

# **Fergus Estuary and Islands: Discovering a Maritime Historic Landscape in Co. Clare**

## **Methodologies, Background Research and Illustrations**

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### **Project aims and objectives**

This project will complete a preliminary study of the maritime historic landscapes of the Fergus estuary and its islands, Co. Clare; build on recent spectacular archaeological discoveries on the Fergus estuary and work to promote a wider public understanding and appreciation of this unique maritime historic landscape. The project will also provide a unique case study for the likely ongoing destruction and erosion of Ireland's maritime heritage, as climate change, sea-level change and channel erosion destroys a hitherto remarkably well-preserved medieval fishweir complex at Boarland Rock, Fergus estuary, Co. Clare.

Despite Ireland's long maritime history and its Atlantic island status, it should be admitted that there is still a remarkably poor understanding of this country's maritime cultural heritage (O'Sullivan and Breen 2007). As the Heritage Council's recent reports have recently shown (e.g. Kelly and Stack 2009), this is becoming critical as climate change, sea-level rise and associated increased storm events are likely to have a major impact on our coasts and waterways – so an unknown and unquantified heritage is facing destruction of an unknown rate and scale.

Urgently needed are coastal and intertidal surveys of Ireland's maritime heritage, which provide both a sense of the heritage resource and seek to place it within a wider understanding of our historic and cultural landscapes. These projects should also seek to promote a public understanding of this maritime resource, through lectures, publications, posters and exhibitions. However, the most effective projects are those that both reveal new archaeology and place it within local and regional landscape contexts.

### **Fergus estuary and its islands: discovering a unique maritime historic landscape**

This project will focus on the maritime heritage of the islands of the Fergus estuary, Co. Clare, particularly on the estuarine channels and intertidal zones around Deer Island, Coney Island, Inishmore, Inishmacowney and Canon Island; an unique seascape consisting of an archipelago of islands, mudflats, saltmarshes and channels with its own distinctive maritime heritage. The Fergus estuary islands are located in one of the most important wetland wildfowl habitats in Ireland (the estuary is an SAC, SAP and Ramsar site). It is highly likely that given this history of settlement and environmental resources, that the islands have a rich and unexplored maritime archaeological heritage.

Despite their geographic location, the Fergus estuary's islands have seen little previous archaeological investigations. The Discovery Programme's Shannon estuary intertidal survey of 1992-1997 focused only on the northern part of the Fergus estuary (e.g. O'Sullivan 2001; O'Sullivan and Breen 2007). The remarkable islands of the southern Fergus estuary – always dominating the view from everywhere - were avoided by that project principally because of difficulties of boat access and lack of local knowledge. Our previous research in 2009 has now demonstrated that the Fergus estuary islands and their foreshores hold a rich prehistoric, early medieval, late medieval and post-medieval maritime archaeological heritage (e.g. O'Sullivan 2001; O'Sullivan and Dillon 2009).

In 2008, the Heritage Council (archaeology grant 16355) funded the first intertidal archaeological survey by Mary Dillon and Aidan O'Sullivan of a newly discovered medieval fishweir complex at Boarland Rocks, Co. Clare, c.1km north of the islands. This project was highly successful, with the preliminary recording of wooden fishweirs that have been radiocarbon dated to the mid-13th to the early 15th centuries AD. Almost certainly, these medieval fishweirs were constructed and used by the inhabitants of the Augustinian Abbey on Canon Island, Co. Clare, who were probably exploiting other

estuarine resources around the islands. Strikingly, every visit to this complex has revealed new evidence with at least 16 wooden fishweirs now known.

In 2009, the Heritage Council (archaeology grant 17499) funded a further archaeological survey, extending the scope of discovery to the islands to the south of Boarland Rock, principally Deer Island, Coney Island and Deenish Island. This project entitled 'Islands in Time: the maritime cultural landscapes of the Fergus estuary islands' has been similarly successful. Background cartographic (17<sup>th</sup>-19<sup>th</sup> century maps), historical, aerial photographic and archaeological research established a dataset of general information about the maritime heritage of the islands. In 2009, our research of historical maps (e.g. Murdoch McKenzie's and Henry Pelham's 18th century maps; 18th and 19th century Admiralty Charts, the OS 1st and 2nd ed. 6" maps) revealed the presence of piers, quays, causeways, beacons and other natural features between the islands and along the channels – a significant maritime infrastructure around the islands enabling navigation and pilotage. Aerial photographic analysis (e.g. Google Earth) also revealed the survival of previously unknown archaeological sites and enclosures, as well as extensive late medieval field systems on the islands and previously undiscovered harbours and landing places.

Our research also indicated that the islands hold a rich medieval archaeological heritage, of churches, holy wells, enclosures and field systems. Around the islands, we have now found traces of maritime activities. Canon Island, the location of the medieval Augustinian abbey is particularly densely surrounded by maritime archaeological features – such as harbours, causeways and reclamation banks to the north and east of the Abbey, which are presumably late medieval in date. Deer Island (a late medieval deer park?) and Coney Island (a medieval placename typically indicating the presence of rabbit warrens) were probably part of the late medieval monastic estates associated with Canon Island. In the 18th century, local labourers and landless farmers were engaged by landlords to graze cattle on the islands (Lyttleton and O'Sullivan 2008). In the late 19th century, the islands saw an explosion of population and were teeming with life with hundreds of people residing there. In the Post-Medieval period, the inhabitants of the Fergus estuary islands were known to be engaged in fishing, seaweed harvesting and kelp production (with historical references to kelp walls and kilns); in pilotage for ships moving along the Shannon and Fergus estuary channels and in agricultural labour (both tillage and livestock management). Since the 1960s, like many offshore Irish islands, the Fergus estuary islands have been abandoned and lie empty. In a sense, the Fergus estuary islands probably offer similar human and environmental stories to such islands as the Blasket Islands, Co. Kerry, which were also populated in previous centuries but are now abandoned (O'Sullivan 2008). What is different is that the Fergus estuary and its islands have never been seriously explored by archaeologists.

In July-September 2009, our Heritage Council-funded project carried out 2 weeks of intertidal archaeological survey leading to the identification of a total of 69 new archaeological sites. Amongst the most remarkable discoveries have been 2 Iron Age wooden post alignments (c14 dates of c.100 BC-50 AD). The Iron Age is entirely undiscovered in Co. Clare and these extraordinary structures – up to 230m in length - may well be ritual causeways associated with religious practice. There are now at least 22 medieval fishweirs (12<sup>th</sup>-15<sup>th</sup> century AD) on the mudflats around the islands. At Boarland Rock, there are at least 16 weirs located over a shoreline 600m in length – essentially an intact medieval fishing landscape. In September 2009, an inspection of the Boarland Rock medieval fishweirs revealed that they were being eroded much more rapidly than had been suspected – indicating that the sites may well be entirely destroyed within 10 years. Our archaeological discoveries have also included numerous post-medieval stone walls on the foreshore (*sciars* in local folklore) relating to seaweed harvesting and kelp production. There are also numerous piers and landing places for boats and navigation, some of which may be medieval in origins. In conclusion, the Fergus estuary and its islands are emerging as amongst the most exciting and richest maritime archaeological landscapes in Britain and Ireland. However, it is also clear that many of these sites are under threat or erosion and destruction.

### **Project description**

This project aims to complete a study of the maritime historic landscapes of the Fergus estuary and its islands, Co. Clare and to promote the understanding of Ireland's maritime heritage. Specifically, the project will

- Complete a maritime archaeological survey of the Fergus estuary and its islands, particularly progressing intertidal surveys of those islands at southern end of Fergus estuary (particularly Canon Island, Inishmacowney, Inistubrid)
- Provide, in collaboration with the Discovery Programme, a detailed instrument (DGPS or Terrestrial Laser Scanning) survey and investigation of the remarkable Medieval fishweir complex at Boarland Rock, a site that presents *extraordinary logistical difficulties* (i.e. 16 sites over 600m; located 1.5km from land; only accessible by boat in good weather; visible for only 2.5 hours at low tide!)
- Provide a unique and highly visual case study for the impact of climate change, sea-level change and erosion on Ireland's maritime heritage, through a record of the ongoing destruction and erosion of medieval fishweir complex at Boarland Rock, Fergus estuary, Co. Clare.
- Promote the wider public understanding and appreciation of the unique maritime historic landscape of the Fergus estuary and islands in Co. Clare, through local lectures and workshops and a possible fieldtrip (in collaboration with Clare Archaeology and Historical Society), a museum exhibition and texts and images for a Heritage Council Schools poster on 'Fergus estuary and islands: a maritime historic landscape in Co. Clare'.

### Methodology and Phases

- An initial 2-week desktop review will be carried out of previous unstudied archaeological, cartographic, folklore, historical and aerial photographic evidence (e.g. Google Earth, Marine Institute surveys) and results placed on a GIS for the Fergus estuary's islands.
- This will be followed by 2 weeks of extensive intertidal archaeological survey of previously unexplored islands (a "rapid reconnaissance survey"; recognised as best-practice in maritime archaeology) by boat simply to identify intertidal archaeological sites across these parts of the study area. This survey would aim to be extensive (cover as much 'ground' as possible) rather than intensive and would include GPS plotting, site description, photography and c14 sampling (to identify chronology of key sites).
- This will be followed by 2 weeks of intensive survey and investigation of two key complexes; the medieval fishweir complex of 16 sites at Boarland Rock and the Iron Age post alignments at Deer Island, with primary aim being to establish a digital instrument survey (using GPS or Terrestrial Laser Scanning) of their foreshores, of individual structures and to place survey posts to record the rate and extent of erosion and destruction.
- A 4 week post-survey project would lead to the completion of a major report, site catalogue and text for a publication ('A maritime archaeological survey of the Fergus estuary islands, Co. Clare', to be submitted to the *International Journal of Nautical Archaeology*), as well as a paper on 'Medieval fishweirs at Boarland Rock, Fergus estuary, Ireland' in *Medieval Archaeology*. Shorter papers would be submitted to *Archaeology Ireland* and *The Other Clare*.
- UCD School of Archaeology will integrate this project into its undergraduate and postgraduate teaching (to try and encourage similar projects in future years) and the School's website would publish the project's report as a PDF online.
- The Fergus estuary and Islands project will involve local expertise and knowledge and collaboration, with local island landowners, interested amateur archaeologists (e.g. Clare Archaeological and Historical Society) and most importantly the retired Fergus estuary driftnet fishermen who will be involved in actual site identification and survey. As with the 2009 survey, all project digital data and a poster exhibition would be offered to Clare County Library and to the Clare County Museum to promote understanding of the Fergus estuary's cultural heritage. The site data and a large selection of the project's own digital photographs and images would be available open-source, for free download for all interested parties.

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O'Sullivan, A. 2001 *Foragers, farmers and fishers in a coastal landscape: An intertidal archaeological survey of the Shannon estuary*. Dublin: Royal Irish Academy

O'Sullivan, A. 2005 'Medieval fishtraps on the Shannon estuary, Ireland: Interpreting people, place and identity amongst wetland communities'. *Journal of Wetland Archaeology*, 35 (3): 65-77.

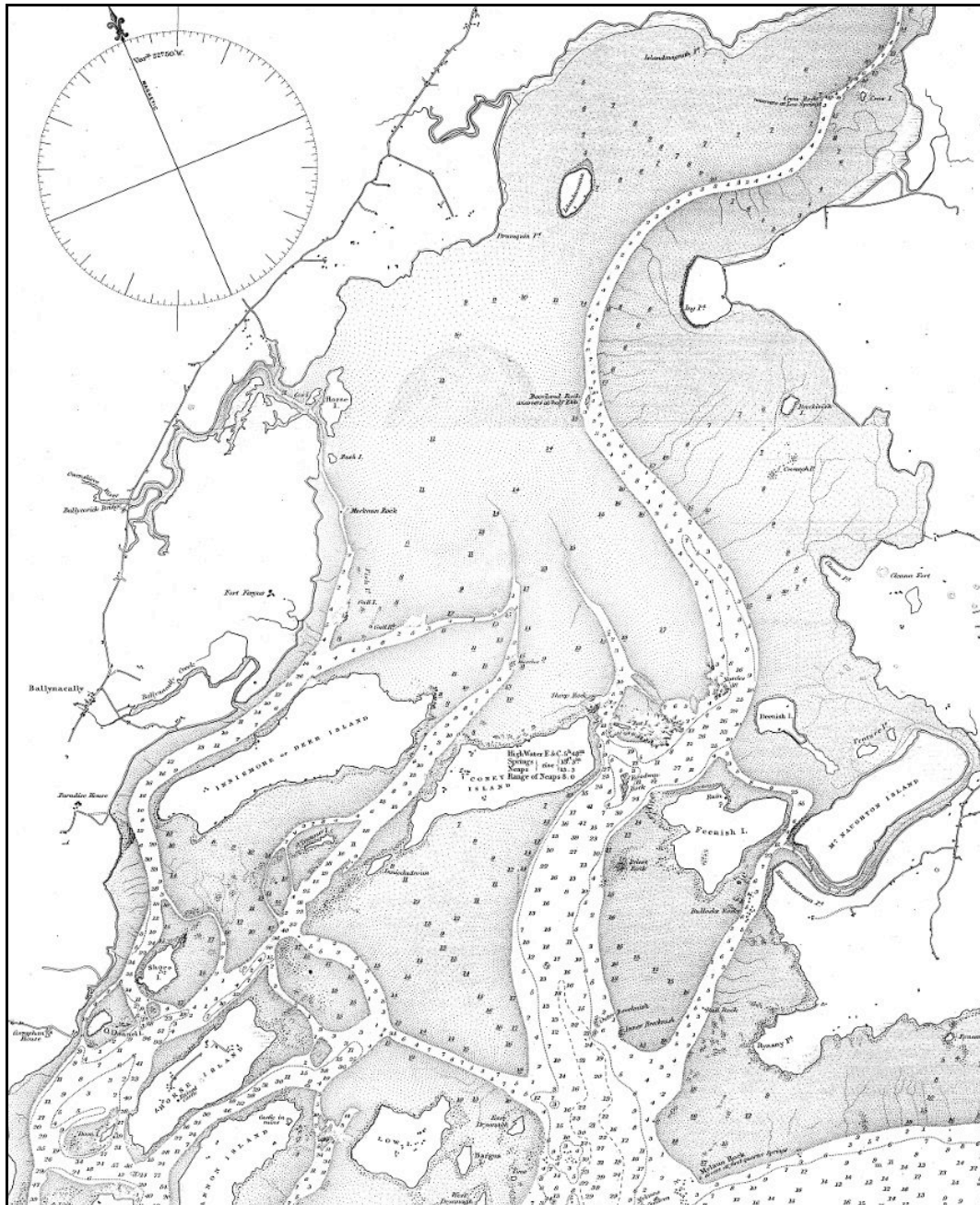
O'Sullivan, A. and Breen, C. 2007 *Maritime Ireland: an archaeology of coastal communities* (Tempus, Stroud).

Lyttleton, J. and O'Sullivan, A. 2008 'Post-Medieval marshland reclamation in Ireland: a case study from the Shannon estuary' In A. Horning (eds). *The Post-Medieval Archaeology of Ireland, 1550-1850*. Bray: Wordwell.



**Figure 1:** Aerial image of Fergus estuary islands, Co. Clare (immediately west of Shannon Airport). Inishmore, Coney Island and Feenish Island (from left to right) lie to the north, with Inismacowney, Canon Island (with its Augustinian Abbey) and Inishloe to the south (also left to right).





**Figure 2: Extract from ‘The River Fergus from Ennis to Shannon’, Surveyed 1840, Published by the Hydrographic Office of the Admiralty, June 1844. Sheet 1584 A** review of historical mapping – both land and maritime oriented – enables a preliminary identification of piers, jetties, fisheries (fishweirs being obstructions to navigation will be identified as “old weirs”), shipwrecks, causeways and also enables prediction of the location of intertidal archaeological sites (e.g. most medieval fishweirs will be found at particular locations on channels, on the outer (eroding) meander of each channel, often close to distinctive features. Shipwrecks and ballast mounds (emptied holds of late medieval and post-medieval ships heading upstream to ports) can also be identified on lower mudflats. The upper foreshore typically will contain features associated with island farming and seaweed exploitation.



**Figure 3:** Medieval fishweir Boarland Rock 2 and recently identified north of Coney Island (which can be seen to the south, in background) radiocarbon dated to AD 1410-1435. A total of 16 medieval fishweirs are now known from this foreshore (some are visible in the distance), all dated to the 12<sup>th</sup>-15<sup>th</sup> centuries AD. The archaeology of the intertidal zone of the islands to the south is entirely unknown (photo: Aidan O’Sullivan).



**Figure 4.** Eroding medieval fishweir trap at Boarland Rock 2. The 2009 survey revealed that these sites are being eroded very quickly, probably implying their total destruction in the next 3-5 years.





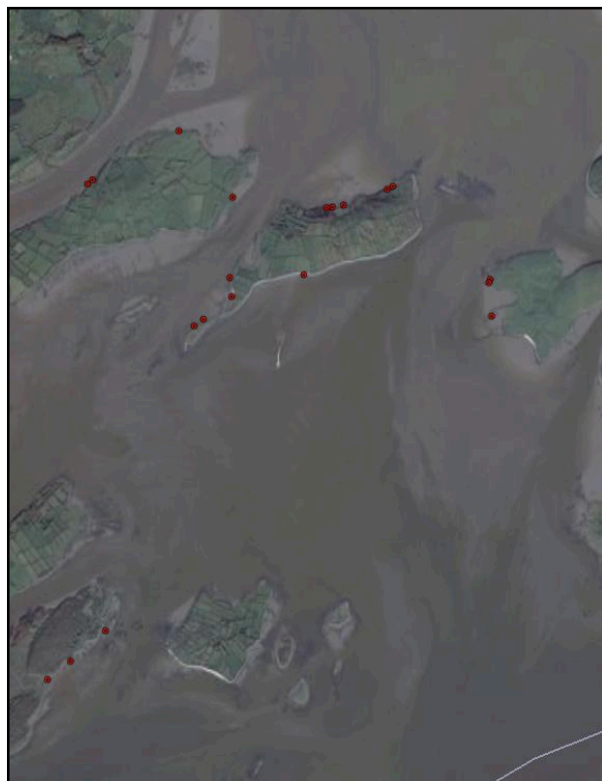
**Figure 5:** Medieval fishweir Boarland Rock 1 recently investigated by a Heritage Council funded project (2008), situated north of Coney Island; radiocarbon dated to c.AD 1420-1450. An experienced intertidal survey team can rapidly identify such archaeological sites from boat using binoculars, land and plot them in GPS, photograph and describe them in the tight time (c.3-4 hours) available at every low tide. A “boat survey” can typically cover 1-2km of channel at every low tide and will identify all sites on a stretch of foreshore (photo: Aidan O’Sullivan). This project will capture data on these eroding sites using a Terrestrial Lasar Scanner.



**Figure 6.** A detailed view of the Iron Age wooden post alignment Deer Island 25 (237m in length) situated north of Deer Island, Fergus estuary. Conor McDermott of UCD uses a handheld GPS to key in the narrowest point between the double lines of posts of D25, but this is not an adequate survey of these sites.



**Figure 7** Google Earth image of the estuary foreshore northeast of Deer Island, showing the location and general outline of the two Iron Age wooden post alignments. Deer Island 25 is represented by the green line, Deer Island 26 in red. The scale bar at the bottom left of the image is 144m long.



**Figure 8** Google Earth image of the estuary foreshore showing the location of intertidal walls that are not related to drylands field-systems. These are probably kelp walls, dividing up the foreshore into sciars for collection of seaweed. This is archaeological evidence for seaweed harvesting on the Fergus estuary in the late 18<sup>th</sup> and 19<sup>th</sup> centuries.





**Figure 9** Entitled 'Irish Distress: gathering seaweed for food on the coast of Clare'. The Illustrated London news, May 12 1883-465. In reality, seaweed harvesting for agriculture and industry (iodine production was probably a stable aspect of the Clare coastal economy in the 18<sup>th</sup> and 19<sup>th</sup> century.



**Figure 10** Detail of Google Earth image of Inismacowney (top left), Canon Island (left, with its Augustinian Abbey) and Inishloe (middle of photo). These islands are the heart of an extensive maritime cultural landscape, with evidence for fishing, navigation and resource exploitation related to their medieval and post-medieval island populations.



**Figure 11:** Estuarine mudflats around Canon Island (with Augustinian Abbey and its enclosure clearly visible). A possible medieval landing place/harbour can be seen northeast of the Abbey, while in the channel a series of spaced intertidal walls can be seen (possible 18<sup>th</sup> century kelp walls). A probable medieval marsh reclamation bank can be seen south of the abbey.





**Figure 12:** Estuarine channel between Inishmacowney and Canon Island (bottom right). A possible medieval landing place/harbour can be seen north of the Abbey, while in the channel a series of spaced intertidal walls can be seen (possible 18<sup>th</sup> century kelp walls). Medieval fishweirs would not be seen at this height and can only be identified on the ground.



**Figure 13:** Estuarine mudflats west of Inishloe. A distinctive stone causeway can be seen heading out from Inishloe towards Canon Island. This remarkable feature can be seen on early OS 6" maps and may be a causeway/bridge used by the Augustinian abbey, a fishweir, watermill or a massive intertidal wall.