

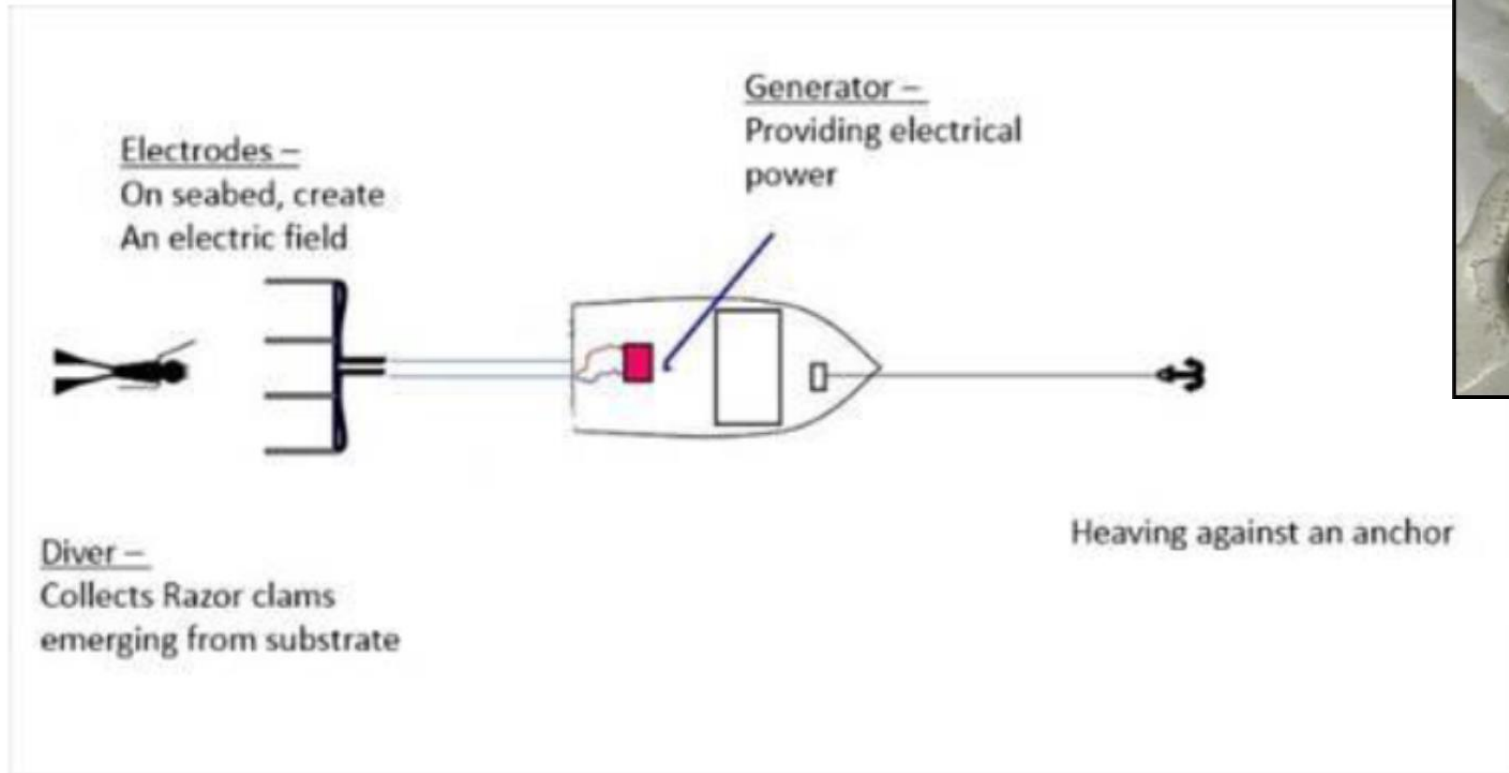
Electrofishing for Razor Clam Scientific Trial

Marine Directorate

August 2023



What is electrofishing?



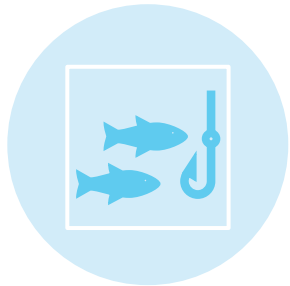
[Video A1: Diver collecting razor clams following an electric rig - YouTube](#)

Previous to the electrofishing trial

- ▶ In early 2010 it was clear that almost all razor clams being landed in Scotland were caught by electrofishing.
- ▶ Significant compliance issues and health and safety issues. Driven by lucrative export markets.
- ▶ In 2016 public expenditure equated to around £1.8 million, including 60% of MPV Minna's time spent at sea.
- ▶ Emerging science suggested that electrofishing has very low short term impact on non-target species and warrants consideration as a viable fishing method.



Establishing the trial



2014

SCIENTIFIC STUDY

Murray et al: Effects on survival and recovery of target and non-target species

Concluded that electrifying appears to be a low impact method of fishing compared to other methods, such as dredging.



2016

SG PUBLIC CONSULTATION

Sought views about whether electrofishing should in future be a permitted method of catching razor clams in Scotland.



2018

THE TRIAL WAS LAUNCHED

1 February 2018 at 10 defined sites around the Scottish coast.

Provides an opportunity to address matters raised in the consultation and investigate the viability of a suitable razor clam fishery.



The Electrofishing trial



Up to 28 vessels were granted authorisation to participate following strict application process.



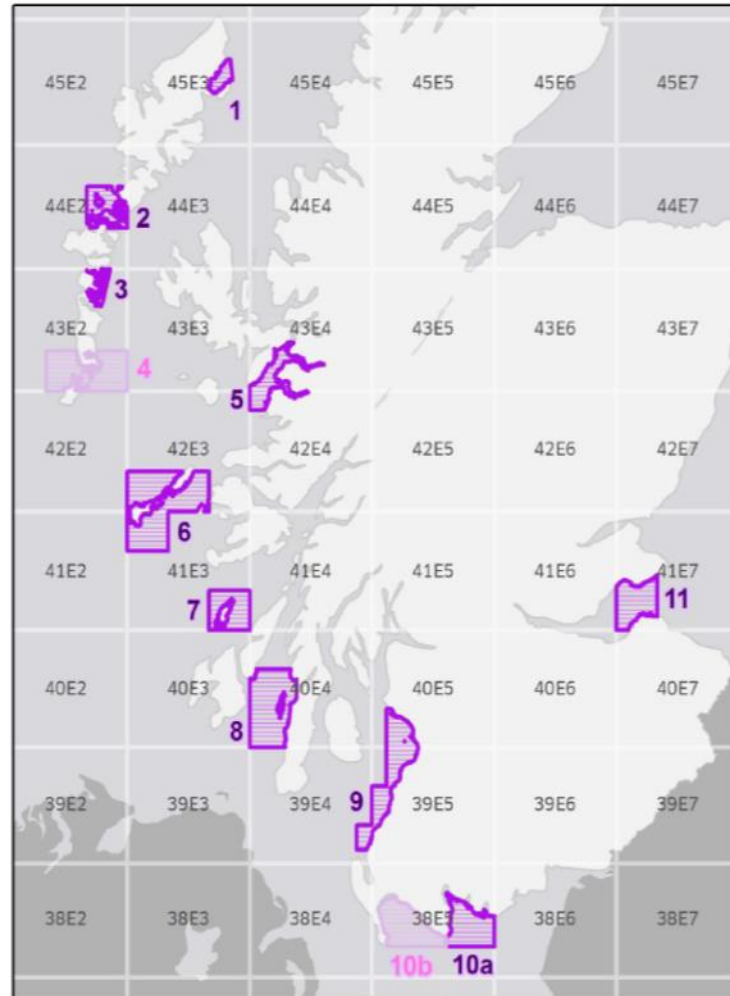
Gear is restricted and controlled. Must also have REM device operational at all times on board.



Vessels restricted to catch limit and effort limit.



Diver safety along with food safety and traceability is paramount.



Area 1 (Broad Bay)
 1) 58° 20.555'N 006° 09.727'W
 2) 58° 15.709'N 006° 08.301'W

Area 2 (Sound of Harris) *
 1) 57° 50.000'N 007° 20.000'W
 2) 57° 50.000'N 007° 00.000'W
 3) 57° 40.000'N 007° 00.000'W
 4) 57° 40.000'N 007° 20.000'W

Area 3 (Benbecula)
 1) 57° 30.000'N 007° 20.000'W
 2) 57° 30.000'N 007° 08.602'W
 3) 57° 23.783'N 007° 11.196'W
 4) 57° 20.911'N 007° 12.590'W
 5) 57° 20.896'N 007° 13.597'W
 6) 57° 21.000'N 007° 14.156'W
 7) 57° 21.000'N 007° 20.000'W

Area 5 (Sound of Sleat) *
 1) 57° 12.000'N 005° 48.000'W
 2) 57° 12.000'N 005° 20.000'W
 3) 56° 55.200'N 005° 20.000'W
 4) 56° 55.207'N 006° 00.000'W
 5) 57° 03.388'N 006° 00.000'W

Area 6 (Coll and Tiree)
 1) 56° 40.000'N 007° 00.000'W
 2) 56° 40.000'N 006° 20.000'W
 3) 56° 30.000'N 006° 20.000'W
 4) 56° 30.000'N 006° 22.748'W
 5) 56° 31.106'N 006° 21.223'W
 6) 56° 31.916'N 006° 23.595'W
 7) 56° 30.000'N 006° 26.290'W
 8) 56° 30.000'N 006° 40.000'W
 9) 56° 20.000'N 006° 40.000'W
 10) 56° 20.000'N 007° 00.000'W

Area 7 (Colonsay)
 1) 56° 10.000'N 006° 20.000'W
 2) 56° 10.000'N 006° 00.000'W
 3) 56° 00.000'N 006° 00.000'W
 4) 56° 00.000'N 006° 20.000'W

Area 8 (Gigha)
 1) 55° 50.000'W 006° 00.000'W
 2) 55° 50.000'W 005° 37.000'W
 3) 55° 30.000'W 005° 37.000'W
 4) 55° 30.000'W 006° 00.000'W

Area 9 (Firth of Clyde)
 1) 55° 40.000'W 004° 53.000'W
 2) 55° 40.000'W 004° 30.000'W
 3) 55° 03.500'W 004° 30.000'W
 4) 55° 03.500'W 005° 07.500'W
 5) 55° 10.000'W 005° 07.500'W
 6) 55° 10.000'W 005° 00.000'W
 7) 55° 20.000'W 005° 00.000'W
 8) 55° 20.000'W 004° 53.000'W

Area 10a (Wigtown Bay)
 1) 54° 40.629' N 004° 23.655'W
 2) 54° 38.163' N 004° 23.659'W
 3) 54° 38.153' N 004° 00.000'W
 4) 54° 46.262' N 004° 00.000'W

Area 11 (Firth of Forth)
 1) 56° 15.000'N 003° 00.000'W
 2) 56° 15.000'N 002° 40.000'W
 3) 56° 00.000'N 002° 40.000'W
 4) 56° 00.000'N 003° 00.000'W

Coordinates denote outer boundaries on WGS1984 datum.

Trials are restricted to below mean low water spring tide mark (MLWS).

Sites marked with * have additional avoidance areas within the boundaries, see site maps for further details.

Sites 4 and 10b are not currently part of the trial.

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Annual update Year 4 (31 January 2021-1 February 2022)

- ▶ 793 tonnes of razor clams in year 4 of the trial with a landing value of £6.1 million.
- ▶ The average price per kilogram (kg) achieved by the trial vessels during the fourth year of the trial was estimated to be £7.80.
- ▶ Direct employment for around 101 people, of which 97 were regularly employed.
- ▶ Compliance was found to be good within the trial.
- ▶ HSE revised Commercial Shellfish Diving Inshore Water Guidance and new divers are now required to hold the minimum diving qualification of HSE SCUBA.

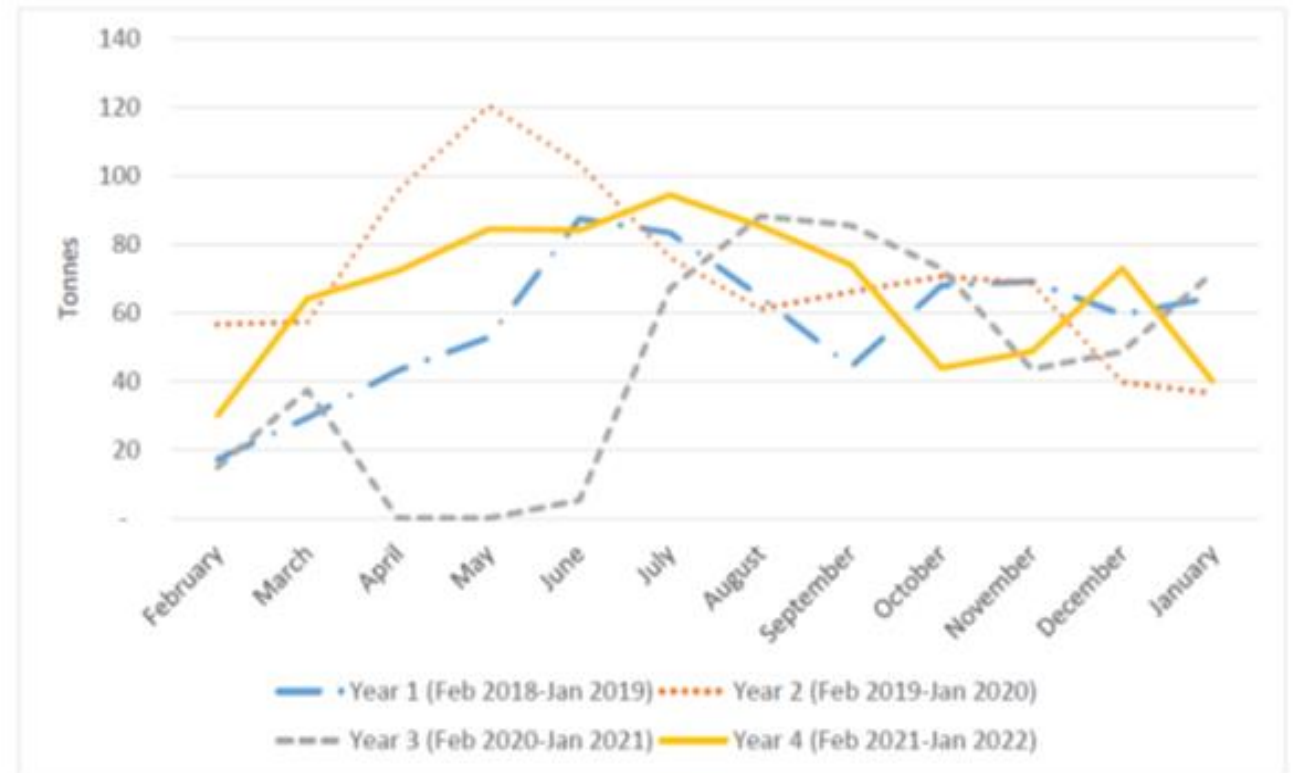


Figure 2: Monthly tonnage of razor clams landed by trial vessels, February 2018 to January 2022.

Benefits of the trial



Greater scientific understanding and knowledge of fishing practice and razors.



Unrivalled example of managing an inshore fisheries through regulators, academia, fishers and government.



Diversification opportunity.



Socio-economic development for coastal communities.



Fulfils wider SG policies.



Demonstrates the practical use of REM and the benefits to gathering fisheries data.



Beneficial to regulators and increase in standards and compliance.

Next steps of the trial



Derogations authorised until 31 January 2024, subject to the scientific advice.



Gather and analyse scientific data



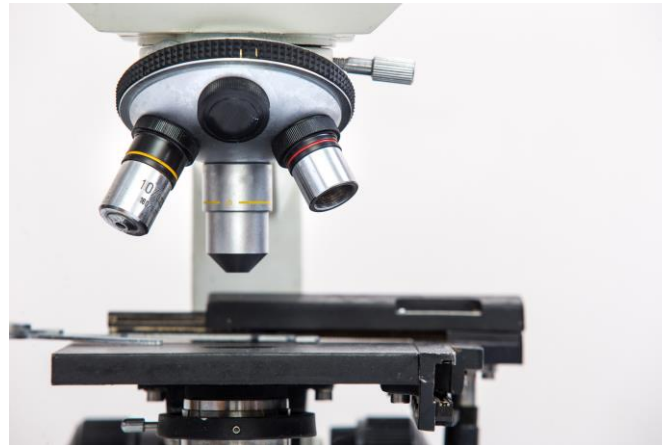
Catch limit, effort and gear restrictions.



Fishers will continue to gather accurate scientific data



Continue to work well with public sector partners



Scottish Government
Riaghaltas na h-Alba

Questions?



Resources

- ▶ [Consultation about electrofishing for razor clams in Scotland - Scottish Government - Citizen Space](#)
- ▶ [Video A1: Diver collecting razor clams following an electric rig - YouTube](#)
- ▶ [Scottish Marine and Freshwater Science Volume 5 Number 14: Electrofishing for Razor Clams \(Ensis siliqua and E. arquatus\): Effects on Survival and Recovery of Target and Non-Target Species - gov.scot \(www.gov.scot\)](#)
- ▶ [Update: Electrofishing for Razor Clams Trial 1 February 2018- 31 January 2019](#)
- ▶ [Update: Electrofishing for Razor Clams Trial 1 February 2019 - 31 January 2020](#)
- ▶ [Update: Electrofishing for Razor Clams Trial 1 February 2020- 31 January 2021](#)
- ▶ [Electrofishing for razor clams trial: update - February 2021 to January 2022 - gov.scot \(www.gov.scot\)](#)