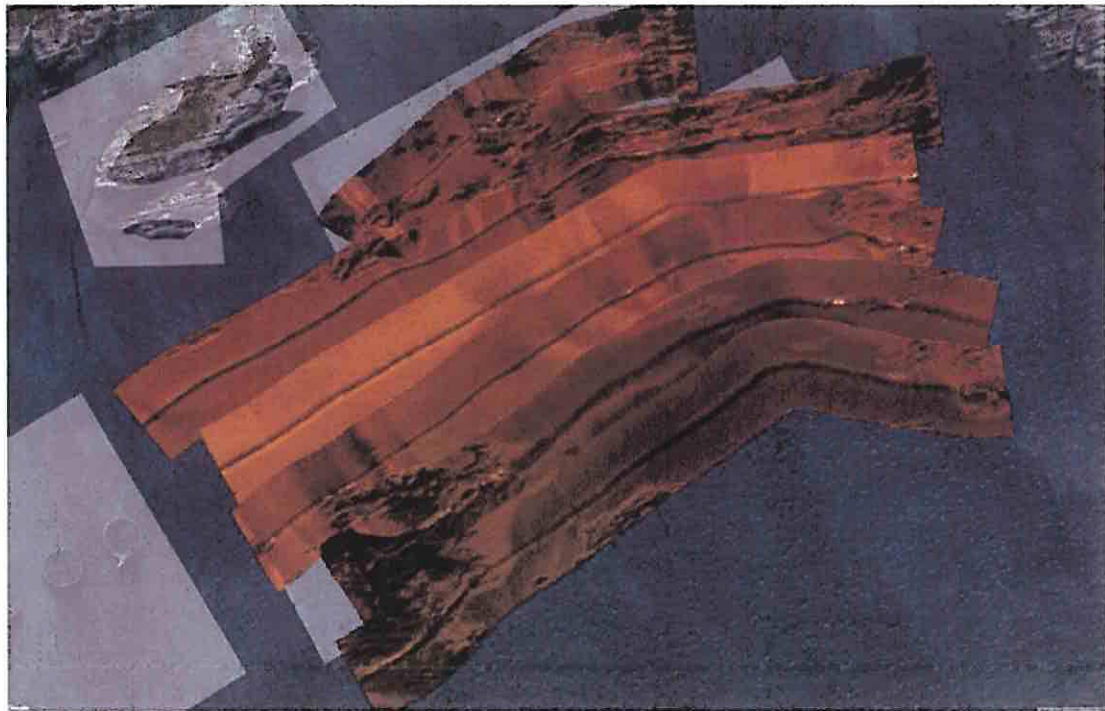


Figure 21: Side-scan sonar data for site T05/586.

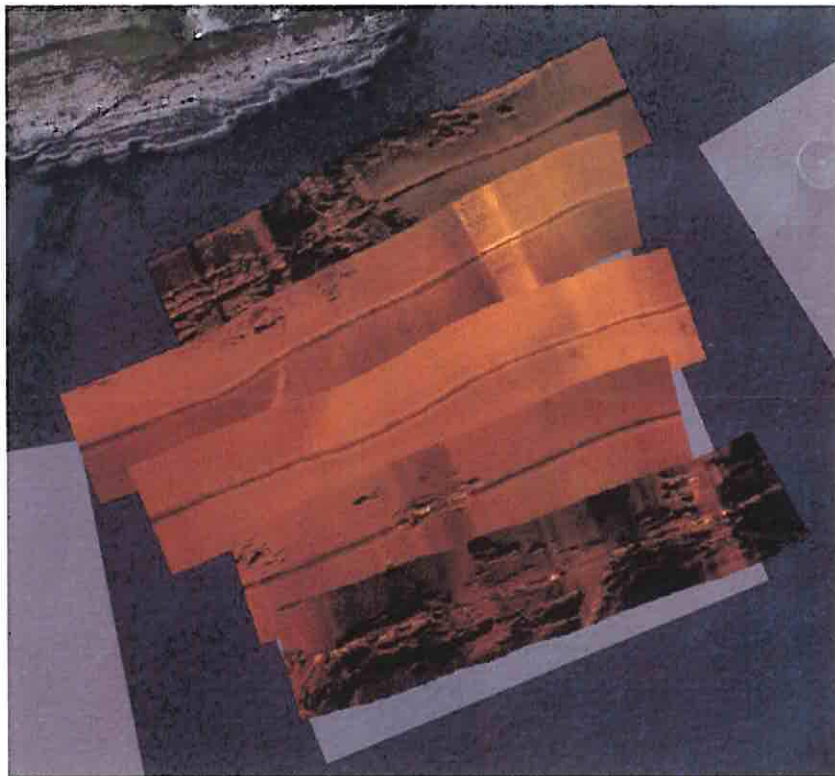


Figure 22: Side-scan sonar data of site T05/587 and T05/607.

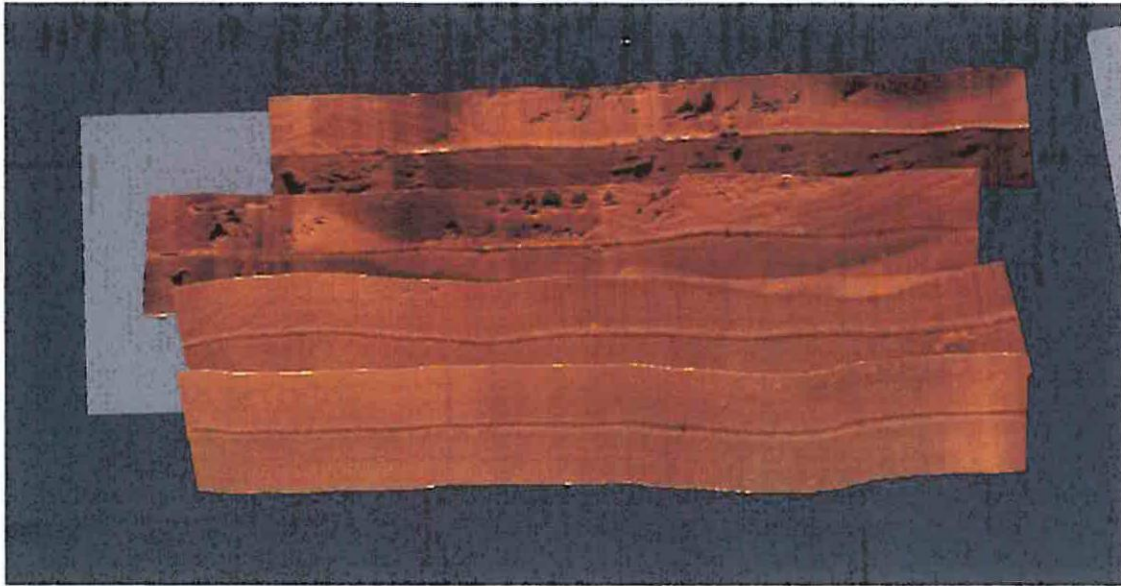


Figure 23: Side-scan sonar data of site T05/591.

#### 5.4.8 Seaweed cultivation to the east of Adrigole Harbour

**T05/602A** is an application for a new licence for the cultivation of seaweed to the east of Adrigole Harbour. The cultivation will require 4 mooring grids and 40 anchors. The area was subject to a side scan sonar survey and no features of archaeological significance were noted. The potential negative impact is classified as imperceptible.

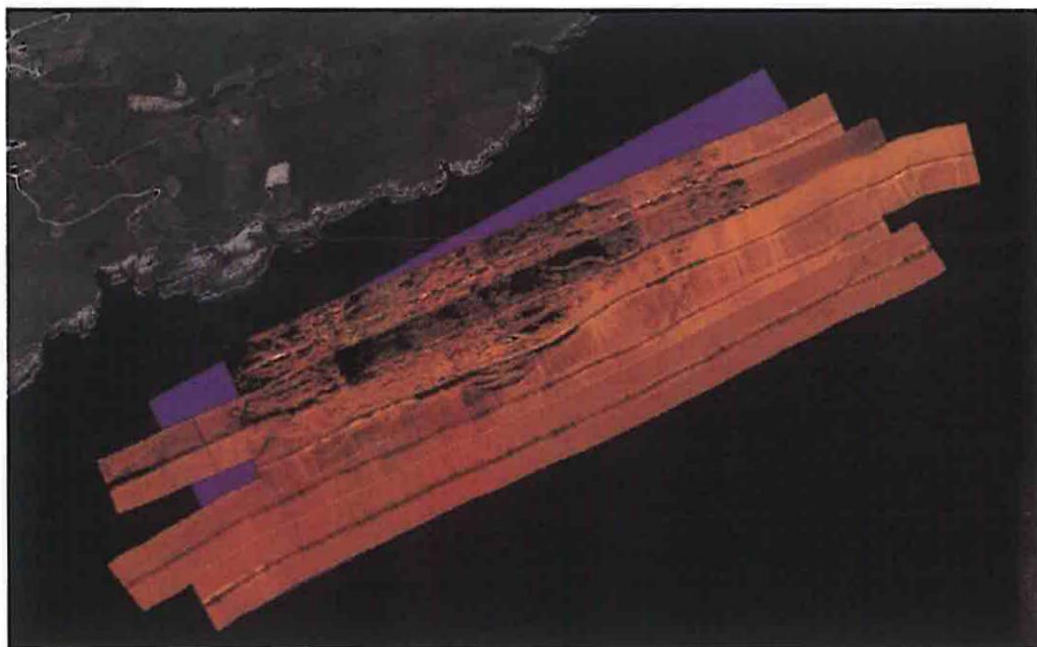


Figure 24: Side-scan sonar data of site T05/602.

Summary of Results

Licence Ref & Status	Species /Structures	Archaeological Monuments (SMR)	Recovered Artefacts (TFI)	Protected Structures IAH	Inventory of Shipwrecks	Geophysical Anomaly
T05/84A Renewal	Oysters Intertidal - 20 x 10 bag trestles	No	No	No	No	MD Survey – nothing of archaeological potential
T05/84B Renewal	Oysters Intertidal 20 x 10 bag trestles	No	No	No	No	MD Survey – nothing of archaeological potential
T05/606A New Application	Oysters Trestles intertidal - hanging system with 12 anchors subtidal	No	No	No	No	MD Survey – nothing of archaeological potential
T05/502 New Application	Scallops Park netting will be placed on the seabed to fence off the area, no dredging	No, but in vicinity of Dunboy	No	No	No	SS Survey – Two anomalies of potential archaeological significance
T05/84C Renewal	Mussel 21 longlines and 42 anchors	No	No	No	No	Not covered in geophysical survey
T05/484A New Application	Scallops & Sea Urchins Park netting will be placed on the seabed to fence off the area, no dredging	No	No	No	No	SS Survey – nothing of archaeological potential
T05/484B New Application	Scallops & Sea Urchins Park netting will be placed on the seabed to fence off the area, no dredging	burial ground (CO115-133)	No	No	No	Not covered in geophysical survey

<b>T05/508A</b> New Application	Clams 3 longlines and 6 anchors, intertidal clams will be dredged	viking naust (CO116-041002), a breakwater (CO129-022) pier/jetty (CO116-041001)	No	No	No	No	Not covered in geophysical survey
<b>T05/532</b> New Application	Mussel 15 longlines with 30 associated anchors	No	No	No	No	W11270 & W11269	SS Survey – Three anomalies of potential archaeological significance
<b>T05/538</b> New Application	Oysters 27 floating bag lines, 54 ½ ton anchors, 60 x 10 bag trestles	No	Yes, cannon shot.	No	No	No	Not covered on sides-scan survey
<b>T05/586</b> New Application	Seaweed 19 Longlines with 38 associated anchors onsite	No	No	No	No	No	SS Survey – nothing of archaeological potential
<b>T05/587</b> New Application	Seaweed 30 Longlines with 60 associated anchors onsite	No	No	No	No	No	SS Survey – nothing of archaeological potential
<b>T05/591A</b> New Application	Seaweed 2 mooring grids 20 anchors	No	No	No	No	No	SS Survey – nothing of archaeological potential
<b>T05/602A</b> New Application	Seaweed 4 mooring grids and 40 anchors	No	No	No	No	No	SS Survey – nothing of archaeological potential
<b>T05/607A</b> New Application	Seaweed 13 lines, 10 anchors	No	No	No	No	No	Not covered in geophysical survey



## Mitigation Measures

Further archaeological investigation is recommended at sites T05/538, T05/502, T05/532, T05/484B, T05/508A as outlined in the table below.

Licence Ref & Status	Species /Structures	Archaeological Constraint	Mitigation Measure
T05/84A Renewal	Oysters Intertidal - 20 x 10 bag trestles.	N/A	No further archaeological input deemed necessary.
T05/84B Renewal	Oysters Intertidal 20 x 10 bag trestles.	N/A	No further archaeological input deemed necessary.
T05/84C Renewal	Mussel 21 longlines and 42 anchors.	N/A	No further archaeological input deemed necessary.
T05/606A New Application	Oysters Trestles intertidal - hanging system with 12 anchors subtidal.	N/A	No further archaeological input deemed necessary.
T05/484A	Scallops & Sea Urchins Park netting will be placed on the seabed to fence off the area, no dredging.	N/A	No further archaeological input deemed necessary.
T05/586	Seaweed 19 Longlines with 38 associated anchors onsite.	N/A	No further archaeological input deemed necessary.
T05/587 New Application	Seaweed 30 Longlines with 60 associated anchors onsite.	N/A	No further archaeological input deemed necessary.
T05/591A New Application	Seaweed 2 mooring grids 20 anchors.	N/A	No further archaeological input deemed necessary.
T05/607A New Application	Seaweed 13 lines, 10 anchors.	N/A	No further archaeological input deemed necessary.
T05/602A New Application	Seaweed 4 mooring grids and 40 anchors.	N/A	No further archaeological input deemed necessary.
T05/538 New Application	Oysters 27 floating bag lines, 54 ½ ton anchors, 60 x 10 bag trestles.	Recovery of cannon shot from Traillaun Beach	Underwater (wading/diving) survey of the proposed licence area.
T05/502 New Application	Scallops Park netting will be placed on the seabed to fence off	Side scan sonar anomaly No.1 & 2.	Underwater (diving) survey of side scan sonar anomalies 1 & 2.

	the area, no dredging.		
T05/532 New Application	Mussel 15 longlines with 30 associated anchors.	Wreck sites W11270 & W11269 and side- scan anomalies	Underwater (diving) survey of side scan sonar anomalies 3 & 4 and wreck sites W11269 and W112670.
T05/484B New Application	Scallops & Sea Urchins Park netting will be placed on the seabed to fence off the area, no dredging.	Within zone of notification for burial ground (CO115-133))	Visual (wade) survey of site.
T05/508A New Application	Clams 3 longlines and 6 anchors, intertidal clams will be dredged.	Within zone of notification for Lonehort Harbour; naust (CO116- 041002), a breakwater (CO129- 022) and a pier/jetty (CO116-041001).	Archaeological testing on inter-tidal section and , geophysical survey in the sub-tidal area.

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