



## Marine Institute Job Description

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| <b>Position</b>             | <b>Temporary Scientific &amp; Technical Officer (STO) - Data acquisition and management for shellfish fisheries</b>   |
| <b>Grade &amp; Contract</b> | <b>Scientific &amp; Technical Officer<br/>Temporary specified purpose contract for a maximum duration of up to 31st December 2027 (EUMAP – EMFAF funded)</b>  |
| <b>Service Group</b>        | <b>Fisheries Ecosystems Advisory Services (FEAS)</b>  |
| <b>Location</b>             | <b>Marine Institute, Rinville, Oranmore, Co. Galway<br/>(noting that we have recently introduced our blended working policy which may apply to this role)</b> |

### Who will you Work With and What Will The Role Involve?

The Scientific and Technical Officer (STO) will work mainly within the shellfish team and will collaborate with the data management team within the FEAS service area. The job will focus on scoping, researching and developing methods and technologies for streamlining acquisition of fisheries and related types of data.

The Marine Institute has carried out Ireland’s obligations under the Data Collection Framework (DCF) since 2002. The DCF programme involves at sea and port sampling of catch and landings, scientific surveys (e.g. acoustic, egg, groundfish, underwater TV surveys, shellfish and commercial vessel), management and analyses of data, assessment and provision of scientific advice on the sustainable exploitation of fisheries resources. The current DCF (EUMAP) will run over the period 2022-2027 and will provide the scientific data that supports implementation of the Common Fisheries Policy (CFP).

Fisheries resource assessment and provision of management advice relies on acquiring and managing data from various sources including so called fishery dependent data from commercial vessels and fishery independent data from research surveys. These data may be obtained at sea and at port and be acquired and reported by fisheries technicians, scientific observers on board commercial vessels or by fishermen themselves. Currently there is a heavy reliance on paper based methods of acquiring data. Other environmental data are also important in evaluating trends in fish catches. There is significant scope to expand the use of various technologies to increase the diversity, quantity and quality of data being acquired from fisheries and to automate the estimation of various indices derived from these data. For instance, high frequency data on vessels positions can be modelled to estimate fishing effort or cameras with artificial intelligence software could ‘count the catch’ as it comes on board or sensors / electronic devices can be used to measure fish. This then provides, the location, catch at location, catch by species and fish size data without resort to manual systems of data collection which is the basic data for fisheries assessment. Such technologies are variously developed in other industry sectors but are not optimised for fisheries. Various Apps can be developed for use on mobile devices for collection of georeferenced data and to reduce reliance on paper based systems

### What Will You Be Doing Every Day?

#### Principal Tasks:

The STO will collaborate closely with FEAS shellfish team to achieve the following tasks:

- Undertake background research on technologies that could be used to automate the acquisition of fisheries data from small scale commercial vessels and survey vessels
- Deploying and testing of new technologies at sea on commercial and survey vessels

- Evaluate the use of commercially available camera and artificial intelligence software systems to estimate fish catches. This would include collection of ‘software training data sets’ on small scale commercial vessels
  - Develop data forms for mobile devices for collection of data at sea and at port and customise them for specific jobs. These could be developed in ArcGIS Field maps and ArcGIS online or using other frameworks.
  - Contribute to management of fisheries data in SQL relational databases with the shellfish team
  - Develop applications for reporting and visualisation of data using, for instance, R-shiny

## What do You Need to Have Done to Apply for This role?

(Education, Professional or Technical Qualifications, Knowledge, Skills, Aptitudes, Experience and Training)

### Essential / Important:

- A relevant third level qualification in computer science, information technology or engineering
- Work experience in an information technology field
- Demonstrated experience with the R and SQL scientific programming and query languages
- High level of experience in the use of Microsoft Office or similar applications
- Sufficiently fit to pass an ENG II Medical and Personal Survival Training Programme

### Ideally Nice to Have / Desirable:

- Experience in solving data acquisition problems in an industry setting
- Have a high level of awareness and knowledge of work flows including data capture and management in an industry setting
- Proven collaborative skills including team working
- Practical experience using mobile devices to capture data in outdoor environments
- Ability to work at sea on small scale commercial vessels
- Software applications development experience

## What else do you need to know?

(Special personal attributes required for the role)

- Possesses strong objective analytical ability.
- Demonstrates imagination and creativity in problem solving.
- A collaborative and open approach to ‘brainstorming’ with other team members.
- Demonstrates capacity to integrate and develop ideas into practical proposals and solutions
- Good communication skills, both orally and in writing, to diverse audiences.
- Highly organised and the ability to work under pressure in a dynamic environment to meet multiple deadlines.

## Description of Service Group:

### FISHERIES ECOSYSTEMS ADVISORY SERVICES – The Wider Team

Currently, FEAS consists of over 90 scientific, technical, post graduate and administrative staff under the directorship of Dr Ciaran Kelly. The Service group operates a significant part of their services from the Marine Institute headquarters in Oranmore, Co Galway with additional port-based facilities and a



major [research facility at Newport](#), Co Mayo. The mission of FEAS is “to research, assess and advise on the sustainable use of marine fisheries resources”.

FEAS provide integrated advice and scientific support for the Irish government (principally the Department of Agriculture, Food and the Marine [DAFM](#)) on marine fisheries ecosystems related issues. A key output of FEAS is the annual [Stock Book and the annual Shellfisheries Stock Book](#). These provide the latest assessments and scientific advice for the resources exploited by Irish vessels and is a key reference for the Governments sustainability assessment presented annually to the Oireachtas. FEAS experts also provide scientific services and support to other government departments including Department of Housing, Local Government and Heritage ([DHLGH](#)) to address the Marine Strategy Framework Directive ([MFSD](#)) requirements through [OSPAR](#) and national reporting under an SLA ([service level agreement](#)). FEAS provide scientific services to Department of Environment, Climate and Communications ([DECC](#)) related to offshore renewable energy development.

FEAS experts actively participate at many meetings of the International Council for the Exploration of the Seas ([ICES](#)). At ICES our scientists are focused on advancing scientific understanding of marine ecosystems, providing information, knowledge and advice on the sustainable management of human activities affecting and affected by marine ecosystems. ICES is a key forum for scientific co-ordination of data collection and the provision of independent scientific advice. FEAS scientists are also encouraged to publish much of their work in peer-reviewed scientific journals.

FEAS experts also participate at other international fora including [STECF](#) (Scientific, Technical and Economic Committee for Fisheries), [ICCAT](#) (International Commission for the Conservation of Atlantic Tunas), [NEAFC](#) (North East Atlantic Fisheries Commission) and [NASCO](#) (North Atlantic Salmon Commission). FEAS provide scientific support for DAFM at various EU meetings (e.g. the EU Norway Agreements and the EU Council of Fisheries Ministers).

FEAS experts also carry out research and stock assessments on diadromous fish species (salmonids and eels) and are responsible for the salmon National Coded Wire Tagging and Tag Recovery programme and working closely with [IFI](#) (Inland Fisheries Ireland) on the Standing Scientific Committees for salmon and eel. In recent years FEAS has developed a core expertise in oceanic tracking of large marine fish. The FEAS Aquaculture Section is responsible for the operation of the National Sea Lice Monitoring Programme and carries out a range of national and internationally funded research projects based at MI facilities.

Further details can be found on the Marine Institute website:

<http://www.marine.ie/Home/site-area/about-us/fisheries-ecosystems-advisory-services>

<https://www.marine.ie/site-area/areas-activity/fisheries-ecosystems/fisheries-ecosystems>

### Who Will You Report to / Who will Manage and Support You?:

The successful candidate will be based at the Marine Institute, Rinville, Oranmore. Direct reporting will be to the Inshore (Shellfish and Environment) Team Leader

### What we offer

We value our staff, and we value their contribution to the work of the Marine Institute. In return for this, we provide a series of benefits that promote a healthy work-life balance which we hope will help them to develop professionally. These include training programmes to support personal and career development, Work/Life Balance policies, Employee Assistance Programme, Buddy/Mentoring Programme, Bike to Work Scheme, Staff Medicals and Annual flu vaccination.

### Training

A full range of training will be provided as required, on the job and through appropriate courses. Training needs will be identified through the MI Performance Management Development System (PMDS).

### Contacts:

#### Within the Marine Institute

FEAS Director, FEAS Section Managers, FEAS Team leads and team members; Marine Institute colleagues across other service groups.

#### Outside the Marine Institute

Department of Agriculture Food and the Marine (DAFM), Department of Housing, Local Government and Heritage (DHLGH), The OSPAR Commission on the Marine Environment of the North Atlantic, International Council for the Exploration of the Seas (ICES), various stakeholders and academic institutions.

### Salary:

Remuneration is in accordance with the Public Sector, Department of Finance approved Salary Scale for Scientific & Technical Officer, with a full time salary scale running from €35,336 - €72,999 per annum, pro-rated with time worked. You will become a member of the Single Public Service Pension Scheme unless you are currently or have worked in the Public Sector in the past 6 months or are a member of another Public Sector Scheme.

### Annual Leave:

Annual leave entitlement for a Scientific & Technical Officer is 25 working days per annum pro-rated to reflect time worked. Annual leave entitlements are exclusive of Public Holidays. All leave must be approved in advance in line with Marine Institute leave policies and using time and leave management system in place, by your manager or their authorised representative.

### Duration of Contract:

The maximum duration of this temporary specified purpose funded contract of employment will be up to December 31st 2027. The successful candidate will be on probation for the first six months of this contract.

## Who is the Marine Institute?

The Marine Institute is a non-commercial semi-state body, which was formally established by statute (Marine Institute Act, 1991) in October 1992.

Under the Act, the Marine Institute was given the responsibility:

*“to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Institute will promote economic development and create employment and protect the marine environment”.*

The Marine Institute is the national agency responsible for marine research, technology, development and innovation (RTDI). The Marine Institute seeks to assess and realise the economic potential of Ireland’s 220-million-acre marine resource; promote the sustainable development of marine industry through strategic funding programmes and scientific services; and safeguard the marine environment

through research and environmental monitoring. The Institute works in conjunction with the Department of Agriculture, Food and Marine (DAFM) and a network of other Government Departments, semi-state agencies, national and international marine partners.

**Our vision - *The Marine Institute, as a global leader in ocean knowledge, empowering Ireland and its people to safeguard and harness ocean wealth.***

**Our Mission - *The Marine Institute, provides government, public agencies and the maritime industry with a range of scientific, advisory and economic development services that inform policy-making, regulation and the sustainable management and growth of Ireland's marine resources. The Institute undertakes, coordinates and promotes marine research and development, which is essential to achieving a sustainable ocean economy, protecting ecosystems and inspiring a shared understanding of the ocean.***

In order to achieve this vision, the MI have six service areas; (1) Ocean, Climate and Information Services, (2) Marine Environment & Food Safety Services, (3) Fisheries Ecosystems Advisory Services, (4) Irish Maritime Development Office, (5) Policy, Innovation and Research Services and (6) Corporate Services.

Further details can be found on

[www.marine.ie](http://www.marine.ie)

<https://www.facebook.com/marineinstituteireland>

The Marine Institute 5 Year Strategic Plan (2023 to 2027) is available [Here](#)

### How to Apply:

A C.V. and letter of application, summarising experience and skill set applicable to the position should be emailed to [recruitment@marine.ie](mailto:recruitment@marine.ie) or posted to Human Resources at the Marine Institute, Rinville, Oranmore, Galway. All correspondence for this post should quote reference **FEAS/STO/POST4/Aug2023**

All applications for this post should be received by the Marine Institute in advance of **12:00 noon on the 24<sup>th</sup> of August 2023**. Please note that late applications will not be accepted.

**Use of Data** - all personal data and the information submitted for this application will be used solely for the purpose of this campaign, after which it will be deleted in line with our General Data Protection Regulation Policy and data retention schedule. All information will be treated with the strictest confidence and accessed only by those involved directly in the campaign.

**The Marine Institute is an organisation that champions Diversity, Inclusion & Equality for all. We encourage and welcome applications from anyone interested in this role.**

**Please do advise if there are any special accommodations required for the recruitment process.**

**We are here to help you access opportunities with us.**