



MERC Consultants
environmental and conservation services

Environmental Report

ADCP Deployment: Cork Harbour and environs

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1. Assessment under the under the Foreshore Act 1933, as amended and the EIA Directive

Under the Foreshore Act as amended, the appropriate Minister is required, as part of his consideration of a relevant application and before a decision on the application is given, to undertake an environmental impact assessment of projects likely to have significant effects on the environment by virtue, *inter alia*, of their nature, size or location.

The objective of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the Environmental Impact Assessment, or EIA, Directive) is to ensure that projects that are likely to have a significant effect on the environment are adequately assessed before they are approved. An EIA is required for all projects detailed in Annex I of the EIA Directive and for all projects detailed in Annex II where the proposed project is likely to have significant effects on the environment.

The proposed project, for the deployment of up to nine (9) Acoustic Doppler Current Profilers (ADCPs) at various locations within Cork Harbour and environs, does not fall within the classes defined under Annex I or Annex II of the EIA Directive. Therefore, it is not subject to the provisions of the EIA Directive. An environmental report for the proposed project is presented in section 2.

2. Environmental Report

Table 1 presents an overview of the proposed ADCP deployment locations and an assessment of the likely effects of this project on the environment. The ADCP deployment is being conducted to provide the information required to model water currents in Cork Harbour and environs.

An Acoustic Doppler Current Profiler (ADCP) is a hydroacoustic current meter used to measure water current velocities over a depth range using the doppler effect of sound waves scattered back from particles within the water column. In the present case ADCPs operating in the range of 600 KHz or 1 Mhz will be used. The instrument emits “pings” of sound at a sampling rate of 1-minute average every 10 minutes.

Each ADCP is contained within a trawl resistant bottom mount frame *circa* 1.8m x 1.3m x 0.6m with a weight of approximately 300kg. The frame is attached to a ground line, a clump weight and to an acoustic release system carrying a rope retrieval system. The frame also houses a recovery line attached to a small rigid buoy which is held in place by an acoustic release, which releases the buoy on command from a deck unit from a boat. Also housed within the frame is lead ballast to secure the frame to the seabed. Additional instrumentation to collect salinity and temperature data may also be contained within the frame. An acoustic pinger is also mounted on the frame to aid in the recovery of the frame in the event of the acoustic release not firing. The frame is deployed with a grapple hook and floating nylon line to serve as a backup means of recovery.

Table 1. Environmental report

| Characteristics of the proposed project |
|---|
| Overview of the proposed project |
| <p>Deployment of up to nine ADCPs at a range of locations within Cork Harbour and environs as shown in figure 1.</p> <p>The purpose of the deployment of these ADCPs is to gather the information required to inform modelling of water currents in the area.</p> |
| Project Design |
| <p>The proposed project entails the following elements:</p> <ul style="list-style-type: none"> • It is proposed that a maximum of nine (9) ADCPs in trawl resistant frames will be deployed from a vessel at the locations shown in figure 1. • The ADCPs will be left <i>in situ</i> for no less than 32 days to gather the information required. |
| Environmental baseline |
| <p>With the exception of ADCP number 8 (Figure 1) which is marginally inside of the boundary of Great Island Channel SAC and within 50 meters of the boundary of Cork Harbour SPA. All other ADCPs are outside of the boundaries of these two European sites.</p> <p>The benthic ecology of Great Island Channel SAC, Cork Harbour SPA and the surrounding environs in which the ADCPs are to be deployed is known from sampling carried out for compliance with the Habitats and Water Framework Directives.</p> <p>Great Island Channel SAC is designated for the following qualifying interests</p> <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] <p>Cork Harbour SPA is designated for the following Special Conservation Interests (SCIs)</p> <ul style="list-style-type: none"> • Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] • Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Grey Heron (<i>Ardea cinerea</i>) [A028] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Wigeon (<i>Anas penelope</i>) [A050] • Teal (<i>Anas crecca</i>) [A052] • Pintail (<i>Anas acuta</i>) [A054] • Shoveler (<i>Anas clypeata</i>) [A056] • Red-breasted Merganser (<i>Mergus serrator</i>) [A069] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Lapwing (<i>Vanellus vanellus</i>) [A142] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Curlew (<i>Numenius arquata</i>) [A160] • Redshank (<i>Tringa totanus</i>) [A162] • Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] |

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| <ul style="list-style-type: none"> • Common Gull (<i>Larus canus</i>) [A182] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] • Common Tern (<i>Sterna hirundo</i>) [A193] • Wetland and Waterbirds [A999] <p>Records are also present for a number of Annex IV species within the survey area and its environs. A separate Annex IV risk assessment has been conducted to assess the potential for impacts on Annex IV species.</p> |
| Scale of the project |
| The project duration will be for a minimum of 32 days. Each ADCP station location is shown in figure 1. |
| Cumulative impacts |
| Cork Harbour and environs is an extremely busy water body. Shipping and recreational leisure craft are a constant feature within the site and the immediately adjacent hinterland is heavily utilised by industry. It would serve no purpose to list the multiple activities, projects and plans currently operational or planned for the area. However, a search of Cork County Council and Cork City Council online planning portal and the Foreshore unit applications website did not indicate any source-path linkages between the project site and any additional projects in the area of Cork Harbour and its environs that could lead to a potential for cumulative impacts. |
| Significance of the proposed works |
| The proposed project will be undertaken according to the scope of works proposed in the foreshore licence application and the applicants' supporting documents which includes supporting information for screening for appropriate assessment and a Habitats Directive Annex IV risk assessment. The supporting information for screening for appropriate assessment and the Annex IV risk assessment did not identify any potential for impact as a result of the proposed ADCP deployment. |
| Use of natural resources |
| No natural resources will be used. |
| Waste production |
| No waste production will occur. |
| Pollution risk |
| There is no potential for pollution. No on-site vessel fuelling will take place and there is no further use of hydrocarbons associated with the proposed project. As such the project does not have the potential to lead to accidental hydrocarbon spills. |
| Nuisance |
| It is considered that the temporary nature of the proposed works and limited scope and scale of the project will be insignificant in terms of potential for nuisance. |
| Location of the Proposed Development |
| Potential to impact European sites (SAC's and SPA's) and to NHA's and pNHA's |
| <p>A report containing information to support Screening for Appropriate Assessment has been provided as part of this application. This report has indicated that the potential for impacts on European sites are not considered possible.</p> <p>There are no NHAs within the zone of Influence of the proposed project.</p> <p>A number of pNHAs are present within Cork Harbour and its environs. The boundaries of these pNHAs overlap with the boundaries of Great Island Channel SAC and Cork Harbour SPA. The same criteria for assessing impacts of Natura 2000 habitats and associated species (Source-Impact-receptor) as detailed in the information to</p> |

support Screening for Appropriate Assessment report also apply to these pNHAs and as such no potential for impact on any pNHA is considered possible.

Cork Harbour Ramsar site (site code: 837) is located within the boundaries of Great Island Channel SAC. This Ramsar site supports various breeding waterbirds, internationally important numbers of wintering and spring staging waterbirds, and provides important feeding areas for waders. The same criteria for assessing impacts of Natura 2000 habitats and associated species (Source-Impact-receptor) as detailed in the information to support Screening for Appropriate Assessment report also apply to this Ramsar site. As such no impacts are predicted.

Potential to impact directly or indirectly on any habitats listed as Annex I in the EU Habitats Directive

A report containing information to support Screening for Appropriate Assessment has been provided as part of this application. This report concluded that there is no potential for the project to lead to any impacts on any Annex I habitat.

Potential to impact directly or indirectly on any habitats listed as Priority Annex I in the EU Habitats Directive

A report containing information to support Screening for Appropriate Assessment has been provided as part of this application. No priority Annex I habitats are present at the proposed ADCP deployment locations or their environs and the project does not have the potential to directly or indirectly impact any Priority Annex I habitat.

Potential to impact directly or indirectly on any species listed as Annex II in the EU Habitats Directive

A report containing information to support Screening for Appropriate Assessment has been undertaken. This report did not identify any direct or indirect impacts on the conservation interests of any species listed on Annex II of the EU Habitats Directive.

Potential to impact directly or indirectly on any species listed as Annex IV in the EU Habitats Directive?

A separate risk assessment relative to Annex IV species has been carried out and submitted as part of this application. The risk assessment did not identify any potential for impact on any Annex IV species.

Potential to impact directly or indirectly on any species listed as Annex I of the EU Birds Directive

A report containing information to support Screening for Appropriate Assessment has been undertaken. This report did not identify any potential for any direct or indirect impact on any species listed on Annex I of the EU Birds Directive.

Potential to impact directly or indirectly on the breeding places of any species protected under the Wildlife Act

A report containing information to support Screening for Appropriate Assessment has been undertaken. This report has not identified any project related impacts that could directly or indirectly impact the breeding places of Common Tern (*Sterna hirundo*) which are known to utilise the Martello Tower at Marino Point and the Ringaskiddy deep water basin mooring dolphins (RPS, 2014). No additional species with the potential for impact on their breeding places have been identified within the zone of influence of the proposed project.

Potential to impact directly or indirectly on existing land use

Aquaculture (oysters) takes place in an area of Great Island Channel (figure 2) and a large section of the south eastern corner of Cork Harbour (mussels). No ADCPs are proposed to be deployed within the aquaculture licence areas. Therefore no potential for impact is possible.

Potential to impact directly or indirectly on any protected structures or Recorded Monuments and Places of Archaeological Interest

A review of the National Monuments Service Historic Environment viewer and Wreck viewer has been carried out. No features of archaeological interest in the subtidal area at the location of the proposed ADCP deployments have been identified other than Spitbank lighthouse.

Spitbank lighthouse, a freestanding cast-iron lighthouse, built 1853, and set on cast-iron supports is located approximately 800m southwest of ADCP number 7. However, this feature remains a working light and no potential for impact is possible.

Wrecks are recorded for the following locations:

ADCP 5: Wreck ID: W11313, located at 51.84333/8.32944. Approximately 200m southwest of ADCP no. 5. No additional details available.

ADCP 2: Wreck ID: W08064, located at 51.79028/8.25445. Approximately 400m west of ADCP no. 2. Wreck of the Celtic (SS) liner.

These two wrecks are considered to be outside of the ZOI of the proposed project. Their positions are recorded here by way of further information.

Potential to impact directly or indirectly on listed or scenic views or protected landscapes as outlined in the County Development Plan

No impact on protected landscapes is possible. All ADCPs are submerged.

Significance of Impact According to Theme

Population and Human Health

There are no potential impacts arising from the proposed project which could lead to significant impacts on population or Human Health.

Biodiversity

There are no potential impacts arising from the proposed project which could lead to significant impacts on biodiversity.

Soils and Geology

There are no potential impacts arising from the proposed project which could lead to significant impacts on soils or geology.

Water

There are no potential impacts arising from the proposed project which could lead to significant impacts on water.

Air and Climate Change

No potential for impact identified.

Noise & Vibration

Other than vessel movement no noise and vibration will be generated.

Landscape

No potential to impact the landscape.

Material Assets

No use of material assets are required and no impact has been identified.

Cultural Heritage

No impact on cultural heritage including protected structures or archaeological features have been identified.

Conclusions

The proposed project does not have the potential to lead to any environmental impact.

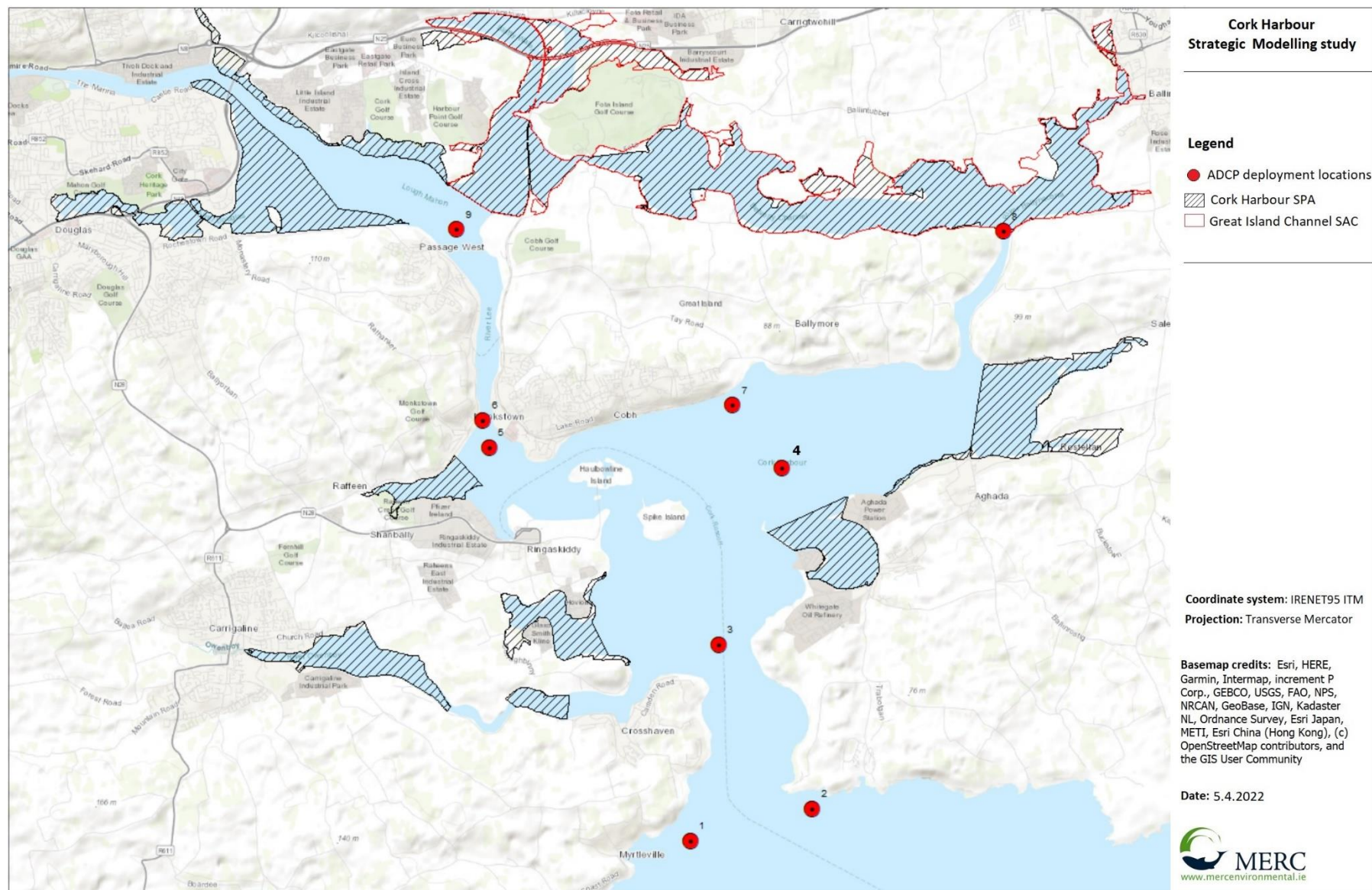


Figure 1. Proposed locations of ADCPs.

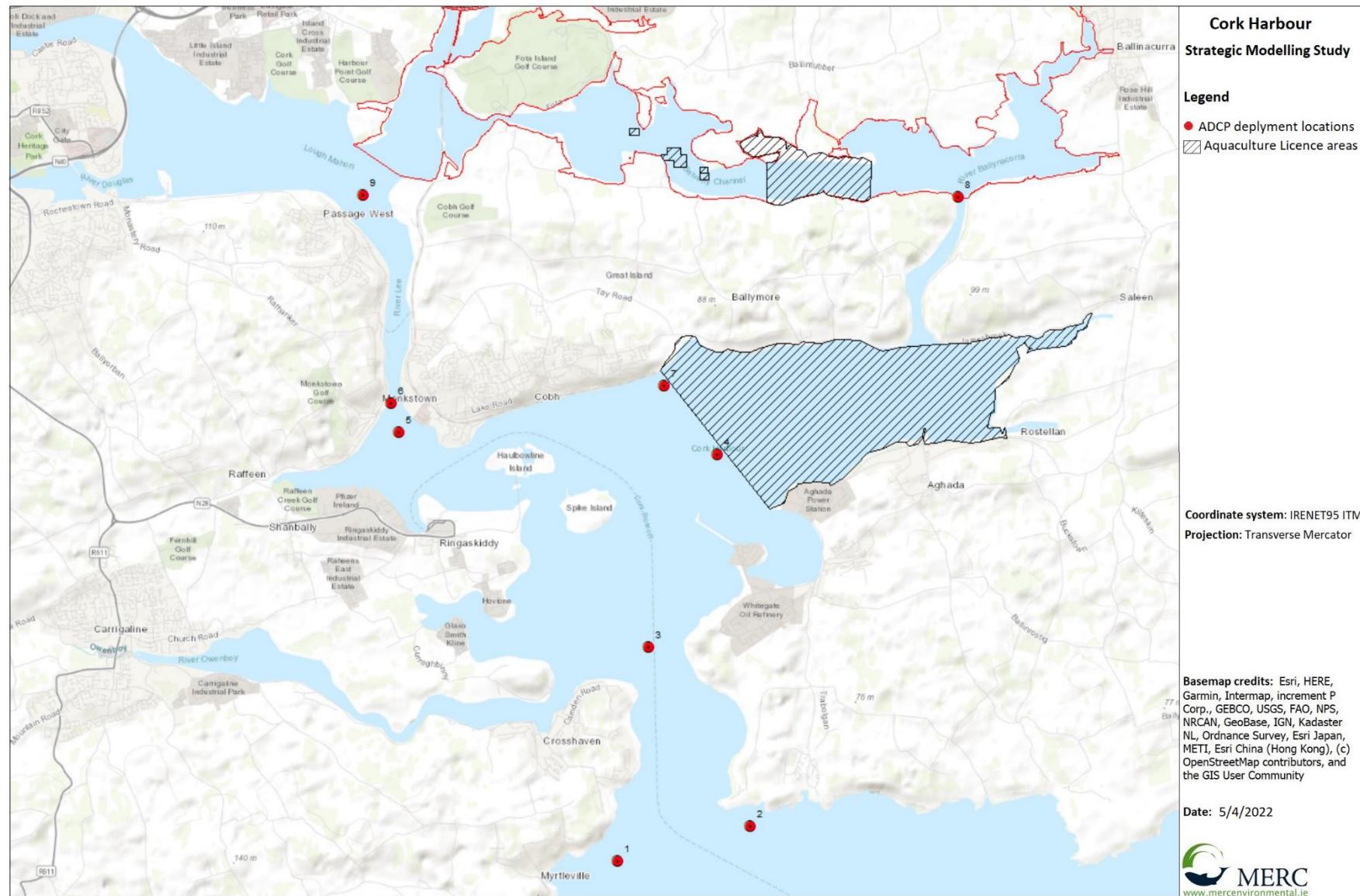


Figure 2. Aquaculture Licence areas relative to proposed ADCP deployment locations.

3. References

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RPS (2014). Common Tern monitoring: Port of Cork Summary of 2014 breeding season at Ringaskiddy.