

Where to put your oysters

Site Selection Considerations

To ensure successful oyster restoration the environment must be suitable for oysters. Restoration Forth conducted detailed habitat suitability modelling which encompassed the Firth of Forth from the Queensferry crossing to the mouth of the estuary. We considered environmental, social and logistical factors which may affect where we could reintroduce oysters.

Here are some details we considered:

- Site history: Oyster restoration often works best where oysters have previously lived. They prefer sheltered and relatively shallow waters such as coastal areas and estuaries. However, the environment could have changed due to pollution, changes in the coastline or activities in the area, for example. Therefore, if areas have changed significantly, they may no longer be suitable.
- **Substrate** (the material on the seabed): The best substrate for oysters to grow on is old oyster beds, shells or gravel. Oyster shell material can survive for thousands of years and can still be found on beaches along the Firth of Forth, which may indicate that oyster beds were once nearby.
- Biodiversity: The biology of the area may give further insights into the suitability of the habitat. If there are other bivalves such as horse mussels, then the site is probably suitable as these species prefer a similar environment to oysters. However, if there are lots of predator species (such as large crabs and starfish) or invasive species then the area may not be suitable.
- Access: We need sites that can be accessed easily by boat or on foot and are safe places to work.
- **Protected areas:** Areas that are already designated as 'protected areas' could impact restoration plans in both positive and negative ways. For example, a protected area where dredging is prohibited would limit disturbance, but if that same area is already designated for another sensitive species (e.g. seabirds), it might not be possible to get licences/permissions as restoration activities could disturb them.



This process was informed from the **NORA (Native Oyster Restoration Alliance) handbook** on-site selection.

Habitat Suitability Surveys

Habitat suitability modelling can be a useful technique for shortlisting possible sites for oyster restoration, but physical surveys are needed before any restoration activities can begin. Theoretical modelling does not always match real-life settings!

First, several areas from Inchkeith to Kirkcaldy and North Berwick were highlighted as possible sites due to the history of oyster fishing, or the presence of shells. Secondly, we used dropdown video to look at the seabed. This allowed us to confirm that the sediment and other physical characteristics of the site were suitable for oysters to live.

This narrowed down our options, which were then surveyed using SCUBA to carry out more detailed surveys. These surveys revealed that the areas around Inchkeith island provided the most suitable environment.

If you would like to get involved in our site selection, check out our handy 'Oyster Observer Guide' to learn more.

